

# **Akeeba Backup User's Guide**

**Nicholas K. Dionysopoulos**

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# Akeeba Backup User's Guide

by Nicholas K. Dionysopoulos

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## Abstract

This book covers the use of the Akeeba Backup site backup component for Joomla!™-powered web sites. It does not cover any other software of the Akeeba Backup suite, including Kickstart and the desktop applications which have documentation of their own. Both the free Akeeba Backup Core and the subscription-based Akeeba Backup Professional editions are completely covered.

If you are looking for a quick start to using the component please watch our video tutorials [<https://www.akeeba.com/videos>].

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# **Part I. User's Guide to Akeeba Backup for Joomla!™**

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# Chapter 1. Introduction

## 1. Introducing Akeeba Backup

Akeeba Backup is a complete site backup solution for your Joomla!™ powered website. It is designed to put your entire site – files and database data – in a backup archive file you can restore on the same or a different server. The restoration uses a web installer script. You do not have to mess with the command line or database management tools – or even edit configuration files by hand.

More than that, Akeeba Backup is putting you in control of your data. If you so wish you can fine-tuning your backup choosing which directories, files or database tables to exclude. It can even allow you to backup non-Joomla!™ content, as long as you specify which off-site directories and databases you want to add.

### Tip

If you are looking for a quick start to using the component please watch our video tutorials [<https://www.akeeba.com/videos>].

## 2. What can I use Akeeba Backup for?

Akeeba Backup can be used for much more than just backing up your site. Some indicative uses are:

- **Security backups.** Taking a snapshot of your site should your server fail, or a hacker exploit some security hole to deface or compromise your site.
- **Template sites.** Web professionals have used Akeeba Backup in order to create "template sites". This means that you can build a site on a local server, install every component you usually do on most clients' sites and back it up. You now have a canned site that can serve as a great template for future clients. Using the same method you can have a snapshot of all the sites you have built for your clients, without the need to have them installed on your local server.
- **Build a site off-line, upload the finished site easily.** Web professionals can build a complete site off-line on a local server and when done take a snapshot with Akeeba Backup, then restore it on the production site.
- **Testing upgrades locally, without risking breaking the on-line site.** Joomla!™ updates have the potential of breaking things, especially in complex or badly written components and modules. Web masters use Akeeba Backup to get a site snapshot, restore it on a local test server, perform the upgrade there and test for any problems without the live site being at risk.
- **Debugging locally.** Almost the same as above, web professionals have used Akeeba Backup to take a snapshot of a client's Joomla!™ site in order to perform bug hunting. Using Akeeba Backup again, they can upload the fixed site back on the live server.
- **Relocating a site to a new host.** Web masters who want to take their site to a new host have found Akeeba Backup to be their saviour. Just backup the original site and restore on the new host; presto, your site is relocated with virtually no effort at all.

Akeeba Backup has the potential to save you hours of hard labor, according to our users. It is licensed under the GNU General Public License version 3 or, at your option, any later version of the license. As a result, you are free to install it on as many sites as you like *without* having to pay for a pricey "developer's license".

Akeeba Backup comes in two editions, Core and Professional. Akeeba Backup Core is provided free of charge and contains all the features a typical webmaster would like to have in order to easily complete backup and restoration jobs. On top of that, the video tutorials and the full documentation are free of charge as well.

Akeeba Backup Professional is designed with the needs of web professionals in mind. It has features such as inclusion of external directories and databases, powerful filters based on regular expressions, and support for

sending your backups on cloud storage services (such as Amazon S3, Dropbox or any other of the 40+ supported providers). Thanks to its GNU GPL v3 license Akeeba Backup Professional can be installed on an unlimited number of clients' websites without having to purchase additional subscriptions.

Disclaimer: Whether Akeeba Backup and its restoration works for you is highly dependent on conditions outside our control such as your server setup, your server configuration and your PHP configuration as well as the way you configure and use the software. We do provide free of charge versions of our software which let you evaluate it before purchasing a subscription and we do offer support which can potentially work around some server configuration issues. We consider it self-evident that despite our best efforts if you are unwilling to let us help you or if the problem is ultimately something that only your host can address we bear no responsibility whatsoever and accept absolutely no liability per the license our software is distributed under and our Terms of Service.

## 3. A typical backup/restoration work flow

### Tip

If you are looking for a quick start to using the component please watch our video tutorials [<https://www.akeeba.com/videos>].

As stated, Akeeba Backup is designed to make your life easier. It does that by streamlining the work flow of backing up and restoring (or migrating) your site. From Akeeba Backup's perspective, restoring to the same host and location, copying your site in a subdirectory / subdomain of the same host or transferring your site to a completely new host is identical. That's right, Akeeba Backup doesn't care if you are restoring, copying, cloning or migrating your site! The process is always the same, so you only have to learn it once. The learning curve is very smooth, too!

### Warning

**Do not attempt to restore to a different database technology, e.g. a backup taken on MySQL restored on PostgreSQL.** This won't work and the restoration script won't even let you try. This is a consequence of how different database server technologies structure the databases and the tables in said databases. Restoring to different servers of the same database technology usually does work. This means that MySQL, MariaDB and Percona are mostly compatible with each other. Please remember that Akeeba Backup only supports database servers compatible with MySQL.

The typical work flow involves using two utilities from the Akeeba Backup suite: the Akeeba Backup component itself, and Akeeba Kickstart. Here is the overview:

1. Install Akeeba Backup and configure it to taste. Or use the automated Configuration Wizard to automatically configure it with the perfect settings for your server. Hit on the Backup Now button and let your site back up. When it finishes up, click on the Manage Backups button. Click on the download links on the far-right of the only backup entry from the list - or, better yet, use FTP to do that - saving all parts of the backup archive somewhere on your local PC.
2. Extract the `kickstart-VERSION.zip` file you downloaded from our Downloads repository. The only contained files are `kickstart.php` and the translation INI files. Upload them to the server on which you want to restore your site to.
3. Upload all parts of the backup archive (do not extract it yet, just upload the files) to the server on which you want to restore your site to (called here forth the *target server*). Your server's directory should now contain the `kickstart.php` and the parts of the backup archive (`.jpa`, `.j01`, etc).
4. Fire up your browser and visit the Kickstart URL on your target server, for example `http://www.example.com/kickstart.php`.
5. Change any option - if necessary - and hit the Start button. Sit back while Kickstart extracts the backup archive directly on the server! It's ultra-fast too (when compared to FTP uploading all those 4000+ files!). If it fails with an error, go back, select the Upload using FTP option and supply your FTP connection information, then click on Start again.

6. A new window pops up. It's the Akeeba Backup Installer (ABI), the site restoration script which was embedded inside your archive. Do not close the Kickstart window yet!
7. Follow the prompts of the Akeeba Backup Installer, filling in the details of the new server (most importantly, the new database connection and FTP connection information).
8. When the Akeeba Backup Installer is done, it prompts you to delete the installation directory. Ignore this prompt and simply close the ANGIE window.
9. Back to the Kickstart window, click the button titled Clean Up. Kickstart removes the installation directory, restores your .htaccess file (if you had one in the first place), removes the backup archive and itself.
10. Click on the View the front-end button to visit your new site. You're done.

If you are restoring to a different subdirectory on the same server as the original site, or to a whole different host, you might need to edit your .htaccess file for your site to work properly. Also note that some third party extensions which store absolute filesystem paths, absolute URLs or contain host- or directory-specific settings may require manual reconfiguration after the restoration is complete. This is all described in the restoration section of this guide. If you need help backing up your site, take a look in the Backup Now section of this guide.

## 4. Server environment requirements

In order to work, Akeeba Backup requires the following server software environment:

- Joomla!™ and PHP version compatibilities are detailed in our Compatibility page [<https://www.akeeba.com/compatibility.html>].
- MySQL 5.0.42 or later. MySQL 5.6 or later recommended. MySQL 4.x is not supported.
- Minimum 24Mb of PHP `memory_limit` (sufficient *only* for smaller web sites, without many plug-ins and modules running). More is better. 32Mb to 64Mb recommended for optimal performance on large sites. 128Mb is recommended for sites containing deep-nested directories with thousands of files.

Even though Akeeba Backup may run on servers with a smaller memory limit, it is unlikely that it will ever finish the backup process.

Enough available free space or quota limit to store your backup archives.

- The cURL PHP module must be installed for FTP and cloud uploads to work.

As far as the browser is concerned, you can use any modern version (i.e. published within the last year) of Microsoft Edge, Safari, Opera, Firefox or Google Chrome. We no longer support Internet Explorer; our software will display incorrectly or not work at all on this old, buggy and obsolete browser.

In any case, you must make sure that Javascript is enabled on your browser for the backup to work. If you are using AVG antivirus, please disable its Link Checker feature (and reboot your computer) as it is known to cause problems with several Javascript-based web applications, including Akeeba Backup and its tools.

You are very strongly advised to disable Internet firewalls, antivirus applications and browser extensions which interfere with the site's loading such as script blockers (such as NoScript) and ad blockers (such as AdBlockPlus) *only for the domains you are backing up from and restoring to*. Remember that these applications and browser extensions are designed to protect you against third party sites. As a result they are very aggressive and WILL break your own sites. We can't do anything about it: your computer and your browser are under your control alone.

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# Chapter 2. Installation, updates and upgrades

## 1. Installing Akeeba Backup

Installing Akeeba Backup is no different than installing any other Joomla!™ extension on your site. You can read the complete instructions for installing Joomla!™ extensions on the official help page [[https://docs.joomla.org/Installing\\_an\\_extension](https://docs.joomla.org/Installing_an_extension)]. Throughout this chapter we assume that you are familiar with these instructions and we will try not to duplicate them.

### 1.1. Installing or manually updating the extension

Just like with most Joomla! extensions there are three ways to install or manually update Akeeba Backup on your site:

- Install from URL. This works only with the Professional release of our component. It is the easiest and fastest one, if your server supports it. Most servers do support this method.
- Upload and install. That's the typical extension installation method for Joomla! extensions. It rarely fails.
- Manual installation. This is the hardest, but virtually fail-safe, installation method.

Please note that installing and updating Akeeba Backup (and almost all Joomla! extensions) is actually the same thing. If you want to update Akeeba Backup please remember that you **MUST NOT** uninstall it before installing the new version! When you uninstall Akeeba Backup you will lose all your backup settings and all backup archives stored inside Akeeba Backup's directories (including the default backup output directory). This is definitely something you do not want to happen! Instead, simply install the new version on top of the old one. Joomla! will figure out that you are doing an update and will treat it as such, automatically.

#### Tip

If you find that after installing or updating Akeeba Backup it is missing some features or doesn't work, please try installing the same version a second time, without uninstalling the component. The reason is that very few times the Joomla! extensions installer infrastructure gets confused and fails to copy some files or entire folders. By repeating the installation you force it to copy the missing files and folders, solving the problem.

#### 1.1.1. Install from URL

The easiest way to install Akeeba Backup Professional is using the Install from URL feature in Joomla!.

#### Important

This Joomla! feature requires that your server supports fopen() URL wrappers (`allow_url_fopen` is set to 1 in your server's `php.ini` file) or has the PHP cURL extension enabled. Moreover, if your server has a firewall, it has to allow TCP connections over ports 80 and 443 to `www.akeeba.com` and `cdn.akeeba.com`. If you don't see any updates or if they fail to download please ask your host to check that these conditions are met. If they are met but you still do not see the updates please file a bug report in the official Joomla! forum [<http://forum.joomla.org/>]. In the meantime you can use the manual update methods discussed further below this page.

First, go to our site's download page for Akeeba Backup [<https://www.akeeba.com/downloads/akeeba-backup.html>]. Make sure you are logged in. If not, log in now. These instructions won't work if you are not logged in! Click on the All Files button of the version you want to install. Please note that the latest released version is

always listed *first* on the page. On that page you will find both Akeeba Backup Core and Professional. Next to the Professional edition's Download Now button you will see the Direct Install Link link. Right click on it and select Copy link address or whatever your browser calls this.

Now go to your site's administrator page and click on Extensions, Manage. Click on the Install from URL tab. Clear the contents of the Install URL field and paste the URL you copied from our site's download page. Then click on the Install button. Joomla! will download and install the Akeeba Backup update.

If Joomla! cannot download the package, please use one of the methods described in this section of the documentation.

### 1.1.2. Upload and install.

You can download the latest installation packages our site's download page for Akeeba Backup [<https://www.akeeba.com/downloads/akeeba-backup.html>]. Please note that the latest version is always on top. If you have an older version of Joomla! or PHP please consult our Compatibility page [<https://www.akeeba.com/compatibility.html>] to find the version of Akeeba Backup compatible with your Joomla! and PHP versions. In either case click on the version you want to download and install.

If you are not a subscriber, click on the Akeeba Backup Core to download the ZIP installation package of the free of charge version.

If you are a subscriber to the Professional release, please make sure that you have logged in first. You should then see an item on this page reading Akeeba Backup Professional. If you do not see it, please log out and log back in. Click on the Professional item to download the ZIP installation package.

All Akeeba Backup installation packages contain the component and all of its associated extensions. Installing it will install all of these items automatically. It can also be used to upgrade Akeeba Backup; just install it *without* uninstalling the previous release.

In any case, do not extract the ZIP files yet!

## Warning

**Attention Mac OS X users!** Safari, the default web server provided to you by Apple, is automatically extracting the ZIP file into a directory and removes the ZIP file. In order to install the extension through Joomla!'s extensions installer you must select that directory, right-click on it and select Compress to get a ZIP file of its contents. This behaviour was changed in Mac OS X Mountain Lion, but people upgrading from older versions of Mac OS X (Mac OS X Lion and earlier) will witness the old, automatic ZIP extraction, behaviour.

Log in to your site's administrator section. Click on Extensions, Manage link on the top menu. Please click on the Upload Package File tab. Drag and drop the installation ZIP file you had previously downloaded to start the upload and the installation. After a short while, Joomla!™ will tell you that the component has been installed.

## Warning

Akeeba Backup is a big extension (over 2Mb for the Professional release). Some servers do not allow you to upload files that big. If this is the case you can try the Manual installation or ask your host to follow our installation troubleshooting instructions [<https://www.akeeba.com/documentation/troubleshooter/abinstallation.html>] under "You get an error about the package not being uploaded to the server".

If you have WAMPserver (or any other prepackaged local server), please note that its default configuration does not allow files over 2Mb to be uploaded. To work around that you will need to modify your php.ini and restart the server. On WAMPserver left-click on the WAMP icon (the green W), click on PHP, php.ini. Find the line beginning with `upload_max_filesize`. Change it so that it reads:

```
upload_max_filesize = 6M
```

Save this file. Now, left-click on the WAMP icon, click on Apache, Service, Restart Service and you can now install the component. Editing the `php.ini` file should also work on all other servers, local and live alike.

If the installation did not work, please take a look at our installation troubleshooting instructions [<https://www.akeeba.com/documentation/troubleshooter/abinstallation.html>] or try the manual installation described below.

### 1.1.3. Manual installation

As of Akeeba Backup 5.0.0 this method can no longer be supported for technical reasons which have to do with the way Joomla! works when installing extensions of the type "package".

#### Warning

**DO NOT UNZIP THE PACKAGE AND TRY TO INSTALL THE EXTENSIONS MANUALLY!**

This will very likely make your site fail with an error. When you are installing the package extension Joomla! makes a few checks to make sure that your server meets the minimum requirements. Moreover, the installation order in the package matters. It is designed to make sure that failure to install one of the included extensions will minimize the chance of a cascading effect which breaks your site.

### 1.1.4. Troubleshooting the installation

Please note that extensions installation is performed by Joomla itself, not code that we have written ourselves. If you have a problem installing a Joomla extension of ours the root cause is in Joomla! and the way some of its functions work. While we don't offer support for generic installation issues, this page is meant to serve as a collection of the troubleshooting steps we'd follow on any site when any extension doesn't install correctly.

#### You get an error about the package not being uploaded to the server

The installation packages of our extensions are rather big. Many server have a maximum file upload size or a maximum POST request size which is too small – typically around 2MB – for our software to install. The best solution is to ask your host to set the following in the server's `php.ini`:

```
upload_max_filesize = 10M
post_max_size = 10M
```

On most hosts you can place these lines in a file called `.user.ini` (not the leading dot) or `php.ini` in your site's administrator directory.

If this is not possible, there's a good chance that the following lines in your `.htaccess` file may work on most servers:

```
php_value upload_max_filesize 10M
php_value post_max_size 10M
```

There is also another alternative, but it won't work on all hosts: installation by URL. Please go to the Download section of our site and select the software and version you want to download. Click on View All files. Next to the "Download now" button for the installation package you will see a link called "DirectLink". Right click on it and select "Copy link address" (the exact phrase depends on the browser, but it should have to do about copying the link or its address / URL / location).

Now go to your site's back-end, Extensions, Extensions Manager and find the Install from URL tab. Replace the contents of the "Install URL" field with the contents of your clipboard (the DirectLink URL you copied above) and click on the "Install" button next to this textbox. As long as your server supports installing extensions from URL the installation should go through.

If this still doesn't help please read on for further troubleshooting tips



## "Install path does not exist"

Joomla! requires the PHP Gzip and ZIP extensions to be installed. If either is not installed or if it's blocked then Joomla! will be unable to install extensions. Unfortunately, a cascade of unhandled errors inside Joomla! itself will cause it to come up with the unhelpful and disorienting "Install path does not exist" error message.

Solution: ask your host to enable the GZip and ZIP extensions in PHP. Furthermore, ask them to make sure that they are not blocking the functionality of these extensions e.g. by using `disable_functions` or `disable_classes` in their `php.ini` file.

Please note that we routinely see hosts disabling functions `zip_open`, `gzuncompress`, `gzdeflate` and `gzdecode` for ostensible "security reasons". First of all Joomla! WILL NOT work properly when any of these functions is unavailable. Moreover and despite what your host tells you, disabling these functions does not increase your site's security in any conceivable way. If your host denies to unblock these functions please take your site to a different host that understands how server security really works.

## "Unable to write entry" or "Unable to create destination" error

This error message comes from Joomla! and it means that there is a file or directory permissions issue. Unfortunately this message is very non-specific and provides no useful information for troubleshooting. This is something we reported to Joomla in September 2017 and was ostensibly fixed but internal issues in the way the extensions installer work still prevent the correct path from being shown.

In the meantime, all you can do is ask your host to make sure that all folders and files on your site are writeable by the user under which your site runs. This is not something you or us can do. Please do ask your host.

If this doesn't help it might mean that you have reached the file system capacity of your server. Please note that your account on the server might have several limits:

- Maximum total size of files and database data. This is the most common limit, e.g. your host telling you that you can use 10G of space in total. Please remember that this includes your database data. Moreover, keep in mind that "unlimited" is a marketing term, not reality. Usually you get up to a certain size limit and you have to ask for more, explaining why.
- Maximum number of files. This is usually NOT advertised. Many hosts will only allow you up to a maximum number of files, e.g. 100,000. If you try to exceed that count the file is not created / replaced, as if the permissions were not adequate to write to it. Please note that most times the host engineers will call it "inode count" because that's technically what they are limiting on your hosting user account. A file can consume one or more inodes, each inode essentially being the smallest chunk of contiguous disk space that can be allocated to a file (that's not very accurate but it's a well enough description to understand what an inode is).
- The physical disk size. All the aforementioned limits are great, but you cannot create files beyond the physical capacity of the disks on your server. Most modern hosts use virtualized, network attached storage to provide ever-expanding capacity on demand. However, some cheaper hosts and dedicated servers still have regular disks attached with finite storage limits.
- Also remember that your hosting control panel does not report the limit information in real time. You may have already exceeded your limits but your control panel not having been updated with this information.

If you are not sure about these limits please ask your host.

## Upgrading from Core to Professional

In some cases we have seen that Joomla failed to copy all of the necessary files when upgrading from a Core to a Professional release or when installing a major update that spans major versions (e.g. 1.x to 2.y). If you believe this has happened to you please install our software twice in a row, without uninstalling it before or in between the subsequent installations.

## Check your Joomla! and PHP version

We publish the compatibility of our software with Joomla! and PHP versions in the Compatibility page on our site. You can find a link on this page at the bottom of every page of our site.

Please remember that the PHP version your site is using may be different than the PHP version your host reports in their hosting control panel. If unsure, please refer to Joomla's System Information page. If you need to upgrade your PHP version please consult your host. The exact method to do that varies by host.

## Checking your temporary directory

First, we will have to make sure that you are using a valid temporary directory. Many sites are configured to use the system-wide (/tmp) directory or an invalid directory, causing installation problems.

You can change your temporary directory from your site's Global Configuration page. You need to enter the full filesystem path to Joomla's tmp folder. This is typically something like /home/mysite/public\_html/tmp. If unsure please ask your host. This information is not visible from within your site's administrator using any Joomla-provided feature and there is no way for us to know it.

## Enable FTP

On shared hosts which are using PHP as an Apache module you have to enable Joomla!'s FTP layer. Otherwise Joomla! won't be able to write the files to its directories and installation will fail. If you are unsure whether this is the case please ask your host.

If you need to enable the FTP layer here's how to do it:

1. Go to Site (or System, in Joomla 4), Global Configuration menu item.
2. Click on the Server tab
3. Set Enable FTP to Yes
4. In the FTP Host try using 127.0.0.1 or localhost or the FTP hostname assigned by your host
5. In the FTP Username and FTP Password fields provide the FTP username and password assigned by your host
6. In the FTP Root you have to type in the FTP path to your site's root. Here is the easy way to find it using FileZilla [<http://filezilla-project.org/download.php>]:

Connect to your site using FileZilla. Navigate inside the folder Joomla! is installed in. Usually it's a directory named public\_html, htdocs, www or something similar. If unsure don't ask us, ask your host. Now, on the right-hand pane you will find the FTP path. Most likely it will look something like /public\_html. Copy this and paste it into the FTP Root text box in your Joomla!'s Global Configuration page.

7. Save your Global Configuration. If you got everything correctly, you should see a message that your configuration was saved. If you see an error message please seek assistance on the Joomla! Forum [<http://forum.joomla.org>].

## Still problems?

If you still can't install our software and you are receiving messages regarding unwritable directories, inability to move files or other similar file system related error messages you can ask for our support but you already read what we're going to try. At best you can expect us to find out the most likely root cause and tell you what you have to ask your host to do to fix it.

### 1.1.5. The installation / update broke my site!

If your installation gets corrupt (e.g. Joomla didn't manage to successfully complete the installation or update of Akeeba Backup) you might find with a broken site. This is not a bug in our software. If critical files are missing or files from different versions are mixed up, any software will malfunction.

If you have access to your site's backend try to install the latest Akeeba Backup version's ZIP file twice in a row, without uninstalling the existing version before or in between.

Otherwise, use your FTP client to remove the following directories (some of them may not be present on your site; this is normal):

```
administrator/component/com_akeeba
component/com_akeeba
media/com_akeeba
plugins/quickicon/akeebabackup
plugins/actionlog/akeebabackup
plugins/system/backuponupdate
```

This will do the trick! You will now be able to access your site's administrator page again and retry installing Akeeba Backup without uninstalling it first. Remember, uninstalling Akeeba Backup will remove your settings and your backups; you do not want that to happen!

## Note

If you get a username and password dialog *from your browser* (not Joomla!) OR a server error when you access your site's backend (administrator) URL, try deleting the `.htaccess` and `.htpasswd` files inside your site's administrator folder.

In some cases Joomla! forgets to install files for the FOF 3 library used by most of our components (Akeeba Backup, Admin Tools, Akeeba Ticket System and others). This could mean that even removing the directories above you could still be unable to access your site. If this happens, try the following solution:

1. Delete the folder `libraries/fof30` from your site. **ATTENTION!** Do NOT remove the `libraries/fof` folder, it's something entirely different and you will break your site if you remove that folder instead!
2. Go to our Download page [<https://www.akeeba.com/download.html>] and download the latest version of FOF. This downloads a file named something like `lib_fof30-1.2.3.zip` on your computer.
3. Extract (unzip) the file you downloaded. You see a `fof` directory being extracted.
4. Rename to `fof` directory to `fof30`
5. Upload the `fof30` directory into your site's `libraries` directory.
6. You now have a `libraries/fof30` directory and you can log in to your site's backend.
7. Reinstall our extension *twice* in a row

## 2. Upgrading from Core to Professional

Upgrading from Akeeba Backup Core to Akeeba Backup Professional is by no means different than installing the component. You do not have to uninstall the previous version; in fact, you **MUST NOT** do that. Simply follow the installation instructions to install Akeeba Backup Professional over the existing Akeeba Backup Core installation. That's all! All your settings are preserved.

### Important

When upgrading from Core to Professional you sometimes have to install the Professional package **twice**, without uninstalling anything in between. Sometimes Joomla! does not copy some of the files and folders the first time you install it. However, if you install the package again (without uninstalling your existing copy of Akeeba Backup) Joomla! copies all of the necessary files and performs the upgrade correctly.

## 3. Automatic updates

Akeeba Backup can be updated just like any other Joomla! extension, using the Joomla! extensions update feature. Please note that Joomla! is fully responsible for discovering available updates and installing them on your site. Akeeba Ltd does not have any control of the update process.

## Note

This Joomla! feature requires that your server supports fopen() URL wrappers (`allow_url_fopen` is set to 1 in your server's `php.ini` file) or has the PHP cURL extension enabled. Moreover, if your server has a firewall, it has to allow TCP connections over ports 80 and 443 to `www.akeeba.com` and `cdn.akeeba.com`. If you don't see any updates or if they fail to download please ask your host to check that these conditions are met. If they are met but you still do not see the updates please file a bug report in the official Joomla! forum [<http://forum.joomla.org/>]. In the meantime you can use the manual update methods discussed further below this page.

## Warning

Akeeba Backup Professional needs you to set up the Download ID before you can install the updates. Please consult the Entering your Download ID documentation section for more information.

You can access the extensions update feature in different ways depending on your Joomla version:

- Joomla 3: From the icon your Joomla! administrator control panel page. You will find the icon in the left-hand sidebar, under the Maintenance header. When there are updates found for any of your extensions you will see the Updates are available message. Clicking on it will get you to the Update page of Joomla! Extensions Manager.
- Joomla 3 (alternate method): From the top menu of your Joomla! administrator click on Extensions, Manager. From that page click on the Update tab found in the left-hand sidebar. Clicking on it will get you to the Update page of Joomla! Extensions Manager.
- Joomla 4: From the icon your Joomla! administrator control panel page. By default you will find the icon in the right-hand modules area, under the Update Checks header. When there are updates found for any of your extensions you will see the Updates are available message. Clicking on it will get you to the Update page of Joomla! Extensions Manager.
- Joomla 4 (alternate method): From the sidebar of your Joomla! administrator click on System. On the new page find the Update area towards the bottom of the middle column and click the Extensions link. This takes you to the Update page of Joomla! Extensions Manager.

If you do not see the updates try clicking on the Find Updates button in the toolbar of the Joomla! Extensions: Update page. If you do not see the updates still you may want to wait up to 24 hours before retrying. This has to do with the way the update CDN works and how Joomla! caches the update information.

If there is an update available for Akeeba Backup tick the box to the left of its row and then click on the Update button in the toolbar. Joomla! will now download and install the update.

If Joomla! cannot download the package, please use one of the manual update methods described below.

If you get a white page while installing the update please try either the Built-in method (described above) or the manual update method (described below).

## Updating manually

As noted in the installation section, installing and updating Akeeba Backup is actually the same thing. If the automatic update using Joomla!'s extensions update feature does not work, please install the update manually following the instructions in the installation section of this documentation.

## Important

When installing an update manually you **MUST NOT** uninstall your existing version of Akeeba Backup. Uninstalling Akeeba Backup will always remove all your settings and any existing backup archives stored on your server. You definitely do not want that to happen!

Sometimes Joomla! may forget to copy some files when updating extensions. If you find Akeeba Backup suddenly not working or if you get a warning that your installation is corrupt you need to download the latest version's ZIP

file and install it *twice* on your site, *without* uninstalling it before or in-between these installations. This will most certainly fix this issue.

If the error occurs again after a while, without you updating our software, please contact your host. Some hosts will delete or rename files automatically and without any confirmation as part of a (broken and unfit for purpose) "malware scanner / antivirus". Unfortunately, these scanners return a lot of false positives -innocent files mistakenly marked as malicious- but rename / delete them nonetheless, breaking software installed on the server. If you are on such a host we very strongly recommend that you move to a decent host, run by people who actually know what they are doing. It will be far less headache for you and would actually improve your site's security.

## 3.1. Troubleshooting the updates

Before we begin please understand that extension updates are discovered, downloaded and installed by Joomla itself, using code that's under the control of the Joomla project. Akeeba Ltd can not and does not have any influence on that code. In simple terms, your issue is caused by Joomla itself and there's a very limited number of ways we can help. We can only offer a workaround and an explanation.

### Workaround

#### Important

Please follow all of these steps in the exact order provided below, without skipping any one of them *even if you think it is unnecessary*. Each step and the order we tell you to follow is the result of dozens of hours poring over Joomla's code, understanding how it works and figuring out the shortest workaround to many weird things Joomla does.

For each one of your sites:

1. Go to the backend of your site.
2. Go to our software's main page e.g. click on Components and then on Akeeba Backup or Admin Tools or Akeeba Ticket System Professional depending on which of our software you have.
3. Click on Options in the top right corner. This opens Joomla's com\_config component showing the settings for our software.
4. Clear your Download ID.
5. Click on Save & Close.
6. Click on Options in the top right corner again.
7. Enter your Download ID.
8. Click on Save & Close.
9. If you have more than one Professional version of our software installed repeat the process from the beginning until here for each one of: Akeeba Backup Professional, Admin Tools Professional, Akeeba Ticket System Professional.
10. Joomla 3: Go to Extensions, Manage, Update. Joomla 4: Go to System, Update, Extensions.
11. Click on Clear Cache.
12. Joomla 3: Go to System, Clear Cache. Joomla 4: Go to System, Maintenance, Clear Cache
13. Joomla 3 only: From the dropdown select Administrator
14. Click on Clear All / Delete All depending on your Joomla version **even if the list is empty**. Joomla has a hidden query cache which screws up updates if you don't clear it.

15.Joomla 3: Go to Extensions, Manage, Update. Joomla 4: Go to System, Update, Extensions.

16.Click on Clear Cache *again*.

17.Click on Find Updates.

You should now be able to perform the updates to our software

## Technical Explanation

Joomla handles the extensions updates on its own, using code inside Joomla itself. This feature was originally written to only support free extensions. Back in Joomla! 3.2 support for paid extensions was added. The following is a technical explanation of how Joomla finds updates and how it determines the download URL when you choose to update a *paid* extension.

### How updates work

Joomla cannot read the Download ID from the component's configuration. Whenever you click on Save & Close in our software's Options page you come back to the main page of our software. There, we check if the Download ID in the Options has changed. If it has, we find the row in the #\_\_update\_sites table for our software and add `dlid=THE_DOWNLOAD_ID_YOU_ENTERED` in the extra\_query column.

When Joomla tries to find updates it reads the contents of the URL in the location column of the #\_\_update\_sites table. This is a static XML file listing all published versions of an extension. Joomla finds the latest version compatible with your Joomla version. Then it compares the latest version with the version currently installed on your site.

If the version is *different* (not necessarily newer, mind you!) it decides there is an update available. At this point it creates a new row in the #\_\_updates table and copies the extra\_query column from the #\_\_update\_sites table's row to the new row in the #\_\_updates table. At this point Joomla *has not yet* determined the download URL for the new version.

When you select an extension and click on the Update button Joomla reads the corresponding row of the #\_\_updates table. It goes ahead and reads the contents of the detailsurl of that row. This is the same XML file it read to determine if there's an update available. Now it reads the downloadurl information from the XML file which contains the download URL for the new version but *without* the Download ID.

At this point Joomla combines this download URL with extra\_query column of the #\_\_updates table's row to create the real download URL. Moreover, it calls the `onInstallerBeforePackageDownload` event to let any plugins in the "installer" group to modify the download URL. It then tries to download the new version's ZIP file from this modified download URL which, hopefully, has the correct Download ID in it.

### Why you get a 403

As you can understand from the explanation above, if the extra\_query column in the #\_\_update\_sites table is empty or contains an invalid Download ID *when Joomla tries to find updates* (long before you select the update to download and install it) then the download URL will contain no or an invalid Download ID. As a result our site will forbid downloading the update with a 403 Forbidden error message. Joomla suppresses all information except the 403 error code.

The only way to correct this issue is to replace the extra\_query in the #\_\_update\_sites table, clear all updates, have Joomla find all updates again (so the #\_\_updates rows have the updated extra\_query) and then retry to apply the updates.

### Why do you need the complicated workaround

This brings us back to the fact that Joomla is doing some really weird things with updates.

For starters, it does not read the Download ID from the component's Options, it uses the extra\_query column in the #\_\_updates table. The only way to work around that and have our component replace the extra\_query column in the #\_\_updates table is to clear and re-enter the Download ID which triggers our code that applies the extra\_query.

This was addressed in Joomla 4 within the Update Sites page itself where you can now edit the Download Key directly.

The second weird thing is that the `extra_query` column appears *twice*, once in the `#__update_sites` and once in the `#__updates` table. Therefore we need to replace the `#__updates` table records. The only way to do that is through Joomla's extension updater's Clear Cache which empties the `#__updates_table`.

However, Joomla does something which makes no sense. It caches the database queries... Even though we replaced the `extra_query` column in `#__update_sites` and cleared the `#__updates` table (i.e. the updates cache) Joomla will *still* see the old, non-working update records unless we go to Clear Cache and clear the administrator cache. Even funnier, the database query cache which is part of the "system" cache may not even show up in the Clean Cache page, totally misleading the user. That's why we ask you to blindly click on Clear All on that page.

Now that the queries cache is cleared we might still see updates because Joomla did not, in fact, clear the updates cache (the `#__updates` table) when we told it to because of the database query cache. That's another thing that makes no sense. Therefore we need to click on Clear Cache in the Update page *again* to have Joomla actually clear the update cache.

At this point we can finally tell Joomla to Find Updates which will trigger the entire process we detailed above, finding the updates and using the correct `extra_query`. At long last, applying updates works fine since we've worked around all the weird things Joomla does when trying to find and apply updates. Luckily, this is only required once.

### Why did that happen

The problem is that the `extra_query` column in the `#__updates` table went missing. There are two reasons why this could happen: 1. You clicked on the Refresh Update Sites button in the Updates page. This feature is VERY BUGGY. It silently removes the `extra_query` column from ALL RECORDS of the `#__update_sites` table. You get no warning whatsoever. 2. A third party extension triggered the Refresh Update Sites feature or stupidly deleted the `extra_query` column of the `#__updates_sites` table. Neither of these two root causes are under our control, nor can we do anything to stop that from happening.

### Can we do anything about it?

There is only one thing we could do and actually did for Joomla 3: create an "installer" plugin which detects the lack of a Download ID in the download URL of our software, looks into the component's options and applies it just before Joomla tries to install an update.

The problem is that the information Joomla provides to these plugins is minimal: just a download URL. It is impossible for us to tell which software you're downloading from our site just by looking at the download URL Joomla reports. As a result, if you have two or more extensions of ours, all of their installer plugins trigger: the one for Akeeba Backup, the one for Admin Tools and the one for Akeeba Ticket System. The order in which they trigger depends on the order you installed our software and / or whether you modified the ordering of the installer plugins manually. That's why we ask you to enter the same Download ID in all of our Professional software.

If you need to use a different Download ID for each of our software you need to **disable** the installer plugins for all of our software. This falls back to the `extra_query` method. **This is the recommended approach for Joomla 4.** Once we remove Joomla 3 support the installer plugins will go away.

The idea here is that Joomla 4 offers built-in management of the Download Keys of all commercial extensions and will warn you if the keys go missing. This is a much better user experience but only works on Joomla 4, not Joomla 3. Therefore, while we keep supporting Joomla 3 we need to offer the installer plugins as a fallback method for the `extra_query` going missing.

## 3.2. Entering your Download ID

### Note

If you are using Akeeba Backup Core, the free of charge edition of Akeeba Backup, you do not need to and must not enter a Download ID. The Download ID is only required for the for-a-fee Akeeba Backup Professional edition.

Akeeba Backup Professional is the for-a-fee edition of Akeeba Backup with additional features. Downloading it, either for installation from scratch or as an update to an already installed but older version on your site, requires confirming that you have an active subscription which gives you access to Akeeba Backup Professional downloads. When you download the installation ZIP file from our site this means that you need to log in to our site first. However, when downloading updates through Joomla you really don't want to and usually cannot be asked to log in to our site. The Download ID is used in this case to identify you to our download servers. Furthermore, a Download ID linked with an active subscription is also required to use some remote file storage services such as Dropbox and OneDrive (specifically: any remote storage service which uses OAuth2 or a variation thereof, therefore requiring a special "mediator" script which runs on our servers).

## Using your Download IDs on your clients' sites

Our software license allows you to use your Download IDs on the sites of your clients. However, you must tell your clients that:

- Downloads and support for the software covered by the Download ID is provided by you, not Akeeba Ltd.
- If they want to receive support and / or downloads directly from Akeeba Ltd they need to purchase a qualifying subscription on our site. In this case they do not qualify for the renewal discount.
- They are not allowed to use the Download ID on any other site or use the Download ID to download the software for any reason other than updating or reinstalling the covered software on the same site the Download ID was entered in. In other words, they cannot use the Download ID to install or update our software on any other site.

If you are no longer administering a site where you have entered a Download ID you must revoke or regenerate that Download ID. You need to do the same if you believe that your Download ID is being used by third parties in an unauthorized manner. Please note that unauthorized use of Download IDs could have consequences on your subscription with us.

## Finding your Download ID

Download IDs come in two flavors, your main Download ID and Add-on Download IDs.

You can find your main Download ID in the My Subscriptions [<https://www.akeeba.com/my-subscriptions.html>] page of our site. We recommend using this Download ID only on your own site(s). This Download ID cannot be revoked, it can only be regenerated. If it's regenerated you will need to enter the new Download ID on all of your sites which can be a significant hassle.

You can generate an unlimited number of Add-on Download IDs without additional charge in the Add-on Download IDs [<https://www.akeeba.com/download/add-on-dlid.html>] page. Unlike the main Download ID you can revoke (disable) any Add-on Download ID at any time. As long as you only use one Add-on Download ID per site revoking or regenerating it will not affect the other sites' ability to download and install updates.

## Entering your Download ID on a newly installed copy of Akeeba Backup

If you just installed Akeeba Backup on your site go to Components, Akeeba Backup. You will be shown a message at the top of the page that you need to enter your Download ID. The message includes a link to a page on our site where you can find and copy your main Download ID. After entering either your main Download ID (NOT recommended) or an Add-on Download ID (recommended) click on the Apply button to save it.

If Akeeba Backup or Joomla! was already showing you that an update for Akeeba Backup is available please follow the steps under "Further steps if a download was available before entering a new Download ID" below.

## Enter or view your Download ID on Joomla 3

If your site is built on Joomla! 3 go to Components, Akeeba Backup and click on the Options button in the toolbar.

Click on the Live Update tab.



Enter your main or Add-on Download ID in the Download ID area and click on Save & Close on the toolbar.

If Akeeba Backup or Joomla! was already showing you that an update for Akeeba Backup is available please follow the steps under "Further steps if a download was available before entering a new Download ID" below.

## Enter or view your Download ID on Joomla 4

If your site is built on Joomla! 4 DO NOT use the Options method above. It will not work. Joomla! 4 provides a centralised download key management interface.

From the main administrator page of your site click on System on the sidebar.

Click on the Update Sites link towards the bottom of the middle column on the System page.

Find the Akeeba Backup Professional entry on the list and click on it to open the edit page.

Enter your main or Add-on Download ID in the Download Key area. Click on the Save & Close button on the toolbar to apply the Download ID.

If Akeeba Backup or Joomla! was already showing you that an update for Akeeba Backup is available please follow the steps under "Further steps if a download was available before entering a new Download ID" below.

## Further steps if a download was available before entering a new Download ID

Joomla applies the Download ID when it *is looking for* updates, not when it tries to download updates. This is a weird implementation detail that dates back to design decisions made before Joomla 1.6 was released, back in 2009. Unfortunately, this means that entering a new Download ID after Joomla shows that updates are available does NOT apply the new Download ID immediately and causes updates to fail. You need to follow all of the steps outlined below, in this specific order, without doing anything else on your site's administrator area in between to let Joomla see the new Download ID. Please do not file support tickets or bug reports about this with us; extension updates are managed by Joomla core code and we have no influence over it.

- Go to Joomla's extension update page.

On Joomla 3: From the top menu of your Joomla! administrator click on Extensions, Manager. From that page click on the Update tab found in the left-hand sidebar.

On Joomla 4: From the sidebar of your Joomla! administrator click on System. On the new page find the Update area towards the bottom of the middle column and click the Extensions link.

- Click on the Clear Cache button in the toolbar.
- Next up, we need to clear the Joomla administrator cache. This is required because Joomla caches the database queries which retrieve the Download ID in its administrator cache. If you do not clear the cache it won't see the new Download ID.

On Joomla 3: From the top menu of your Joomla administrator click on System, Clear Cache. In the drop-down menu above the list choose Administrator (by default the other option, Site, is selected). Click on Delete All in the toolbar.

On Joomla 4: From the sidebar of your Joomla! administrator click on System. On the new page find the Maintenance area towards the top of the left column and click the Clear Cache link. Unfortunately, Joomla 4 makes it impossible to easily select just the administrator cache so we'll be deleting all cached content. Click on Delete All in the toolbar.

- Go back to Joomla's extension update page.

On Joomla 3: From the top menu of your Joomla! administrator click on Extensions, Manager. From that page click on the Update tab found in the left-hand sidebar.

On Joomla 4: From the sidebar of your Joomla! administrator click on System. On the new page find the Update area towards the bottom of the middle column and click the Extensions link.

- Click on the Clear Cache button in the toolbar again, even if you don't see any update items. The page should be empty. If it's not empty repeat all of these instructions from the beginning. Sometimes Joomla does not clear the cache when you tell it to so you need to do this entire weird dance all over again. Sorry, it's not something that has to do with us, it's a core Joomla code issue.
- Click on the Find Updates button in the toolbar again.
- You should now see the update to our software and be able to install it.

## Troubleshooting updates to the Professional release

If you still cannot install our software please check that the Download ID is entered correctly. If it's not entered correctly enter the correct Download ID and follow all of these instructions again.

If the Download ID is entered correctly but it's not active in the Add-on Download IDs page you will need to enable it. After enabling it you will be able to download and install the update *without* having to follow these instructions again.

If the Download ID is correct please make sure that you have an *active* qualifying subscription on our site. If your subscription has expired you need to purchase a renewal on our site. Once the renewal is active you will be able to download and install the update *without* having to follow these instructions again, as long as you have not changed your Download ID.

If you still cannot download updates despite having the correct Download ID and an active subscription try waiting for 24 to 48 hours. In very rare cases Joomla's update cache gets stuck despite following the instructions above and you just need to wait until Joomla decides it has to reload it.

If the updates are still not downloading please make sure that you are using a version of Joomla and PHP that is supported by the new version of our software. If you are not sure please consult our Compatibility page [<https://www.akeeba.com/compatibility.html>].

If you've followed all these troubleshooting steps and the update is not downloading at all you need to contact your host and ask them to allow traffic to `www.akeeba.com` and `cdn.akeeba.com` over port TCP 443 (HTTPS), make sure that the PHP cURL module is installed and activated on the version of PHP your site is using and that finally the libcurl and libssl system libraries the cURL module is compiled against are up-to-date versions. If your host cannot help you with any of these requests (despite this being literally what you are paying them to do) you can install updates manually. Kindly note that Akeeba Ltd is not responsible for your hosting environment and that the requirements for downloading updates from our site are met by server software released roughly 5 years ago. If your host cannot provide 5 year old software and open ports in their firewall you should probably be migrating your site to a more up-to-date, competent host.

## 4. Uninstalling Akeeba Backup

Akeeba Backup can be uninstalled just like any other Joomla extension.

### Warning

Uninstalling Akeeba Backup will delete your backup profiles, the list of your backup attempts (what you see in the Manage Backups page) and any backups stored in the default backup output folder which is inside Akeeba Backup's component folder. There is no further confirmation. This process is **IRREVERSIBLE**. If you lose your backups by uninstalling Akeeba Backup we cannot help you retrieve them, they are gone forever.

First, go the extensions manager page.

- Joomla 3: From the top menu of your Joomla! administrator click on Extensions, Manage. From the left-hand sidebar choose Manage.
- Joomla 4: From the sidebar of your Joomla! administrator click on System. On the new page find the Manage area towards the top of the middle column and click the Extensions link.

In the Search box type Akeeba Backup package. It will show you a single item called "Akeeba Backup package" whose Type is Package.

## Important

Only ever try to uninstall the Package type extension. DO NOT try to uninstall the component, its plugins or module individually. It will leave stuff behind.

Select the item's checkbox and click on the Uninstall button in the toolbar. The extension and all its dependencies will be automatically uninstalled.

## Information about FOF

All of our software, *as well as some third party software*, installs our FOF framework version 3 or 4. This is automatically removed when the last extension to use it is being uninstalled.

Please **DO NOT** try to uninstall the file\_fof30 or file\_fof40 File type extension manually. Joomla will let you do that even when it's not safe, meaning that your site may become inaccessible.

Furthermore, please note that Joomla 3 (but NOT Joomla 4) comes with a similarly named FOF extension of the Library type installed. This is an ancient (last updated April 2015), no longer supported version (2.4.3) of our FOF framework that's bundled with Joomla itself. It is NOT part of Akeeba software. Moreover, it cannot be uninstalled - it's a protected extension. Please do not ask us for assistance about this extension, it's part of Joomla itself.

Finally, if you had a *really* old version of our software installed you might find an extension named F0F (ef zero ef). That was an updated version of FOF 2.x, named in a way that does not conflict with Joomla's copy of FOF 2 (it's complicated...). We have not used this framework since mid-2015 so you should be able to safely remove it as long as no third party extension still uses it. Since it's been so many years since we last updated it or used it in our software we will no longer answer inquiries about it. Thank you for your understanding.

## 5. Requesting support and reporting bugs

Support can be provided only to subscribers and only through our site's Support section. If you already have an active subscription which gives you access to the support for Akeeba Backup you can request support for it through our site. You will need to log in to our site and go to Support, Akeeba Backup for Joomla! and click on the New Ticket button. If you can't see the button please make sure you have an active subscription that gives you access to Akeeba Backup for Joomla! support. If you do and still don't see the button please use the Contact Us page to let us know of the ticket system problem and remember to tell us your username.

If you want to report a bug, please use the Contact Us page of our site. You don't need to be a subscriber to report a bug. Please note that unsolicited support requests sent through the Contact Us page will not be addressed. An issue is not a bug unless it can be reliably reproduced *on multiple sites and servers*. Please make sure you include clear instructions on reproducing the issue. If the issue cannot be reproduced it's not a bug report, it's a support request.

## Important

Support cannot be provided over Twitter, Facebook, email, Skype, telephone, the official Joomla! forum, our Contact Us page or any other method except the Support section on our site. We also cannot take bug reports over any other medium except the Contact Us page and the Support section on our site. Support is not provided to non-subscribers; if you are using the Core version you can request support from other users in the official Joomla! forum or any other Joomla!-related forum in your country/region. We have to impose those restrictions in support to ensure a high level of service and quality. Thank you for your understanding.

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# Chapter 3. Using the Akeeba Backup component

In this chapter you are going to find detailed reference of all the pages, options and features of the Akeeba Backup components. To get things organized in a logical manner, we chose to present the individual pages in the same manner they appear on the component's Control Panel page, i.e. the first page which is presented to you when you launch the component's back-end. Some of the pages are not available as Control Panel icons, but from different areas of the component. These are discussed first.

## 1. Menu items

Joomla! 3.7 and later versions allow you to create custom administrator menus. Akeeba Backup fully supports this new feature by providing custom menu item types.

Most of these custom menu item types were created with site integrators / web site agencies in mind. Typically you want to offer your client a simple, obvious way of doing backup operations (take, restore or transfer backups). Up until now you had to tell them to go to the quite busy Akeeba Backup page and click on just the one thing you want them to. As we all know, clients get distracted and start changing things they shouldn't be touching. The custom menu types below are designed to offer perfectly tailored access to the component areas that most users need. Taking and restoring a backup can become a no-brainer, reduced to simply clicking on a back-end menu item.

### 1.1. Control Panel

This menu item type lets you access Akeeba Backup's main page (control panel). This is the same menu item type Joomla! creates by default when you install the component.

Please remember that excluding files, folders and database tables as well as including external folders and additional databases (for the Professional edition) can only be done through the Control Panel page. It's always a good idea having a link of this type in your custom menu.

### 1.2. Backup

This menu item type allows the users to take backups. The default options let this work just like clicking on the Backup Now icon in Akeeba Backup's Control Panel page, i.e. the user can select an alternative backup profile, enter a backup description and/or comment and then take a backup or change their mind and return back to the Control Panel page. However the additional options let you do more interesting stuff.

The available options are:

Force backup profile	Select the backup profile which will be pre-selected in drop-down of the Backup Now page. Selecting (None) default to the currently active backup profile, as selected in other pages of the Akeeba Backup component. By default that's profile #1. This is especially useful with the Start immediately option below.
Start immediately	<p>When enabled the backup will start right away, without asking the user to enter a backup description or comment and without the option to change their mind. This is equivalent to using the One Click Backup feature inside Akeeba Backup.</p> <p>We strongly recommend using this with the Force backup profile option above. Use it to set up which profile you want the backup to be taken with. This allows you to set up one-click backup menu items.</p>
Hide toolbar	When this option is disabled the user will see the Control Panel and Help buttons at the top of the page. The former will take them back to Akeeba Backup's main page whereas the latter

opens the documentation page for the Backup Now page. If you are setting up a one-click backup menu item with the options above it's a good idea to enable this option to hide these buttons. That's especially useful when you are setting up a simple menu for use by your client and you don't want them to accidentally cancel the backup by clicking on these buttons.

**Return URL** Set up an internal URL to redirect the user after a successful backup. An "internal URL" is a URL pointing to a page in your site's administrator area, *without* the domain name and / administrator/ part of it. For example, to take someone back to the Joomla! main page set this to `index.php` without anything else before or after it. To take someone back to Akeeba Backup's main page set this to `index.php?option=com_akeeba`.

### Warning

Due to the way Joomla's menu manager works, it expects the URL to be URL-encoded. This means that question marks must be replaced %3F and so on. Don't worry about it. Enter the URL regularly and save the menu item **twice** in a row. We have employed a trick to force URL-encoding of the value when re-saving the menu item. Unfortunately due to a missing feature in Joomla's API we can't employ the same or a similarly clever trick the `<first>` time you save the URL.

## 1.3. Configuration

This menu item type allows the users to modify the main configuration of the current backup profile. It's equivalent to pressing the Configuration button in Akeeba Backup's main page.

## 1.4. Manage Backups

This menu item type allows the users to manage backup attempts. This includes viewing all backup attempts, viewing / changing the backup description and comments, have access to logs, download the backups, manage remotely stored backups and restore any of the past backups (as opposed to only the latest backup). It's equivalent to pressing the Manage Backups button in Akeeba Backup's main page.

## 1.5. Restore Latest Backup

### Note

This menu option type will only work with Akeeba Backup Professional.

This menu item type allows the users to restore the latest backup taken with the specified backup profile. This is especially useful if you teach your site administrators (or the clients for whom you're building sites) to take a backup right before trying to do something which could go wrong such as updating a component, changing configuration settings or doing batch operations on content.

The only option is **Backup Profile** which lets you choose which backup profile's latest backup attempt will be restored.

Idea: use the same profile you've set up in a menu item of the Backup type that you've told the client to always use before any dangerous operation. This way you can offer your clients an easy way to undo their most common mistakes!

## 1.6. Site Transfer Wizard

### Note

This menu option type will only work with Akeeba Backup Professional.

This menu item type allows the users to transfer and restore the latest backup on a different server. It's equivalent to pressing the Site Transfer Wizard button in Akeeba Backup's main page.

Idea: you can train your clients to use this to deploy a site from the staging to the live server.

## 1.7. What to do if you don't have any menu items to Akeeba Backup

Depending on how you've set up your site's administrator menu and/or if you've hit a Joomla! bug that sometimes occurs on extension update you may end up without a menu item to Akeeba Backup. Other times you may have deliberately chosen not to display a menu to Akeeba Backup to keep clients from changing the backup settings. The question remains. How can you access Akeeba Backup and how can you restore menu items manually?

The following instructions are generic Joomla! usage tips and don't have to do with how our software works. We provide them as a courtesy. If these instructions don't work for you please do not contact Akeeba Ltd for support. We cannot offer support for generic Joomla! use. Instead please do ask for help in the Joomla support forum at <http://forum.joomla.org>.

### Accessing Akeeba Backup

You can always access Akeeba Backup by visiting the `/administrator/index.php?option=com_akeeba` URL on your site, *after* logging in to your site's back-end.

That is to say, if your site's administrator URL is `http://www.example.com/administrator/index.php` enter the URL `http://www.example.com/administrator/index.php?option=com_akeeba` in your browser's address bar to access Akeeba Backup.

## Restoring Joomla's default administrator menus

### Important

These instructions only work on Joomla! 3.7 and later and only with the default administration template supplied with Joomla. If you have a third party administrator template please contact the template's developer for instructions regarding missing menu items or reverting to the Joomla! default administrator menu.

You need to access the `/administrator/index.php?option=com_modules` URL on your site, *after* logging in to your site's back-end.

From the drop-down that currently reads `Site` select the option `Administrator`.

Find the module which displays your administrator menu. Usually it's called `Admin Menu`. Click on it to edit it.

From the `Menu To Show` drop-down select `Use System Preset`. Then click on `Save & Close`.

## 2. Pages outside the Control Panel panes

### 2.1. Common navigation elements

All pages have their title displayed above their contents. On the tool bar there is a Control Panel icon. Clicking it will bring you back to Akeeba Backup's Control Panel (the first page of the component, with all the buttons).

On pages where editing takes place (e.g. the Configuration page, the profiles editor, etc) instead of the Control Panel icon there is a Cancel icon which discards any changes made and returns you to the previous page. On those

pages you will also find a Save & Close icon which saves settings and returns you to the previous page, as well as a Save icon which saves settings and returns you to the same editing page.

On the bottom of each page, just above the Joomla!™ footer, there is the license information. On the Control Panel page of the Akeeba Backup Core editions there is also a donation link appearing on the right sidebar; if you feel that Akeeba Backup was useful for you do not hesitate to donate any amount you deem appropriate.


## 2.2. The Control Panel

The main page which loads when you click on Components, Akeeba Backup is called the Control Panel screen. From here you can see if everything is in working order and access all of the component's functions and configuration options. If any problems or configuration issues are detected, Akeeba Backup will report one or more error or warning messages.

If you see a blank page instead of the Control Panel, you may have a very old version of PHP installed on your server. Please check the minimum requirements of your currently installed Akeeba Backup version. Akeeba Backup will try to detect incompatible PHP versions but this is not always possible.

### The profile selection box

Active Profile: #1



#1. Default Backup Profile ▼

➔ Switch Profiles

Towards the top of the page, there is the profile selection box. It serves a double purpose, indicating the active profile and letting you switch between available profiles. Clicking on the drop down allows you to select a new profile. Changing the selection (clicking on the drop down list and selecting a new profile) automatically makes this new profile current and Akeeba Backup notifies you about that. Should this not happen, you can manually click on the Switch Profile button on the right to forcibly make the selected profile current.

### Tip

The active profile is applied in all functions of the component, including configuration, filter settings, inclusion options, etc. The only settings which are not dependent on the active profile are those accessible from the Options toolbar button. Keep this in mind when editing any of Akeeba Backup's settings!

On the right hand side of the page, you will find a column with useful information.

## Status Summary




Akeeba Backup is ready to backup your site

Akeeba Backup Professional 6.0.1 (2018-02-26)

[CHANGELOG](#)

[Reload update information](#)

## Backup Statistics

Backup Start Time	Monday, 19 March 2018 09:59
Description	Backup taken on Monday, 19 March 2018 09:59
Status	 OK
Origin	Backend
Type	Full site backup

There are two areas:

**Status Summary** In this area you can find information regarding the status of your backup output directory. Akeeba Backup will warn you if this directory is unwritable. If the text reads that there are potential problems you **must** take a look at the details below to find out what these might be!



## Important

It is possible that your host enforces `open_basedir` restrictions which only allow you to have an output directory under a handful of predefined locations. On this occasion, Akeeba Backup will report the folder unwritable even though you might have enforced `0777` (read, write and execute allowed for all) permissions. These restrictions are reported in the section below the overall status text as an item entitled "`open_basedir` restrictions".

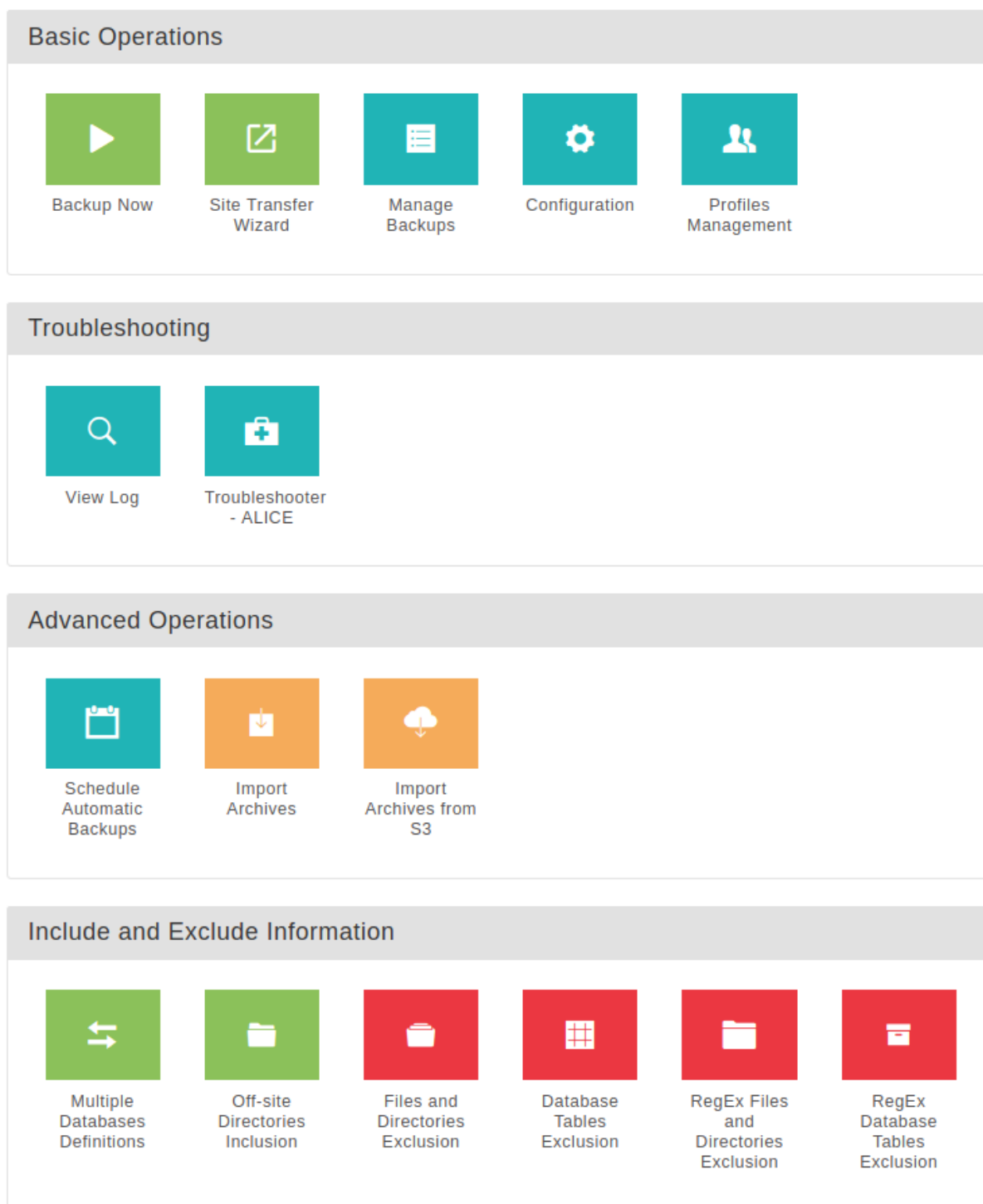
If any potential problems have been detected, right below the overall status you will find one or several warnings links. Just click on each warning's description to get a pop up window explaining the potential problem, its impact on your backup and precautionary or corrective steps you can take. If this section is empty, no detectable problems were found; this is a good thing, indeed!

If you see any problems reported please read the full text of the warnings by clicking on each item. It contains instructions to solve the issue. These are the same instructions our support staff will provide as a first response to these issues.

If you are a Core (free version) user, you will see a donation link. If you feel that Akeeba Backup has helped you - and you do not wish or can't afford subscribing to the Professional edition - you can donate a small amount of money to help us keep the free version going. Thank you!

**Backup Statistics** This panel informs you about the status of your last backup attempt. The information shown is the date and time of backup, the origin (e.g. remote, backend, frontend and so on), the profile used and the backup status.

## The main navigation panel set



The main navigation panel set allows access to the different functions of the component. You can access them by clicking on the respective each icon. Please note that the screenshot in this documentation displays the Professional version. If you are using the Core version you will have fewer options.

Depending on your backup profile settings, at the top of this area you may find a series of buttons under the header **One-click backup**. Clicking one of these buttons will start a backup with the corresponding backup profile, without asking you for confirmation.

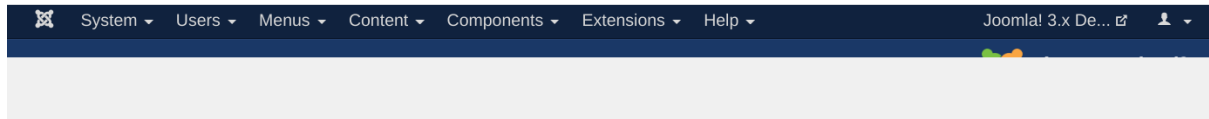
Finally, you can edit the global options of Akeeba Backup by clicking on the Options button towards the top right hand of the page, in the Joomla! toolbar area at the top of the page.

## 2.2.1. Warning and error messages in the Control Panel

### Full page error messages

In the unlikely event that your server has a major configuration issue, e.g. using an outdated PHP version or PHP module, which prevents you from running our software *at all* instead of the Control Panel page you will see a full screen error message. The page will tell you what the problem is and how to fix it. For example, if you have an outdated PHP version:

### Outdated PHP error page



#### Outdated PHP version 5.3.29 detected

Akeeba Backup requires PHP 5.4.0 or any later version to work.

We **strongly** urge you to update to PHP 5.6.0 or later. If you are unsure how to do this, please ask your host.

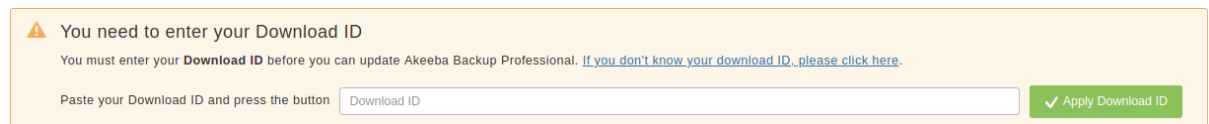
[Version numbers don't make sense?](#)

#### Security advice

Your version of PHP, 5.3.29, [has reached the end of its life](#) on Thursday, 14 August 2014. You are strongly urged to upgrade to a current version, as using older versions may expose you to security vulnerabilities and bugs that have been fixed in more recent versions of PHP.

### Download ID messages

#### The Download ID message in the Professional

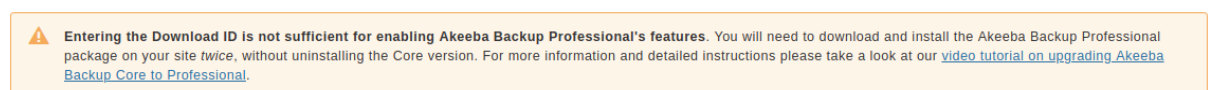


If you are using Akeeba Backup Professional for Joomla! you will be asked to enter your Download ID. This is necessary to receive updates to the software. Without it you will be notified for updates but you will not be able to install them. Click on the link in the message to log in to our site and receive personalized instructions for entering the Download ID.

### Tip

You can create Add-On Download IDs free of charge on our site. Just log into our site and click on the "add-on download IDs" link below the header. You can have a different Download ID for each of your clients. If the client stops working with you, you will be able to unpublish (deactivate) their Download ID.

#### The Download ID message in the Core version




Conversely, if you are using the Akeeba Backup Core for Joomla! but have entered a Download ID you will receive an error message reminding you that this is not the proper way to upgrade to the Professional version. Instead, you

should install the Professional version on top of the Core version. If you are not sure how to do this please click the link at the end of the message. It takes you to a video tutorial telling you how to do this.

## Media files' permissions

### Media folder permissions

 **WARNING**  
Akeeba Backup could not determine the permissions of the media/com\_akeeba directory.  
Please do one of the following:  

1. Activate Joomla!'s FTP mode in Global Configuration
2. Change the permissions of the media/com\_akeeba directory and all of its subdirectories to 0755 and all of its files to 0644 using your FTP client.

  
Akeeba Backup will most likely not work at all if you do not perform these steps. Do not ask for support if you can see this message. All the information you need is already on this message.

If Akeeba Backup detects a problem with the permissions of the media folder, where its JavaScript, CSS and image files are stored, it will try to automatically do the necessary changes for you. It requires that you have provided FTP connection information to your site's Global Configuration and enabled the FTP option in that page.

If these changes cannot be done automatically it will display this error message. Please follow the instructions in the message.


If you have already followed the instructions in the message but the interface behaves erratically or appears "broken" one of your system plugins is killing Akeeba Backup's JavaScript. Check your browser's developer tools to see which third party JavaScript is causing that. If you can't figure it out yourself please contact us and give us Super User and FTP access to your site so we can help you.

## Tip

Due to the way this warning works you may see a yellow or red flash in the Control Panel, Configuration or Backup Now pages. This is normal and nothing to worry about. It's just your browser being faster in rendering the page than Javascript files loading from your server.

## CloudFlare RocketLoader

### CloudFlare RocketLoader warning


 **CloudFlare's Rocket Loader will prevent you from using Akeeba Backup**  
We have detected that CloudFlare Rocket Loader is enabled on your site. This feature will interfere with JavaScript on your site, mixing up the order scripts are loaded therefore causing JavaScript errors. Please disable the Rocket Loader feature to let Joomla's and Akeeba Backup's JavaScript work correctly. For further information and instructions please refer to [CloudFlare's documentation](#).

CloudFlare's RocketLoader changes the load order of the JavaScript on every page of your site, deferring the loading of every file at the end of the page load. Unfortunately, this causes applications depending on JavaScript, like Akeeba Backup *or even Joomla! itself*, to fail due to no fault of their developers.

If Akeeba Backup detects that you are using CloudFlare's RocketLoader it will try to apply a workaround which prevents RocketLoader from mangling Akeeba Backup's JavaScript. This may NOT work on all sites. In case the automatic workaround fails you see this error message. Please follow the link at the end of the message for instructions to manually fix this problem.

## Missing mbstring


### Missing mbstring warning

 **Your version of PHP does not have the mbstring extension installed or activated.** Having it enabled is a Joomla! requirement. Joomla! and Akeeba Backup will not work properly. Please ask your host to enable the mbstring extension on PHP 7.0.28-1+ubuntu16.04.1+deb.sury.org+1 running on your server.

Akeeba Backup, like Joomla! itself, requires the PHP extension called "mbstring" to be loaded and activated. Without it is impossible to handle extended characters and find the length of binary data. Therefore, if mbstring is missing your backup will fail. Please ask your host to enable mbstring on your site. The PHP version for which mbstring needs to be activated, as reported by PHP running on your server, is printed on the message on your screen. Please copy the message from *your* site to your host's support – do not copy the version displayed in the example screenshot above.

## Broken database

### Broken database warning

 We have detected that one or more tables with the **wm61j\_ak\_** prefix are broken. Akeeba Backup will not work properly. Please ask your host to repair these tables and then [click here](#) to let Akeeba Backup update its database tables.


Akeeba Backup checks the structure of its database tables every time you visit the Control Panel page. If the structure is out of date it tries to fix them. If it fails it prints the message above. The possible reasons for failure are:

- Broken tables. Per the message, ask your host to fix the table with the prefix printed in the error message on your site (NOT the one in the documentation; the documentation is just an example).
- Insufficient database user permissions. Your database user does not have the necessary permissions to modify the database tables. Please contact your host and ask them to help you.
- Using HHVM instead of PHP. You are using HHVM instead of PHP proper. HHVM is actually incompatible with PHP, it causes problems and we do NOT support it. Please use PHP 7 instead. PHP 7 is as fast as -and in many cases *much faster than*- HHVM without the incompatibility issues. Our software is fully compatible with PHP 7 and we recommend it for daily use. If you are not sure how to check that / how to switch to PHP 7 please contact your host.
- PHP is compiled with a very old version of the MySQL connector library. Please contact your host and have them check that if all else fails.
- Custom / unsupported Joomla! database driver. If you don't know what this means it's probably not the case and you should stop reading this paragraph now. If you know what it means please do check that your custom database driver class talks to a MySQL compatible server (MySQL, Persona or MariaDB) and returns a name that contains the string "mysql" (case insensitive). Otherwise Akeeba Backup won't know how to install or update its tables.

After fixing the problem visit Akeeba Backup's Control Panel page again. If you see the message again, click the link in the message to have Akeeba Backup retry fixing its tables' structure.

## Obsolete PHP version

### Obsolete PHP version

 You are using an obsolete PHP version  
Your site is running on PHP 5.4.40 which has stopped receiving security updates since Thursday, 03 September 2015. Using this on a live site is **dangerous**: unpatched security issues can get your site hacked. Moreover, we can only guarantee support for obsolete versions of PHP after nine months since their end-of-life date. Therefore, support for your version of PHP may be dropped any time after Friday, 03 June 2016. We strongly advise you to ask your host to upgrade your site to PHP 5.6 or later.

Akeeba Backup always checks the PHP version it runs under. If your PHP version is very old and declared end-of-life (EOL) by the developers of PHP we will warn you. EOL versions of PHP have known bugs which prevent software from running correctly, slow, and insecure. Even if your Linux distribution's vendor claims to still support them, the fact remains that major security and functional flaws are NOT fixed.


Because of these reasons, Akeeba Ltd only officially supports running our software on the versions of PHP which are still under active maintenance per the official PHP site [<http://be2.php.net/supported-versions.php>]. We only

guarantee support End Of Life versions of PHP for 3 to 6 months after their End Of Life date as published in the official PHP site [<http://www.php.net/eol.php>].

If your PHP version is out of date you will see a message similar to the one above, with the relevant PHP version, EOL and end of support dates printed in it. There is no reason to stick with an old PHP version. Upgrade your PHP: your site will be more secure and faster. As a bonus, your site will rank better in search engines: slow sites are penalized in search results since 2014.

## Front-end backup Secret Word


### Front-end backup Secret Word

 **The front-end and remote backup features are disabled**

Your Secret Word is insecure and can be easily guessed. In order to protect your site Akeeba Backup has disabled access to front-end and remote backup until you enter a secure Secret Word. The problem detected is:

The secret word is too simple. Try using lower and upper case letters, numbers and punctuation.


Please click on Options, Front-end and enter a more complex secret word. Alternatively, click the button below to reset the secret word to the suggested value `C3wK-****EXAMPLE****_7aNtoRtiIZqzIVY`. In either case you will need to update your remote backup services and/or CRON jobs with the new Secret Word.

 Apply the suggested Secret Word

If you have enabled the legacy front-end backup feature, Akeeba Backup checks the quality of the Secret Word. If it's found too simple / easily guessable it will decline to run front-end and remote backups until you use a more secure Secret Word. This is a security precaution: an easily guessable Secret Word could be used to launch a Denial of Service attack to your site or steal information from it. If you are not sure how to create a secure secret word click the large button to apply an automatically generated, secure secret word.

## Insecure output directory


### Insecure output directory

 **Insecure output directory**

Akeeba Backup detected that your backup output directory `/Users/nicholas/Sites/boot/backups` is under your site's web root. Its contents, including your backup archives, are accessible over the web. Moreover, it's possible to list the files in the directory i.e. it gives a listing of your backup archives when you access it with a web browser. **This is a major security issue.** An attacker can access this folder from a web browser and download your backup archives directly, bypassing your site's security.

Click the button below to fix this issue. Here's what it does.

A `.htaccess` and a `web.config` file will be written to that folder. On most servers this is enough to prevent direct web downloads of any file inside it and disables the listing of its files. We also have a solution for the servers where these special files don't have an effect. Another three files called `index.php`, `index.html` and `index.htm` will also be written to that folder. These index files prevent the web server from listing the names of the backup archives and backup log files.

 Fix the security of my backups

Akeeba Backup periodically checks the security of the Backup Output Directory configured in the currently selected backup profile. It does so by trying to write a small file in it and the read it by accessing it through its URL (not by reading the file through the file system). If that works, it means that anyone on the Internet can read any file stored in the backup output directory if they know their name – including log files and backup archives. This can be a major security issue because it may allow an attacker to gain access to privileged information about your site or even a complete copy of your site.

Clicking the Fix the security of my backups button will address the problem by installing a number of files in the backup output directory which block direct web access to the files or, at the very least, make listing the names of the contained files impossible.

