Akeeba Backup User's Guide

Nicholas K. Dionysopoulos

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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.

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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. As the successor to the acclaimed JoomlaPack component, Akeeba Backup builds on its strong legacy to deliver an easy to use, yet powerful, solution to backing up, restoring and moving your site between servers of the same or different architecture.

Its mission is simple: backup your entire site - including all files and database contents - inside a standalone archive. You can then restore your entire site from the contents of this archive, without the need of installing Joomla!™ prior to the restoration. You can do so in a single click manner, without the tedious work required to set up and test external utilities, without changing your server configuration and without having to dive into obscure configuration options.

If you want absolute power and flexibility, Akeeba Backup is right for you, too! It puts you in charge of 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.

Akeeba Backup has won the J.O.S.C.A.R. award in the Administrator Only Extension at J and Beyond 2010, in the Admin Extension category at J and Beyond 2011 and Component category in J and Beyond 2011. The award was the result of a peer voting process, where the high-end Joomla! developers and web designers participating in the J and Beyond conferences picked the top extensions for Joomla!. Akeeba Backup's lead developer shared the 2011 J.O.S.C.A.R. in the Code Junkie category with NinjaBoard's lead developer, Stian Didriksen.

2. Indicative uses

Akeeba Backup can be used for much more than just backup. 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 modify it to your liking and 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, we offer you unconditional support, *directly from members of our team*, through our forum (as long as you have a valid subscription - support-only subscriptions start at 7.79 EUR). Even if this is not enough for you, we even give away our full documentation and the comprehensive troubleshooter guide without charging a single penny! If you find something missing, or spotted a bug, don't be afraid to contact us. We have an ongoing Bug Bounty: if you're the first to help us solve a substantial bug, you'll get a free subscription.

Akeeba Backup Professional is designed to take your experience to a whole new level. Featuring advanced options, like embedded restoration, inclusion of external directories and databases, powerful filters based on regular expressions, easy exclusion of Joomla!™ extensions and support for putting your backups on compatible cloud storage services (such as Amazon's S3), it is designed to give the professional user a strong efficiency leverage. Akeeba Backup Professional is the ideal choice for professional web developers. Thanks to its liberal GNU GPL v3 license, Akeeba Backup Professional can be installed on an unlimited number of clients' websites, royalty-free! Amazing, isn't it?

3. A typical backup/restoration workflow

As stated, Akeeba Backup is designed to make your life easier. It does that by streamlining the workflow 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 transfering 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!

The typical workflow 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 Administer Backup Files 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 hereforth 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 ABI 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. Believe it or not, you have a working site! Honestly! Click on the View the front-end button to visit your new site.

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. 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!™ 1.5.14 or later in the 1.5.x or 1.6.x range. It is a native component; it doesn't require Legacy Mode but can work with it if it's enabled.
- PHP 5.2.0 or later highly recommended. Akeeba Backup will not work on PHP 4, 5.0 or 5.1! PHP 5.2.4, 5.2.5 and 5.2.6 **are not** supported because they contain grave bugs which will not allow Akeeba Backup to function properly. Akeeba Backup is also compatible with the newest PHP 5.3 releases. Please note that PHP 5.3.6/5.3.7 may have bugs in their encryption modules which could prevent Akeeba Backup from working properly.
- MySQL 4.1 or later. MySQL 5.0 or greater recommended for optimal performance. Even though Akeeba Backup may run on MySQL 4.0, restoring the backup generated on such a host may be impossible.
- Minimum 16Mb 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.
- The PHP function `opendir` must be available.
- Available free space or quota limit about 75%-80% of your site's size.
- The cURL PHP module must be installed for FTP and cloud backup to work.

As far as the browser is concerned, you can use:

- Internet Explorer 7, or greater
- Firefox 2.0, or greater
- Safari 3, or greater
- Opera 9, or greater (Opera 10 highly recommended)
- Google Chrome 3 or greater
- Konqueror 3.5.9, or greater

Important

Google Chrome 4 introduced a feature where it permanently "remembers" redirections. Since redirections are a key component to the internal working of Joomla!™, using Google Chrome 4+ to administer your Joomla!™ site can lead to unexpected results, unless you are using Joomla! 1.5.17 or any later version. Therefore we **strongly** recommend upgrading your sites to the latest Joomla! release. Akeeba Backup does include workarounds for Chrome's behaviour, but we can't guarantee that anything else in Joomla! (including installation) will work smoothly.

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 as it is known to cause problems with several Javascript-based web applications, including Akeeba Backup and its tools.

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 [http://help.joomla.org/content/view/1476/235/]. Throughout this chapter we assume that you are familiar with these instructions and we will not duplicate them.

1.1. Getting the installation packages

You can download the latest installation packages by visiting our site at http://www.akeebabackup.com. Just click on the Download, Official Releases menu item on the top menu of our site. Then click on Akeeba Backup. The releases are listed with the newest release always on top. Click on it to view the files. If you are not a subscriber, click on the Akeeba Backup Core to download the ZIP installation package. If you are a subscriber to the Professional release (AKEEBAPRO or AKEEBADELUXE levels), please log in first. You should then see an item on this page reading Akeeba Backup Professional. Click on it to download the ZIP installation package.

All Akeeba Backup installation packages contain the component, the backup notification icon module for your administrator area, our plugins and all translation files. Installing it will install all of the above items automatically. The installation package can be installed on both Joomla! 1.5 and Joomla! 1.6 sites. 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.

1.2. Installing the backup component and language files

Log in to your site's administrator section. Click on the Extensions, Install/Uninstall (Joomla! 1.5) or Extensions, Manage (Joomla! 1.6 users) link on the top menu. In this page, locate the Browse button in the Upload Package File area. Locate the installation ZIP file you had previously downloaded and select it. Back to the page, click on the Upload File & Install button. After a short while, Joomla!™ will tell you that the component has been installed. It will also let you know if the icon module and plugins were 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.

If you have a WAMPServer local server, please note that its default configuration does not allow files over 2Mb to be uploaded. To work around that, left-click on the WAMP icon (the green W), click on PHP, php.ini and find the line beginning with `upload_max_filesize`. Change it so that it reads:

```
upload_max_filesize = 4M
```

> 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 the following two sections!

1.2.1. Manual installation

Sometimes Joomla!™ is unable to properly extract ZIP archives due to technical limitations on your server. In this case, you can follow a manual installation procedure.

First, you have to extract the installation ZIP file in a subdirectory named `akeeba` on your local PC. Then, upload the entire subdirectory inside your site's temporary directory. At this point, there should be a subdirectory named `akeeba` inside your site's temporary directory which contains all of the ZIP package's files.

If you are unsure where your site's temporary directory is located, you can look it up by going to the Global Configuration, click on the Server tab and take a look at the Path to Temp-folder setting. The default setting is the `tmp` directory under your site's root. Rarely, especially on automated installations using Fantastico, this might have been assigned the system-wide `/tmp` directory. In this case, please consult your host for instructions on how to upload files inside this directory, or about changing your Joomla!™ temporary directory back to the default location and making it writable.

Assuming that you are past this uploading step, click on the Extensions, Install/Uninstall (Joomla! 1.5) or Extensions, Manage (Joomla! 1.6 users) link on the top menu. In this page, locate the Install Directory edit box in the Install from Directory area. It is already filled in with the absolute path to your temporary directory, for example `/var/www/joomla/tmp`. Please append `/akeeba` to it. As per our example, it should look something like `/var/www/joomla/tmp/akeeba`. Then, click on the Install button.

If you still can't install Akeeba Backup and you are receiving messages regarding unwritable directories, inability to move files or other similar file system related error messages, please do not ask us for support. These errors stem from your site set up and can best be resolved by asking for help in the official Joomla!™ forums [http://forum.joomla.org].

1.2.2. The installation / update broke my site!

Some users have reported that after they have installed or updated Akeeba Backup, they were no longer able to access parts of their site, especially the back-end. This is an indication of a failed or partial installation. Should this happen, use your FTP client to remove the following files or directories (some of them may not be present on your site; this is normal):

```
administrator/modules/mod_akadmin
plugins/system/srp.php
plugins/system/srp
plugins/system/oneclickaction.php
plugins/system/oneclickaction
plugins/system/aklazy.php
plugins/system/aklazy
plugins/system/akeebaupdatecheck.php
plugins/system/akeebaupdatecheck
```

This will do the trick! You will now be able to access your site's administrator page again and retry installing Akeeba Backup

1.3. Installing the administrator panel icon module and plugins

These are automatically installed or upgraded when you install the component. No further action is necessary.

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 are discouraged from doing so. Simply follow the installation instructions so as 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 must install the Professional package **twice**. For an unknown reason, Joomla! does not copy some of the Professional package's files the first time you install it. However, if you install the package again (without uninstalling your existing copy of Akeeba Backup) finally Joomla! copies all of the necessary files and performs the upgrade correctly.

3. Updating to the latest version

Checking for the latest version and upgrading

You can easily check for the latest published version of the Akeeba Backup component by visiting http://www.akeebabackup.com/latest. The page lists the version and release date of the latest Akeeba Backup release. You can check it against the data which appear on the right-hand pane of your Akeeba Backup Control Panel. If your release is out of date, simply click on the Download link to download the install package of the latest release to your PC.

Updating Akeeba Backup to the latest version is by no means different than installing the component. You do not have to uninstall the previous version; in fact, you are discouraged from doing so. Simply follow the installation instructions so as to install the latest Akeeba Backup version over the existing Akeeba Backup installation. That's all! All your settings are preserved.

Live update

There is also an alternate update path, if your server supports it. It is called the "Live Update" feature and it is available since Akeeba Backup 3.0.b1. Whenever you visit the Akeeba Backup Control Panel, it will automatically check for the existence of an updated version and it will notify you. Clicking on the notification allows you to perform a live update without further interaction. Do note that if your server is protected by a firewall you'll have to enable port 80 and 443 TCP traffic to www.akeebabackup.com and joomlacode.org for this feature to work properly.

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. Pages outside the Control Panel panes

1.1. 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 icon which saves settings and returns you to the previous page, as well as an Apply 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.

1.2. The Control Panel

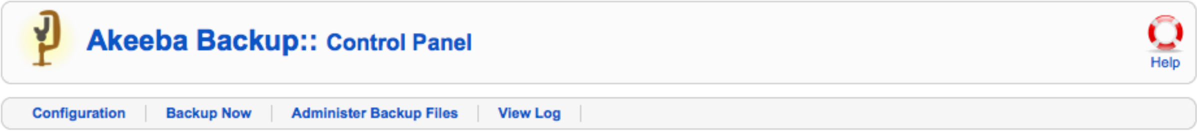
The main page which loads when you click on Components, Akeeba Backup is called the Control Panel screen. From here you can see if everything is in working order and access all of the component's functions and configuration options.

If Akeeba Backup detects a problem with loading the necessary Javascript files, it will issue a big warning message notifying you that it couldn't load the necessary Javascript files. Sometimes, depending on your server settings, this message will not be shown but the interface will behave erratically and appear different than the screen shots provided in here. In this case, you have to use your favorite FTP client and give the `media/com_akeeba` directory and all of its contained subdirectories and files 0755 permissions (read/write/execute for the owner, read/execute for group and others). If this doesn't work, one of your system plugins is killing Akeeba Backup's jQuery integration. In this case, please contact us. Even if you're not a subscriber, please drop us a line using the Contact Us [https://www.akeebabackup.com/contact-us.html] page so that we can figure out what happened and help you. That said, Akeeba Backup will try to automatically do the necessary changes for you, as long as you have provided FTP connection information to your site's Global Configuration and enabled the FTP option in that page.

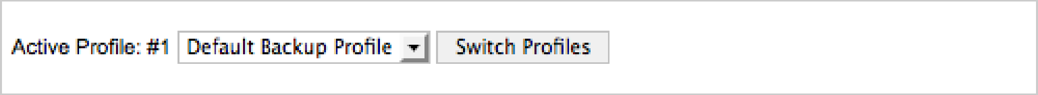
If you see a blank page instead of the Control Panel, you may have a very old version of PHP installed on your server. Akeeba Backup requires PHP 5.2.0 or later in order to work. You can check your PHP version by going to your site's administrator back-end and clicking on the Help, System Info menu item. Take a look at the PHP Version row. If the number in there is in the 4.x.y, 5.0.x or 5.1.x range, you can't use Akeeba Backup on your server before upgrading to PHP 5.2 or later.

Important

Even though the Control Panel may load in PHP 5.0.x or 5.1.x, the backup won't run on such old versions of PHP. You can check your PHP version by going to your site's System Information menu item. We strongly suggest that you use the latest PHP 5.2.x or 5.3.x version for optimal operation of the component.



On the top of the page there is the component's title. Beneath it you can find quick links to the most vital functions which is what you'll have to deal with 99% of your time using the component.