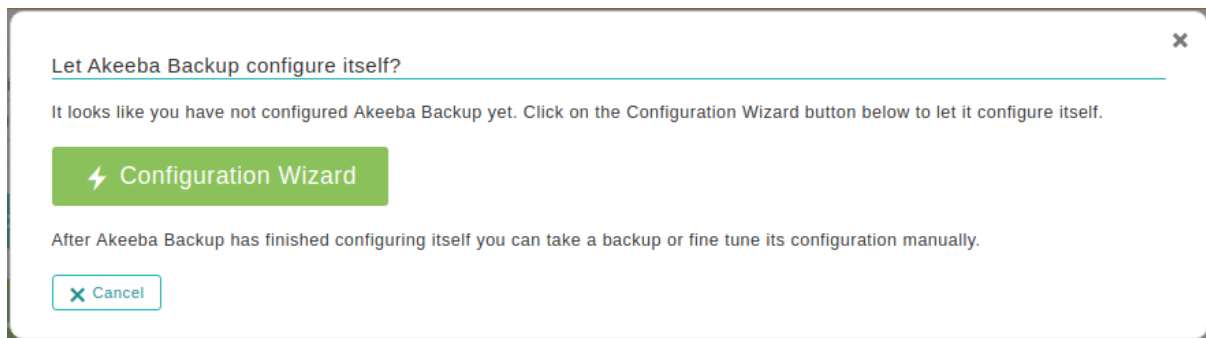
It is also recommended that you edit the backup profile's Configuration and add `- [RANDOM]` to the end of the backup archive name. This will append 16 completely random, alphanumeric characters to the backup archive's name. This is a security feature. It makes it extremely hard for an attacker to successfully *guess* the name of your backup archives. Even if your server does not allow Akeeba Backup to prevent direct web access to the files in the output directory, the combination of the files which prevent listing the file names (meaning that an attacker would have to *guess* the name of your backup archive) and the random alphanumeric characters at the end of the backup archive name (meaning that the attacker would need several hundreds of thousands of years to successfully guess the name of your backup archive) protect your backups adequately in the overwhelming majority of use cases.

## Important

The **BEST** solution to this issue is creating a dedicated folder for your backup placed outside your server's web root. Please consult the Security Information chapter of our documentation to understand how servers work and why this solution is the best one possible.

## Configuration Wizard

### Configuration Wizard notice



If Akeeba Backup detects that you have a brand new backup profile that has not been configured yet it will ask you to run the Configuration Wizard. The Wizard runs without requiring any input from you. Sit back and let Akeeba Backup figure out what are the best backup settings for your site. We recommend all of our users to use the Configuration Wizard as it prevents the most common backup problems you may encounter.

## 2.2.2. Editing the component's Options

You can edit the global, component-wide options by clicking on the Options button towards the top right hand of the page, in the Joomla! toolbar area at the top of the page. The Options editor opens in a new page.

Please note that the component Options are component-wide and take effect regardless of the active profile.

There are several tabs:

Permissions

## Using the Akeeba Backup component

Permissions Front-end backup Live update Security Back-end Push Notifications

**i** Default permissions used for all content in this component.

Manage the permission settings for the user groups below. See notes at the bottom.

Public	Action	Select New Setting	Calculated Setting
– Guest	Configure ACL & Options	Inherited ▼	Not Allowed (Inherited)
– Manager	Access Administration Interface	Inherited ▼	Not Allowed (Inherited)
– Administrator	Backup	Inherited ▼	Not Allowed (Inherited)
– Pro Users	Configure	Inherited ▼	Not Allowed (Inherited)
– Registered	Download	Inherited ▼	Not Allowed (Inherited)
– Author			
– Editor			
– Publisher			
– Subscribers			
– Super Subscriber			
– Super Users			
– Support Staff			

If you change the setting, it will apply to this and all child groups, components and content. Note that:

**Inherited** means that the permissions from the parent group will be used.

**Denied** means that no matter what the parent group's setting is, the group being edited can't take this action.

**Allowed** means that the group being edited will be able to take this action (but if this is in conflict with the parent group it will have no impact; a conflict will be indicated by **Not Allowed (Locked)** under Calculated Settings).

**Not Set** is used only for the Public group in global configuration. The Public group is the parent of all other groups. If a permission is not set, it is treated as deny but can be changed for child groups, components, categories and items.

This is the standard Joomla! ACL permissions setup tab. Akeeba Backup fully supports Joomla! ACLs and uses the following three custom permissions:

- Backup Now Allows the users of the group to take backups.
- Configure (The second one displayed in each group) Allows the users of the group to access the Configuration page, as well as all features which define what is included/excluded from the backup
- Download Allows the users of the group to download backup archives from the Manage Backups page.
- Front-end backup


Here you can define options which affect front-end, CRON and remote backups.



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[Permissions](#) [Front-end backup](#) [Live update](#) [Security](#) [Back-end](#) [Push Notifications](#)

---

 This allows you to enable the legacy and Lite front-end backup modes

Enable front-end and remote backup

No

Yes

Enabled failed backups check from the front-end

No

Yes

Secret word

Backup timezone

Default Joomla! behavior

▼

Email on backup completion

No

Yes

Email address

Email Subject

Email Body

Check for failed backups

Stuck backup timeout

Email address

Email Subject

Email Body

Enable front-end and remote backup

Akeeba Backup allows you to take backups from the front-end, or from compatible remote clients (e.g. Akeeba Remote CLI and other third party products or services). In order to be able to do so, you have to enable this option.

Enable failed backups check

Akeeba Backup allows you to access a special URL on the front-end of the site. This lets it detect failed / stuck backups and send you email notifications about them. In order to be able to do so, you have to enable this option.

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from the front-end

**Secret word** Required to authenticate a remote backup method. Also protects the front-end backup feature from Denial of Service attacks by requiring you to pass this secret word in the front-end backup URL.

Please note that if you use any character other than a-z, A-Z and 0-9 you **MUST NOT** use the secret word verbatim in the front-end backup URL. Instead, you have to URL-encode it. The Schedule Automatic Backups page does that automatically for you. Just go to Components, Akeeba Backup, click Schedule Automatic Backups, scroll all the way down and use one of the tabs to get the URL or command line you need to use with the secret word properly encoded in the URL.

For security reasons, you must use a complex enough secret word. Akeeba Backup's JSON API and front-end backup plugins enforce that by disabling themselves if you are using a Secret Word with a low complexity. We strongly recommend using a "secret word" consisting of at least 16 random, mixed case alphanumeric characters. It should not be a dictionary word or based off a dictionary word. One good resource for truly random secret words is Random.org's password generator [<https://www.random.org/passwords/?num=1&len=24&format=html&rnd=new>].

## Note

**Why is this field not a password field?** The Secret word is transmitted in the clear when you load the page and is also visible when you view the source of the page or right click on the field and choose Inspect Element. In other words, as long as someone has access to the component configuration page they can trivially find out the secret word. Not to mention that the secret word is also plainly visible in the Schedule Automatic Backups page. Always use HTTPS with a commercially signed SSL certificate when configuring or backing up your site.

**Backup timezone** The timezone which will be used for all of the naming variables processed by Akeeba Backup. These are variables such as [DATE] and [TIME] which you can use in the filename template of backup archives, the backup output directory name, the front-end and remote backup emails and elsewhere.

The default option is called `Default Joomla! behavior` and it will find out the timezone the same way Joomla! does: if there is a logged in user it will use their timezone. If there is no logged in user (e.g. front-end or remote backup) or there is a logged in user but they do not have a timezone set in their user profile the Server Timezone used in the site's Global Configuration will be used instead. If that is not set it will fall back to GMT (Greenwich Mean Time).

We recommend setting this option to the timezone the people responsible for taking and restoring backups are most familiar with. If you are the only Super User use the timezone where you normally live in.

**Email on backup completion** When enabled, Akeeba Backup will send an email regarding the backup status every time a front-end or remote backup is complete or failed.

**Email address** When the above option is enabled, the email will be sent to this email address. If you leave it blank, Akeeba Backup will send a copy of the email to all Super Administrators of the site.

**Email subject** This option lets you customise the subject of the email message which will be sent when a remote, CRON or front-end backup succeeds. You can use the same variables you can use in file names, i.e. [HOST] for the domain name of your site and [DATE] for the current date and time stamp. Leave blank to use the generic default option.

Email body	<p>This option lets you customise the body of the email message which will be sent when a remote, CRON or front-end backup succeeds. Leave blank to use the generic default option. The email is delivered as plain text; you may not use any HTML to format it. You can use the same variables you can use in file names, i.e. [HOST] for the domain name of your site and [DATE] for the current date and time stamp, inside the body text. Moreover, you may also use any or all of the following variables in order to enhance the clarity of your message:</p> <p>[PROFILENUMBER] The numeric ID of the current backup profile</p> <p>[PROFILENAME] The description of the current backup profile</p> <p>[PARTCOUNT] The number of archive parts of the backup archive which was just generated</p> <p>[FILELIST] A list of filenames of the archive parts of the backup archive which was just generated</p> <p>[REMOTESTATUS] Available since Akeeba Backup 3.5.3. Shows the status of post-processing, e.g. uploading the file to remote storage like Amazon S3. If you are not using post-processing, this is always empty. If the transfer to the remote storage was successful it will output "Post-processing (upload to remote storage) was successful". If the transfer fails it will output "Post-processing (upload to remote storage) has FAILED".</p>
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The options under Check for failed backups are used with the feature for checking for failed backups automatically.

Stuck backup timeout	<p>A backup will be considered stuck (failed) after this many seconds of inactivity. Please note that uploading backup archives to remote storage, such as Amazon S3, using the native CRON mode might take substantially longer than that. We advise you to leave this value as is and schedule the backup failure checks to take place a substantial amount of time (e.g. 1 hour) after the expected end time of your scheduled backups. If a backup failure check takes place before a backup has finished it is very possible that you will end up with a failed backup!</p>
Email address	<p>The email address which will be notified for failed backups</p>
Email subject	<p>Leave blank to use the default. You can use all of Akeeba Backup's variables you can use for naming archive files, e.g. [HOST] and [DATE]</p>
Email body	<p>Leave blank to use the default. You can use all of Akeeba Backup's variables you can use for naming archive files, e.g. [HOST] and [DATE].</p>
Live update	

## Using the Akeeba Backup component

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Permissions Front-end backup **Live update** Security Back-end Push Notifications

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*i* This section is internally used by Akeeba Backup when performing live update checks

Download ID

Auto-update CLI settings

Notify only ▼

Notification frequency

Notification time

minutes ▼

Email for update notifications

Enable anonymous PHP, MySQL and Joomla! version reporting

No ▼

These options define how Akeeba Backup will notify you regarding available updates

**Download ID** If and only if you are using the Professional release you have to specify your Download ID for the live update feature to work properly. You can get your Download ID by visiting [AkeebaBackup.com](https://akeebabackup.com) and clicking My Subscriptions. Your Download ID is printed below the list of subscriptions. Filling in this field is required so that only users with a valid Professional subscription can download update packages, just as you'd expect from any commercial software.

### Note

Users of Akeeba Backup Core do not need to supply this information.

**Enable anonymous PHP, MySQL and Joomla! version reporting** Help us improve our software by anonymously and automatically reporting your PHP, MySQL and Joomla! versions. This information will help us decide which versions of Joomla!, PHP and MySQL to support in future versions.

Note: we do NOT collect your site name, IP address or any other directly or indirectly unique identifying information.

### Security

These options define how Akeeba Backup will secure your settings

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Permissions Front-end backup Live update **Security** Back-end Push Notifications

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*i* Security settings

Use encryption

No Yes

**Use Encryption** Your settings can be automatically stored encrypted using the industry standard AES-128 encryption scheme. This will protect your passwords and settings from prying eyes. If, however, you do not want to use this feature, please set this option to No and reload the Control Panel page to apply this setting. Do note that your server must have either the mcrypt or the OpenSSL PHP extension installed for this feature to work. Please keep in mind that even if your site is using HTTPS this doesn't mean that you have the *OpenSSL PHP extension* installed. You usually have to ask your host to enable it for you.

## Tip

For security reasons, we recommend always having this option turned on

Please note that you may have to go to the Configuration page and click on the Save & Close button before Akeeba Backup can successfully detect if your server supports encryption or not. Before doing that, Akeeba Backup might always report that your server does not support encryption.

### Back-end

[Permissions](#) [Front-end backup](#) [Live update](#) [Security](#) [Back-end](#) [Push Notifications](#)

Options instructing Akeeba Backup how to handle back-end scripting

Date format

Local time in Manage Backups

No

Yes

Timezone suffix

None

Time Zone

GMT Offset

These options define how Akeeba Backup will display its administration interface

Dark Mode	<p>Akeeba Backup comes with two color schemes: dark text on a light background (Light Mode) and light color text on a dark background (Dark Mode). Light Mode matches the colors in the default Joomla administrator template. Dark Mode is better for working in darker rooms or for accessibility reasons. This option controls which color scheme will be used.</p> <p>Auto: Your browser decides. If your browser tells pages to use a darker theme, Akeeba Backup will load its Dark Mode color scheme. This happens e.g. with Firefox and Safari when Dark Mode is enabled in iOS / iPadOS / macOS, Chrome when Dark Mode is used in Android Oreo or later, Firefox and Chrome when the Dark color scheme is used on Windows or GNOME etc.</p> <p>Never: Akeeba Backup will always use the Light Mode color scheme.</p> <p>Always: Akeeba Backup will always use the Dark Mode color scheme.</p>
Optimize JavaScript	<p>Automatically bundles all of Akeeba Backup's JavaScript (files and inline scripts) into a single JS file. This improves the load performance of Akeeba Backup's pages on slow connections but relies on the <code>media/com_akeeba</code> folder being writable. In very rare cases, third party plugins may interfere with this feature and cause Akeeba Backup's JavaScript to never load. If you suspect this is the case, or if you are explicitly told so by our support, please set this setting to No.</p>
Date format	<p>Defines how the Start time of backups will display in the Manage Backups page. Leave blank to use the default date format. The date format follows the conventions of the PHP <code>date()</code> function [<a href="http://www.php.net/date">http://www.php.net/date</a>].</p>
Local time in Manage Backups	<p>When this option is set to No the time the backup started is shown in GMT timezone in the Manage Backups page. If you set it to Yes the time will be shown in the logged in user's timezone.</p> <p>Please note that this feature will not work reliably unless you have set the correct server timezone in Joomla's Global Configuration. Keep in mind that your server's timezone may be different than the timezone you live in or the timezone of the hosting company's offices. For example, it's possible for an Australian to be hosted with a British hosting company</p>

whose servers are in Amsterdam. The correct server timezone in this case would be Europe/Amsterdam.

Moreover, you need to have selected your local timezone in your user profile in Joomla!.

If these prerequisites are not met the time displayed will be off. Lack of configuration on your part is not a bug on our part. Please triple check your timezone settings before filing a "bug" with this feature.

**Timezone suffix** Choose the suffix to append to the backup time in the Manage Backups page. None will result in no suffix. We don't recommend it as it's not immediately obvious which timezone is being used. `Time Zone` is the recommended and default option. It will print the human readable timezone setting, e.g. `EEST` for Eastern Europe Summer Time, `PDT` for Pacific Daylight Time and so on. `GMT Offset` will instead display the timezone as an offset from GMT, for example `GMT+3` for Eastern Europe Summer Time or `GMT-7` for Pacific Daylight Time.

**Show the "Delete everything before extraction" option** When this option is enabled, users restoring a backup will see the Delete everything before extraction option. This is a **dangerous** option, meant for advanced users. It will try to delete all files under the backed up site's root before starting the restoration. The obvious danger in this option is that it might delete more than you expected since it cannot and does not know the meaning of each folder under your site's root. It might end up deleting your subdomains, add-one domains, your emails or your cat photos.

Before using this option please make sure that you have kept copies of your backups and any important files outside of your site. If you screw up when restoring your site we take no responsibility. You have been warned.

#### Push notifications

Permissions Front-end backup Live update Security Back-end Push Notifications

Here you can configure push notifications for backup events to be sent directly to your phone, tablet, notebook or desktop computer. You need to download the free-of-charge, third party application Pushbullet first.

Ask for Desktop Notifications permissions No

Push notifications Disabled

Pushbullet Access Token

Akeeba Backup 4.2.2 and later can notify you on backup start, finish and –sometimes– on backup failure using push notifications delivered through the third party application Pushbullet. Push messages are delivered to all your devices running the Pushbullet client software including smartphones and tablets (iOS, Android, Windows) as well as laptops and desktops (Windows, Linux, Mac OS X).

Please note that backup *failure* notifications can only be delivered for backups started through the back-end. For technical reasons beyond our control these notifications can not be delivered for remote (JSON API) and scheduled (CRON job) backups: if the backup fails the PHP executable stops working, therefore our PHP code to send notifications can not work.

**Ask for Desktop Notifications permissions** Enable this option to allow Akeeba Backup to display desktop notifications. Unlike push notifications, these are only shown when you are taking a backup from the backend of your site, though your browser. They are displayed by your browser, not PushBullet. This feature is only compatible with browsers implementing the desktop notifications API for JavaScript such as Firefox, Safari or Google Chrome.

**Push notifications** Select the push notifications type. Currently only Pushbullet and None are supported. If you choose None the push notifications are disabled.

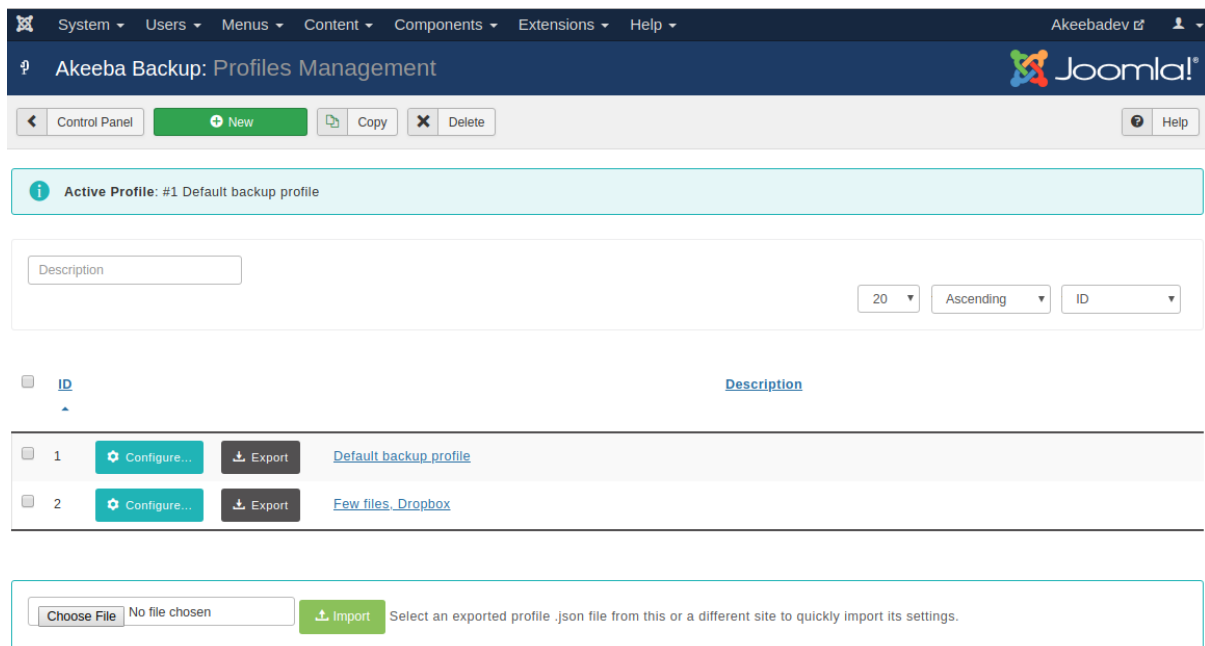
**Pushbullet Access Token** Enter your Pushbullet Access Token. You can find it in your Pushbullet account page [https://www.pushbullet.com/account]. Do note that this token gives full access to your Pushbullet account and is visible by everyone who can view and edit Akeeba Backup's settings.

## 3. Basic Operations

The Basic Operations group contains the most common functions you will need on your daily Akeeba Backup usage. In fact, you will only use the other pages sparingly, mostly when you create a backup profile or want to update it after doing significant changes to your site.

### 3.1. Profiles Management

#### Profiles Management page



The Profiles Management page is the central place from where you can define and manage *backup profiles*. Think of each backup profile as an isolated container holding Akeeba Backup configuration values and filter settings. Each one uniquely and completely defines the way Akeeba Backup will perform its backup process.

The main page consists of a list of all backup profiles. On the left hand column there is a check box allowing the selection of a backup profile so that one of the toolbar operations can be applied. The other column displays the description of the backup profile. Clicking on it leads you to the editor page, where you can change this description.

On the page's toolbar you can find the operations buttons:

- New** Creates a new, empty profile. Clicking on this button will lead you to the editor page, where you can define the name of the new profile, or cancel the operation if you've changed your mind.
- Copy** Creates a pristine copy of the selected backup profile. The copy will have the same name and include all of the configuration options and filter settings of the original.
- Delete** Permanently removes all selected backup profiles. All associated configuration options and filter settings are removed as well. This is an irreversible operation; once a profile is deleted, it's gone forever.  
  
You can only delete one profile at a time. If you select multiple profiles, only the first one (topmost) will be removed.

When you create a new profile or copy an existing profile, the newly generated profile becomes current. This means that you can work on your new profile as soon as you're finished creating it, without the need to manually make it current from the Control Panel page.

To the left of each profile's name you will find two buttons:

**Configure...** Clicking this button makes that profile current and opens the Configuration page. This is equivalent to going back to the Control Panel, selecting that profile in the list, waiting for the page to reload and clicking on Configuration. We figured that having to click to just one button is much faster – and simpler!

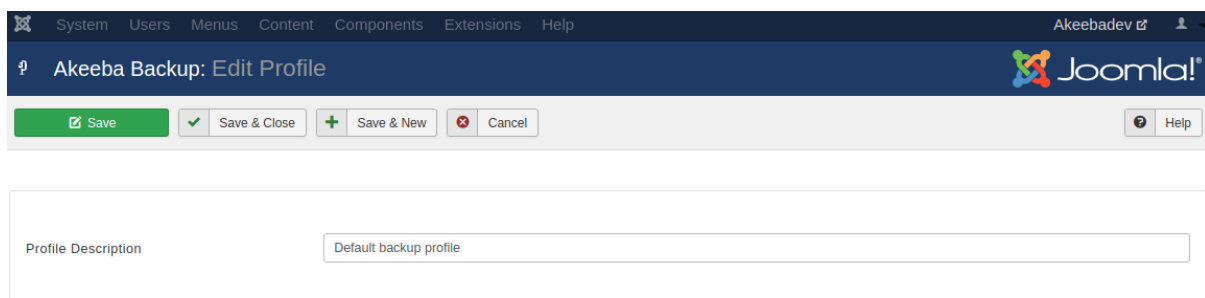
**Export** You can export a profile in JSON format. Clicking this button will ask you to download a file with all of the profile settings. You will be able to import that file on the same or a different site using the Import feature further down the page.

Please note that the file you are downloading contains all of the configuration information **UNENCRYPTED**. We strongly advise you to only use this feature when connected to your site over HTTPS. We also strongly advise against storing exported profile files in media which could reasonably be lost (e.g. USB keys) or cloud services without encryption that you manage yourself. Whenever possible, encrypt the exported backup profiles e.g. with GPG or even in a password-protected ZIP file before storing them.

You can also find an Import area below the list of profile. Use the file browser field to select a previously exported profile file from the same *or a different* site. Then click the Import button. Akeeba Backup will import the profile at the end of the profiles list.

We strongly advise you to review your settings after importing a profile. If the profile comes from another site you may have used an absolute path or overridden the database connection information. In this case you will have to change those settings to reflect the current site's configuration.

## The Edit Profile page

The screenshot shows the Joomla! administrator interface for the 'Akeeba Backup: Edit Profile' page. At the top, there's a navigation menu with links like System, Users, Menus, Content, Components, Extensions, and Help. Below the menu, the page title 'Akeeba Backup: Edit Profile' is displayed. A toolbar contains buttons for 'Save' (green), 'Save & Close' (green with a checkmark), 'Save & New' (green with a plus), 'Cancel' (red with an X), and a 'Help' button. The main content area has a 'Profile Description' label and a text input field containing 'Default backup profile'.

The editor page which appears when creating or editing a profile is trivial. The only changeable parameter is the profile's description. Clicking on Save & Close applies the settings and gets you to the main Profiles Management page. Clicking on Apply applies the settings and returns you to the editor page. Finally, clicking on Cancel will disregard any changes made and get you to the main Profiles Management page.

Back in the list of profiles, you can click on the Configure button next to a profile to configure it. This changes your currently active backup profile and takes you to the Configuration page.

## 3.2. Configuration Wizard

The Configuration Wizard is an automated process which benchmarks your server's performance and tries to fine tune common configuration variables for optimal backup performance on your server. The Configuration Wizard settings are applied to the current profile only. If you want to automatically configure a different profile, you have to select it from the drop-down list in the Control Panel page before clicking on the Configuration Wizard button.

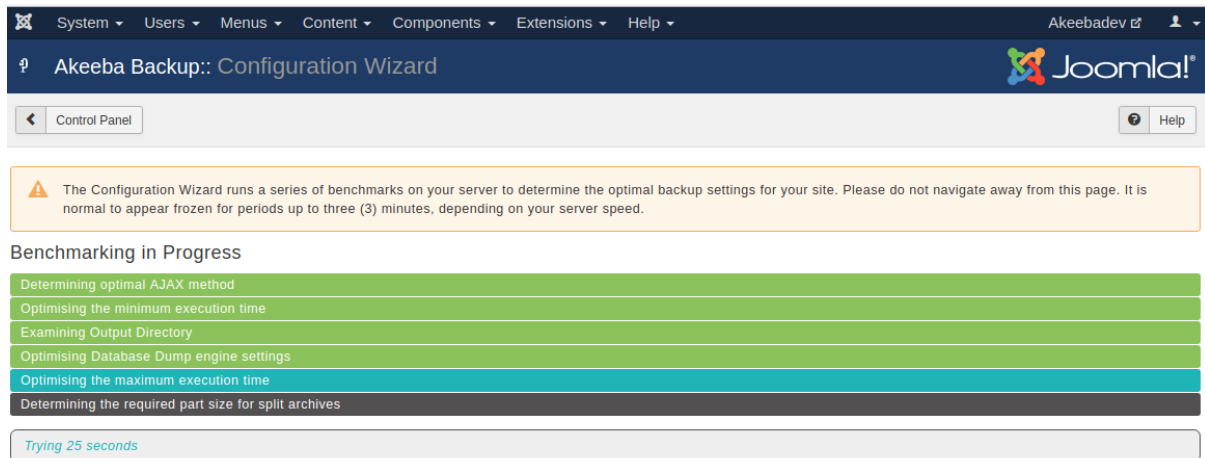
Do note that using the Configuration Wizard has the following effects:



- Your backup type is switched to "Full site backup".
- The archiver engine is switched to "JPA (Recommended)".
- Post processing options are reset to "None" i.e. your backup will not be uploaded to a remote storage location.

If you want to use a different backup type and/or archive type, you can review the configuration changes after the wizard is finished.

## The Configuration Wizard page



The Configuration Wizard will automatically fine tune the following configuration parameters:

- AJAX method (use AJAX or IFrames)
- Optimize the minimum execution time so as to make the backup as fast as possible without your server throwing 403 Forbidden errors
- Adjust the location and/or permissions of the output directory. Useful if you just transferred your site to a new server or location.
- Optimize the database dump engine settings to make database dump as fast as possible, while avoiding memory outage errors
- Optimize the maximum execution time so that as few steps as possible are performed during the backup, without causing a timeout
- Automatically determines if your server needs archive splitting.

### Important

The Configuration Wizard does not address archive splitting to smaller parts which may be required in some cases when you are using a post-processing engine (such as FTP, Amazon S3, Dropbox, etc). If you will be using post-processing you may have to manually set the Part Size for Split Archives to a different value manually.

At the end of the wizard process, you can either try taking a backup immediately or review and possibly modify the configuration parameters.

## 3.3. Configuration

### Note

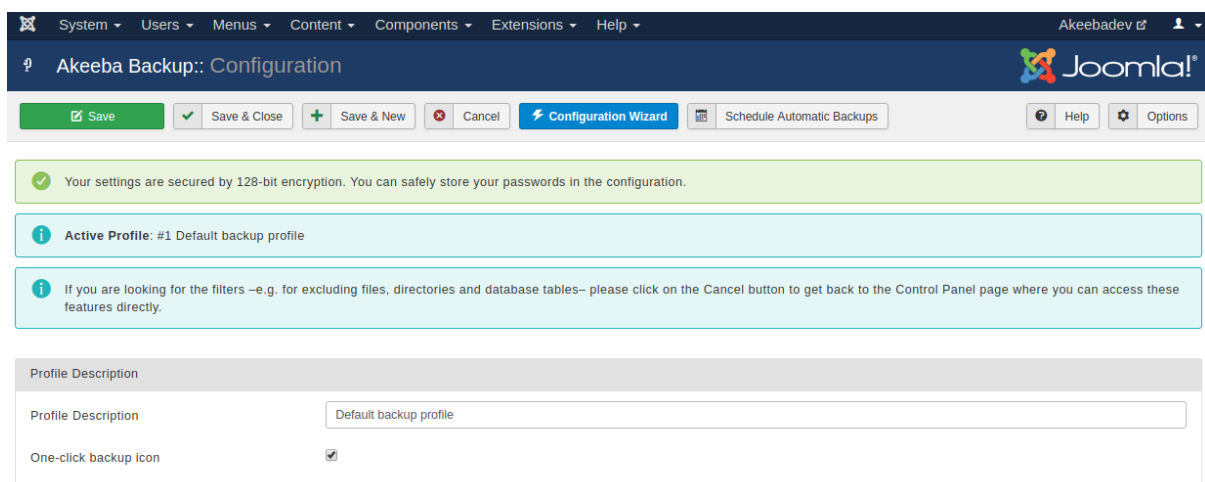
Some of the options discussed below may be only available in the Professional edition which is only available to paying subscribers.

The Configuration page consists of a number of sections, grouping related options together. Each option has a label on the left hand side. You can hover your mouse over the label to see a quick reference (tooltip) for that option. Click on the label to make the quick reference sticky. Click again to let it disappear after you move your mouse away from it.

Some of the settings feature a button at the right hand side. These buttons either do some action on the setting's field, like browsing for a folder and testing connection parameters, or it may be labeled Configure.... In the latter case pressing the button will toggle the display of a subsection which contains further configuration options for your selection. This is typically used to configure the archiver engine, the database dump and any post-processing option.

Another interface element worth mentioning are the composite drop-downs. Whenever you are supposed to enter a number, Akeeba Backup presents you with a drop-down menu of the most common options. You can either select a value from the list, or select "Custom...". In the latter case, a text box appears to the right of the drop-down. You can now type in your desired value, even if it's not on the list. Do note that all of these elements have preset minimum/maximum values. If you attempt to enter a value outside of that range, or an invalid number, they will automatically revert to the closest value which is within the preset range.

## The top of the Configuration page



The top of the page is Joomla's toolbar area. The Save button will save the backup profile settings and get you back to the Configuration page. The Save & Close button will save the backup profile settings and take you to the Control Panel page. The Save & New button will save the backup profile settings, create a new profile which is an exact copy of the saved settings and return to the Configuration page of the *new* backup profile. The Cancel button aborts all unsaved changes and takes you back to the Control Panel page.

The Configuration Wizard button will launch the Configuration Wizard. This is useful if you want to initialize your backup profile or reset any settings you are not sure about.

The Schedule Automatic Backups button will take you to the page where you can find out how to automate your backups.

On the top of the main page you can see a reminder of whether you're using encryption for your backup profile settings (something that you can change in the component's Options, accessible from the Options button in the toolbar). We recommend only saving passwords in the configuration when encryption is enabled.

## Note

Encryption is not a panacea. The configuration is stored in the database encrypted and the decryption key is stored in a file. This is meant to protect you from a vulnerability which allows the attacker to only access the database. If the attacker can read or, worse, write to your site's files your settings can be reasonably considered compromised: the attacker has all the information they need to retrieve both the encrypted data and the decryption key.

Below you can find the numeric ID and title of the active backup profile. This acts as a reminder, so that you know which profile's settings you are editing.

Further down you will find the Profile Description area. You can view and change the backup profile's description here, without having to go through to the backup profiles page.

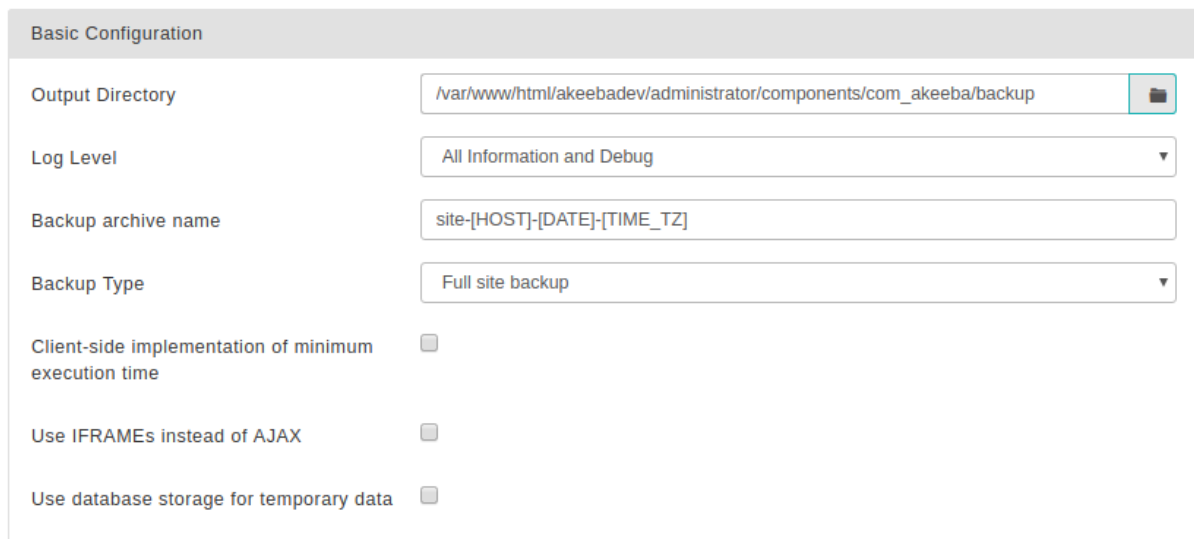
The One-click backup icon box, if checked, will result in a quick icon for this backup profile being displayed in the Control Panel page. Clicking on that icon will start a backup using that profile, without waiting for your confirmation.

Below you'll find a reference for all the options, grouped by the section they belong in.

### 3.3.1. The main settings

#### 3.3.1.1. Basic Configuration

##### Basic configuration



The screenshot shows the 'Basic Configuration' settings page for Akeeba Backup. It contains several configuration options:

- Output Directory:** A text input field containing the path `/var/www/html/akeebadev/administrator/components/com_akeeba/backup`, with a folder icon button to the right.
- Log Level:** A dropdown menu currently set to 'All Information and Debug'.
- Backup archive name:** A text input field containing the template `site-[HOST]-[DATE]-[TIME_TZ]`.
- Backup Type:** A dropdown menu currently set to 'Full site backup'.
- Client-side implementation of minimum execution time:** An unchecked checkbox.
- Use IFRAMEs instead of AJAX:** An unchecked checkbox.
- Use database storage for temporary data:** An unchecked checkbox.

**Output Directory** This is the directory where the result of the backup process goes. The result of the backup - depending on other configuration options - might be an archive file or a SQL file. This is also where your *backup log file* will be stored. The output directory must be accessible and directly writable by PHP.

Providing a directory with adequate permissions might not be enough! There are other PHP security mechanisms which might prevent using a directory, for example the `open_basedir` restriction which only allows certain paths to be used for writing files from within PHP. Akeeba Backup will try to detect and report such anomalies in the Control Panel page before you attempt a backup.

The output directory, all of its subdirectories and all files contained therein are *automatically excluded from the backup*. Do not use a folder that contains files you want to back up as your backup output directory. Most importantly, do not use your site's root as your output directory! This will lead to a backup that does not have any of your site's files, making it useless! Akeeba Backup will attempt to warn you in this case.

You can use the following variables to make your setting both human readable and portable across different servers - or even different platforms:

- `[DEFAULT_OUTPUT]` is replaced by the absolute path to your site's `administrator/components/com_akeeba/backup` directory. This is assigned

as the default location of output files unless you change its location. If you leave it as it is, you are supposed to make sure that the permissions to this directory are adequate for PHP to be able to write to it.

- **[SITEROOT]** is automatically replaced by the absolute path to your site's root
- **[ROOTPARENT]** is automatically replaced by the absolute path to the parent directory of your site's root (that is, one directory above your site's root)

You can always click on the Browse... button to open a directory picker interface. Inside that interface and next to the folder's location there is the button labeled Use. Click on it to make the current directory the selected one and close the pop-up. To make it even easier for you, Akeeba Backup displays a small icon next to the Use button. If it's a green check mark the directory is writable and you can use it. If it's a red X sign, the directory is not readable and you either have to select a different directory, or change this directory's permissions.

#### Log Level

This option determines the verbosity of Akeeba Backup's log file:

- **Errors only.** Only fatal errors are reported. Use this on production boxes where you have already confirmed there are no unreadable files or directories. We do not recommend using this setting.
- **Errors and warnings.** The minimum recommended setting, reports fatal errors as well as warnings. Akeeba Backup communicates unreadable files and directories which it wasn't able to backup through warnings. Read the warnings to make sure you don't end up with incomplete backups! Warnings are also reported in the Backup Now page GUI irrespective of the log verbosity setting as a convenience.
- **All information.** As "Error and Warnings" but also includes some informative messages on Akeeba Backup's backup process.
- **All Information and Debug.** This is the recommended setting for reporting bugs. It is the most verbose level, containing developer-friendly information on Akeeba Backup's operation. Please take a backup using this log level before requesting support from us.
- **None.** This log level *is not recommended*. It disables logging altogether.

We recommend using Errors and Warnings after you have confirmed that your backup is running properly and All Information And Debug when you need to request support.

#### Backup archive name

Here you can define the name of your backup files. You must not enter an extension, it's added automatically.

There are a few available variables. Variables are special pieces of text which will be expanded to something else at backup time. They can be used to make the names of the files harder to guess for potential attackers, as well as allow you to store multiple backup archives on the output directory at any given time. The available variables and their expansion at backup time are:

[HOST]                      The configured host name of your site.

### Note

Whenever you visit Akeeba Backup's Control Panel we store the host name in the database and try to use it when you take a backup from the command line. If this value cannot be stored or if your site's host name changed since the last time you may get an incorrect host name when taking a backup from the command line, i.e. when you are using the akeeba-backup.php script, typically from a CRON job.

[DATE]	The current server date, in the format YYYYMMDD (year as four digits, month as two digits, day as two digits), for example 20080818 for August 18th 2008.
[YEAR]	The year of the current server date, as four digits
[MONTH]	The month of the current server date, as two digits (zero-padded)
[DAY]	The day of the current server date, as two digits (zero-padded)
[WEEK]	The current week number of the year. Week #1 is the first week with a Sunday in it.
[WEEKDAY]	Day of the week, i.e. Sunday, Monday, etc. The full name is returned in your current Joomla! language. Front-end, remote and CRON backups may return this in English or your default Joomla! language. This is not a bug, it is how Joomla!'s translation system is supposed to work.
[RANDOM]	<p>A 16-character random string.</p> <p>Using this variable makes it outright implausible that an attacker can successfully guess the filename of your backup archive and access it over the web if you are using a backup output directory that's under your site's root and which is unprotected from direct web access, either because you have not put a .htaccess or web.config filename or because your web server does not understand (e.g. NginX) or is not configured to honor such files.</p> <p>Please note that -[RANDOM] will be appended automatically to the Backup archive name if you are using the default backup output directory and you are not already using the [RANDOM] variable in your Backup archive name. This will happen automatically at backup time. You cannot override this behavior because it is a security feature.</p>
[TIME]	The current server time, in the format HHMMSS (hour as two digits, minutes as two digits and seconds as two digits), for example 221520 for 10:15:20 pm.
[TIME_TZ]	<p>The current server time, in the format HHMMSSGMT0000 (hour as two digits, minutes as two digits and seconds as two digits followed by GMT and the the offset to the GMT timezone as four digits), for example 221520GMT+0300 for 10:15:20 pm in Nicosia, Cyprus (which is 3 hours ahead of GMT).</p> <p>We strongly advise using this instead of [TIME] to remove any ambiguity on which timezone is being used. This is especially important if you rely on the filenames to understand which is the backup you are looking for or when you have multiple people taking and restoring backups in different timezones.</p>
[TZ]	The timezone all dates and times are expressed in. This variable gives you the timezone in a manner that is safe for use in filenames, even on Windows. For example, asia_nicosia for Nicosia, Cyprus.
[GMT_OFFSET]	The timezone all dates and times are expressed in. This variable gives you the timezone as an offset to the GMT timezone. For example +0300 for Cyprus (3 hours ahead of GMT), +0530 for India (5 hours 30 minutes ahead of GMT) or -0600 for Chicago (6 hours behind GMT).

[TZ_RAW]	The timezone all dates and times are expressed in. This variable gives you the raw timezone, e.g. Asia/Nicosia for Nicosia, Cyprus. Kindly note that this results in invalid filenames on Windows.
[VERSION]	The version of Akeeba Backup. Useful if you want to know which version of Akeeba Backup generated this archive file.
[PLATFORM_NAME]	The name of the platform Akeeba Backup is currently running under. This always returns "Joomla!".
[PLATFORM_VERSION]	The version of the platform Akeeba Backup is currently running under. This always returns the current Joomla! version, e.g. 1.2.3.
[SITENAME]	The name of the site, lowercased and transformed into a format which guarantees compatibility with all filesystem types commonly found in modern Operating Systems. Please note that the site name will be trimmed at 50 characters if it's longer.

The date and time options are expressed in the timezone selected in the component's Options page under Backup Timezone. By default this is GMT. You are advised to change this to the timezone your site administrators are most familiar with.

- Backup Type      It defines the kind of backup you'd like to take. The backup types for Akeeba Backup are:
- **Full site backup** which backs up the Joomla! database, any extra databases you might have defined and all of the site's files. This produces a backup archive with an embedded installer so that you can restore your site with ease. This is the option 90% of the users want; it is the only option which creates a full backup of your site, capable of producing a working site if everything is wiped out of your server.
  - **Main site database only (SQL file)** which backs up only the Joomla! database. It results in a single SQL file which can be used with any database administration utility (e.g. phpMyAdmin to restore only your database should disaster strike. This option is recommended for advanced users only.
  - **Site files only** which backs up nothing but the site's files. It is complementary to the previous option.

## Warning

Having one "main site database" backup and one "sites files only" backup is not equal to having a full site backup! The full site backup stores the database dump in a more detailed format and also includes an installation script which, just like Joomla!'s web installer, allows you to effortlessly recover your site even if everything is wiped out of your server. It acts as the glue between the two pieces (files and database).

- **All configured databases (archive file)** which creates an archive file containing the database dumps of your site's database and an installer script to restore them. It's like a full backup without the files.
- **Incremental (files only)**. This is the same as the Site files only option, but instead of backing up all of your site's files, it only backs up the files which changed since the last time you performed a backup. The only comparison made is between the file's modification time and the last successful backup's time. The "last successful backup" refers to the last backup made using this backup Profile and which has a status of "OK", "Remote" or "Obsolete".

Restoring an incremental backup set is a *manual process*. You have to manually extract the files from your "base" backup (an archive made with a Full Site Backup profile), then

extract all incremental archives on top of it. Finally, used this collection of extracted files to restore your site. This process should only be used if you really know what you are doing. Do not trust that Akeeba Backup can sort out the collection of incremental backups and help you restore them. It won't.

- **Full site, incremental files.** This backup is a combination of Full site backup and Incremental. It works like a full site backups except for the site files. The site files are treated the same as an Incremental backup, i.e. only modified files are included. This backup type is intended for sites with frequently changing database contents and infrequently changing files. The same warnings about restoration as an Incremental backup apply.

Client-side  
implementation  
of minimum  
execution time

Akeeba Backup splits the backup process into smaller chunks, called backup steps, to prevent backup failure due to server time-out or server protection reasons. Each backup step has a minimum and maximum duration defined by the Minimum Execution Time, Maximum Execution Time and Execution Time Bias parameters in this Configuration page. If the step takes less time to complete than the minimum duration Akeeba Backup will have to wait.

When this box is unchecked (default) Akeeba Backup will have the server wait until the minimum execution time is reached. This may cause some very restrictive servers to kill your backup. Checking this box will implement the waiting period on the browser, working around this limitation.

## Important

This option only applies to back-end backups. Front-end, JSON API (remote) and Command-Line (CLI) backups always implement the wait at the server side.

Use IFRAMEs  
instead of AJAX

Normally, Akeeba Backup uses AJAX to perform each backup step. In some very old browsers this didn't work very well, hence this option. When selected, Akeeba Backup will use a hidden IFRAME on the page to step through the backup process. In modern browsers this might actually prevent the backup from working due to the browsers' ad blocking or security features. You should have no reason to use this option. Please do not use it unless you are told to do so by our support.

Use database  
storage for  
temporary data

Normally, Akeeba Backup stores temporary information required to process the backup in multiple steps in .php files stored in your Output Directory. In very rare circumstances the host mistakes this file for malicious code, deletes it automatically and the backup fails or immediately restarts without any apparent reason. If this happens, enable this option. It tells Akeeba Backup to use your site's database to store this temporary information instead of .php files.

Do note that on some hosts this will cause the backup to fail with a "MySQL server has gone away" error message. That is a problem with the host's configuration. In those cases, nothing can be done. Our suggestion: if you receive such an error, migrate your site to a new host as the one you are using is most likely overcrowded and restricted. Moving to a faster, more reliable host can benefit your site in many more ways than just being able to run a backup.

### 3.3.1.2. Advanced configuration

#### Advanced configuration

Advanced configuration

Database backup engine	Native MySQL backup engine	Configure...
Filesystem scanner engine	Smart scanner	Configure...
Archiver engine	JPA format (recommended)	Configure...
Post-processing engine	No post-processing	Configure...
Upload Kickstart to remote storage	<input type="checkbox"/>	
Archive integrity check	<input type="checkbox"/>	
Embedded restoration script	ANGIE for Joomla! Sites	
ANGIE Password	<input type="text"/>	
Virtual directory for off-site files	external_files	

Database backup engine	This option controls how Akeeba Backup will access your database and produce a dump of its contents to an SQL file. It is used with all backup types, except the files only type. The available options for this setting are discussed in the Database dump engines section of this document.
Filesystem scanner engine	This option controls how Akeeba Backup will scan your site for files and directories to back up. The available options for this setting are discussed in the File and directories scanner engines section of this document.
Archiver engine	This option controls which kind of archive will be produced by Akeeba Backup. The available options for this setting are discussed in the Archiver engines section of this document.
Post-processing engine	Akeeba Backup allows you to post-process the backup archives once the backup process is over. Post-processing generally means sending them somewhere off-server. This can be used, for example, to move your backup archives to cloud storage, increasing your data safety. The available options for this setting are discussed in the Data processing engines section of this document.
Upload Kickstart to remote storage	By selecting this option you instruct Akeeba Backup to also upload kickstart.php on the remote storage alongside your backup archive. When used with the Upload to Remote FTP Server and Upload to Remote SFTP Server you can perform easy site transfers without leaving your browser. Enter the new site's (S)FTP information in the Data Processing Engine configuration and select the Upload Kickstart to Remote Storage option, then take a new backup. When the backup is complete just open the new site's kickstart.php URL (e.g. <a href="http://www.example.com/kickstart.php">http://www.example.com/kickstart.php</a> ) in your browser to begin the restoration on the new site's server. This even works with mobile devices, allowing you to transfer sites without using a laptop or desktop computer and without using up a lot of bandwidth on your device.
Archive integrity check	<p>When enabled Akeeba Backup will go through the archive extraction process without writing anything to the disk. This makes sure that the archive is not corrupt. If the archive is found to be corrupt an error is raised and the backup process stops.</p> <p>This feature will NOT work when the Process each part immediately option is enabled in the Post-processing Engine configuration. When you are processing each part immediately</p>



the backup archive parts are transferred away from your server before the end of the backup is reached. As a result it is not possible to do a test extraction (the archive file parts are no longer there, so there's nothing to try and extract). It WILL however work when you are simply using a post-processing engine (e.g. Upload to Amazon S3) without the process each part immediately option. Please bear in mind that the integrity check runs BEFORE post-processing (uploading) the backup archive parts to remote storage because there's no reason to put a broken archive for safe-keeping in remote storage.

This feature will only work if you are using an Archiver Engine which creates backup archives. This is typically the case with most Archiver Engines. Notable exceptions are, of course, the DirectFTP and DirectSFTP engines which do not produce backup archives. If you enable this feature on a backup profile using either of these Archiver Engines you'll get a warning.

Enabling this feature will increase the time required to complete the backup process and use substantially more memory and CPU resources. Akeeba Backup goes through the same archive extraction process as Kickstart with the only difference that it does not write anything to the disk.

Finally do keep in mind that this feature only makes sure the archive can be extracted, it does *not* test whether the database data can be restored or if the restored site works correctly. It's still up to you to do a periodic, complete test restoration of your site.

Embedded restoration script	Akeeba Backup will include a restoration script inside the backup archive in order to make restoration easy and the backup archive self-contained. You do not need anything else except the archive in order to restore a site. Restoration scripts honour the settings in your configuration.php, modifying only those necessary (for example, the database connection information), allowing you to create pristine copies ("clones") of your site to any host. You can find more information about restoration scripts in the next Chapter.
ANGIE Password	If you are using the ANGIE embedded installer script you can optionally password-protect it, preventing unauthorised access to the installer. When you run the installer you will be asked to enter this password. Please note that the password is case sensitive, i.e. ABC, abc and Abc are three different passwords.
Virtual directory for off-site files	Using the off-site directories inclusion of Akeeba Backup Professional, the component will be instructed to look for files in arbitrary locations, even if they are outside the site's root (hence the name of that feature). All the directories included with this feature will be placed in the archive as subdirectories of another folder, in order to avoid directory name clashes. We call this folder the "virtual directory", because it doesn't physically exist on the server, it only exists inside the backup archive.

### 3.3.1.3. Site overrides

These settings are all optional and only available in Akeeba Backup Professional. They allow you to back up a different site than the one Akeeba Backup is currently installed. Essentially, you can install Akeeba Backup on one site and have it back up all sites on the server.

#### Note

You do not need to set anything up in this section if you only intend to backup or transfer your site. This is only required when you want Akeeba Backup to backup a different site than the one it is installed in.


## Site overrides

Site overrides

Site root override

☐

Force Site Root



Site database override

☐

Database driver

▼

Database server hostname

Database server port

Username

Password

Database name

Prefix

Site root override	When not checked (default), Akeeba Backup will back up the files and folders under the root of the site it is installed. When this option is checked, it will use the site root in the Force Site Root option below. Use this when you want to backup a different site than the one Akeeba Backup is installed in.
Force Site Root	The root of the site to back up. This is only necessary if you have checked the Site root override option above.
Site database override	<p>When not checked (default), Akeeba Backup will back up the database tables inside the database to which the site Akeeba Backup is installed in connects to. In other words, when this option is not checked, Akeeba Backup will back up the current site's database.</p> <p>On the other hand, if this option is checked, Akeeba Backup will backup the database whose connection information you specify in the settings below. Use this when you want to backup a different site than the one Akeeba Backup is installed in.</p>
Database driver	<p>Choose between the database driver.</p> <p>For MySQL databases you can choose between the MySQL and MySQLi driver. If you do not know the difference between the two, MySQLi (with the trailing "i" which stands for "improved") is the best choice.</p>
Database hostname	The hostname or IP address of the database server. Usually that's localhost or 127.0.0.1. If unsure, ask your host.
Database server port	If your database server uses a non-standard port, enter it here. If you have no idea what this means, you most likely need to leave that field blank.
Username	The username to connect to your site's database.
Password	The password to connect to your site's database.
Database name	The name of your database.

**Prefix**                      The prefix of the tables of the site you're backing up. That's the common part of their names up to and including the first underscore.

### 3.3.1.4. Optional filters

#### Optional filters

Optional filters

Date conditional filter

☐

Backup files modified after

1981-02-20 12:15 GMT+2

Exclude error logs

☒

Exclude host-specific stats folders

☒

Skip Finder terms and taxonomy tables

☒

Exclude MyJoomla data

☒

These optional filters allow you to exclude files or database tables without having to manually select them in the respective exclusion filter pages.

#### Date conditional filter

**Date conditional filter**      Tick the checkbox to activate this filter. It allows you to backup only files modified after a specific date and time. This is different than the incremental file only backup. It allows you to backup files newer than the specified date no matter which backup mode (full site backup, files only backup, incremental files only backup) you are using.

**Backup files modified after**      Files before this date and time will be skipped from the backup set. The format for the date and time parameter is YYYY-MM-DD HH:MM:SS TIMEZONE. This means that you have to specify the year as four digits, followed by a dash, then the month as two digits (e.g. 09 for September), followed by a dash, then the day as two digits (e.g. 01 for the 1st day of the month). For example, September 1st, 2010 is written as 2010-09-01. If you want to specify the time, leave a space after the date and write down the time as the hour using two digits (00-23, no a.m./p.m. is supported!), then a semicolon, then the minutes as two digits, followed by a semicolon, then the seconds as two digits. For example 59 seconds after 11:05 p.m. is written as 23:05:59. You can optionally leave a space after the time and specify the timezone as GMT+/-time. For example, GMT-6 is Dallas time which is six hours behind the GMT and GMT+2 is two hours ahead of GMT which is the Eastern Europe Time. If you do not specify a timezone the GMT timezone is assumed.

### Important

You have to set your server's timezone in Joomla!'s Global Configuration for this feature to work reliably. If you get strange results, try editing your site's Global Configuration before asking us for support.

**Exclude error logs**              Automatically exclude error log files, e.g. `error_log`, no matter where they are on the site being backed up. These files change their size while the backup is in progress which may lead to corrupt backups.

**Exclude host-specific stats folders**      When enabled, Akeeba Backup will automatically exclude the most common host-specific folders for storing access statistics for your site. These folders are read-only by your web site user, causing restoration issues if they are backed up

Joomla! User Actions Log	Skips over the contents of the Joomla! User Actions Log. The database table holding these records can get quite big on a busy site, slowing your backup down and bloating its size. Skipping over this data does not have an adverse impact to the functionality of the site.
Skip Finder terms and taxonomy tables	Since Joomla! 2.5, the Joomla! CMS ships with a feature called "Smart Search", also known as "Finder". This is a mini search engine built into the CMS. It works by scanning your content and keeping a complex database structure linking potential search terms (words) with content items in compatible components. Due to its nature it stores an immense amount of information in the database. This information takes a very long time to back up. Moreover, this information doesn't need to be backed up as it can be regenerated by using the "Reindex" button in Smart Search's back-end interface. In the interest of speeding up your backups and not including redundant information in the backup Akeeba Backup by default has this option enabled. This instructs the database backup portion of our backup engine to skip backing up the contents of Finder's (Smart Search's) tables. If for some reason you want to back up this content please uncheck this box.
Exclude MyJoomla data	mySites.guru (formerly MyJoomla.com) stores several info about your files in your database, inflating the size of the backup archive. You can exclude this data since they will be restored during the next audit of your site

### 3.3.1.5. Quota management

Quotas let you automatically remove backup archives and / or backup records based on specific criteria. Quotas are always calculated against the **backup records**, not the backup archives on disk on or on remote storage. In other words, if you do not see a backup record in the Manage Backups page it is NOT taken into account when applying quotas.

Furthermore, quotas will take into account only the backup record, without checking if the file exists. If a backup is listed as OK or Remote in the Manage Backups page it participates in the quotas.

The quotas apply *per backup profile*. They will only take into account backup records in the same backup profile.

Finally note that the quotas are only being applied at the end of a successful backup, even if post-processing (transferring it to remote storage) failed. It is therefore recommended that you keep an eye out for failed transfers – appearing as warnings in the backup logs and the CLI backup script's output – to avoid an over-zealous quota setting from removing your last full, good backup.

## Quota management

Quota management

Enable remote files quotas

☐

Enable maximum backup age quotas

☐

Maximum backup age, in days

31.00

▼

days

Don't delete backups taken on this day of the month

1.00

▼

day

Obsolete records to keep

50.00

▼

items

Enable size quota

☐

Size quota

15.00

▼

MB

Enable count quota

☒

Count quota

Custom...

▼

3.00

**Enable remote files quotas** When checked, the quota settings will also be applied to remotely stored files. This option only works with the cloud storage engines which support remote file deletion.

Please keep in mind that remote file quotas, just like local file quotas, *only apply to backup records in the database*. Akeeba Backup cannot and will not consider files present in the remote storage which do not have a corresponding backup record in the same backup profile. Furthermore, if you manually delete the files from the remote storage but leave behind the backup record in Akeeba Backup, these backups will still participate in quotas, even though their files no longer exist.

**Enable maximum backup age quotas** When checked, Akeeba Backup will only apply quotas based on the date and time the backup was started. This allows you to easily do something like "keep daily backups for the last 15 days and always keep the backup taken on the first of each month".

## Warning

Enabling this options makes Akeeba Backup **completely ignore** the size and count quotas.

**Maximum back age, in days** Only applies when the Enable maximum backup age quotas option is enabled.  
Backups older than this number of days will be deleted. Newer backups will not be deleted.

**Don't delete backups taken on this day of the month** Only applies when the Enable maximum backup age quotas option is enabled.  
Even when a backup is older than the Maximum back age, in days setting, it won't be deleted if it was taken on this day of the month. For example, if you set this to 1, backups taken on the first day of each calendar month will not be deleted. Setting this option to 1, the backup age to 31 and enabling the maximum backup age quotas you end up keeping all backups taken the last month and keeping the backups taken on the first of each month.

**Obsolete records to keep** When the locally stored files of a backup record are deleted (either manually or automatically after uploading it to a remote storage) the record is marked as Obsolete or Remote. Some users prefer to limit the number of the backup entries showing in the Manage Backups (formerly "Administer Backup Files") page. This option instructs Akeeba Backup to keep at most that many obsolete/remote records and automatically delete older obsolete/remote entries. This is different than the rest of the quotas because it doesn't remove files from your server, it removes the backup entry from Akeeba Backup's interface.

## Warning

Backups marked as "Remote" are also considered obsolete records: the backup archive does not exist on your server, it only exists on the remote storage. Therefore this setting will also remove the backup records for the Remote backups. Since you are removing the backup records they **WILL NOT** participate in remote file quotas! Therefore the Obsolete records to keep setting **MUST** be higher than the total number of backups you will keep before the quotas kick in plus one.

For example, if you are taking 4 backups a day and you have enabled a maximum backup age quota of 30 days you need to set the Obsolete records to keep to at least 121 (4 backups / day x 30 days + 1 = 120 + 1 = 121). Otherwise the maximum backup age quotas will **NOT** work as expected.

## Important

A quota value of zero means "Keep all obsolete records" rather than "delete all obsolete records". To make it abundantly clear: if you set the "Obsolete records to keep" setting to 0 then Akeeba Backup will **NOT** remove **ANY** obsolete records **EVER**.

Enable size quota	When checked, old backup archives will be erased when the total size of archives stored under this (and only this) profile exceed the Size quota setting.
Size quota	Defines the maximum aggregated size of backup archives <i>under the current profile</i> to keep. Only has an effect if the previous options is activated.
Enable count quota	When checked, old backup archives will be erased when there are more backups stored under this (and only this) profile exceed the Count quota setting.
Count quota	Defines the maximum number of backups <i>under the current profile</i> to keep. Only has an effect if the previous options is activated.

### 3.3.1.6. Fine tuning

#### Fine tuning

Fine tuning

Minimum execution time	0.00 ▼ s
Maximum execution time	25.00 ▼ s
Execution time bias	75.00 ▼ %
Resume backup after an AJAX error has occurred	<input checked="" type="checkbox"/>
Wait period before retrying the backup step	10.00 ▼ s
Maximum retries of a backup step after an AJAX error	3.00 ▼
Disable step break before large files	<input type="checkbox"/>
Disable step break after large files	<input type="checkbox"/>
Disable proactive step breaking	<input type="checkbox"/>
Disable step break between domains	<input type="checkbox"/>
Disable step break in finalisation	<input type="checkbox"/>
Set an infinite PHP time limit	<input checked="" type="checkbox"/>

Minimum execution time	<p>Some servers deploy anti-hacker measures (such as <code>mod_evasive</code> or <code>mod_security</code>) which will deny connections to the server if the same URL is accessed multiple times in a limited amount of time. Akeeba Backup has to call its backup URL multiple times, so it runs the risk of being treated as a potential hacker and denied connection to your server, resulting to backup failure.</p> <p>In order to work around this issue, Akeeba Backup can throttle the rate of server requests using this setting. A minimum execution time of 2 seconds means that calls to the backup URL will happen <i>at most</i> once every two seconds. You are suggested to keep the default value.</p>
Maximum execution time	<p>Akeeba Backup has to divide the backup process in individual small steps in order to avoid server timeouts. However, it has to know how small they have to be; that's why this setting exists. Akeeba Backup will try to avoid consuming more time per step than this setting. You have to use a number lower than the <code>maximum_execution_time</code> setting in your host's</p>

php.ini file. In fact, we suggest using 50% of that value here: if your host allows up to 30 seconds in the php.ini, you have to enter no more than 15-17 seconds here. If unsure, 7 seconds is a very safe value under most configurations.

Execution time bias	When Akeeba Backup calculates the available time left for performing operations within the current backup step a number of external settings may skew this result and lead to timeout errors. This setting defines how conservative the backup engine will be when performing those calculations and is expressed as a percentage of the Maximum execution time parameter. The less this setting is, the more conservative Akeeba Backup gets. It is suggested not to use a value over 75%, unless you have a very fast server. If you experience timeouts, you may want to lower this setting to a value around 50%.
Resume backup after an AJAX error has occurred	When this option is unchecked Akeeba Backup will completely stop the backup when the server responds with an error or the communication with the server is cut short. When this option is enabled (default), Akeeba Backup will try to resume the backup by repeating the last backup step. This will not let you successfully resume all backups which result in an error: only backup attempts temporarily blocked by server CPU usage restrictions or network outage issues can be resumed. If the backup fails due to a timeout error, memory outage, incompatible server software etc the backup resumption will result in the same error until it leads to a permanent backup failure.

### Important

This feature only applies to back-end backups. This feature will not be taken into account when you have enabled the Process each part immediately option in the configuration of the Data processing engine since it's impossible to retry backing up to a backup archive which may have already been transferred to remote storage and removed from the server.

Wait period before retrying the backup step	How many seconds to wait before resuming the backup. It is advisable to set this to 30 seconds or more (120 seconds is recommended in most cases) to give your server / network the necessary time to recover from the error condition which caused your backup to fail.
Maximum retries of a backup step after an AJAX error	How many consecutive times should we retry resuming the backup before finally giving up and throwing a permanent error (backup failure). 3 to 5 retries work best on most servers.
Disable step break before large files	When the application detects a large file (see the filesystem scanner engine configuration) it will try to break the execution of the current backup step and start backing up the large file in its own backup step. This is a conservative behaviour that increases the likelihood of being able to backup large files but makes the backup slower. If you check this box the backup will become faster, but it might fail backing up larger files.
Disable step break after large files	When the application finishes backing up a large file (see the filesystem scanner engine configuration) it will try to break the execution of the current backup step and continue the backup process in a step. This is a conservative behaviour that decreases the likelihood of the backup engine timing out after backing up a large file but makes the backup slower. If you check this box the backup will become faster, but it might fail after backing up larger files.
Disable proactive step breaking	The application tries to guess how much time it will take it to backup each file. If it believes that backing up the next file in its queue will take too long it will break the backup step and continue the backup in a new step. This decreases the likelihood of server timeouts, at the expense of making the backup a little slower, especially if you have lots of tiny files. If you check this box the backup will become faster, but it might fail in some cases.
Disable step break between domains	Normally, Akeeba Backup forces the current backup step to finish when it's about to move to a different backup domain, e.g. after finishing backing up the database and getting ready to

backup the files of your site. This gives the backup engine the chance to do garbage collection and free up resources.

You can enable that option to make the backup 1-2 seconds faster, risking a backup failure in resource-restricted servers. We consider it a generally unsafe option and we advise against using it.

Disable step  
break in  
finalization

Normally, Akeeba Backup forces the current backup step to finish when it's about to move to a different finalization operation e.g. after finishing considering quotas and it's about to start post-processing a backup archive. This gives the backup engine the chance to do garbage collection and free up resources.

You can enable that option to make the backup 1-2 seconds faster, risking a backup failure in resource-restricted servers. We consider it a generally unsafe option and we advise against using it.

Set an infinite  
PHP time limit

If your server is using the CGI or FastCGI interface to PHP, checking this option will make it less likely that the backup dies due to a PHP timeout issue. We consider it generally safe checking this box as we have never observed or got reports of any side-effects.

## 3.3.2. Database dump engines

### 3.3.2.1. Native MySQL Backup Engine

This engine will take a backup of your MySQL database using its native features for reporting the structure of tables, views, triggers etc.


#### **Important**

Restoring views, triggers, stored procedures and functions may require elevated privileges for the database user during the restoration process. Most hosts do not assign this kind of privileges. If your restoration fails with a MySQL error when restoring such database entities you may have to ask your host to assign those privileges to your database user.



## Native MySQL Backup Engine

Native MySQL backup engine

 Uses PHP code to produce an accurate database dump

**Common Settings**

Blank out username/password

☐

Generate extended INSERTs

☒

Max packet size for extended INSERTs

Custom... ▾

204.80

KB

Size for split SQL dump files

0.50 ▾

MB

Number of rows per batch

1000.00 ▾

queries

**MySQL Settings**

Dump PROCEDURES, FUNCTIONS and TRIGGERS

☐

No dependency tracking

☐

Skip index engine

☒

Blank out username/password	When enabled, Akeeba Backup will not include the username and password of database connections in the backup. Please note that this option only removes the database username and password from the installation/sql/databases.json (or databases.ini, depending on your Akeeba Backup version) file which is included in the backup. It does not remove the database connection information from the configuration.php file of Joomla!. If you want to remove the database connection information for security reasons you should exclude configuration.php from your backup using the Files and Directories Exclusion filter feature of Akeeba Backup.
Generate extended INSERTs	When this is not checked, Akeeba Backup will create one INSERT statement for each data row of each table. When you have lots of rows with insignificant amount of data, such as banner and click tracking logs, the overhead of the INSERT statement is much higher than the actual data, causing a massively bloated database dump file. When this option is enabled, the dump engine will create a single INSERT statement for multiple rows of data, reducing the overhead and resulting into significantly smaller backup archives. Moreover, this will lead to much less SQL commands being run during restoration, which is of importance on many restrictive shared hosting environments. It is suggested to turn this setting on.
Max packet size for extended INSERTs	If the previous setting is enabled, this setting defines the maximum length of a single INSERT statement. Most MySQL servers have a configured limit of maximum statement length and will not accept an INSERT statement over 1Mb. It is suggested to leave the default

conservative setting (128Kb) unless you know what you're doing. If you get restoration failures indicating that you exceeded the maximum query length, please lower this setting.

Size for split  
SQL dump files

Akeeba Backup is able to split your MySQL database dump to smaller files. This allows for an improved compression ratio and also helps avoid several problems with certain cheap hosts which put a restriction on the maximum size a file generated by PHP code can have.

Ideally, you should specify a setting which is about half as much as your Big file threshold setting in the archiver engine's configuration options pane. The reason to do that is that the archiver engines will not compress files with sizes over the value this threshold. Since it's impossible to have absolute control of the size of the database dump, using half the value of this setting allows for the expected size fluctuation.

If you want to disable this feature and create a single big SQL dump file instead, just set this option to 0 Mb.

## Important

This setting has no effect on "Main site database only" backup profiles. This is because the nature of this backup type does not allow splitting the database archive dump. If you want something equivalent, please use the "All configured databases" backup type instead, as it creates an archive file which contains your (split) database dump and takes up MUCH less space on your web server.

Number of rows  
per batch

Dumping table data happens in "batches", i.e. a few rows at a time. This parameter defines how many rows will be fetched from the table at any given time. If you are backing up tables with large chunks of binary data (e.g. files stored in BLOB fields) or if you have very large chunks of text stored in the database, the default value - 1000 rows - may cause a PHP memory or MySQL buffer exhaustion.

If you get memory outage errors during the table backup, it is advisable to lower this setting. This is especially true if your MySQL and PHP combination does not allow a cursor to be effectively created and all data has to be transferred in PHP's memory. A value of 20 is a very safe value, at the expense of making your backup process slower and run more queries against your database server. Most servers work fine with the default value of 1000 rows per batch.

Dump  
PROCEDURES,  
FUNCTIONs and  
TRIGGERS

By default, Akeeba Backup will only back up database tables and VIEWS. If your host supports this, you can also back up and restore advanced aspects of your MySQL database: stored procedures, stored functions and triggers. If your site makes use of any of those features you will have to tick the box. If the backup operation crashes or you the database tables filter page is blank you must turn this option off for Akeeba Backup to work properly.

## Warning

Using this feature requires that your host allows you to execute privileged SQL commands against the MySQL database:

- **SHOW PROCEDURE STATUS**
- **SHOW FUNCTION STATUS**
- **SHOW TRIGGERS**

Most shared hosting providers do not allow you to execute these commands. Trying to do so will usually cause the script execution to abruptly halt, most often without indicating the source of error. If you are in doubt, **disable this option** and retry backup. This shouldn't be an issue with dedicated hosting, as long as you grant the **SUPER** privilege to the database user you use to connect to your site's database.

No dependency tracking	When this option is enabled, Akeeba Backup's database dump engine will no longer try to figure out table and VIEW dependencies. This will speed up the database dump initialization step. This is recommended if and only if you have too many tables (over 200) in your database, you get timeout errors during the database dump initialization step and you do not use foreign keys, VIEWS, FUNCTIONS, PROCEDURES, TRIGGERS or any tables using the MERGE database engine. If you do use any of those MySQL features in your tables there is a possibility that your backup cannot be restored on an empty database due to unsatisfied references to tables not yet created. Always test your backups if you enable this setting.
Skip index engine	Removes USING BTREE and USING HASH from table index definitions in dump files. This is required for restoring to servers which have both indexing engines turned off (e.g. on newest XAMPP versions).


### 3.3.3. File and directories scanner engines

#### 3.3.3.1. Smart scanner

The Smart Scanner will browse your file system tree for directories and files to include in the backup set, automatically creating a backup step break upon detecting a very large directory which could lead to timeout errors.

##### Smart Scanner

**Smart scanner**

 Intelligently balances scanning speed and time-out avoidance

Large directory threshold

Large file threshold

Large directory threshold	This option tells Akeeba Backup which directories to consider "large" so that it can break the backup step. When it is encountered with a directory having at least this number of files and subdirectories, it will break the step. The default value is quite conservative and suitable for most sites. If you have a very fast server, e.g. a dedicated server, VPS or MVS, you may increase this value. If you get timeout errors, try decreasing this setting.
Large file threshold	<p>Normally, Akeeba Backup tries to backup multiple files in a single step in order to provide a fast backup. However, doing that for larger files may result in a timeout or memory outage error. Files bigger than the large file threshold will be backed up in a backup step of their own. If you set it too low you will have a big performance impact in your backup (it will be slower). If you set it too high you might end up with a timeout or memory outage.</p> <p>The default setting (10Mb) is fine for most sites. If you are not sure what you're doing you're better off not touching it at all. If you find that your backup consistently fails while backing up a larger file (over 1Mb) you might want to lower this setting, e.g. to 2Mb. If you have a rather big PHP memory limit (128Mb or more) and you can afford the increased memory usage set it to a higher value, e.g. 25Mb (values over that tend to cause issues on all but the higher end dedicated servers).</p>

#### 3.3.3.2. Large site scanner

This engine is specifically optimised for very large sites, containing folders with thousands of files. This is usually the case when you have a huge media collection such as news sites, professional bloggers, companies with a large downloadable reference library or very active business sites storing for example hundreds of invoices daily on the server. In these cases the "Smart scanner" tends to consume unwieldy amounts of memory and CPU time to

compile the list of files to backup, usually leading to timeout or memory outage issues. The "Large site scanner", on the other hand, works just fine by using a specially designed chunked processing technique. The drawback is that it makes the backup approximately 11% slower than the "Smart scanner".

## Important

If your backup fails while trying to backup a directory with over 100 files you **MUST** use the "Large site scanner". It's very likely that this will solve your backup issues.

The developers of Akeeba Backup **DO NOT** recommend storing several thousands of files in a single directory. Due to reasons that have to do with the way most filesystems work at the Operating System level, the time required to produce a listing of files in a directory or access the files in a directory grows exponentially with the number of files. At about 5000 files the performance impact for accessing the directory, even on a moderately busy server, is big enough to both slow down your site noticeably (adversely impacting your search engine rankings) and make the backup slower and more prone to timeout errors. We strongly recommend using a sane number of subdirectories to logically organise your files and reduce the number of files per directory.