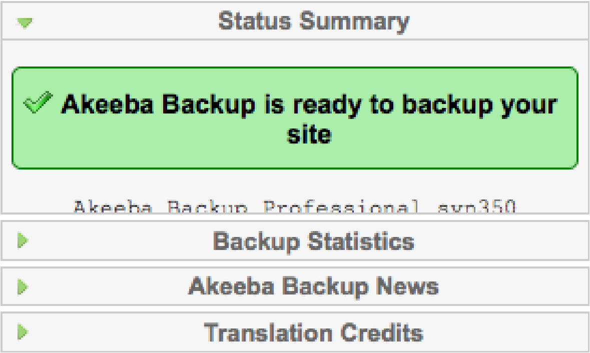
Under the quick links, there is the profile selection box. It serves a double purpose, indicating the active profile and letting you switch between available profiles. Clicking on the drop down allows you to select a new profile. Changing the selection (clicking on the drop down list and selecting a 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 Component Parameters 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 slider with useful information arranged in panels. There are several panels:

Status Summary



Akeeba Backup is ready to backup your site

Akeeba Backup Professional svn350

In this panel 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

No matter what the PHP Safe Mode setting is, 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".

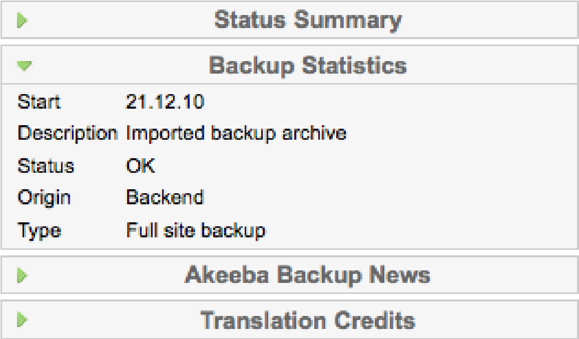
If any potential problems have been detected, right below the overall status you will find one or several warnings links. Just click on each warning's description to get a pop up window explaining the potential problem, its impact on your backup and precautionary or corrective steps you can take. If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

Important

You are supposed to read the full text of the warnings by clicking on each item. Quite often users post for support on our forum asking something which is already written in the full text of the warnings. Please, DO NOT seek support unless you have read the detailed descriptions of all of the potential problems appearing in this box.

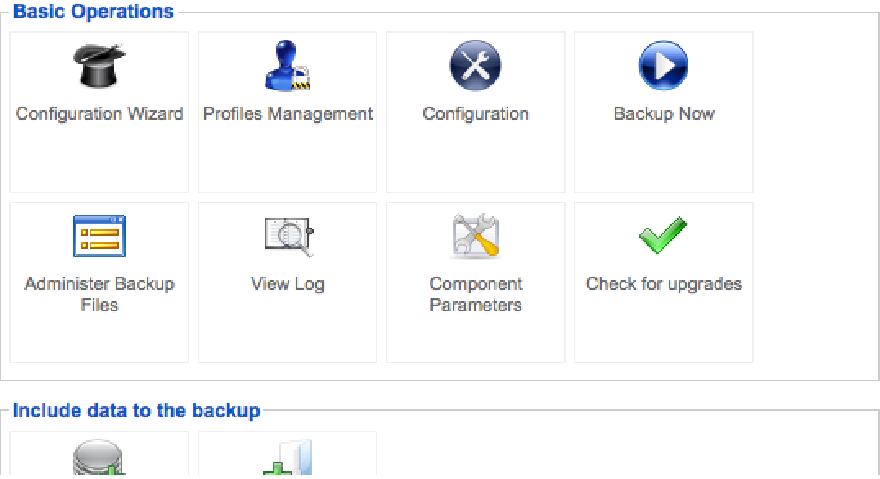
Below of all this information you can find a donation link. If you feel that Akeeba Backup has saved your day - and you do not wish or can't afford subscribing to the Professional edition - you can donate a small amount of money to help us keep the free version going!

Backup Statistics



Start	21.12.10
Description	Imported backup archive
Status	OK
Origin	Backend
Type	Full site backup

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 left navigation panel set allows access to the different functions of the component, by clicking on each icon.

There are two icons which need special mention, the updates icon and the Component Parameters icon.

Since Akeeba Backup 3.2 there is a "Live Update" feature integrated in the navigation panel. Every time you display the Control Panel page, Akeeba Backup will query AkeebaBackup.com for the existence of a new release and cache this data for a maximum of 24 hours. If it discovers that your version is out of date, it will allow you to upgrade to the latest release by clicking on the update icon which displays as the last item of the Basic Operations set of icons. If this doesn't work on your host, you can always update manually, as explained earlier in this document.

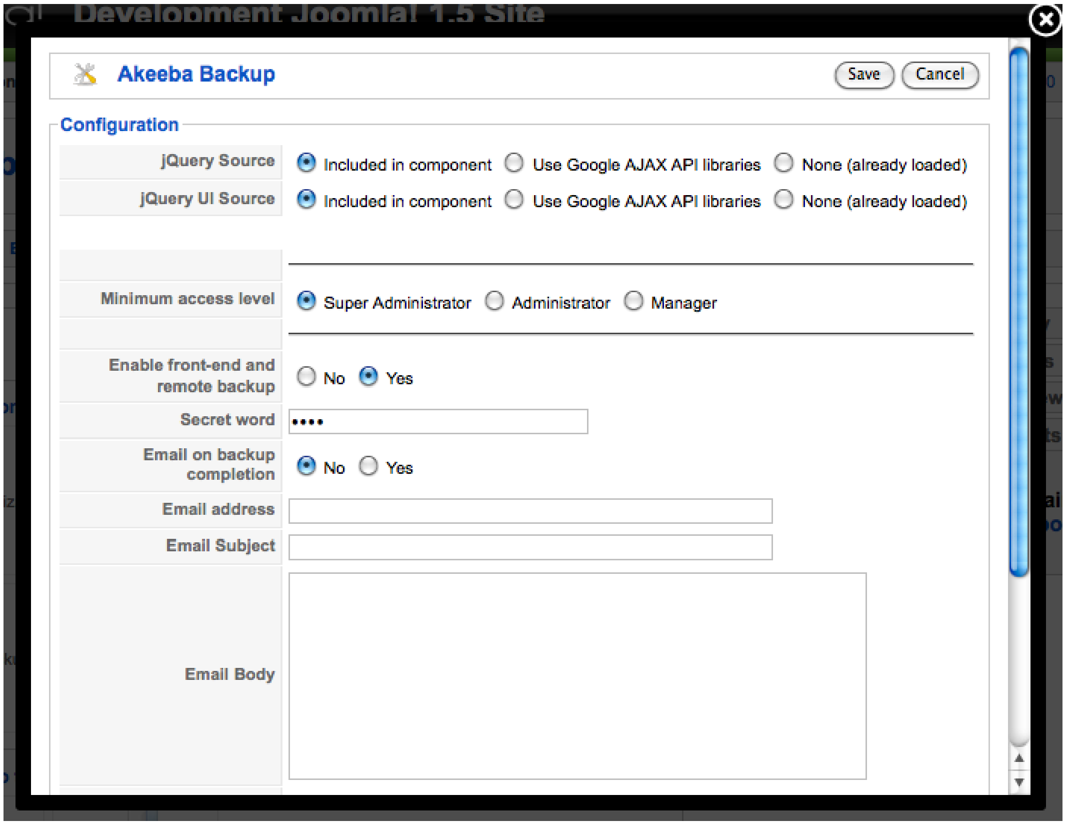
> ### Important
>
> For this feature to work you must ensure that your server can communicate with akeebabackup.com. If you are behind a firewall, make sure that you open TCP traffic over port 80 and 443 to www.akeebabackup.com (our update server location) and joomlacode.org (our file repository system).

If you are a subscriber to the Professional release, the live update will not work properly unless you also specify your AkeebaBackup.com Download ID in the Component Parameters page. Since the Professional release is provided on a subscription basis, whenever you ask Akeeba Backup to update it, it has to provide your Download ID to our site to verify that you have a valid subscription before downloading the update installation package. You can find out your Download ID by logging in to AkeebaBackup.com and clicking on the My Subscriptions item on the right-hand user menu module.

The Component Parameters button allows you to edit component-wide parameters, i.e. settings which apply to all backup profiles. These options are mentioned in the following section.

1.2.1. Editing the component's Parameters

The second-to-last icon in the Basic Operations set is titled Component Parameters. Clicking on it will open the editor page in a modal dialog (lightbox) on your browser. These parameters take effect regardless of the active profile.



jQuery Source	● Included in component ○ Use Google AJAX API libraries ○ None (already loaded)
jQuery UI Source	● Included in component ○ Use Google AJAX API libraries ○ None (already loaded)
Minimum access level	● Super Administrator ○ Administrator ○ Manager
Enable front-end and remote backup	○ No ● Yes
Secret word	••••
Email on backup completion	● No ○ Yes
Email address	
Email Subject	
Email Body	

Do note that this popup looks slightly differently in Joomla! 1.6, i.e. it has tabs for each set of options instead of horizontal ruler lines to separate them. However, the naming of the options and their associated meaning is exactly the same.

Minimum access level	This setting defines which is the minimum Joomla! privileges required to access Akeeba Backup's backup functionality. Remember that giving someone access to Akeeba Backup is like giving him a free pass to all of your site's configuration options, including those in your configuration.php file, i.e. database and FTP connection details. Never, ever give access to people who you don't fully trust. That's why the default setting is Super Administrators, which allows only Super Administrators (by definition full access users) to access the component. **Important** Even if you have a third party ACL system, such as JUGA, this setting will work on top of your system. If you have set this setting to Super Administrators and try to give a Manager access to the component through the ACL system he won't be able to use it. Even though your ACL system will let her through, Akeeba Backup's own setting will slam the door on her face. You have been warned!
Enable front-end and remote backup	Akeeba Backup allows you to take backups from the front-end, or from a desktop application called Akeeba Remote Control. In order to be able to do so, you have to enable this option.
Secret word	Whenever you need to take a front-end backup, you have to supply this secret word to let Akeeba Backup know that you really have access to its functions and you're not an impostor, or a hacker attempting to cause a massive denial of service attack by overloading your server with backup operations. Please use only alphanumeric characters, i.e. lower and upper case a-z letters and the digits 0-9. Do not use special characters, as they tend to cause problems when passed in the front-end backup URL without converting them to URL encoded format (which is beyond the scope of this manual - so just use a-z, A-Z and 0-9, OK?)
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	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:

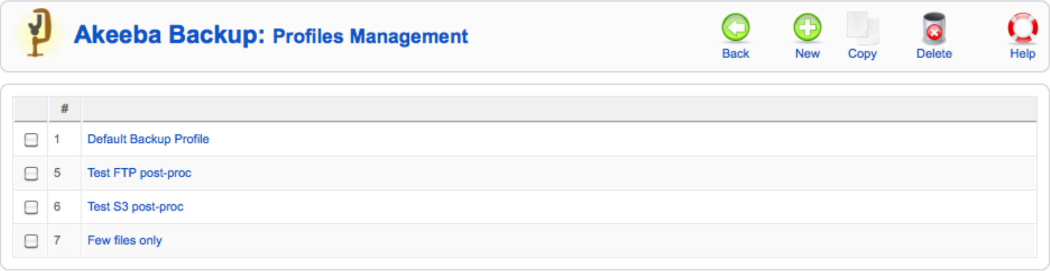
[PROFILENUMBER]	The numeric ID of the current backup profile
[PROFILENAME]	The description of the current backup profile
[PARTCOUNT]	The number of archive parts of the backup archive which was just generated
[FILELIST]	A list of filenames of the archive parts of the backup archive which was just generated

Update only to developer releases	When selected, the Live Update feature will not notify you of official releases (alphas, betas, RCs and stables). Instead, it will notify you whenever a Developer's Release is published and allow you to update to it. This should only be used on test sites and only if you want to try out the latest and greatest features before they are well-tested and released to the public. Developer's Releases may be broken or malfunction in unexpected ways. You have been warned.
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 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. Akeeba Backup Core is provided free of charge to everybody, therefore there is no need to validate the update against a username and a password.
Minimum release stability for update notifications	Normally, Akeeba Backup's Live Update notifies you of all available updates, including the unstable ones (alpha, beta and RC). Should you wish to be notified only when a "stable enough" new version is available, set this option to the required setting. For example, setting this to "Release Candidate" will not notify you about alphas and betas, but only for RCs and stable releases.
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 the mcrypt extension installed for this feature to work. Please note that you may have to go to the Configuration page and click on the Save 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.

2. 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.

2.1. Profiles Management



	#	
☐	1	Default Backup Profile
☐	5	Test FTP post-proc
☐	6	Test S3 post-proc
☐	7	Few files only

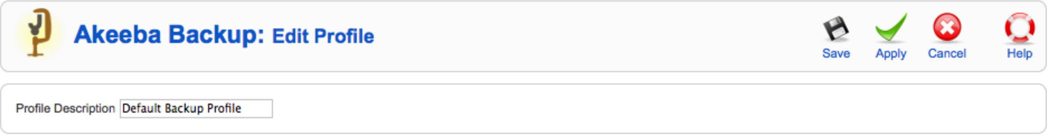
The Profiles Management page is the central place from where you can define and manage *backup profiles* . Each backup profiles can be regarded as a container holding Akeeba Backup configuration values and filter settings. Each one uniquely and completely defines the way Akeeba Backup will perform its 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 prostine 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.