For the technically inclined (we really mean "serious geeks who aspire to do Linux server management as a living"), here is a nice discussion on the subject: <http://stackoverflow.com/questions/466521/how-many-files-in-a-directory-is-too-many> The problem is that `readdir()` which is also internally used by PHP only ever reads 32Kb of directory entries at a time. Further down the thread you can see that with 88,000 files in a directory the access becomes ten times slower. Per image. Add that up and you have a dead slow frontpage which is banished to the far end of search indexes. And if you wonder where the 5000 number popped up, it's from <http://serverfault.com/questions/129953/maximum-number-of-files-in-one-ext3-directory-while-still-getting-acceptable-per> and applies to older Linux distributions without Ext3/4 directory index support or using filesystems without directory index support (e.g. Ext2) which is, of course, the worst case scenario.

In most practical situations, servers become noticeably slow in the frontend and very prone to backup errors due to server timeout or resource usage limits exceeded at about 3000 items (files or folders) inside a directory. We do not recommend storing more than 1000 items inside any directory if you value your sanity.

## Large Site scanner

Large Site Scanner

i

A file scanner optimised for backing up sites with directories containing hundreds of files (e.g. blogs and news portals)

Directory scanning batch size

100.00

▼

File scanning batch size

50.00

▼

Large file threshold

10.00

▼

MB

Directory  
scanning batch  
size

The Large site scanner creates a listing of folders by scanning a small number of them at a time. This setting determines how much this small number is. The larger this number the faster the backup is, but with the increased possibility of a backup failure on large sites. The smaller this number gets, the slower the backup becomes but the less likely it is to fail. We recommend a setting of 50 for most sites.

If your backup fails on deep nested folders containing many subdirectories we recommend setting this to a lower number, e.g. 20 or even 10. If you have a large PHP maximum memory limit and plenty of memory on your server to spare you may want to increase it to 100 or more. If you are unsure, don't touch this setting.

Files scanning batch size	<p>The Large site scanner will create a listing of files by scanning a small number of them at a time and then back them up. It will repeat this process until all files in the directory are backed up, then proceed to the next available directory. This setting determines how much this small number of files is. The larger this number the faster the backup is, but with the increased possibility of a backup failure on large sites. The smaller this number gets, the slower the backup becomes but the less likely it is to fail. We recommend a setting of 100 for most sites.</p> <p>If your backup fails on folders containing many files we recommend setting this to a lower number, e.g. 50 or even 20. If you have a large PHP maximum memory limit and plenty of memory on your server to spare you may want to increase it to 500 or more. If you are unsure, don't touch this setting.</p>
Large file threshold	<p>Normally, Akeeba Backup tries to backup multiple files in a single step in order to provide a fast backup. However, doing that for larger files may result in a timeout or memory outage error. Files bigger than the large file threshold will be backed up in a backup step of their own. If you set it too low you will have a big performance impact in your backup (it will be slower). If you set it too high you might end up with a timeout or memory outage. The default setting (10Mb) is fine for most sites. If you are not sure what you're doing you're better off not touching it at all. If you find that your backup consistently fails while backing up a larger file (over 1Mb) you might want to lower this setting, e.g. to 2Mb. If you have a rather big PHP memory limit (128Mb or more) and you can afford the increased memory usage set it to a higher value, e.g. 25Mb (values over that tend to cause issues on all but the higher end dedicated servers).</p>

### 3.3.4. Archiver engines


#### 3.3.4.1. ZIP format

The ZIP format is the most well known archive format and is integrated in many operating systems and desktop environments, including Windows™, macOS™, KDE and GNOME.

The ZIP format requires the calculation of CRC32 checksums for each file added in the archive. This is a resource intensive operation which will slow down your backup and may lead to timeouts when archiving big files on slow hosts. If this happens, your only choice is not to use the ZIP format; use JPA instead. Unfortunately, we can't do anything about it: it is a combined limitation of the ZIP specification, how PHP works and how your server is set up.

#### ZIP Format

ZIP format

 Standard ZIP files, a.k.a. "Compressed folders", natively supported by all leading operating systems

Dereference symlinks

☐

Part size for split archives

Custom... ▾

2047.88

MB

Chunk size for large files processing

1.00 ▾

MB

Big file threshold

1.00 ▾

MB

Chunk size for Central Directory processing

1.00 ▾

MB

**Dereference symlinks** Normally, when Akeeba Backup encounters symbolic links ("symlinks"), it follows them and treats them as regular files and directories, backing up their contents. Some site configurations may have symbolic links set up in such a way as to create an infinite loop, causing the backup to fail. When this option is set to `No`, Akeeba Backup will not follow symbolic links, but store their name and their target in the archive. Of course, if your symbolic links use absolute paths, restoring to a different server than the one you backed up from will result in broken symlinks.

### Note

Even though Windows 7 supports symbolic links, it does so in a way that it's not possible for PHP to make use of this feature. As a result, this setting will only work on Linux, macOS, FreeBSD and other compatible UNIX-family hosts.

**Part size for split archives** Akeeba Backup supports the creation of Split Archives. In a nutshell, your backup archive is spanned among one or several files, so that each of these files ("part") is not bigger than the value you specify here. This is a useful feature for hosts which impose a maximum file size quota. If you use a value of 0Mb, no archive splitting will take place and Akeeba Backup will produce a single backup archive (default).

If you want to post-process your archive files it is suggested that you use small, non-zero values here. The time it takes the post-processing engine to transfer an archive from your server to the remote server equals part size divided by available bandwidth. Since the available execution time is finite and the available bandwidth is constant, the only way to avoid a timeout is creating small parts.

### Important

Split ZIP archives can not be opened with 7-zip, Linux unzip and other GUI clients. Only WinZIP and PKZIP understand them. If you want to extract them, you must use WinZIP, PKZIP or Akeeba Kickstart. This is not an Akeeba Backup "bug", it's a problem with most free archiver extraction tools.

**Chunk size for large files processing** Each file is read in small increments, we call chunks, while being copied in the archive. Larger chunks will result in faster backup, at the price of taking longer to process each one of them and risking a timeout. Smaller chunks lead to slower but safer backups. On very slow hosts, this parameter should be set to a low value, for example 256Kb, or even lower - especially true if you constantly get timeout errors when backing up large files. On fast hosts you may want to increase this value in order to speed up your backup operation.

**Big file threshold** Files over this size will be stored in the archive file uncompressed. Do note that in order for a file to be compressed, Akeeba Backup has to load it in its entirety to memory, compress it and then write it to disk. As a rule of thumb, you need to have free memory equal to 1.8 times the size of the file to compress, e.g. 18Mb for a 10Mb file. Joomla! with a lot of plug-ins might consume as much as 16Mb and Akeeba Backup's engine might consume another 5Mb, so plan this value carefully, or you will run into memory exhaustion errors. Compression is also resource intensive and will increase the time to produce a backup. If this value is too high, you might run into timeout errors.

**Chunk size for Central Directory processing** At the end of the ZIP archive creation we have to attach a lookup table containing the names of all included files to the end of the archive file. This table is called the Central Directory. We have to do this in small chunks so as to avoid timeout or memory exhaustion errors. It is recommended that you leave the default value (1Mb) unless you know what you're doing.

### 3.3.4.2. JPA format


The JPA format was conceived as an alternative to ZIP, designed to be extremely suitable for PHP scripts. The trick is that the JPA format doesn't store a checksum for each file - therefore it reduces the processing overhead during archiving - and it doesn't use a "lookup table" (central directory) as ZIP does. Both of these design decisions lead to extremely fast, low resource usage archiving processes.

## Tip

It is recommended that you use the JPA format for all of your backups. You can extract JPA files using Kickstart.

## JPA Format

**JPA format (recommended)**

 An open-source archive format optimised for fast archive creation and extraction using PHP code

Dereference symlinks

☐

Part size for split archives

Custom... ▼

2047.88

MB

Chunk size for large files processing

1.00 ▼

MB

Big file threshold

1.00 ▼

MB

The settings for this engine are identical to those used in the ZIP engine.

### 3.3.4.3. Encrypted Archives (JPS format)

## Note

This feature is only available in the Akeeba Backup Professional release.

The JPS is a further evolution of the JPA format, designed with the major goals of improving compression ratios and enhancing the security of your data by encrypting the entire archive's contents with the industry standard AES-128 encryption format. The latter goal ensures that even in the unlikely event of your backup files ending up in the hands of hacker or another untrusted party, they would be useless. As per the strictest security standards, all information in the archive (including file names and file data) are encrypted. Without the password nobody can deduct any information about your site by examining a JPS archive. The contents of all files in the archive are compressed and encrypted in 64Kb blocks, allowing for better compression ratios over the JPA format.

In order for JPS to work it requires that both the zlib and mcrypt or OpenSSL PHP extensions are installed and activated on your server. Please keep in mind that even if your site is using HTTPS this doesn't mean that you have the OpenSSL *PHP extension* installed. You usually have to ask your host to enable it for you. Moreover, the mcrypt or openssl library installed on the server must support AES-128 in CBC mode. If any of these conditions is not met, the backup process will halt with an error mentioning that encryption is not enabled on your server. In this case, please contact your host with the information in this paragraph so that they can perform the necessary server-side changes.

## Important

We **STRONGLY** recommend using long (64 or more characters), completely random passwords which make use of lowercase and uppercase Latin letters, numbers and special characters (top row on US-format keyboards). Use a password manager to generate and store these passwords. Taking these precautions make password brute forcing with conventional technology highly impractical in the foreseeable future.

## JPS Format

Encrypted Archives (JPS)

i

Creates archives encrypted with the industry-standard AES-128 encryption method, in a format very similar to JPA. Requires the mcrypt PHP extension to be installed and activated on your site.

Encryption key

Dereference symlinks

☐

Part size for split archives

Custom... ▾

2047.88

MB

The settings for this engine are:

**Encryption key**      This is the password to be used for encrypting the archive. For the sake of security, you are encouraged to enter a long passphrase which is hard to guess.

### Warning

The key is case sensitive. This means that Abc, ABC and abc are three *completely different* keys!

**Dereference symlinks**      This setting is only valid on Linux and compatible \*NIX hosts. Normally, when Akeeba Backup encounters symbolic links ("symlinks"), it follows them and treats them as regular files and directories, backing up their contents. Some site configurations may have symbolic links set up in such a way as to create an infinite loop, causing the backup to fail. When this option is set to No, Akeeba Backup will not follow symbolic links, but store their name and their target in the archive. Of course, if your symbolic links use absolute paths, restoring to a different server than the one you backed up from will result in broken symlinks.

### Note

Even though Windows 7 supports symbolic links, it does so in a way that it's not possible for PHP to make use of this feature. As a result, this setting will only work on Linux, macOS, FreeBSD and other compatible UNIX-family hosts.

**Part size for split archives**      Akeeba Backup supports the creation of Split Archives. In a nutshell, your backup archive is spanned among one or several files, so that each of these files ("part") is not bigger than the value you specify here. This is a useful feature for hosts which impose a maximum file size quota. If you use a value of 0Mb, no archive splitting will take place and Akeeba Backup will produce a single backup archive (default).

If you want to post-process your archive files it is suggested that you use small, non-zero values here. The time it takes the post-processing engine to transfer an archive from your server to the remote server equals part size divided by available bandwidth. Since the available execution time is finite and the available bandwidth is constant, the only way to avoid a timeout is creating small parts.



### 3.3.4.4. DirectFTP

#### Important

This feature is not meant for everyday users. It is designed for web professionals. If you don't understand the rest of this section, please do not use it. Akeeba Backup is equally useful as a site migration tool without using DirectFTP.

The DirectFTP engine allows power users to directly export a website from one server to another, without the need to download the backup file to their PC, upload it and extract it on the other server. In order to do so, instead of backing up to an archive, it directly writes the backed up files to the remote server using FTP, hence the name.

This engine uses PHP's native FTP functions. This may not work if your host has disabled PHP's native FTP functions or if your remote FTP server is incompatible with them. In this case you may want to use the DirectFTP over cURL engine instead.

Do note that when using the DirectFTP engine, the post-processing engine will not run, as there is no archive produced.

In a nutshell, when this option is activated, Akeeba Backup operates as usual, backing up your database and files. Instead of putting the site files, installer files and database dump inside a backup archive, it transfers them to a remote server using FTP. You can then visit the installation URL on the remote server to complete the site transfer progress.

This is considered an advanced feature. Since there are many things which might go wrong in the process and due to the fact that the success of the operation depends on the server configuration of both the originating and target servers, you are advised not to use it unless you know what you're doing.

Moreover, bear in mind that the target server *must not* contain any files! If it does, it may not be possible to overwrite them, leading to an incomplete site transfer.


Finally note that due to the backup process being split in several steps (to avoid web server timeouts) a new FTP connection has to be created on each backup step, i.e. for every few files uploaded to your remote server. At best this makes the transfer extremely slow. At worst, your remote FTP server will decline further connections because it sees the same remote IP opening and closing FTP connections in rapid succession. We strongly recommend uploading entire backup archives using the post-processing engines instead of using this feature.

Your originating server must support PHP's FTP extensions and not have its FTP functions blocked. Your originating server must not block FTP communication to the remote (target) server. Some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Normally, remote FTP connections consume a lot of time, therefore DirectFTP is very prone to time-outs. Theoretically, Akeeba Backup can automatically estimate the time required for transferring each file and avoid timing out. However, this is not always technically possible. In such a case you might want to lower the maximum execution time allowance and bias in the Configuration. Do note that large files have to be transferred in a single step, as most PHP and FTP configuration combinations disallow resuming uploads (chunked uploads). This means that a very large file, or a very large database dump may cause the process to fail with a timeout error.

## DirectFTP

DirectFTP

 Transfers the site files to a remote FTP server, without archiving them first

Host name

Port

21

User name

Password

Initial directory

Use FTP over SSL (FTPS)

☐

Use passive mode

☒

Test FTP connection

The available configuration options are:

- **Host name.** The hostname of your remote (target) server, e.g. `ftp.example.com`. You must NOT enter the `ftp://` protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
- **Port.** The TCP/IP port of your remote host's FTP server. It's usually 21.
- **User name.** The username you have to use to connect to the remote FTP server.
- **Password.** The password you have to use to connect to the remote FTP server.
- **Initial directory.** The absolute FTP directory to your remote site's location where your site will be cloned to. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target FTP server with FileZilla. Navigate to the web server's root (usually it's a subdirectory named `htdocs`, `htdocs`, `public_html`, `http_docs` or `www`). Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.
- **Use FTP over SSL.** If your remote server supports secure FTP connections over SSL (they have to be explicit SSL; implicit SSL is not supported), you can enable this feature. In such a case you will most probably *have* to change the port. Please ask your hosting company to provide you with more information on whether they support this feature and what port you should use. You must note that this feature must also be supported by your originating server as well.
- **Use passive mode.** Normally you should enable it, as it is the most common and firewall-safe transfer mode supported by FTP servers. Sometimes, your remote server might require active FTP transfers. In such a case please disable this, but bear in mind that your originating server might not support active FTP transfers, which usually requires tweaking the firewall!

### 3.3.4.5. DirectFTP over cURL

#### Important

This feature is not meant for everyday users. It is designed for web professionals. If you don't understand the rest of this section, please do not use it. Akeeba Backup is equally useful as a site migration tool without using DirectFTP.

The DirectFTP over cURL engine allows power users to directly export a website from one server to another, without the need to download the backup file to their PC, upload it and extract it on the other server. In order to do so, instead of backing up to an archive, it directly writes the backed up files to the remote server using FTP, hence the name.

This engine uses PHP's cURL functions. This may not work if your host has not installed or enabled the cURL functions. In this case you may want to use the DirectFTP engine instead.

Do note that when using the DirectFTP engine, the post-processing engine will not run, as there is no archive produced.

In a nutshell, when this option is activated, Akeeba Backup operates as usual, backing up your database and files. Instead of putting the site files, installer files and database dump inside a backup archive, it transfers them to a remote server using FTP. You can then visit the installation URL on the remote server to complete the site transfer progress.

This is considered an advanced feature. Since there are many things which might go wrong in the process and due to the fact that the success of the operation depends on the server configuration of both the originating and target servers, you are advised not to use it unless you know what you're doing.

Moreover, bear in mind that the target server *must not* contain any files! If it does, it may not be possible to overwrite them, leading to an incomplete site transfer.

Finally note that due to the nature of the cURL library over a new FTP connection has to be created for each and every file uploaded to your remote server. At best this makes the transfer extremely slow. At worst, your remote FTP server will decline further connections because it sees the same remote IP opening and closing FTP connections in rapid succession. We strongly recommend uploading entire backup archives using the post-processing engines instead of using this feature.

Your originating server must support PHP's cURL extension. Your originating server must not block FTP communication to the remote (target) server. Some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Normally, remote FTP connections consume a lot of time, therefore DirectFTP over cURL is very prone to time-outs. Theoretically, Akeeba Backup can automatically estimate the time required for transferring each file and avoid timing out. However, this is not always technically possible. In such a case you might want to lower the maximum execution time allowance and bias in the Configuration. Do note that large files have to be transferred in a single step, as most PHP and FTP configuration combinations disallow resuming uploads (chunked uploads). This means that a very large file, or a very large database dump may cause the process to fail with a timeout error.

## DirectFTP over cURL

DirectFTP over cURL

**i** Transfers the site files to a remote FTP server, without archiving them first. This archiver engine uses the cURL library which provides better compatibility with a wide range of FTP servers.

Host name

Port

21

User name

Password

Initial directory

Use FTP over SSL (FTPS)

☐

Use passive mode

☒

Passive mode workaround

☒

Test FTP connection

The available configuration options are:

- **Host name.** The hostname of your remote (target) server, e.g. `ftp.example.com`. You must NOT enter the `ftp://` protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
- **Port.** The TCP/IP port of your remote host's FTP server. It's usually 21.
- **User name.** The username you have to use to connect to the remote FTP server.
- **Password.** The password you have to use to connect to the remote FTP server.
- **Initial directory.** The absolute FTP directory to your remote site's location where your site will be cloned to. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target FTP server with FileZilla. Navigate to the web server's root (usually it's a subdirectory named `htdocs`, `public_html`, `http_docs` or `www`). Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.
- **Use FTP over SSL.** If your remote server supports secure FTP connections over SSL (they have to be explicit SSL; implicit SSL is not supported), you can enable this feature. In such a case you will most probably *have* to change the port. Please ask your hosting company to provide you with more information on whether they support this feature and what port you should use. You must note that this feature must also be supported by your originating server as well.
- **Use passive mode.** Normally you should enable it, as it is the most common and firewall-safe transfer mode supported by FTP servers. Sometimes, your remote server might require active FTP transfers. In such a case please disable this, but bear in mind that your originating server might not support active FTP transfers, which usually requires tweaking the firewall!

- **Passive mode workaround.** Some badly configured / misbehaving servers report the wrong IP address when you enable the passive mode. Usually they report their internal network IP address (something like 127.0.0.1 or 192.168.1.123) instead of their public, Internet-accessible IP address. This erroneous information confuses FTP information, causing uploads to stall and eventually fail. Enabling this workaround option instructs cURL to ignore the IP address reported by the server and instead use the server's public IP address, as seen by your server. In most cases this works much better, therefore we recommend leaving this option turned on if you're not sure. You should only disable it in case of an exotic setup where the FTP server uses two different public IP addresses for the control and data channels.

### 3.3.4.6. DirectSFTP

#### Important

This feature is only available in the Akeeba Backup Professional edition.

#### Important

This feature is not meant for everyday users. It is designed for web professionals. If you don't understand the rest of this section, please do not use it. Akeeba Backup is equally useful as a site migration tool without using DirectSFTP.

The DirectSFTP engine allows power users to directly export a website from one server to another, without the need to download the backup file to their PC, upload it and extract it on the other server. In order to do so, instead of backing up to an archive, it directly writes the backed up files to the remote server using SFTP (Secure File Transfer Protocol over SSH), hence the name.

This engine uses the PHP extension called SSH2. The SSH2 extension is still marked as an alpha and is not enabled by default or even provided by many commercial hosts. In this case you may want to use the DirectSFTP over cURL engine instead which uses PHP's cURL extension, available on most hosts.

Do note that when using the DirectSFTP engine, the post-processing engine will not run, as there is no archive produced.

In a nutshell, when this option is activated, Akeeba Backup operates as usual, backing up your database and files. Instead of putting the site files, installer files and database dump inside a backup archive, it transfers them to a remote server using SFTP. You can then visit the installation URL on the remote server to complete the site transfer progress.

This is considered an advanced feature. Since there are many things which might go wrong in the process and due to the fact that the success of the operation depends on the server configuration of both the originating and target servers, you are advised not to use it unless you know what you're doing.


Moreover, bear in mind that the target server *must not* contain any files! If it does, it may not be possible to overwrite them, leading to an incomplete site transfer.

Your originating server (where you are backing up *from*) must a. support PHP's SSH2 extensions, b. allow outbound TCP/IP connections to your target host's SSH port and c. not have the SFTP functions of the SSH2 extension blocked. Please note that some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Normally, remote SFTP connections consume a lot of time, therefore DirectSFTP is very prone to time-outs. Theoretically, Akeeba Backup can automatically estimate the time required for transferring each file and avoid timing out. However, this is not always technically possible. In such a case you might want to lower the maximum execution time allowance and bias in the Configuration. Do note that large files have to be transferred in a single step, as most PHP and SFTP configuration combinations disallow resuming uploads (chunked uploads). This means that a very large file, or a very large database dump may cause the process to fail with a timeout error.

## DirectSFTP

DirectSFTP

 Transfers the site files to a remote SFTP server, without archiving them first. WARNING: Your source server needs to have PHP's SSL2 extension installed.

Host name

Port

Username

Password

Private Key File  
(advanced)

Public Key File (advanced)

Initial directory

Test SFTP connection

The available configuration options are:

- **Host name.** The hostname of your remote (target) server, e.g. `sftp.example.com`. You must NOT enter the `sftp://` or `ssh://` protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
- **Port.** The TCP/IP port of your remote host's FTP server. It's usually 22.
- **User name.** The username you have to use to connect to the remote SFTP server. This field must always be used, even when you're using certificate authentication.
- **Password.** The password you have to use to connect to the remote SFTP server. If you are using certificate authentication please enter the encryption key of your private key file. However, if you're using certificate authentication and your private key file is not encrypted please leave this field blank.
- **Private Key File (advanced).** Only use this field when you want to perform certificate authentication. Enter the absolute path to your private SSH key file. If your private key file is encrypted with a password please provide the password in the Password field above.

### Important

If the libssh2 library that the SSH2 extension of PHP is using is compiled against GnuTLS (instead of OpenSSL) you will NOT be able to use encrypted private key files. This has to do with bugs / missing features of GnuTLS, not our code. If you can't get certificate authentication to work please try providing an unencrypted private key file and leave the Password field blank.

- **Public Key File (advanced).** Only use this field when you want to perform certificate authentication. Enter the absolute path to your public SSH key file.
- **Initial directory.** The absolute FTP directory to your remote site's location where your site will be cloned to. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we

can't possibly know. There is an easy way to find it, though. Connect to your target FTP server with FileZilla. Navigate to the web server's root (usually it's a subdirectory named `htdocs`, `htdocs`, `public_html`, `http_docs` or `www`). Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.

### 3.3.4.7. DirectSFTP over cURL

#### Important

This feature is only available in the Akeeba Backup Professional edition.

#### Important

This feature is not meant for everyday users. It is designed for web professionals. If you don't understand the rest of this section, please do not use it. Akeeba Backup is equally useful as a site migration tool without using DirectSFTP.

The DirectSFTP engine allows power users to directly export a website from one server to another, without the need to download the backup file to their PC, upload it and extract it on the other server. In order to do so, instead of backing up to an archive, it directly writes the backed up files to the remote server using SFTP (Secure File Transfer Protocol over SSH), hence the name.

This engine uses the PHP cURL extension. If your host has disabled the cURL extension but has enabled the SSH2 PHP extension you may want to use the DirectSFTP engine instead which uses PHP's SSH2 extension.

Do note that when using the DirectSFTP engine, the post-processing engine will not run, as there is no archive produced.

In a nutshell, when this option is activated, Akeeba Backup operates as usual, backing up your database and files. Instead of putting the site files, installer files and database dump inside a backup archive, it transfers them to a remote server using SFTP. You can then visit the installation URL on the remote server to complete the site transfer progress.

This is considered an advanced feature. Since there are many things which might go wrong in the process and due to the fact that the success of the operation depends on the server configuration of both the originating and target servers, you are advised not to use it unless you know what you're doing.


Moreover, bear in mind that the target server *must not* contain any files! If it does, it may not be possible to overwrite them, leading to an incomplete site transfer.

Your originating server (where you are backing up *from*) must a. have PHP's cURL extension installed and activated, b. have the cURL extension compiled with SFTP support and c. allow outbound TCP/IP connections to your target host's SSH port. Please note that some hosts provide the cURL extension without SFTP support. This feature will NOT work on these hosts. Moreover, some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Normally, remote SFTP connections consume a lot of time, therefore DirectSFTP is very prone to time-outs. Theoretically, Akeeba Backup can automatically estimate the time required for transferring each file and avoid timing out. However, this is not always technically possible. In such a case you might want to lower the maximum execution time allowance and bias in the Configuration. Do note that large files have to be transferred in a single step, as most PHP and SFTP configuration combinations disallow resuming uploads (chunked uploads). This means that a very large file, or a very large database dump may cause the process to fail with a timeout error.

## DirectSFTP over cURL

DirectSFTP over cURL

 Transfers the site files to a remote SFTP server, without archiving them first. This archiver engine uses the cURL library which provides better compatibility with a wide range of FTP servers.

Host name

Port

Username

Password

Private Key File  
(advanced)

Public Key File (advanced)

Initial directory

Test SFTP connection

The available configuration options are:

- **Host name.** The hostname of your remote (target) server, e.g. `sftp.example.com`. You must NOT enter the `sftp://` or `ssh://` protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
- **Port.** The TCP/IP port of your remote host's FTP server. It's usually 22.
- **User name.** The username you have to use to connect to the remote SFTP server. This field must always be used, even when you're using certificate authentication.
- **Password.** The password you have to use to connect to the remote SFTP server. If you are using certificate authentication please enter the encryption key of your private key file. However, if you're using certificate authentication and your private key file is not encrypted please leave this field blank.
- **Private Key File (advanced).** Only use this field when you want to perform certificate authentication. Enter the absolute path to your private SSH key file. If your private key file is encrypted with a password please provide the password in the Password field above.

### Important

If cURL is compiled against GnuTLS (instead of OpenSSL) you will NOT be able to use encrypted private key files. This has to do with bugs / missing features of GnuTLS, not our code. If you can't get certificate authentication to work please try providing an unencrypted private key file and leave the Password field blank.

- **Public Key File (advanced).** Only use this field when you want to perform certificate authentication. Enter the absolute path to your public SSH key file. This is optional: some versions of the cURL library allow you to not provide a public key file, using the information of the private key file to derive this information. If in doubt, always provide both private and public key files to perform certificate authentication.



- **Initial directory.** The absolute FTP directory to your remote site's location where your site will be cloned to. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target FTP server with FileZilla. Navigate to the web server's root (usually it's a subdirectory named httpdocs, htdocs, public\_html, http\_docs or www). Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.

### 3.3.4.8. ZIP using ZIPArchive class

This engine produces ZIP archive using PHP's built-in ZIP archive class. We have not found any practical use case where this is preferable to Akeeba Backup's own ZIP archiver. This is why we wrote the ZIP archiver in the first place.

The only reason for this ethod's existence was to prove that PHP's ZipArchiver is unsuitable for backing up sites to those very few but extremely vocal users who claimed otherwise.

In short, its only reason of existence is to prove it shouldn't exist in the first place. So, please, do not use it. If you do, your backups will fail at worst, you will be wasting server resources (especially lots of memory) at best.

## 3.3.5. Data processing engines

### 3.3.5.1. No post-processing

This is the default setting and the only one one available to Akeeba Backup Core. It does no post-processing. It simply leaves the backup archives on your server.

### 3.3.5.2. Upload to CloudMe


#### Note

This feature is available only to Akeeba Backup Professional.

Using this engine, you can upload your backup archives to the European cloud storage service CloudMe.

#### Upload to CloudMe

Upload to CloudMe

 Uploads the backup archive to CloudMe.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Username

Password

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to CloudMe.
Username	Your CloudMe username
Password	Your CloudMe password
Directory	<p>The directory inside your CloudMe Blue Folder™ where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>directory/subdirectory/subsubdirectory</code>.</p> <p>You can use Akeeba Backup's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. <code>[DATE]</code>, <code>[TIME]</code>, <code>[HOST]</code>, <code>[RANDOM]</code>.</p>

### 3.3.5.3. Upload to Microsoft Windows Azure BLOB Storage service

#### Note

This feature is available only to Akeeba Backup Professional.

Using this engine, you can upload your backup archives to the Microsoft Windows Azure BLOB Storage [<http://www.microsoft.com/windowsazure/windowsazure/>] cloud storage service. This new cloud storage service from Microsoft is reasonably priced (the cost is very close to CloudFiles) and quite fast, with lots of local endpoints around the globe.

Azure, typically has a low limit for storing files, depending on container options. In some cases it may be as low as 64MB. Keep that in mind if your backups keep failing.

Before you begin, you should know the limitations. Like most cloud storage providers, Azure does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to Azure equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10 and 20 MB.

If you use the native CRON mode (`akeeba-backup.php`), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

## Upload to Microsoft Windows Azure BLOB Storage

Upload to Microsoft Windows Azure BLOB Storage

Uploads the backup archive to Microsoft Windows Azure BLOB Storage.  
**Remember to set a split archive size of 2-64Mb or you risk backup failure due to timeouts!**  
**Parts over 64Mb can not be uploaded at all.**

Process each part immediately

☐

Delete archive after processing

☒

Account name

Primary Access Key

Use SSL

☒

Container

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to Azure.
Account name	The account name for your Microsoft Azure subscription. If your endpoint looks like <code>foobar.blob1.core.windows.net</code> then your account name is foobar.
Primary Access Key	You can find this Key in account page. It is lengthy and always ends in double equals marks.
Container	The name of the Azure container where you want to store your archives in.
Directory	The directory inside your Azure container where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>/directory/subdirectory/subsubdirectory</code> . Leave blank to store the files on the container's root.

### 3.3.5.4. Upload to RackSpace CloudFiles

#### Note

This feature is available only to Akeeba Backup Professional.


Using this engine, you can upload your backup archives to the RackSpace CloudFiles [[www.rackspacecloud.com/cloud\\_hosting\\_products/files](http://www.rackspacecloud.com/cloud_hosting_products/files)] cloud storage service. This service had previously been called Mosso.

Before you begin, you should know the limitations. As most cloud storage providers, CloudFiles does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to CloudFiles equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10 and 20 MB.

If you use the native CRON mode (akeeba-backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

## Upload to RackSpace CloudFiles

Upload to RackSpace CloudFiles

 Uploads the backup archive to RackSpace CloudFiles.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Username

API Key

Container

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to CloudFiles.
Username	The username assigned to you by the RackSpace CloudFiles service
API Key	The API Key found in your CloudFiles account
Container	The name of the CloudFiles container where you want to store your archives in.

Directory	The directory inside your CloudFiles container where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. /directory/subdirectory/subsubdirectory. Leave blank to store the files on the container's root.
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### 3.3.5.5. Upload to OVH Object Storage

#### Note

This feature is available only to Akeeba Backup Professional.

Using this engine, you can upload your backup archives to the OVH Object Storage cloud storage service. This allows you to upload files into OVH's public cloud, powered by the OpenStack technology.

Before you begin, you should know the limitations. As most cloud storage providers, OVH does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to OVH equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10 and 20 MB.

If you use the native CRON mode (akeeba-backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

#### Before you begin

You will need to set up object storage and collect some necessary but not necessarily obvious information from your OVH account. You can do so through OVH's Cloud Manager [<https://www.ovh.com/manager/cloud/index.html#/>] portal.

From the left side menu click on Servers and expand your cloud server. If you do not have a server yet you will need to use the Order button to purchase credits. Please note that credits activation can take several days if this is your first order.


Click on the Infrastructure link under your server. In the main area of the manager page you will see the name of your server. Below it, in hard to see grey letters, you will see a 32-digit alphanumeric code such as abcdef0123456789abcdef0123456789. Note it down. This is your *Project ID*.

Click on the Storage link under your server. You will see a list of your containers. If you do not have any containers yet, create a new one. Make sure to select the Private type; you don't want your backups to be publicly accessible! Click on your server's name. The main area changes. You will see a box with information such as objects, container size and Container URL. Note down the *Container URL*.

Click on the OpenStack link under your server. If you have not created an OpenStack user yet, create one now. Copy the values under the ID and Password columns. These are, respectively, your *OpenStack Username* and *OpenStack Password*.

## Upload to OVH Object Storage

Upload to OVH Object Storage

 Uploads the backup archive to OVH Object Storage.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Project ID

OpenStack Username

OpenStack Password

Container URL

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to OVH.
Project ID	See above.
OpenStack Username	See above.
OpenStack Password	See above.
Container URL	See above.
Directory	The directory inside your OVH container where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. /directory/subdirectory/subsubdirectory. Leave blank to store the files on the container's root.

### 3.3.5.6. Upload to pCloud

#### Note

This feature is available only to Akeeba Backup Professional and **requires an active subscription** to use.

Using this engine, you can upload your backup archives to pCloud, a cheap and secure cloud storage service. Before you begin, you should know the limitations.

**0. Slow requests.** pCloud applies rate limiting to its API in a rather awkward manner: all requests are handled with a delay of 3 to 6 seconds per HTTP connection. This means that simple things like checking whether a folder exists would take an extraordinary amount of time (minutes instead of seconds) which makes it impossible to use them in the real world. Furthermore, the delay in processing means that the maximum size of files you can upload is further restricted. We expect timeouts to occur on most hosts if you are uploading part files over 10MB. This makes pCloud impractical for storing backups of medium sized sites or bigger.

**1. Single part only.** pCloud does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to OVH equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 5 and 10 MB. Please note that chunked uploads are also not supported in pCloud's published SDK for PHP so it's not just us telling you it's not possible, it's pCloud itself.

If you use the native CRON mode (akeeba-backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

**2. The Crypto folder cannot be supported.** While pCloud supports client-side encryption (Crypto folder) in its desktop and mobile client software this is not supported over their public web API. As a result you cannot upload your backup archives directly to your Crypto folder. You will have to upload them to regular pCloud storage. Afterwards, you can move them to your Crypto folder from your desktop or mobile device. Please note that this feature is also not supported in pCloud's published SDK for PHP so it's not just us telling you it's not possible, it's pCloud itself.

**3. Upload directory must exist.** The directory where you are uploading the backup archives must already exist. We cannot create a new directory. This has to do with limitation #0, slow requests. A three level deep directory required more than half a minute to determine if it exists, thereby making it an unrealistic feature for most real world servers: the upload would time out, causing the backup process to fail.

**4. You must be logged in to pCloud.com BEFORE using the Authentication - Step 1 in our software.** This only applies if you have Two Factor Authentication (TFA) enabled on your account. Due to the awkward and rather haphazard way TFA is implemented in pCloud you can only ever be asked for TFA when logging in to pCloud.com proper. The OAuth2 endpoint, used to link pCloud with Akeeba Backup, does NOT support TFA. If you try logging in through it you will see a puzzling message that Two Factor Authentication is required. The only solution is to log into pCloud.com in your browser RIGHT BEFORE using the Authentication - Step 1 in our software. This is a bug in pCloud's web application, not our software.

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to pCloud.
Directory	The directory inside your pCloud account where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. /directory/subdirectory/subsubdirectory. Leave blank to store the files on the container's root.

The directory must already exist. See limitations above.

You cannot use your pCloud Crypto folder. See limitations above.

Access Token Automatically filled in when you use the Authentication - Step 1 button.

If you are linking another site to the same pCloud account you should copy the access token from your already set up site and not try to run the Authentication - Step 1 again.

### 3.3.5.7. Upload to DreamObjects


#### Note

This feature is available only to Akeeba Backup Professional.

Using this engine, you can upload your backup archives to the DreamObjects cloud storage service by DreamHost.

#### Upload to DreamObjects

Upload to DreamObjects

 Uploads the backup archive to DreamObjects.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Access Key

Secret Key

Use SSL

☐

Bucket

Lowercase bucket name

☒

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
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Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to DreamObjects.
Access Key	Your DreamObjects Access Key
Secret Key	Your DreamObjects Secret Key
Use SSL	If enabled, an encrypted connection will be used to upload your archives to DreamObjects. In this case the upload will take slightly longer, as encryption - what SSL does - is more resource intensive than uploading unencrypted files. You may have to lower your part size.

## Warning

Do not enable this option if your bucket name contains dots.

Bucket	The name of your DreamObjects bucket where your files will be stored in. The bucket must be already created; Akeeba Backup can not create buckets.
--------	--

**DO NOT CREATE BUCKETS WITH NAMES CONTAINING UPPERCASE LETTERS OR DOTS.** If you use a bucket with uppercase letters in its name it is very possible that Akeeba Backup will not be able to upload anything to it for reasons that have to do with the S3 API implemented by DreamObjects. It is not something we can "fix" in Akeeba Backup. Moreover, if you use a dot in your bucket name you will not be able to enable the "Use SSL" option since DreamObject's SSL certificate will be invalid for this bucket, making it impossible to upload backup archives. If this is the case with your site, please don't ask for support; simply create a new bucket whose name only consists of lowercase unaccented latin characters (a-z), numbers (0-9) and dashes.

Directory	The directory inside your DreamObjects bucket where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>directory/subdirectory/subsubdirectory</code> .
-----------	--

You can use Akeeba Backup's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. [DATE], [TIME], [HOST], [RANDOM].

Regarding the naming of buckets and directories, you have to be aware of the S3 API rules used by DreamObjects:

- Folder names can not contain backward slashes (\). They are invalid characters.
- Bucket names can only contain lowercase letters, numbers, periods (.) and dashes (-). Accented characters, international characters, underscores and other punctuation marks are illegal characters.

## Important

Even if you created a bucket using uppercase letters, **you must type its name with lowercase letters.** The S3 API implemented by DreamObjects automatically converts the bucket name to all-lowercase. Also note that, as stated above, you may NOT be able to use at all under some circumstances. Generally, you should avoid using uppercase letters.

- Bucket names must start with a number or a letter.
- Bucket names must be 3 to 63 characters long.
- Bucket names can't be in an IP format, e.g. 192.168.1.2
- Bucket names can't end with a dash.
- Bucket names can't have an adjacent dot and dash. For example, both `my.-bucket` and `my-.bucket` are invalid. It is preferable to NOT use a dot as it will cause issues.

If any - or all - of those rules are broken, you'll end up with error messages that Akeeba Backup couldn't connect to DreamObjects, that the calculated signature is wrong or that the bucket does not exist. This is normal and expected

behaviour, as the S3 API of DreamObjects drops the connection when it encounters invalid bucket or directory names.

### 3.3.5.8. Upload to Dropbox (v2 API)

Using this engine, you can upload your backup archives to the low-cost Dropbox cloud storage service (<http://www.dropbox.com>). This is an ideal option for small websites with a low budget, as this service offers 2GB of storage space for free, all the while retaining all the pros of storing your files on the cloud. Even if your host's data center is annihilated by a natural disaster and your local PC and storage media are wiped out by an unlikely event, you will still have a copy of your site readily accessible and easy to restore.

#### Upload to Dropbox (v2 API)

Upload to Dropbox (v2 API)

Uploads the backup archive to Dropbox using the Dropbox V2 API. This API is faster and lets you easily connect your Dropbox account to multiple sites.

Process each part immediately

☐

Delete archive after processing

☒

Enable chunk upload

☒

Chunk size

20.00

▼

MB

Authentication - Step 1

Directory

/

Token

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to Dropbox.
Authorisation	Before you can use the application with Dropbox you have to "link" your Dropbox account with your Akeeba Backup installation. This allows the application to access your Dropbox account without you storing the username (email) and password to the application. The authentication is a simple process. First click on the Authentication - Step 1 button. A popup window opens, allowing you to log in to your Dropbox account. Once you log in successfully, click the blue button to transfer the access token back to your Akeeba Backup installation.

Unlike the v1 API, you can perform the same procedure on every single site you want to link to Dropbox.

**Directory** The directory inside your Dropbox account where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. /directory/subdirectory/subsubdirectory.

**Enabled chunked upload** The application will always try to upload your backup archives / backup archive parts in small chunks and then ask Dropbox to assemble them back into one file. This allows you to transfer larger archives more reliably and works around the 150Mb limitation of Dropbox' API.

When you enable this option every step of the chunked upload process will take place in a separate page load, reducing the risk of timeouts if you are transferring large archive part files (over 10Mb). When you disable this option the entire upload process has to take place in a single page load.

### Warning

When you select Process each part immediately this option has no effect! In this case the entire upload operation for each part will be attempted *in a single page load*. For this reason we recommend that you use a Part Size for Split Archives of 5Mb or less to avoid timeouts.

**Chunk size** This option determines the size of the chunk which will be used by the chunked upload option above. You are recommended to use a relatively small value around 5 to 20 Mb to prevent backup timeouts. The exact maximum value you can use depends on the speed of your server and its connection speed to the Dropbox server. Try starting high and lower it if the backup fails during transfer to Dropbox.

**Token** This is the connection token to Dropbox. Normally, it is automatically fetched from Dropbox when you click on the Authentication - Step 1 button above. If for any reason this method does not work for you you can copy the Token from the popup window or another Akeeba Backup installation you have already connected to Dropbox.


### 3.3.5.9. Send by email

#### Note

This feature is available only to Akeeba Backup Professional.

## Send by email

Send by Email

 Sends you the backup archive as an email attachment.  
**Remember to set a split archive size of 1-2Mb or you risk backup failure due to timeouts and memory outage!**

Process each part immediately

☐

Delete archive after processing

☒

Email address

Email subject

This handy feature is available only in Akeeba Backup Professional. It will send you the backup archive parts as file attachments to your email address. That's right! No need to worry about downloading your backup archives, they will be emailed to you. That said, beware of the restrictions:

You **MUST** set the Part size for split archives setting of the Archiver engine to a value between 1-10 Megabytes. If you choose a big value (or leave the default value of 0, which means that no split archives will be generated) you run the risks of the process timing out, a memory outage error to occur or, finally, your email servers not being able to cope with the attachment size, dropping the email.

As a result, this is only suitable for really small sites.

The available configuration settings for this engine, accessed by pressing the Configure... button next to it, are:

Process each part immediately	If you enable this, each backup part will be emailed to you as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the email fails, the backup fails. If you don't enable this option, the email process will take place after the backup is complete and finalized. This ensures that if the email process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are emailed to you. Very useful to conserve disk space and practice the good security measure of not leaving your backups on your server.
Email address	The email address where you want your backups sent to. When used with GMail or other webmail services it can provide a cheap alternative to proper cloud storage.
Email subject	A subject for the email you'll receive. You can leave it blank if you want to use the default. However, we suggest using something descriptive, i.e. your site's name and the description of the backup profile.

### 3.3.5.10. Upload to OneDrive (LEGACY)

#### Note

This is a legacy feature which will be removed from future versions of Akeeba Backup. Please use the "Upload to OneDrive and OneDrive for Business" option instead.

You should no longer use this integration. It only supports OneDrive with personal Microsoft / Xbox accounts. It does not support OneDrive for Business accounts which is what you get with Office 365 or a work or school account. The API it is using will be removed by Microsoft. Therefore we have no option but to remove the legacy integration from Akeeba Backup. Do note that we already have a replacement integration, using Microsoft's newer API for accessing OneDrive.

Therefore, if you were already using this option we recommend that you switch to the "Upload to OneDrive and OneDrive for Business" storage option. You will need to link your site to OneDrive again.

Since this option will be removed from Akeeba Backup soon we will no longer document its options.

### 3.3.5.11. Upload to OneDrive and OneDrive for Business

#### Note

This feature is available only to Akeeba Backup Professional and **requires an active subscription** to use.

Using this engine, you can upload your backup archives to the low-cost Microsoft OneDrive cloud storage service (<https://onedrive.live.com>). Moreover, this engine also supports OneDrive for Business which is the kind of free OneDrive storage you get with your Office 365 for Business, work or school account.

OneDrive is an ideal option for small to medium websites with a low budget. It offers a substantial amount of free storage, especially if you are an Office 365 or Office 365 for Business subscriber. Even if your host's data center is annihilated by a natural disaster and your local PC and storage media are wiped out by an unlikely event, you will still have a copy of your site readily accessible and easy to restore.

Please note that OneDrive is rather slow. If you have a big site, take frequent backups or otherwise upload performance is of the essence you should use a speedier storage provider such as Amazon S3, BackBlaze B2 or, if you'd rather remain in Microsoft's cloud ecosystem, Microsoft Azure BLOB Storage.

#### Important security and privacy information

The OneDrive integration uses the OAuth 2 authentication method. This requires a fixed endpoint (URL) for each application which uses it, such as Akeeba Backup. Since Akeeba Backup is installed on your site, therefore has a different endpoint URL for each installation, you could not normally use OneDrive's API to upload files. We have solved this problem by creating a small script which lives on our own server and acts as an intermediary between your site and OneDrive. When you are linking Akeeba Backup to OneDrive you are going through the script on our site. Moreover, whenever the access token (a time-limited, really long password given by OneDrive to your Akeeba Backup installation to access the service) expires your Akeeba Backup installation has to exchange it with a new token. This process also takes place through the script on our site. Please note that even though you are going through our site we DO NOT store this information and we DO NOT have access to your OneDrive account.

WE DO NOT STORE THE ACCESS CREDENTIALS TO YOUR ONEDRIVE ACCOUNT. WE DO NOT HAVE ACCESS TO YOUR ONEDRIVE ACCOUNT. CONNECTIONS TO OUR SITE ARE PROTECTED BY STRONG ENCRYPTION (HTTPS), THEREFORE NOBODY ELSE CAN SEE THE INFORMATION EXCHANGED BETWEEN YOUR SITE AND OUR SITE AND BETWEEN OUR SITE AND ONEDRIVE. HOWEVER, AT THE FINAL STEP OF THE AUTHENTICATION PROCESS, YOUR BROWSER IS SENDING THE ACCESS TOKENS TO YOUR SITE. SOMEONE CAN STEAL THEM IN TRANSIT IF AND ONLY IF YOU ARE NOT USING HTTPS ON YOUR SITE'S ADMINISTRATOR.

For this reason we DO NOT accept any responsibility whatsoever for any use, abuse or misuse of your connection information to OneDrive. If you do not accept this condition you are FORBIDDEN from using the intermediary script on our site which, simply put, means that you cannot use the OneDrive integration.

#### Important

Access to the intermediary script on our servers **requires** a. an active subscription to any of our products and b. entering a valid Download ID for your AkeebaBackup.com account in the component's options. If the Download ID is invalid or corresponds to an expired subscription you will be unable to use the intermediary script on our servers. As a result you will be unable to upload backup archives to OneDrive.


Moreover, the above means that there are additional requirements for using OneDrive integration on your Akeeba Backup installation:

- You need the PHP cURL extension to be loaded and enabled on your server. Most servers do that by default. If your server doesn't have it enabled the upload will fail and warn you that cURL is not enabled.
- Your server's firewall must allow outbound HTTPS connections to [www.akeebabackup.com](http://www.akeebabackup.com) and [www.akeeba.com](http://www.akeeba.com) over port 443 (standard HTTPS port) to get new tokens every time the current access token expires.
- Your server's firewall must allow outbound HTTPS connections to OneDrive's domains over port 443 to allow the integration to work. These domain names are, unfortunately, not predefined. Most likely your server administrator will have to allow outbound HTTPS connections to any domain name to allow this integration to work. This is a restriction of how the OneDrive service is designed, not something we can modify (obviously, we're not Microsoft).

## Settings

### Upload to OneDrive

Upload to Microsoft OneDrive

 Uploads the backup archive to Microsoft OneDrive. Please read the documentation.

Process each part immediately

☐

Delete archive after processing

☒

Enable chunk upload

☒

Chunk size

10.00

▼

MB

Authentication - Step 1

Directory

Access Token

Refresh Token

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to OneDrive.

**Authorisation – Step 1** Before you can use Akeeba Backup with OneDrive you have to "link" your OneDrive account with your Akeeba Backup installation. This allows Akeeba Backup to access your OneDrive account without you storing the username (email) and password to. The authentication is a simple process. First click on the Authentication - Step 1 button. A popup window opens, allowing you to log in to your OneDrive account. Once you log in successfully, you are shown a page with the access and refresh tokens (the "keys" returned by OneDrive to be used for connecting to the service) and the URL to your site. Double check that the URL to your site is correct and click on the big blue "Finalize authentication" button. The popup window closes automatically.

Alternatively, instead of clicking that big blue button you can copy the Access Token and Refresh Token from the popup window to Akeeba Backup's configuration page at the same-named fields. Afterwards you can close the popup.

## Important

As described above, this process routes you through our own site (akeebabackup.com) due to OneDrive's API restrictions. We do NOT store your login information or tokens and we do NOT have access to your OneDrive account. If, however, you do not agree being routed through our site you are FORBIDDEN from using this intermediary service on our site and you cannot use the OneDrive integration feature. We repeat for a third time that this is a restriction imposed by the OneDrive API, not us. We CANNOT work around this restriction, so we created a very secure solution which works within the restrictions imposed by the OneDrive API.

**Directory** The directory inside your OneDrive account where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. /directory/subdirectory/subsubdirectory.

**Enabled chunked upload** When enabled Akeeba Backup will try to upload your backup archives / backup archive parts in small chunks and then ask OneDrive to assemble them back into one file. If your backup archive parts are over 10Mb you are strongly encouraged to check this option.

**Chunk size** This option determines the size of the chunk which will be used by the chunked upload option above. We recommend a relatively small value around 4 to 20 Mb to prevent backup timeouts. The exact maximum value you can use depends on the speed of your server and its connection speed to OneDrive's server. Try starting high and lower it if the backup fails during transfer to OneDrive. You cannot set a chunk size lower than 1Mb or higher than 60Mb because of OneDrive's API restrictions. We recommend using 4, 10 or 20Mb (tested and found to be properly working).

**Access Token** This is the connection token to OneDrive. Normally, it is automatically sent to your site when clicking the blue button from the Authentication Step 1 popup described above. If you do not wish to click that button copy the (very, VERY long!) Access Token from that popup window into this box.

Unlike other engines, such as Dropbox, you CANNOT share OneDrive tokens between multiple site. Each site MUST go through the authentication process described above and use a different set of Access and Refresh tokens!

**Refresh Token** This is the refresh token to OneDrive, used to get a fresh Access Token when the previous one expires. Normally, it is automatically sent to your site when clicking the blue button from the Authentication Step 1 popup described above. If you do not wish to click that button copy the (very, VERY long!) Refresh Token from that popup window into this box.

Unlike other engines, such as Dropbox, you CANNOT share OneDrive tokens between multiple site. Each site MUST go through the authentication process described above and use a different set of Access and Refresh tokens!

### 3.3.5.12. Upload to Remote FTP server

#### Note

This feature is available only to Akeeba Backup Professional.

Using this engine, you can upload your backup archives to any FTP or FTPS (FTP over Explicit SSL) server. There are some "FTP" protocols and other file storage protocols which are not supported, such as SFTP, SCP, Secure FTP, FTP over Implicit SSL and SSH variants. The difference of this engine to the DirectFTP archiver engine is that this engine uploads backup archives to the server, whereas DirectFTP uploads the uncompressed files of your site. DirectFTP is designed for rapid migration, this engine is designed for easy moving of your backup archives to an off-server location.

This engine uses PHP's native FTP functions. This may not work if your host has disabled PHP's native FTP functions or if your remote FTP server is incompatible with them. In this case you may want to use the Upload to Remote FTP server over cURL engine instead.


Your originating server must support PHP's FTP extensions and not have its FTP functions blocked. Your originating server must not block FTP communication to the remote (target) server. Some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Before you begin, you should know the limitations. Most servers do not allow resuming of uploads (or even if they do, PHP doesn't quite support this feature), so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to FTP equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10 and 20 MB.



## Upload to Remote FTP Server

Upload to Remote FTP server

 Uploads the backup archive to a remote FTP or FTPS (FTP over Implicit SSL) server.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Host name

Port

User name

Password

Initial directory

Subdirectory

Use FTP over SSL (FTPS)

☐

Use passive mode

☒

Test FTP connection

The available configuration options are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to the FTP server.
Host name	The hostname of your remote (target) server, e.g. <code>ftp.example.com</code> . You must NOT enter the <code>ftp://</code> protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
Port	The TCP/IP port of your remote host's FTP server. It's usually 21.
User name	The username you have to use to connect to the remote FTP server.

Password	The password you have to use to connect to the remote FTP server.
Initial directory	The absolute FTP directory to your remote site's location where your archives will be stored. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target FTP server with FileZilla. Navigate to the intended directory. Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.
Use FTP over SSL	If your remote server supports secure FTP connections over SSL (they have to be Explicit SSL; implicit SSL is not supported), you can enable this feature. In such a case you will most probably <i>have</i> to change the port. Please ask your hosting company to provide you with more information on whether they support this feature and what port you should use. You must note that this feature must also be supported by your originating server as well.
Use passive mode	Normally you should enable it, as it is the most common and firewall-safe transfer mode supported by FTP servers. Sometimes, your remote server might require active FTP transfers. In such a case please disable this, but bear in mind that your originating server might not support active FTP transfers, which usually requires tweaking the firewall!

### 3.3.5.13. Upload to Remote FTP server over cURL

#### Note

This feature is available only to Akeeba Backup Professional.

Using this engine, you can upload your backup archives to any FTP or FTPS (FTP over Explicit SSL) server. There are some "FTP" protocols and other file storage protocols which are not supported, such as SFTP, SCP, Secure FTP, FTP over Implicit SSL and SSH variants. The difference of this engine to the DirectFTP over cURL archiver engine is that this engine uploads backup archives to the server, whereas DirectFTP over cURL uploads the uncompressed files of your site. DirectFTP over cURL is designed for rapid migration, this engine is designed for easy moving of your backup archives to an off-server location.


This engine uses PHP's cURL functions. This may not work if your host has not installed or enabled the cURL functions. In this case you may want to use the Upload to Remote FTP server engine instead.

Your originating server must support PHP's cURL extension and not have its FTP functions blocked. Your originating server must not block FTP communication to the remote (target) server. Some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Before you begin, you should know the limitations. Most servers do not allow resuming of uploads (or even if they do, PHP doesn't quite support this feature), so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to FTP equals the size of the file divided by the available bandwidth. We want time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10 and 20 MB.

## Upload to Remote FTP Server over cURL

Upload to Remote FTP server using cURL

 Uploads the backup archive to a remote FTP or FTPS (FTP over Implicit SSL) server. This post-processing engine uses the cURL library which provides better compatibility with a wide range of FTP servers.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Host name

Port

User name

Password

Initial directory

Subdirectory

Use FTP over SSL (FTPS)

☐

Use passive mode

☒

Passive mode workaround

☒

Test FTP connection

The available configuration options are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to the FTP server.
Host name	The hostname of your remote (target) server, e.g. <code>ftp.example.com</code> . You must NOT enter the <code>ftp://</code> protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.

Port	The TCP/IP port of your remote host's FTP server. It's usually 21.
User name	The username you have to use to connect to the remote FTP server.
Password	The password you have to use to connect to the remote FTP server.
Initial directory	The absolute FTP directory to your remote site's location where your archives will be stored. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target FTP server with FileZilla. Navigate to the intended directory. Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.
Use FTP over SSL	If your remote server supports secure FTP connections over SSL (they have to be Explicit SSL; implicit SSL is not supported), you can enable this feature. In such a case you will most probably <i>have</i> to change the port. Please ask your hosting company to provide you with more information on whether they support this feature and what port you should use. You must note that this feature must also be supported by your originating server as well.
Use passive mode	Normally you should enable it, as it is the most common and firewall-safe transfer mode supported by FTP servers. Sometimes, your remote server might require active FTP transfers. In such a case please disable this, but bear in mind that your originating server might not support active FTP transfers, which usually requires tweaking the firewall!
Passive mode workaround	Some badly configured / misbehaving servers report the wrong IP address when you enable the passive mode. Usually they report their internal network IP address (something like 127.0.0.1 or 192.168.1.123) instead of their public, Internet-accessible IP address. This erroneous information confuses FTP information, causing uploads to stall and eventually fail. Enabling this workaround option instructs cURL to ignore the IP address reported by the server and instead use the FTP server's public IP address, as seen by your web server. In most cases this works much better, therefore we recommend leaving this option turned on if you're not sure. You should only disable it in case of an exotic setup where the FTP server uses two different public IP addresses for the control and data channels.

### 3.3.5.14. Upload to Google Storage (Legacy S3 API)

#### Note

This feature is available only to Akeeba Backup Professional.

This is an old implementation which might stop working when Google drops support for the S3 API. We recommend using the more modern JSON API integration described later in the documentation.

Using this engine, you can upload your backup archives to the Google Storage cloud storage service using the interoperable API (Google Storage simulates the API of Amazon S3)

Please note that Google Storage is NOT the same thing as Google Drive. These are two separate products. If you want to upload files to Google Drive please look at the documentation for Upload to Google Drive.

Before you begin you have to go to the Google Developer's Console. After creating a storage bucket, in the left hand menu, go to Storage, Cloud Storage, Settings. Then go to the tab/option Interoperability. There you can go and enable interoperability and create the Access and Secret keys you need for Akeeba Backup.


You should also know the limitations. Google Storage's interoperable API does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to Google Storage equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10 and 20 MB.

## Tip

If you use the native CRON mode (akeeba-backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

## Upload to Google Storage (Legacy S3 API)

Upload to Google Storage (Legacy S3 API)

 Uploads the backup archive to Google Storage using the legacy S3 API emulation. This is deprecated and will be removed in the future. Please use the JSON API option instead.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Access Key

Secret Key

Use SSL

☐

Bucket

Lowercase bucket name

☒

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to Google Storage.
Access Key	Your Google Storage Access Key, available from the Google Cloud Storage key management tool [ <a href="https://code.google.com/apis/console#:storage:legacy">https://code.google.com/apis/console#:storage:legacy</a> ].
Secret Key	Your Google Storage Secret Key, available from the Google Cloud Storage key management tool [ <a href="https://code.google.com/apis/console#:storage:legacy">https://code.google.com/apis/console#:storage:legacy</a> ].
Use SSL	If enabled, an encrypted connection will be used to upload your archives to Google Storage. In this case the upload will take longer, as encryption - what SSL does - is a resource intensive

operation. You may have to lower your part size. We strongly recommend enabling this option for enhanced security.

## Warning

Do not enable this option if your bucket name contains dots.

**Bucket** The name of your Google Storage bucket where your files will be stored in. The bucket must be already created; Akeeba Backup can not create buckets.

**DO NOT CREATE BUCKETS WITH NAMES CONTAINING UPPERCASE LETTERS.** If you use a bucket with uppercase letters in its name it is very possible that Akeeba Backup will not be able to upload anything to it. Moreover you should not use dots in your bucket names as they are incompatible with the Use SSL option due to an Amazon S3 API limitation.

Please note that this is a limitation of the API. It is not something we can "fix" in Akeeba Backup. If this is the case with your site, please **DO NOT** ask for support; simply create a new bucket whose name only consists of lowercase unaccented latin characters (a-z), numbers (0-9) and dashes.

**Directory** The directory inside your Google Storage bucket where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. `directory/subdirectory/subsubdirectory`.

## Tip

You can use Akeeba Backup's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. [DATE], [TIME], [HOST], [RANDOM].

Regarding the naming of buckets and directories, you have to be aware of the Google Storage rules:

- Folder names can not contain backward slashes (\). They are invalid characters.
- Bucket names can only contain lowercase letters, numbers, periods (.) and dashes (-). Accented characters, international characters, underscores and other punctuation marks are illegal characters.
- Bucket names must start with a number or a letter.
- Bucket names must be 3 to 63 characters long.
- Bucket names can't be in an IP format, e.g. 192.168.1.2
- Bucket names can't end with a dash.
- Bucket names can't have an adjacent dot and dash. For example, both `my.-bucket` and `my-.bucket` are invalid. It's best not to use dots at all as they are incompatible with the Use SSL option.

If any - or all - of those rules are broken, you'll end up with error messages that Akeeba Backup couldn't connect to Google Storage, that the calculated signature is wrong or that the bucket does not exist. This is normal and expected behaviour, as Google Storage drops the connection when it encounters invalid bucket or directory names.

### 3.3.5.15. Upload to Google Storage (JSON API)

Using this engine, you can upload your backup archives to the Google Storage cloud storage service using the official Google Cloud JSON API. This is the preferred method for using Google Storage.

#### Foreward and requirements

Setting up Google Storage is admittedly complicated. We did ask Google for permission to use the much simpler end-user OAuth2 authentication, a method which is more suitable for people who are not backend developers or IT managers. Unfortunately, their response on July 14th, 2017 was that we were not allowed to. They said in no

uncertain terms that we **MUST** have our clients use Google Cloud Service Accounts. Unfortunately this comes with increased server requirements and more complicated setup instructions.

First the requirements. Google Storage support requires the `openssl_sign()` function to be available on your server and support the "sha256WithRSAEncryption" method (it must be compiled against the OpenSSL library version 0.9.8l or later). If you are not sure please ask your host. Please note that the versions of the software required for Google Storage integration have been around since early 2012 so they shouldn't be a problem for any decently up-to-date host.

Moreover, we are only allowed to give you the following quick start instructions as an indicative way to set up Google Storage. If you need support for creating a service account or granting Akeeba Backup the appropriate permissions via the IAM Policies, Google requested that we direct you to their Google Cloud Support page [<https://cloud.google.com/support/>]. We are afraid this means that we will not be able to provide you with support about any issues concerning the Google Cloud side of the setup at the request of Google.

We apologize for any inconvenience. We have no option but to abide by Google's terms. It's their service, their API and their rules.

### Performance and stability

According to our extensive tests in different server environments, the performance and stability of Google Storage is not a given. We've seen upload operations randomly failing with a Google-side server error or timing out when the immediately prior upload of a same sized file chunk worked just fine. We've seen file deletions taking anywhere from 0.5 to 13 seconds per file, for the same file, storage class and bucket with the command issued always from the same server. Please note that you might experience random upload failures. Moreover, you might experience random failures applying remote storage quotas if deleting the obsolete files takes too long to be practical. These issues are on Google Storage's side and cannot be worked around in any way using code in the context of a backup application that's bound by PHP and web server time limits.

We recommend using a remote storage service with good, consistent performance such as Amazon S3 or BackBlaze B2.

### Initial Setup

Before you begin you will need to create a JSON authorization file for Akeeba Backup. Please follow the instructions below, step by step, to do this. Kindly note that you can reuse the same JSON authorization file on multiple sites and / or backup profiles.

1. Go to <https://console.developers.google.com/permissions/serviceaccounts?pli=1>
2. Select the API Project where your Google Storage bucket is already located in.
3. Click on Create Service Account
4. Set the Service Account Name to `Akeeba Backup Service Account`
5. Click on Role and select Storage, Storage Object Admin
6. Check the Furnish a new private key checkbox.
7. The Key Type section appears. Make sure JSON is selected.
8. Click on the CREATE link at the bottom right.
9. Your server prompts you to download a file. Save it as `googlestorage.json` You will need to paste the contents of this file in the Contents of `googlestorage.json` (read the documentation) field in the Configuration page of Akeeba Backup.


### Important

If you lose the `googlestorage.json` file you will have to delete the Service Account and create it afresh. If you had any sites already set up with this `googlestorage.json` you will need to reconfigure them with the *new* file you created for the *new* Service Account. In short: don't lose that file, you *will* need it to (re)connect your sites with Google Storage.

## Post-processing engine options

### Upload to Google Storage (JSON API)

Upload to Google Storage (JSON API)

 Uploads the backup archive to Google Storage using the modern JSON API. This is the recommended integration with Google Storage.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Enable chunk upload

☒

Chunk size

10.00

▼

MB

Bucket

Directory

Contents of googlestorage.json (read the documentation)

The settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to Google Storage.
Enabled chunk upload	When enabled, Akeeba Backup will upload your backup archives in 5Mb chunks. This is the recommended methods for larger (over 10Mb) archives and/or archive parts.
Bucket	The name of your Google Storage bucket where your files will be stored in. The bucket must be already created; the application can not create buckets.  <b>DO NOT CREATE BUCKETS WITH NAMES CONTAINING UPPERCASE LETTERS.</b> If you use a bucket with uppercase letters in its name it is very possible that the application will not be able to upload anything to it.  Please note that this is a limitation of the API. It is not something we can "fix" in the application. If this is the case with your site, please simply create a new bucket whose name only consists of lowercase unaccented latin characters (a-z), numbers (0-9), dashes and dots.



Directory	<p>The directory inside your Google Storage bucket where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>directory/subdirectory/subsubdirectory</code>.</p> <p>You can use the application's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. <code>[DATE]</code>, <code>[TIME]</code>, <code>[HOST]</code>, <code>[RANDOM]</code>.</p>
Contents of googlestorage.json (read the documentation)	<p>Open the JSON file you created in the Initial Setup stage outlined above. Copy all of its contents. Paste them in this field. Make sure you have included the curly braces, { and }, at the beginning and end of the file respectively. Don't worry about line breaks being "eaten up", they are NOT important.</p>

Regarding the naming of buckets and directories, you have to be aware of the Google Storage rules:

- Folder names can not contain backward slashes (`\`). They are invalid characters.
- Bucket names can only contain lowercase letters, numbers, periods (`.`) and dashes (`-`). Accented characters, international characters, underscores and other punctuation marks are illegal characters.
- Bucket names must start with a number or a letter.
- Bucket names must be 3 to 63 characters long.
- Bucket names can't be in an IP format, e.g. `192.168.1.2`
- Bucket names can't end with a dash.
- Bucket names can't have an adjacent dot and dash. For example, both `my.-bucket` and `my-.bucket` are invalid.

If any - or all - of those rules are broken, you'll end up with error messages that the application couldn't connect to Google Storage, that the calculated signature is wrong or that the bucket does not exist. This is normal and expected behaviour, as Google Storage drops the connection when it encounters invalid bucket or directory names.

### 3.3.5.16. Upload to Google Drive

#### Note

This feature is available only to Akeeba Backup Professional.  
Using this engine you can upload your backup archives to Google Drive.

#### Important security and privacy information

Google Drive uses the OAuth 2 authentication method. This requires a fixed endpoint (URL) for each application which uses it, such as Akeeba Backup. Since Akeeba Backup is installed on your site it has a different endpoint URL for each installation, meaning you could not normally use Google Drive's API to upload files. We have solved it by creating a small script which lives on our own server and acts as an intermediary between your site and Google Drive. When you are linking Akeeba Backup to Google Drive you are going through the script on our site. Moreover, whenever the request token (a time-limited key given by Google Drive to your Akeeba Backup installation to access the service) expires your Akeeba Backup installation has to exchange it with a new token. This process also takes place through the script on our site. Please note that even though you are going through our site we DO NOT store this information and we DO NOT have access to your Google Drive account.

WE DO NOT STORE THE ACCESS CREDENTIALS TO YOUR GOOGLE DRIVE ACCOUNT. WE DO NOT HAVE ACCESS TO YOUR GOOGLE DRIVE ACCOUNT. SINCE CONNECTIONS TO OUR SITE ARE PROTECTED BY STRONG ENCRYPTION (HTTPS) NOBODY ELSE CAN SEE THE INFORMATION EXCHANGED BETWEEN YOUR SITE AND OUR SITE AND BETWEEN OUR SITE AND GOOGLE DRIVE. HOWEVER, AT THE FINAL STEP OF THE AUTHENTICATION PROCESS, YOUR BROWSER IS SENDING THE ACCESS TOKENS TO YOUR SITE. SOMEONE CAN STEAL THEM IN TRANSIT IF AND ONLY IF YOU ARE NOT USING HTTPS ON YOUR SITE'S ADMINISTRATOR.

For this reason we DO NOT accept any responsibility whatsoever for any use, abuse or misuse of your connection information to Google Drive. If you do not accept this condition you are FORBIDDEN from using the intermediary script on our site which, simply put, means that you cannot use the Google Drive integration.


Moreover, the above means that there are additional requirements for using Google Drive integration on your Akeeba Backup installation:

- You need the PHP cURL extension to be loaded and enabled on your server. Most servers do that by default. If your server doesn't have it enabled the upload will fail and warn you that cURL is not enabled.
- Your server's firewall must allow outbound HTTPS connections to [www.akeebabackup.com](http://www.akeebabackup.com) and [www.akeeba.com](http://www.akeeba.com) over port 443 (standard HTTPS port) to get new tokens every time the current access token expires.
- Your server's firewall must allow outbound HTTPS connections to Google Drive's domains over port 443 to allow the integration to work. These domain names are, unfortunately, not predefined. Most likely your server administrator will have to allow outbound HTTPS connections to any domain name matching `*.googleapis.com` to allow this integration to work. This is a restriction of how the Google Drive service is designed, not something we can modify (obviously, we're not Google).

## Settings

### Upload to Google Drive

Upload to Google Drive

 Uploads the backup archive to Google Drive. Please read the documentation.

Process each part immediately

☐

Delete archive after processing

☒

Enable chunk upload

☒

Chunk size

10.00

▼

MB

Authentication - Step 1

Directory

Access Token

Refresh Token

The settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid
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backup will still be stored on your server. The drawback is that it requires more available disk space.

Delete archive after processing If enabled, the archive files will be removed from your server after they are uploaded to Google Drive

Enabled chunked upload The application will always try to upload your backup archives / backup archive parts in small chunks and then ask Google Drive to assemble them back into one file. This allows you to transfer larger archives more reliably.

When you enable this option every step of the chunked upload process will take place in a separate page load, reducing the risk of timeouts if you are transferring large archive part files (over 5Mb). When you disable this option the entire upload process has to take place in a single page load.

### Warning

When you select Process each part immediately this option has no effect! In this case the entire upload operation for each part will be attempted *in a single page load*. For this reason we recommend that you use a Part Size for Split Archives of 5Mb or less to avoid timeouts.

Chunk size This option determines the size of the chunk which will be used by the chunked upload option above. You are recommended to use a relatively small value around 5 to 20 Mb to prevent backup timeouts. The exact maximum value you can use depends on the speed of your server and its connection speed to the Google Drive server. Try starting high and lower it if the backup fails during transfer to Google Drive.

Authentication – Step 1 If this is the **FIRST** site you connect to Akeeba Backup click on this button and follow the instructions.

On **EVERY SUBSEQUENT SITE** do NOT click on this button! Instead copy the Refresh Token from the first site into this new site's Refresh Token edit box further below the page.

### Warning

Google imposes a limitation of 20 authorizations for a single application –like Akeeba Backup– with Google Drive. Simply put, every time you click on the Authentication – Step 1 button a new Refresh Token is generated. The 21st time you generate a new Refresh Token the one you had created the very first time becomes automatically invalid without warning. This is how Google Drive is designed to operate. For this reason we strongly recommend **AGAINST** using this button on subsequent sites. Instead, copy the Refresh Token.

Directory The directory inside your Google Drive where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. `directory/subdirectory/subsubdirectory`.

### Tip

You can use Akeeba Backup's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. [DATE], [TIME], [HOST], [RANDOM].

### Warning

Object (file and folder) naming in Google Drive is ambiguous by design. This means that two or more files / folders with the same name can exist inside the same folder at the same time. In other words, a folder called My Files may contain ten *different* files

all called "File 1"! Obviously this is problematic when you want to store backups which need to be uniquely named (otherwise you'd have no idea which backup is the one you want to use!). We work around this issue using the following conventions:

- If there are multiple folders by the same name we choose the first one returned by the Google Drive API. There are no guarantees which one it will be! **Please do NOT store backup archives in folders with ambiguous names** or the remote file operations (quota management, download to server, download to browser, delete) will most likely fail.
- If a folder in the path you specified does not exist we create it
- If a file by the same name exists in the folder you specified we delete it before uploading the new one.

**Access Token** This is the temporary Access Token generated by Google Drive. It has a lifetime of one hour (3600 seconds). After that Akeeba Backup will use the Refresh Token automatically to generate a new Access Token. Please do not touch that field and do NOT copy it to other sites.

**Refresh Token** This is essentially what connects your Akeeba Backup installation with your Google Drive. When you want to connect more sites to Google Drive please copy the Refresh Token from another site linked to the same Google Drive account to your site's Refresh Token field.

### Warning


Since all of your sites are using the same Refresh Token to connect to Google Drive you must NOT run backups on multiple sites simultaneously. That would cause all backups to fail since one active instance of Akeeba Backup would be invalidating the Access Token generated by the other active instance of Akeeba Backup also trying to upload to Google Drive. This is an architectural limitation of Google Drive.

#### 3.3.5.17. Upload to iDriveSync

Using this engine, you can upload your backup archives to the iDriveSync low-cost, encrypted, cloud storage service.

## Upload to iDriveSync

Upload to iDriveSync

 Uploads the backup archive to iDriveSync EVS (iDriveSync.com).  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Username or e-mail

Password

Private key (optional)

Directory

Use the new endpoint

☐

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to iDriveSync
Username or e-mail	Your iDriveSync username or email address
Password	Your iDriveSync password
Private key (optional)	If you have locked your account with a private key (which means that all your data is stored encrypted in iDriveSync) please enter your Private Key here. If you are not making use of this feature please leave this field blank.
Directory	The directory inside your iDriveSync where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>directory/subdirectory/subsubdirectory</code> .

### Tip

You can use Akeeba Backup's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. [DATE], [TIME], [HOST], [RANDOM].

Use the new endpoint      This is required for iDriveSync accounts created after 2014. If you have entered your username/e-mail and password correctly but Akeeba Backup can't connect to iDriveSync please try checking this box.

Lengthier explanation. Sometime after 2014 iDriveSync started signing up new users through iDrive.com instead of iDriveSync.com. The new accounts need to access a new service endpoint (URL) to upload new files, delete existing files and so on. Meanwhile, accounts created before this change still need to access the old service endpoint (URL). The same service, two different interface implementations, making it impossible for us to automatically detect which method will work with your iDriveSync account. Therefore the only thing we could do was add this confusing checkbox. We're sorry about that.