Profile Description: Default Backup Profile

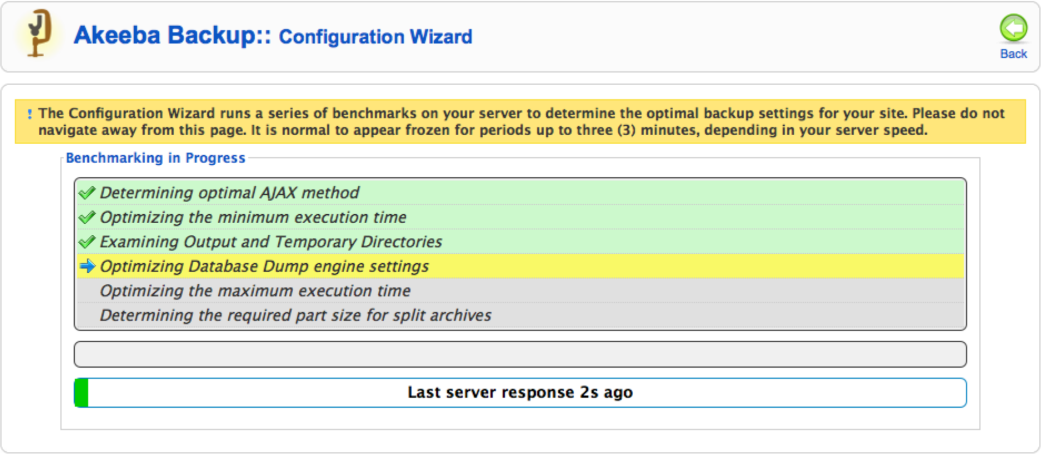
The editor page which appears when creating or editing a profile is trivial. The only changeable parameter is the profile's description. Clicking on Save applies the settings and gets you to the main Profiles Management page. Clicking on Apply applies the settings and returns you to the editor page.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

2.2. Configuration Wizard

Akeeba Backup 3.1.5 and later include the Configuration Wizard feature. This is an automated process which will benchmark your server's performance and try to fine tune common configuration variables for optimal backup performance. The Configuration Wizard settings are applied to the current profile only. If you want to fine tune 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)"

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 runs a series of benchmarks on your server to determine the optimal backup settings for your site. Please do not navigate away from this page. It is normal to appear frozen for periods up to three (3) minutes, depending in your server speed.

Benchmarking in Progress

- ✓ *Determining optimal AJAX method*
- ✓ *Optimizing the minimum execution time*
- ✓ *Examining Output and Temporary Directories*
- ➔ *Optimizing Database Dump engine settings*
- *Optimizing the maximum execution time*
- *Determining the required part size for split archives*

Last server response 2s ago

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 the archive splitting required when you are using a post-processing engine (such as backup-to-email, S3, DropBox, etc). If you are 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.

2.3. Configuration

Note

Some options discussed below may be only available in the for-a-fee Professional edition!

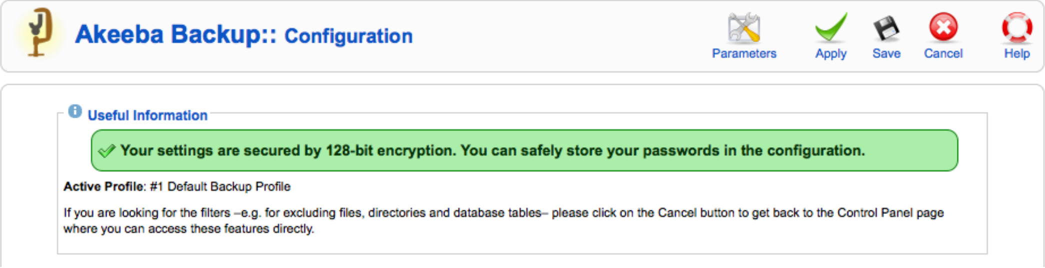
The Configuration page is split in many sections - or panes, if you like - each one serving as a group for closely related options. Each of those panes displays a title and below it you can find all of the options. Hovering your mouse of the label - the left hand part of each row - you will be presented with a quite big tooltip providing short documentation of the setting and its available options. This way you won't have to refer to this document constantly when configuring Akeeba Backup.

Some of the settings also feature a button. They can either do some action, like browsing for a folder and testing connection parameters, or it may be labeled Configure.... This latter case is mostly interesting, as pressing the button will toggle the display of a sub-pane which contains options pertaining to this specific option. This GUI pattern is primarily used for "engines" type settings.

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 those boundaries, or an invalid number, they will automatically revert to the closest value which is within the presents bounds.

Note

If you had been using earlier releases of Akeeba Backup, you will remember that these values used to use a draggable slider. Since the slider was rather "jumpy" and hard to configure, we reverted to using composite drop-downs in order to make entry of settings easier and faster.



✓ Your settings are secured by 128-bit encryption. You can safely store your passwords in the configuration.

Active Profile: #1 Default Backup Profile

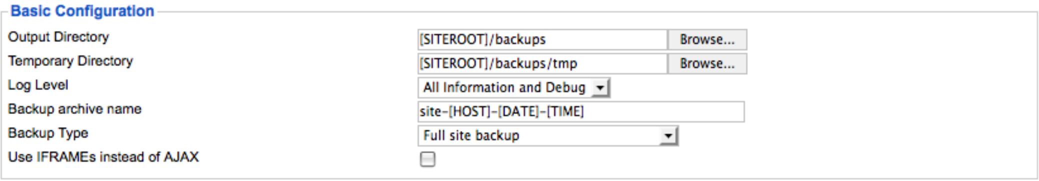
If you are looking for the filters –e.g. for excluding files, directories and database tables– please click on the Cancel button to get back to the Control Panel page where you can access these features directly.

On the top of the page you can see 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. The toolbar also contains a Parameters button. Clicking on it will launch the profile-independent, component-wide parameters editor. It's the same as clicking the Component Parameters button in the Control Panel.

The rest of this document is separated into sub-sections. The first sub-section describes the settings of each of the main configuration panes, whereas the rest of the sections discuss the settings made available to you through sub-panes.