### 3.3.5.18. Upload to Amazon S3 (Legacy API)

#### Note

This feature has been discontinued. If you were using it please upgrade your backup profiles to the Upload to Amazon S3 post-processing engine.

### 3.3.5.19. Upload to Amazon S3

#### Note

This feature is available only to Akeeba Backup Professional. Older versions of Akeeba Backup may not have all of the options discussed here.

Using this engine, you can upload your backup archives to the Amazon S3 cloud storage service and other storage services providing an S3-compatible API. With dirt cheap prices per Gigabyte, it is an ideal option for securing your backups. Even if your host's data center is annihilated by a natural disaster and your local PC and storage media are wiped out by an unlikely event, you will still have a copy of your site readily accessible and easy to restore.

This engine supports multi-part uploads to Amazon S3. This means that, unlike the other post-processing engines, even if you do not use split archives, Akeeba Backup will still be able to upload your files to Amazon S3! This new feature allows Akeeba Backup to upload your backup archive in 5Mb chunks so that it doesn't time out when uploading a very big archive file. That said, we **STRONGLY** suggest using a part size for archive splitting of 2000Mb. This is required to work around a PHP limitation which causes extraction to fail if the file size is over roughly 2Gb.

You can also specify a custom endpoint URL. This allows you to use this feature with third party cloud storage services offering an API compatible with Amazon S3 such as Cloudian, Riak CS, Ceph, Connectria, HostEurope, Dunkel, S3For.me, Nimbus, Walrus, GreenCloud, Scalify Ring, CloudStack and so on. If a cloud solution (public or private) claims that it is compatible with S3 then you can use it with Akeeba Backup.

#### Note

Akeeba Backup 5.1.2 and later support the Beijing Amazon S3 region, i.e. storage buckets hosted in China. These buckets are only accessible from inside China and have a few caveats:

- You can only access buckets in the Beijing region from inside China.
- Download to browser is not supported unless you have a license by the Chinese government to share content from your Amazon S3 bucket. That's because downloading to browser requires a pre-signed URL which could, in theory, be used to disseminate material from your Amazon S3 bucket to others. So even though you see the Download button it will most likely result in an error.
- Sometimes deleting and trying to re-upload an object or trying to overwrite fails silently (without an error message). WE strongly recommend using unique names for your backup archives and testing them frequently.

## Upload to Amazon S3

Upload to Amazon S3

Uploads the backup archive to Amazon S3. It allows you to use both the new (AWS4) authentication required for newer S3 location and the old (AWS2) authentication required for third party storage providers offering an S3-compatible API.  
**If you disable multipart uploads remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Access Key

Secret Key

Use SSL

☒

Bucket

Amazon S3 Region

US Standard (N. Virginia and Pacific Northwest) ▾

Signature method

v4 (preferred for Amazon S3) ▾

Directory

/

Disable multipart uploads

☐

Storage class

No – Standard storage (Standard) ▾

Custom endpoint

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to Amazon S3.
Access Key	Your Amazon S3 Access Key. Required unless you run Akeeba Backup inside an EC2 instance with an attached IAM Role. Please read about this below.
Secret Key	Your Amazon S3 Secret Key. Required unless you run Akeeba Backup inside an EC2 instance with an attached IAM Role. Please read about this below.
Use SSL	If enabled, an encrypted connection will be used to upload your archives to Amazon S3.

### Warning

Do not use this option if your bucket name contains dots.

Bucket	The name of your Amazon S3 bucket where your files will be stored in. The bucket must be already created; Akeeba Backup can not create buckets.
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## Warning

**DO NOT CREATE BUCKETS WITH NAMES CONTAINING UPPERCASE LETTERS. AMAZON CLEARLY WARNS AGAINST DOING THAT.** If you use a bucket with uppercase letters in its name it is very possible that Akeeba Backup will not be able to upload anything to it. More specifically, it seems that if your web server is located in Europe, you will be unable to use a bucket with uppercase letters in its name. If your server is in the US, you will most likely be able to use such a bucket. Your mileage may vary. The same applies if your bucket name contains dots and you try using the Use SSL option, for reasons that have to do with Amazon S3's setup.

Please note that this is a limitation imposed by Amazon itself. It is not something we can "fix" in Akeeba Backup. If this is the case with your site, please **DO NOT** ask for support; simply create a new bucket whose name only consists of lowercase unaccented Latin characters (a-z), numbers (0-9) and dashes.

### Amazon S3 Region

Please select which S3 Region you have created your bucket in. This is **MANDATORY** for using the newer, more secure, v4 signature method. You can see the region of your bucket in your Amazon S3 management console. Right click on a bucket and click on Properties. A new pane opens to the left. The second row is labelled Region. This is where your bucket was created in. Go back to Akeeba Backup and select the corresponding option from the drop-down.

## Important

If you choose the wrong region the connection **WILL** fail.

Please note that there are some reserved regions which have not been launched by Amazon at the time we wrote this engine. They are included for forward compatibility should and when Amazon launches those regions.

### Signature method

This option determines the authentication API which will be used to "log in" the backup engine to your Amazon S3 bucket. You have two options:

- **v4 (preferred for Amazon S3).** If you are using Amazon S3 (not a compatible third party storage service) and you are not sure, you need to choose this option. Moreover, you **MUST** specify the Amazon S3 Region in the option above. This option implements the newer AWS4 (v4) authentication API. Buckets created in Amazon S3 regions brought online after January 2014 (e.g. Frankfurt) will only accept this option. Older buckets will work with either option.

## Important

v4 signatures are only compatible with Amazon S3 proper. If you are using a custom Endpoint this option will **NOT** work.

- **v2 (legacy mode, third party storage providers).** If you are using an S3-compatible third party storage service (NOT Amazon S3) you **MUST** use this option. We do not recommend using this option with Amazon S3 as this authentication method is going to be phased out by Amazon itself in the future.

### Bucket Access

This option determines how the API will access the Bucket. If unsure, use the Virtual Hosting setting.

The two available settings are:



- **Virtual Hosting (recommended).** This is the recommended and supported method for Amazon S3. Buckets created after May 2019 will only support this method. Amazon has communicated that this method is the only available in Amazon S3's API starting September 2020.
- **Path Access (legacy).** This is the older, no longer supported method. You should only need to use it with a custom endpoint and **ONLY** if your storage provider has told you that you need to enable it.

**Directory** The directory inside your Amazon S3 bucket where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. `directory/subdirectory/subsubdirectory`.

### Tip

You can use Akeeba Backup's "variables" in the directory name in order to create it dynamically. These are the same variables as what you can use in the archive name, i.e. [DATE], [TIME], [HOST], [RANDOM].

**Disable multipart uploads** Since Akeeba Backup 3.2, uploads to Amazon S3 of parts over 5Mb use Amazon's new multi-part upload feature. This allows Akeeba Backup to upload the backup archive in 5Mb chunks and then ask Amazon S3 to glue them together in one big file. However, some hosts time out while uploading archives using this method. In that case it's preferable to use a relatively small Part Size for Split Archive setting (around 10-20Mb, your mileage may vary) and upload the entire archive part in one go. Enabling this option ensures that, no matter how big or small your Part Size for Split Archives setting is, the upload of the backup archive happens in one go. You **MUST** use it if you get RequestTimeout warnings while Akeeba Backup is trying to upload the backup archives to Amazon S3.

**Storage class** Select the storage class for your data. Standard is the regular storage for business critical data. Please consult the Amazon S3 documentation for the description of each storage class.

### Note

Glacier and Deep Archive storage classes are much cheaper but have long delays (several seconds to several hours) in retrieving or deleting your files. Using these storage classes is **not compatible** with the Enable Remote Quotas configuration option and the Manage Remotely Stored Files feature in the Manage Backups page. This is a limitation of Amazon S3, not Akeeba Backup.

We strongly recommend not using these storage classes directly in Akeeba Backup. Instead, use one or more Lifecycle Policies in your Amazon S3 bucket. These can be configured in your Amazon S3 control panel and tell Amazon when to migrate your files between different storage classes. For example, you could use Intelligent Tiering in Akeeba Backup together with the Maximum Backup Age quotas and Remote Quotas to only keep the last 45 days of backup archives and the backups taken on the 1st of each month. You could then also add two lifecycle policies to migrate backup archives older than 60 days to Glacier and archives older than 180 days to Deep Archive. This way you would have enough backups to roll back your site in case of an emergency but also historical backups for safekeeping or legal / regulatory reasons. Feel free to adjust the time limits to best suit your business use case!

**Custom endpoint** Enter the custom endpoint (connection URL) of a third party service which supports an Amazon S3 compatible API. Please remember to set the Signature method to v2 when using this option.

Regarding the naming of buckets and directories, you have to be aware of the Amazon S3 rules (these rules are a simplified form of the list S3Fox presents you with when you try to create a new bucket):

- Folder names can not contain backward slashes (\). They are invalid characters.
- Bucket names can only contain lowercase letters, numbers, periods (.) and dashes (-). Accented characters, international characters, underscores and other punctuation marks are illegal characters.

## Important

Even if you created a bucket using uppercase letters, **you must type its name with lowercase letters**. Amazon S3 automatically converts the bucket name to all-lowercase. Also note that, as stated above, you may NOT be able to use at all under some circumstances. Generally, you should avoid using uppercase letters.

- Bucket names must start with a number or a letter.
- Bucket names must be 3 to 63 characters long.
- Bucket names can't be in an IP format, e.g. 192.168.1.2
- Bucket names can't end with a dash.
- Bucket names can't have an adjacent dot and dash. For example, both my . -bucket and my- .bucket are invalid. It's best to avoid dots at all as they are incompatible with the Use SSL option.

If any - or all - of those rules are broken, you'll end up with error messages that Akeeba Backup couldn't connect to S3, that the calculated signature is wrong or that the bucket does not exist. This is normal and expected behaviour, as Amazon S3 drops the connection when it encounters invalid bucket or directory names.

## Automatic provisioning of Access and Secret Key on EC2 instances with an attached IAM Role

Starting with version 6.2.0, Akeeba Backup can automatically provision temporary credentials (Access and Secret Key) if you leave these fields blank. This feature is meant for advanced users who automatically deploy multiple sites to Amazon EC2. This feature has four requirements:

- Using Amazon S3, not a custom endpoint. Only Amazon S3 proper works with the temporary credentials issued by the EC2 instance.
- Using the v4 signature method. The old signature method (v2) does not work with temporary credentials issued by the EC2 instance. This is because Amazon requires that the requests authenticated with these credentials to also include the Security Token returned by the EC2 instance, something which is only possible with the v4 signature method.
- Running Akeeba Backup on a site which is hosted on an Amazon EC2 instance. It should be self understood that you can't use temporary credentials issued by the EC2 instance unless you use one. Therefore, don't expect this feature to work with regular hosting; it requires that your site runs on an Amazon EC2 server.
- Attaching an IAM Role to the Amazon EC2 instance. The IAM Role must allow access to the S3 bucket you have specified in Akeeba Backup's configuration.

When Akeeba Backup detects that both the Access and Secret Key fields are left blank (empty) it will try to query the EC2 instance's metadata server for an attached IAM Role. If a Role is attached it will make a second query to the EC2 instance's metadata server to retrieve its temporary credentials. It will then proceed to use them for accessing S3.

The temporary credentials are cached by Akeeba Backup for the duration of the backup process. If they are about to expire or expire during the backup process new credentials will be fetched from the EC2 instance's metadata server using the same process.

Creating and attaching IAM Roles to EC2 instances is beyond the scope of our documentation and our support services. Please refer to Amazon's documentation.

### 3.3.5.20. Upload to Remote SFTP server

#### Note

This feature is available only to Akeeba Backup Professional.

#### Note

This engine uses the PHP extension called SSH2. The SSH2 extension is still marked as an alpha and is not enabled by default or even provided by many commercial hosts. In this case you may want to use the Upload to Remote SFTP server over cURL engine instead which uses PHP's cURL extension, available on most hosts.


Using this engine, you can upload your backup archives to any SFTP (Secure File Transfer Protocol) server. Please note that SFTP is the *encrypted* file transfer protocol provided by SSH servers. Even though the name is close, it has nothing to do with plain old FTP or FTP over SSL. Not all servers support this but for those which do this is the most secure file transfer option.

The difference of this engine to the DirectSFTP archiver engine is that this engine uploads backup archives to the server, whereas DirectSFTP uploads the uncompressed files of your site. DirectSFTP is designed for rapid migration, this engine is designed for easy moving of your backup archives to an off-server location. Moreover, this engine also supports connecting to your SFTP server using cryptographic key files instead of passwords, a much safer (and much harder and geekier) user authentication method.

Your originating server must have PHP's SSH2 module installed and activated and its functions unblocked. Your originating server must also not block SFTP communication to the remote (target) server. Some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host over TCP port 22 (or whatever port you are using).

### Upload to Remote SFTP Server

Upload to Remote SFTP (SSH) server

 Uploads the backup archive to a remote SFTP (SSH) server. This is a file transfer over SSH using a protocol called SFTP which is *entirely different* to FTP and FTPS.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately ☐

Delete archive after processing ☒

Host name

Port

22

User name

Password

Private Key File (advanced)

Public Key File (advanced)

Initial directory

Test SFTP connection

Before you begin, you should know the limitations. SFTP does not allow resuming of uploads so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to SFTP equals the size of the file divided by the available bandwidth. We want the time to upload a file to be less than PHP's time limit restriction to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10Mb and 20Mb. Most servers have a bandwidth cap of 20Mbits, which equals to roughly 2Mb/sec (1 byte is 8 bits, plus there's some traffic overhead, lost packets, etc). With a time limit of 10 seconds, we can upload at most  $2 \text{ Mb/sec} * 10 \text{ sec} = 20\text{Mb}$  without timing out. If you get timeouts during post-processing lower the part size.

The available configuration options are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to the SFTP server.
Host name	The hostname of your remote (target) server, e.g. <code>secure.example.com</code> . You must NOT enter the <code>sftp://</code> or <code>ssh://</code> protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
Port	The TCP/IP port of your remote host's SFTP (SSH) server. It's usually 22. If unsure, please ask your host.
User name	The username you have to use to connect to the remote SFTP server. This must be always provided
Password	The password you have to use to connect to the remote SFTP server.
Private key file (advanced)	Many (but not all) SSH/SFTP servers allow you to connect to them using cryptographic key files for user authentication. This method is far more secure than using a password. Passwords can be guessed within some degree of feasibility because of their relatively short length and complexity. Cryptographic keys are nigh impossible to guess with the current technology due to their complexity (on average, more than 100 times as complex as a typical password).

If you want to use this kind of authentication you will need to provide a set of two files, your public and private key files. In this field you have to enter the full filesystem path to your private key file. The private key file must be in RSA or DSA format and has to be configured to be accepted by your remote host. The exact configuration depends on your SSH/SFTP server and is beyond the scope of this documentation. If you are a curious geek we strongly advise you to search for "ssh certificate authentication" in your favourite search engine for more information.

If you are using encrypted private key files enter the passphrase in the Password field above. If it is not encrypted, which is a bad security practice, leave the Password field blank.

## Important

If the libssh2 library that the SSH2 extension of PHP is using is compiled against GnuTLS (instead of OpenSSL) you will NOT be able to use encrypted private key files. This has to do with bugs / missing features of GnuTLS, not our code. If you can't get certificate authentication to work please try providing an unencrypted private key file and leave the Password field blank.

Public Key File (advanced)	If you are using the key file authentication method described above you will also have to supply the public key file. Enter here the full filesystem path to the public key file. The public key file must be in RSA or DSA format and, of course, unencrypted (as it's a public key).
Initial directory	The absolute filesystem path to your remote site's location where your archives will be stored. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target SFTP server with FileZilla. Navigate to the intended directory. Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.

### 3.3.5.21. Upload to Remote SFTP server over cURL

#### Note

This feature is available only to Akeeba Backup Professional.

#### Note

This engine uses the PHP cURL extension. If your host has disabled the cURL extension but has enabled the SSH2 PHP extension you may want to use the Upload to Remote SFTP server engine instead which uses PHP's SSH2 extension.

Using this engine, you can upload your backup archives to any SFTP (Secure File Transfer Protocol) server. Please note that SFTP is the *encrypted* file transfer protocol provided by SSH servers. Even though the name is close, it has nothing to do with plain old FTP or FTP over SSL. Not all servers support this but for those which do this is the most secure file transfer option.


The difference of this engine to the DirectSFTP over cURL archiver engine is that this engine uploads backup archives to the server, whereas DirectSFTP over cURL uploads the uncompressed files of your site. DirectSFTP over cURL is designed for rapid migration, this engine is designed for easy moving of your backup archives to an off-server location.

Your originating server (where you are backing up *from*) must a. have PHP's cURL extension installed and activated, b. have the cURL extension compiled with SFTP support and c. allow outbound TCP/IP connections to your target host's SSH port. Please note that some hosts provide the cURL extension without SFTP support. This feature will NOT work on these hosts. Moreover, some hosts apply a firewall policy which requires you to specify to which hosts your server can connect. In such a case you might need to allow communication to your remote host.

Before you begin, you should know the limitations. SFTP does not allow resuming of uploads so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to SFTP equals the size of the file divided by the available bandwidth. We want to time to upload a file to be less than PHP's time limit restriction to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10Mb and 20Mb. Most servers have a bandwidth cap of 20Mbits, which equals to roughly 2Mb/sec (1 byte is 8 bits, plus there's some traffic overhead, lost packets, etc). With a time limit of 10 seconds, we can upload at most  $2 \text{ Mb/sec} * 10 \text{ sec} = 20\text{Mb}$  without timing out. If you get timeouts during post-processing lower the part size.

## Upload to Remote SFTP Server over cURL

Upload to Remote SFTP (SSH) server using cURL

 Uploads the backup archive to a remote SFTP (SSH) server. This is a file transfer over SSH using a protocol called SFTP which is *entirely different* to FTP and FTPS. This post-processing engine uses cURL for the data transfer, a library which is compatible with a wide range of SFTP servers.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately ☐

Delete archive after processing ☒

Host name

Port

User name

Password

Private Key File (advanced)

Public Key File (advanced)

Initial directory

Test SFTP connection

The available configuration options are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to the SFTP server.
Host name	The hostname of your remote (target) server, e.g. <code>secure.example.com</code> . You must NOT enter the <code>sftp://</code> or <code>ssh://</code> protocol prefix. If you do, Akeeba Backup will try to remove it automatically and issue a warning about it.
Port	The TCP/IP port of your remote host's SFTP (SSH) server. It's usually 22. If unsure, please ask your host.
User name	The username you have to use to connect to the remote SFTP server. This must be always provided
Password	The password you have to use to connect to the remote SFTP server.
Private key file (advanced)	Many (but not all) SSH/SFTP servers allow you to connect to them using cryptographic key files for user authentication. This method is far more secure than using a password. Passwords

can be guessed within some degree of feasibility because of their relatively short length and complexity. Cryptographic keys are night impossible to guess with the current technology due to their complexity (on average, more than 100 times as complex as a typical password).

If you want to use this kind of authentication you will need to provide a set of two files, your public and private key files. In this field you have to enter the full filesystem path to your private key file. The private key file must be in RSA or DSA format and has to be configured to be accepted by your remote host. The exact configuration depends on your SSH/SFTP server and is beyond the scope of this documentation. If you are a curious geek we strongly advise you to search for "ssh certificate authentication" in your favourite search engine for more information.

If you are using encrypted private key files enter the passphrase in the Password field above. If it is not encrypted, which is a bad security practice, leave the Password field blank.

### Important

If cURL is compiled against GnuTLS (instead of OpenSSL) you will NOT be able to use encrypted private key files. This has to do with bugs / missing features of GnuTLS, not our code. If you can't get certificate authentication to work please try providing an unencrypted private key file and leave the Password field blank.

Public Key File (advanced)	If you are using the key file authentication method described above you will also have to supply the public key file. Enter here the full filesystem path to the public key file. The public key file must be in RSA or DSA format and, of course, unencrypted (as it's a public key). Some newer versions of cURL allow you to leave this blank, in which case they will derive the public key information from the private key file. We do not recommend this approach.
Initial directory	The absolute filesystem path to your remote site's location where your archives will be stored. This is provided by your hosting company. Do not ask us to tell you what you should put in here because we can't possibly know. There is an easy way to find it, though. Connect to your target SFTP server with FileZilla. Navigate to the intended directory. Above the right-hand folder pane you will see a text box with a path. Copy this path and paste it to Akeeba Backup's setting.

### 3.3.5.22. Upload to SugarSync

#### Note

This feature is available only to Akeeba Backup Professional 3.5.a1 and later.

Using this engine, you can upload your backup archives to the SugarSync [<http://www.sugarsync.com>] cloud storage service. SugarSync has a free tier (with 5Gb of free space) and a paid tier. Akeeba Backup can work with either one.

Please note that Akeeba Backup can only upload files to Sync Folders, it can not upload files directly to a Workspace (a single device). You have to set up your Sync Folders in SugarSync before using Akeeba Backup. If you have not created or specified any Sync Folder, Akeeba Backup will upload the backup archives to your Magic Briefcase, the default Sync Folder which syncs between all of your devices, including your mobile devices (iPhone, iPad, Android phones, ...).

Before you begin, you should know the limitations. As most cloud storage providers, SugarSync does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to SugarSync equals the size of the file divided by the available bandwidth. We want to time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10Mb and 20Mb. Most servers have a bandwidth cap of 20Mbits, which equals to roughly 2Mb/sec (1 byte is 8 bits, plus there's some traffic overhead,

lost packets, etc). With a time limit of 10 seconds, we can upload at most 2 Mb/sec \* 10 sec = 20Mb without timing out. If you get timeouts during post-processing lower the part size.

## Tip

If you use the native CRON mode (akeeba-backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

## First-time setup

Since Akeeba Backup 7.0 you need to perform an additional step the very first time you set up SugarSync to obtain a set of Access Key ID and Secret Access Key which will be used together with your email and password to access SugarSync. SugarSync's API needs all four pieces of information (Access Key ID, Secret Access Key, Email and Password) to grant access to your files.

First go to SygarSync's site and select the Developer Portal [<https://www.sugarsync.com/developer>] option at the footer of the site. If this is your first time there select the Join our Program option. It is free of charge.

Then go to the Developer Console [<https://www.sugarsync.com/developer/account>] (it requires you to log into SugarSync). At the top of the page there is the Your Access Keys area. If you already have entries there skip this paragraph. If you do not have any entries there click on Add Keys. This creates an entry.


## Note

You can ignore the Your Apps section. In fact, creating an app is optional, makes authentication more complicated and does not offer any security or workflow advantage. Therefore, Akeeba Ltd chose not to implement support for SugarSync's Apps.

You need to copy the Access Key ID and its corresponding Private Access Key in your Akeeba Backup configuration, as explained below.

## Upload to SugarSync

Upload to SugarSync

 Uploads the backup archive to SugarSync.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately

☐

Delete archive after processing

☒

Email

Password

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after
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processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.

Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to SugarSync.
Access Key ID	The Access Key ID you have created in SugarSync's Developer Console [ <a href="https://www.sugarsync.com/developer/account">https://www.sugarsync.com/developer/account</a> ] page.
Private Access Key	The Private Access Key that corresponds to the Access Key ID you have created in SugarSync's Developer Console [ <a href="https://www.sugarsync.com/developer/account">https://www.sugarsync.com/developer/account</a> ] page.
Email	The email used by your SugarSync account.
Password	The password used by your SugarSync account.
Directory	The directory inside SugarSync where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>/directory/subdirectory/subsubdirectory</code> . You may use the same variables used in archive naming, e.g. <code>[HOST]</code> for the site's host name or <code>[DATE]</code> for the current date.

Please note that the first part of your directory should be the name of your shared folder. For example, if you have a shared folder named `backups` and you want to create a subdirectory inside it based on the site's name, you need to enter `backups/[HOST]` in the directory box. If a Sync Folder by the name "backups" is not found, a directory named "backups" will be created inside your Magic Briefcase folder. Yes, it's more complicated than, say, DropBox – but that's also why SugarSync is more powerful.

### 3.3.5.23. Upload to WebDAV

#### Note

This feature is available only to Akeeba Backup Professional 3.10.1 and later.

Using this engine, you can upload your backup archives to any server which supports the WebDAV (Web Distributed Authoring and Versioning) protocol. Examples of storage services supporting WebDAV:

- OwnCloud [[http://doc.owncloud.org/server/5.0/user\\_manual/files/files.html](http://doc.owncloud.org/server/5.0/user_manual/files/files.html)] is a software solution that you can install on your own servers to provide a private cloud.
- CloudDAV [<http://storagemadeeasy.com/CloudDav/>] is a service which gives you WebDAV access to a plethora of cloud storage providers: Amazon S3, GMail, RackSpace CloudFiles, Microsoft OneDrive (formerly: SkyDrive), Windows Azure BLOB Storage, iCloud, LiveMesh, Box.com, FTP servers, Email (which, unlike the Send by email engine in Akeeba Backup, does support large files), Google Docs, Mezeo, Zimbra, FilesAnywhere, Dropbox, Google Storage, CloudMe, Microsoft SharePoint, Trend Micro, OpenStack Swift (supported by several providers), Google sites, HP cloud, Alfresco cloud, Open S3, Eucalyptus Walrus, Microsoft Office 365, EMC Atmos, iKoula - iKeepinCloud, PogoPlug, Ubuntu One, SugarSync, Hosting Solutions, BaseCamp, Huddle, IBM Files Cloud, Scalify, Google Drive, Memset Memstore, DumpTruck, ThinkOn, Evernote, Cloudian, Copy.com, Salesforce. [TESTED with Amazon S3 as the storage provider]
- Apache web server (when the optional WebDAV support is enabled – recommended for advanced users only).
- 4Shared [<http://www.4shared.com/>].
- ADrive [<http://www.adrive.com/>].

- Amazon Cloud Drive [[http://www.amazon.com/gp/feature.html/ref=cd\\_def?ie=UTF8&\\*Version\\*=1&\\*entries\\*=0&docId=1000828861](http://www.amazon.com/gp/feature.html/ref=cd_def?ie=UTF8&*Version*=1&*entries*=0&docId=1000828861)].
- Box.com [<https://www.box.com/>].
- CloudSafe [<https://secure.cloudsafe.com/login/>].
- DriveHQ [<https://www.drivehq.com/>].
- DumpTruck [<http://www.goldenfrog.com/>].
- FilesAnywhere [<https://www.filesanywhere.com/>].
- MyDrive [<http://www.mydrive.net/>].
- MyDisk.se. [<https://mydisk.com/web/main.php?show=home>]
- PowerFolder [<https://www.powerfolder.com/>].
- OVH.net [<http://ovh.net/>]
- Safecopy Backup [<http://safecopybackup.com/>].
- Strato HiDrive [<https://www.free-hidrive.com/index.html>].
- Telekom Medientcenter [<http://medientcenter.telekom.de/>].
- Pretty much every storage provider which claims to support WebDAV

## Tip

You can find more information for WebDAV access of each of these providers in <http://www.free-online-backup-services.com/features/webdav.html>

## Note

We have not thoroughly tested and do not guarantee that any of the above providers will work smoothly with Akeeba Backup unless you see the notive [TESTED] next to it.


Before you begin, you should know the limitations. As most remote storage technologies, WebDAV does not allow appending to files, so the archive has to be transferred in a single step. PHP has a time limit restriction we can't overlook. The time required to upload a file to WebDAV equals the size of the file divided by the available bandwidth. We want to time to upload a file to be less than PHP's time limit restriction so as to avoid timing out. Since the available bandwidth is finite and constant, the only thing we can reduce in order to avoid timeouts is the file size. To this end, you have to produce split archives, by setting the part size for archive splitting in ZIP's or JPA's engine configuration pane. The suggested values are between 10Mb and 20Mb. Most servers have a bandwidth cap of 20Mbits, which equals to roughly 2Mb/sec (1 byte is 8 bits, plus there's some traffic overhead, lost packets, etc). With a time limit of 10 seconds, we can upload at most  $2 \text{ Mb/sec} * 10 \text{ sec} = 20\text{Mb}$  without timing out. If you get timeouts during post-processing lower the part size.

## Tip

If you use the native CRON mode (akeeba-backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete backup consists of.

## Upload to WebDAV

Upload using WebDAV

 Uploads the backup archive to any storage service that supports WebDAV protocol.  
**Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!**

Process each part immediately ☐

Delete archive after processing ☒

Username

Password

WebDAV base URL

Directory

The required settings for this engine are:

Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part for split archives free in your account. The drawback with enabling this option is that if the upload fails, the backup fails. If you don't enable this option, the upload process will take place after the backup is complete and finalized. This ensures that if the upload process fails a valid backup will still be stored on your server. The drawback is that it requires more available disk space.
Delete archive after processing	If enabled, the archive files will be removed from your server after they are uploaded to SugarSync.
Username	The username you use to connect to your WebDAV server
Password	The password you use to connect to your WebDAV server
WebDAV base URL	The base URL of your WebDAV server's endpoint. It might be a directory such as <code>http://www.example.com/mydav/</code> or even a script endpoint such as <code>http://www.example.com/webdav.php</code> . If unsure please ask your WebDAV provider for more information.

### Warning

If the base URL of your WebDAV server's endpoint is a directory (almost always) you **MUST** use a trailing slash, e.g. `http://www.example.com/mydav/` (correct) but not `http://www.example.com/mydav` (WRONG!)

Directory	The directory inside the WebDAV folder where your files will be stored in. If you want to use subdirectories, you have to use a forward slash, e.g. <code>/directory/subdirectory/subsubdirectory</code> . You may use the same variables used in archive naming, e.g. [HOST] for the site's host name or [DATE] for the current date.
-----------	--

### Warning

You **MUST** always use a directory. Most WebDAV servers, e.g. Box.com, allow you to use the root directory which is denoted by `/` (a single forward slash). Other

WebDAV servers, such as CloudDAV, DO NOT allow you to use the root directory. In this case you MUST use a non-empty directory, e.g. /backups for the upload to WebDAV to work at all.

### 3.3.5.24. Upload to Box.net / Box.com

As of Akeeba Backup 3.10.1 you can use the Upload to WebDAV option to upload your backup archives to Box.com. You will need to use the following parameters:

Username	Your box.com email address
Password	Your box.com password
WebDAV base URL	<code>https://dav.box.com/dav</code>

For more information please check the official Box.com page explaining the Box.com over WebDAV feature: <https://support.box.com/hc/en-us/articles/200519748-Does-Box-support-WebDAV->

### Important

Due to limitations in the Box.com implementation of WebDAV we strongly recommend using a Part Size for Split Archives smaller than 50Mb at all times.

## 3.4. Backup now

Before we go on describing the Backup Now page, we have to discuss something important pertaining to the overall backup and restoration process. In order for the restoration to work properly, the original site must have a readable and valid configuration.php on its root. This means that a 'trick' some very few webmasters use, providing a configuration.php which includes an off-server-root PHP file, is incompatible with the restoration procedure. If the 'trick' has been effective on the original site, the installer will have blanks in its options and if the user proceeds with the restoration/installation procedure the site will not work as expected, as crucial options will have the default or no value at all!

Moreover we would like to remind you that restoring to a temporary URL (something like `http://www.yourhost.com/~youruser`) will NOT work. This has to do with the way Joomla!, Apache and PHP session management works. It has nothing to do with Akeeba Backup. Even if you install straight up Joomla! on a temporary URL you'll have problems logging in or, at the very least, with SEF URLs.

## Backup start

System Users Menus Content Components Extensions Help Akeebadev

Akeeba Backup:: Backup Now Joomla!

Control Panel Help

### Start a new backup

Active Profile: #1 #1. Default backup profile Switch Profiles

Short description Backup taken on Tuesday, 20 March 2018 08:48  
This will appear in the Manage Backups page for your convenience.

Encryption key  
This key will be used to encrypt your archive's contents. The key is case sensitive, i.e. ABC, abc and Abc are three different passwords. Keep a copy of the password in a safe place! If you lose it there is no way to recover it.

ANGIE Password  
If you are using the ANGIE embedded installer script you can optionally password-protect it, preventing unauthorised access to the installer. When you run the installer you will be asked to enter this password. Please note that the password is case sensitive, i.e. ABC, abc and Abc are three different passwords.

Backup comment  
This will appear in both the Manage Backups page and inside the backup archive (in the installation/README.html file) for your convenience.

Backup Now! Restore default

The initial backup page lets you define a short description (required) and an optional lengthy comment for this backup attempt. This information will be presented to you in the backup administration page to help you identify different backups. The default description contains the date and time of backup. Both the description and comment will be stored in a file named `README.html` inside your archive's `installation` directory, but only if the backup mode is full backup.

Since Akeeba Backup 3.1.b1 both the description and the comment support Akeeba Backup's file naming "variables", e.g. `[SITE]`, `[DATE]` and `[TIME]`. These variables are documented in the Output Directory configuration option's description. It goes without saying, but these variables can also be used in the case of automated backups, e.g. CRON-mode backups.

There are two more fields which may be displayed on this page:

- **Encryption key.** When you are using the JPS (encrypted archive) format the contents of the archive are encrypted using the AES-256 algorithm and this password. In order to extract the archive you will need to enter this password. If you had entered a default password for JPS files in the Configuration page this field is pre-filled with that password.

### Important

The password is case-sensitive. ABC, abc and Abc are three different passwords! Also note that the password is non-recoverable. If you lose or forget your password you will not be able to extract your JPS archive.

- **ANGIE Password.** As of Akeeba Backup 3.7.5 the ANGIE installer (embedded in the backup archive) allows you to password protect it. This means that you will have to enter this password before you can restore your site. This feature is designed to prevent unauthorised users from "stumbling" on your site while it's still undergoing restoration and copy your database passwords or obtain other information about your site.

We **STRONGLY** advise that you always use an ANGIE Password if you intend to restore your site on a live server. This is the only way to prevent accidental information leak.

## Important

The password is case-sensitive. ABC, abc and Abc are three different passwords! Unlike the JPS password, setting an ANGIE password will not prevent anyone from extracting the archive and looking at its contents. It will only prevent people attempting to browse your site while you're restoring a backup from seeing potentially confidential information in the installer.

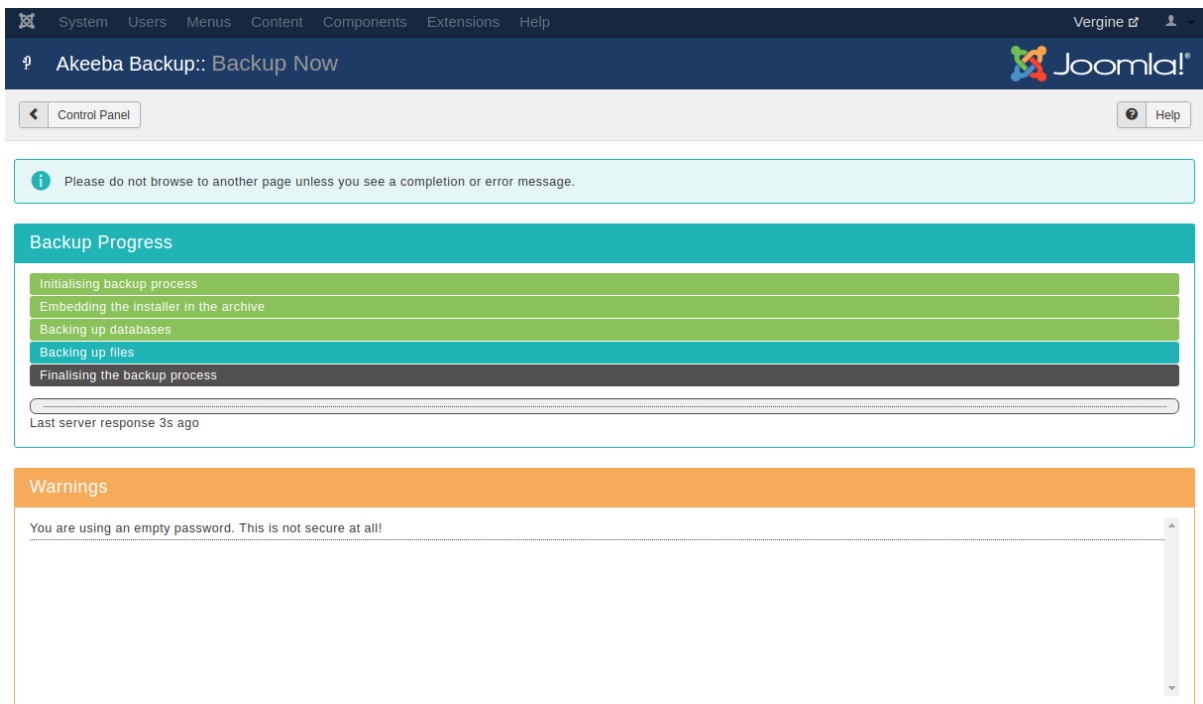
Whenever you are ready to start the backup, just click the Backup Now button. Do note that above the description field, there might be one or more warnings. These are the same warnings appearing in the Control Panel's right-hand pane and act as a reminder.

## Important

Default output directory is in use *is not an error message*! It's just a reminder that the default output directory is a well known location on your site. In theory, a malicious user could figure out the name of the backup archive and download it directly over the web. In order to deter that, Akeeba Backup places a .htaccess file (compatible with virtually all Apache installations) and a web.config file (compatible only with IIS 7) to deter that. If you are using a host which doesn't support the directives of those two files, the contents of that directory may be inadvertently available over the web to malicious users. If in doubt, ask your host. Do not ask us, please, we are not your host.

Our recommendation: consult your host about the proper way to create a backup output directory above your site's root and make it writable by PHP. Then, use that directory as the Output Directory in all of your backup profiles. This method offers the best protection.

## Backup progress page



The screenshot shows the Joomla! administrator interface during a backup process. The top navigation bar includes 'System', 'Users', 'Menus', 'Content', 'Components', 'Extensions', and 'Help'. The user 'Vergine' is logged in. The page title is 'Akeeba Backup:: Backup Now'. Below the title bar, there is a 'Control Panel' button and a 'Help' button. A light blue message box states: 'Please do not browse to another page unless you see a completion or error message.' The main content area is titled 'Backup Progress' and displays a progress bar with five steps: 'Initialising backup process', 'Embedding the installer in the archive', 'Backing up databases', 'Backing up files', and 'Finalising the backup process'. The progress bar shows that the first three steps are complete, and the fourth step is currently in progress. Below the progress bar, it says 'Last server response 3s ago'. At the bottom, there is a 'Warnings' section with an orange header. It contains a warning message: 'You are using an empty password. This is not secure at all!'. The warning message is displayed in a scrollable area.

Once you click on the Backup Now button, the backup progress page appears. You must not navigate away from this page or close your browser window until the backup is complete. Otherwise, the backup process will be interrupted and no backup file will be created (or you'll end up with an incomplete backup file). Akeeba Backup disables the Joomla! menu during backup to prevent accidentally switching to a different page.

The backup progress page consists of a large pane. The top section of the pane lists the steps Akeeba Backup has to take in order to complete your backup. Steps in gray background have not been dealt with yet. Steps in green background have been successfully completed. The step in blue background is the one being currently processed.

Below that, you will find two lines. The first line will show you which table or directory has **been backed up in the previous step**. This is very important. When the backup crashes, it hasn't necessarily crashed backing up the table or directory you see on the screen. Most likely that the table/directory which has been *successfully* backed up. The real problem appears in the log file and this is why we are adamant in asking for a backup log to be posted with your support request. The line below is normally used for messages of lesser importance, such as noting the percentage of a table already completed (especially useful when backing up huge tables) and the name of the archive part which was processed by a data processing engine.

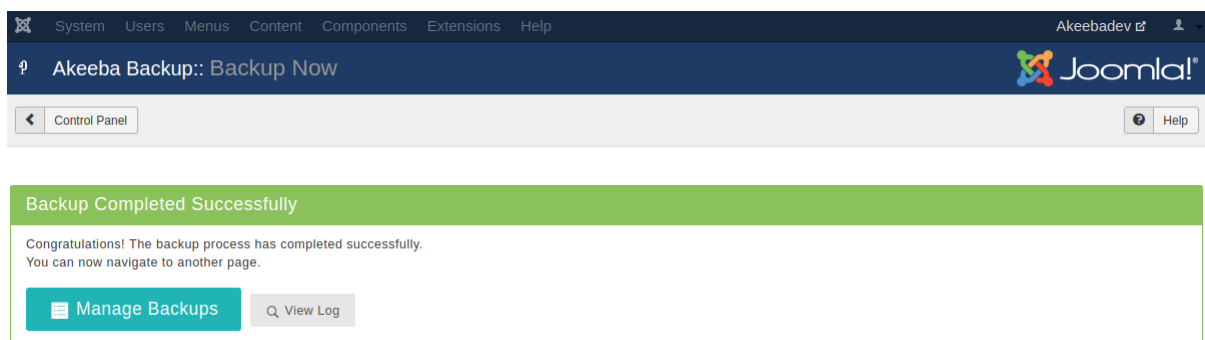
The big bar is the overall progress bar and displays an *approximation* of the backup progress. Do note that during file backup you may see this bar jump back and forth. This is normal and, please, do not report it as a bug. It is exactly how it is supposed to behave. The reason is rather simple. Before your site is backed up, Akeeba Backup doesn't know how many files and directories it contains. As a result, it tries to do an educated guess and display an approximate backup progress. Guesswork is never accurate, which causes some jumping back and forth. Nothing to worry about, your backup is working without a problem.

The next thing you see is time elapsed since the last server response. This resets to 0 when a new backup step is started. If you see a last server response over 300 seconds –except when the application is uploading your backup archives– you can assume that your backup has crashed. Only in this case you should navigate away from the backup page and take a look at the log file for any error messages. Always try different configuration options, especially changing the minimum and maximum execution time, before filing a support request.

Should a minor (non fatal) error occur, Akeeba Backup displays a new Warnings pane with yellow background. This box holds the warnings which have occurred during the backup process, in chronological order. These are also logged in the Akeeba Backup Debug Log and marked with the WARNING label, that is if your log level is at least Errors and Warnings. Usual causes of warnings are unreadable files and directories. Akeeba Backup regards them as minor errors because, even though the backup process can go through, what you get might be a partial backup which doesn't meet your expectations. In case warnings appear on your screen you are advised to review them and assess their importance.

Sometimes your backup may halt with an AJAX error. This means that there was a communications error between the browser and your server. In most cases this is a temporary server or network issue. Depending on your configuration preferences, Akeeba Backup may try to resume the backup after a while. By default, Akeeba Backup will retry resuming the backup at most three consecutive times and after waiting 10 seconds after each error. If the backup cannot be resumed you will receive an error page, at which point your backup has positively failed.

## Backup completion page



After the whole process is complete, Akeeba Backup will clean up any temporary files it has created. Akeeba Backup will also clean temporary files and delete incomplete archive files upon detecting a backup failure. Please note that log files are not removed by default. You will have to go to the Manage Backups page, select the failed backup attempt(s) and then click on Delete Files or Delete to have it remove the log files of failed backups.

By that point, your site backup file has been created. You can now navigate out of the backup page and possibly into the backup administration page, clicking on the handy button which appears below the backup completion message.

### 3.4.1. Troubleshooting backup issues

We have compiled a list of frequently asked questions and their answers, as well as the basic troubleshooting instructions for a backup which appears to not be working. Please do read and follow these instructions. If you need to ask for support because these instructions didn't help you please let us know what you have already tried so we don't waste your time by asking you to do what we've written here and you've already tried.

#### 3.4.1.1. Where are my backup files?

By default they are stored in `administrator/components/com_akeeba/backup` under your site's root.

However, you can always set a different Output Directory in the Configuration page of Akeeba Backup. If unsure, click the info icon next to the backup entry. Akeeba Backup will tell you where your backup archive is stored in, relative to your site's root.

Also note that if you are using Akeeba Backup Professional it is possible that your backup archive is stored remotely (e.g. on Amazon S3). In this case the backup record appears with a cloud icon in the status column which is described as "Remote". In this case you can use the Manage Remotely Stored Files button in the rightmost column to manage the remotely stored files.

#### 3.4.1.2. How can I download my backup files?

If you are using Akeeba Backup Professional and your backup is stored remotely as explained in the previous question: you need to use the Manage Remotely Stored Files button. It will allow you to fetch the backup archive back to your web server or download it directly (if supported by the remote storage engine).

If your backup is stored on the same server as your site we *very strongly* recommend using SFTP, FTPS or FTP to download it from your server. You can use a third party tool such as FileZilla (macOS, Windows, Linux) or CyberDuck (macOS, Windows). If you are using FTP or FTPS please remember to set your tool to download files **in Binary transfer mode**. If you use ASCII or Auto you might end up with corrupt backup archives. If you are using SFTP you don't need to do that; SFTP always transfers files in binary mode.

If you have no access to your site's files via SFTP, FTPS or FTP you can use the Download button in Akeeba Backup's interface. However, please keep in mind that files over 10MB might end up being corrupt or truncated for reasons that have to do with third party plugins running on your site and / or your server setup. We generally do not recommend this method.

We also do not recommend using your hosting control panel's file manager to transfer files over 10MB for similar reasons. If you find that your backup archives are corrupt please either use SFTP, FTPS or FTP; or upload them to remote storage (e.g. Amazon S3) using Akeeba Backup Professional and download them from the remote storage using any appropriate tool, including your browser. The difference between using your browser to download files from your site's server and downloading from the site of a remote storage provider is that the former is designed for transferring relatively small files while the latter is specifically designed and optimized for large file transfers without random, silent failures.

In either case please note that your backup archive **may consist of multiple files** with the same name and different, sequentially numbered extensions. For example, a JPA archive may consist of a file with a .jpa extension and zero or more files with the extensions .j01, .j02 and so on. A JPS archive may consist of a file with a .jps extension and zero or more files with the extensions .j01, .j02 and so on. A ZIP archive may consist of a file with a .zip extension and zero or more files with the extensions .z01, .z02 and so on. Whether this happens depends on the size of your site's backup and the Part Size for Archive Splitting in the Configuration page of the backup profile you are using. If you see multiple files you need to download all of them. You cannot restore a site if one or more of these files is missing. These are NOT separate archives; these are archive parts. Think of it as taking a printed page and cutting it in for vertical strips. If any of the strips is missing you cannot read the content of the page. You need all strips to figure out the content. An archive is like a page, a backup archive part file is like a strip of the page.

#### 3.4.1.3. Why do I get warnings about unreadable files or folders?

You get a list of warnings during backup stating "Unreadable file /some/file; check permissions" or "Unreadable directory /some/directory; check permissions". This means that when Akeeba Backup asked PHP to list the



contents of the directory or read the contents of the file, PHP replied that this was impossible. Here we will attempt to find out why and fix it.

**DOUBLE CHECK A BACKUP IF YOU GET THIS KIND OF WARNINGS !** These warnings mean that files or whole directories have not been backed up. It is very likely that some overly important files of your site (or even all of the files of your site!) did not make it into the archive. This will cause the restored site to be broken. That's why we call them warnings: they warn you that something may be broken so that you can investigate and make sure you fix it - or be 100% that you can safely ignore them.

### Unreadable directories

A directory becomes unreadable because of its permissions. Please note that some directories are supposed to be unreadable. For example, on a live host, it is common to have directories such as `cgi-bin`, `awstats`, etc which are not part of your Joomla installation and are there to provide some service offered by your host. If you are not sure, ask your host about that. These directories **MUST NOT** be backed up, or restoration will be impossible. If one of those directories appears as an unwritable directory, please go to Akeeba Backup, click on Files and Directories Exclusion and exclude those directories from the backup (the leftmost icon next to the folder's name must be yellow).

If you get that kind of warning for `<root>`, it means that your site's root is not readable. This will cause Akeeba Backup to be unable to backup your site. In this case, using your favourite FTP application, connect to your site and look for your site's web root. It is usually a directory named `public_html`, `htdocs`, `www` or something like that. If unsure, ask your host. Change its permissions to 0755. If you can not do that yourself, ask your host to do that for you. If they refuse on the grounds of security, explain to them that a. it is necessary to backup your site and b. they are probably doing something wrong if other users are allowed to browse your site's files (and swiftly change to a more secure host!).

If you are on a Windows server, there is no notion of permissions. Instead, you have to edit the Windows ACLs to allow PHP to be able to list the contents of your site's directories. Since this procedure is highly dependent on the server setup, please ask your host to do it for you. If you are on a local server, please read on.

If you are on a **Linux machine**, change the permissions of the root of your website to 0755. For example, if you're trying to restore to `/var/www/mysite` you have to issue a command like **`chmod -Rf 0755 /var/www/mysite`**

If you are on a **Mac OS X machine**, use the Finder to find your site's root. Right-click or Control-click on it and select Get Info. Scroll down to the Sharing & Permissions slider and expand it if it's not already expanded. Find the row where the Name column reads `everyone` and set the Privilege to `Read & Write`.

If you are on a **Windows** use Windows explorer to find your site's root. Right click on it, select Properties and click on the Security tab. Click on the Edit... button. If you can't see a user named Everyone, you will have to click on the Add... button, type Everyone in the big text box and click OK. Now click on the Everyone user and then take a look at the list of checkboxes below. Click the Accept checkbox on the Full Control row (the topmost one). Click on OK, then again on OK.

The same instructions apply for any other directory which may appear to be unwritable. Instead of your site's root, do this procedure to the directory which appears unwritable.

### Unreadable files

Unreadable files are not accessible by PHP for reading. The fact that you can access them with FTP or that you can view them in your browser DOES NOT mean that they are readable by PHP. This is a common misconception. If you feel that this can't be true, please read the Security Information chapter of this documentation. We are not responsible about how your web server and UNIX-based Operating Systems work, but we can help work around the problem!

All you have to do is to find the file referenced by the warning message and give it 0644 permissions (read & write for the user, read only for the group and everyone). That's all there is to it.

Please note that some files (e.g. `.ftpquota` on your site's root) are not supposed to be readable. These are special files that do not belong to your Joomla installation and are put on your site by your host. These files must not be backed up, otherwise restoration will fail. Go to Akeeba Backup and click on Files and Directories Exclusion to

find those files and remove them from the backup. If you are unsure whether a file is put in there by your host, Joomla or one of its extensions please ask your host. If it is a file put there by the host, exclude it. If it is not, change its permissions to 0644.

#### 3.4.1.4. I got an "AJAX loading error" when backing up. What should I do?

Before you do anything else, make sure that your server fulfils the minimum requirements of the version of Akeeba Backup you are trying to use. The PHP and Joomla! version compatibility matrix is published on our site [<https://www.akeeba.com/compatibility.html>].

### Tip

If you have tried all of the above and your site is hosted on **one.com**, check out the special instructions at the bottom of this answer.

The most usual backup issues manifest themselves by means of an "AJAX Loading Error" message. This error message by itself means pretty much nothing. All it tells us is that the backup failed. Normally, you should post your log file to our ticket system so that we can take a look at it to figure out what went wrong. However, there are some common issues you can work around yourself, without looking at the log file. You should follow the following troubleshooting steps one by one until your backup works.

1. The progress bar you see always tells you *the last successful step Akeeba Backup finished executing*. That's a very common source of misunderstanding. If the last item you see on a stuck progress bar is some of the last database tables on your site it doesn't necessarily mean that the backup got stuck while backing up the database. It is usually the case that the next step, backing up the files of your site, got stuck. If unsure check the log file.
2. Are you on Windows, backing up a local site? Some antivirus and backup software may end up locking the backup archive while it's still being created, leading to an error message about the backup archive not being able to be opened for writing. One very notorious case of this kind is WD SmartWare backup software (kudos to our user, Markus, for letting us know). We strongly advise you to turn off or at least temporarily suspend any backup and antivirus software while the backup is in progress.

Another issue on Windows is resource usage, especially on old (Windows XP) and 32-bit versions of Windows. These versions of Windows have a limited capacity of system resources, meaning that they can only keep a very finite number of files open at any time. Combined with a bug in older versions of PHP for Windows this can lead to resource depletion and backup issues, appearing as unreadable files. Please try quitting as many applications as possible, including those running in the background (e.g. those running as system tray icons). It's also a good idea to turn off or temporarily suspend resource-intensive software such as backup and antivirus applications while the backup is running.

Also note that Windows 10 comes with Windows Defender, a combined firewall and antivirus. By default, it will be scanning each and every file that is being read or written by Akeeba Backup. If one of these files is flagged as potentially malicious (for example you have a hacked site that you may or may not know it has been hacked) it might kill the backup. If unsure, please exclude your site's root from Windows Defender's antivirus scanning. Use your favorite search engine to find instructions on how to do that.

3. Sometimes the backup seems to complete, but it hangs when uploading the backup archive to a remote location (e.g. Dropbox, Amazon S3, an FTP server, ...). If you are not sure, the hang we're describing happens *after* the progress bar hits 75%. In this case you will need to lower the Part Size for Split Archives setting. Find the Archiver Engine option of the Akeeba Backup's Configuration page and click on the Configure... button next to it. The Part Size for Split Archives setting is in the pane which opens below. Try smaller settings until the backup completes. Please note that your backup will now be split in multiple files and you need all of them to be present to restore your backup.
4. The first thing you must do is to use the Configuration Wizard button in the Control Panel page to automatically adjust a series of configuration parameters to safer settings. The wizard performs benchmarking of your server to determine those values. It is not always 100% accurate, but the settings it creates are at the very least a good starting point for tweaking them manually. If it seems to get stuck for more than three minutes (180 seconds) the first time you run it, reload the page. If it's still stuck try backing up anyway; some server setups don't like the heuristics used by the configuration wizard. However, as soon as you run the wizard it will revert your

backup profile settings to safe defaults which means that you should at least be able to use it as a starting point to run a backup.

5. Make sure that your hosts PHP memory\_limit is at least 32MB. Anything lower than that will most likely result to a backup failure. If unsure, ask your host; we can't know this value for sure. If this is an option, ask your host to increase the PHP memory limit. We recommend 128MB or more.
6. Try visiting the Configuration page and clicking on Save. This may be necessary if you just upgraded. This simple move will refresh your configuration and pick up the default values for any new parameters which might have been introduced in the new release.
7. Check your free space. Akeeba Backup is trying to create an archive with your entire database and all of your site's files; it needs adequate free space to do that. If you don't have enough free space, your host will kill the script in mid-process, making Akeeba Backup's interface throw this error. As a rule of thumb, we propose having about 40-50% of your account's allocated quota free.

Some hosts claim to give you "unlimited" space, or an absurd amount like 100GB. According to our experience, they mostly lie. On many occasions the host only gave 100MB or 1GB of space. If unsure, please ask your host about the real free space you have in your account.

8. If you are using the ZIP archive format it is possible that you run into timeouts. The problem with the ZIP format is that we have to read each file twice. We read it once in order to calculate a "file signature" (properly called a "CRC32 checksum"), then we read it again in order to add it inside the archive. Unfortunately these steps can't be combined and, on top of that, the very slow signature calculation step must be able to run in one go. With larger files and slower hosts this will consistently lead to timeouts. If you suspect this is the case, please use the JPA format setting in the Archiver Engine option of the Akeeba Backup's Configuration page.
9. Some servers have a very strict limit on the maximum execution time of PHP scripts. By default, Akeeba Backup is configured with a maximum execution time allowance of 14 seconds. In order to work around such hosts, please go to your Akeeba Backup Configuration page and scroll all the way down to the Fine Tuning pane. You will find an option labeled Maximum Execution Time. Select the "Custom..." option and type in 5 in the text box that appears to the right of the drop-down. Click on the Save button and retry backing up your site. **WARNING! NEVER SET THE Minimum execution time TO A VALUE HIGHER THAN 2 SECONDS UNLESS EXPLICITLY ASKED TO DO SO BY THE SUPPORT STAFF, OR YOU WILL GET A BACKUP FAILURE.**

We have heard of hosts which require settings even lower than that. If in doubt, ask your host what their PHP maximum\_exec\_time setting is, then subtract one second and use this value in Akeeba Backup's Maximum Execution Time setting.

If you still have issues and you are a paying subscriber with an active subscription to Akeeba Backup Professional please file a support ticket. For your convenience, please make sure you indicate that you have gone through the steps on this page when posting your support request to avoid a canned reply that you should check this page first. Thank you.

### **Special notes for one.com customers**

If your site is hosted on one.com please follow these instructions if the above doesn't work:

1. Run the Configuration Wizard but do not take a backup yet
2. Go to Akeeba Backup's Configuration page and set the following parameters:
  - Logging Level: Only errors (however, if you want to ask for support in our ticket system you must switch it back to All Information and Debug and try taking a new backup before posting us your log file)
  - Click the Configure button in the Archiver Engine and set the "Part size for split archives" to 127Mb or less.
  - Minimum execution time: 10 seconds
  - Maximum execution time: 7 seconds

- Execution time bias: 50%

Please note that the above settings do cause the backup to run at half speed, but this is required for your backup to run under smoothly on one.com. We'd like to thank one.com's tech support for testing and providing these safe settings.

### 3.4.1.5. My backup files are not being uploaded to Amazon S3

Before you even begin thinking why the upload failed, please make sure that you have the PHP cURL extension installed and activated in your server's php.ini. If you are unsure, please check the System, System Information page of your site. If you see a cURL section in the PHP Information tab then cURL is installed and all is fine. If you don't see anything about cURL being mentioned in there, well, you have to install and enable it on your server. Ask your host or server administrator about it.

The next thing you should do is a sanity check. Make sure that you have copied your Access Key and Secret Key correctly. Especially the latter, may have up to two equal signs at the end. These are required. Then, check your bucket name. The bucket must already exist; Akeeba Backup can not create it for you. The bucket must also be writable by the user whose Access and Secret Keys you're using; you can check that in the Amazon S3 Console. Moreover, do note that the bucket name is case sensitive. This means that *Abc*, *ABC*, *abc* and *AbC* are four *different* bucket names, as far as S3 is concerned.

## Warning

Amazon warns **AGAINST** using uppercase letters in your bucket names. If you use an uppercase or mixed case bucket name it is possible that you will get an error message stating that the signatures don't match, or that the bucket does not exist. If this is what you get, please try creating a new bucket with lowercase-only letters **BEFORE** trying any of the following instructions.

If you are using the V2 signature **and only then**, let's try making sure that the SSL setting doesn't cause the problem. First go to Akeeba Backup's Configuration page and find the Data Processing Engine drop down. Click the Configure button next to it. A new pane opens below. Find the Use SSL checkbox and make sure it is not checked. Try a new backup. If your bucket name contains dots you **MUST** disable the Use SSL checkbox. This is a limitation of the Amazon S3 service due to the way their SSL certificate is set up. It is best to have a bucket name which consists of only lowercase letters (a-z), numbers (0-9) and dashes and which does not begin with a dash.

The other thing you have to check is that your host's firewall allows access to Amazon S3. Ask them if they have a firewall which blocks outgoing connections. In this case, please tell them to allow TCP/IP connections to ports 80 and 443 of `s3.amazonaws.com`. If they request an IP, please tell them that this domain name is a multicast one and they have to run `host s3.amazonaws.com` from their server to obtain the IP. It doesn't matter if this sounds like Chinese to you, your host's support technicians will understand (or should, at the very least).

Finally, some hosts do not play very well with Amazon S3's multi-part upload feature which allows us to upload a very big archive file in 5MB chunks. In this case you will have to follow Plan B which is to have Akeeba Backup split the archive file in small chunks, one file per chunk, and then upload each of those chunks in one go. This is a two-legged solution.

For the first leg of the solution, please go to Akeeba Backup's Configuration page and find the Data Processing Engine drop down. Click the Configure button next to it. A new pane opens below. Check the Disable multipart uploads option and make sure that the Process each part immediately option is not checked.

Now, for the second leg, we have to do some trial and error. Still in Akeeba Backup's Configuration page, find the Archiver Engine drop-down and click on the Configure button next to it. A new pane opens below. Find the Part size for split archives option and select the 49.99 option. Try a new backup. If it crashes while uploading files to Amazon S3, go back to this option and try smaller values, i.e. 20, 10, 5, 2 or even 1, trying a new backup after setting each one of those values.

In very rare cases (less than 3 tickets a year) we have seen hosts which have a transparent proxy in front of the web server. This proxy gets in the way of Akeeba Backup connecting to Amazon S3. There are two distinct problems with such a setup. If the proxy caches the responses from Amazon S3 – it should **NEVER** cache them due to

their headers, i.e. that's a proxy configuration problem – the proxy responds instead of Amazon S3. From Akeeba Backup's perspective the file transfer went through but in reality nothing was uploaded. There is objectively no way for Akeeba Backup to detect the proxy and the proxy should never be caching those requests. Contact your host and ask them to fix their proxy. The other possible problem is that the proxy is stripping some of the request headers such as the Content-Length which is mandatory for uploading files to Amazon S3. You will get an error from S3 claiming the header is missing. No, it's not a bug in Akeeba Backup. We do send the header but your host's proxy is stripping it. It's a bug in your hosting setup. Again, please do contact your host to fix it.

Do remember that the overwhelming majority of the problems you will ever experience with any kind of upload to remote storage with Akeeba Backup are not issues in Akeeba Backup itself but something in your hosting or server setup. Thank you in advance for understanding that we objectively have no control over it and working with us so we can get your host to fix their infrastructure.

### **3.4.1.6. How do I know that my backup archive works?**

As the saying goes, the proof in the pudding is in eating it.

In fact, we very strongly recommend testing your backup files, at least the first time you produce a backup and whenever you make major changes/upgrades to your site. Testing the backup archives is relatively easy. Download and install a local web server package on your computer to create a local testing server environment. Then try restoring your backup file on the local testing server environment.

You can consult our video tutorials and our documentation for information on restoring your backups.

### **3.4.1.7. What happens if I have a backup or restoration problem?**

If you run into problems please consult our documentation first. We distill our experience in providing support in our documentation to make it easier for you to find solutions and for us to point you out to tested procedures to identify and address problems without having to type everything from scratch every time someone has a problem. If you are unable to find a solution to your problem you may need to file a support ticket. Filing a support ticket is only possible if you are a paying subscriber with an active subscription to Akeeba Backup.

If you file a support ticket we need the following information from you to provide fast and accurate support. Please remember that we're not sitting behind your shoulder nor can we read your mind. Our replies are based on the information you provide.

- A clear description of your problem. Tell us exactly what you were trying to do, at what exact operation it failed and any error messages which were output on the page. If you can get a screenshot of the error message that's even better. If you are not sure if you're describing the issue adequately, read what you wrote to someone who is not familiar with your issue. If they didn't understand your chances are we won't either. If you do not feel comfortable with your level of English try to provide screenshots or a short (less than 1 minute) video.
- Exact version of Akeeba Backup. It's visible on the right-hand pane in Akeeba Backup's Control Panel page.
- Exact Joomla, MySQL and PHP version. You can find all of these version numbers in Joomla site's System, System Information page.
- A copy of the debug log taken with log level set to `All Information` and `Debug` when the problem happened. You can download a copy of the log from within the `View Log` page. Please do not copy and paste directly from the log viewer, this will not help us. Please remember to put the log file inside a ZIP archive and attach the ZIP archive to your support ticket. If the ZIP file is over 2MB please upload it to Dropbox, Google Drive or OneDrive and paste a share URL to it in your ticket. We kindly request that you do NOT try to attach the raw log file with a `.php` extension or a ZIP file containing it; these files will be automatically rejected by our site for security reasons.
- If you are writing about an error related to the restoration process do not forget to tell us how you extracted the archive file, i.e. using Kickstart or using Akeeba UNiTE. Also do tell us about the method you used to download the backup file to your PC - if applicable - and the method you used to upload the backup file to your host, for example "I used FTP in Binary mode", "I just clicked on the Download button in Akeeba Backup". Remember to mention the exact version of Kickstart you are using; it's printed with very big letters on the top of Kickstart's page.

Finally, do not tell us that "Kickstart x.y.z stuck in the database restoration page" because such a thing is impossible ;) Kickstart extracts the archive. Then it launches ANGIE, the restoration script included in your archive. It's ANGIE restoring the database. Since ANGIE is in the archive, we need to know which version of Akeeba Backup produced the archive. The Kickstart version is completely irrelevant in this case. We need the ANGIE version which is printed in large type at the top of the restoration script's page.

Please try to give us raw information, what you did, what happened, what you saw; not your interpretation of what happened. In most cases it follows that had your interpretation of what happened been correct you would already know how to solve the issue and you wouldn't be filing a ticket. If we have to reverse engineer the facts from your interpretation of what happened it's more than likely that we'll make arbitrary assumptions which are wrong, leading to a mutually frustrating support experience.

Finally please bear in mind that support is provided by the same developers who have written and maintain the software. On the upside this means that you get to talk with people who really know what they are doing. On the downside this means that replies come slower since we manage both the code and the support. We kindly ask for your patience and understanding while we work on your and other's issues and our software. Also bear in mind that we are humans and do need to eat, sleep, bathe and take time off to be with our families. We post our working hours on our site. If you file a ticket outside these hours it will take a bit longer to get a reply. Thank you for your understanding!

## 3.5. Manage Backups

### Manage Backups

ID	Description	Profile	Duration	Status	Size	Manage & Download
62	Backup taken on Tuesday, 20 March 2018 08:48 2018-03-20 UTC	#1. Default backup profile Full site backup	00:00:10	✓	14.42 MB	Download View Log ⓘ
60	Backup taken on Friday, 24 November 2017 10:18 2017-11-24 UTC	#2. Few files, Dropbox Full site backup		✗	537.29 KB	View Log ⓘ
58	Backup taken on Monday, 13 November 2017 16:44 2017-11-13 UTC	#1. Default backup profile Full site backup	00:00:11	✗	14.58 MB	View Log ⓘ
57	Backup taken on Wednesday, 25 October 2017 08:21 2017-10-25 UTC	#2. Few files, Dropbox Full site backup	00:00:22	☁	772.96 KB	Manage remotely stored files View Log ⓘ

This page is the single place you can review all your Akeeba Backup backup history, as well as administer the backup files. The bulk of the page consists of a standard Joomla!™ list table. Each row represents a backup attempt and displays a whole lot of information:

The check box column      Clicking the check box on the leftmost cell of a row selects this backup for an operation to be applied to it. Operations are activated by clicking on tool bar buttons. In case of an

operation allowing a single row to be selected, the topmost selected row is considered as the sole selection.

**Description** Displays the description you have set when you started the backup. If your backup has a comment attached to it, an info icon will also appear. Hovering your mouse over the info icon will show you a preview of that comment.

To the left of the description there's an icon indicating the backup origin, e.g. Backend, Frontend, JSON API, CLI and so on. Hover over it to see what each icon means.

Below the description you will see the date and time of the backup. The date / time format, timezone and timezone suffix are configured in the component's Options page.

**Profile** Displays the numeric identifier (and description, if available) of the backup profile used during the backup. It is possible that since the time of the backup the profile may have been modified or even deleted!

Below it you will see the backup type. It indicates the backup type. A backup type may not be provided if the backup profile has been deleted in the meantime.

**Duration** The duration of the backup in hours : minutes : seconds format. This information is not available for failed backups!

**Status** Indicates the status of the backup. Hover over the icon to see what it means. It will be one of:

OK (Green) A complete backup whose backup archive is available for download.

Obsolete (Gray) A complete backup whose backup archive is either deleted, or was overwritten by another backup attempt.

## Note

If you move your backup output directory's location, all your previous backups will appear as "Obsolete", even though you might have moved these backup files as well. This is not a bug. Akeeba Backup internally stores the absolute path to the backup files. When you move the output directory its absolute path changes, so Akeeba Backup is unable to locate the old backup files.

## Important

If your host uses MySQL 4.0 the status will always appear as Obsolete and you will be unable to download the backup archive through your browser, as the result of limitations of this *ancient, obsolete and unsupported* MySQL version. You can still use your favorite FTP client to download the backup archives, though.

Remote (Blue) Indicates a complete backup which has been uploaded to remote storage (e.g. Dropbox, Amazon S3, CloudFiles and so on), but it is no longer stored on your server. You can fetch the backup archive backup to your server any time (as long as you haven't manually removed the file from the remote storage) in order to restore it, clicking the Manage Remote Files link on the right-hand column.

## Note

Not all remote storage engines support fetching back backup archives. Currently, only FTP, Amazon S3, CloudFiles and Dropbox support this feature.

Pending (Yellow)	A backup attempt which is still running. You should not see any such record, unless a backup attempt started while you were loading this page. In this case, you should not navigate to the Control Panel page! Doing so would invalidate the backup and wreck havoc. You have been warned! Another reason to see such an entry is a backup attempt which failed with a PHP fatal error, or which was abruptly interrupted (by the user or a PHP error). In this case, you can safely delete the entry and get rid of the backup file as well.
Failed (Red)	A backup attempt which failed with a catchable error condition.
Size	The total size of the backup archive in MB. If the files are not available on your server, i.e. the record is marked as "obsolete" or "remote", the size appears inside parentheses to let you know that the files are not available for download.
Manage and Download	<p>Depending on the status of the backup it will show two or more buttons:</p> <ul style="list-style-type: none"><li>• Download. Opens a popup which allows you to download the backup archive file(s) directly from your browser. However, this is NOT recommended. The only guaranteed method of downloading your backup archives error-free is using FTP or SFTP in BINARY transfer mode. Anything else has the potential to CORRUPT your backup archives for reasons beyond our control!</li><li>• Manage remotely stored files. If the file is stored on a remote storage location, e.g. Amazon S3 or a remote FTP server, you will also see this button. Clicking on it will allow you to transfer the files back to your server, download them directly from the remote location or remove them from the remote storage.</li><li>• Upload to &lt;remote storage name&gt;. If Akeeba Backup failed to upload your backup archive to remote storage you will be shown this button. Clicking it will have Akeeba Backup retry the upload to remote storage.</li><li>• View Log. If your backup archive has a backup ID you will also see this button. Clicking it takes you to the View Log page to see the backup log file. If the backup status is anything other than OK this button will be grayed over as Akeeba Backup can't guarantee that the log file is present. Hover your mouse over the button to get the Log file ID which you'll need in the View Log page to look for this log file.</li><li>• Info. Clicking this button tells you if the backup archive is currently present on your server, where to find it (relative to your site's root directory) and what is the name of the backup archive file. This allows you to download the backup archive over FTP/SFTP as discussed above.</li></ul>

Clicking on the label of each column allows you to sort the backup entries by the contents of that column. By default, Akeeba Backup sorts the records by the time of backup descending, so that the newest backup attempts will appear on top. Below the header there are four filter boxes. The first one allows you to filter by the backup description. The other two allow you to select a date range so that only backups attempted within this date range will be displayed. You can leave either of these boxes empty to allow an open start or end date respectively. The final box allows you to filter by backup profile.

On the top of the page you can find a tool bar with operations buttons. The Delete button will remove the selected backup attempt entries along with their backup archives (if applicable), whereas the Delete Files button will only remove the files (if found on your server). The Restore button (Akeeba Backup Professional only) will run the



integrated restoration feature for the selected archive file. This feature can be used to restore your backup archive on the same server you backed up from or even a different server (live transfer of your site to another host!). The Discover and Import Archives (available since Akeeba Backup Professional 3.2) allows you to import any ZIP, JPA or JPS file, located anywhere in your server or Amazon S3, in the Manage Backups (formerly "Administer Backup Files") page in order to restore it on this or any other site.

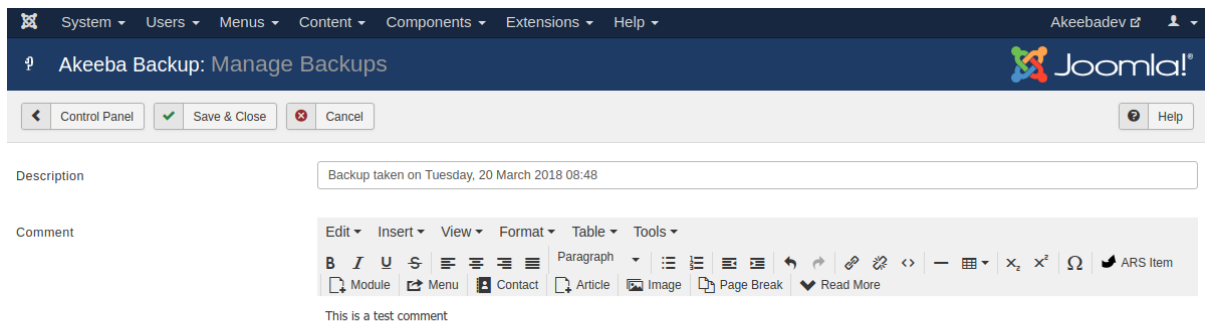
## Note

If you are interested in restoring your backup archives and your site is inaccessible or you're using the free Akeeba Backup Core edition, you can use Akeeba Kickstart to extract the archive and restore it on their server. The procedure is detailed in our Video Tutorials.

## Important

Integrated restoration is only supported for Full Site and Files Only backup archives. Trying to use it with any other type of backup files will ultimately result in an error. This feature is available only to Akeeba Backup Professional - the paid version. Users of the Akeeba Backup Core version can follow our video tutorials to easily restore their backups using Kickstart.

### Backup description / comment editor



The View / Edit Comment button will open a page showing the description and comment of the currently selected backup row. You can freely edit both the description and the comment on that page and save your changes using the Save & Close button. The same page will open if you click on a backup record's description (appearing as a link).

### 3.5.1. Integrated restoration

#### Warning

Using the integrated restoration you are **OVERWRITING** your site with the one contained in the backup archive. The same precautions apply as with any backup restoration.

#### Note

This feature is only available in the Akeeba Backup Professional edition

The integrated restoration feature allows you to easily restore a previous backup directly on your server, as long as your backup archive still exists on your server of course. The whole idea behind this feature is that it is not necessary to manually download Kickstart, place it in your site's root and move the backup archive from the output directory to the site's root in order to perform the restoration. Instead, the integrated restoration feature takes care of extracting your backup archive directly from the backup output folder into your site's root and then allow you to run the embedded installer (Akeeba Backup Installer) to complete the restoration procedure.

The communication between your browser and the archive extraction script is encrypted with the AES128 (Rijndael) encryption method, using a random key produced as soon as you initiate the restoration of a backup

archive. This ensures that a malicious user can't exploit the restoration script to mischievously extract your backup archive in your site's root with the intent to steal your database password. The encryption/decryption algorithm is implemented with standard PHP and Javascript code, eliminating the need for third party cryptography libraries and ensuring that under no circumstances unencrypted data will be exchanged between the browser and the server.

In order to start an integrated restoration begin by going to the Manage Backups page of the component. In that page check the checkbox next to the backup you want to restore and click the Restore button in the toolbar to will run the integrated restoration feature for the selected archive file.

## The integrated restoration setup page

System ▾ Users ▾ Menus ▾ Content ▾ Components ▾ Extensions ▾ Help ▾ Vergine ▾

Akeeba Backup: Site Restoration Joomla!®

Control Panel Help

### Files extraction method

Files extraction method Hybrid (write directly, use FTP layer only when necessary) ▾

**Tip:** In order to restore to a remote server just select the "Use the FTP layer" option and supply your remote server's FTP connection information in the FTP Layer Options below.

### Secure Archive Options

Encryption key

### FTP Layer Options

Host name localhost

Port 21

User name

Password

Initial directory

Start Restoration Test FTP connection

When you first start the integrated restoration feature, you are presented with a few settings. The first setting, appearing above the Start Restoration button, determines how the file extraction will be performed. The two available options are:

- |                         |   |
|-------------------------|---|
| Write directly to files | All files will be extracted directly to their final location using direct PHP file writes. If your permissions settings do not allow some files or directories to be created/overwritten the process will fail and your site will be left in a half-restored state. |
| Use FTP uploads         | Using this method, each file is first extracted to the temporary directory specified by the current profile and then moved to its final location using FTP. This is a "best effort" approach  |

and can work with most servers. Do note that only unencrypted FTP (plain FTP) is supported. If you choose this option, you'll also have to specify the FTP connection settings.

## Tip

You can use this option to restore a backup on a different site. Just select this option and provide the FTP connection details to the other site before clicking on Start Restoration.

**Hybrid** This mode combines the previous two in an intelligent manner. When selected, Akeeba Backup will first attempt to write to the files directly. If this is not possible, i.e. due to permissions or ownership of the file or folder being extracted, it will automatically make use of the FTP mode to overcome the permissions / ownership problem. It effectively works around a situation commonly called "permissions hell", where different files and folders are owned by different users, making it extremely difficult to overwrite them. This is a situation which happens very commonly on shared hosting. Therefore **we strongly advise clients on shared hosting environments to use the Hybrid option.**

## Note

You **MUST** supply your FTP information for this mode to have any effect. If you do not do that the Hybrid mode will function exactly as the "Write directly to files" mode.

The default mode is writing directly to files, unless your site's Global Configuration indicates that the FTP layer should be used in which case the Hybrid mode is selected by default.

In the event that a partial restoration happens, your site will be left in a semi-restored state. Trying to access it will pop up the restoration script (ANGIE). If you want to retry the restoration using different settings, please remove the installation directory from your site's root manually, for example using FTP, before trying to access your site's administrator back-end.

If you chose to use the FTP mode, there are some connection settings you have to take care of. Do note that they are filled in with Joomla!'s FTP layer settings by default. Unless you chose not to store your FTP password in Joomla!'s configuration or if you have not configured the FTP layer yet, there is no need to change them. The settings are:

Host name	The host name of your site's FTP server, without the protocol. For example, <code>ftp.example.com</code> is valid, <code>ftp://ftp.example.com</code> is <i>invalid</i> .
Port	The TCP/IP port of your site's FTP server. The default and standard value is 21. Please only use a different setting if your host explicitly specifies a non-standard port.
User name	The username used to connect to the FTP server.
Password	The password used to connect to the FTP server.
Initial directory	The FTP directory to your web site's root. This <i>is not the same as the filesystem directory</i> and can't be determined automatically. The easiest way to determine it is to connect to your site using your favourite FTP client, such as FileZilla. Navigate inside your web site's root directory. You'll know you are there when you see the file <code>configuration.php</code> and directories such as <code>administrator</code> , <code>components</code> , <code>language</code> in that directory. Copy (in FileZilla it appears on the right hand column, above the directory tree) and paste that path in Akeeba Backup's setting.
Test FTP connection	Clicking on this button will tell you if the FTP connection could be established or not. If the connection is not successful you should not proceed with a restoration in FTP mode as it will fail immediately.

The whole process is fully automated, so there is not much to tell you about it. However, you must not that in order for the restoration procedure to work properly you must take care of the following:

1. This feature is directly calling the `administrator/components/com_akeeba/restore.php` script. If you have a server-side protection, i.e. `.htaccess` rules, or permissions settings which prevent this file from being called directly the process will fail.

Security note: The `restore.php` file is of no use to potential hackers. In order for it to work at all, it requires the `restoration.php` file (more on that on the next point of this list) to load. Even then, it expects a key which is not predefined and is only known to the `restore.php` script and the integrated restoration page of Akeeba Backup. As a result, it can't be used as a potential attack vector.

2. Before the restoration begins, Akeeba Backup needs to create the `administrator/components/com_akeeba/restoration.php` file with all the archive extraction setup parameters. It is intelligent enough to use Joomla!'s FTP mode if it is enabled so as to overcome any permission problems, but you are ultimately responsible for ensuring that the permission settings are adequate for Akeeba Backup to create this file.

If you have disabled Joomla!'s FTP layer, the permissions of the `administrator/components/com_akeeba` directory should be 0777 for the integrated restoration to work, or 0755 on hosts which use suPHP. You can change these permissions after the restoration is over, of course.

If you are using Joomla!'s FTP layer and it was active when you were installing Akeeba Backup, you'll need to give this directory at least 0755 permissions, but you may have to manually remove `restoration.php` (**but NOT** `restore.php`!!!) after the site restoration is over.

3. When the extraction of the backup archive finishes, you will be automatically forwarded to the Akeeba Backup Installer page on a new tab or window. **DO NOT CLOSE THE INTEGRATED RESTORATION PAGE'S TAB/WINDOW!** After you have completed the Akeeba Backup Installer process you are supposed to return to the Integrated Restoration page and click on the Finalize button to:

- remove the installation directory from your site's root, and
- remove the `administrator/components/com_akeeba/restoration.php` setup file to nullify the, already non-existent, potential risk of a malicious user abusing this script.

### 3.5.2. Manage remotely stored files

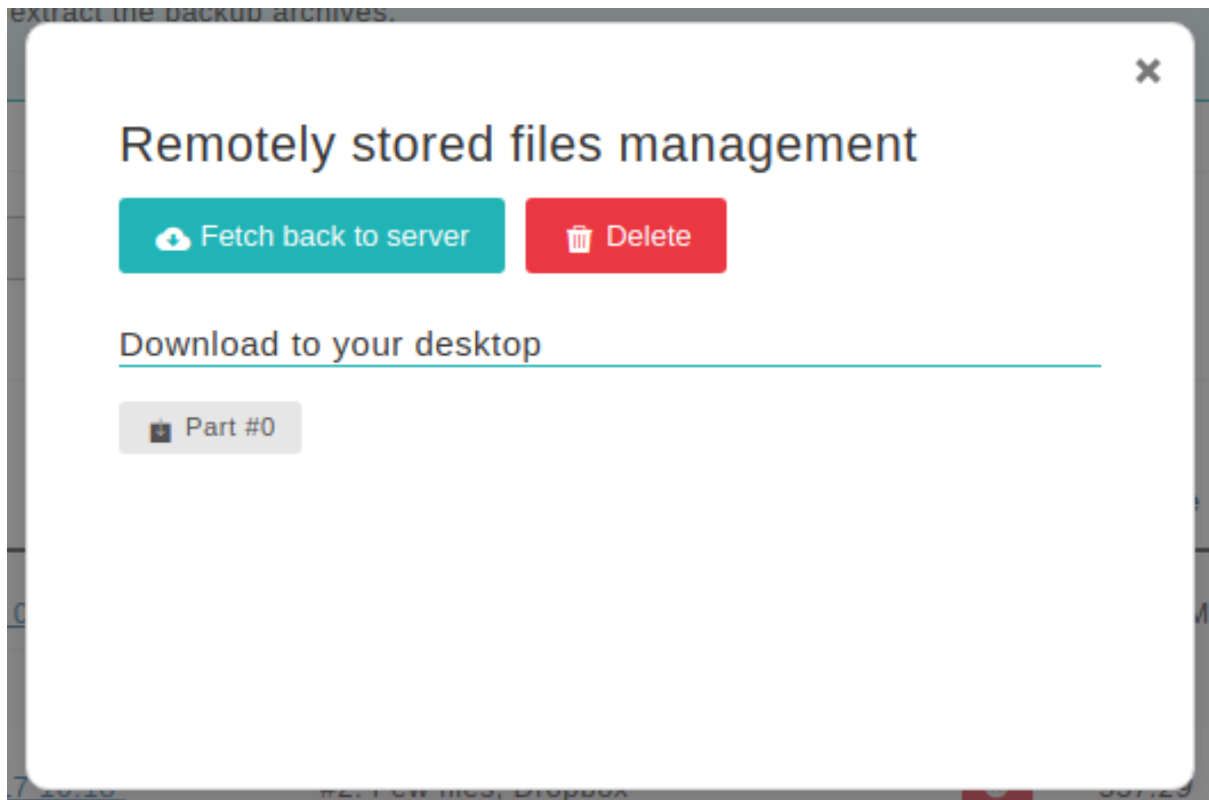
#### Note

This feature is only available in the Akeeba Backup Professional edition

Since Akeeba Backup 3.2 you have the option to manage backup archives stored in a remote storage location, for example Amazon S3 or a remote FTP server. You can do that by clicking on the Manage remotely stored files link on the far right of supported backup records in the Manage Backups (formerly "Administer Backup Files") page. Clicking on that link opens a modal dialog with the options compatible with your backup archive.

Please note that not all of the following features may appear in the dialog. It depends on the remote storage engine used for the backup record. All options currently appear only for files stored on Amazon S3 and remote FTP.

## The "Manage Remotely Stored Files" page



The Fetch back to server button will automatically download the backup archive from the remote location and store it again on your server. This allows you to easily import backup archives stored on a remote location back to your server's storage so that you can easily restore them on the same or a different site. If you are using S3, please make sure that the user credentials you have supplied have enough privileges for the files to be downloaded (i.e. they don't grant write-only access to the bucket). Also make sure that you have adequate free disk space on your server for the operation to complete.

The Delete button will permanently delete the archives from the remote storage. There is no confirmation. Once you click this button, your remotely stored files will be removed.

Finally, there are links under the Download to your desktop header. Clicking on them will instruct your browser to download the respective backup archive's part directly to your PC. Currently, only Amazon S3, CloudFiles, Dropbox and remote FTP support this feature. Do note that the backup archives are transferred directly from the remote storage to your PC. They are not stored to your site's server. If you want to store them to your server, use the Fetch back to server button instead.

If none of the above options are available, Akeeba Backup will display an error message. In that case, just close the modal dialog.

After finishing your remote files administration, please close the modal dialog by clicking on the X button on its top-right corner and *reload the Manage Backups (formerly "Administer Backup Files") page*. Until you reload the page the changes you made WILL NOT be visible. This is not a bug, it is the way it is meant to be.

### 3.5.3. Discover and import archives

#### Note

This feature is only available in the Akeeba Backup Professional edition

Sometimes you may have accidentally deleted a backup record from the Manage Backups (formerly "Administer Backup Files") page, or simply want to restore a backup file taken from another site. Normally, the only way to do

that is to upload the archive file and Kickstart to your site and launch the restoration process from there. However, some users insisted that they are better off doing that from inside Akeeba Backup itself. In order to accommodate for their needs, we introduced the Discover and Import Archives features in Akeeba Backup 3.2.

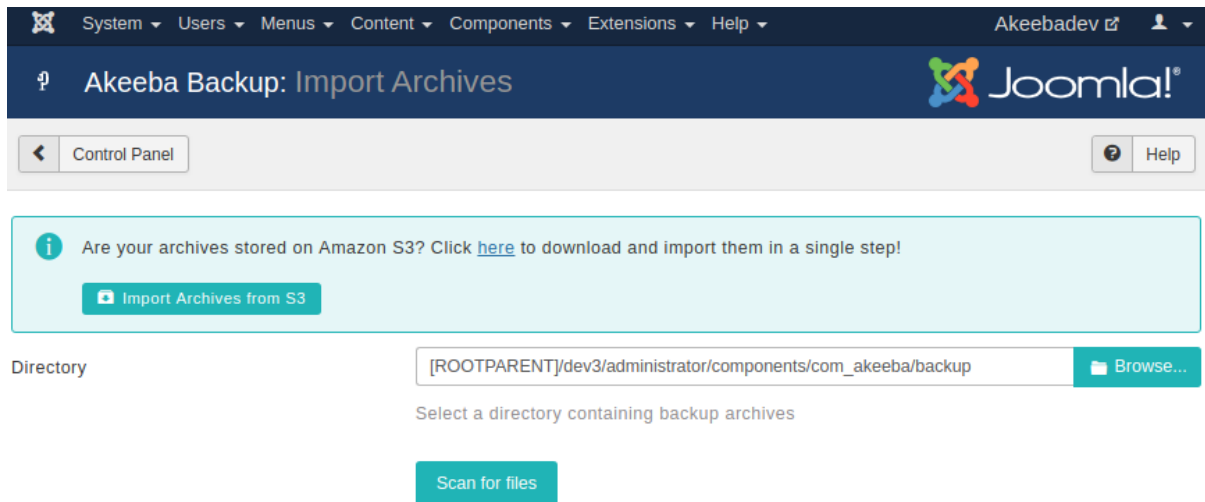
This feature allows you to automatically find and import archives stored anywhere on your account. This means that you can upload backup archives anywhere in your site's folder structure, or even on a private off-site directory and Akeeba Backup will be able to import them. All backup archives are imported as backup records of the default backup profile (profile with ID #1) and can be restored just like any other backup archive.

In order to launch this feature, go to the Manage Backups (formerly "Administer Backup Files") page and click on the Discover and import archives button on the toolbar. A new page appears which lets you select a directory.

## Tip

Since Akeeba Backup 3.4.a1 you have the option to import archives from Amazon S3. Click the link directly above the directory selection box. It will take you to a slightly different page where you can enter the connection credentials to your S3 account and allow you to browse for ZIP and JPA files to import.

## The "Discover and Import archives" page



System ▾ Users ▾ Menus ▾ Content ▾ Components ▾ Extensions ▾ Help ▾ Akeebadev ▾

Akeeba Backup: Import Archives Joomla!

Control Panel Help

*i* Are your archives stored on Amazon S3? Click [here](#) to download and import them in a single step!

Import Archives from S3

Directory [ROOTPARENT]/dev3/administrator/components/com\_akeeba/backup Browse...

Select a directory containing backup archives

Scan for files

Use the Browse... button to open an interactive folder browser in a modal dialog. Navigate to the directory which contains the uploaded backup archives and click on the Use button. The dialog closes and you can now click on the Scan for files button to let Akeeba Backup search for backup archives inside that directory. You are presented with a new page, listing the discovered backup archives.

## Importing discovered archives

System ▾ Users ▾ Menus ▾ Content ▾ Components ▾ Extensions ▾ Help ▾ Akeebadev

Akeeba Backup: Import Archives Joomla!

Control Panel Help

Directory [ROOTPARENT]/vergine/administrator/components/com\_akeeba/backup

Archive Files Detected

- site-localhost-20180319-095926utc.jpa
- site-localhost-20180320-085400utc.jpa
- site-localhost-20180320-085421utc.jps

Please select the files to import. Hold the CTRL or Command key while clicking on the files in order to make a multiple files selection.

Import the files

Select the backup archive you want to import by clicking on them. If you want to select multiple files, Control-click (Windows, Linux) or Command-click (Mac OS X) the archive you want to import. After that, click on the Import the files button. After a short while Akeeba Backup takes you back to the Control Panel page with a message that the import operation completed successfully. You can now click on the Manage Backups (formerly "Administer Backup Files") button to view the newly imported backup archives. You can now download or restore the imported backup archives.

## 3.6. Import archives from S3

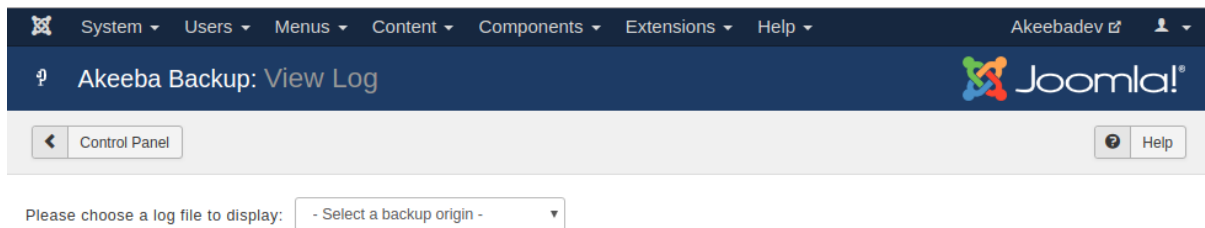
This feature works very similarly to the import archive feature. The main difference is that whereas the import archive feature is used to import archives stored on your server, the Import archives from S3 feature is used to import archives stored in the Amazon S3 storage service, even if you haven't used the application to store them there.

Start by entering your Access Key and Secret Key in the fields and click on the Connect to S3 button. The page reloads and you see a new drop-down listing all your S3 buckets. Select a bucket and click on the Change bucket button. You now see a list of subdirectories and files in your bucket. Just navigate inside the directory containing your backup archives and select the backup archive you want to import. That's it!

## 3.7. View Log

The View Log option allows you to download or view the log from a recent backup operation. This information may be useful in diagnosing problems if you are having a problem completing a backup.

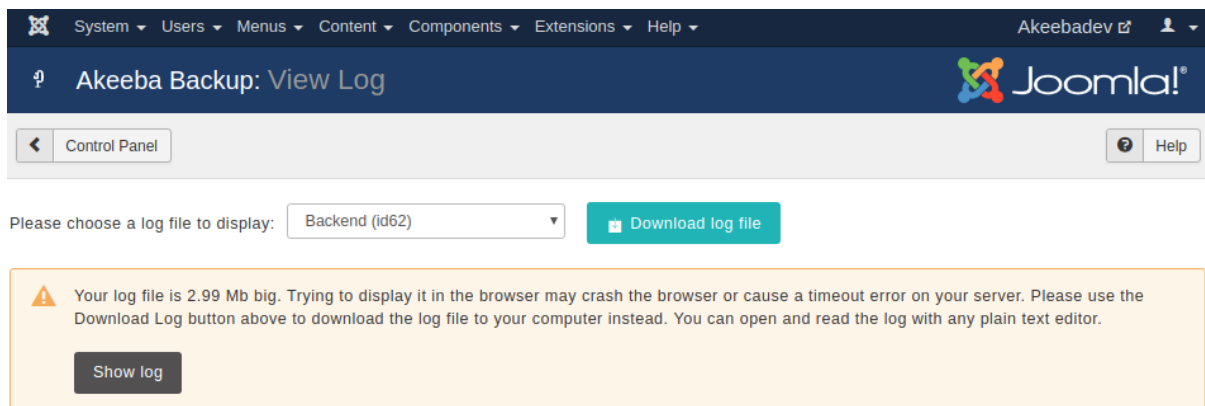
## Selecting an origin



The first page allows you to select a log file to display. Each option in the drop-down is a backup origin followed by the backup ID in parentheses. If you are not sure which backup is the one you're looking for you can always go to the Manage Backups page, find the backup there and click the View Log button next to it. This way you will bypass this selection drop-down.

This takes you to the View Log visualization page.

## View Log



If you wish to ask for support, you must download the raw log (a text file). Just click on the Download Log File button. Please do not copy and paste the text appearing in the log viewer. We actually need the log file to help you.

## Warning

When asking for support, make sure that the Log Level was set to "All Information and Debug" in the Basic section of the Configuration page *before* backing up. Otherwise the log will be of no use.

If the backup log file is too big you will see warning about it and you will need to click on the Show log button to display the log file. Once you do that the message will be replaced by the log viewer areas. Each line is preceded by a time stamp, in the format YYMMDD hh:mm:ss (that's year, month, date with two digits, a space and time in 24-hour format). The time stamp is in the GMT timezone. Each line is colour coded, for your convenience. Debug information is in smaller, grey type. Normal information is in black type. Warnings appear in bold yellow letters. It is important to read them as they convey information about skipped directories or other things that will be missing from the backup archive. If any errors occurred, these appear in bold red type.

Whenever you report bugs, all of the information in the log is absolutely necessary. In order to reveal as little sensitive information as possible, whenever a file path has to be logged, your site's root folder is replaced with the string '<root>'. Keep this in mind when reading warnings and errors.

## Tip

If you have a failed backup but do not understand what the log file tells you, Akeeba Backup can try reading it and tell you what it thinks is going on. Just go to the Control Panel page, click on Troubleshooter



- ALICE and select the log file with the same ID as the one you were viewing in the View Log page. Akeeba Backup will figure out what the log means and give you a better idea of what is going on. Please note that you should only do that for failed backups. Trying to process successful backups will confuse the troubleshooter and the response you get will be useless and invalid.

## 4. Include data to the backup

### Note

This feature is available only in Akeeba Backup Professional.

By default, Akeeba Backup automatically includes the whole database of your Joomla!™ installation as well as all the files under your site's root in the backup set. Sometimes you want to include a different database or files you have placed above your site's root for increased security. Akeeba Backup Professional can cope with that need by providing you with handy data inclusion filters.

### 4.1. Multiple Databases Definitions

#### Note

This feature is available only in Akeeba Backup Professional

Sometimes your site may use more than one databases. Taking a full site backup requires backing up those external databases too. Normally, Akeeba Backup only backs up the tables from your Joomla! database. The solution to this problem is the Multiple databases definitions option of Akeeba Backup. You can define an unlimited number of additional MySQL databases which will get to be backed up (and restored) along with your regular Joomla! database.

Please note that you do not need to and, in fact, must not use this feature to add the main database of your site (the one used by Joomla! itself). The main database of your site is backed up automatically. If you ignore this warning and add your main database as an additional database in this page you **will cause errors during the restoration of your site**.

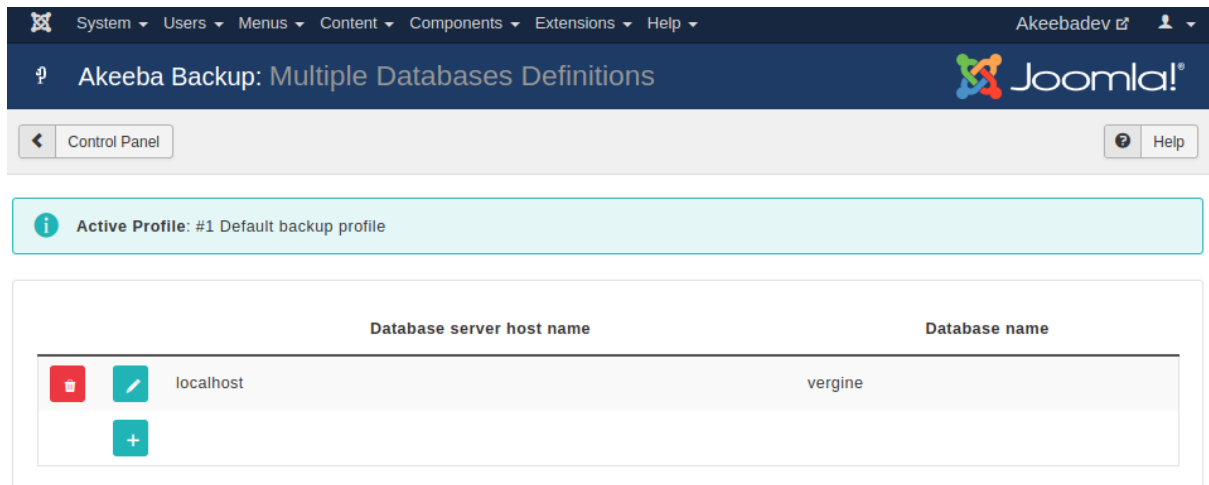
Moreover, you should not confuse the term "database" with your Joomla!™ tables. It is possible that a single *database* contains tables for the current Joomla!™ site, tables from a third party script, tables from another Joomla!™ site on the same server (e.g. a subdomain) and so on and so forth. As far as Akeeba Backup is concerned, all of those tables exist **in the same database** regardless of their *prefix*. Unless you tell it otherwise, it will backup ALL tables of the database.

Finally note that if you add an empty database (one which has no tables) it will result in backup errors!




#### Note

The settings on this page are defined *per profile* . Make sure you have selected the desired profile in the Control Panel page.

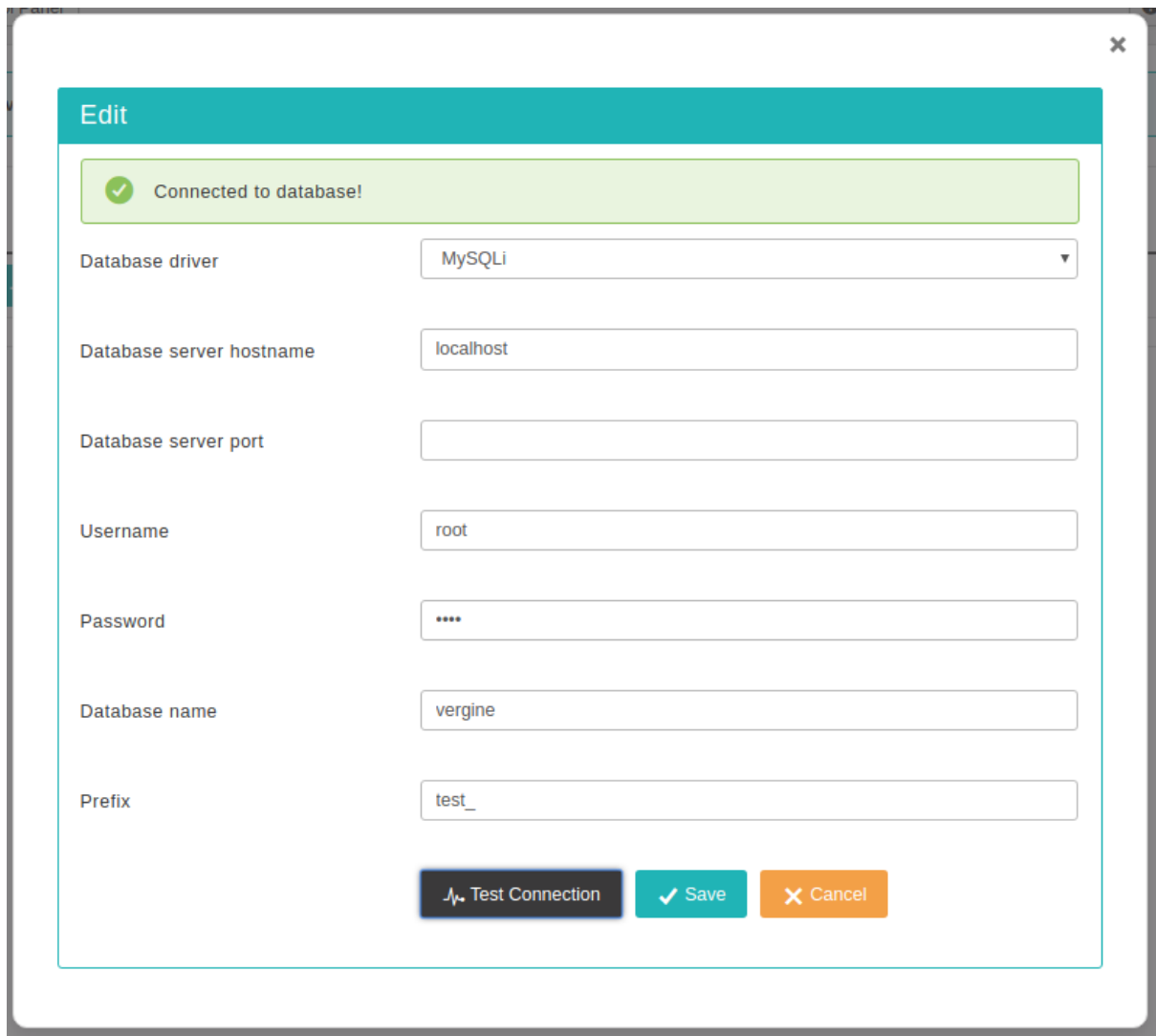
## Multiple Databases Definitions



At first, you are presented with a grid view, listing all database definitions. On the left of each entry, there are two icons:

-  **The trashcan.** Clicking on this icon will remove the current database definition from the backup set.
-  **Pencil** or  **Add.** Both will open the database definition editor: the former to edit the database definition, the latter to create a new one.

## Multiple Databases Definitions - The editor



The screenshot shows a dialog box titled "Edit" with a teal header. Inside, there's a green status bar with a checkmark and the text "Connected to database!". Below this are several form fields: "Database driver" is a dropdown menu showing "MySQLi"; "Database server hostname" is a text box with "localhost"; "Database server port" is an empty text box; "Username" is a text box with "root"; "Password" is a text box with "\*\*\*\*"; "Database name" is a text box with "vergine"; and "Prefix" is a text box with "test\_". At the bottom, there are three buttons: "Test Connection" (dark blue with a plug icon), "Save" (teal with a checkmark icon), and "Cancel" (orange with an X icon).

The database definition editor opens as a dialog box inside the multiple databases definitions page. The options you can select for each database are:

- **Database driver.** You can select which database driver Akeeba Backup will use to connect to the database. Your options are:
  - **MySQLi.** This is the modern MySQL connection driver. We recommend using it for MySQL, Percona and MariaDB databases.
  - **MySQL.** This is the old, obsolete MySQL connection driver for PHP. It has bad performance and has been removed in PHP 7.
  - **MySQL (PDO).** This is the second modern MySQL connection driver.
- **Database server hostname.** The host of your database server. Usually it's `localhost`, but many hosts use something different. If in doubt, ask your host. Please remember that for MySQL servers the settings `localhost` and `127.0.0.1` are NOT the same. The first means "connect using a socket or named pipe" the second means "connect using TCP/IP networking". If you are on Windows they have a massive performance difference as well.
- **Database server port.** Leave it blank, unless your host has told you to use a non standard port for connecting to their database server.

- **Username.** The username of the database user needed to connect to the database.
- **Password.** The password of the database user needed to connect to the database.
- **Database name.** The name of the database you are connecting to.
- **Prefix.** The prefix used in the table name's prefixes. **MAJOR PITFALL:** Please do not leave the Prefix field blank if you intend to use the Database Table Exclusion feature to exclude tables or table data of this extra database from the backup. If you don't want to use a real prefix, please use a "fake" prefix, e.g. `thisIsAFakePrefix_`, to keep the Database Table Exclusion feature happy and functional.

Some hosts use your account name as a prefix for the database and username. **This is not the same as the Prefix setting above.** That database and username prefix is actually part of the actual database and username that you need to fill into this page. For example, you're hosted under the account name `foobar` and you create a database `mydata` and a user `myuser`. Your host displays a prefix `foobar_` on the left of the edit boxes where you entered the database and user names. This means that your REAL database name is `foobar_mydata` and your real username is `foobar_myuser`. This is especially true for accounts hosted in cPanel and Plesk powered hosts. It goes without saying that your password does NOT take a prefix. If in doubt, please contact your host. We can't guess the right values for you because we are not your host. If you ask your host to give you the connection information to your database, they must be able to do so - except for the password which they obviously cannot see for security reasons.

When you think you have all the connection information ready, click on Test Connection. This will check all settings except the Prefix. The connection test will tell you if it succeeded or failed.

If your connection works properly, it's time to save your changes by clicking the Save & Close button. The top panel will briefly display a "loading" message and the dialog box will go away. That was it, your extra database definition is now saved.

## 4.2. Off-site Directories Inclusion

### Note

This feature is available only in Akeeba Backup Professional

It's very likely that advanced site owners will place files outside the site's root to prevent web visitors from having direct access to those files. These directories typically contain files that need complex access control and are, therefore, only made available for download through PHP code, e.g. a download manager extension for Joomla!. Akeeba Backup Core will only backup files under the site's root, which would make these files impossible to backup.

The solution to that problem is the Off-site Directories Inclusion feature of Akeeba Backup Professional. Using this feature you can tell Akeeba Backup to look for files in arbitrary locations outside the site's root and include them in the backup archive. All the directories included with this filter will be placed in the archive as subdirectories of another folder, in order to avoid directory name clashes. We call this parent folder the "virtual folder".

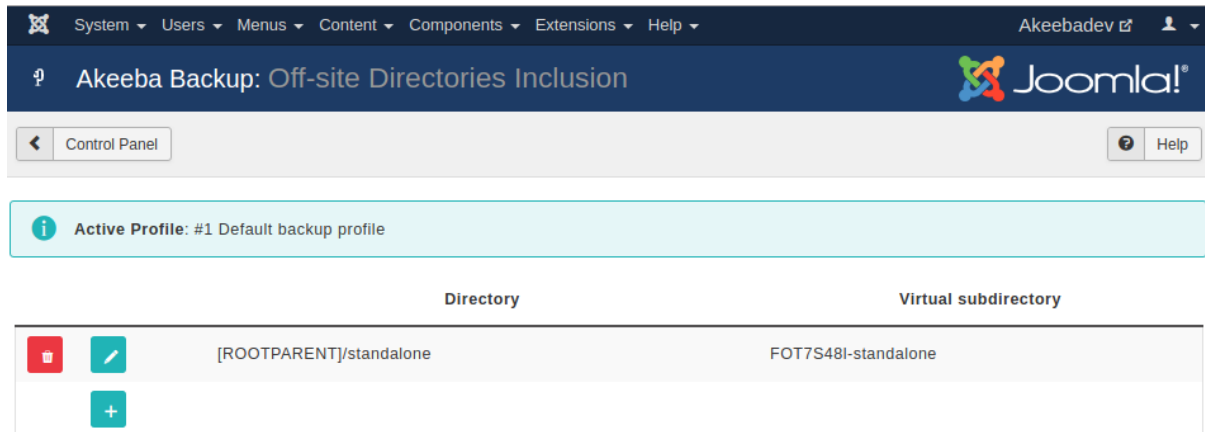
For example, let's say you want to backup an off-site directory named `images`. If we weren't using the virtual folder its contents would end up being backed up inside the Joomla! `images` directory. This is not desirable. If your virtual folder is called `my_offsite_includes`, this directory would end up being backed up as something like `my_offsite_includes\123ABC-images`. Notice the stuff and the dash before the actual directory name? This is a smart feature which allows you to backup many directories that have the same name. You could, for instance, backup two directories named `images`, confident that there would be no name clash inside the archive.

Since keeping track of these folders is a pain, Akeeba Backup includes a `readme.txt` text file inside the virtual folder which tells you which backed up folder corresponds to which physical folder, making it easy for you to restore these directories to their rightful place.

Moreover, ANGIE -the restoration script included in the Akeeba Backup archives- can semi-automatically restore the off-site directories to their original location. You will need to confirm the destination directory or, if you don't want to do this, just tell it to skip over that directory.

Finally note that **you MUST NOT add your site's root as an off-site directory inclusion**. Akeeba Backup already adds the contents of your site's root to the backup. If you manually add your site's main directory as an off-site directory inclusion you will be backing up the same files twice, doubling your backup size. For the same reason you must not add an folder already under the site's root as an off-site directory inclusion: you'd be backing up files already backed up, bloating the backup size.

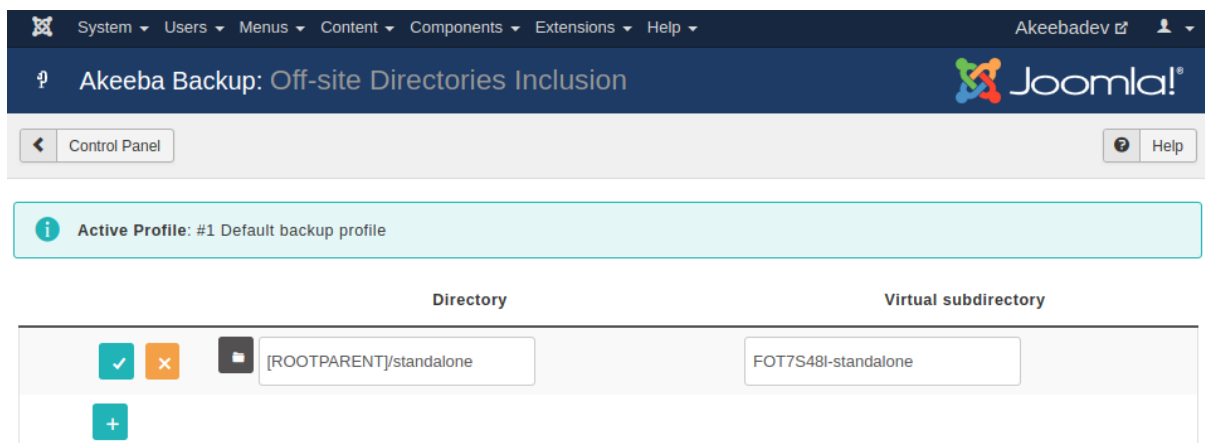
## Off-site Directories Inclusion



At first you are presented with a grid view, listing all the off-site inclusions you may have already added. Next to each row and on the left hand side of it you will find two icons:

- **The trashcan.** Clicking on this icon will remove the current directory definition from the backup set.
- **Pencil** or **Add.** Both will toggle the row to edit mode: the former to edit the directory definition, the latter to create a new one.

## Off-site Directories Inclusion - Edit mode



When a row enters the edit mode, the pencil icon changes to two different icons:

- **The disk.** Clicking on this icon will save any changes you have made.
- **Cancel.** Clicking it will abort any changes you have made.

You will also observe that the path to the external directory has also turned to an edit box with a folder icon on its left. You can type in the absolute path to the external directory using the edit box, or click on the folder icon

to launch a visual folder browser, much like the one you use to select an output directory in the component's Configuration page. If you choose to use the edit box, you can use the following variables:

- **[SITEROOT]** is the absolute path to your site's root. You should never use this for the reasons explained earlier in this section.
- **[ROOTPARENT]** is the absolute path to your site root's parent directory, i.e. one level above your site's root.

To the right of the directory you will see another field called Virtual Directory. This is the name of the subdirectory where Akeeba Backup stores the files and folders of these off-site directory's files. Normally, the subdirectory is placed inside the virtual directory for external files, as defined in your backup profile's configuration. If you do not enter a directory name Akeeba Backup will use a predetermined name. This name is a random value followed by a dash and the name of the off-site directory you are defining.

Sometimes you want to include off-site files directly inside the archive's root. Two very useful cases are overriding your regular configuration.php file with another one –presumably one tuned for use on your dev site– as well as overriding files in the installation directory, for example in order to customise the appearance of the installer. In those cases you don't want the off-site files to be included inside the virtual directory for off-site files. With Akeeba Backup 3.7.5 and later this is very easy to accomplish. Just set the Virtual Directory to a single forward slash (it's this character: /) and Akeeba Backup will copy the off-site files inside the archive's root.

## 5. Exclude data from the backup

More often than not you have data on your site you don't want to include in the backup set. This can be host-specific directories (e.g. `cgi-bin`, `stats`, etc), log files, temporary data, an huge but immutable collection of large media files, click tracking tables, download log database records and so forth. The exclusion filters allow you to fine tune what should be left out of the backup set.

### 5.1. Files and Directories Exclusion

Very often our sites have files or folders which don't really belong to the backup. A few examples are:

- Additional sites whose root folders are subdirectories of your site's root. As explained elsewhere in this documentation, backing them up and restoring them would end up overwriting more sites than you bargained for.
- Directories with large amounts of videos, images, download repositories or other infrequently changing files. In most cases it makes sense to exclude them from your daily backups and only include them in a separate weekly or monthly backup profile.
- Leftover files you had forgotten about until the time came to back up your site. For example, that really big ZIP file with the previous version of your site you meant to delete two years ago.

Akeeba Backup lets you exclude files and folders to solve these problems.

Before discussing this feature, you should be aware of some automatic file and folder exclusions applied by Akeeba Backup. Akeeba Backup will automatically exclude your site's temp-folder and logs folder as configured in your site's Global Configuration; the "cache" directories under your site's root and administrator directory; and all files and directories inside the Akeeba Backup's output directory. This means that you should **never use a folder whose contents you intend to back up as your backup output directory, your site's temp-folder or your site's logs folder**. Moreover, do not leave the temp-folder and / or log folder blank or set them to your site's root in your site's Global Configuration. Doing so will result in your backup archive NOT having any of your site's files since the site's root will be automatically excluded by the automatic filters as explained above.

## Files and Directories Exclusion - Browser View

The screenshot shows the Akeeba Backup: Files and Directories Exclusion - Browser View interface. At the top, there is a navigation bar with tabs for System, Users, Menus, Content, Components, Extensions, and Help. The main title is "Akeeba Backup: Files and Directories Exclusion". Below the title, there is a "Control Panel" button and a "Help" button. The interface is divided into two main sections: "Subdirectories" and "Files".

**Subdirectories:** This section lists various subdirectories. Each item has a checkbox icon and a folder icon. The "cache" directory is highlighted with a red background, indicating it is selected. The list includes: .idea, administrator, arsrepo, bin, cache, cli, components, images, includes, language, and layouts.

**Files:** This section lists various files. Each item has a checkbox icon and a file icon. The list includes: .htaccess, .htaccess.admintools, .htaccess.save, .htaccess\_bak, LICENSE.txt, README.txt, configuration.php, htaccess.txt, index.php, nginx.conf, and offline.html. The file sizes are listed next to each file name.

At the top of the page there are two tabs, allowing you to switch between the Browser and Summary views.




The middle area contains a few controls you need to know about:

- The Root Directory drop-down menu. Akeeba Backup can define filters for the site's files or for each of the off-site directories separately. The default selection, [SITEROOT], contains all filters pertaining to the main site's files. If you have defined off-site directories, you can select the appropriate directory from the drop-down list in order to define filters for that directory.
- The Reset all filters button will, as the name implies, remove all of the file and directory exclusion filters *for the selected root directory*.
- The List all exclusions button takes you to the Summary View page.
- The Current directory bread crumb list. It shows the current path relative to the Root directory above. Clicking on a subdirectory allows you to quickly navigate to it.

The lower area consists of two panes, showing the folders and files in the current directory. The icons next to each item are an exclusion type each. You can use them to enable / disable filters on each folder or file. The top row of each panes has controls (icons) which apply the filters to all of the listed folders or files below it.

Each icon can have three states: on (yellow background), off (gray background), or force enabled (red background). You can toggle between the on and off states by clicking on the icon. The force enabled state means that this exclusion type is active (on) and forcibly enabled by another feature of Akeeba Backup, such as the automatic exclusions discussed above, the regular expressions filters or a programmatic filter (plug-in) by a third-party developer. Force enabled filters cannot be changed through this page.


The available filters for directories are:

-  **Exclude Directory.** When enabled, the folder and all of its contents (subdirectories and files) will not be included in the backup. This filter overrides the Skip Subdirectories and Skip Files filters.
-  **Skip subdirectories.** When enabled, the subdirectories of this directory will not be included in the backup. However, the directory itself and its files will be included in the backup.
-  **Skip files.** When enabled, the files inside this directory will not be included in the backup. However, the directory itself and its folders (and the files inside these folders) will be included in the backup.

If both Skip Subdirectories and Skip Files filters are enabled on a folder then an empty folder will be included in the backup. If you do not want the folder to be included *at all* use the Exclude Directory filter.

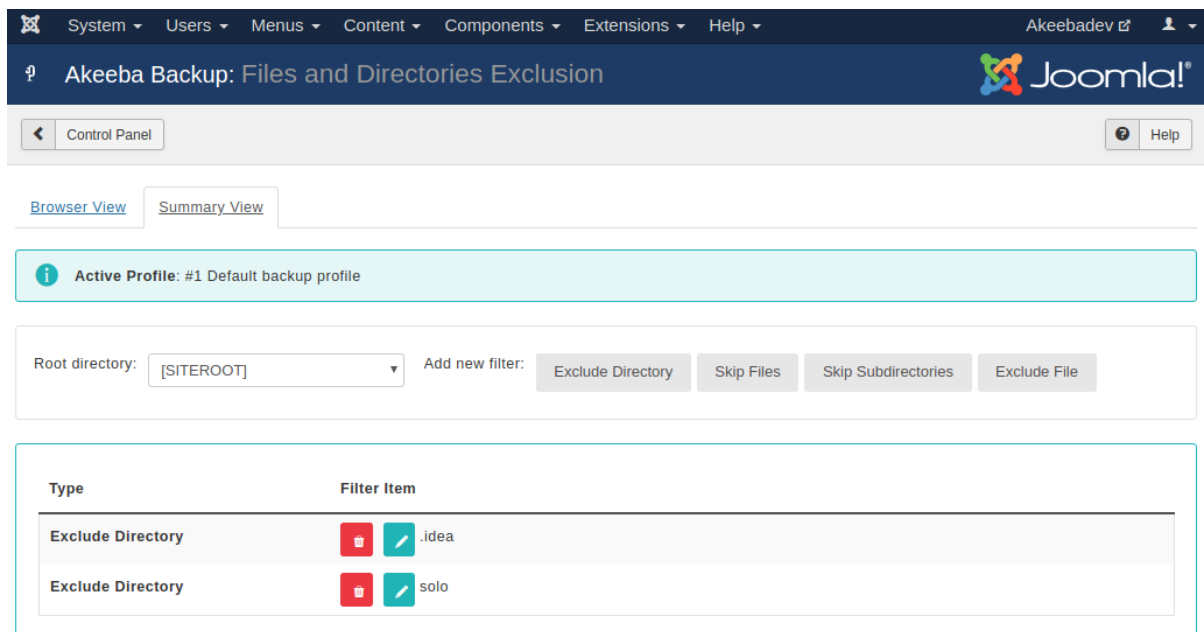
Clicking on a folder name in the Folders pane will navigate inside it.

The available filters for files are:





-  **Exclude File.** When enabled, the file will not be included in the backup.
- The file name.

Each file name displays its size to the right. The file size will be displayed in the unit which is more convenient, i.e. bytes, KB, MB or GB. If you see no unit of measurement, the size is displayed in bytes.

## Files and Directories Exclusion - Summary View



The screenshot shows the Joomla! administrator interface for the Akeeba Backup component. The top navigation bar includes menus for System, Users, Menus, Content, Components, Extensions, and Help. The user 'Akeebadev' is logged in. The main heading is 'Akeeba Backup: Files and Directories Exclusion'. Below this is a 'Control Panel' button and a 'Help' button. The interface has two tabs: 'Browser View' and 'Summary View', with 'Summary View' being the active tab. A message box indicates 'Active Profile: #1 Default backup profile'. Below this is a 'Root directory:' dropdown menu set to '[SITEROOT]' and an 'Add new filter:' section with buttons for 'Exclude Directory', 'Skip Files', 'Skip Subdirectories', and 'Exclude File'. The main content area displays a table of active filters:

Type	Filter Item
Exclude Directory	  .idea
Exclude Directory	  solo

The Summary View displays a list of filters instead of a directory browser.

At the top you have the Root Directory drop-down menu. Akeeba Backup can define filters for the site's files or for each of the off-site directories separately. The default selection, [SITEROOT], contains all filters pertaining to the main site's files. If you have defined off-site directories, you can select the appropriate directory from the drop-down list in order to define filters for that directory.

On the top side of the grid you have the Add new filter buttons:



- **Exclude Directory.** The named folder and all of its contents (subdirectories and files) will not be included in the backup. This filter overrides the Skip Subdirectories and Skip Files filters.
- **Skip Subdirectories.** The subdirectories of the named folder will not be included in the backup. However, the folder itself and its files will be included in the backup.



- **Skip Files.** The files inside the named folder will not be included in the backup. However, the folder itself and its subfolders (and the files inside these folders) will be included in the backup
- **Exclude File.** The file will not be included in the backup.

The same notes regarding use of folder filters described in the Browser View apply.

Each line of the grid displays the following information:

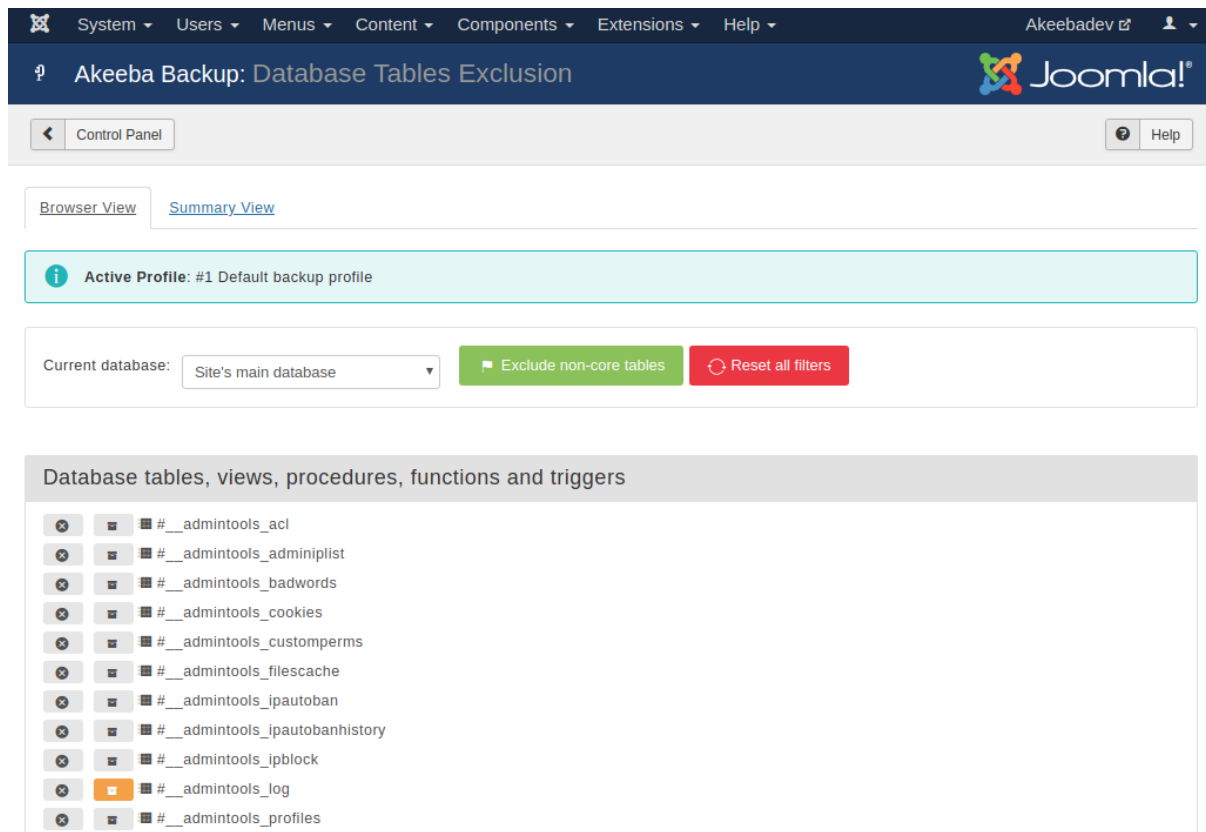
- **The filter type.** As described above in the add new filter buttons.
-  **Trashcan.** When you click it, the filter row will be removed.
-  **Pencil.** When you click it, the row switches to edit mode
- The **filter item** itself. It is the relative path to the directory or file which the filter row applies to. The path is relative to the Root directory displayed on the selection box on top.

When you click on the pencil icon, the filter item becomes an edit box. You can type in the new relative path and then click outside the edit box, or press Tab on your keyboard, to immediately save the changes.

## 5.2. Database Tables Exclusion

There are cases where you need to exclude either entire database tables or their contents from the backup. For example, if you are using a single database for the tables of two or more sites you will want to exclude all tables not belonging to the site you're backing up to prevent accidental overwriting of the wrong site when restoring the backup. Moreover, if you have large tables with not very important data, such as log entries, you may want to exclude their contents -but not the entire table- from the backup for performance reasons. This is what the Database tables exclusion feature lets you do.

### Database Tables Exclusion - Browser View



The screenshot shows the Joomla! administrator interface for the Akeeba Backup component, specifically the 'Database Tables Exclusion' section. The top navigation bar includes links for System, Users, Menus, Content, Components, Extensions, and Help. The user 'Akeebadev' is logged in. The main header displays 'Akeeba Backup: Database Tables Exclusion' and the Joomla! logo. Below the header, there is a 'Control Panel' button and a 'Help' button. The interface is divided into two tabs: 'Browser View' (selected) and 'Summary View'. A light blue banner indicates the 'Active Profile: #1 Default backup profile'. Below this, a section for 'Current database:' shows a dropdown menu set to 'Site's main database', with buttons for 'Exclude non-core tables' and 'Reset all filters'. The main content area, titled 'Database tables, views, procedures, functions and triggers', displays a list of database tables. Each table entry includes a checkbox, a folder icon, and the table name. The table names listed are: #\_\_admintools\_acl, #\_\_admintools\_adminiplist, #\_\_admintools\_badwords, #\_\_admintools\_cookies, #\_\_admintools\_customperms, #\_\_admintools\_filesache, #\_\_admintools\_ipautoban, #\_\_admintools\_ipautobanhistory, #\_\_admintools\_ipblock, #\_\_admintools\_log (highlighted with an orange background), and #\_\_admintools\_profiles.

At the very top of the page you can see two tabs which let you switch between the Browser View and the Summary View.

Below the tabs you will see the backup profile number and title as a reminder. Remember that database table exclusion filters, just like all Akeeba Backup filters, are set up per backup profile.

Further down there is the Current Database drop-down list. Akeeba Backup can define filters for the site's main database or for each of the extra database definitions separately. The default selection, Site's main database, contains all filters pertaining to the main site's database, i.e. the one your Joomla!™ site runs on. If you have defined additional databases you can select the appropriate database from the drop-down list to define filters for that database.

There are another two buttons here. The **Exclude non-core tables** button. Clicking it will automatically apply the Exclude This filter on all tables whose name doesn't begin with your site's prefix. These are usually tables which do not belong to the current Joomla! installation. Be warned of a major pitfall: the effects of this button are static. That is to say, if new tables with a different prefix are added in the future (e.g. tables are added in the other sites using the same database) you will have to come back here and click on this button again. Instead of that and if you have the Akeeba Backup Professional version you can use the Regular Expressions Database Tables feature to automatically deal with such configurations, without having to click this button.

The **Reset all filters** button will remove all database table filters for the currently selected database.



The main area of the page displays the contents of the database: tables, views, triggers, stored procedures and functions. Each row represents one database entity. The two leftmost icons represent an exclusion type, explained below. The third icon tells you what kind of database entity (table, view, trigger, ...) it is; hover over it to find out.

Each of the exclusion type icons may have one of three states: on (yellow background), off (gray background), or force enabled (red background). You can toggle between the on and off states by clicking on the icon. The force enabled state cannot be changed. It means that it is active (on) because another feature of Akeeba Backup, such as regular expressions, have it turned on. In case of non-table database entities the red filter type means that this operation is not applicable to this entity. For example, there is no point excluding the contents of a view since only its structure is being backed up anyway.

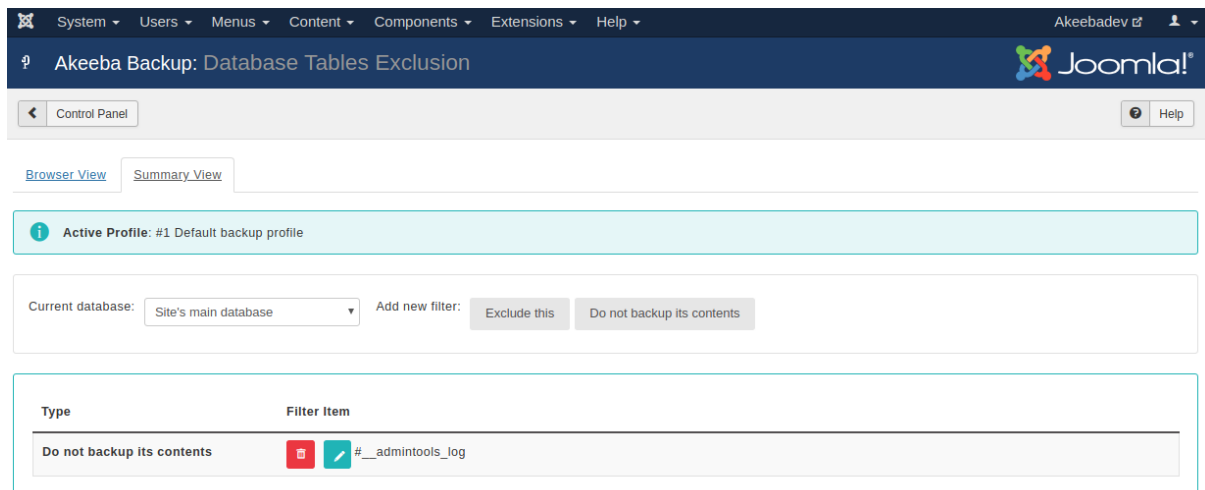
## Important

The prefixes of the entities' names appear "abstracted". If your site's prefix is `abc1_`, the table `abc1_users` will appear as `#__users`. This helps you quickly identify the tables your site runs on.

The available filters are:

-  **Exclude This.** This database entity will not be backed up at all.
-  **Do not backup its contents.** Only the structure of the database entity will be backed up, but not its contents. When restoring, this table will be created empty.

## Database Tables Exclusion - Summary View



The Summary View displays a list of all active filters, allowing to quickly modify them.

At the very top of the page you can see two tabs which let you switch between the Browser View and the Summary View.

Below the tabs you will see the backup profile number and title as a reminder. Remember that database table exclusion filters, just like all Akeeba Backup filters, are set up per backup profile.

Further down there is the Current Database drop-down list. Akeeba Backup can define filters for the site's main database or for each of the extra database definitions separately. The default selection, Site's main database, contains all filters pertaining to the main site's database, i.e. the one your Joomla!™ site runs on. If you have defined additional databases you can select the appropriate database from the drop-down list to define filters for that database.

Above the grid you have the Add new filter buttons. The filter types correspond to the icons in the Browser View, as discussed further above.

Each line of the grid displays the following information:

- **The filter type.** As discussed above.
- **Trashcan.** When you click it, the filter will be removed.
- **Pencil.** When you click it, the row switches to edit mode
- **The filter item** itself. It is the abstracted database entity name which the filter row applies to. When we say "abstracted" we mean that the site's prefix has to be replaced by #\_\_ as discussed above.

When you click on the pencil icon, the filter item becomes an edit box. You can type in the new (abstracted) database entity name and then click outside the edit box, or press Tab on your keyboard, to immediately save the changes. There is no way to undo your changes.

## 5.3. RegEx Files and Directories Exclusion

### Note

This feature is available only in Akeeba Backup Professional

Sometimes you know that you have to exclude files or directories following a specific naming pattern, but they are so many that it's impractical going to the normal exclusion filters page and click them one by one. Or they are

scattered around the file system tree, making it too complicated tracking them down and excluding them one by one. Regular expression filters let you create pattern-based filters to deal with that. What are regular expressions? Let's consult Wikipedia:

In computing, regular expressions, also referred to as regex or regexp, provide a concise and flexible means for matching strings of text, such as particular characters, words, or patterns of characters. A regular expression is written in a formal language that can be interpreted by a regular expression processor, a program that either serves as a parser generator or examines text and identifies parts that match the provided specification.

—"Regular expression" article [[http://en.wikipedia.org/wiki/Regular\\_expression](http://en.wikipedia.org/wiki/Regular_expression)] from Wikipedia

In a nutshell, regular expressions allow you to quickly define filters which span multiple subdirectories and match file or directory names based on a number of criteria. If you want a quick cheatsheet you can use, we recommend taking a look at the Regular Expressions Cheat Sheet (V2) [<https://www.cheatography.com/davechild/cheat-sheets/regular-expressions/>] from Cheatography. Some practical examples will be presented at the end of this section.

There are some special considerations experienced regular expressions users must have in mind:

- You are supposed to specify a full regular expression, including its opening and ending separators. So `^foo` is invalid, but `/^foo/` and `#^foo#` are valid.
- Akeeba Backup supports an extension to the PCRE syntax. If you prefix the regex with an exclamation mark you negate its meaning. So `/^foo/` will match all entities starting with `foo`, whereas `!/^foo/` will match all entities NOT starting with `foo`.
- Akeeba Backup stores and parses your data as raw Unicode (UTF-8), provided that your database meets the minimum requirement of site database server version. This eliminates the need to use the `u` suffix of regular expressions in order to reference Unicode characters.

When it comes to files and directories exclusion filters in particular, you have to bear in mind:

- The path separator is always the forward slash, even on Windows. This means that `c:\wamp\www\index.php` is internally represented as `c:/wamp/www/index.php`. Therefore, all regular expressions must use the forward slash whenever referencing a path separator.
- The filenames are always relative to the root. That's why you have to select a root before entering a regex filter. For instance, the `images/stories` directory on the root of your Joomla!™ site is internally referenced as `images/stories`. You have to take this into account when writing regular expressions.

## RegEx Files and Directories Exclusion

The screenshot shows the Joomla! administrator interface for the Akeeba Backup extension. The page title is 'Akeeba Backup: RegEx Files and Directories Exclusion'. At the top, there's a navigation bar with 'System', 'Users', 'Menus', 'Content', 'Components', 'Extensions', and 'Help' menus. Below the navigation bar, there's a 'Control Panel' button and a 'Help' button. A message box indicates 'Active Profile: #1 Default backup profile'. Below this, there's a 'Root directory:' dropdown menu set to '[SITEROOT]'. The main content area is a table with two columns: 'Type' and 'Filter Item'. The table contains three rows of exclusion rules:




Type	Filter Item
Exclude File	#^example#
Skip Subdirectories	#images#
Skip Files	#images#

Each row has a green checkmark icon and a red square icon. At the bottom of the table, there's a blue plus icon to add a new rule.

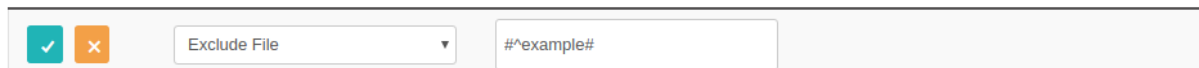
At the very top of the page you will see the backup profile number and title as a reminder. Remember that database table exclusion filters, just like all Akeeba Backup filters, are set up per backup profile.

Right below it is the Root Directory drop-down menu. Akeeba Backup can define filters for the site's files or for each of the off-site directories separately. The default selection, [SITEROOT], contains all filters pertaining to the main site's files. If you have defined off-site directories, you can select the appropriate directory from the drop-down list in order to define filters for that directory.



Each row in the grid below represents a filter. The three columns on each row are:

Icons column	<p>You can perform the basic operation by clicking on this column's icons:</p> <ul style="list-style-type: none"><li>•  <b>Trashcan</b>. When you click it, the filter row will be removed.</li><li>•  <b>Pencil</b>. When you click it, the row switches to edit mode</li><li>•  <b>Add</b> (only on the last row). Clicking this icon adds a new row at the end of the list and switches it to edit mode. You can select the type of the newly added filter.</li></ul>
Type	<p>The filter type defines what will happen when a directory or file matches the regex filter and can be one of:</p> <ul style="list-style-type: none"><li>• <b>Exclude directory</b>. Completely skips backing up the given subdirectory.</li><li>• <b>Exclude file</b>. Completely skips backing up the given file.</li><li>• <b>Skip subdirectories</b>. Skips backing up all the subdirectories inside the given directory.</li><li>• <b>Skip files</b>. Skips backing up all the files inside the given directory.</li></ul>
Filter Item	<p>This is the actual regular expression you have to write.</p>

## RegEx Files and Directories Exclusion - Edit Mode



When you click on the pencil or add icons, the respective row enters the edit mode. In this mode, the filter type becomes a drop-down list where you can select the type of this filter row. The filter item column also turns into an edit box so that you can enter your filter definition. The icon column now contains two different icons:

-  **Disk**. When you click it, the changes will be saved.
-  **Cancel**. When you click it, any changes will be cancelled and the row will resume its previous state.

You can easily make sure that your filters match the directories and/or files you meant to. Just go back to the Control Panel and click on the Files and Directory Exclusion button. The items filtered out by the regular expressions filters will be automatically highlighted in red. You can browse through the file system structure to make sure that only the items you really meant are being excluded.

### 5.3.1. Regular Expressions recipes for files and directories

No matter how good you are on writing regular expressions, it's always a good idea to have some recipes which serve as a starting point for cooking your own.

1. Exclude AVI files in all directories (note: the *i* at the end causes the regex to match .avi, .Avi, .AVI, etc without discriminating lower or upper case):

```
#\.avi$i
```

2. Exclude AVI files in your site's images directory and all of its subdirectories:

```
#^images/(.*)\.avi$#i
```

3. Exclude AVI files in your site's `images` directory but *not* its subdirectories

```
#^images/[^/]*\.avi$#i
```

4. Exclude AVI files in your site's `images/video` subdirectory but *not* its subdirectories

```
#^images/video/[^/]*\.avi$#i
```

5. Exclude all files *except* for files ending in `.php` (note: the exclamation mark in the beginning is a custom Akeeba Backup notation which negates the meaning of the following regular expression)

```
!#(?:>\.php$)#
```

6. Exclude all `.svn` subdirectories anywhere and everywhere in your site. The idea is to match everything which ends in a slash (directory separator) and `.svn`, therefore it's a `.svn` subdirectory.

```
#/\.svn$#
```

However, this won't match the `.svn` directory in your site's root, so you will have to add yet another filter:

```
#^\.svn$#
```

This second filter matches only the `.svn` directory in your site's root.

## 5.4. RegEx Database Tables Exclusion

### Note

This feature is available only in Akeeba Backup Professional

Sometimes you know that you have to exclude database tables following a specific naming pattern, but they are so many that it's impractical going to the normal exclusion filters page and click them one by one. Or, more frequently, you want to exclude database tables not following a specific pattern, e.g. tables whose name doesn't begin with your site's table naming prefix. Regular expression filters let you create pattern-based filters to deal with that. What are regular expressions? Let's consult Wikipedia:

In computing, regular expressions, also referred to as *regex* or *regexp*, provide a concise and flexible means for matching strings of text, such as particular characters, words, or patterns of characters. A regular expression is written in a formal language that can be interpreted by a regular expression processor, a program that either serves as a parser generator or examines text and identifies parts that match the provided specification.

—"Regular expression" article [[http://en.wikipedia.org/wiki/Regular\\_expression](http://en.wikipedia.org/wiki/Regular_expression)] from Wikipedia

In a nutshell, regular expressions allow you to quickly define filters which span multiple subdirectories and match file or directory names based on a number of criteria. If you want a quick cheatsheet you can use, we recommend taking a look at the Regular Expressions Cheat Sheet (V2) [<https://www.cheatography.com/davechild/cheat-sheets/regular-expressions/>] from Cheatography. Some practical examples will be presented at the end of this section.

There are some special considerations experienced regular expressions users must have in mind:

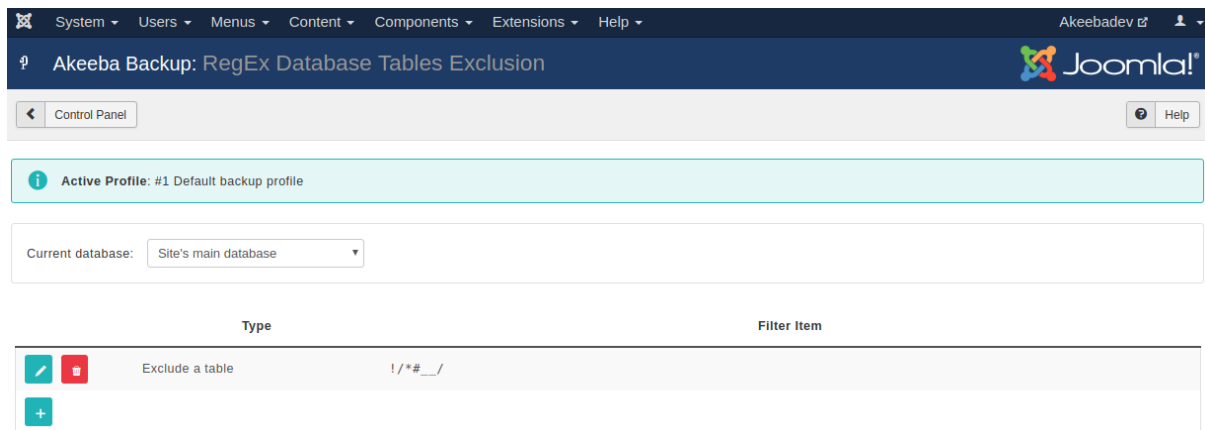
- You are supposed to specify a full regular expression, including its opening and ending separators. So `^foo` is invalid, but `/^foo/` and `#^foo#` are valid.
- Akeeba Backup supports an extension to the PCRE syntax. If you prefix the regex with an exclamation mark you negate its meaning. So `/^foo/` will match all entities starting with `foo`, whereas `!/^foo/` will match all entities NOT starting with `foo`.

- Akeeba Backup stores and parses your data as raw Unicode (UTF-8), provided that your database meets the minimum requirement of site database server version. This eliminates the need to use the `u` suffix of regular expressions in order to reference Unicode characters.

When it comes to database table filters in particular, you have to bear in mind:

- All Joomla!™ tables have their prefix stripped and replaced by the standard `#__` placeholder. So, if your database prefix is `abc1_`, the table `abc1_users` is internally referenced as `#__users`. This is called the "abstracted" name in Akeeba Backup's documentation. You must take this into account when writing regex filters. The abstracted name of the table is the name you will have to match with your regular expressions!
- The prefix replacement described above takes place in Full Site and All Configured Databases backup modes. However, it *does not* take place in the Database Only backup mode. As a result, you have to reference the tables by their full, normal name, e.g. `abc1_users`.
- The examples at the end of this section apply to a full site backup scenario, where the replacement does take place.

## RegEx Database Tables Exclusion



At the very top of the page you will see the backup profile number and title as a reminder. Remember that database table exclusion filters, just like all Akeeba Backup filters, are set up per backup profile.

Below that you can find the Current Database drop-down menu. Akeeba Backup can define filters for the site's main database or for each of the extra databases you may have defined. The default selection, Site's main database, contains all filters pertaining to the main site's database, of course. If you have defined extra databases, you can select the appropriate database from the drop-down list in order to define filters for that database.

Each row represents a filter. It has three columns:

Icons column

You can perform the basic operations by clicking on this column's icons:

- **Trashcan**. When you click it, the filter row will be removed.
- **Pencil**. When you click it, the row switches to edit mode
- **Add** (only on the last row). Clicking this icon adds a new row at the end of the list and switches it to edit mode. You can select the type of the newly added filter.

Type

The filter type defines what will happen when a directory or file matches the regex filter and can be one of:

- **Exclude a table**. Completely skips backing up tables whose names match the regular expression.



- **Do not backup a table's contents.** Only backs up the structure of tables whose names match the regular expression, but not their contents.

Filter Item            This is the actual regular expression you have to write.

## RegEx Database Tables Exclusion - Edit Mode



When you click on the pencil or add icons, the respective row enters the edit mode. In this mode, the filter type becomes a drop-down list where you can select the type of this filter row. The filter item column also turns into an edit box so that you can enter your filter definition. The icon column now contains two different icons:

-  **Disk.** When you click it, the changes will be saved.
-  **Cancel.** When you click it, any changes will be cancelled and the row will resume its previous state.

You can make sure that your filters match the tables you meant to. Just go back to the Control Panel and click on the Database Tables Exclusion button. The items filtered out by the regular expressions filters will be automatically highlighted in red. You can browse through the database structure to make sure that only the items you really meant are being excluded.

### 5.4.1. Regular Expressions recipes for database tables

No matter how good you are on writing regular expressions, it's always a good idea to have some recipes which serve as a starting point for cooking your own.

1. Exclude non-Joomla! database tables

`!/^#_/_/`

2. Exclude Akeeba Backup tables. We know that these tables have `ak_` in their name after the table prefix, e.g. `abc1_ak_foobar` becomes `#__ak_foobar`, so you only need to filter `#__ak`.

`/^#__ak_/_/`

## 6. Automating your backup

### 6.1. Taking backups automatically

#### Why you need scheduled backups

Akeeba Backup is an excellent tool for taking backups of your site every time you want to transfer it to a different server, are ready to make substantial changes to it (like upgrading Joomla) or are about to or have just made changes to it. This way is something goes wrong you can easily roll back to the last known state of your site. The corollary to that is that if your backups are too far in between they might not encompass all useful changes to your site, leading to lost work and frustration.

This poses two concerns, depending on the type of site you have. If you have an infrequently changing site (low traffic blog, company presentation, organization bulletin board, ...) it takes a lot of self-discipline to take backups every time something changes, something that's not a given when you have multiple people managing a site. If you have a fast changing site (such as an e-commerce site, a busy blog with loads of comments, a community / forum site etc) you'd have to frequently log into your site and take backups, probably multiple times a day. This is admittedly time-consuming and boring. In the end of the day you might skip a few or a lot of backups and that could prove detrimental to your ability to rescue your site should things go awry.