2.3.1. The main settings

2.3.1.1. Basic Configuration



Output Directory	[SITEROOT]/backups
Temporary Directory	[SITEROOT]/backups/tmp
Log Level	All Information and Debug
Backup archive name	site-[HOST]-[DATE]-[TIME]
Backup Type	Full site backup
Use IFRAMEs instead of AJAX	☐

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 an SQL file. This is also where your *backup log file* will be stored. The output directory must be accessible and writable by PHP.

Important

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.

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)

Is this over your head? No problem! Just click on the Browse... button and a pop-up directory navigator will allow you to find the proper directory. 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.

Warning

NEVER, EVER, UNDER ANY CIRCUMSTANCES SHOULD YOU USE YOUR SITE'S ROOT AS YOUR OUTPUT DIRECTORY! This will usually lead to corrupt backup or backup failure. The reason is that the output directory and all of their contents are automatically excluded from the backup set. However, even if your backup succeeds due to a bug (remember, it's supposed to fail!), using your public, web accessible site root as your output directory is like a party invitation to hackers worldwide. If you come to our forum with such a setup and a broken backup we can't help you.

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.
- **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. This is what we need to help you in case of a problem. This will also create a 2-5Mb log file on most sites, so you should only use this until you have achieved consistently valid backup archives creation.
- **None**. This log level *is not recommended*. You should only use this if you are paranoid and want no log files written on the server. However, if you are truly concerned about security, you should protect the backup output directory instead of using this log level!

Our servers usually run on Errors and Warnings or All Information levels. When we are testing new releases or change our server setups, we switch to All Information and Debug until we are sure everything is flowing smoothly.

Backup archive name

Here you can define the naming template of backup files. 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** This doesn't work in the native command-line CRON mode, i.e. using backup.php for producing automated backups. In such a case, it will be replaced with an empty string (no text).
[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]	A 64-character random string. Use sparingly, it can cause backup failure due to the file name being too long for your server
[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.
[VERSION]	The version of Akeeba Backup. Useful if you want to know which version of Akeeba Backup generated this archive file.

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 MySQL 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 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 SQL files with dumps of your main site's database and all of the defined multiple databases. The database dumps can be restored by any MySQL administration tool (for example phpMyAdmin). The difference to the second option is that it produces an uncompressed SQL file and doesn't include any extra databases which you might have defined.

Note

Extra - or "multiple" - database definitions are only available in the Professional edition of the component.

- **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.

Use IFRAMEs instead of AJAX

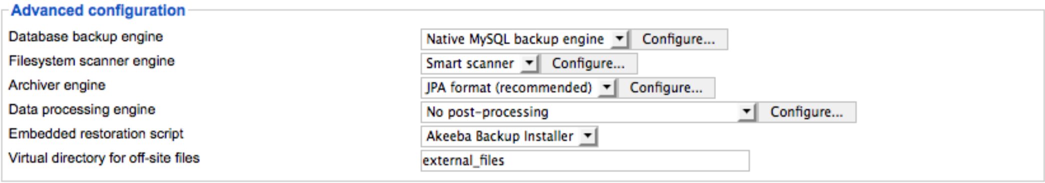
Normally, Akeeba Backup is using AJAX postbacks to perform the backup process without timing out. Its ability to do so depends on how well your server plays along with your browser's Javascript engine. Sometimes, this is just not possible at all and you'll experience the backup stalling at random points through the backup process. If modifying the other options doesn't help, enable this feature. When enabled, instead of using AJAX calls, Akeeba Backup will create a hidden IFRAME in the page and perform all server communications through it. Since IFRAMEs load the backup URL as if it were a regular web page, it minimizes the probability of conflicts. The major drawback is that this method is about 50% slower than the AJAX one, so your backup will take substantially longer.

Use database storage for temporary data

Normally, Akeeba Backup stores temporary information required to process the backup in multiple steps inside files in your Output Directory. Sometimes, especially on low-end hosts with ancient versions of PHP, this causes backup issues such as the backup restarting all the time. In those cases, you can check this box and Akeeba Backup will use your site's database to store this temporary information.

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 very restricted and severely under-performant. Moving to a faster, more reliable host can benefit your site in many more ways than just being able to run a backup.

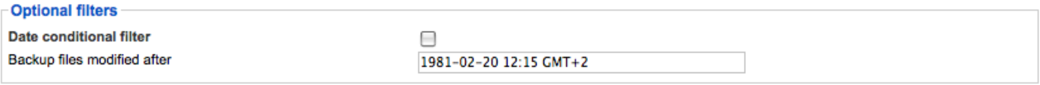
2.3.1.2. Advanced configuration


Advanced configuration

Database backup engine	Native MySQL backup engine
Filesystem scanner engine	Smart scanner
Archiver engine	JPA format (recommended)
Data processing engine	No post-processing
Embedded restoration script	Akeeba Backup Installer
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.
Data 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.
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.
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. If you have Akeeba Backup Core or Professional and running it under Joomla! 1.6 with a customized Joomla! library path (i.e. you have moved Joomla!'s libraries directory off your site's root), Akeeba Backup will automatically add an off-site directory inclusion for these files and will create a subdirectory inside this virtual directory with a name of JPATH_LIBRARIES.

2.3.1.3. Optional filters


Optional filters

Date conditional filter	☐
Backup files modified after	1981-02-20 12:15 GMT+2

Since Akeeba Backup 3.2 this section contains optional inclusion and exclusion filters which can be activated to customize your backup procedure. The available filters are:

Date conditional filter

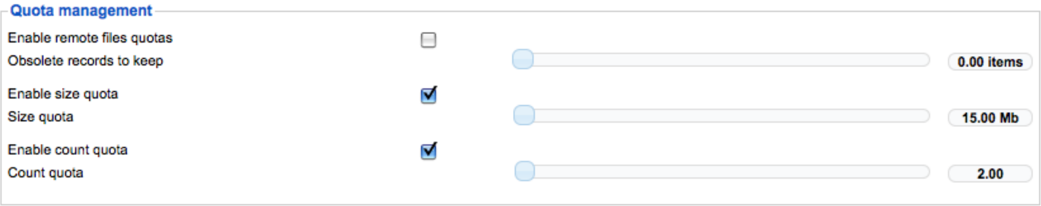
It allows you to backup only files modified after a specific date and time. This is different than the incremental file only backup. It allows you to backup files newer than the specified date no matter which backup mode (full site backup, files only backup, incremental files only backup) you are using. The available options are:

Date conditional filter	Tick the checkbox to activate this filter
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.

2.3.1.4. Quota management



Enable remote files quotas ☐
Obsolete records to keep 0.00 items
Enable size quota ☑
Size quota 15.00 Mb
Enable count quota ☑
Count quota 2.00

Enable remote files quotas	When checked, the quota settings will also be applied to remotely stored files. This option actually works only for files stored on Amazon S3 or a remote FTP server.
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".