The solution to that is **scheduling** your backups, i.e. having backups being taken automatically, at regular intervals. This is not something that will happen without any intervention by you, the site owner. Backups take too long to run in a single page load and need your site to maintain a fairly consistent state throughout the backup. Therefore having traffic to the site trigger the backups is a bad idea as it's neither guaranteed to come at the right frequency and quantity to guarantee a backup when you'd like it to happen, nor does it guarantee a consistent state, by definition (people accessing your site may indeed cause things to change). Ideally, your backups should run when your site experiences the least amount of traffic. If you're not sure when: check your hosting control panel's traffic logs and look for the time of the day you receive the lowest number of requests. From that, it should be fairly obvious that you need *something else* to trigger the backup.

## An overview of scheduling methods

Akeeba Backup offers several options which are explained further below in this section of the documentation. This is a quick overview which will let you pick a method suitable for your site.

The first group of methods are designed to run on the same server as your site.

Depending on your hosting company you might be able to use CRON jobs. This is the preferred option. True CRON jobs allow you to run custom scripts or commands accessible from the command line (CLI) at regular intervals. However, some hosts may limit the amount of time CRON jobs are allowed to run. If this time is less than the time it takes to run a backup this method is unsuitable for you. If you're not sure how long the backup takes: take a backup from the back-end of your site, go to the Manage Backups page and look at how long it took to run it. You can use the Native CRON Script and the Alternative CRON Script with this method.

On other servers you might be able to use pseudo-CRON jobs. In this case you can tell your host to access a specific URL at regular intervals. Please ask your host whether their pseudo-CRON follows HTTP redirections and if it does, whether it has a limit of redirections followed. If they answer that they do not follow HTTP redirections or that they impose a limit of redirections followed you cannot use this method. Furthermore, the time limits explained in the previous paragraph apply.

If the previous methods which rely on your own server are not suitable for your site, Akeeba Backup does offer two alternatives.

The first alternative is the Front-end Legacy Backup API. You can use a special URL with third party CRON services which follow HTTP redirections and do not impose a limit of redirections followed such as WebCRON or even a shell script using wget, curl or something similar on any server or Internet connected computer under your control. For example, you could set up a CRON job on your Linux machine, a Scheduled Task on your Windows computer or even have a Raspberry Pi or your NAS access that URL. If you use a third party service to trigger the backups be advised that they charge fees which are usually pretty low.

The second alternative is the Akeeba Backup Remote JSON API. This is a more advanced way of taking backups remotely. It is used in two distinct cases. First, in conjunction with our remote backup software, namely Akeeba Remote CLI and Akeeba UNiTE. These can be used to schedule taking backups remotely and, in the case of UNiTE, restoring them on a computer under your control as well. Second and most common, with a third party service that can schedule and take remote backups using Akeeba Backup's Remote JSON API such as BackupMonkey, mySites.guru or Watchful. Third party services charge fees according to their commercial policy.

## Availability of scheduling methods

Backup scheduling features are only available in Akeeba Backup Professional, our for-a-fee edition. They are not included in Akeeba Backup Core, our free of charge edition.

The target audience of Akeeba Backup Core has always been the small, hobbyist site owner and those who need a relatively easy way to transfer their sites between servers. This target audience does not need backup scheduling, either because their sites change too infrequently or because they perform one-off backups for site transfers.

If you find yourself with a site that changes often enough to warrant automatic backups we kindly ask you to consider an Akeeba Backup Professional subscription. There are several good reasons to do so. For starters, a site valuable enough to warrant automatic backups should *also* have these backups stored off-site, a feature exclusive to the Professional edition. Moreover, your small investment in Akeeba Backup Professional will save

you copious amounts of time and money should something go awry. Furthermore you will have access to our acclaimed support, provided by the same developers writing the software, should you have any issue using it. It's worth noting that if you are a web professional you only need one subscription for unlimited sites, including those of your clients. Finally, by purchasing an Akeeba Backup Professional subscription you are financing the painstaking and expensive research, development and maintenance that goes into Akeeba Backup – thank you for making this software possible!

## Scheduling backups

Each available backup method has a different way of scheduling. This documentation section explains in detail how each method works and how you can schedule it.

You should also go to Akeeba Backup's Schedule Automatic Backups page. You will get a condensed version of these instructions, specialized -to the degree possible- for your own site and *the currently active backup profile*. Trust us, this page will save you a lot of headache. In fact, it's what *we* reference on *our own* sites.

### 6.1.1. Front-end backup, for use with CRON

#### Tip

This feature is only available in Akeeba Backup Professional.

Requires the Enable Legacy Front-end Backup API (remote CRON jobs) option to be enabled in the component's Options, Frontend tab.

The front-end backup feature is intended to provide the capability to perform an unattended, scheduled backup of your site.

The front-end backup URL performs a single backup step and sends a redirection (HTTP 302) header to force the client to advance to the next page, which performs the next step and so forth. You will only see a message upon completion, should it be successful or not. There are a few limitations, though:

- **It is not designed to be run from a normal web browser**, but from an unattended cron script, utilizing **wget** or **cron** as a means of accessing the function.
- The script is not capable of showing progress messages.
- Normal web browsers tend to be "impatient". If a web page returns a bunch of redirection headers, the web browser thinks that the web server has had some sort of malfunction and stop loading the page. It will also show some kind of "destination unreachable" message. Remember, these browsers are meant to be used on web pages which are supposed to show some content to a human. This behaviour is normal. Most browsers will quit after they encounter the twentieth page redirect response, which is bound to happen. Do not report a "bug" stating that Firefox, Internet Explorer, Chrome, Safari, Opera or another browser doesn't work with the front-end backup feature. It was NOT meant to work by design and you've been sufficiently warned.
- Command line utilities, by default, will also give up loading a page after it has been redirected a number of times. For example, **wget** gives up after 20 redirects, **curl** does so after 50 redirects. Since Akeeba Backup redirects once for every step, it is advisable to configure your command line utility with a large number of redirects; about 10000 should be more than enough for virtually all sites.

#### Tip

If you want to automate your backups despite your host not supporting proper CRON jobs you can use a third party service, such as Webcron.org [<http://webcron.org/>]. Just make sure you set up the time limit to be at least 10% more than the time it takes for Akeeba Backup to backup your site. Don't know how much is that? Just take a regular backup from your site's back-end, then go to the Manage Backups page and take a look at the Duration column.

We **VERY STRONGLY** recommend using the Front-End Backup feature only with sites configured to use HTTPS with a properly signed SSL certificate *for security reasons*: plain HTTP sites and self-signed HTTPS

certificates can, under certain circumstances, lead to your Secret Word leaking. If a malicious user obtains the Secret Word they can launch a Denial of Service attack on your site and / or abuse Akeeba Backup's feature to obtain a copy of your site, including all privileged information. Getting a properly signed SSL certificate no longer costs any money. The Let's Encrypt certificate authority [<https://letsencrypt.org/>] offers free of charge SSL certificates. Most likely your hosting control panel already supports automatically acquiring and installing SSL certificates from Let's Encrypt. For example two of our favorite hosts, SiteGround and Rochoen, have supported this since late 2015. If you are not sure, ask your host. Using HTTPS not only makes your site safer, it will even make it more popular with search engines. It's a win-win proposition!

Before beginning to use this feature, you must set up Akeeba Backup to support the front-end backup option. First, go to Akeeba Backup's main page and click on the Options button in the toolbar. Find the option titled Enable front-end and remote backup and set it to **Yes**. Below it, you will find the option named Secret key. In that box you have to enter a password which will allow your CRON job to convince Akeeba Backup that it has the right to request a backup to be taken. Think of it as the password required to enter the VIP area of a night club. After you're done, click the Save & Close button on top to save the settings and close the dialog.

## Tip

Use only lower- and upper-case alphanumeric characters (0-9, a-z, A-Z) in your secret key. Do not use symbols, accented characters, non-Latin character sets (like Green or Cyrillic letters) etc. Such characters may need to be manually URL-encoded in the CRON job's command line. This is error prone and can cause the backup to never start even though you'll be quite sure that you have done everything correctly.

Most hosts offer a CPanel of some kind. There has to be a section for something like "CRON Jobs", "scheduled tasks" and the like. The help screen in there describes how to set up a scheduled job. One missing part for you would be the command to issue. Simply putting the URL in there is not going to work.

## Warning

If your host only supports entering a URL in their "CRON" feature, this will most likely not work with Akeeba Backup. There is no workaround. It is a hard limitation imposed by your host: they do NOT follow redirections. In these cases you can schedule a CRON job on your own computer. The downside is that your computer will need to be powered on (not turned off or even in sleep / hibernate) at the time you've set up the backup to run and for the entire length of time it takes to run the backup.

If you are on a UNIX-style OS host (usually, a Linux host) you most probably have access to a command line utility called **wget**. It's almost trivial to use:

```
wget --max-redirect=10000 "http://www.yoursite.com/index.php?option=com_akeeba&view=backup&key=YourSecretKey"
```

Of course, the line breaks are included for formatting clarity only. You should not have a line break in your command line!

Do not miss the **--max-redirect=10000** part of the **wget** command! If you fail to include it, the backup will not work with **wget** complaining that the maximum number of redirections has been reached. This is normal behavior, it is not a bug.

*YourSecretKey* must be URL-encoded. You can use an online tool like <http://www.url-encode-decode.com> or simply consult the Schedule Automatic Backups page.

Do not forget to surround the URL in double quotes. If you don't the backup will fail. The reason is the way operating systems parse command lines. Special characters such as question marks and ampersands have special meanings.

If you're unsure whether your command line makes sense please check with your host. Sometimes you have to get from them the full path to **wget** in order for CRON to work. For example:

```
/usr/bin/wget --max-redirect=10000 "http://www.yoursite.com/index.php?option=com_akeeba&
```

**view=backup&key=YourSecretKey"**

Again, please do contact your host; they usually have a help page for all this stuff. Read also the section on CRON jobs below.

Optionally, you can also include an extra parameter to the above URL, `&profile=profile_id`, where `profile_id` is the numeric ID of the profile you want to use for the backup. If you don't specify this parameter, the default backup profile (ID=1) will be used. In this sense, the aforementioned URL becomes:

**/usr/bin/wget --max-redirect=10000 "http://www.yoursite.com/index.php?option=com\_akeeba&  
view=backup&key=YourSecretKey&profile=profile\_id"**

wget is multi-platform command line utility program which is not included with all operating systems. If your system does not include the wget command, it can be downloaded at this address: <http://wget.addictivecode.org/FrequentlyAskedQuestions#download>. The wget homepage is here: <http://www.gnu.org/software/wget/wget.html>. Please note that the option `--max-redirect` is available on wget version 1.11 and above. If you are on an incredibly outdated server with wget version 1.10 and earlier the backup will most probably result into an error message concerning the maximum redirections limit being exceeded. This is *not* a bug in our software, it's a limitation of an ancient version of the third party wget software. Kindly note that version 1.11 which lifts that limitation was released ages ago, *in 2008 (two thousand eight!)* to be more precise.

## Warning

The ampersands above should be written as a single ampersand, not as an HTML entity (`&amp;`). Failure to do so will result in a 403: Forbidden error message and no backup will occur. This is not a bug in our software, it's how the Internet works.

We would like to note that some SEO or SEF URL extensions for Joomla! may get in the way of front-end backups, *especially on multi-language sites*. If you get inexplicable 403 or 404 errors towards the beginning of a front-end backup right after a redirection (HTTP code 301, 302 or 307) please consult with the developers of the SEO / SEF URL extensions you are using. Usually you can add an exception for Akeeba Backup's front-end backup URLs.

Furthermore, some hosts with very finicky web server firewalls may automatically block the front-end backup URL. Typically you get a 403 error at the very beginning of the backup process or after 2-3 redirections (at which point the front-end backup will no longer work). This typically happens when they misunderstand the front-end backup Secret Word as a security threat. Try changing your Secret Word to something else. If the problem persists please contact your host and ask them to take a look and add an exception for the front-end backup Secret Word you are using.

## Using webcron.org to automate your backups

Assuming that you have already bought some credits on webcron.org, here's how to automate your backup using their service.

First, go to Akeeba Backup's main page (Control Panel) and click on the Options button in the toolbar. Find the option titled Enable front-end and remote backup and set it to **Yes**. Below it, you will find the option named Secret key. Type in a secret key. We strongly recommend using only alphanumeric characters, i.e. 0-9, a-z and A-Z. For the sake of this example, we will assume that you have entered `ak33b4s3cRet` in that field. We will also assume that your site is accessible through the URL `http://www.example.com`.

Log in to webcron.org. In the CRON area, click on the New Cron button. Here's what you have to enter at webcron.org's interface:

- **Name of cronjob:** anything you like, e.g. "Backup www.example.com"
- **Timeout:** 180sec; if the backup doesn't complete, increase it. Most sites will work with a setting of 180 or 600 here. If you have a very big site which takes more than 5 minutes to back itself up, you might consider using Akeeba Backup Professional and the native CRON script (`akeeba-backup.php`) instead, as it's much more cost-effective.

- **Url you want to execute:** `http://www.example.com/index.php?option=com_akeeba&view=backup&key=ak33b4s3cRet`
- **Login and Password:** Leave them blank
- **Execution time** (the grid below the other settings): Select when you want your CRON job to run
- **Alerts:** If you have already set up alert methods in webcron.org's interface, we recommend choosing an alert method here and not checking the "Only on error" so that you always get a notification when the backup CRON job runs.

Now click on Submit and you're all set up!

## A PHP alternative to wget

As user DrChalta pointed out in a forum post, there is an alternative to **wget**, as long as your PHP installation has the cURL extension installed and enabled. For starters, you need to save the following PHP script as `backup.php` somewhere your host's **cron** feature can find it. Please note that this is a command-line script and needn't be located in your site's root; it should be preferably located above your site's root, in a non web-accessible directory.

The script below is a modification over DrChalta's original script, taking into account changes made in later versions of our software. In order to configure it for your server, you only have to change the first three lines.

```
<?php
define('SITEURL', 'http://www.example.com'); // Base URL of your site
define('SECRETKEY', 'MySecretKey'); // Your secret key
define('PROFILE',1); // The profile's ID

// ===== DO NOT MODIFY BELOW THIS LINE =====
$curl_handle=curl_init();
curl_setopt($curl_handle,CURLOPT_URL,
SITEURL.'/index.php?option=com_akeeba&view=backup&key='.
SECRETKEY.'&profile='.PROFILE);
curl_setopt($curl_handle,CURLOPT_FOLLOWLOCATION,TRUE);
curl_setopt($curl_handle,CURLOPT_MAXREDIRS,10000); # Fix by Nicholas
curl_setopt($curl_handle,CURLOPT_RETURNTRANSFER,1);
$buffer = curl_exec($curl_handle);
curl_close($curl_handle);
if (empty($buffer))
    echo "Sorry, the backup didn't work.";
else
    echo $buffer;
?>
```

Where `www.yoursite.com` and `YourSecretKey` should be set up as discussed in the previous section.

The ampersands above should be written as a single ampersand, not as an HTML entity (&amp;);.

In order to call this script with a schedule, you need to put something like this to your crontab (or use your host's CRON feature to set it up):

```
0 3 * * 6 /usr/local/bin/php /home/USER/backups/backup.php
```

Where `/usr/local/bin/php` is the absolute path to your PHP command-line executable and `/home/USER/backups/backup.php` is the absolute path to the script above.

If you set up your **cron** schedule with a visual tool (for example, a web interface), the command to execute part is `"/usr/local/bin/php /home/USER/backups/backup.php"`.

Thank you DrChalta for this wonderful tip!

## Using the front-end backup in SiteGround and other hosts using cURL instead of wget

As one of our users pointed out in the support forum, finding the correct command to issue for the CRON job is tricky. What he writes applies not only to his host, SiteGround, but many other commercial hosts as well. We'll simply quote our user, bzcoder.

In the CPanel for SiteGround there is a cronjob option, you create a cronjob using that and use:

```
curl -b /tmp/cookies.txt -c /tmp/cookies.txt -L --max-redirs 1000 -v "<url>"
```

as your command.

Replace `<url>` with your backup URL. Make sure to use the initial url displayed on the backend NOT the final URL when you run the backup manually (been there, done that) - when you do that you end up with a url that doesn't work because of the extra parameter used in continuing the backup process.

### 6.1.2. Remote JSON API

#### Tip

This feature is only available in Akeeba Backup Professional.

Requires the Enable JSON API (remote backup) option to be enabled in the component's Options, Frontend tab.

This feature is designed to let third party services and software take and optionally download backups of your site remotely (from any computer or a server other than the one your site is hosted on). This API is currently used by popular Joomla management and backup scheduling services such as Backup Monkey, mySites.guru and Watchful.

The JSON API uses optional encryption to ensure confidentiality of the API calls even on plain HTTP sites. However, we very strongly recommend that you use the JSON API over HTTPS connections. On most servers you can install an SSL certificate from Let's Encrypt at no additional cost. Please consult your host.

Things you should know:

- **It is not designed to be run from a web browser**, but from an application or service which understands the API.
- The API is available through the Akeeba Backup component which runs inside Joomla. While we take reasonable precautions, third party plugins may interfere with it. These problems are very rare.
- Since it's running over the web it is subject to the PHP and web server timeout limits. Make sure your backup runs to completion through the back-end of your site *before* using the JSON API. If your backup fails through the back-end it will definitely fail through the JSON API as well.
- Since it's running over the web your host may intercept, alter or block the requests to the JSON API and its replies. If that happens taking a backup will be impossible or may terminate before it is complete. In this case please contact your host. They should be able to determine why they interfered with the request and help you work around it.
- Giving access to the Remote JSON API is not to be taken lightly. Software and services given access to your site's Akeeba Backup Remote JSON API have the authority to see information about your past backups, get information about the version and update availability of Akeeba Backup, read and modify your backup settings (including remote storage services' access information), take backups and download backup archives. Only give access to services and software you trust.
- Downloading a backup archive through the JSON API is by no means guaranteed to work. It largely depends on the size of the backup archive and your host. Our advice to third party services and software is to always offer an alternative for downloading the backup archives using SFTP or FTP.

- Access to the Remote JSON API has many intermediate layer which are not under the control of Akeeba Ltd. Indicatively these are: the code which produces the request to the JSON API; the operating system and server / computer configuration where the code producing the request to the JSON API is installed in, including its firewall configuration; network connectivity between that server / computer and your site's server; your site server's firewall and system configuration; your server's web server and PHP configuration; any third party plugins running on your Joomla site. If you can take a backup through your site's back-end but not through the remote JSON API do not assume it's a bug with our software (99.9% of the times it's not). First contact the developer of the third party service or software which implements the remote backup. That's a small community, we know them and they know us. They can identify whether the problem is on their end, on your server or if it's a backup issue. If you do have a backup issue and are already a subscriber with access to Akeeba Backup's support (that is to say, you have access to Akeeba Backup Professional) please file a support ticket on our site's Support section and we will help you.
- If you are trying to run remote backups from your own server or computer we have limited troubleshooting options for clients who qualify for support. Namely, we will try to run the backup through our own computers and servers and try to determine the root cause of the issue. If it's outside our client software or the Akeeba Backup installation on your site we can only tell you that it's not a bug in our software and tell you about what could be interfering (see the above bullet points). In this case the root cause is outside our control and we cannot reasonably be expected to resolve it.
- Your secret key must be non-empty and meet a minimum complexity metric for this feature to be enabled. If you have not set up a secret key or if the secret key is too easy to guess the JSON API will respond with an access denied message and Akeeba Backup will display a prominent warning in its control panel page with instructions to fix it.

## Setting up third party services

Each third party service has a slightly different way to set up the connection with Akeeba Backup's Remote JSON API. In most cases you install an extension on your site and the third party service can set up the connection automatically. They do so by reading the Secret Key you have set up in Akeeba Backup's Options page and using the known endpoint URL to Akeeba Backup's JSON API.

In some cases you may need to provide either or both of these pieces of information to the third party service. The set up for third party software below explains how to obtain that information.

## Setting up software

Setting up software for remote backups through the JSON API requires providing either or both of the following information:

**Endpoint**      **URL:**      It      is      `https://www.example.com/index.php?option=com_akeeba&view=Json&format=raw` where `https://www.example.com` is the full URL to your site's front page. Akeeba software which implements the JSON API (Akeeba Remote Control and Akeeba UNiTE) can only be given the full URL to your site; they will figure out the rest of the URL automatically.

**Secret Key:** This is the secret key you set up in Components, Akeeba Backup, Options, Front-end Backup tab, Secret word option. We recommend using a random, 64-character password generated with a random password generator as explained in the documentation page of the Options page of Akeeba Backup. If the secret key you provide to the third party software or service does not match the one you set up in Akeeba Backup, or if the secret key you set up in Akeeba Backup is too easy to guess (based on automated password complexity metrics) the JSON API will always respond with an access denied message.

## Support for backup issues when using the JSON API for remote backups

**If you are using Akeeba Remote CLI or Akeeba UNiTE** and qualify for support according to our Terms of Service we can provide substantial but not unlimited assistance. We can identify whether your connection information is correct (or let you know how to correct it). Moreover, we can determine whether the problem is with our software or outside of our control. In the first case we will identify the issue in our software and fix it. In the latter case we will tell you our analysis, where we believe the problem lies to, produce evidence that the

backup can be run from our computers or servers and try to point you to the correct direction for resolving the issue that's not coming from our software itself.

When it comes to **third party services** we kindly ask you to always **seek support with the service provider before contacting us**. In many cases the problem lies with the service itself or its connection to your server. We do not have access to these third party services and cannot troubleshoot or resolve such issues. The service providers can. If you ask us to assist with such third party service issues we will have to decline support for objective reasons.

If the service provider tells you that you have a **backup issue** your support options are determined by the Support Policy which is part of our Terms of Service. That is to say, if you qualify for support according to our Terms of Service we can provide assistance for your backup issue with the JSON API in the same way we would provide assistance for any other backup issue. If you do not qualify for support we will not be able to provide assistance with your issue. **Please note that the REMOTEAPI subscription *does not* give you access to our support services.**

You might wonder why we cannot help you even though you are paying a substantial fee to the third party service to schedule your site's backups with Akeeba Backup. Third party services are not affiliated with us, they do not pay us to provide support to their clients and do not contribute financially to the development and maintenance of Akeeba Backup. As a result, being a client of a third party service which schedules backups with Akeeba Backup does not automatically entitle you to support from us.

As for why the REMOTEAPI subscription does not entitle you to support: factoring in support costs to the REMOTEAPI subscription would nearly triple its price which makes it unaffordable for its target audience i.e. the people who can't afford an Akeeba Backup Professional subscription. Making this decision did not come easy; it took 18 months of deliberation and shooting down ideas which were financially fair to us but either ethically challenging or impractical. We feel that it was the best compromise on ethics and financial viability. **If it was a fair world, third party backup scheduling services would be willing to pay us €0.15 per month and client which would have enabled us to include the JSON API and legacy API plugins in the Core version, removing the need for the REMOTEAPI subscription.**

### 6.1.3. Native CRON script

#### Tip

This feature is only available in Akeeba Backup Professional.

If you have access to the command-line version of PHP, Akeeba Backup Professional includes an even better - and faster - way of scheduling your backups. The file `cli/akeeba-backup.php` can be executed from the command-line PHP interface (PHP CLI). It doesn't require the front-end backup in order to work; it is a self-contained, native backup for your Joomla!™ site, even if your web server is down.

In order to schedule a backup, you will have to use the following command line to your host's CRON interface:

```
/usr/local/bin/php /home/USER/webroot/cli/akeeba-backup.php
```

where `/usr/local/bin/php` is the path to your PHP CLI executable and `/home/USER/webroot` is the absolute path to your web site's root. You can get this information from your host.

The backup script accepts three optional parameters:

- **--profile *profile\_id*** allows you to select which backup profile you would like to use for the scheduled backup. The *profile\_id* is the numeric profile ID you can see in your Control Panel page.
- **--description "*Your description*"** allows you set a backup description different than the default. Do not forget to enclose your description in double quotes, or this parameter will not work! Since Akeeba Backup 3.1 the description supports Akeeba Backup's file naming "variables", e.g. `[ SITE ]`, `[ DATE ]` and `[ TIME ]`. These variables are documented in the Output Directory configuration option's description. This allows you to use them in conjunction with this parameter to provide flexible backup descriptions.
- **--override "*keyname=value*"** allows you to override profile configuration variables. This parameter can appear an unlimited number of times in the command line. It can be used, for example, to provide the username and



password to your cloud storage service in the command line, without having to store it in the backup profile's configuration, therefore never storing it in database and hiding it from other administrators. Please take a look at the "Overriding configuration variables" subsection for more information.

- **--quiet** will suppress all output except warnings and error messages. If the backup runs successfully you get no output at all. Note: this option was added in Akeeba Backup Professional 3.3.4.

The `akeeba-backup.php` script will return a different exit code, depending on the backup status. When the backup is successful and without warnings, the exit code will be 0. When the backup completed but with warnings, the exit code will be 1. Finally, if the backup fails, the exit code will be 2. This allows you to check the backup status, for example inside a shell script, for automation purposes.

In order to give some examples, I will assume that your PHP CLI binary is located in `/usr/local/bin/php` - a common setting among hosts - and that your web site's root is located at `/home/johndoe/httpdocs`.

1. Backup with the default profile (ID = 1) and default description:

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-backup.php
```

2. Backup with profile number 2 and default description:

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-backup.php --profile=2
```

3. Backup with the default profile (ID = 1) and a description reading "My automated backup":

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-backup.php --description="My autom
```

4. Backup with profile number 2 and a description reading "My automated backup":

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-backup.php --profile=2  
--description="My automated backup"
```

It goes without saying that the line breaks are for readability only. You should not include line breaks in your command line.

Special considerations:

- All parameters must start with a double dash. If you use a single dash, they will be ignored. This is a limitation of Joomla's CLI application interface –used by our script– which follows the UNIX conventions of command line parameters.
- Most hosts do not impose a time limit on scripts running from the command-line. If your host does and the limit is less than the required time to backup your site, the backup will fail.
- This script is not meant to run from a web interface. If your host only provides access to the CGI or FastCGI PHP binaries or pseudo-CRON (accessing a URL on a schedule), `akeeba-backup.php` will not work with them. The reason is actually the same as the time constraint above.
- Some servers do not fully support this backup method. The usual symptoms will be a backup which starts but is intermittently or consistently aborted in mid-process without any further error messages and no indication of something going wrong. In such a case, trying running the backup from the back-end of your site will work properly. If you witness similar symptoms please use the Alternative CRON Script, outlined in the next section.

## Setting up a CRON job on cPanel

### Note

This section depends on your host's control panel software. It is included it for informational purposes only and we cannot guarantee its accuracy. If you have questions about this please ask your host.

Go to your cPanel main page and choose the CRON Jobs icon from the Advanced pane. In the Add New CRON Job box on the page which loads, enter the following information:

**Common Settings** Choose the frequency of your backup, for example once per day.

**Command** Enter your backup command. Usually, you have to use something like:

```
/usr/bin/php5-cli /home/myusername/public_html/cli/akeeba-backup.php --pr
```

where *myusername* is your account's user name (most probably the same you use to login to cPanel) and *YourProfileID* is the numeric profile number you want to use for your backup job. Do note the path for the PHP command line executable: `/usr/bin/php5-cli`. This is the default location of the correct executable file for cPanel 11 and later. Your host may use a different path to the executable. If the command never runs, ask them. We can't help you with that; only those who have set up the server know the changes they have made to the default setup.

Finally, click the Add New Cron Job button to activate the CRON job.

## Special considerations for HostGator

### Note

This section depends on your host's control panel software. It is included it for informational purposes only and we cannot guarantee its accuracy. If you have questions about this please ask your host.

The location of the PHP CLI binary is `/usr/bin/php-cli`. This means that your CRON command line should look like:

```
/opt/php53/bin/php /home/myusername/public_html/cli/akeeba-backup.php --profile=YourPro
```

## Overriding configuration variables

You can override or supply missing configuration variables in the command line. This is especially useful for security reasons. One security issue with the cloud storage service integration is that other Super Users can peek at Akeeba Backup's configuration and read the username, password or API keys used to access the cloud storage service. You can, however, leave these fields blank in the configuration and supply their values in the command line.

Overriding a configuration variable requires knowing its key name. The key names are represented in dot-format, i.e. `engine.postproc.s3.accesskey` for Amazon S3's access key. Determining the key name is quite easy, as they are stored in INI files throughout the component's back-end. The first location you should look at is `administrator/components/com_akeeba/engine/core`, where you will find four INI files with general settings. Inside the `administrator/components/com_akeeba/engine` subdirectories you will find one INI file per engine.

In order to save you from trouble, here are the most useful key names. The names are designed to be self-explanatory.

- |                                      |  |
|--------------------------------------|--|
| JPS archive password                 | • <code>engine.archiver.jps.key</code>   |
| ANGIE password                       | • <code>engine.installer.angie.key</code>  |
| Amazon S3                            | • <code>engine.postproc.s3.accesskey</code><br>• <code>engine.postproc.s3.secretkey</code>             |
| Microsoft Windows Azure BLOB Storage | • <code>engine.postproc.azure.account</code><br>• <code>engine.postproc.azure.key</code>               |
| RackSpace CloudFiles                 | • <code>engine.postproc.cloudfiles.username</code><br>• <code>engine.postproc.cloudfiles.apikey</code> |

CloudMe	<ul style="list-style-type: none"><li>• engine.postproc.cloudme.username</li><li>• engine.postproc.cloudme.password</li></ul>
DreamObjects	<ul style="list-style-type: none"><li>• engine.postproc.dreamobjects.accesskey</li><li>• engine.postproc.dreamobjects.secretkey</li></ul>
Dropbox (v1 API, old)	<ul style="list-style-type: none"><li>• engine.postproc.dropbox.token</li><li>• engine.postproc.dropbox.token_secret</li></ul>
Dropbox (v2 API, new)	<ul style="list-style-type: none"><li>• engine.postproc.dropbox2.access_token</li></ul>
Remote FTP server	<ul style="list-style-type: none"><li>• engine.postproc.ftp.user</li><li>• engine.postproc.ftp.pass</li></ul>
Google Drive	<ul style="list-style-type: none"><li>• engine.postproc.googledrive.refresh_token</li></ul>
Google Storage	<ul style="list-style-type: none"><li>• engine.postproc.googlestorage.accesskey</li><li>• engine.postproc.googlestorage.secretkey</li></ul>
iDriveSync	<ul style="list-style-type: none"><li>• engine.postproc.idrivesync.username</li><li>• engine.postproc.idrivesync.password</li><li>• engine.postproc.idrivesync.pvtkey</li></ul>
OneDrive	<ul style="list-style-type: none"><li>• engine.postproc.onedrive.access_token</li><li>• engine.postproc.onedrive.refresh_token</li></ul>
Remote SFTP server	<ul style="list-style-type: none"><li>• engine.postproc.sftp.user</li><li>• engine.postproc.sftp.pass — Either the password for the username specified above, or the password to the private key file</li><li>• engine.postproc.sftp.privkey — Absolute path to the private key file (optional, for certificate authentication)</li><li>• engine.postproc.sftp.pubkey — Absolute path to the public key file (optional, for certificate authentication)</li></ul>
SugarSync	<ul style="list-style-type: none"><li>• engine.postproc.sugarsync.email</li><li>• engine.postproc.sugarsync.password</li></ul>
WebDAV	<ul style="list-style-type: none"><li>• engine.postproc.webdav.username</li><li>• engine.postproc.webdav.password</li></ul>

For your information, the configuration keys for cloud storage services can be found in the .ini files under `administrator/components/com_akeeba/BackupEngine/Postproc`.

Applying them on the command line is easy. Take this command line as an example:

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-backup.php
--profile=2 --description="My automated backup"
--override="engine.postproc.s3.accesskey=ABCDEF"
--override="engine.postproc.s3.secretkey=1234567890abcdefgh"
```

In this case, we are telling the backup script to use the backup Profile with ID=2, give the backup description of "My automated backup" and then supply the S3 access and secret keys. The values of the override parameters must be enclosed in double or single quotes (depends on your Operating System), otherwise the operating system will not pass them back to the backup.php script. Do note that your command line MUST NOT include the line breaks in the previous example. The line breaks are there only for typesetting purposes.

Finally, it should be noted that you can use the command-line override feature to do more tricky configuration overrides, for example turning off the archive splitting or using a different backup output directory to enhance your security. If it's something you can do in the Configuration page of the component, you can also do it using command line overrides.

## 6.1.4. Alternative CRON script

### Tip

This feature is only available in Akeeba Backup Professional.

Requires the Enable Legacy Front-end Backup API (remote CRON jobs) option to be enabled in the component's Options, Frontend tab.

This script uses the front-end backup feature of Akeeba Backup to run a backup. This may work on some hosts where the regular CRON script doesn't. The alternative CRON script is located in `cli/akeeba-altbackup.php`, and must be run from the command-line PHP interface (PHP CLI).

As already stated in the Front-End Backup feature, we **VERY STRONGLY** recommend using the Front-End Backup feature -including the case where it's used by the alternative CRON script- only with sites configured to use HTTPS with a properly signed SSL certificate *for security reasons*: plain HTTP sites and self-signed HTTPS certificates can, under certain circumstances, lead to your Secret Word leaking *even if you are only using it with the alternative CRON script*. If a malicious user obtains the Secret Word they can launch a Denial of Service attack on your site and / or abuse Akeeba Backup's feature to obtain a copy of your site, including all privileged information. Getting a properly signed SSL certificate no longer costs any money. The Let's Encrypt certificate authority [<https://letsencrypt.org/>] offers free of charge SSL certificates. Most likely your hosting control panel already supports automatically acquiring and installing SSL certificates from Let's Encrypt. For example two of our favorite hosts, SiteGround and Rochoen, have supported this since late 2015. If you are not sure, ask your host. Using HTTPS not only makes your site safer, it will even make it more popular with search engines. It's a win-win proposition!

You will have to a command line similar to this with your host's CRON interface:

```
/usr/local/bin/php /home/USER/webroot/cli/akeeba-altbackup.php
```

where `/usr/local/bin/php` is the path to your PHP CLI executable and `/home/USER/webroot` is the absolute path to your web site's root. You can get this information from your host.

The backup script accepts the following optional parameters:

- **--profile *profile\_id*** allows you to select which backup profile you would like to use for the scheduled backup. The *profile\_id* is the numeric profile ID you can see in your Control Panel page.
- **--no-verify** Only applies to HTTPS connections. If you have a plain HTTP site you can ignore this setting. Since Akeeba Backup 5.5.2 this script will check that the SSL certificate presented by the server is issued by a known, trusted Certification Authority and that the domain name included in the certificate matches the domain name of your site. If you want to disable this verification, e.g. because you're using a self-signed certificate or a certification authority internal to your organization you need to pass the `--no-verify` option. This will disable the verification, emulating the way this script worked in Akeeba Backup 5.5.1 and earlier.

In order to give some examples, we will assume that your PHP CLI binary is located in `/usr/local/bin/php` - a common setting among hosts - and that your web site's root is located at `/home/johndoe/httpdocs`.

1. Backup with the default profile (ID = 1)

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-altbackup.php
```

## 2. Backup with profile number 2

```
usr/local/bin/php /home/johndoe/httpdocs/cli/akeeba-altbackup.php --profile=2
```

It goes without saying that the line breaks are for readability only. You should not include line breaks in your command line.

Special considerations:

- Most hosts do not impose a time limit on scripts running from the command-line. If your host does and the limit is less than the required time to backup your site, the backup will fail.
- This script is not meant to run from a web interface. If your host only provides access to the CGI or FastCGI PHP binaries, `backup.php` will not work with them. The solution to this issue is tied to the time constraint above. The workaround we're planning will solve both issues.
- You must enable the front-end backup feature of your Akeeba Backup Professional installation and assign a Secret Key for it. This is possible by going to the Akeeba Backup Professional's Control Panel page and clicking on the Options button on the top right corner of the toolbar.
- Before using the alternative CRON script for the first time, or after moving your site to a new domain name and / or enabling HTTPS, you must visit the Akeeba Backup's Control Panel page at least once. This will cache the URL to your site for use by the alternative CRON script.
- Your host must support one of the three methods used by the helper script to access your front-end backup URL:
  1. The PHP cURL module.
  2. The `fsockopen()` method
  3. The `fopen()` URL wrappers

If none of these methods is available, the backup will fail.

- Taking a backup with the front-end backup feature must be possible on your site. See the Discussion in the chapter about the front-end backup, especially the issues with SEO / SEF URL extensions and host firewalls.
- Your host may have a firewall setup which doesn't allow the CRON script to access the front-end backup URL if it's launched from the same server. In this case the backup will consistently fail without a new log file being produced and without a backup entry being written to the database. You will have to contact your host so that they can allow the script to access the front-end backup URL. Do note that despite the alternative CRON script and your site running on the same server, the firewall restriction might still be in place. This is counter-intuitive, but we've seen this happening on a few hosts.

If you are seeking assistance regarding a failed CRON job please indicate if and which of these steps you have already tried. We don't want to ask you to do something you've already tried.

## Setting up a CRON job on cPanel

### Note

This section depends on your host's control panel software. It is included it for informational purposes only and we cannot guarantee its accuracy. If you have questions about this please ask your host.

Go to your cPanel main page and choose the CRON Jobs icon from the Advanced pane. In the Add New CRON Job box on the page which loads, enter the following information:

**Common Settings** Choose the frequency of your backup, for example once per day.

Command Enter your backup command. Usually, you have to use something like:

```
/usr/bin/php5-cli /home/myusername/public_html/cli/akeeba-altbackup.php --
```

where *myusername* is your account's user name (most probably the same you use to login to cPanel) and *YourProfileID* is the numeric profile number you want to use for your backup job. Do note the path for the PHP command line executable: `/usr/bin/php5-cli`. This is the default location of the correct executable file for cPanel 11 and later. Your host may use a different path to the executable. If the command never runs, ask them. We can't help you with that; only those who have set up the server know the changes they have made to the default setup.

Finally, click the Add New Cron Job button to activate the CRON job.

## Special notes for GoDaddy

### Note

This section depends on your host's control panel software. It is included it for informational purposes only and we cannot guarantee its accuracy. If you have questions about this please ask your host.

According to our users who have tried this, this latervative script does work with GoDaddy. The command line you have to use is:

```
/usr/local/php5/bin/php "$HOME/html/cli/akeeba-altbackup.php" --profile=YourProfileID
```

where *YourProfileID* is the numeric profile number you want to use for your backup job.

The PHP executable we are using is the CLI rather than the default CGI. This is important; if you use the CGI executable then the script will not run. Don't forget to enable frontend backup and insert your secret word. To enable frontend backup go to Akeeba Backup under components, select configuration, select options from the navigation, then select the front-end backup tab to enable the settings.

If the backup completes successfully but the backup appears as "Failed" in the Manage Backups (formerly "Administer Backup Files") page, you'll have to apply a workaround. Go to Akeeba Backup and select your backup profile from the drop-down list. Then click on the Configuration button. In the configuration page check the Use database storage for temporary data option.

## 6.2. Checking for failed backups automatically

### Tip

This feature is only available in Akeeba Backup Professional.

While you can automate backups with any of the methods explained above, there is a small drawback. It is impossible to catch a failed backup if the backup failure was caused by a PHP error or the server killing the backup script for any reason (usually: time, file size and memory limits). This has the unwanted side effect of not knowing when your backup has failed unless you keep track of the backup records on your sites or the emails sent out by your CRON jobs (if any are sent at all – it depends on the server / service you are using).

You can automate the check for failed backups and have it email you when it detects that the latest backup has failed.

### Warning

This is an optional, advanced and potentially dangerous feature: if you check for failed backups while a backup is still running you will cause the backup to fail. We recommend scheduling backup checks a substantial amount of time (e.g. 1 hour) after the expected end time of your backups.

### 6.2.1. Front-end backup failure check, for use with CRON

#### Tip

This feature is only available in Akeeba Backup Professional.

Requires the Enable Legacy Front-end Backup API (remote CRON jobs) option to be enabled in the component's Options, Frontend tab.

The front-end backup failure check feature lets you perform an unattended, scheduled failed backup check.

Before beginning to use this feature, you must set up Akeeba Backup to support the front-end backup option as explained in the relevant section of this documentation.

The URL to use to trigger the front-end backup failure check feature is

`http://www.yoursite.com/index.php?option=com_akeeba&view=check&key=YourSecretKey`

where *YourSecretKey* is the Secret Word for front-end backups, as configured in the component's Options page.

Please note that *YourSecretKey* must be URL-encoded. You can use an online tool like <http://www.url-encode-decode.com> or simply consult the Schedule Automatic Backups page.

If you want to automate the check you can schedule this URL just like you would a front-end backup URL. Furthermore, the front-end backup failure check URL does NOT use redirections. Therefore it can even be used with hosts and services which do not follow redirections.

### 6.2.2. CRON script for backup failure check

#### Tip

This option is only available in Akeeba Backup Professional.

The CRON script is located in `cli/akeeba-check-failed.php`, and must be run from the command-line PHP interface (PHP CLI).

In order to schedule a backup failure check, you will have to use the following command line to your host's CRON interface:

```
/usr/local/bin/php /home/USER/webroot/cli/akeeba-check-failed.php
```

where `/usr/local/bin/php` is the path to your PHP CLI executable and `/home/USER/webroot` is the absolute path to your web site's root. You can get this information from your host.

The same considerations and scheduling information as the backup CRON script apply.

### 6.2.3. Alternative CRON script for backup failure check

#### Tip

This feature is only available in Akeeba Backup Professional.

Requires the Enable Legacy Front-end Backup API (remote CRON jobs) option to be enabled in the component's Options, Frontend tab.

This script uses the front-end backup failure check feature outlined above. The alternative CRON script is located in `cli/akeeba-altcheck-failed.php`, and must be run from the command-line PHP interface (PHP CLI).

In order to schedule a backup failure check, you will have to use the following command line to your host's CRON interface:

```
/usr/local/bin/php /home/USER/webroot/cli/akeeba-altcheck-failed.php
```

where `/usr/local/bin/php` is the path to your PHP CLI executable and `/home/USER/webroot` is the absolute path to your web site's root. You can get this information from your host.

The same considerations and scheduling information as the alternative backup CRON script apply.

## 7. Site Transfer Wizard

### Note

This feature is only available in Akeeba Backup Professional.

As discussed below, you DO NOT need the Site Transfer Wizard to transfer your site between folders, subdomains, domains and servers using Akeeba Backup. Just take a backup, upload it together with Kickstart on the new location and run Kickstart. This is the method demonstrated in our video tutorial which is freely available on our site.

## What is the Site Transfer Wizard?

One of the most common uses of Akeeba Backup is transferring a site between different locations (folders, subdomains, domains and servers). Typically this involves taking a backup, downloading it to your computer, uploading it to the new location alongside Kickstart and launching Kickstart to extract the backup archive and proceed with the restoration. The download and upload part of this process takes a lot of time, especially when you have a slower connection. The Site Transfer Wizard will save you some precious time by eliminating the need to transfer the backup archive through your computer, instead performing a server to server transfer.

We recommend that you try using the Site Transfer Wizard *without* reading this documentation section. You only need to refer to this documentation in case a server issue or a mistake in the information you entered prevents you from using it. That's why this documentation section is brutally long; it's *troubleshooting*, not regular usage documentation. The Site Transfer Wizard is intuitive enough to use without reading its documentation.

### Important

The Site Transfer Wizard IS NOT the only way to transfer your site with Akeeba Backup and IS NOT guaranteed to work on all servers. If your site is very big, your server too slow or simply doesn't support the requirements of the Site Transfer Wizard then the wizard will fail to transfer the backup archive for you. **We cannot do anything against your host's technical limitations. However, you can still transfer your site with the Manual method available in the Site Transfer Wizard.** In a nutshell: you can take a backup; download the backup archive files to your site; upload the backup archive files and Kickstart where you want to restore the site to; run Kickstart. The Wizard will display a video tutorial about this when you select the Manual method.

## Prerequisites

Before you begin you must have create a new database for the destination site. This is something that Akeeba Backup and its restoration script is not allowed to do due to the configuration of most servers. This has to do with your server's database security settings and cannot be "worked around" in any way. If you are not sure how to do it please contact your host - this is a server-specific task and they are the only people who can help you with it.

You also need to know how to connect to the target location. This requires knowing the FTP, FTPS or SFTP connection information to the target location. This is required even if you are transferring to a subdirectory, subdomain or domain on the same server your site is currently on. If you are not sure how to obtain this information please contact your host; they are the only people who can help you accurately figure out this information.

If you will be using FTP or FTPS to transfer your site your current server must either have the PHP cURL extension installed with FTP support or the PHP FTP functions enabled. It must not block outbound connection to the remote



server's FTP port (typically port 21). The remote FTP server must allow connections from your site's current server and allow at least 7 connection attempts to be made within 1 second.

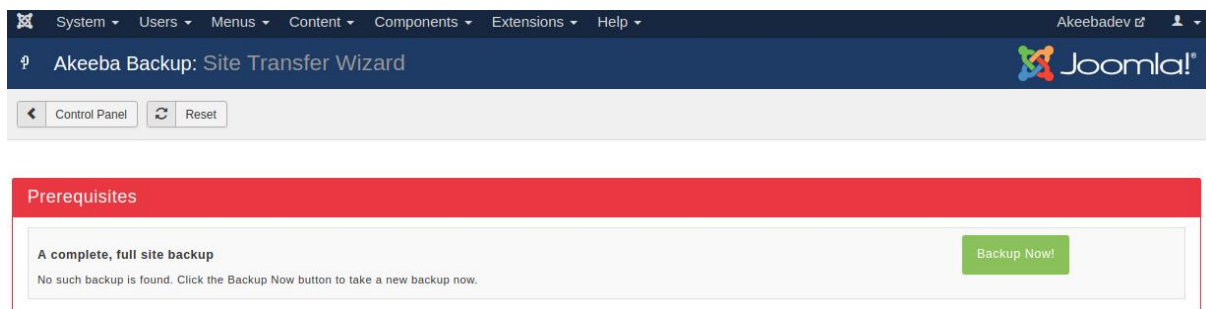
If you will be using SFTP to transfer your site your current server must either have the PHP cURL extension installed with SFTP support of the PHP SSH2 extension installed. It must not block outbound connection to the remote server's FTP port (typically port 22). The remote FTP server must allow connections from your site's current server and allow at least 7 connection attempts to be made within 1 second.

In every case the remote location **MUST** be accessible through HTTP/HTTPS over the Internet from your site's server and your computer. Akeeba Backup will be checking that and won't let you proceed with the transfer if it can't connect.

## Backup age check

The Site Transfer Wizard requires a recent backup, taken within the last 24 hours using *the currently active backup profile*. If one is not detected you will be notified. If you want to use a backup taken with a different profile please remember to activate that profile from Akeeba Backup's main page before clicking on Site Transfer Wizard.

### Backup age check



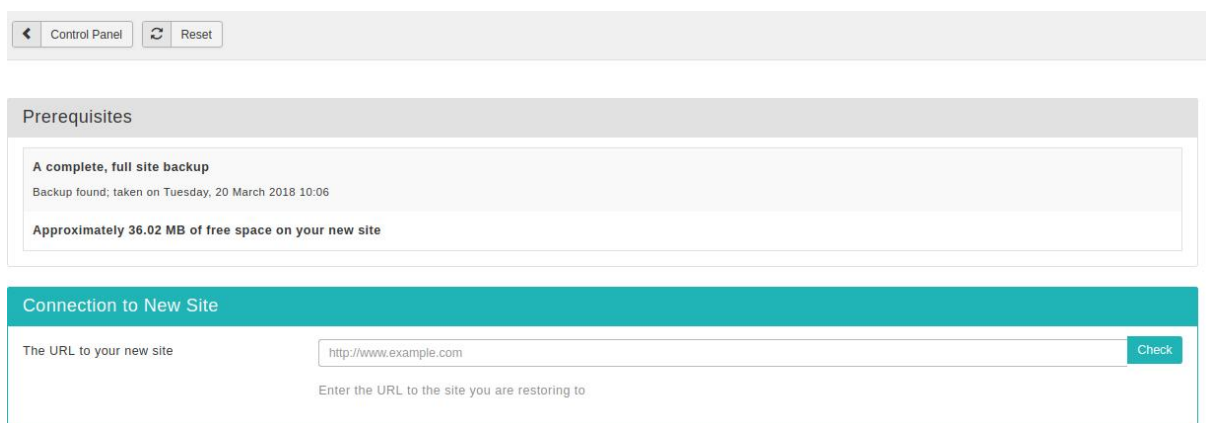
The screenshot shows the Joomla! administrator interface with the Akeeba Backup component. The top navigation bar includes System, Users, Menus, Content, Components, Extensions, and Help. The Akeeba Backup logo and Joomla! logo are in the top right. Below the navigation bar is a title bar for 'Akeeba Backup: Site Transfer Wizard' with 'Control Panel' and 'Reset' buttons. The main content area has a red header 'Prerequisites'. Below it, a box states 'A complete, full site backup' and 'No such backup is found. Click the Backup Now button to take a new backup now.' A green 'Backup Now!' button is on the right.

Click the Backup Now! button to take a new backup with the current backup profile. After the backup is complete you will need to go back to the main page and then click on Site Transfer Wizard again.

## Setting up the transfer target URL

When a recent backup is detected the Site Transfer Wizard will let you know how much free space you will need (approximately!) on the target server. Please make sure that you have enough disk space before proceeding.

### Setting up the transfer target URL



The screenshot shows the Joomla! administrator interface with the Akeeba Backup component. The top navigation bar includes System, Users, Menus, Content, Components, Extensions, and Help. The Akeeba Backup logo and Joomla! logo are in the top right. Below the navigation bar is a title bar for 'Akeeba Backup: Site Transfer Wizard' with 'Control Panel' and 'Reset' buttons. The main content area has a grey header 'Prerequisites'. Below it, a box states 'A complete, full site backup' and 'Backup found; taken on Tuesday, 20 March 2018 10:06'. Below that, it says 'Approximately 36.02 MB of free space on your new site'. Below the prerequisites section is a teal header 'Connection to New Site'. Below it, a box contains the text 'The URL to your new site' and a text input field with 'http://www.example.com'. A green 'Check' button is on the right. Below the input field, it says 'Enter the URL to the site you are restoring to'.

Afterwards please enter the URL of the target site and click the Check button. You must enter the full URL to the target site including the `http://` or `https://` prefix and any path to the site but without the

index.php part. For example you need to enter something like `https://www.example.com`, `http://subdomain.example.net` or `http://localhost/mysite`.

The Site Transfer Wizard will check that the URL is accessible from your server. Please note that if the URL returns an error, including but not limited to 403 Forbidden and 500 Internal Server Error, you will receive a message telling you that the URL is inaccessible. In some *very rare* circumstances you may be receiving this message in error. In those cases you can click on the I want to ignore this warning and proceed at my own risk button and proceed anyway. Please note that you are doing so *at your own risk*. We will not be able to help you if something doesn't work or breaks!

## Tip

If at any point you realise you have entered the wrong URL you can click on the Reset button in the toolbar to clear all Site Transfer Wizard settings and start over.

# Setting up the connection

The next step lets you tell the Site Transfer Wizard how to connect to your target site to transfer files.

## Setting up the connection

The screenshot shows a web form titled "Connection to New Site". It contains the following fields and options:

- The URL to your new site:** A text input field containing "http://localhost/transfer" and a "Check" button.
- File transfer method:** A dropdown menu with "FTP, using cURL" selected.
- Host name:** A text input field containing "ftp.example.com".
- Port:** A text input field containing "21".
- Username:** A text input field containing "myUserName".
- Password:** A text input field containing "myPassword".
- FTP/SFTP Directory:** A text input field containing "public\_html".
- Passive mode:** Radio buttons for "No" and "Yes", with "Yes" selected.
- Passive mode workaround:** Radio buttons for "No" and "Yes", with "Yes" selected.
- Footer text:** "Some badly configured or misbehaving FTP servers return the wrong IP address when FTP Passive mode is enabled. Enable this option to force the FTP library to ignore the wrong IP returned by the FTP server, instead using the FTP server's public IP."
- Buttons:** A "Proceed with restoration" button at the bottom.

Select one of the available transfer methods (not all of them may be available on your server):

- |                         |   |
|-------------------------|---|
| <b>FTP, using cURL</b>  | You will connect to your site using plain (insecure) FTP. This is the simplest file transfer protocol, supported by most hosts - however it's also the least secure. This method uses the PHP cURL extension which is compatible with most hosts.     |
| <b>FTPS, using cURL</b> | You will connect to your site using plain FTP over a secure SSL/TLS connection. This is a simple file transfer protocol, supported by many hosts and it is quite secure. This method uses the PHP cURL extension which is compatible with most hosts. |
| <b>SFTP, using cURL</b> | You will connect to your site using file transfer over SSH (a.k.a. Secure File Transfer Protocol, or SFTP for short). This is an advanced file transfer protocol, supported by some hosts and   |

	it is the most secure. This method uses the PHP cURL extension which is compatible with most hosts.
FTP, native PHP functions	You will connect to your site using plain (insecure) FTP. This is the simplest file transfer protocol, supported by most hosts - however it's also the least secure. This method uses the PHP native FTP functions. You may experience some compatibility issues with badly configured FTP servers.
FTPS, native PHP functions	You will connect to your site using plain FTP over a secure SSL/TLS connection. This is a simple file transfer protocol, supported by many hosts and it is quite secure. This method uses the PHP native FTP functions. You may experience some compatibility issues with badly configured FTP servers.
SFTP, native PHP SSH2 extension	You will connect to your site using file transfer over SSH (a.k.a. Secure File Transfer Protocol, or SFTP for short). This is an advanced file transfer protocol, supported by some hosts and it is the most secure. This method uses the PHP SSH2 extension. Since this extension is currently marked as experimental it may not be available on your server or not work properly.
Manually	<b>If all else fails (your servers just can't talk to each other) choose this option, do not file a "bug" report</b> (as noted above, we can't override your hosts' technical limitations since <i>we are not your host, therefore cannot reconfigure your servers with more sane limits</i> ). The manual method will give you instructions for performing a manual backup archive transfer, including a tutorial for restoring it after it's transferred. This is your failsafe method, one which has been used by hundreds of thousands of site integrators and site owners since 2006 to transfer their sites between different locations.

If your target site supports more than one transfer methods please try using the most secure ones first. The order of preference, from MOST to least secure is: SFTP, FTPS, FTP. Moreover, if you are given the choice between a method that uses cURL and one which doesn't please try using the cURL one first. If none of them works for you please check your connection information and retry. If nothing works despite the connection information being correct you have a case where the two servers cannot talk to each other due to networking, firewall or setup issues. The easiest thing you can do is use the Manually option to transfer your site by manually uploading your backup archive.

Enter the connection information below and click on Proceed with restoration to get to the next step. Please note that if you chose Manually above the next step simply gives you instructions for performing the transfer and the rest of this documentation section does not apply.

## Files transfer and restoration

At this point the Site Transfer Wizard is going to make some sanity checks and upload some files on your server.

If the connection fails for any reason you will be told so. Please double check the connection information and the FTP/SFTP directory. The latter must exist and be both readable and writeable. If you still get an error despite all the connection information being correct please try a different connection method. If all available methods fail please do contact both hosts (the one your site is currently on and the one you're trying to transfer to). One or both of the servers have a server protection which prevents the two servers from talking to each other. If you cannot get your hosts to resolve that issue your only choice will be using the Manually option above. Unfortunately there is nothing we can do about it since it's the server which doesn't allow the server-to-server transfer in any way.

If the target server and location is the same as the one where your current site exists the process will be aborted. You **MUST NOT** use the Site Transfer Wizard to restore a backup archive on your own site. Either use the Restore feature in the Manage Backups Page (Professional version only) or use Akeeba Kickstart to extract the backup archive and start the restoration.

If a .htaccess file is detected on the target location the process will be aborted. The .htaccess files can interfere in the way PHP script execute, corrupting the upload of the backup archive or simply blocking the upload, extraction or restoration process. As a precaution the Site Transfer Wizard will not proceed in this case unless you delete the .htaccess file.

After these basic checks the Site Transfer Wizard will try to upload the two Kickstart files (`kickstart.php` and `kickstart.transfer.php`) to your target location and create a new world-writable (0777 permissions) directory called `kicktemp`. Yes, we are aware that the world writable permissions are REALLY BAD for security - but only if you let them persist. We only create this directory temporarily and only use it for temporary data. After the process is done this directory is removed, therefore eliminating any possible security concern. If any of these operations fails you will receive an error message. If this happens please make sure that the target directory is writeable. If you are not sure please ask your host for assistance.

If the FTP/SFTP Directory you've entered does not correspond to the URL to the new site you have entered you will be told so. You CANNOT receive this message in error. If you get this message you MUST check that the directory corresponds to the URL you've entered. If you are not sure, or if you think that Akeeba Backup is wrong (it's not), do check with your host. **This is the most common mistake people make.** Trust us. This is exactly why we added this check.

Afterwards the Site Transfer Wizard will attempt to upload the backup archive file(s). This is done in small, 1Mb chunks. The file is NOT uploaded using FTP, FTPS or SFTP. Why? Because, as we explained previously in this documentation, transferring a big file can take too long which will cause PHP or your web server to halt with a timeout error. The Site Transfer Wizard is instead sending 1Mb of data at a time to Kickstart (which it uploaded in the previous step). Kickstart on the target location "assembles" the archive file(s) from these 1Mb chunks behind the scenes. This lets us transfer really big backup archives without timing out. The progress of the upload is displayed on the page.

However, this *may* lead to problems on some servers. Since the Site Transfer Wizard is making a lot of repeated requests to the `kickstart.php` URL on the target location some servers may mistakenly assume that this is an attack on the server. Other servers may not like that a lot of the CPU is being used by that site hosting account all of a sudden. If this kind of server protection is triggered you will receive an error message. Depending on the server and host they might also temporarily block the IP address of your site's current server, making it impossible to run the Site Transfer Wizard again for a period of a few minutes to a full day. If you get in this kind of situation you will have to use the Manually option and transfer the backup archives yourselves. Unfortunately there is nothing we can do about it since it's the server which doesn't allow the server-to-server transfer of large files.

When the backup archive files are fully transferred you will see a button called Run Kickstart. Click on it to launch Kickstart on the target URL. Kickstart allows you to extract the backup archive on the target server. This is required since the actual restoration script is stored inside the backup archive. If you are unsure how to proceed after this point please consult our video tutorials on transferring your site to a new server. Ignore the part where you upload Kickstart and the backup archive; this is already done for you by the Site Transfer Wizard.

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# Chapter 4. Miscellaneous Extensions (Modules, Plugins)

## 1. Action Log

### Note

This feature is only available in Akeeba Backup Professional.

Displayed on the Plugin Manager as Action Log - Akeeba Backup.

Joomla 3.9 introduced the User Actions Log feature which allows you to keep an audit log of important actions taken by (typically administrative) users of your site. This plugin lets you record and display any action taken by the user in Akeeba Backup in your site's administrator area.

Please note that due to the way Joomla works you must have this plugin published not just to record user actions but also *to display them*. If you unpublish this plugin you may see untranslated strings in the actions log. This is how Joomla works, not a bug.

## 2. Installer

### Note

This feature is only available in Akeeba Backup Professional.

Displayed on the Plugin Manager as Installer - Akeeba Backup Professional.

This plugin is a fallback method to apply the Download ID, necessary to download updates to the Professional edition of our software. Please keep it enabled at all times. Without getting too technical, if you regenerate the update sites through your site's Update Sites page Joomla will no longer be able to "see" the Download ID you've entered in our component's Options page unless you either have this plugin enabled or if you go ahead and save our component's Options page again. This is a problem in Joomla itself; this plugin is its workaround.

## 3. Quick Icon

### Note

Displayed on the Plugin Manager as Quick Icon - Akeeba Backup Notification.

This plugin displays a notification icon in Joomla's status bar (Joomla 3) or administrator notification module (Joomla 4), displaying the backup status. If your latest backup, taken with any profile, was taken longer than the configured amount of time in this plugin the icon will change color and display a warning message that your backup is out of date. Clicking on the icon will start a backup with the backup profile you have configured in this plugin.

## 4. Update Check

### Note

Displayed on the Plugin Manager as System - Akeeba Backup Update Check.

This plugin will send an email whenever Joomla reports there is an updated version of Akeeba Backup available. The email goes out either to all Super Users of the site (default) or just one specific Super User that you've configured in the plugin.

Please note that update detection IS NOT performed by our component or this plugin. Joomla is exclusively responsible for determining whether there is an update available. If you have a problem with Joomla not detecting an update or always saying there is an update available despite you having already installed the reported available version or a newer version we would appreciate it if you did not file a support request or bug report. The problem in this case resides in Joomla's code that detects updates for all extensions. Since it's not our code we cannot fix it – and yes, we are aware of several things that can and do go wrong with Joomla's code but our offers to fix them have consistently been turned down.

Moreover, it should be clarified that the plugin cannot and will not update Akeeba Backup on your behalf. You will need to visit the site and run the update yourself.

## 5. Backup on Update

### Note

Displayed on the Plugin Manager as System - Backup on update

All current Joomla! versions include the Joomla! Update component (originally developed as part of Admin Tools by our company, later donated to Joomla! and now maintained by the Joomla! team) which allows you to update Joomla! to its latest version. When you are updating between major and minor versions of Joomla! some extensions on your site might experience problems or make your site completely inaccessible. It's always a good idea to take a backup of your site *before* upgrading Joomla!. Yet, how many times did you forget to do it only to end up with an inaccessible site and a furious client? Our plugin is here to automate this process for you.

When this plugin is enabled it will "see" your attempt to update Joomla! and automatically launch Akeeba Backup to take a backup of your site. Once the backup is successfully complete it will take you back to Joomla! Update, allowing it to install the new Joomla! version. All this happens automatically. You and your clients can no longer forget to take a backup before updating Joomla!: the backup will be taken automatically.

Editing the plugin you will find the sole option, Backup Profile, which lets you define which Akeeba Backup profile to use for these automated backups. If you don't specify anything the default backup profile (the one with ID=1) will be used.

### Tip

We recommend using a backup profile which stores a copy of the backup archive in external storage (e.g. Amazon S3, Dropbox or Box.com) on top of leaving a copy of the backup archive on your server. This way you have maximum protection against any kind of accidents caused by a failed or problematic Joomla! update.

When the plugin is enabled you will see an icon and a BoU label at the bottom (Joomla 3) or top (Joomla 4) of your site's administrator page, in the status area. You can temporarily disable (and re-enable) the backup on update feature by clicking on that icon. Grey means disabled. Green means enabled. We explicitly chose these colors instead of the more traditional red and green to make the feature accessible to people with most common forms of color blindness.

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# Chapter 5. Restoring backups and general guidelines

We kindly request our users to read the general guidelines before filing a support ticket, a bug report or giving up. Most frustrating and "inexplicable" problems end up being a simple case of misunderstanding how things work, making the wrong configuration choice or a server issue which can typically be resolved by asking your host nicely. The guidelines below aim to prevent most of the common issues or, if prevention is unlikely, at least help you identify the root cause and tell you how to fix it.

## 1. General guidelines for backing up and restoring your site

Restoring sites with Akeeba Backup is easy. Sometimes it may even be *too easy* which makes you prone to making obvious mistakes due to the implied complacency of using third party software to restore your site. In the following paragraphs we explain how to avoid the most common mistakes. This is a long read but we recommend that you read and understand it. We will not accept any "bug" reports about these issues which are, ultimately, user errors. If you need clarifications about any of these issues, however, do feel free to ask us (and be specific about what you didn't understand). We will be happy to help you better understand the issue.

**Make sure you have backups before you need to restore your site.** Over the years we've come across many people who were furious that having installed, but not having used, our backup software didn't help them when their site got destroyed. Don't be that person. Take frequent backups of your site, at the very least before updating Joomla! and its extensions and after making any substantial change to your site. It's dull, it's boring, it's a chore, *it will save your life one day*. Always keep at least one copy (ideally: three copies) of your backups *outside of your site* and ideally outside of your computer too. What is the point of having your backups stored on your site's server when the server's disk crashes or the hosting company goes bankrupt?

**Test your backups periodically.** Maybe you excluded a database table you didn't mean to. Maybe a folder was unreadable but you ignored the warning. Maybe the FTP program you are using to download your backups is broken. Maybe you accidentally set the temp-directory or logs file directory of your site to your site's root or another important system folder, ending up excluding it automatically in the process. Maybe there was a bug in the version of Akeeba Backup you were using, it created a corrupt archive and you didn't update to the next version that fixed it (it happens once every 3-4 years, we usually fix the issue within 24 hours). No matter what happened, a corrupt backup can ruin your day. Test your backups periodically to make sure that they actually work.

**Akeeba Backup archives are self-contained.** The backup archive contains a copy of your site's files, an export of its database data *and the restoration script to put everything together*. This is very different to most other backup software in that the restoration script is inside the backup itself, not a separate thing you need to install. The only thing you need to do before restoring a backup is extract the backup archive. This can be done with Akeeba Kickstart (single file web application), Akeeba UNiTE (automatic site restoration running under the CLI) etc.

**Restoring a backup overwrites the entire site (Joomla! installation). It cannot be used to transfer content between different Joomla! installations.** An Akeeba Backup archive contains your entire site, files and database contents. Restoring a backup will overwrite the files and database tables that have the same name as those included in the backup. As a result it cannot be used to transfer content (e.g. articles) between two different Joomla! installations. It will transfer the entire Joomla! installation instead.

**You DO NOT need to install Joomla! before restoring a backup.** As explained above, an Akeeba Backup archive contains your entire site and the restoration script required to restore it. You do not need to have a functional site to restore a backup. The whole point of Akeeba Backup is restoring a backup when the site is no longer functional. Moreover, we recommend NOT installing Joomla! before restoring a backup because of the point described below about mixing different versions of Joomla!.

**Restoring a backup does NOT delete files on your site which don't exist in your backup.** If a file exists on the site you are restoring to but not inside the backup archive itself it will not be overwritten. This is important in two cases. First, when you are restoring a backup after your site is hacked (*unhacking a site*). The hacker may

have left behind files which can be used to re-hack your site. These files will not be deleted automatically. Use a component, such as Admin Tools Professionals with its PHP File Change Scanner, or a third party service such as mySites.guru to detect and remove such files. Furthermore, if you are trying to *replace a site* with a new one. If the old site is based on an older version of Joomla!, a different CMS (e.g. WordPress), is a static site or had different extensions / templates installed these files will be left behind. In both of these uses cases you should take a copy of your site's files, then delete all files and folders, create a new database and *finally* restore the backup.

**Make sure you are backing up only the files that belong to the site you want to back up.** This is very important when you are backing up a site in the root of your domain but you have additional sites in subdirectories (or subdomains whose root directory is a subdirectory of your main site). Akeeba Backup does NOT assign meaning to your directory names! It does not know that the directory `old_site` has a copy of your site from two years ago or that the folder `gju4r1` has the files for a subdomain you use to share files with your cousin who lives in another country. Akeeba Backup will backup all files and folders under the root of your site unless you tell it otherwise with the Files and Directories Exclusion feature. In any other case restoring your main site would overwrite the files of all the sites in subdirectories under your main site's root!

**Make sure you are backing up only the database tables that belong to the site you want to back up.** This is very important when you are backing up a site that shares a database with another site. Akeeba Backup does NOT assign meaning to the prefix used by your database tables. All tables in the database used by your site will be backed up *regardless* of their database prefix. If you use the same database for the tables of other sites, e.g. sites installed in subdirectories or subdomains on the same hosting account, you **MUST** exclude them manually with the Database Tables Exclusion feature. Otherwise restoring your site would overwrite the database of all of the other sites sharing the same database.

**Keep copies of your backup archives outside of your site.** The reason is simple: human error. If you mess up the restoration and, at the same time, somehow delete your only backup archive you are in deep trouble. Always keep several copies of your backup archives before doing a restoration. We recommend having at least **THREE** copies: on your computer, on a cloud storage provider (e.g. Dropbox, OneDrive, Google Drive, ...) and on a USB stick you keep in a sealed envelope in your desk's drawer. You can never have too many copies of your backups - but you *can* have too few!

**Always practice the restoration on a test server / subdomain before doing it on your live site.** Do you know why the military has so many drills? By repeating the same task over and over they get to perform it near perfectly, every single time, without thinking - even when bullets are flying around them. You don't want to start learning how to restore backups when your site is down. At that point you want your site restored, pronto. That's why you should practice restoring backups before you *need* to restore them. Practice on a test server, e.g. a MAMP, WAMPserver or XAMPP installation on your computer, or a subdomain on a server under your control. Once you have done this a few times you can restore any site, anywhere, without much thinking and without mistakes.

**Make sure you have a database.** Even though Akeeba Backup's restoration script can try to create a database for you this **WILL NOT** work on most database servers for security reasons. Creating a database requires database server administrator (root) privileges which you typically do not have and, even if you do, *should not* use when restoring a site to a live server. Instead, create a database for your site in advance. You will also need to create a database user and give it the correct privileges as described in our troubleshooter [<https://www.akeeba.com/documentation/troubleshooter/abidatabase.html>].

**Do not restore in a subdirectory of your main site.** For example, if your site's root is in `public_html` do not restore to `public_html/dev`. The reason is that the `.htaccess` files, which tell Apache (your web server) how to server your site, *cascade*. That is, Apache will read all `.htaccess` files in all folders leading to the one hosting your site's `index.php` file. This *will* cause problems with the restored site which you will experience as 404, 403 and 500 error messages or blank pages. These have nothing to do with our software and / or the restoration. It's how your web server works. Use a subdomain instead.

**If you are restoring on a subdomain, make sure that the subdomain's root directory is NOT a subdirectory of your main site.** This is the same as the previous paragraph, really. Most hosting control panel software default to using a subdirectory of your site's root when creating a subdomain. For example, if your site is `www.example.com` and its root is `public_html` if you create the subdomain `dev.example.com` your hosting control panel will put its root in `public_html/dev`. Therefore you will have the problem we described above. In this case ask your host what is the best way to create a root folder for the subdomain next to `public_html`, not inside it.



**Try restoring to as close a PHP version as possible.** Not all third party extensions support all PHP versions. If your site was running on PHP 5.6 and you try to restore it on a server running PHP 5.3 or PHP 7.1 your site *may* break. This has, again, nothing to do with Akeeba Backup. Upholding the minimum / maximum PHP version requirements of the software running on your site is your responsibility. We have no way of knowing that information. All we can do is print out the PHP version of the site you backed up and the site you are restoring to during restoration. Everything else is up to you.

**Don't try to restore to a different database technology.** If your site runs on MySQL don't try to restore it on a server that only supports PostgreSQL or Microsoft SQL Server. Even though Joomla! 3 supports all of these database technologies they are incompatible with each other and you *cannot* transfer data between them. You can only restore a site on the same database technology it was backed up on. Clarification: MySQL, Percona and MariaDB are all using the same database technology, collectively called "MySQL". While you can a site between these different MySQL-type database servers we recommend against it. Subtle differences between them may cause restoration errors in some cases. In the few cases we can prevent that, we have added the necessary workarounds. There are some cases we can do nothing about. If you get a database restoration issue please check if you're trying to restore to a different MySQL-like database server than the one you backed up from.

**Do not try to overwrite one Joomla! version family with a different one.** Overwriting a major version with another (e.g. restoring a backup taken on Joomla! 3.7 on top of a site running Joomla! 2.5 or vice versa) or between different minor versions (e.g. restoring a backup taken on Joomla! 3.7 on top of a site running Joomla! 3.6 or vice versa) will NOT work. Joomla! moves files around between minor and major versions. Since the backup does not delete files not present in the backup archive this will end up with Joomla! being "confused" and malfunctioning. In these cases you should delete the existing files and folders (except, perhaps, user generated content) before restoring the backup. You can safely restore a sub-minor (path-level) version on top of another. For example, you can safely restore a Joomla! 3.7.5 site on top of a Joomla! 3.7.3 site or vice versa.

**Pay attention when restoring to a different domain, subdomain or folder:** you will need to enter the domain name, directory and database connection information where you are restoring to. If you don't pay attention you may overwrite a site you didn't intend to touch!

**The restored site is a fully functional clone of your original site.** There is no functional difference between a restored site and one you built from scratch. This means that you can always backup the restored site and then restore that new backup on top of the original site. This makes Akeeba Backup ideal for live-to-development and development-to-live site transfers. If you are an advanced user such as a busy web agency do note that the process can be fully automated using Akeeba UNiTE: it can take a backup remotely, download it and restore it.

## 2. Guidelines for storing your backups remotely / "cloud backup"

### Note

This only applies to Akeeba Backup Professional.

**Uploading backups to a remote location requires setting up a Post-Processing Engine in the Configuration.** By default, your backups are only stored locally, on the server where the site being backed up lives. If you want the backup to be uploaded to remote storage you have to go to the Configuration page and set up a Post-Processing Engine. As with all Configuration settings, this is set up *per backup profile*. Each profile can have a different post-processing setup - or no post-processing setup. Remember this if you're trying to figure out why your backups don't upload.

**Uploading your backup archives can happen during or after taking the actual backup.** All post-processing engines have an option to "Upload parts immediately". When this is enabled (checked), Akeeba Backup will upload each backup archive part file as it's finished being created. The first part of the backup is exempt from this rule: it is always uploaded after Akeeba Backup is done backing up your site. The first part contain special information about the number of part files and / or the number and size of files in the backup, information which is only known after the backup is complete. When the "Upload parts immediately" option is disabled (unchecked, the default state) Akeeba Backup will finish taking a backup of your site and only then will it upload the backup to

remote storage. Therefore, when you are perceiving an issue with Akeeba Backup "not uploading your backups" first check if you have an issue preventing the backup to be taken at all!

**A failed upload to remote storage does not cause the backup record to be reported as failed.** As far as Akeeba Backup is concerned, backing up and uploading are two distinct operations. If the backup completes but the upload fails the backup record will appear as "OK" (green), NOT as Failed (red). If *both* the backup and upload are successful the backup record will appear as either OK (if the backup archive is kept on your site's server) or Remote (if the backup archive is deleted from your site's server, the default option). This distinction makes sense: if the backup is complete you can still restore your site from the generated backup archive.

**Most failed uploads are caused by timeouts.** PHP and your web server have time limits, i.e. the maximum time a PHP script may process data before the web server aborts it. Uploading the backup archives to cloud storage takes time, the exact amount of which depends on the size of the file and the network speed. If that time is over either time limit your backup will fail. The time limit and the bandwidth are beyond our control. The only thing you can control is the size. Many post-processing engines support chunked uploading (breaking up the uploads in smaller bits and having the remote server piece together the file) and you can change their chunk size. A chunk size of 5 or 10 MB works best in most cases. For those post-processing engines which don't have an option for chunked uploads you will have to change the Part size for split archives in the Archiver Engine options. Again, a value of 5 or 10 MB works best in most cases. This setting will split our backup archive into multiple files (same base filename, the extensions are .j01, .j02, ..., .jpa; or .j01, .j02, ..., .jps; or .z01, .z02, ..., .zip;), the maximum size of each one being the value of this setting. To restore these backups just place ALL of these files in the same directory and choose the main .jpa, .jps or .zip file: the other parts are discovered and extracted automatically.

**If you get no uploads / zero sized uploads but not error message, contact your host.** We have seen many hosts putting a (broken) caching proxy in front of their web servers. Instead of letting Akeeba Backup communicate with the remote storage server they immediately return an HTTP 200 OK response *without contacting the remote storage server*. Unfortunately, for many remote storage services such as Dropbox, OneDrive and Google Drive *this would be the expected response when the upload succeeds*. How you can tell this happened? Check the Akeeba Backup log file. If the upload takes less than 2 seconds we GUARANTEE that your host is doing what we just described. Their first level support may deny it; ask to escalate to a server technician. They will add a proxy server exception and your remote backups will work perfectly.

**You can't upload to multiple locations.** You can only set up a single post-processing engine. Multiple upload locations would increase the load on your server and the likelihood that something fails during backup. Moreover, this does not offer the kind of redundancy you might hope to achieve. Instead, use Dropbox, OneDrive or Google Drive to automatically download the backup archive to your computer. Use a regular desktop backup software to back up the local copies of your site's backups to a NAS.

**If some part files of your backups failed to upload use the Manage remote backups in the Manage Backups page to retry uploading them.** Sometimes a temporary network issue may prevent the upload from going through. Using the Manage remote backups to retry the upload usually works just fine!

**If your uploads fail with long, cryptic errors about the signatures being wrong please check the time and the timezone of your server.** Most remote storage engines require your server's time to be set within a reasonable accuracy to the true time. This can be automated on your server by setting and running the ntpd service. If your host hasn't done so the time will drift until it's so far off the true time that uploads will fail. If you get these cryptic error messages about signatures first *triple check* that your credentials are set up correctly in the post-processing engine options in the Configure page for the backup profile that fails. If you have triple checked them and found them to be working, contact your host and ask them to check the time and timezone on the server. It's silly, but this is the second most common cause of upload failures (after the part size discussed above) that we keep seeing.

## 3. Overview of the backup restoration procedure

Please watch our Video Tutorials [<https://www.akeeba.com/documentation/video-tutorials.html>] for a quick (less than 10 minutes) overview of the whole process, from installing Akeeba Backup to restoring your backup archives.

The backup restoration procedure generally consists of two discrete steps:

1. **Extraction of the backup archive.** The backups taken with the application are compressed to save space and, in the case of JPS archives, encrypted to protect their contents from prying eyes. The first thing you need is to extract the archive, getting access to the files contained in it.

You can find information about the different ways to extract backup archives in [Extracting your backup archives](#).

2. **Database restoration and site (re-)configuration a.k.a. "running the installer".** All backups taken with Akeeba Backup contain a web-based restoration script called the installer. Its job is to restore the database backup, move the backed up off-site folders to their proper locations and, if your site script is supported, rewrite your site's basic configuration to match the new server.

You can find information about the different restoration scripts in [ANGIE: the Akeeba Backup restoration script](#).

## Prerequisites

Before you begin the restoration procedure you will also need to have a database to hold your data and the connection information to it at hand. For this you need to create a database for your site's data, or note down the connection information to an existing database if you are installing on top of an existing site. You will need the following information:

- Database host name. This is usually `localhost`, but you may need to check with your host
- Database name. The name of the database you are restoring to. If you are on a host powered by cPanel or Plesk do note that the name of the database includes an account-specific prefix. If your account name is `foo` and the name of your database you asked to create is `bar`, the full database name is `foo_bar`.
- Database user name. The user name you use to connect to your database. The same thing about the naming prefix on cPanel and Plesk hosts is true for the username as well.
- Database user password.
- Your preferred table name prefix. This is not something your host will tell you, it's just a matter of your personal preference. You may use anything you want. It's best to pick a name consisting of three to four letters and a single trailing underscore, i.e. `tst_` or `test_`. Do not use `bak_` as it is a reserved prefix for keeping copies of replaced tables when you select the Backup old tables option in the installer later in the process.

### Warning

DO NOT use any uppercase letters. There is a known issue with MySQL on case-insensitive filesystems such as on Windows and macOS which may make it difficult or outright impossible to restore a backup you take when a table contains uppercase letters. This is NOT a bug in Akeeba Backup, it's a known and well documented issue in MySQL itself.

If your host gives you such an option—or if you are using a local server—it's a good idea to set the default collation of the database to `utf8_general_ci`. If you are not given such an option, don't worry. The installer can work around this limitation with its Force UTF8 collation on tables option on MySQL databases. For other database types you have to specify the correct collation on the database when creating it.

Some PHP software, such as Joomla 3.7 and later, is using the `utf8mb4_general_ci` collation instead. This collation supports multi-byte Unicode characters such as Emoji, certain Tradition Chinese characters and so on. If you need to restore such a site please remember to turn on the Allow UTF8MB4 auto-detection option.

The server where you are restoring your backup must be using PHP 7.1.0 or later by default. Please note that many hosts claim to *support* a high version of PHP (e.g. PHP 7.3) but it's not the version they use by default. For instance, we've seen hosts which claim to support PHP 7.3, but the default version they are using is PHP 5.3. If the restoration fails with a notice that the PHP version is too old please do contact your host and ask them to make PHP version 7.1.0 or later as the default PHP version of your site. It's really easy for them: they have to change just one line in your site's configuration.

## 4. Extracting your backup archives

There are different ways to extract your backup archive, depending on its format and where you intend to restore it to. If you are restoring on the same hosting account as your Akeeba Backup installation the most convenient method is using the integrated restoration feature. If you are restoring to a different site or server using Akeeba Kickstart is the best option. Finally, if you are using a ZIP archive it is possible that some third party software will be able to extract it as well.

### 4.1. Using the integrated restoration feature (most common)

The integrated restoration feature allows you to easily restore a previous backup directly on your server, where you took the backup from, as long as your backup archive still exists on your server of course.

The communication between your browser and the archive extraction script is encrypted with the AES128 (Rijndael) encryption method, using a random key produced as soon as you initiate the restoration of a backup archive. This ensures that a malicious user can't exploit the restoration script to mischievously extract your backup archive in your site's root with the intent to steal your database password. The encryption/decryption algorithm is implemented with standard PHP and Javascript code, eliminating the need for third party cryptography libraries and ensuring that under no circumstances unencrypted data will be exchanged between the browser and the server.

In order to start an integrated restoration begin by going to the Manage Backups page of the component. In that page check the checkbox next to the backup you want to restore and click the Restore button in the toolbar to will run the integrated restoration feature for the selected archive file.

#### The integrated restoration setup page

System ▾ Users ▾ Menus ▾ Content ▾ Components ▾ Extensions ▾ Help ▾ Vergine ▾

Akeeba Backup: Site Restoration Joomla!

Control Panel Help

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Files extraction method

Files extraction method Hybrid (write directly, use FTP layer only when necessary) ▾

Tip: In order to restore to a remote server just select the "Use the FTP layer" option and supply your remote server's FTP connection information in the FTP Layer Options below.

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Secure Archive Options

Encryption key

---

FTP Layer Options

Host name localhost

Port 21

User name

Password

Initial directory

Start Restoration Test FTP connection

When you first start the integrated restoration feature, you are presented with a few settings. The first setting, appearing above the Start Restoration button, determines how the file extraction will be performed. The available options are:

- |                         |  |
|-------------------------|--|
| Write directly to files | All files will be extracted directly to their final location using direct PHP file writes. If your permissions settings do not allow some files or directories to be created/overwritten the process will fail and your site will be left in a half-restored state.  |
| Use FTP uploads         | Using this method, each file is first extracted to the temporary directory specified by the current profile and then moved to its final location using FTP. This is a "best effort" approach and can work with most servers. Do note that only unencrypted FTP (plain FTP) is supported. If you choose this option, you'll also have to specify the FTP connection settings. |

### Tip

You can use this option to restore a backup on a different site. Just select this option and provide the FTP connection details to the other site before clicking on Start Restoration.

- |        |   |
|--------|---|
| Hybrid | This mode combines the previous two in an intelligent manner. When selected, the application will first attempt to write to the files directly. If this is not possible, i.e. due to permissions or ownership of the file or folder being extracted, it will automatically make use of the FTP mode to overcome the permissions / ownership problem. It effectively works around a situation commonly called "permissions hell", where different files and folders are owned by different users, making it extremely difficult to overwrite them. This is a situation which happens very commonly on shared hosting. Therefore <b>we strongly advise clients on shared hosting environments to use the Hybrid option.</b> |
|--------|---|

### Note

You **MUST** supply your FTP information for this mode to have any effect. If you do not do that the Hybrid mode will function exactly as the "Write directly to files" mode.

The default mode is writing directly to files, unless you have already enabled the FTP mode in the application's System Configuration page. In this case the Hybrid Mode is selected by default.

In the event that a partial restoration happens, your site will be left in a semi-restored state. Trying to access it will probably cause the restoration script (ANGIE) to appear or your site will throw an error message. If you want to stop the restoration please remove the `installation` directory from your site's root manually, for example using FTP, before trying to access your site again. Please note that it is possible that your site is left in an unusable state by doing that. If this happens, please retry the restoration.

If you chose to use the FTP mode, there are some connection settings you have to take care of. They are:

- |                   |  |
|-------------------|--|
| Host name         | The host name of your site's FTP server, without the <code>ftp://</code> protocol prefix. For example, <code>ftp.example.com</code> is valid, <code>ftp://ftp.example.com</code> is <i>invalid</i> .   |
| Port              | The TCP/IP port of your site's FTP server. The default and standard value is 21. Please only use a different setting if your host explicitly specifies a non-standard port.  |
| User name         | The username used to connect to the FTP server.  |
| Password          | The password used to connect to the FTP server.  |
| Initial directory | The FTP directory to your web site's root. This <i>is not the same as the filesystem directory</i> and can't be determined automatically. The easiest way to determine it is to connect to your site using your favourite FTP client, such as FileZilla. Navigate inside your web site's root directory. Copy (in FileZilla it appears on the right hand column, above the directory tree) and paste that path in the application's setting. |

Test FTP connection	Clicking on this button will tell you if the FTP connection could be established or not. If the connection is not successful you should not proceed with a restoration in FTP mode as it will fail immediately.
---------------------	---

The rest of the extraction process is automated, so there is not much to tell you about it. However, you must not that in order for the restoration procedure to work properly you must take care of the following:

1. This feature is directly calling the `restore.php` script inside the component's root directory. If you have a server-side protection, i.e. `.htaccess` rules, or permissions settings which prevent this file from being called directly the process will fail.

Security note: The `restore.php` file is of no use to potential hackers. In order for it to work at all, it requires the `restoration.php` file (more on that on the next point of this list) to load. Even then, it expects encrypted data with a key which is not predefined and is only known to the `restore.php` script and the integrated restoration page of the application. As a result, it can't be used as a potential attack vector.

2. Before the restoration begins, the application needs to create the `restoration.php` file with all the archive extraction setup parameters. It is intelligent enough to use any FTP / SFTP file writing mode which you have configured in the System Configuration page to overcome any permission problems, but you are ultimately responsible for ensuring that the permission settings are adequate for the application to create this file.

If you are using the direct file writes in the System Configuration page the permissions of the application's directory should be 0777 for the integrated restoration to work. **USING SUCH BROAD PERMISSIONS IS NOT RECOMMENDED AND MUST BE AVOIDED IF AT ALL POSSIBLE.** On hosts which use suPHP, FastCGI or other methods which ensure proper file ownership 0755 permissions are recommended.

If you are using the FTP / SFTP layer, you'll need to give this directory at least 0744 permissions, but you may have to manually remove `restoration.php` (**but NOT** `restore.php`!!!) after the site restoration is over.

3. When the extraction of the backup archive finishes, you will be asked to open the restoration script in a new tab or window. **DO NOT CLOSE THE INTEGRATED RESTORATION PAGE'S TAB/WINDOW!** Just point your browser to `http://www.yoursite.com/installation/index.php` (where `www.yoursite.com` is the domain name of the site you are restoring to) to access the restoration script.
4. After you have completed the restoration script's process you are supposed to return to the Integrated Restoration page and click on the Finalize button to:
  - remove the `installation` directory from your restored site's root, and
  - remove the `restoration.php` setup file from the application's directory.

If you have restored the backup to a site different than the one you backed up from, the Finalize button may fail to work. In this case use your favorite FTP client to remove the `installation` directory from the site you were restoring to and rename any `htaccess.bak` file back to `.htaccess`.

## 4.2. Using Akeeba Kickstart

### Tip

You can download Akeeba Kickstart from our site's download page [<https://www.akeeba.com/download/official/akeeba-kickstart.html>]. The latest release is always at the top of the list. Older versions are available for use with older versions of our backup software.

In order to use Kickstart, begin by downloading Kickstart itself from our site. You will download a ZIP archive which you have to extract first on your computer. Inside it you will find `kickstart.php`, several `.ini` files and a couple of `.js` file. You need to copy at least the PHP file into the root of the to be restored site. For example, if you are restoring on a subdirectory named `example` in the root of your XAMPP for Windows installation, you need to copy the file inside the `c:\xampp\htdocs\example` folder. Conversely, if you are restoring to a live host, upload the PHP file using FTP in your site's root.

The .ini files in the Kickstart ZIP package are translations. Kickstart will query your browser's default language and look for the respective translation file. For example, if the default browser language is German (de-DE) Kickstart will try to load the de-DE.kickstart.ini file in order to present you with a localized interface. If you want to take advantage of Kickstart's localization copy the respective .ini file in the same directory as the kickstart.php file. If unsure, upload all .ini files; they will be automatically removed after Kickstart finishes.

The final step before being able to extract the archive is, of course, copying the archive itself in the same directory as `kickstart.php`. If you have a multi-part archive remember to upload all of the archive parts, otherwise the extraction will, of course, fail. Moreover, if you are restoring to a live server please upload the backup archive and all of its parts using the Binary transfer mode. We suggest using CyberDuck or FileZilla to do that. As soon as you connect to your site and right before uploading any files click on the Transfer, Transfer Type, Binary menu item. This will ensure that the backup parts will not be corrupted during transfer.

## Note

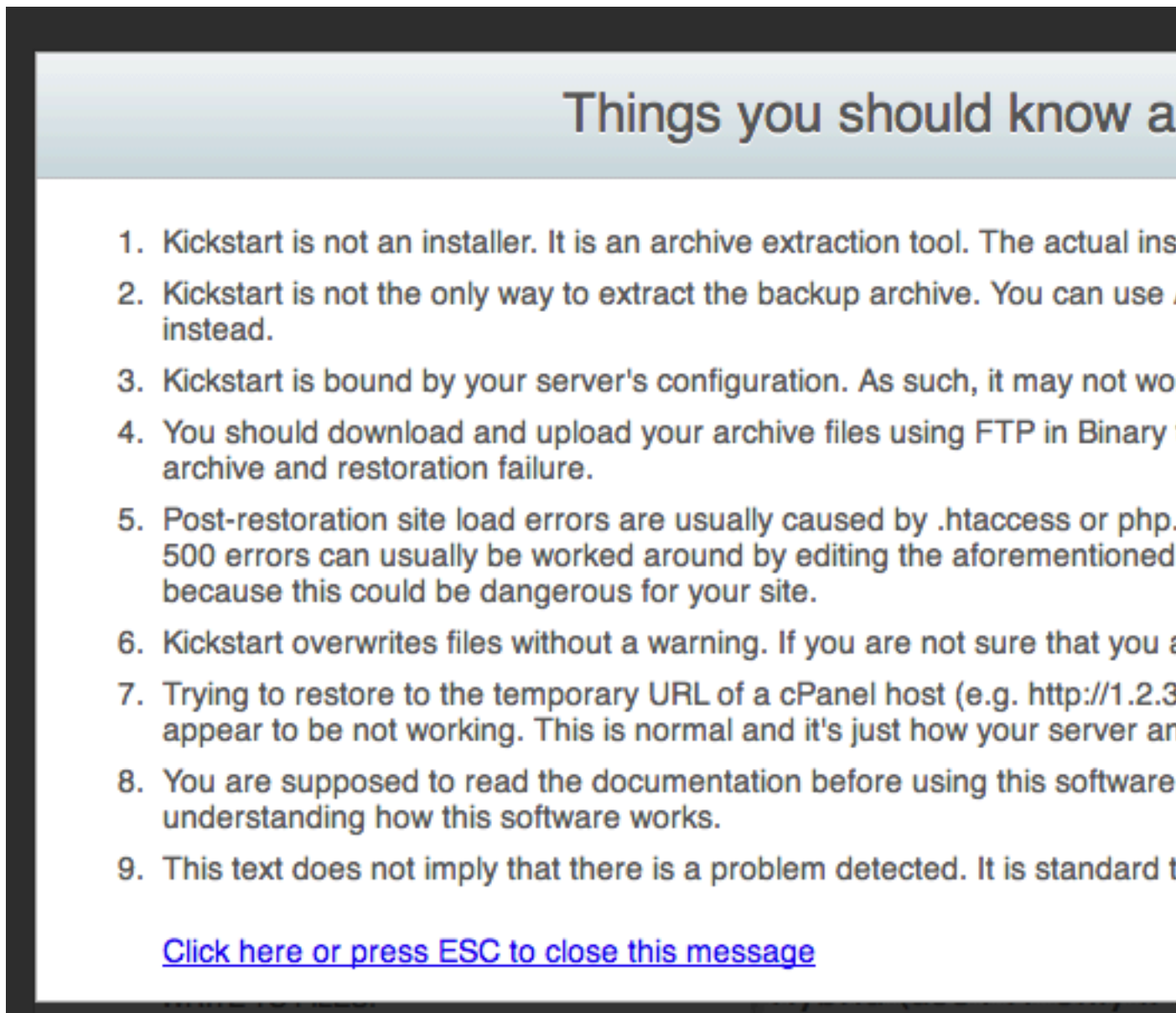
### Special note for most shared live hosts

If you are restoring on a shared live server which doesn't use suPHP (the majority of live servers) you may need to use Kickstart's FTP mode if the Direct mode (default) doesn't work. In this case, creating a temporary directory is necessary. First make sure that your site's root directory has 0755 permissions. If unsure, ask your host. Then, create a directory named `kicktemp` inside the directory `kickstart.php` is in and give it 0777 permissions. Remember to remove this directory as soon as you are done restoring your site for security reasons!

Once you're ready with the preparation, launch Kickstart by visiting its URL which looks like `http://localhost/mysite/kickstart.php` on local hosts, or `https://www.example.com/kickstart.php` on live hosts.

The first page is a reminder of key facts about Kickstart:

## Kickstart's first page



After reading it, press ESC to close the information window and display the main interface:

## Kickstart - Select a backup archive

The screenshot shows the Akeeba Kickstart Professional 6.0.1 interface. At the top, it says "Akeeba Kickstart Professional 6.0.1". Below that is a yellow banner with the text "Want some help to use this tool? Read this first: [Quick Start Guide](#)".

The main section is titled "1 Select a backup archive". It contains two buttons: "Import from Amazon S3" and "Import from URL".

Below these buttons are three input fields:

- Archive directory:
- Archive file:
- Archive Password (for JPS files):

There are two green buttons: "Reload" next to the Archive directory field and "Start" at the bottom.



In the first step, select your backup archive file. Usually, there is only one file and it is pre-selected for you.

## Important

If you have a multipart backup archive only the main part with the .jpa, .jps or .zip extension will be displayed. The part files (.j01, .j02, ... or .z01, .z02, ...) will be extracted automatically. In fact, all of these part files **MUST** be present for the extraction to proceed.

If you are restoring an encrypted archive (JPS) please enter the password to it in the Archive password (for JPS files) field. Please remember that the password is case sensitive: abc, ABC and Abc are three different passwords.

## Kickstart - Select an extraction method

2 Select an extraction method

Write to files: Hybrid (use FTP only if needed) ▼

Ignore most errors ☐

(S)FTP host name: localhost

(S)FTP port: 21

Use FTP over SSL (FTPS) ☐

Use FTP Passive Mode ☒

(S)FTP user name:

(S)FTP password:

(S)FTP directory:

Temporary directory: /var/www/html/angle/ Check Reset

Test FTP connection Can't get it to work? Click me!

In the second step, you have to choose an extraction method. The **Directly** method is the fastest and should work on all local and most live hosts. If you get error messages about unwritable files in later steps, you'll have to use the **Use FTP** mode here. The best option is the **Hybrid** one. It will intelligently switch between **Directly** and **Use FTP** on a file-by-file basis, automatically detecting which mode is more appropriate for it.

If you are using the FTP or Hybrid modes, you will see the FTP-specific options:

FTP host name	Use the domain name or IP address to access your site's FTP server. Do not use the ftp:// protocol prefix. For example, ftp.example.com is correct whereas ftp://ftp.example.com is wrong.
FTP Port	Leave the default value (21) unless your host tells you otherwise. Do note that Kickstart only supports plain FTP and FTP over SSL connections, but not SFTP. If your host tells you to use port 22 – which is used only by SFTP – it won't work.
Use FTP over SSL (FTPS)	Use only if your host tells you it is supported. FTPS is not the same as SFTP, do not confuse those two!
Use FTP Passive Mode	It's a good idea to turn it on, as most servers require it. If your host told you they require active mode, uncheck this option.
FTP user name and password	What they claim to be, the user name and password to connect to your site's FTP server
FTP directory	The absolute FTP path to your site's root. The easiest way to find it is using FileZilla to connect to your site and navigate to your site's root, which is usually a directory named <code>htdocs</code> , <code>httpdocs</code> , <code>http_docs</code> , <code>public_html</code> or <code>www</code> . Look at the right hand pane, above the folder tree (Remote site text box). This is what you want. Copy it and paste it in Kickstart's FTP directory box.

**Temporary directory** If you followed the instructions at the beginning of this chapter above, you have already created a `kicktemp` directory with 0777 permissions. If not, do it now. After that, just append `/kicktemp` to whatever is already written the Temporary Directory box. You can check that the directory exists and is really writeable by clicking on the Check button. The Reset button will reset the box to its initial value should you accidentally mess up its contents.

Click on Test FTP connection before proceeding to make sure that Kickstart can connect to your site through FTP before proceeding.

## Kickstart - Fine tune

**3 Fine tune**

Minimum execution time:  seconds per step

Maximum execution time:  seconds per step

Increase the minimum to 3 if you get AJAX errors. Increase the maximum to 10 for faster extraction, decrease back to 5 if you get AJAX errors. Try minimum 5, maximum 1 (not a typo!) if you keep getting AJAX errors.

Stealth mode ☐

HTML file to show to web visitors

When enabled, only visitors from your IP address will be able to see the site until the restoration is complete. Everyone else will be redirected to and only see the URL above. Your server must see the real IP of the visitor (this is controlled by your host, not you or us).

Delete everything before extraction ☐

Tries to delete all existing files and folders under the directory where Kickstart is stored before extracting the backup archive. It DOES NOT take into account which files and folders exist in the backup archive. Files and folders deleted by this feature CAN NOT be recovered. **WARNING! THIS MAY DELETE FILES AND FOLDERS WHICH DO NOT BELONG TO YOUR SITE. USE WITH EXTREME CAUTION. BY ENABLING THIS FEATURE YOU ASSUME ALL RESPONSIBILITY AND LIABILITY.**

Rename server configuration files ☒

Renames .htaccess, web.config, php.ini and .user.ini contained in the archive while extracting. Files are renamed with a .bak extension. The file names are restored when you click on Clean Up.

Restore file permissions ☐

Applies the file permissions (but NOT file ownership) which was stored at backup time. Only works with JPA and JPS archives. Does not work on Windows (PHP does not offer such a feature).

Files to extract

Enter a file path such as `images/cat.png` or shell pattern such as `images/*.png` on each line. Only files matching this list will be written to disk. Leave empty to extract everything (default).

The fine tuning options are *for advanced users only*. Changing them might make it impossible to extract your backup archive. If you are not sure you understand what they do we advise you to not touch them.

**Minimum execution time** Akeeba Kickstart breaks down the archive extraction process in small chunks. This value determines the minimum amount of time each of these chunks should take. It's recommended to leave the default setting of 1 second. If you have a server with strict usage limits you are suggested to set this to 5 and the maximum execution time to 3 (yes, the maximum will be lower than the minimum, it's not a typo).

**Maximum execution time** Akeeba Kickstart breaks down the archive extraction process in small chunks. This value determines the maximum amount of time each of these chunks should take. Larger values will make the extraction marginally faster but more prone to server timeouts. Smaller values will make the extraction slower but less prone to server timeouts.

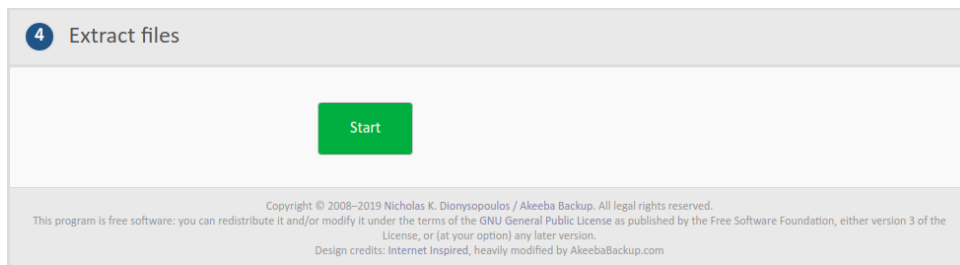
**Stealth mode** When an extraction and restoration takes place anyone with a web browser can navigate to Kickstart itself or the restoration script. This is problematic on the security front. Enabling the Stealth Mode will make your site available only to your IP address while the extraction and restoration is in progress. Anyone else visiting the site will see a static HTML page, given below. When you clean up after the restoration is over your visitors will see your site normally.

## Important

This feature only has any effect on hosts using the Apache web server or a compatible server which understands .htaccess files. It will definitely not work on hosts using IIS or NginX.

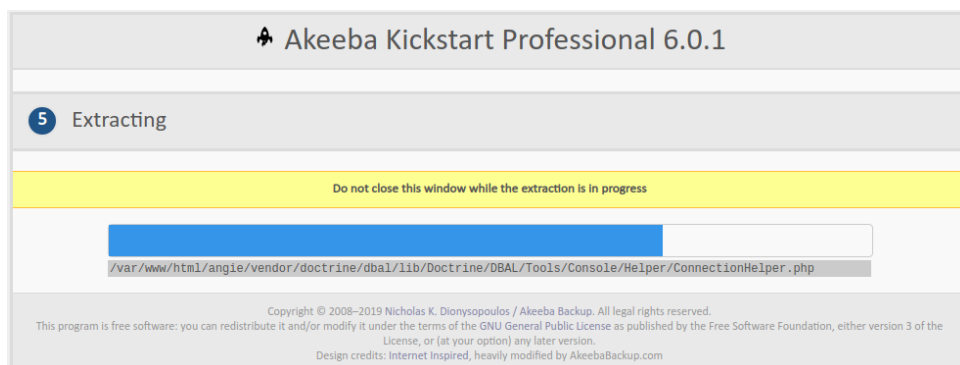
HTML file to show to web visitors	This option allows you to define the name of the static HTML page to show to your visitors when the Stealth Mode above is enabled. The file and its resources (images, CSS, Javascript files) must reside inside your to-be-restored site's root. You must only define the name of the file to use, not its URL. This means that <code>offline.html</code> is a valid setting, whereas <code>http://www.example.com/offline.html</code> is <b>INVALID</b> and will result in a 404 error thrown to your visitors.
Delete everything before extraction	Tries to delete all existing files and folders under the directory where Kickstart is stored before extracting the backup archive. It <b>DOES NOT</b> take into account which files and folders exist in the backup archive. Files and folders deleted by this feature <b>CAN NOT</b> be recovered. <b>WARNING! THIS MAY DELETE FILES AND FOLDERS WHICH DO NOT BELONG TO YOUR SITE. USE WITH EXTREME CAUTION. BY ENABLING THIS FEATURE YOU ASSUME ALL RESPONSIBILITY AND LIABILITY.</b>
Rename server configuration files	Renames .htaccess, web.config, php.ini and .user.ini contained in the archive while extracting. Files are renamed with a .bak extension. The file names are restored when you click on Clean Up.
Restore permissions	Applies the file permissions (but NOT file ownership) which was stored at backup time. Only works with JPA and JPS archives. Does not work on Windows (PHP does not offer such a feature).
Files to extract	Enter a file path such as <code>images/cat.png</code> or shell pattern such as <code>images/*.png</code> on each line. Only files matching this list will be written to disk. Leave empty to extract everything (default).

## Kickstart - Extract files



Click on the big green Start button. Kickstart will start extracting your site's files.

## Kickstart- Extracting



The blue bar fills up while your site files are being extracted.

If you get an “Unwritable file” error message, go back and enable the Use FTP option before re-trying extraction. If all else fails, extract the archive locally and upload the extracted files to your site by FTP.

If you get an error message that the archive is corrupt, you have to check two things. First, make sure that you have uploaded all archive parts. In a multi-part archive situation, there is the main .jpa, .jps or .zip file and several “part files” with the same name as the main file but with extensions like .zip, .z01, .z02, etc (ZIP) or .jpa/.jps, .j01, .j02, etc (JPA/JPS). You have to upload all of those files for the extraction to work.

The other thing you must check is how you downloaded and uploaded the backup archives. As mentioned in "The recommended method" section, you should use FTP in Binary transfer mode. This holds true for uploads as well. Try uploading the backup archive again, using FTP in Binary Transfer mode and retry. This usually does the trick.

When the extraction is over, Kickstart offers you a link to open the restoration script which was included in your archive file and is just extracted to your site:

## Kickstart- Restoration and Clean Up



Click on this button and start reading the next chapter, detailing the use of the restoration script. Do not close Kickstart’s window/tab yet! You will need it to clean up after the restoration is over.

## Note

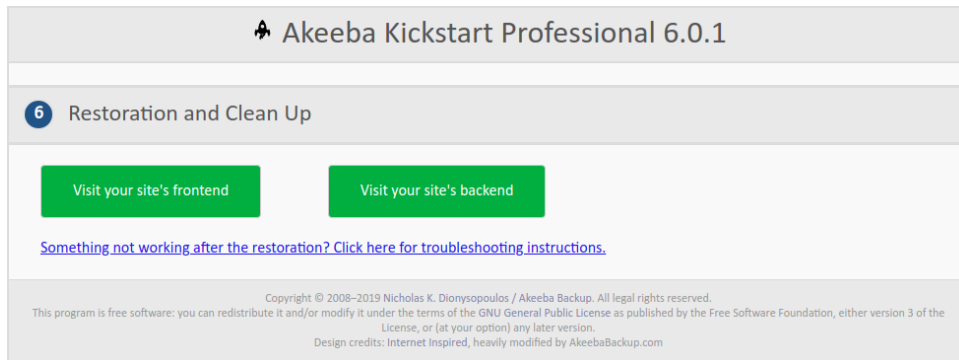
Kickstart extracts the .htaccess and php.ini files in your site's root (if they exist in the backup archive) as htaccess.bak and php.ini.bak respectively to avoid any incompatibilities during site restoration. Do note that these files are restored to their original names during the last step of the restoration procedure. Should you use Kickstart just for extracting your site's files, please keep this information in mind as you will have to rename those files manually.

## Kickstart- Restoration and Clean Up



Once you are done with the restoration script, click on the Clean Up button. This will remove the installation directory which holds the restoration script, Kickstart's files, the backup archive (and all its part files) and rename the file mentioned above back to their normal names.

## Kickstart- Restoration and Clean Up



Use the View your site's front-end button to visit your site. Ignore the other button; it's only used for backups taken with Akeeba Backup for Joomla!.

## 4.3. Using third party software

### Warning

We strongly advise you against using third party software to extract backup archives. Backup archives taken with Akeeba Backup are best extracted using Akeeba Kickstart.

If you are using the ZIP format it is possible to use third party software to extract the backup archives locally. Please note that the only third party software which follows the official ZIP specification and can extract backup archives in ZIP format is PKZIP for Windows and WinZIP. Other software such as the Linux and Mac OS X ZIP utility, Windows Compressed Folder, WinRAR, 7-Zip etc use the InfoZIP library which does not understand the official multipart ZIP archive format specification which is used by Akeeba Backup.

Moreover, large files do have an invalid CRC32 checksum. This is done on purpose. Calculating the CRC32 checksum of large files would lead to timeouts and backup failure. This means that you may receive warning about corrupt files when extracting backup archives in ZIP format. Usually this is not a problem, the files are extracted successfully.

After extracting the files you will need to move them to your web root.

## 5. ANGIE: Akeeba Backup's restoration scripts

All full site and database backup archives created by the application contain a restoration script (also called "installer") inside the `installation` directory. This script is used to restore your database and, depending on the type of installer script selected and the PHP-based application used by your site, possibly reconfigure your site.

The restoration scripts used by the application are all based on ANGIE (Akeeba Next Generation Installer Engine), a common platform for backup restoration scripts. The only difference in each installer is the first page (requirements check) and its final page (site configuration). Everything else is common among them.

Since the installer is stored in the backup archive at backup time, it is important to choose the correct installer for your site. For example, if you have a Joomla site you have to choose "ANGIE for Joomla". Selecting the wrong installer is not the end of the world; you will still be able to restore your site's database content but you will have to modify your site's configuration file(s) manually.

All installers can be accessed by visiting the `installation/index.php` URL on your site after extracting the backup archive. For example, if your site is located in `http://www.example.com` you can access the ANGIE installer after extracting the backup archive by visiting `http://www.example.com/installation/index.php`.

## 5.1. Common instructions for all ANGIE installers

This section of our documentation will guide you step-by-step through the restoration process with ANGIE, the restoration script included in the `installation` directory of every backup archive taken with the application. When the instructions depend on a specialised ANGIE installer (e.g. ANGIE for Joomla!, etc) we will point you to the right page for more information. Please read this section in the order presented for best results.

### 5.1.1. The session fix page

#### Important

This is an optional page and you may not ever see it during your site's restoration. Read below for more information on when it is shown.

In order for ANGIE to work it needs to be able to store some temporary data between page loads. This data is stored in files inside the `installation/tmp` directory of your site during the restoration. Depending on your server and the way you extracted the backup archive this directory may end up being unwritable for PHP and, of course, ANGIE itself. The easiest way to work around it is giving this directory `0777` permissions using your favourite FTP programme. We have, however, found out that many of our users feel lost when they are told they have to change permissions. As a result we have made ANGIE very smart and capable of fixing this problem by itself, as long as you give it your FTP connection information first. Therefore, in case that this problem is detected, you will see the following page:

#### ANGIE - The session page

Akeeba Backup Site Restoration Script [viewCIE329CD](#)

⚠ Neither your session save path in your server's php.ini nor the installation/tmp directory is writable. One of them must be writable for the installation to continue.

Please try giving the `installation/tmp` directory `0777` permissions with your FTP programme and reload this page. Alternatively, you can provide your FTP connection information below and ANGIE will try to do that for you, if your server allows it.

FTP Connection Information

Hostname  ⓘ  
The hostname of your FTP server without the `ftp://` prefix, e.g. `ftp.example.com`

Port   
The TCP port of your FTP server. Unless your host tells you otherwise, use 21

Username

Password  ⓘ

Directory  Browse...  
The FTP directory where your site's files are. If unsure, please remove its contents and press the Browse button next to it.

✓ Apply changes

You have to provide the following settings:

Host name	Use the domain name to access your site's FTP server
Port	Leave the default value (21) unless your host tells you otherwise. Do note that Joomla! only supports plain FTP. If your host tells you to use port 22 – which is used only by SFTP – it won't work.
Username and password	What they claim to be, the user name and password to connect to your site's FTP server
Directory	The absolute FTP path to your site's root. The easiest way to find it is using FileZilla to connect to your site and navigate to your site's root, which is usually a directory named <code>htdocs</code> , <code>httpdocs</code> , <code>http_docs</code> , <code>public_html</code> or <code>www</code> . Look at the right hand pane, above the folder tree (Remote site text box). Copy it and paste it in the Directory box.

## Tip

You can instead fill in all of the other information, leave this field blank and click on the Browse button next to it. If your FTP information is correct a popup directory browser appears. You can now browse to the site root directory. It's the one where you can see your site's `installation`, `includes` and `libraries` directories. Once you're in there click on the Use this button.

Then click on the Apply changes button. If all of the FTP connection information is correct, PHP can connect to your site by FTP and your FTP server allows changing permissions you will see the main page of ANGIE. Otherwise you will see the session fix page again. In this relatively rare (less than 5% of servers out there, according to our experience) case you will have to change the permissions of the `installation/tmp` directory manually, using your FTP software or your hosting control panel.

## 5.1.2. The password page

### Important

This is an optional page and you may not ever see it during your site's restoration. Read below for more information on when it is shown.

Your backup contains all of the database connection information and, sometimes, the FTP connection information as well. This means that anyone who has access to the backup restoration script over the web can learn this information. This is a security risk. While Kickstart allows you to use Stealth Mode (which locks the site for everyone except your own IP address) this only works on servers using the Apache web server. With alternative web server software such as IIS, NginX, Litespeed and Lighttpd becoming more popular this doesn't cut it any more.

This is why we added support for password protection to ANGIE. You can enable it in the application, in the Configuration page of the component. You also get the chance to override that password when taking a backup from the back-end of your site, by providing it your desired password to the "ANGIE password" field in the Backup Now page. The password is stored in the backup archive encrypted, making it more difficult to be accidentally exposed to a hacker.

If you have specified a password for ANGIE you will see the ANGIE password page when you launch it. Just provide your password and ANGIE will show its main page. If the password is incorrect you will be shown the password page again.

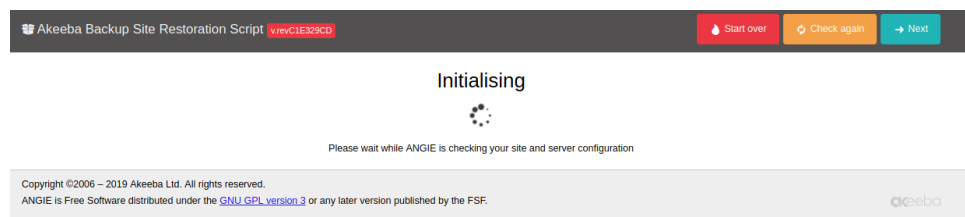
### Important

Just like with passwords on most web sites and devices you may have used, ANGIE passwords are case sensitive. This means that ABC, abc and Abc are three different passwords.

## 5.1.3. The main page

First you see ANGIE's initialisation page:

### ANGIE - The initialisation page



At this point ANGIE is performing system checks. If your browser gets stuck at this page please try disabling any browser plugins, firewalls and antivirus applications which might be interfering with the Javascript on the page. The most likely culprits we've seen are NoScript (a Firefox plugin which disables Javascript) and AVG Antivirus' "Link Checker" feature which ultimately breaks Javascript on most pages. If that doesn't help please try using a different computer, with a different browser and connected via a different ISP to the Internet. Sometimes computer policies, proxies and other network settings can interfere with web applications such as ANGIE or the site script you are restoring.

The next page you will see is the main system checks page. In this page ANGIE checks your server configuration and makes sure it matches the requirements of both ANGIE and the site script you are currently restoring. The exact layout of the page depends on which ANGIE installer you are using. Here you can find links to these specialised installers, in alphabetical order:

- ANGIE for Joomla! [angie-joomla-first]
- ANGIE for Miscellaneous PHP Applications [angie-misc-first]

### 5.1.4. The database restoration page

#### **Important**

If you are restoring to a new site -even if it is a subdomain or directory of the main site- you **MUST** create a new database before the restoration. ANGIE can not do that for you. It's not that we didn't think of it (the code is there, if you take a look), it's that on most server environments you don't have adequate database server permissions to create a new database. For detailed instructions on creating new databases, take a look at the relevant page of our Troubleshooting Wizard [<https://www.akeeba.com/documentation/troubleshooter/abidatabase.html>].



## ANGIE - The database restoration page

Akeeba Backup Site Restoration Script vrevC1E329CD

← Previous

Skip Restoration

→ Next

No idea what you are supposed to do? Don't panic!

Read the documentation page

Pre-installation > Database Restoration > Site Setup > Finished

Restoration of site's main database

? Show / hide help

Connection information

Database type

MySQL (PDO driver)

Database server host name

Database server host name

User name

User name

Password

Password

Database name

Database name

Database table name prefix

test\_

Advanced options

With existing tables

Drop

Backup

☒ Suppress foreign key checks

☒ No auto value on zero

☐ Use REPLACE instead of INSERT

☐ Force UTF-8 collation on database

☐ Force UTF-8 collation on tables

☐ Allow UTF8MB4 auto-detection

☒ Stop on CREATE error

☒ Stop on other error

Fine tuning

Do not change these settings unless you are requested to do so by our support or you REALLY know what you are doing.

Maximum execution time

5

Throttle time (msec)

250

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At the top of the page you see which database you are about to restore. The first database you will be restoring is the "site's main database" which means that it's the database your web script uses to store its data (the one you set up in the configuration wizard or the application's Configuration page). If you had defined multiple databases you will be restoring one database after the other, but the "site's main database" is always the first one to restore. If you do not wish to restore a particular database you can click the orange Skip Restoration button in the top right hand corner of the page.

The first thing you see is the Connection information column in the left hand side of the page. It is pre-populated with the connection settings of the site you backed up. If you are restoring to a different site than the one you backed up from it will be blank, indicating that you must specify the correct connection information for the new server.

Start with the database type. It's usually MySQLi (with the "i" at the end), unless you have a server with an outdated PHP version or suboptimal server settings. The other option, MySQL (without the "i" at the end) is the old MySQL driver which is slower and was ultimately removed in PHP 5.5.0 released on June 2013. The final option is the PDO MySQL which is another modern driver for MySQL. It's just as fast as the MySQLi driver. If you see no option then your new server is not compatible with the database technology which was being used by your site at backup time. That is to say that you cannot restore a site which was using MySQL on Microsoft SQL Server or PostgreSQL or vice versa; they are completely incompatible and a conversion between them is a lengthy and very difficult process which cannot be automated. Please remember this: **RESTORING SITES TO**

A DIFFERENT DATABASE SERVER TYPE IS NOT GOING TO WORK, IS NOT SUPPOSED TO WORK AND CANNOT BE MADE TO WORK.

The other available options you need to set are:

- Database server host name. The database server host name. Usually it's localhost, but you must ask your host for this setting, or consult your hosting account control panel, as this setting is usually displayed there.

## Important

Despite what you think, `localhost` and `127.0.0.1` are two completely different things for PHP's MySQL drivers. It is possible -especially on a Mac OS X local or live server- that your database server does not connect when using `localhost`. Just use `127.0.0.1` and it will! This will save you a lot of hair pulling if you're dealing with MAMP or ever try to test restore your site to a Mac.

## Note

If you are restoring on Microsoft SQL Server / Windows Azure SQL you must specify the server instance name (e.g. `.\SQLExpress`) or the server's domain or IP address. Please consult your host.

- Username. The username of the database server user. Please consult your host.
- Password. The password of the database server user. Please consult your host.
- Database name. The actual name of the database you want to restore to. If you choose a database which already has tables in them, existing tables with the same name as the ones being restored will be overwritten (replaced) by default. You may want to ask your host for the correct value of this setting.

After entering this information, take a look at the the Advanced options column on the right hand side of the page.

The With existing tables option lets you decide what to do with tables which have the same name as those currently being restored. The default Drop option will delete same-named tables without asking. The Backup option will keep a copy of those tables, changing their name prefix to `bak_`, i.e. an existing `abc_users` table will be renamed to `bak_users`. Existing `bak_` tables will be deleted before the rename.

The Database table name prefix is up to your liking. For security purposes it's best to not use the default prefixes used by most common site scripts (e.g. `jos_` or `wp_`). Ideally, you should use three to four letters followed by an underscore, e.g. `tst_` or `test_`.

## Warning

Only use two to five lowercase letters a-z (without accents or diacritics) and numbers 0-9 followed by exactly one underscore. Anything else may cause restoration problems due to the way databases work on most operating systems. Especially avoid uppercase letters! On many servers it will cause problems due to the way MySQL stores its data on the server's disk.

Suppress Foreign Key checks allows you to restore cross-linked tables without MySQL errors. Leave it on. Use REPLACE instead of INSERT may be required if you keep getting MySQL errors about rows already existing in your tables. Force UTF-8 collation on database and Force UTF-8 collation on tables should be enabled on all sites which use non-ASCII characters in their contents, e.g. accented Latin characters, German umlauts, Cyrillic, Greek, Chinese or any other characters which are not normally used in the English language. If unsure, make sure it's checked.

Some PHP software, such as Joomla 3.7 and later, is using the `utf8mb4_general_ci` collation instead. This collation supports multi-byte Unicode characters such as Emoji, certain Traditional Chinese characters and so on. If you need to restore such a site please remember to turn on the Allow UTF8MB4 auto-detection option.

In case you have taken a backup on a server supporting UTF8MB4 but trying to restore on a server that doesn't you will observe that this results in an error. This is by design: UTF8MB4 supports more characters (notably: emoji)

than UTF8. If the database server allowed you to restore UTF8MB4 data to a UTF8 table / table field you'd lose data. If, however, you are *absolutely sure* you want to downgrade your UTF8MB4 data to UTF8 and complete the restoration you can do that in newer versions of our restoration script by selecting (checking) the Force UTF-8 collation on tables option but NOT selecting (leave unchecked) the Allow UTF8MB4 auto-detection option. Please note that if you have extended, 4-byte characters such as Emoji, certain traditional Chinese characters etc they will be replaced with the Unicode Replacement Character (#) as they cannot be mapped to plain UTF-8.

As a final note on the subject of UTF8MB4, if you back up a site on a server supporting only UTF8 and restore it to a server supporting UTF8MB4 you will NOT have a problem. Therefore you do not need to do anything special.

## Handling database errors

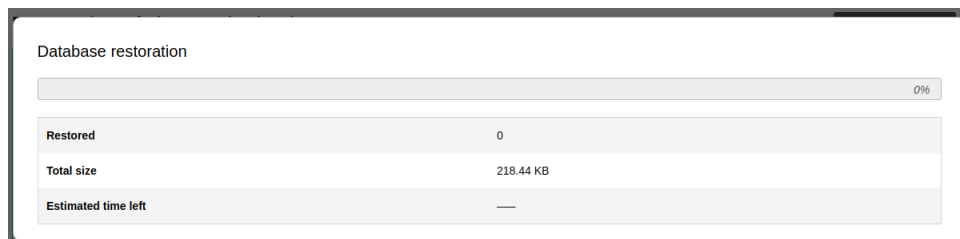
On rarely cases during the restoration you could get a database error. This is not caused by Akeeba software, but by the data you're trying to restore (in other words: you would get the error even manually importing the SQL file using PhpMyAdmin). However, if that data is not crucial, your site would work perfectly fine without it. Think about logging data, statistical information or some article metadata that is too large for your new database: if one page is missing an image or some formatting that's something you can manually fix later.

This is when the options **Stop on CREATE error** and **Stop on other error** come into play. By default ANGIE will stop when something wrong happened, if you uncheck those fields, ANGIE will ignore any database error, showing you a report of the failed queries. In this way you can review them and know which part of the old database wasn't restored in the new one.

You will find the Fine Tuning area towards the bottom. The setting Maximum execution time should be left at its default values unless you get AJAX or timeout errors while ABI is restoring your database. In this case, try setting it to 3, 2 or even 1. This will slow down the restoration a bit, but it will make it more resilient to timeout issues. The Throttle time (msec) should be left at 250 unless you are told by our support staff to change it.

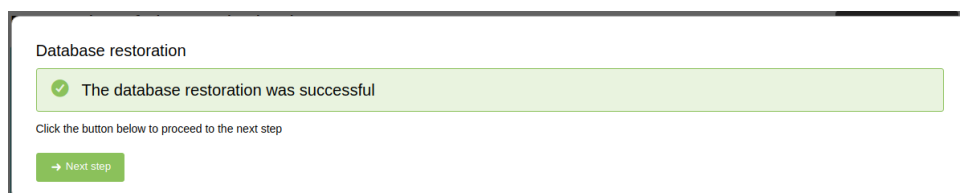
When you're ready with all those settings, click on the Next button on the top right corner of the installer page to start restoring your database. The restoration dialog appears:

## ANGIE - Stepping through the database restoration



While your database is restoring, you will see the progress bar filling up and the information line below informing you of the processed and total size of the database dump file. The estimated time left is a very rough approximate. Should an error occur, you can close the dialog, modify the settings and retry by clicking the Next button again. Once the restoration is over, the Next step button appears:

## ANGIE - Database restoration is complete



Just click on it. If you have more databases to restore (only backups made with the Professional version, using the Multiple Database Definitions feature of Akeeba Backup Professional) you will see the database setup page

again, but the header will read the name of the extra database instead of Site's main database. If you have extra databases to restore you will see the same database restoration page for the next database.

If there are no more databases left to restore but you had defined off-site directories to be backed up, upon clicking Next step you will be taken to the Off-site directories restoration page.

If, however, you do not have any off-site directories upon clicking Next step you will be taken to the Site Setup page. The exact page depends on the installer you are using:

- ANGIE for Joomla! [angie-joomla-setup]
- ANGIE for Miscellaneous PHP Applications [angie-misc-setup]

If you don't see that page, maybe you want to take a look at this troubleshooting page [<https://www.akeeba.com/documentation/troubleshooter/abiafterdb.html>].

## 5.1.5. Off-site directories restoration page

### ANGIE - Off-site directories restoration page

The screenshot shows the 'Akeeba Backup Site Restoration Script' interface. At the top, there's a header with the script name and version 'vrevGIE329CD', and buttons for 'Previous', 'Skip Restoration', and 'Next'. Below the header is a light blue box with an information icon and the text: 'No idea what you are supposed to do? Don't panic! Read the documentation page'. A breadcrumb trail shows: 'Pre-installation > Database Restoration > Off-site directories restore > Site Setup > Finished'. The main section is titled 'Restoration of «[ROOTPARENT]/temp»'. It contains an information box explaining that files are currently extracted to 'external\_files/dG8JZxhm-temp' and need to be moved to '[ROOTPARENT]/temp'. It also provides the absolute file system location: '/var/www/html/angie'. Below this is a 'Folder details' section with two input fields: 'Currently located in' (containing 'external\_files/dG8JZxhm-temp') and 'Will be copied to' (containing '[ROOTPARENT]/temp').

When Akeeba Backup backs up an off-site directory its contents are placed inside the backup archive in a directory called "virtual folder". By default this is `external_files`. Naturally, this is extracted inside the site's root which is not where these files need to be. Therefore, they have to be moved. This is what this page does: it moves the off-site folder from where they were extracted to where they should be.

The Virtual folder area shows you the directory inside the extracted site's root where the files and folders to be copied reside. In the Target folder you can enter the absolute filesystem path of where the files and folders contained in the displayed Virtual folder should be moved to. Click on the Next button to perform the move.

You can always click on Skip Restoration to skip moving the files and folders from the displayed virtual folder, e.g. when you would rather do that manually.

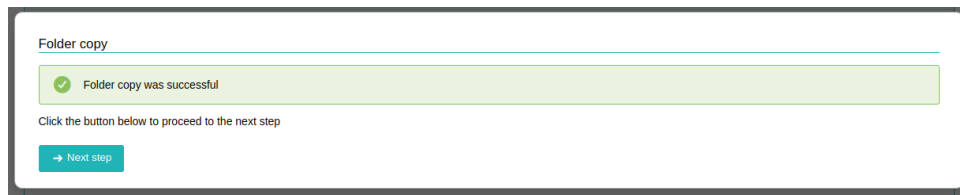
While the move is in progress you will see a progress bar filling up:

### ANGIE - Off-site files being copied

The screenshot shows a 'Folder copy' section with a progress bar. The progress bar is a horizontal bar with a light blue fill, indicating the progress of the file copying process.

When the process is finished, ANGIE will let you know:

## ANGIE - Off-site files finished copying



Clicking on the Next step button will let you move the next off-site folder.

When you have move all off-site folders, upon clicking Next step you will be taken to the Site Setup page. The exact page depends on the installer you are using:

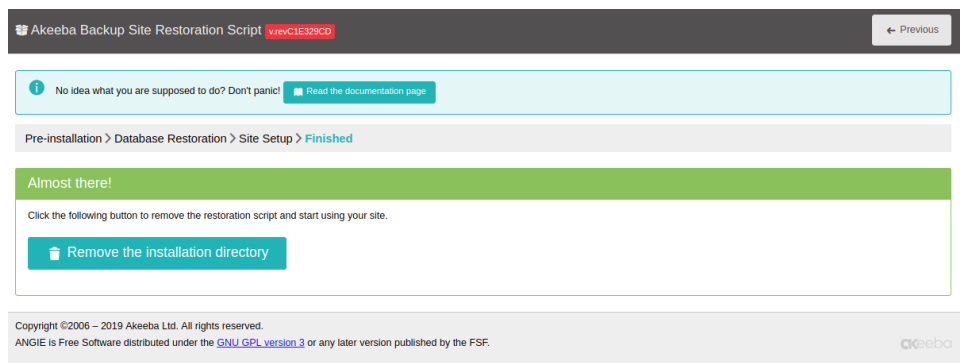
- ANGIE for Joomla! [angie-joomla-setup]
- ANGIE for Miscellaneous PHP Applications [angie-misc-setup]

If you don't see that page, maybe you want to take a look at this troubleshooting page [<https://www.akeeba.com/documentation/troubleshooter/abiafterdb.html>].

### 5.1.6. The “Finished” page

Normally, you should see a success message like this:

## ANGIE - Off-site files finished copying



If ANGIE could not write to your site's configuration file, it will present you with a dialog box informing you of this fact. You can close the message by clicking on the "X" button on its top right corner. You can then copy the contents of the text area and paste it into your configuration file - replacing any and all existing content - manually, following the instructions printed on this page. This is only required if your configuration file was not writable in the first place. Under most circumstances this won't happen. Do note that if you get this message and you do not follow the steps printed on the page your restored site will not work.

You now have three options to proceed, depending on how you extracted the backup archive.

If you used Kickstart to extract the backup archive, close the window/tab of the restoration script and return to Kickstart's window. You will see a big “Clean Up” button. Just click on it and it will automatically remove the installation directory, the backup archive, kickstart.php and its translation files, as well as rename htaccess.bak to .htaccess and php.ini.bak to php.ini respectively. No further action is necessary. Your restored site is ready for use.

## Important

If you had created a kicktemp directory for Kickstart's FTP mode to work properly, you must remove it manually with your FTP client application. Kickstart will not do that automatically.

If you were not using Kickstart, you can try clicking on the Remove the installation directory button to have ANGIE try to remove the installation directory automatically. If it succeeds, it will present you with a success dialog. Just click on the Visit your site's front-end button to visit your site's front page. However, if you used Kickstart to extract your files and clicked on this link accidentally instead of using Kickstart's Clean Up button you need to manually rename `htaccess.bak` to `.htaccess` and `php.ini.bak` to `php.ini`, as well as remove the archive file, `kickstart.php` file and all its INI files and the `kicktemp` directory (if one is present) manually.

If you uploaded the extracted files manually, you must remove the installation directory from your site using your FTP client application before visiting your restored site. If you don't, the restoration page may appear again. In this case do not run the restoration again. Just remove the installation directory through FTP and retry visiting your site.

## 5.2. ANGIE for Joomla!

These are the specific instructions for the ANGIE for Joomla! site restoration script which is supposed to be used when backing up sites based on the Joomla! content management system. Only the pages specific to this script are described here. For the common instructions among all ANGIE installers please consult the relevant section [angie-common].

### 5.2.1. First page

If you are restoring to a different site or a server with a different PHP version than the one you backed up from you will see warnings in yellow background at the top of the page. Please note that the existence of these warnings doesn't mean that the restoration won't work. They are there to warn you to the fact that your restored site may or may not work in the new server because the server configuration may be different and some extension may not be compatible with it. It's the kind of information that is impossible to know before finishing the restoration.

If any of the settings under the Pre-installation check header is red, most probably the restoration will fail, or Joomla! will not run properly. Several users have reported that even when the MB language is default is set to No your site does get restored and does work properly. Take this reported success with a grain of salt, as the Joomla! project recommends otherwise and continue the restoration at your own risk. Please note that if any of these settings is shown in red you have to ask your host for support. Please do not ask us for support; we are not your host and we cannot change your server's configuration.

Recommended settings contains a series of optional settings and their recommended values. If any of those values is in orange, your site will be restored and will most likely work without a problem. It is common to have 2-4 orange items on most commercial hosts and we can attest that Joomla! works just fine on them. If you want more information about that, please take a look at our relevant troubleshooting page [<https://www.akeeba.com/documentation/troubleshooter/abiredsettings.html>].

## ANGIE for Joomla! - The main page

Akeeba Backup Site Restoration Script

revC1E329CD

Start over

Check again

Next

No idea what you are supposed to do? Don't panic!

Read the documentation page

Watch the tutorial video

Pre-installation > Database Restoration > Site Setup > Finished

Pre-installation check

If any of these items is not supported (marked as No) then please take actions to correct them. Failure to do so could lead to your site not functioning correctly.

Setting	Current
PHP Version >= 5.3.1	✓ Yes
Magic Quotes GPC Off	✓ Yes
Register Globals Off	✓ Yes
Zlib Compression Support	✓ Yes
XML Support	✓ Yes
Database Support	✓ Yes
MB Language is Default	✓ Yes
MB String Overload Off	✓ Yes
INI Parser Support	✓ Yes
JSON Support	✓ Yes
configuration.php Writeable	✓ Yes

Recommended settings

These settings are recommended for PHP in order to ensure full compatibility with your site's software. However, your site should still operate if your settings do not quite match the recommended configuration.

Setting	Recommended	Current
Safe Mode	Off	✓ Off
Display Errors	Off	✓ Off
File Uploads	On	✓ On
Magic Quotes Runtime	Off	✓ Off
Output Buffering	Off	⚠ On
Session Auto Start	Off	✓ Off
Native ZIP support	On	✓ On

Backup Information

This information was collected at the time of the backup. They represent the configuration of the server and site which was backed up. It is presented here for your reference and for easier debugging.

Setting	At Backup Time
Host name	
Backup date	2019-02-26 15:21:50 UTC
Akeeba Backup version	revF36B1718
PHP version	7.2.15-1+ubuntu18.04.1+deb.sury.org+1
Root directory	/var/www/html/joomlaangie/

View README.html

Click the button above to view the README.html file, generated at backup time, containing useful information about your backup.

Site information

This information represents the configuration of the server you are restoring to (the server on which this installer is running)

Joomla! version	3.9.3
PHP version	7.2.17-1+ubuntu18.04.1+deb.sury.org+3

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akeeba

Below these areas you can find two information sections. The Backup Information column shows you information about the site you backed up from. Please note that this is the information Akeeba Backup recorded while taking the backup and they are presented here for your information only. Next to it you will find the Site Information column. This shows information about the current site you are restoring to. This is shown for your information.

When you're ready, please click on the blue Next button in the upper right hand corner of the page to proceed to the database setup page.

### 5.2.2. Site setup page

The Site Setup page consists of four areas which can be used to optionally modify details of your restored site. It's not mandatory to go through its options if you are restoring on top of the same site you backed up from. All

of the information in this page is pre-populated with the values read from the configuration.php file which was present in your backup archive's root.

## ANGIE for Joomla! - The site setup page

Akeeba Backup Site Restoration Script vrevC1E329CD

← Previous → Next

No idea what you are supposed to do? Don't panic!

Read the documentation page.

Pre-installation > Database Restoration > Site Setup > Finished

Show / hide help

Site Parameters

Site name

Integration Test

Site e-mail address

Site e-mail sender name

Integration test

Live site URL

http://localhost/joomlaangie

Force SSL

None

Cookie domain

Cookie path

Turn on mail sending

No Yes

☐

Override tmp and log paths

Server-specific configuration files

Files which modify the way your server behaves when serving your site may cause site loading issues when restoring to a new host. Use the options below to reset them to Joomla! defaults.

☐

Remove .user.ini and / or php.ini files from the main site directories

☒

Replace main .htaccess file with default

☐

Delete the .htaccess and .htpasswd files in the administrator directory

Directories fine-tuning

Site root

/var/www/html/angieintegration

Temporary directory

/var/www/html/joomlaangie/tmp

Log directory

/var/www/html/angieintegration/administrator/logs

Super User settings

Super User

admin

E-mail

test@example.com

Password

Password (repeat)

FTP Layer Options

Some shared hosts make it impossible for PHP to write to files and directories uploaded by FTP. If you are on such a host and have used FTP or Kickstart's Upload by FTP extraction option you want to configure and enable the FTP layer.

Enable the FTP layer

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The first area is called Site Parameters and contains the most basic options for your site.

The Site Name is the name of the restored Joomla! site which appears throughout the Joomla! application. The Site e-mail address is the e-mail address from which all e-mail sent out from your site will appear to originate from. Similarly, the Site e-mail sender name is the sender's name appearing in those e-mails' From field.

The Live site URL is optional and normally not required on the vast majority of hosts. If your site doesn't seem to work properly – e.g. missing pictures, all links resulting in 404 errors, etc – you may want to fill in your site's URL, for example `http://www.example.com` (include the `http://` part, but not a trailing slash or `index.php!`).



The Force SSL option will work exactly as the one in Joomla! Global Configuration. You can set it to **None**, **Administrator Only** or **Entire Site**. This is useful when you are restoring an SSL site on a server where you don't have any SSL certificate (for example localhost).

You will also see two more settings here regarding cookies. Under normal circumstances, both of them should be left empty. You only need to edit them if they are not blank and you are transferring your site to a different directory or domain name. The Cookie domain is the domain name of your site, without the protocol and, usually, without the www part. For example, if you are restoring to `http://www.example.com`, the Cookie domain is `example.com` (I will stress that again: there is NO `http://` in there!!). The Cookie path is the subdirectory of your site, relative to the domain's root. If you are restoring to the root of a domain, e.g. `http://www.example.com`, then it is `/` (a single forward slash). If you are restoring to a subdirectory it's a slash followed by the directory's name. For example, if you're restoring to `http://www.example.com/joomla` then the Cookie path is `/joomla` (WITH a leading slash, but WITHOUT a trailing slash).

## Warning

If the Cookie domain and/or Cookie path settings are non-empty and do not correspond to the location (domain name and directory) you are restoring your site to, **YOU WILL NOT BE ABLE TO LOG IN** in the front- or the back-end of your site. On most servers you can just leave them blank (strongly recommended). Be advised that if you request support for this issue you will be ignored because there is nothing we can support you with; you are simply entering the wrong values in these fields. You have to either retry the restoration or edit your `configuration.php` file and modify the `cookie_domain` and `cookie_path` parameters.

**Turn on mail sending** Sometimes you don't want to enable mailing on your restored site, this option will modify your Joomla! Global Configuration to disable emails being sent using Joomla! framework.

The Override tmp and log paths is a handy feature if you are restoring to a subdomain or subdirectory of the site you backed up from. It will force the paths to the `tmp` and `log` directories to point inside the restored site's `tmp` and `log` directory respectively. If you don't check this box, it is possible that the restored site will reference the old site's `tmp` and `log` paths, potentially causing issues in the long run. As a rule of thumb: always check this option unless you know what you are doing!

The second section is the Server-specific configuration files. In some sites, you have server configuration files (like `php.ini` or `.user.ini` files), as well as the backend being protected by a password or a custom `.htaccess`. ANGIE will offer you the option to delete them all and replace the `.htaccess` file with the default one. In this way you'll avoid conflicts between different server configurations.

The next area, called FTP Layer Options, contains the necessary settings for enabling Joomla!'s FTP layer.

The Enable the FTP layer will activate Joomla!'s FTP layer, which forces the Joomla! core and several conforming extensions to write to your site's files using FTP instead of direct file access through PHP. This is designed to work around permissions issues with the majority of shared hosts. If you had to use Kickstart's Use FTP option or if you uploaded the extracted files manually through FTP you must enable it and go through these settings, unless your host told you that they are using suPHP.

The rest of the FTP settings are exactly the same as those you had to fill in Kickstart:

Host name	Use the domain name to access your site's FTP server
Port	Leave the default value (21) unless your host tells you otherwise. Do note that Joomla! only supports plain FTP. If your host tells you to use port 22 – which is used only by SFTP – it won't work.
Username and password	What they claim to be, the user name and password to connect to your site's FTP server
Directory	The absolute FTP path to your site's root. The easiest way to find it is using FileZilla to connect to your site and navigate to your site's root, which is usually a directory named <code>htdocs</code> ,

httpdocs, http\_docs, public\_html or www. Look at the right hand pane, above the folder tree (Remote site text box). Copy it and paste it in the Directory box.

### Tip

You can instead fill in all of the other information, leave this field blank and click on the Browse button next to it. If your FTP information is correct a popup directory browser appears. You can now browse to the site root directory. It's the one where you can see your site's installation, includes and libraries directories. Once you're in there click on the Use this button.

The fourth area is the Super Administrator settings.

In this pane you can change the details of one of the Super Administrators on your site. First, select the username of the Super Administrator you want to modify from the User name drop-down list. Then, simply type and retype the new password in the two fields below. The final field, E-mail address, is the e-mail address linked to that Super Administrator. Make sure the address you type in here is not used already used by another user of the site or you will be unable to reset your Super Administrator password if you forget it.

### Important

This feature can change the password of exactly one Super Administrator account (the one selected in the drop-down box). Its reason of existence is to allow you to reset the Super Administrator password should you forget it or quite simply don't know it (e.g. restoring a client's site to a dev server).

Finally, we have the Directories fine-tuning pane with advanced settings meant for power users and site builders.

The two options you can modify are the Temporary Directory and Log Directory paths. For your convenience, the absolute path to the site's root is displayed above. You should only need to use these fine-tuning parameters if you want to place the tmp and log directories outside your site's root. Both of them must be absolute paths. For your convenience the absolute path to the site's root is printed above so that you can get them right every time.

Finally, click on the Next button to let ANGIE write your site's new configuration.php file and display the final page.

## 5.3. ANGIE for Miscellaneous PHP Applications

These are the specific instructions for the ANGIE for Miscellaneous PHP Applications site restoration script which is supposed to be used when backing up sites which are not based on a content management system or script supported by a specific ANGIE installer. Only the pages specific to this script are described here. For the common instructions among all ANGIE installers please consult the relevant section [angie-common].

### 5.3.1. First page

If you are restoring to a different site or a server with a different PHP version than the one you backed up from you will see warnings in yellow background at the top of the page. Please note that the existence of these warnings doesn't mean that the restoration won't work. They are there to warn you to the fact that your restored site may or may not work in the new server because the server configuration may be different and some extension may not be compatible with it. It's the kind of information that is impossible to know before finishing the restoration.

### Important

Everything you see in the pre-installation check and recommended settings are NOT the minimum requirements or recommendations for the site script you are restoring. These are the minimum requirements and recommended settings for ANGIE itself. It is possible that some of the features detected as missing or suboptimal are actually not used at all by your site's script.

Please keep that in mind that before posting a support request in the spirit of "I have backed up a site running WhateverScript 2.0 and when I try to restore it ANGIE complains about missing gzip

compression which WhateverScript isn't even using". It's not a bug, it's not an issue and can't be "fixed" unless we add an installer for your specific script (which is unlikely if we have not announced plans to do so). If you are using a specially supported script such as Joomla! please use the specific ANGIE installer for that script.

If any of the settings under the Pre-installation check header is red, most probably the restoration will fail. Several users have reported that even when the MB language is default is set to No your site does get restored. Take this reported success with a grain of salt, as we do understand the problems caused by this sever setting. If you choose to continue the restoration it is at your own risk. Please note that if any of these settings is shown in red you have to ask your host for support. Please do not ask us for support; we are not your host and we cannot change your server's configuration.

Recommended settings contains a series of optional settings and their recommended values. If any of those values is in orange, your site will be restored and will most likely work without a problem. Some restoration features (e.g. using FTP) might not work.

## ANGIE for Miscellaneous PHP Applications - The main page

1Password

Installation

Database Restoration

Off-site directories restore

Finished

IMPORTANT! You are restoring to a different site

We have detected that you are restoring to a different site than the one you backed up from. Some of your extensions, such as Admin Tools, may require to be reconfigured if they are using absolute paths or URLs. For more information please consult our Troubleshooter documentation.

Pre-installation check

If any of these items is not supported (marked as No) then please take actions to correct them. Failure to do so could lead to failing your restoration process.

Setting	Current
PHP Version >= 5.3.4	Yes
Magic Quotes GPC Off	Yes
Register Globals Off	Yes
Zlib Compression Support	Yes
XML Support	Yes
Database Support	Yes
MB Language is Default	Yes
MB String Overload Off	Yes
INI Parser Support	Yes
JSON Support	Yes

Backup Information

This information was collected at the time of the backup. They represent the configuration of the server and site which was backed up. It is presented here for your reference and for easier debugging.

Setting	At Backup Time
Host name	solo.local.web
Backup date	2014-03-16 10:11:10 UTC
Akeeba Backup version	rev4C72889
PHP version	5.4.23

View README.html

Click the button above to view the README.html file, generated at backup time, containing useful information about your backup.

Recommended settings

These settings are recommended for PHP in order to ensure full compatibility with our software. However, it will still operate if your settings do not quite match the recommended configuration.

Setting	Recommended	Current
Safe Mode	Off	Off
Display Errors	Off	On
Magic Quotes Runtime	Off	Off
Magic Quotes GPC	Off	Off
Output Buffering	Off	On
Session Auto Start	Off	Off
cURL support	On	On
FTP support	On	On
SFTP (ssh2) support	On	On

Site information

This information represents the configuration of the server you are restoring to (the server on which this installer is running)

PHP version	5.4.23
-------------	--------

Below these areas you can find two information sections. The Backup Information column shows you information about the site you backed up from. Please note that this is the information Akeeba Backup recorded while taking the backup and they are presented here for your information only. Next to it you will find the Site Information column. This shows information about the current site you are restoring to. This is shown for your information.

When you're ready, please click on the blue Next button in the upper right hand corner of the page to proceed to the database setup page.

### 5.3.2. Site setup page

There is no such page in this installer. Since it's a generic installer which doesn't know which kind of site script you are using it is unable to reconfigure your site. Instead, you will be taken directly to the display the final page.

## 6. Restoration (ANGIE) troubleshooting

### 6.1. ANGIE reports that the session write path and the installation directory is unreadable

Your first approach should be asking your host to fix the PHP session save path to something which is writable by your hosting account. This is a very common misconfiguration issue on Plesk-based hosts. If your host can't fix it, they might be able to give you instructions for creating a `.htaccess` to override the PHP session save path. No matter which solution they provide, you don't have to run Kickstart again or upload the extracted files again; you can access ANGIE again by visiting `http://www.example.com/installation/index.php` where `www.example.com` is the domain name you are restoring to.

Another solution is to change the permissions of the `installation/tmp` directory after Kickstart has extracted your archive (just right before you click the Run the Installer button) or after you have uploaded the extracted files if you're not using Kickstart. In both cases, try using your FTP client to change the permissions of the `installation/tmp` directory (but NOT its contents!) to 0777. Then, click on the Run the Installer button in Kickstart or access ANGIE again.

If both of these solutions don't work out for you, you will unfortunately have to go through the scenic route, i.e. perform a manual restoration. The complete instructions are described in the "Unorthodox: the emergency restoration procedure [<https://www.akeeba.com/documentation/akeeba-backup-documentation/unorthodox-emergency-restoration.html>]" section of our User's Guide. Our suggestion: it's best to switch to a different host. There is a strong possibility that Joomla! might not work properly unless you have a working PHP session storage.

### 6.2. PHP errors , warnings, notices or a blank page upon accessing ANGIE / restoration

If you get a PHP fatal error, Internal Server 500 or a blank page you have to make sure that your server is indeed running on a supported version of PHP for the version of Akeeba Backup you are installing. Please consult our version compatibility matrix [<https://www.akeeba.com/compatibility.html>].

In order to determine which PHP version you're using, please create a file named `info.php` with the following contents:

```
<?php phpinfo(); ?>
```

Upload it to your server and access it as `http://www.example.com/info.php`, where `www.example.com` is your web site's domain name. You will see your PHP version on top. If the PHP version is unsupported please ask your host to immediately upgrade your PHP. Do not ask us for such instructions. This is absolutely server-specific; only your host can help you with this.