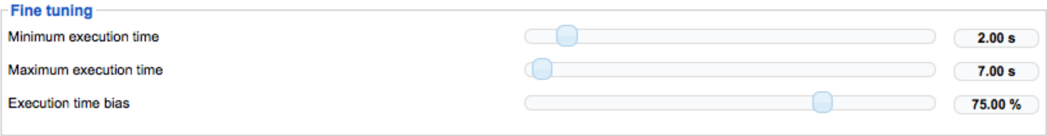
Warning

Enabling this options DISABLES 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	Only applies when the Enable maximum backup age quotas option is enabled.

this day of the month	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 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.
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 *under the current profile* 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 *under the current profile* to keep. Only has an effect if the previous options is activated.
System Restore Points quota	**Note** This feature is only available in Akeeba Backup Professional, the for-a-fee edition of our software **Important** This option has effect ONLY when set in profile #1 (the default backup profile). In all other cases it is ignored. This quota setting doesn't affect the regular backups; it only applies to System Restore Points. Moreover, System Restore Points are not subject to the other quota settings, but only to this one. This setting defines the maximum total size System Restore Points can take on your server. For example, if it is set to 10Mb (the default value), only up to 10Mb of System Restore Point files will be kept on your server.

2.3.1.5. Fine tuning



Fine tuning

Minimum execution time 2.00 s

Maximum execution time 7.00 s

Execution time bias 75.00 %

Minimum execution time	Some servers deploy anti-hacker measures (such as mod_evasive or mod_security) 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.

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 *at most* once every two seconds. You are suggested to keep the default value.

Maximum execution time

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 `maximum_execution_time` setting in your host's 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%.

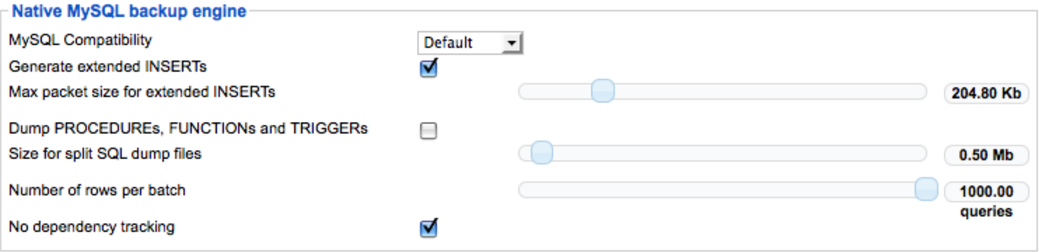
2.3.2. Database dump engines

2.3.2.1. Native MySQL Backup Engine

This engine will take a backup of your MySQL database using nothing but PHP functions in order to accomplish that. This database dump engine supports all of the ground-breaking features available in MySQL 5, such as views, stored procedures and functions, triggers, merge tables, temporary/memory tables, even federated tables.

Important

Restoring views, triggers, stored procedures and functions requires adequate 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

MySQL Compatibility	Default
Generate extended INSERTs	☑
Max packet size for extended INSERTs	204.80 Kb
Dump PROCEDUREs, FUNCTIONs and TRIGGERs	☐
Size for split SQL dump files	0.50 Mb
Number of rows per batch	1000.00 queries
No dependency tracking	☑

MySQL Compatibility

his option controls the MySQL version compatibility when creating the database SQL dump file. In fact, it forces Akeeba Backup to request the appropriate CREATE TABLE commands from your database server. It is useful when migrating your site to another host with a different MySQL version. The available options are:

- **Default**. This is the recommended option. The full feature set of your database server will be used when generating the CREATE command. Your target database server must run MySQL of a matching major version, i.e. MySQL 5 if the host you're backing up runs on MySQL 5.
- **MySQL 4.1**. Akeeba Backup will request from your database server to provide definitions (CREATE commands) in a MySQL 4.1 friendly format.

Important

This option will take effect in MySQL 4.1 or greater database hosts. If you use it on older MySQL version the backup might fail!

Warning

Do not use this option if your site is already running on MySQL 4.x or if both your site and the target host run on MySQL 5.x. Otherwise, crucial information about the database's encoding might be lost in the process, causing broken text on sites using non-ASCII character sets.

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 paramount importance on many restrictive shared hosting environments. It is suggested to turn this setting on, unless you are going to restore to a MySQL 4.1 host.

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 stement 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.

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.

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.
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 time-out 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 high probability that your SQL dump will be unable to be restored.

2.3.3. File and directories scanner engines

2.3.3.1. Smart scanner

This engine is the culmination of three years of research in optimizing file system scanning for PHP scripts. The Smart Scanner will browse your file system tree for directories and files to include in the backup set, automatically breaking the step upon detecting a very large directory which could lead to timeout errors.

Smart scanner

Large directory threshold 100.00

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.
Directory listing method	Akeeba Backup can use two different methods for asking your server to list the contents of a directory. The Regular method is very fast and works on the vast majority of servers. However,

some servers refuse to list files with permissions lower than 0755 (it's absurd, I know!) and require the slightly slower, Alternate method. If your backup archive is missing files and you do not get "Unreadable file" or "Unreadable directory" warnings during backup, please switch this option to Alternate (failsafe) and retry backing up.

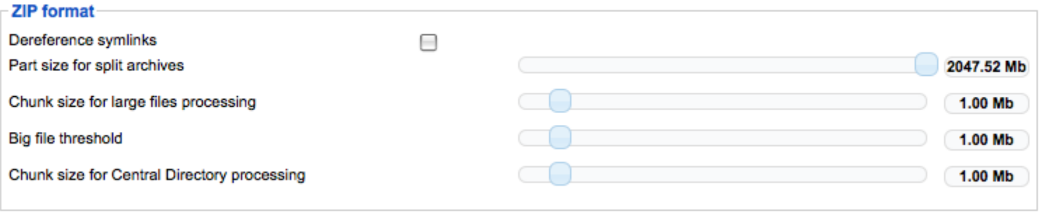
2.3.4. Archiver engines

2.3.4.1. ZIP format

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

Warning

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

Dereference symlinks	☐
Part size for split archives	2047.52 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

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, FreeBSD, Solaris and other compatible *NIX 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).

Warning

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, Akeeba Kickstart or Akeeba eXtract Wizard. This is not an Akeeba Backup "bug", it's a problem with most free archiver extraction tools.