If, however, you are getting PHP Warning, Notice, Strict Standards or Deprecated messages, this is nothing to worry about, meaning that ANGIE will work properly but its interface might be so loitered with the messages that it's impossible to use. In that case please ask your host about instructions on either disabling PHP error output to the browser or setting the error reporting level to `E_ERROR`. If you are on a local server (e.g. XAMPP, MAMP, WAMPserver, etc) you have to edit your `php.ini` file and change the following two lines:

```
error_reporting = E_ERROR  
display_errors = 0
```

If you don't know where your `php.ini` file is stored, please consult the documentation or support forum of your server stack (e.g. XAMPP) you are using. We know about a few of them, but not all of them. It's best to ask such questions on the official site of each server stack where you can get proper support about those non-Akeeba products.

## Important

You **MUST** restart Apache (the web server service) after applying those changes. If you are unsure about how to do that, you'd better shut down and restart the server stack (e.g. XAMPP) you are using.

## 6.3. Some required or optional settings are red in ANGIE's first page

If any of the required settings are marked in red the restoration may be able to proceed, but your site will most likely not work. Do note that these are the required settings of Joomla!, not Akeeba Backup. You will get the exact same errors if you try to install a brand new Joomla! site on that server. In order to solve them, please consult Joomla!'s documentation or the official Joomla! forums [<http://forum.joomla.org>].

## 6.4. I can't restore my database, or receive AJAX Error, timeout or other errors while restoring my database with ANGIE

Let's try some common troubleshooting steps. In 100% of cases we've seen (yes, we really do mean all of them) it's one of the following.

1. If you are not restoring on the same host as the one you backed up from, if you are transferring a site from a live server to a local server or if you are transferring a site from a local server to a live server you need to ensure the following:
  - You **MUST** create a new database **BEFORE** trying to restore your database. ANGIE can not create a new database unless you are restoring on a local host and using the root credentials. In other words, almost never. As a rule of thumb: always create a database before restoring your site. There are instructions for creating a new database below.
  - If you are on a cPanel host you have to add the user to the database. Consult your host's documentation about that.
  - You **MUST** supply the database connection information of **your new host** **BEFORE** clicking on the Next button. ANGIE will present you with the database connection information of the site you backed up from. These are no longer valid on the new host and you **MUST** supply the new host's database connection information.

Further to that you **DO NOT** have to create databases and users on the new to match your old site's information. This is usually the extremely hard way to go. Simply, type in the new host's database connection information in ABI's interface **BEFORE** clicking on the Next button.

2. First try toggling between the mysql (no trailing i) and mysqli (with a trailing i) database drivers. Some hosts support both, most hosts support only one or the other.
3. Then check your database host name. It's not always localhost. Some hosts use an IP address (e.g. 1.2.3.4) others use a full domain name (i.e. mysql.myhost.com). If in doubt, please ask your host.

One very picky case is using MAMP on Mac OS X. Using localhost will not allow you to connect to your database. Using 127.0.0.1 will work! The reason is that PHP treats these two values differently. Using localhost instructs PHP to use "named pipes" to access the MySQL server. Unfortunately, MAMP can't provide this feature. Using 127.0.0.1 instructs PHP to use TCP/IP networking which what MAMP supports. This trick may also work on a live host, try it!

If your site is hosted on GoDaddy, other users have reported that the actual database server name is hidden in a small footnote on the bottom of the page where it displays the list of databases. If in doubt, contact GoDaddy's support. If you can't get an answer, tell to the support person (an underpaid, misinformed, script

reading youngster overseas) that you want to "escalate this issue". After a short while you will be connected to a "real" support technician who can help you.

4. Check your database name. Hosts based on cPanel and Plesk, as well as GoDaddy, prefix the database name with your account name. For example, if your user account name on the host's server is "foo" and you try to create a database named "bar" the real database name is "foo\_bar", *not* just "bar"! Do note that this prefix *has nothing to do with the table name prefix (e.g. jos\_) used by Joomla!*. If in doubt, ask your host.
5. Check your username. The same principles with the database name apply, i.e. those hosts will prefix the database username with your account's name, e.g. myuser\_mydatabase. If in doubt, ask your host.
6. Check your password. Many servers will not work with password which contain special characters (e.g. at sign, hash, dollar sign, percent sign, caret, ampersand, start, parentheses, equals sign, etc). The best approach is to make sure that your password consists only of alphanumeric characters, i.e. a-z, A-Z and 0-9, don't use any accented characters or characters with diacritic marks.

This is not a limitation or bug in Akeeba Backup Installer. The problem comes from the host's Apache setup, namely the mod\_security2 rule set. Such servers are set up to filter potentially dangerous and suspect query parameters. A password with special characters like a hash sign, dollar sign, percent sign, caret and star will most likely trigger that protection, throwing a 406 (Not Accepted) error. Since most servers do not have a server error document for the extremely rare 406 error, you also get a 404 error (Not Found) when Apache tries to retrieve the error document for the real error, the 406 error. Of course, all of that makes it completely impossible for a regular human to figure out what is going on and think that it is a bug in Akeeba Backup Installer. It's not. We'd like to sincerely thank the engineers at Rochen who helped us troubleshoot this issue and confirm that it's not a bug in our code.

7. If you have created your database and user on a cPanel host (e.g. Rochen) this is not sufficient to connect to it. You also have to add the user to the database. Otherwise your server doesn't know that the username you are using should be able to access your database. This is an often overlooked step. Yours truly confesses that he is doing the same mistake every time he's restoring a site on a cPanel host.
8. Finally, if you had created your backup archive with Akeeba Backup 3.0.x or if you are unsure about the version of Akeeba Backup which created the archive, please try using a database password which consists only of unaccented alphanumeric characters (a-z, A-Z and 0-9, no accents, umlauts, tildes or other decorations).

Please *do not* ask us for support regarding this matter if you have not gone through this list very carefully at least twice. All the possibilities are listed above.

If you are a subscriber and have gone through the above list at least twice and it still doesn't work, please file a ticket in our ticket system indicating that you have gone through the list of this page and mentioning all of the following information:

- Akeeba Backup version number ("latest" is not a version number; something like 1.2.3 is)
- Exact PHP version number
- Exact MySQL version number
- Be advised that you may have to tell us the password you tried to use.

## Creating a database on GoDaddy

If you're on GoDaddy, just like on most commercial hosts, Akeeba Backup Installer can not automatically create the database for your restored site. In order to create a database you must do the following:

- Go to your Hosting Control Center
- Click on Databases, then MySQL and finally on Create Database.
- Fill in your description, name, etc.

- Click on OK
- Go back to MySQL.
- The new database will be there or if you keep adding them there will be more than one.
- Hover of the "Pencil" on the Action Tab and then click the pencil. All the MySQL Database Information will now appear here. You fill in the Akeeba Installation field with this info so make a note of it.
- When you come to install the Akeeba Backup installation fill in the details from it. Don't forget to replace localhost with the new godaddy host name: similar to this: yourakeebanamehere.db.12345.hostedresource.com.

Credits go to our user [jcjweb](#) for kindly providing this step-by-step guide on our ticket system.

## Creating a database on a cPanel host

If your server is using cPanel, here's what you have to do:

1. First, login to your CPANEL account. If you don't have your username and password, you'll need to contact your web hosting provider.
2. Once you've logged in, select MySQL databases from the list.
3. Type in a name for your new database and click the Add DB button.
4. Then, type in a Username and a Password into the relative fields and click the Add User button.
5. Once your Database and User have been created, you need to give that user permission to use that database. We do this by selecting the username we created from the drop down and the database we created from the drop down, making sure the All checkbox is selected and clicking the Add User to DB option.
6. The last thing you will need is the MySQL server hostname. If this hasn't been supplied to you by your web host, you can get it from the MySQL databases page.

### Important

Note that the Username and Database will be prepended with your Cpanel login name. For example, if you created a database called DB and your cpanel login was mysite then your new database will be mysite\_db.

Credits: These instructions were adapted from a blog post [<http://www.interspire.com/content/2006/04/04/how-to-create-a-mysql-database-in-cpanel/>] at Interspire

## Creating a database on a Plesk host

If your server is using Plesk, here's what you have to do

1. First navigate to the hosting control panel for the domain that you want to create the new MySQL database for.
2. Click on the Databases icon.
3. Click on Add New Database.
4. You will be asked to enter the following details:
  - **Database name.** This is the name that you want to give the actual database, Plesk suggests that you begin the database name with your Plesk login followed by an underscore, it is after the underscore that you should enter the desired database alias.
  - **Database type** (may not be available on your host). This is where you select what database program you want the new database to be created in, if there is no more than one option then this field will not be shown –

in the cases of Windows based Plesk website hosting, you are able to choose between MySQL and MSSQL databases, although the options are dependent on what database engines your web host has installed on your hosting server and what options they have enabled within their Plesk license. You **MUST** create a MySQL database for Joomla! to be restored to.

5. After clicking the OK button after entering the relevant details, you will be redirected to the management screen for the database that you have just created. In order to make your database usable from Joomla!, you will need to select the Add New User button.
6. You will then be prompted to enter the following details:
  - **Database username.** This is the username that you will use to gain access to your newly created database
  - **Password.** Enter your desired password here.

Credits: These instructions were adapted from a blog post [<http://blog.eukhost.com/webhosting/creating-a-database-in-plesk/>] at EUKHOST

## Create a database under XAMPP, WAMPServer, MAMP or any other local server using phpMyAdmin

Google is your friend. Here's a good tutorial I came across by searching on Google: <http://complete-concrete-concise.com/web-tools/creating-a-mysql-database-using-xampp>

Even though the instructions are for XAMPP, it's the same thing for all local servers, as they're all using phpMyAdmin to administer the MySQL database.

## 6.5. I restored my database but can't proceed to the next page of ANGIE

If you had backed up multiple databases, after restoring the first database (the main Joomla! site database) you will be asked for the connection information of the second database. If you don't look closely at the page you might believe that you are stuck on the same page. That said, you can see the name of the database ANGIE is trying to restore on the top of the page, above the connection information. You can not skip a database. You have to restore all of them.

## 6.6. My configuration.php wasn't written to disk after ANGIE ran

Follow the on-screen instructions. They tell you what you have to do. Essentially, you copy the code from the last page of ANGIE, save it as `configuration.php` and upload it to your site. There is no simpler way to do that.

## 6.7. Any other ANGIE error

Please note that ANGIE (Akeeba Next Generation Installer Engine) runs after Kickstart, albeit some people confuse the two of them.

Unfortunately, other issues are usually very server-specific and can not be dealt with through the troubleshooter. Direct access to the server is required to solve most of them. If you are a subscriber you can file a support request in our ticket system so that we can provide you with one-on-one help, resolving the issue directly on your server. In this case please indicate that you have gone through the troubleshooter and mention all of the following information:

- Akeeba Backup version number ("latest" is not a version number; something like 3.2.1 is)
- Exact PHP version number



- Exact MySQL version number

Please try to describe your issue as better as possible. If possible, please also post screenshots of your problem, especially if your copy of ANGIE is displayed in a language other than English.

## 7. Troubleshooting restored sites

Sometimes, when restoring a site on a different host or when transferring a site between a local and a live server, you will end up with a misbehaving site. The following pages will allow you to troubleshoot such issues.

### 7.1. Common issues on restored sites and how to solve them

You have to make sure that there are no settings transferred in files from your old server which are not compatible with your new host. The most notable culprits are `.htaccess` and `local.php.ini` directives.

#### If your site was using Admin Tools' .htaccess Maker

If you have used Admin Tools' .htaccess Maker please remember that after restoring the site to a different location you will need to reconfigure and create a new `.htaccess`. Login to the back-end of your site, go to Components, Admin Tools, .htaccess Maker, then change the domain and directory names at the bottom of the page and finally click on Save & Create .htaccess. This is mandatory, every time you move your site to a different host, domain name, subdomain or directory.

#### I can't log in to my site after I restored it to a new location

This is a very common mistake with Joomla!1.6 and later versions. What you probably not remember is that you modified the cookie setup parameters in your site's Global Configuration page. The thing is, if you modify the cookie domain name and/or path, it's very likely that you will no longer be able to log in to your site if the domain name, subdomain or directory changes - exactly what happens when you restore a site to anywhere except its original location! Luckily, the workaround is very simple. Please edit the `configuration.php` file in the root of your site and find the lines starting with `public $cookie_domain` and `public $cookie_path`. Modify them so that they read:

```
public $cookie_domain = '';  
public $cookie_path = '';
```

Save the file, clear your browser's cookies and cache, quit and restart your browser and try logging in to your site. You should be able to login without any problem now.

Another thing that you should be aware of is that the same problem could be caused by your `.htaccess` file. It's always a good idea to at least temporarily rename `.htaccess` to something else (e.g. `htaccess.bak`) when you're trying to troubleshoot a login issue. A `.htaccess` file may define redirections which get in the way during login.

#### Tip

You can change these parameters when restoring your site. We advise to clear (delete the contents of) these settings on most servers. In fact, if you need to set them to something other than blank (blank means "Joomla!, figure it out yourself") you would have already known what to set them to and why you need to do that.

#### I cannot log in or my site crashes with a blank page / Internal Server Error 500 page as soon as I try accessing it

There is one more thing which has to do with your caching and session storage options in your site's `configuration.php` file. If you are using redis, memcached and so on it is possible that these are not

supported by your new host. Just to be on the safe side, edit your `configuration.php` file and change the following lines to read:

```
public $cache_handler = 'file';  
public $caching = '0';  
public $session_handler = 'database';
```

The first two lines set the cache handler to use files and disables caching which addresses blank page / 500 error when accessing your site. The latter line sets the session handler to the default (database) which addresses log in issues.

## PHP memory issues

If you are restoring to a local server, please make sure that your PHP memory limit is adequately high. On some local hosts the default setting is 8Mb, which is too low for Joomla!. You can determine this by editing your local server's `php.ini` file. Look for a line like this (the value 8M might be different):

```
memory_limit = 8M
```

Change it so that it reads:

```
memory_limit = 128M
```

If you are on a live host, please ask your host and make sure that your PHP memory limit is at least 32M. If it's not, ask your host for the proper way to increase it.

## .htaccess directives

Look in your site's `.htaccess` file for directives such as `php_value`, `php_flag` and `AddHandler`. Try commenting them out (putting a hash in front of the line) to see if it helps.

Usually they have a format like this:

```
AddHandler application/x-httpd-php5 .php
```

You most probably have to remove those lines beginning with `AddHandler`, especially if your problem is that you get a bunch of code, or the web browser offers to download `index.php`, instead of your site's front page. You most certainly have to remove such lines if you are restoring on a local server.

You should also try commenting out lines (by placing a single `#` character in front of them) which look suspicious to you, because any of those directives may cause trouble. If in doubt, get a fresh Joomla! package, extract the `htaccess.txt` file from it, rename it to `.htaccess` and upload it to your host.

## Redirections in .htaccess

Check if you have redirections in your `.htaccess` file, for example directing all traffic to the `www` prefixed site or to a specific domain, e.g. all traffic to `www.example.com`, even if it referenced `example.com` or `example.net` in the URL. Such problems are easy to spot because you have put this code in the `.htaccess` file and you should know about what it does. Just remove it or comment it out.

## RewriteBase in .htaccess

Another thing you should look into is the `RewriteBase` line. Normally, you need something `RewriteBase /` if your site is on the root of the domain, or `RewriteBase /mydirectory` if it's inside a directory named `mydirectory`.

You should note that some servers do not accept `.htaccess` files. Putting such a file on your site's root will make the server throw an HTTP Error 500: Internal Server Error as soon as you try to access your server. If this happens, you need to have a little chat with your host.

## Enabling Apache's mod\_rewrite

If you are restoring on a local host, you have to make sure that your server is loading the mod\_rewrite module, otherwise you will most assuredly get a blank page or a 500 Internal Server Error.

If you are using WAMPserver on Windows you must note that mod\_rewrite is not loaded by default. In order to enable it, you have to click on WAMPserver's tray icon, Apache, Modules and make sure that Rewrite is checked. If not, click on it and wait for the server to restart. This is required only the first time you restore to a WAMPserver installation and only if you have SEF URLs turned on and you are using Joomla!'s .htaccess file.

Other local servers, like XAMPP, also come with the mod\_rewrite Apache module disabled. These servers require you to edit the httpd.conf or run other system commands. Please consult your server package's documentation for more information on enabling mod\_rewrite.

Some live hosts also do not have Apache's mod\_rewrite enabled. If trying to use Joomla!'s stock htaccess.txt renamed to .htaccess causes an immediate blank page or Internal Server Error 500 page on your site, please consult your host.

## Special note for GoDaddy users

GoDaddy users will find out that the .htaccess changes need 10-30 minutes to take effect. This is a limitation of your host. Normally, these changes should take effect immediately, as happens with pretty much every other host including local installations. Unfortunately this behavior is specific to GoDaddy and neither you nor us have any way to change it.

## The \$live\_site variable in configuration.php

Sometimes you might be getting URL errors. For example, the first page might display but clicking on any link returns a 404 error, while some other times the first page displays very weird, like the CSS and images are not loading. Both of those issues have nothing to do with the restoration itself, but your server setup and a clash with how Joomla! works. The easiest way to work around it is using the \$live\_site variable in your configuration.php file, if you haven't already set it up in ANGIE's Site Setup page. Edit the configuration.php file in the root of your site and modify it so that the line starting with var \$live\_site looks like this:

```
public $live_site = "http://www.mysite.com";
```

or (if you have installed in a subdirectory):

```
public $live_site = "http://www.mysite.com/mypath";
```

This will let Joomla! figure out the correct URLs to your site's CSS files, images and links and these errors will go away.

If you restored to a server which required the \$live\_site hack, next time do yourself a favour: use ANGIE's feature for changing the \$live\_site variable. It is available in the second to last step of the restoration procedure, just under the text boxes where you define your site's name and email details.

## Redirection and SEF components and plugins

Sometimes restored websites redirect to the original site even when there is no such parameter in .htaccess and \$live\_site is correctly set in the configuration.php. In this case, please check if you have any SEF or redirection plugins installed, including any plugins which might be redirecting non-SSL to SSL URLs or vice-versa. Many such plugins and components store absolute URLs (URLs which include the domain name) causing wrong redirections. If this is not the case, read further down this page.

## Problems with php.ini

If none of this helps, look for a file named php.ini inside your site's root. If it exists, try renaming it to php.ini.bak and retry loading your site. Also do the same thing in your site's administrator directory.

## Third party components with absolute paths / URLs

As a side note, we might also add that some third party components, such as DOCman and VirtueMart, store absolute paths in their configuration. If you restored to a different location / server than the one you originally had the site you backed up, trying to access your new web site's public front-end might result in blank pages or HTTP Error 500. You will have to edit the configuration of those components and ensure that you have changed the paths to reflect the correct paths on your new server / location.

Some other software store the database table prefix of your site in their configuration. For instance, SQL2Excel stores the database table prefix of your site inside the SQL queries attached to each worksheet. If you changed the database table prefix when restoring the site you also have to change these SQL queries. If unsure, ask the developer of that specific software. We can't know how all several thousands of Joomla! extensions listed on the Joomla! Extensions Directory work. We can only provide support for our own software.

## 7.2. Common issues on restored sites due to PHP incompatibilities between the source and target server

### PHP version incompatibilities

You have to consider the PHP version of the original and new server. If your original server was running on a newer version of PHP than the new server, you might end up with a blank page. This is especially true if your new host is running a different PHP version family (e.g. 5.6 vs 5.5 or 7.4 instead of 5.6) or has disabled some critical PHP functions. This is not a restoration problem, rather than a hosting configuration error. Some modules, components or plugins you have installed might be using functions which are not available on your new host. The only way to understand if this is the case is to have your host take a look at the error log and reconfigure your hosting environment to fix this issues.

If you are restoring to a local server, you might have one version of PHP which is too new or too old for Joomla! to work with. Please consult Joomla.org for PHP version compatibility information.

### PHP memory issues

If you are restoring to a local server, please make sure that your PHP memory limit is adequately high. On some local hosts the default setting is 8Mb, which is too low for Joomla!. You can determine this by editing your local server's `php.ini` file. Look for this line:

```
memory_limit = 8M
```

Change it so that it reads:

```
memory_limit = 128M
```

If you are on a live host, please ask your host and make sure that your PHP memory limit is at least 64M. If it's not, ask your host for the proper way to increase it.

### Error reporting matters

Finally, some people see PHP errors (Deprecated, Notice, Warning) when accessing their website which most of the times this is not a problem with the restoration but an issue with the server configuration. In most cases you can simply set Error Reporting to None in Joomla!'s Global Configuration page. If this doesn't work, please ask your host for information on disabling PHP's error output to the browser. Anyway, it's a good idea to do so in the first place! You don't want any minor glitch to reveal sensitive server configuration information to potential hackers.

If you are your own host, e.g. using a local installation of WAMPserver, XAMPP, MAMP, etc., the easiest way to do that is by editing your `php.ini` file and setting `error_reporting = E_ERROR`. Remember to restart Apache for the change to have any effect at all!

## 7.3. When updating the restored site, the original site changes as well (Entangled web sites)

Sometimes people get back to us claiming that whenever they change something in their restored site, the original site changes as well and vice versa. The problem is a small, but important, oversight when restoring the site.

During the restoration you are presented with your database connection information. By default, ANGIE displays the parameters pertaining to your original (old, backed up) web site if it believes that your site's URL and absolute location on disk are the same as those on the backed up site. Otherwise it shows you nothing there, expecting you to enter the connection information to a different database.

Unfortunately, some users get confused and believe that they need to enter the database information from the site they backed up. **This is wrong.** It will cause both the original and the restored site to use the same database data, meaning that changing one will change the other with unpredictable results.

You will need to restart the restoration of your site. Before doing that please create a new database. If that is not possible, for example your host limits the number of databases you can create, please use a different database table naming prefix in ANGIE. This will allow the restored site to use a different set of tables than the backed up site and the two sites will no longer be entangled.

## 7.4. Clicking on a link on the restored site takes me to the original site (link migration issues)

Please check if you have redirections in your `.htaccess` file, for example directing all traffic to the `www` prefixed site or to a specific domain, e.g. all traffic to `www.example.com`, even if it referenced `example.com` or `example.net` in the URL. Such problems are easy to spot because you have put this code in the `.htaccess` file and you should know about what it does. Just remove it or comment it out.

Maybe you have to set or change the `$live_site` parameter in your site's `configuration.php`. Normally, Joomla!™ is able to determine the absolute URL to your site's root without your help. However, it looks like that some servers lie, most notably Microsoft™ IIS™, so we have to help our favorite CMS with that. You had the chance to set this URL during the restoration, but it's never too late. Just edit the `configuration.php` file on your site's root with a plain text editor, e.g. Notepad++ or Kate, and find the line which starts with `public $live_site`. Change the rightmost part (the one between single quotes) to your site's URL, without a trailing slash. For example `http://www.example.com` - see? No trailing slash!

Finally, on some hosts it's required to change or enable the `RewriteBase` parameter in your `.htaccess` file. Most often than not it's enough to edit the file and find the line beginning with `RewriteBase`. If there is a hash in front, remove it. Change this line so that it reads:

```
RewriteBase /
```

or, if you restored in a subdirectory named `myjoomla`:

```
RewriteBase /myjoomla
```

## 7.5. Issues arising from your computer configuration, browser, ISP, antivirus and firewall incompatibilities

First try using a different browser. We recommend using the latest version of Google Chrome, Mozilla Firefox, Apple Safari or Microsoft Edge (after the Summer 2020 update). Make sure you disable all of its extensions first.

If you have AVG antivirus, please disable the Link Checker feature and *reboot* your computer. That feature of AVG is very intrusive and kills timing-sensitive Javascript procedures, like the backup procedure.

If this doesn't work, try disabling any antivirus/firewall/Internet security application. Windows Defender is safe to leave enabled.

If nothing of the above works, please try using a different PC, ideally connected to the Internet through a different ISP. We had many cases where the PC setup was broken and using a different computer did the trick.

If the above information doesn't help, please go back to the previous page and continue reading.

## 8. Unorthodox: the emergency restoration procedure

### Warning

THIS IS NOT THE REGULAR RESTORATION PROCEDURE.

The following instructions are meant to be used in absolute emergencies, when the regular restoration procedure does not work.

If you are not sure what the regular restoration process is STOP NOW and go to our site to watch the Video Tutorials.

### Note

These instructions are meant to be first read before disaster strikes. They are not meant as a checklist you follow when you're stressed out by your site being down. Please keep that in mind while reading them. Thank you!

Inevitably, some people will end up with a backup file, a ruined site and a problem in the restoration procedure they can't work out. Almost always, the recipe includes a pressing deadline which requires that the site is on-line... yesterday. If you are in a situation like the one we just described, breathe. Do not panic. We've got you covered, with this concise manual site restoration guide. So, here it goes... it's manual Joomla! Site restoration In 7 steps or even less.

### Step 1. Making sure it won't get worse.

Assuming such a situation, it's only human to be in panic and despair. Panic is a bad counsellor. It will give you wrong advice. Despair will only make you careless. So, people, get it together! Make a backup of the only thing separating you from complete disaster: the backup file. Burn it on a CD. Write it on your USB key. Put it on a couple of locations on your file server. Just make sure you'll have an extra copy in case you screw up.

This exercise has been proven to lower the probability of anything going wrong. Furthermore, it's good for your psychology. It gives you a sense of security you didn't have five minutes ago.

### Step 2. Extracting the archive.

Now, we have to extract the archive somewhere on your local hard drive.

You'll have to use Akeeba Kickstart, available without charge from our website.

If you have a ZIP package you might be able to extract it using third party software. Typically, PKZIP for Windows, WinZIP and 7-Zip work best.

### Step 3. Editing your database backup.

Take a look at the directory where you extracted your backup archive. Inside it there is a directory named `installation`. Inside this, there is a subdirectory named `sql`. Inside this there is a file, `site.sql` (older versions: `joomla.sql`), containing your database data. *COPY THIS TO ANOTHER LOCATION NOW!* We'll have to edit it, so please, don't tamper with the original, will you?

Open the copy of `site.sql` (older versions: `joomla.sql`). Use a text editor (we recommend gedit and Kate on Linux™, Notepad++ on Windows™; do not use Wordpad or Word!). If you were ever familiar with SQL, you'll

recognize that each line consists of a single SQL command. But they have a problem: table names are mangled. You'll see that tables are in a form similar to #\_\_banner instead of jos\_banner. Ah, nice! We'll have to fix that.

Using your text editors Replace command, do the following changes:

- search for **CREATE TABLE `#\_\_`** replace with **CREATE TABLE `jos\_`**
- search for **DROP TABLE IF EXISTS `#\_\_`** replace with **DROP TABLE IF EXISTS `jos\_`**
- search for **INSERT INTO `#\_\_`** replace with **INSERT INTO `jos\_`**
- search for **CREATE VIEW `#\_\_`** replace with **CREATE VIEW `jos\_`**
- search for **CREATE PROCEDURE `#\_\_`** replace with **CREATE PROCEDURE `jos\_`**
- search for **CREATE FUNCTION `#\_\_`** replace with **CREATE FUNCTION `jos\_`**
- search for **CREATE TRIGGER `#\_\_`** replace with **CREATE TRIGGER `jos\_`**

The idea is to replace all instances of #\_\_ (note that there are two underscores after the hash sign) with jos\_ in the SQL command part (not the data part). **DO NOT PERFORM A BLIND SEARCH AND REPLACE OF #\_\_ WITH jos\_ AS IT WILL CAUSE SEVERE PROBLEMS WITH SOME COMPONENTS.** Easy, wasn't it? *NOW SAVE THAT FILE!*

## Step 4. Restoring the database.

In order to restore the database on the server you'll have to use some appropriate tool. For small to moderately sized database dumps (up to 2Mb), we find that phpMyAdmin [<http://www.phpmyadmin.net>] does the trick pretty well, plus it's installed on virtually all PHP enabled commercial hosts. For larger dumps, we found that bigdump.php from Alexey Ozerov [<http://www.ozerov.de/bigdump.php>] works wonders. Another useful and very easy (or, should I say, easier) to use tool is Adminer [<http://www.adminer.org/>]. Use either of those tools - or any other of your liking - to restore your database.

## Step 5. Upload your site's files.

First of all, delete the installation subdirectory from the directory you extracted the backup archive to. We won't be needing this any more. Then, using FTP - or any method you please - upload all of the files to the target server.

If you want to be thorough remember to set the directory and file permissions accordingly. If you just want to get the damn thing on-line ASAP, just skip this permissions thing; it will remind you of itself as soon as you try to do some website administration (like uploading a picture) after the site's back on-line.

## Step 6. Edit configuration.php, if necessary.

If you were restoring to the same server location you took the backup on, nothing else is necessary. Your site should be back on-line now. If not, you'll have to edit the `configuration.php`.

You have Joomla! 1.5.x. Good news! Joomla! 1.5.x doesn't require you to specify some of the hard-to-obtain parameters. Your `configuration.php` consists of several lines. Each one is in the following form:

```
var $key = "value";
```

The key is the name of the configuration variable and value (inside double quotes!) is the value of the variable. Below we provide a list of the configuration variables which have to be modified to get up on-line.

dbtype	is the database driver Joomla! will use. It can be mysql, mysqli (notice the extra i in the end) or pdomysql. This depends on the kind of database you are using. If unsure, your best bet is mysqli.
host	is the database host name, usually localhost
user	is the database user name, assigned from your host company

password	is - obviously - the database password, assigned from your host company
db	is the database's name, assigned from your host company
dbprefix	is the database prefix; if you followed our instructions, it is jos_
live_site	Normally this is an empty string. If, however, your Joomla! site's front page looks as if all images and CSS files are not loading, you have to modify it and enter your site's base URL. For example, if the new site is located in <code>http://www.example.com/mysite/</code> , you have to locate the line starting with <code>var \$live_site</code> and change it to become:  <pre>var \$live_site = "http://www.example.com/mysite";</pre>

That's all! You're good to go.

## Step 7. Enjoy success.

Your mission is accomplished. You are exhausted. Go drink whatever is your favourite drink and enjoy sweet success!



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# Chapter 6. Information for removed or canceled features

Sometimes, despite our best intentions, some features prove to either be far less than ideal or impossible to create in a way that makes practical sense. The reasons behind the decisions to remove or cancel features may not be obvious. These articles try to shed some light.

## 1. Microsoft OneDrive for Business [THIS ARTICLE IS NO LONGER VALID]

Updated October 10th, 2019.

### **Note**

Microsoft OneDrive for Business is supported in Akeeba Backup 7.0.0.b1 and later versions.

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## **Part II. Security information**

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# Chapter 7. Introduction

## 1. Foreword

Since you have chosen Akeeba Backup for backing your site up, it is obvious that you are using Joomla!™ as your web-based Content Management System. By using Joomla!™ you have embarked to the joyful adventure of managing a PHP powered website. Usually, this last part is gone unnoticed. The fact that you are using a PHP application is often taken for granted, but when it comes down to security and problem solving, this is the key concept of which you should have a strong grasp.

This part of the documentation deals with the basic concepts of PHP website management and their implications upon using Akeeba Backup. In this part, we will see the intricacies of access permissions, web site users and the impact of various PHP settings on your site's operability and security. This is not meant to be a concise manual on website administration. There are plenty of web and off-line resources with more in-depth information on the subject, but this introduction will quickly get you up to speed.

This document is no light reading; it is purposely sprinkled with a lot of tech-talk, albeit explained in layman's terms. Our objective was not to write a document which can be read and understood in a single reading. Some things you will understand by the first time you'll have read it. Most of it you will only get it after reading it again. A few shady areas will only become clear reading over again and referring to it every time you get stuck managing your site.

## 2. Why you need to care about ownership and permissions?

Most probably your server is running on Linux™, or another UNIX™-derivative operating system. You might have read, or heard, how these operating systems are safer and more secure than others. This is just half the story. The real security power of such operating systems stems from the way they manage files and directories, allowing or disabling access to them depending on who asks for it and what he's trying to do.

This management is pretty much like electricity in the Western world. It never gets in your way and you don't think about it, but you must have some basic understanding of it so as not to run the risk of getting toasted by it. That's how it goes with ownership and permissions. You might not think about them a lot, but potentials crackers do. If you don't manage permissions wisely, you might be creating a security hole on your server which can be exploited by a malicious cracker. Nobody wants his site cracked, right?

The following chapter will analyze how your web server works under the hood, so that you can grasp the third chapter, which analyzes all the ways you can secure your backup files so as not to fall prey on a cracker.

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# Chapter 8. How your web server works

## 1. Users and groups

The concept of users is the fundamental block of ownership separation on multiuser operating systems. All Windows™ versions based on the NT kernel are such; Windows™ NT, 2000, XP, Vista are all multiuser operating systems. Other UNIX variants are also inherently multiuser, including Linux™, BSD™ flavours, MacOSX™, etc. Since most web servers capable of running Joomla!™ are based on Linux™, we will talk about the Linux™ user system, which is in fact the same as the UNIX user system; after all, GNU/Linux is nothing but an open-source UNIX variant which became very popular among geeks and recently among other people, too.

### 1.1. Users

As we mentioned, the fundamental block of ownership separation is a *user*. Each user has an entry in the system's password database and consists of a *user name* and a numeric *user ID*. A user is not necessarily linked to a physical person; in fact, most utilities and services create and operate under a user of their own.

The numeric user ID is an unsigned integer, therefore it can take a value between 0 and 65534. The user name and the numeric user ID are usually linked with an one to one relationship, meaning that if you know either one you can find the other one. The exception to this is most ISPs. In this case, because there are more users than the available number of user IDs, some numeric IDs will be reused, breaking the one to one relationship. However, on most - if not all - hosts, the one to one relationship exists.

Some user IDs are special. By convention, user IDs below 500 are reserved for system users. These are special users which are not assigned to some physical person. One of them, zero (0), has a very special meaning; it is assigned to the *super user*, commonly called *root*. This user is the God of the system. He has unlimited powers. He can override all access restrictions and make any kind of modification. For this reason, no sane system administrator logs in under that user. They will always log in under a normal user and only temporarily log in as root whenever they need to change system-wide settings.

### 1.2. Groups

Defining permissions per user is tiresome on systems which have more than a few users. In order to combat this inconvenience, all UNIX systems have the notion of *groups*. A group is nothing but a collection of users. The relationship to users is a many-to-many relationship, meaning that one user can belong to many groups and one group can contain many users. To keep things dead simple, groups have the same format as users. Each group has a *group name* and a numeric *group ID*. Again, not all groups are linked to a physical person; in fact there are a number of de facto group names used to control access to crucial system resources.

The numeric group ID is an unsigned integer, therefore it can take a value between 0 and 65534. The group name and group ID are linked with an one to one relationship, meaning that if you know either one you can find the other one. I am not aware of exceptions to this rule and I can't think a reason, either.

There are some special group ID's. By convention, zero (0), is assigned to the root's group. Its sole member should be root, or other users with a user ID of 0. It empowers its members to do anything they please on the system, almost like the user ID 0 does. Noticed the "almost" part? Belonging to the root group alone, without having a user ID of 0, does not give you infinite powers but it *does* grant you very broad access indeed!

Every user can belong to many different groups. To simplify things a little bit, every user has a so-called default group. This means that one of the groups he is a member of will be his effective group, unless otherwise specified, in all operations.

## 1.3. How users and groups are understood by UNIX-derived systems

This section is a bit ahead of the rest of this chapter, I know that. The information contained here, though, clarify a lot of what will follow, so it seemed only appropriate to include it here.

Every time the system has to store the owning user and group of a system item, it does so by storing the numeric user and group IDs, not the names! The names are only used as a convenience; you can't remember that John's user ID is 637, but it's easy to remember that his user name is john. Likewise, remembering that group ID 22 controls access to the CD-ROM drive is improbable, while remembering that the group named cdrom does that is self-understood.

### Important

User IDs for a user with the same user name on different systems can be different. A user named example on system A and system B might have one user ID on system A and a completely different one on system B. However, all UNIX-derived systems really know about are IDs, not names!

This is very (read: extremely) important when you transfer files from one system to another. All archive types which store owner information (for example GNU `tar`) store nothing but the numeric ID's. Moving these to another system and extracting them will screw up ownership and permissions. Just because you have the user ID 567 on Host A doesn't mean that you won't end up with user ID 678 on Host B; extracting such an archive would make all your files owned by someone else, effectively screwing up your site.

## 2. Ownership

The term *ownership* implies that system items belong to someone. In the context of web site management the items we are interested in are files and *processes*. Everybody understands what files are, but the term *processes* is rarely understood amongst webmasters. So, let's explain it.

### 2.1. Process ownership

Every time you run a program, be it interactive or a system service, you create a process. A process is a piece of code being executed by the operating system. A process can *spawn* child processes which can spawn new *threads*. In layman's terms, a program can start other instances of itself or another program and they, in turn, can start small pieces of executable code which can run in parallel with the main program.

Programs do not start spontaneously. Someone has either got to start them, or instruct the system to start them when some criteria are met. This sentence is the acknowledgement of the simplicity behind a computer system; it can't think on its own, humans have to tell it what to do one way or the other. Based on how a program starts, its process will be owned by some user.

In the first and simplest case, when you start a program, the ownership is almost self-understood. You are logged in as some user, so the process of the program you have executed is owned by your user. It's simple as that. This also implies that the process has the same permissions as the owning user, that's why we say that the process runs *under* this user; its access level is at most as much as the owning user, so the process is *under* the user.

The other case, instructing the system to start a process, is somewhat different. Usually, the utilities which are used to start programs automatically are the system initialisation scripts, time-based execution programs (for example, `cron` and `at`), etc. All of these programs are in most cases owned by root and are executed under root privileges. On top of that, most programs started this way are system services, running as long as the system is up and running. But do you remember what we said before? Root is the God of the system. Normally, these programs would get root's privileges, posing a huge security hole. If there is a bug in the program and some malicious user exploits it, he could wreck havoc on the system; root is above all restrictions.

In order to combat this possibility, UNIX systems employ a feature which allows processes to *drop privileges* and run under a different user than the one which started them. In fact, they change their ownership! To prevent

abuse of this feature, a process must run under root privileges to be able to switch to another user. This feature is extensively used by system services, including MySQL and Apache.

In the context of web site management, Apache is of special interest. Apache is the de facto web server for Linux systems and is being used by over 50% of Internet sites, according to NetCraft's August 2008 survey. Chances are you are using it on your site, too. Apache, like most UNIX services (affectionately called *daemons*) uses the feature to drop privileges. The user and group under which it runs are defined in its configuration files. These configuration files are usually out of the reach of regular users (like you!) on commercial hosts, for security reasons.

There is a **special case** which acts as the exception to the Apache rule. Many commercial hosts run **suPHP**-enabled Apache installations. This is an extension to the normal PHP's mode of operation which allows each PHP page to run in a process owned by the file's owner (more on file ownership in the next sub-section). This means that each of the PHP files under your account on such a host run as the user which has been assigned to your account. And, if this still isn't apparent to you, such hosts nullify the burden of ownership and permissions (more on permissions in the next section). To put it clearly: with suPHP the file owner, your own user and the Apache user are one and the same. If you are looking for a decent host, find one which is using suPHP. It's better for security and removes a lot of administrative burden from you. A win-win situation.

## 2.2. File ownership

Everybody knows what a file is, right? Well, we all know intuitively what a file *might* be, but we seldom know what *exactly* it is. A file is actually consisted of at least two parts. The first part is the file data, what we intuitively understand as the file contents. The second part is the file system entry, which makes the file data an identifiable entity. This is where the operating system stores all kinds of information, such as how the file is named, where it is located in the file system hierarchy, when it was modified, etc. It also contains information about who owns the files and what are the file's permissions. You might be surprised reading this, but only this latter, informative, part is required for a file. Really!

It seems absurd to have a file without file data, but it is anything but that. There are some special "files" (more correctly: file system entries) in the UNIX world. You have devices, whose "files" actually point to a serial input/output provided by this device, for example the serial port of your computer. There are directories, which obviously don't have any data contained; they are used for organising files only. There are soft links, which are pointers to other files in the file system, used to have standardised names and locations on files which might be moved around or have varying names. There are also these wired beasts called "hard links", some peculiar file system entries which point to the file data of another file, making virtually impossible to know which is the "original" file and which is its clone. Their usefulness is only apparent to the UNIX gurus, therefore out of the scope of this document. For the purpose of website management we are only concerned about regular files (hereby called "files"), directories and soft links (hereby called "links").

All files, directories and links are owned by a user and a group, be they files or links. In fact, they are owned by a user ID and a group ID. Normally, the ownership is inherited by the creating process's ownership. When you create a file directly from an interactive editor application the editor's process is owned by your user ID and your default group ID, therefore the file will be owned by your user ID and your default group ID.

Links are a special case on their own. They are not files, they are pointer to files. The ownership (and permissions) of links is irrelevant. Whenever a process tries to access a link, the underlying operating system "follows" the link, until it finds a regular file. Therefore, the ownership that matters is that of the file linked to, not the link itself. This feature of the operating system prevents unauthorised access to arbitrary files, normally accessible to specific users only, from users who just happen to know the path to those files.

What is especially interesting is the correlation between FTP, web server and file ownership. Whenever you access FTP, you log in as some user. This user is linked to a system user (often the same user assigned to you by host), so logging in FTP actually has the same effect as logging into the system as this user. Common sense implies that all file operations are performed under this user and all files created (read: uploaded) through FTP will be owned by this user.

Conversely, whenever you are using a web interface to perform file operations, you are using a web application - or any PHP script/application for that matter - running on the web server whose process is owned by a different

user. Therefore, whenever you create files from a web application, they will be owned by the user the web server runs under.

The distinction of file ownership in these two cases is of paramount importance when you get stuck with files which are accessible to FTP but inaccessible to the web server, or vice versa. This minute distinction is the cause of a lot of grief to many webmasters, so beware!

## 3. Permissions

So far you have learned about users, groups and ownerships. But how do they all stick together? Why these are necessary to have in the first place? The reason is simple: security. In multiuser operating systems you normally don't like users snooping around other people's files, especially when those files contain sensitive information, such as passwords. The most common method for overcoming this problem is to assign *permissions* on each system item, controlling who can do what. This simple concept works wonderfully; it's like putting doors on a building and giving people only the keys for the doors to areas they should have access to.

### 3.1. The three types of permissions

We already learned that each system item is owned by a user ID and a group ID. Whenever a process tries to access a system item, the operating system checks the permissions and decides if it will proceed with the operation or deny access. It seems reasonable to have control over what a process with the same owning user ID can do with it, what the a process with the same owning group ID can do with it and, finally, what the rest of the world can do with it. Indeed, this is the rationale behind the three types of permissions we can define on UNIX systems. In order of precedence they are:

User permissions	They are the access rights granted to the owning user of the item. Every process with the same owning user ID as the item's owning user ID has these access rights. These access rights have precedence over all other permissions.
Group permissions	These are the access rights granted to the owning group of the item. Every process with the same owning group ID as the item's owning group ID has these access rights. These access rights are applied only if the owning user ID's of the process and the item do not match, but their owning group ID's match.
Other permissions	These are the access rights granted to the rest of the world. If the owning user ID's of the process and the item do not match and the same happens for the owning group ID's as well, these access rights will be applied.

### 3.2. What permissions can control

We will be focused on permissions on files and directories, the building blocks of a web site. Permissions can control only three different actions:

Read	The ability to read a file, or get a directory listing.
Write	The ability to write to a file, or the ability to create, rename and delete files and subdirectories on a directory.
Execute (or Browse, for directories)	For files, it controls the ability to be directly executable from the command line. It is only meaningful for binary programs and executable scripts. For directories, it controls the ability to change to that directory. Note that if this is disabled you can't usually obtain a directory listing and file read operations might fail.

These three actions, combined with the three access request groups (owning user, owning group and the rest of the world) give us a total of nine distinct operations which can be controlled. Each action is an on/off switch. If a permission is set, it is turned on and the right to perform the action is granted. If the permission is not set, the switch is off and the right to perform the action is not granted.



## 3.3. Permissions notation

The two most common notations for permissions is the *textual notation* and the *octal notation*. Each one has its own virtues.

### 3.3.1. The textual notation

The textual notation is traditionally used in UNIX long directory listing format and in most FTP clients listings as well. It consists of ten characters. The first one displays the file type. It can be one of dash (regular file), "d" (a directory) or "l" (a link). The following nine characters display the permissions, consisting of three groups of three letters each. The groups are in order of appearance: owning user, owning group and others. The permissions on each group are in order of appearance: read (denoted with r), write (denoted with w) and execute/browse (denoted with x). If a permission is not set, a dash appears instead of the letter.

For example, the string `-rwxr-xr-x` means that it is a regular file, the owning user has read/write/execute permissions, the owning group has read and execute permissions and so does the rest of the world. On the other hand, the string `dr-x-----` indicates that we have a directory whose owning user has read and browse permissions and everybody else (owning group and the rest of the world) have no right to access it.

### 3.3.2. The octal notation

This is the de facto standard geeks use to communicate permissions. The benefit of this approach is that you only need four characters to fully define them and they're easier to read (to the trained eye, at least).

Permissions are in fact a bit field. Each permission is a bit which can be turned on or off. If you put bits together they form bytes (by grouping eight bits together). Many bytes one next to the other form a computer-readable representation of a whole number (an integer). If you write this down in base 8, you've got the octal representation. If you didn't understand this, it's OK. We'll explain it the easy way.

The octal notation consists of four numbers. In the context of web site management you can consider the first to be always zero and sometimes omitted. The next three numbers describe each one the permissions. The second number describes owning user permissions. The third number describes owning group's permissions. The fourth number describes the permissions for the rest of the world. Each number is 0 to 7. The meaning of each number is simple:

- 0 No access
- 1 Execute/browse access only
- 2 Write access only
- 3 Write and execute/browse access
- 4 Read access only
- 5 Read and execute/browse access
- 6 Read and write access
- 7 Full access

It is almost apparent that "1" stands for execute only, "2" stands for write only and "4" stands for read only. Adding these values together gives you the rest of the combinations. You can't add together the same value (1+1 is forbidden as it is meaningless), so each of the composite values can be broken down to its components very easily. You don't even have to memorise the whole table!

A permission of 0777 means that the owning user, owning group and the rest of the world can read, write and execute the file (full permissions for everyone). A 0764 permission means that the owning user has full access, the owning group has read and write access and the rest of the world have read only access.

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# Chapter 9. Securing your Akeeba Backup installation

## 1. Access rights

As with every software which can access your site as a whole, Akeeba Backup needs to control who's got access to its backup functionality. Akeeba Backup fully supports Joomla's access control features, allowing you to set specific permissions for specific user groups. You can change this behavior from the component's Options button in the Control Panel page - just like with any other Joomla! component.

The front-end backup feature is a different story. Since it has to be available to unattended scripts which can't use cookies and interactive user authentication, a different approach was taken. Instead of requiring the user to have logged in with Joomla! it uses a simple "secret word" authentication model. Because this "secret word" is transmitted in clear text we strongly advise against using it over anything else than a local network (for example, an automated tool running on the same host as the web server). If you have to use it over the Internet we strongly advise using a secure protocol connection (HTTPS) with a valid commercially acquired certificate.

## 2. Securing the output directory

### Securing the backup output directory

By default the component uses a non secure location to store its backup files and temporary files, within your site's file system hierarchy, namely `administrator/components/com_akeeba/backup`. This location is well known and can be - theoretically - accessed directly from a web browser. Since the backup output directory stores the results of your backup attempts, that is SQL files containing database backups and archive files containing all of your site, a malicious person with access to this location could steal sensitive information or compromise your site's integrity.

The first line of defense, is to use mangled, hard to guess, names for the SQL backup. However, it wouldn't take an attacker that long to figure out the filename. Remember: security through obscurity is no security at all!

As a second line of defense, we include a secure `.htaccess` on the default backup output directory to disable direct web access. However, this is only possible on Apache-powered web servers which allow the use of `.htaccess` files. You should check with your host to ensure that this kind of protection is possible on your site.

However, this is not enough. Using a well known location would allow an attacker exploiting a security issue in a third party component to gain access to the backup archives. The only way around that is using a different directory, ideally one above your site's root.

## 3. Securing file transfers

Whenever you download your backup files you can fall prey to a malicious user. Backup files are transferred unencrypted (unless you access your site's administrator section through the HTTPS protocol). It is possible for a resourceful hacker to launch a man-in-the-middle attack. In such a case, whatever you download from your site will be directed to the hacker's computer before reaching yours.

To avoid such insecure scenarios, we advise against using the Download button in the backup administration page. We suggest that you use Secure FTP (SFTP) instead. Avoid using the plain old FTP, because your password and data are transmitted in clear text (unencrypted) over the Internet. Also avoid FTPS and FTPES (FTP over SSL) as they have some security restrictions, like requiring your FTP server to have a commercially obtained SSL certificate in order to be really effective. Sometimes, your host will allow secure access to a web based control panel which has a file download feature. You could use this, it's as safe as it gets.

There is also another reason why not to use the Download button in the backup administration page. Your host neither discriminates the back end and front end pages of your Joomla! site, nor your IP from the rest of the world. As a result, every time you use the Joomla!™ back end, the data transferred counts towards your monthly bandwidth quota. Backup archives are large, sometimes in the hundreds of megabytes. Transferring them through the Download feature will incur a huge loss on your monthly bandwidth quota. Using Secure FTP or your host's control panel *usually* does not count through the bandwidth quota and should be used instead. It's better to ask your host, though; some include the FTP and SFTP traffic in your monthly bandwidth quota. Finally, the Download feature doesn't work with all possible configurations and has objective problems with the handling of very large archives; this is a technical limitation which can not be overcome in the PHP level the component operates. Most notably, many servers which use the FastCGI mode do not work at all with the Download button. They will simply throw an HTTP 500 error page, or a "file not found" message. We've tried all the tricks in the book and then some more, but there's really absolutely nothing we can do about it. Sorry.

## **Important**

The preferred and suggested method for downloading your backup files - for several reasons - is using FTP in BINARY mode, preferably over an encrypted connection. Alternatively, you can use Remote CLI which allows you to use this approach when downloading backup archives.

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## **Part III. Appendices**

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# Appendix A. The JPA archive format, v.1.2

## Design goals

The JPA format strives to be a compressed archive format designed specifically for efficiency of creation by a PHP script. It is similar in design to the PKZIP format, with a few notable differences:

- CRC32 is not used; calculation of file checksums is time consuming and can lead to errors when attempted on large files from a script running under PHP4, or a script running on PHP5 without the hash extension.
- Only allowed compression methods are store and deflate.
- There is no Central Directory (simplifies management of the file).
- File permissions (UNIX style) are stored within the file.

Even though JPA is designed for use by PHP scripts, creating a command-line utility, a programming library or even a GUI program in any other language is still possible. JPA is not supposed to have high compression ratios, or be secure and error-tolerant as other archive formats. It merely an attempt to provide the best compromise for creating archives of very large directory trees using nothing but PHP code to do it.

This is an open format. You may use it in any commercial or non-commercial application royalty-free. Even though the PHP implementation is GPL-licensed, we can provide it under commercial-friendly licenses, e.g. LGPL v3. Please ask us if you want to use it on your own software.

## Structure of an archive

An archive consists of exactly one Standard Header and one or more Entity Blocks . Each Entity Block consists of exactly one Entity Description Block and at most one File Data Block . All values are stored in little-endian byte order, unless otherwise specified.

All textual data, e.g. file names and symlink targets, must be written as little-endian UTF-8, non null terminated strings, for the widest compatibility possible.

## Standard Header

The function of the Standard Header is to allow identification of the archive format and supply the client with general information regarding the archive at hand. It is a binary block appearing at the beginning of the archive file and there alone. It consists of the following data (in order of appearance):

Signature, 3 bytes	The bytes 0x4A 0x50 0x41 (uppercase ASCII string “JPA”) used for identification purposes.
Header length, 2 bytes	Unsigned short integer represented as two bytes, holding the size of the header in bytes. This is now fixed to 19 bytes, but this variable is here to allow for forward compatibility. When extra header fields are present, this value will be 19 + the length of all extra fields.
Major version, 1 byte	Unsigned integer represented as single byte, holding the archive format major version, e.g. 0X01 for version 1.2.
Minor version, 1 byte	Unsigned integer represented as single byte, holding the archive format minor version, e.g. 0X02 for version 1.2.
File count, 4 bytes	Unsigned long integer represented as four bytes, holding the number of files present in the archive.

Uncompressed size, 4 bytes	Unsigned long integer represented as four bytes, holding the total size of the archive's files when uncompressed.
Compressed size, 4 bytes	Unsigned long integer represented as four bytes, holding the total size of the archive's files in their stored (compressed) form

## Extra Header Field - Spanned Archive Marker

This is an optional field, written after the Standard Header but before the first Entity Block, denoting that the current archive spans multiple files. Its structure is:

Signature, 4 bytes	The bytes 0x4A, 0x50, 0x01, 0x01
Extra Field Length, 2 bytes	The length of the extra field, without counting the signature length. It's value is fixed and equals 4.
Number of parts, 2 bytes	The total number of parts this archive consists of.

When creating spanned archives, the first file (part) of the archive set has an extension of .j01, the next part has an extension of .j02 and so on. The last file of the archive set has the extension .jpa.

When creating spanned archives you must ensure that the Entity Description Block is within the limits of a single part, i.e. the contents of the Entity Description Block must not cross part boundaries. The File Data Block data can cross one or multiple part blocks.

## Entity Block

An Entity Block is merely the aggregation of an Entity Description Block and at most one File Data Block. An Entity can be at present either a File or a Directory. If the entity is a File of zero length or if it is a Directory the File Data Block is omitted. In any other case, the File Data Block must exist.

## Entity Description Block

The function of the Entity Description Block is to provide the client information about an Entity included in the archive. The client can then use this information in order to reconstruct a copy of the Entity on the client's file system. It is a binary block consisting of the following data (in order of appearance):

Signature, 3 bytes	The bytes 0x4A, 0x50, 0x46 (uppercase ASCII string "JPF") used for identification purposes.
Block length, 2 bytes	Unsigned short integer, represented as 2 bytes, holding the total size of this Entity Description Block.
Length of entity path, 2 bytes	Unsigned short integer, represented as 2 bytes, holding the size of the entity path data below.
Entity path data, variable length.	Holds the complete (relative) path of the Entity as a UTF16 encoded string, without trailing null. The path separator must be a forward slash ("/"), even on systems which use a different path separator, e.g. Windows.
Entity type, 1 byte.	<ul style="list-style-type: none"><li>• 0x00 for directories (instructs the client to recursively create the directory specified in Entity path data).</li><li>• 0x01 for files (instructs the client to reconstruct the file specified in Entity path data)</li><li>• 0x02 for symbolic links (instructs the client to create a symbolic link whose target is stored, uncompressed, as the entity's File Data Block). When the type is 0x02 the Compression Type MUST be 0x00 as well.</li></ul>
Compression type, 1 byte.	<ul style="list-style-type: none"><li>• 0x00 for no compression; the data contained in File Data Block should be written as-is to the file. Also used for directories, symbolic links and zero-sized files.</li></ul>

- 0x01 for deflate (Gzip) compression; the data contained in File Data Block must be deflated using Gzip before written to the file.
- 0x02 for Bzip2 compression; the data contained in File Data Block must be uncompressed using BZip2 before written to the file. This is generally discouraged, as both the archiving and unarchiving scripts must be ran in a PHP environment which supports the bzip2 library.

Compressed size, 4 bytes	An unsigned long integer representing the size of the File Data Block in bytes. For directories, symlinks and zero-sized files it is zero (0x00000000).
Uncompressed size, 4 bytes	An unsigned long integer representing the size of the resulting file in bytes. For directories, symlinks and zero-sized files it is zero (0x00000000).
Entity permissions, 4 bytes	UNIX-style permissions of the stored entity.
Extra fields data, variable length	The extra fields for each file are stored here. The total length of extra fields is included in the Block Length above

Each Extra Fields consists of:

Extra Field Identifier, 2 bytes	A signature denoting the data stored in the extra field
Extra Field Length, 2 bytes	The length (in bytes) of the Extra Field Data
Extra Field Data, variable length	The internal structure varies by the type of the Extra Field, as noted in the Extra Field Identifier

## Timestamp Extra Field

Its purpose is to store the date and time the file was modified. This extra field should be ignored for directories and symlinks, or - if present - the Timestamp should be set to 0x00000000. Its format is:

Extra Field Identifier, 2 bytes	The bytes 0x00 0x01
Extra Field Length, 2 bytes	The value 0x08 stored in little-endian format
Timestamp, 4 bytes	A 4-byte UNIX timestamp of the file's modification time, as returned by <code>filemtime()</code> .

## File Date Block

The File Data Block is only present if the Entity is a file with a non-zero file size. It can consist of one and only one of the following, depending on the Compression Type:

- Binary dump of file contents or textual representation of the symlink's target, for CT=0x00
- Gzip compression output, without the trailing Adler32 checksum, for CT=0x01
- Bzip2 compression output, for CT=0x02

## Change Log

Revision History



June 2009

NKD, Akeeba Developers <http://www.akeeba.com>

Updated to format version 1.1, fixed incorrect descriptions of header signatures

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# Appendix B. The JPS archive format, v.2.0

## Design goals

The JPS format strives to be a compressed archive format designed specifically for efficiency of creation by a PHP script, while providing secure AES-128 encryption of the file descriptor and file contents. It is similar in design to the JPA, with a few notable differences:

- Both the file descriptor and the file data are split to 64Kb blocks encrypted using Rijndael-128 in CBC mode (that's the same as AES-128)
- All files are compressed using Deflate (ZLib)

Even though JPS is designed for use by PHP scripts, creating a command-line utility, a programming library or even a GUI program in any other language is still possible. JPS is supposed to have low to medium compression ratios, and be secure. However it is not as error-tolerant as other archive formats.

This is an open format. You may use it in any commercial or non-commercial application royalty-free. Even though the PHP implementation is GPL-licensed, we can provide it under commercial-friendly licenses, e.g. LGPL v3. Please ask us if you want to use it on your own software.

### Important

When the password is blank, no encryption takes place. Archivers should take this into account when creating files. Unarchivers should also take this into account when the user passes an empty string as their password.

When a non-blank password is used, all files are encrypted using the same password. More specifically, all data blocks are encrypted using the same password.

## Security

The security of the format largely hinges on the assumption that Rijndael-128 in CBC mode with randomized IVs in each encrypted stream is not susceptible to KPA (known plain-text attacks). Should a KPA be found against the encryption algorithm the obvious crib would be the encrypted file header of the first file in an Akeeba Backup archive which is very predictable. Even if the order of files were randomized, there are well-known files (part of the installer) with known contents, making them relatively easy to identify by their relative size in the archive. However, as we said above, the encryption algorithm is not known to be susceptible to KPA, nullifying this threat.

Another defense you can use when creating the archive is the use of a non-static salt for PBKDF2 key expansion. This means that the cryptographic key which could theoretically be brute forced by means of a KPA would only apply to a specific encrypted block. It would then take another, more computationally expensive, brute force attack against the password to decrypt the entire archive. The downside is that this is a much slower encryption method since a key needs to be derived for every encrypted block of data. Counter-intuitively this could lead to worse security since the practical considerations of the implementation lead to using a much smaller number of iterations with a weaker hashing algorithm which may end up being easier to brute-force, especially for the shorter passwords.

Our recommendation for v2.0 archives is using key expansion with a static salt, a high number of iterations (e.g. 64000) and a strong hashing algorithm (e.g. SHA512).

# Key Expansion

## JPS v.2.0 (PBKDF2)

JPS v.2.0 is using a different, more secure, key expansion scheme that JPS v.1.x. PBKDF2 is used on the user-supplied password to generate the encryption key. PBKDF2 was selected over memory-hard algorithms (like bcrypt, scrypt, Argon2 etc) for performance reasons, considering that encryption has to also take place on shared hosts with limited resources and old versions of PHP which don't even support these newer hashing algorithms. As processors get faster and old PHP versions become increasingly obsolete we might revise the key expansion algorithm in the future.

The supported PBKDF2 algorithms at this time are SHA-1 (used by default), SHA-256 and SHA-512. The algorithm used throughout the archive is specified in the archive header. Even though SHA-1 is not collision-resistant, the high number of iterations mitigates that risk.

The number of iterations used throughout the archive is also specified in the archive header. By default it's 100,000. This is a moderately high number of iterations while still being practical on resource-limited shared hosting.

There are two possibilities for the salt used for PBKDF2. One possibility is using a static salt, found in the archive's header. In this case you only perform key expansion once and use the expanded key for all encrypted blocks in the archive. The other possibility is having a different salt per encrypted block. In this case a key expansion is executed per encrypted block, therefore using a different encryption key for each block.

### Important

We **STRONGLY** recommend using long (64 or more characters), completely random passwords which make use of lowercase and uppercase Latin letters, numbers and special characters (top row on US-format keyboards). Use a password manager to generate and store these passwords. Taking these precautions make password brute forcing with conventional technology highly impractical in the foreseeable future.

## JPS v.1.x (Rijndael-128 CTR)

All JPS v.1.x format use a very naive key expansion, based on Rijndael-128 running in CTR (counter) mode. The implementation details can be found in the Encrypt class' expandKey method. The obvious downside is that only up to 16 bytes of the password (which may be as little as 5.3 characters in UTF-8 encoding) are taken into account. The other obvious downside is that the key is simply the password being encrypted with a version of itself in CTR mode which is not very cryptographically safe. The shortcomings of this approach were exacerbated in the first public version of the JPS format (1.9) which used the key as an IV for all encrypted blocks, weakening the security of the format.

This key expansion is not supported since JPS v.2.0.

## Structure of an archive

An archive consists of exactly one Standard Header and one or more Entity Blocks . Each Entity Block consists of exactly one Entity Description Block and at most one File Data Block. Each File Data Block consist of one or several Data Chunk Blocks. All values are stored in little-endian byte order, unless otherwise specified.

All textual data, e.g. file names and symlink targets, must be written as little-endian UTF-8, non null terminated strings, for the widest compatibility possible.

## Standard Header

The function of the Standard Header is to allow identification of the archive format and supply the client with general information regarding the archive at hand. It is a binary block appearing at the beginning of the archive file and there alone. It consists of the following data (in order of appearance):

Signature, 3 bytes	The bytes 0x4A 0x50 0x54 (uppercase ASCII string “JPS”) used for identification purposes.
Major version, 1 byte	Unsigned integer represented as single byte, holding the archive format major version, e.g. 0x02 for version 2.0.
Minor version, 1 byte	Unsigned integer represented as single byte, holding the archive format minor version, e.g. 0x00 for version 2.0.
Spanned archive, 1 byte	When set to 1, the archive spans multiple files
Extra header length, 2 bytes	The total length of extra headers. In version 2.0 of the format it is always 76.

The total size of this header is 8 bytes, plus the size of the extra headers (if any).

## Key Expansion Extra Header

The function of the Key Expansion Extra Header is to let you know of the PBKDF2 key expansion algorithm's configuration parameters used throughout this backup archive. It consists of the following data:

Identification Header, 4 bytes	The bytes 0x4A 0x48 0x00 0x01 used for identification purposes
Extra Header Size, 2 bytes	Unsigned short integer, little endian, holding the total size of this extra header (including the 4 bytes of the identification header), i.e 76 for a version 2.0 header
Algorithm, 1 byte	Unsigned byte holding the ID of the hash algorithm used for PBKDF2. The valid algorithms are: <ul style="list-style-type: none"> <li>• 0 = SHA-1</li> <li>• 1 = SHA-256</li> <li>• 2 = SHA-512</li> </ul> Values up to and including 127 are reserved for future use.
Iterations, 4 bytes	Unsigned long integer, little endian, with the number of iterations to use in PBKDF2
Use Static Salt, 1 byte	Unsigned byte. When it is 1 use the Static Salt below with PBKDF2 unless otherwise specified in the encryption block. This allows you to cache the expanded key for encryption / decryption purposes. This is only recommended if you are using SHA-256 or SHA-512 with a high number of iterations.  If this is 0 we recommend setting the Static Salt to all null bytes.
Static Salt, 64 bytes	The rest of the extra header (64 bytes in v.2.0) is the Static Salt mentioned above.

## Entity Block

An Entity Block is merely the aggregation of exactly one Entity Description Block, followed by the encrypted contents of exactly one Entity Description Block Data and zero or one instances of a File Data Block. An Entity can be at present a File, Symbolic Link or Directory. If the entity is a File of zero length or if it is a Directory the File Data Block is omitted. In any other case, the File Data Block must exist.

## Entity Description Block Header

The function of the Entity Description Block Header is to allow a client to read the encrypted Entity Description Block Data. It is a binary block consisting of the following data (in order of appearance):

Signature, 3 bytes	The bytes 0x4A, 0x50, 0x46 (uppercase ASCII string “JPF”) used for identification purposes.
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Encrypted size, 2 bytes    The encrypted size of the following Entity Description Block Data

Decrypted size, 2 bytes    The decrypted size of the following Entity Description Block Data

## Entity Description Block Data

its purpose is to provide the client information about an Entity included in the archive. The client can then use this information in order to reconstruct a copy of the Entity on the client's file system. The data is written to the archive encrypted with Rijndael-128 in CBC mode. The Entity Description Block Data consists of the following information before it is encrypted:

Length of entity path, 2 bytes.	Unsigned short integer, represented as 2 bytes, holding the size of the entity path data below.
Entity path data, variable length.	Holds the complete (relative) path of the Entity as a UTF16 encoded string, without trailing null. The path separator must be a forward slash ("/"), even on systems which use a different path separator, e.g. Windows.
Entity type, 1 byte.	<ul style="list-style-type: none"><li>• 0x00 for directories (instructs the client to recursively create the directory specified in Entity path data). When the entity type is 0x00 the Compression Type MUST be 0x00 as well.</li><li>• 0x01 for files (instructs the client to reconstruct the file specified in Entity path data)</li><li>• 0x02 for symbolic links (instructs the client to create a symbolic link whose target is stored, uncompressed, as the entity's File Data Block). When the type is 0x00 the Compression Type MUST be 0x00 as well.</li></ul>
Compression type, 1 byte.	<ul style="list-style-type: none"><li>• 0x00 for no compression; the data contained in File Data Block should be written as-is to the file. Also used for directories, symbolic links and zero-sized files.</li><li>• 0x01 for deflate (Gzip) compression; the data contained in File Data Block must be deflated using Gzip before written to the file.</li><li>• 0x02 for Bzip2 compression; the data contained in File Data Block must be uncompressed using BZip2 before written to the file. This is generally discouraged, as both the archiving and unarchiving scripts must be ran in a PHP environment which supports the bzip2 library.</li></ul>
Uncompressed size, 4 bytes	An unsigned long integer representing the size of the resulting file in bytes. For directories, symlinks and zero-sized files it is zero (0x00000000).
Entity permissions, 4 bytes	UNIX-style permissions of the stored entity.
File Modification Time, 4 bytes	The UNIX timestamp of the file's last modification time. For directories and symlinks it must be ignored and set to 0x00000000.

## File Data Block

The File Data Block is only present if the Entity is a file with a non-zero file size. It consists of one or more Data Chunk Blocks. Do note that the File Data Block has no header. The collection of one or several Data Chunk Blocks is called the "File Data Block".

## Data Chunk Block

Each Data Chunk Block consists of the following information:

Encrypted size, 4 bytes	Unsigned long containing the size, in bytes, of the encrypted data.
Decrypted size, 4 bytes	Unsigned long containing the size, in bytes, of the decrypted data. If the decryption yields more bytes, the extraneous bytes must be trimmed off.
Encrypted data, variable length	<p>The decrypted data is compressed, depending on the Compression Type, and then encrypted using AES-128 in CBC mode. The compression format used may be:</p> <ul style="list-style-type: none"><li>• Binary dump of file contents or textual representation of the symlink's target, for CT=0x00</li><li>• Gzip compression output, without a trailing Adler32 checksum, for CT=0x01</li><li>• Bzip2 compression output, for CT=0x02</li></ul>

In split archives, the first 8 bytes must appear within the same part. They may or may not be in the same part as the Entity Description Block Data. The Encrypted Data can span multiple parts. Since the minimum part size is 64Kb and the maximum Decrypted Size can't be over 64Kb, the Encrypted Data will either be in the same part in its entirety, or span exactly two parts.

## Encrypted data block format

The encrypted blocks have one of the following possible formats. You can detect the data format in two ways.

First, the legacy format is only used with JPS version 1.9 and below. If the file header claims that the archive is JPS 1.10 then the current format **MUST** be used.

If you do not or cannot trust the file header you can do a simple heuristics. Read the last 24 bytes of the encrypted block. If the first four bytes are JPIV you definitely have a current format block. Otherwise you most likely have a legacy format block (there's 1 in 4,228,250,625 chance of false detection).

### JPS 2.0 (Current)

In this format the IV for each encryption block is always different, produced by a crypto safe PRNG (either OpenSSL or mcrypt). Therefore the encryption *is* safe against cryptanalysis (as far as an attack against Rijndael-128 itself is not discovered). Moreover, it allows for the inclusion of a per-block salt for PBKDF2 key expansion.

Encrypted data, variable length	This data is encrypted with Rijndael-128 using the IV described below.
Per-Block Salt, 68 bytes (OPTIONAL)	<p>The literal string JPST followed by the 64 bytes of the per-block salt. Discard the JPST marker and use the rest as the salt for the PBKDF2 algorithm.</p> <p>This section <b>MUST</b> be present when the Use Static Salt flag in the archive header is 0.</p> <p>This section <b>MAY</b> be present when the Use Static Salt flag in the archive header is 1. This means that you shouldn't simply skip checking the existence of this section just because Use Static Salt is 1. If it's present, use it and derive a new, per-block encryption key.</p>
Initialization Vector (IV) data block, 20 bytes	The literal string JPIV followed by the 16 bytes (128-bit) Initialization Vector data. Discard the JPIV marker and use the rest of the block as the IV for your Rijndael-128 decryption engine.
Decrypted data length, 4 bytes	The size of the decrypted data in bytes. Since Rijndael-128 in CBC mode encrypts data in 16-byte (128-bit) blocks it needs to pad data with length not exactly divisible by 16 with zero bytes. These zero bytes are not part of the input data and need to be discarded. For example, if your decrypted data length is 24 and the Rijndael-128 decryption result is 32 bytes you need to throw away the last 8 bytes which are just the zero (null) padding bytes.

## JPS 1.10 (Previous)

### Note

Only compatible with JPS 1.10 archive files. Not compatible with JPS 1.9 archive files. Obsolete since JPS 2.0.

In this format the IV for each encryption block is always different, produced by a crypto safe PRNG (either OpenSSL or mcrypt). Therefore the encryption *is* safe against cryptanalysis (as far as an attack against Rijndael-128 itself is not discovered).

Encrypted data, variable length	This data is encrypted with Rijndael-128 using the IV described below.
Initialization Vector (IV) data block, 20 bytes	The literal string JPIV followed by the 16 bytes (128-bit) Initialization Vector data. Discard the JPIV marker and use the rest of the block as the IV for your Rijndael-128 decryption engine.
Decrypted data length, 4 bytes	The size of the decrypted data in bytes. Since Rijndael-128 in CBC mode encrypts data in 16-byte (128-bit) blocks it needs to pad data with length not exactly divisible by 16 with zero bytes. These zero bytes are not part of the input data and need to be discarded. For example, if your decrypted data length is 24 and the Rijndael-128 decryption result is 32 bytes you need to throw away the last 8 bytes which are just the zero (null) padding bytes.

## JPS 1.9 and below (Legacy)

### Note

Only compatible with JPS 1.9 and 1.10 archive files. Obsolete since JPS 2.0.

In this format the IV is always the same and derived from the encryption key. For this reason the encryption is NOT safe against some methods of cryptanalysis which could compromise the encryption key.

Encrypted data, variable length	This data is encrypted with Rijndael-128.
Decrypted data length, 4 bytes	The size of the decrypted data in bytes. Since Rijndael-128 in CBC mode encrypts data in 16-byte (128-bit) blocks it needs to pad data with length not exactly divisible by 16 with zero bytes. These zero bytes are not part of the input data and need to be discarded. For example, if your decrypted data length is 24 and the Rijndael-128 decryption result is 32 bytes you need to throw away the last 8 bytes which are just the zero (null) padding bytes.

## End-of-archive header

This header is written after the end of the archive data, at the end of the last part of the archive.

When creating spanned archives, the first file (part) of the archive set has an extension of .j01, the next part has an extension of .j02 and so on. The last file of the archive set has the extension .jps. You must also ensure that the Entity Description Block is within the limits of a single part, i.e. the contents of the Entity Description Block must not cross part boundaries. The File Data Block data can cross one or multiple part blocks, but the header of each Data Chunk Block must both be inside the same part.

This header is written after the end of the archive data, at the end of the last part of the archive. Its structure is:

Signature, 3 bytes	The bytes 0x4A, 0x50, 0x45 ("JPE")
Number of parts, 2 bytes	The total number of parts this archive consists of. Non-spanned archives should set this to 1.

File count, 4 bytes	Unsigned long integer represented as four bytes, holding the number of files present in the archive.
Uncompressed size, 4 bytes	Unsigned long integer represented as four bytes, holding the total size of the archive's files when uncompressed.
Compressed size, 4 bytes	Unsigned long integer represented as four bytes, holding the total size of the archive's files in their stored (compressed) form

The size of the EOA header is 17 bytes for version 1.9 of the format.

## Change Log

### Revision History

July 2010

NKD, Akeeba Ltd <http://www.akeeba.com>

Described version 1.9

### Revision History

January 2017

NKD, Akeeba Ltd <https://www.akeeba.com>

Described version 2.0



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