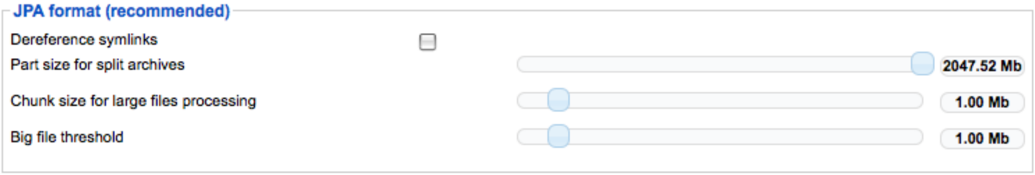
Chunk size for large files processing	Each file is read in small increments, we call chunks, while being copied in the archive. Larger chunks will result in faster backup, at the price of taking longer to process each one of them and risking a timeout. Smaller chunks lead to slower but safer backups. 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.

2.3.4.2. 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 either on your server using Kickstart, or on your desktop using Akeeba eXtract Wizard.



JPA format (recommended)

Dereference symlinks ☐

Part size for split archives 2047.52 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.

2.3.4.3. Encrypted Archives (JPS format)

Note

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

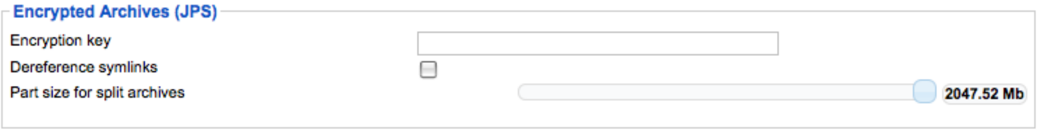
The JPS is a further evolution of the JPA format, designed with the major goals of improving compression rations and enhancing the security of your data by encrypting the entire archive's contents with the industry standard AES-128 encryption format. The latter goal ensures that even in the unlikely 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.

Important

In order for JPS to work it requires that both the zlib and mcrypt PHP extensions are installed and activated on your server. Moreover, the mcrypt 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

JPS archives can only be extracted on hosts fulfilling the same per-requisites (zlib and mcrypt extensions installed and activated). They can also be extracted only by Kickstart 3.1.2 and Akeeba eXtract Wizard 3.0.4 or later. Earlier version can't read the JPS archives at all.



Encrypted Archives (JPS)

Encryption key

Dereference symlinks ☐

Part size for split archives 2047.52 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, FreeBSD, Solaris and other compatible *NIX 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).

Warning

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.

2.3.4.4. 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.

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.

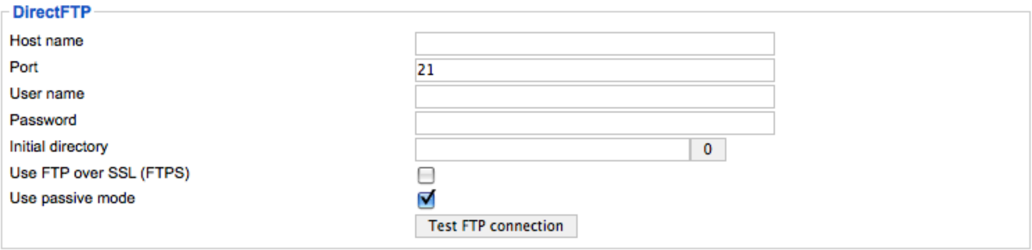
Warning

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 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

Host name	
Port	21
User name	
Password	
Initial directory	0
Use FTP over SSL (FTPS)	☐
Use passive mode	☑

The available configuration options are:

- **Host name**. The hostname of your remote (target) server, e.g. `ftp.example.com`.
- **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 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.
- **Use FTP over SSL**. If your remote server supports secure FTP connections over SSL (they have to be implicit SSL; explicit SSL - a.k.a. FTPES - 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, you 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!

2.3.4.5. 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.

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.

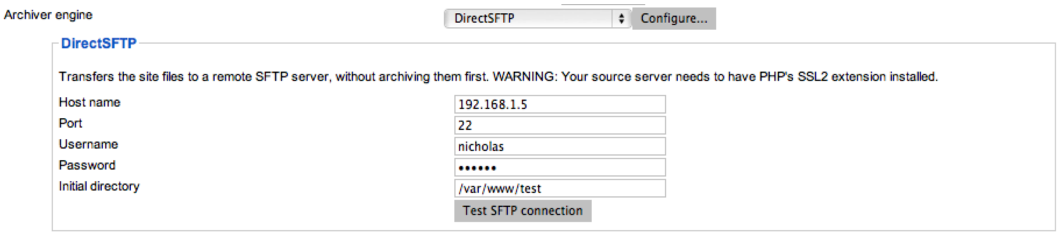
Warning

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. Moreover, your target host must support SFTP connections using a username and password for authentication. If your remote server only allows authentication using certificate files it won't work with Akeeba Backup's DirectSFTP feature.

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.


Archiver engine: 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: 192.168.1.5
Port: 22
Username: nicholas
Password: ••••••
Initial directory: /var/www/test

The available configuration options are:

- **Host name**. The hostname of your remote (target) server, e.g. `sftp.example.com`.
- **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.
- **Password**. The password you have to use to connect to the remote SFTP 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 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.

2.3.4.6. ZIP using ZIPArchive class

This engine produces ZIP archive using PHP's built-in ZIP archive class. It is only recommended for extremely small sites hosted on very slow hosts. If you have a larger site or quite big files you can expect that this engine will time out, crash the backup or throw a memory outage error. Also note that this engine has absolutely no options and is bound to fail on hosts which impose limitations on the maximum size per file.

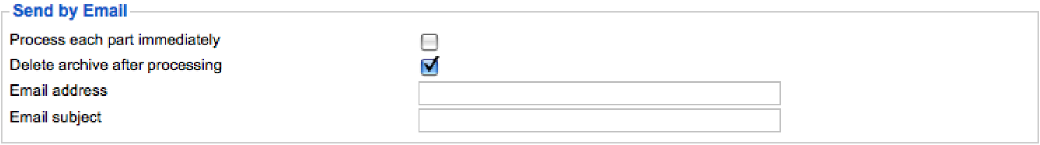
Frankly, this is the worst archiver engine. It was added because some users argued that it is faster (it is not) and this is why it is being used by competitive products. Well, try it out if you want. As soon as it causes backup errors do not ask for support, just switch to the classic ZIP engine or, even better, the JPA engine.

2.3.5. Data processing engines

2.3.5.1. No post-processing

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

2.3.5.2. Send by email



Send by Email

Process each part immediately ☐

Delete archive after processing ☑

Email address

Email subject

This handy feature is available both in Akeeba Backup Core and 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:

> ## Warning
>
> 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.

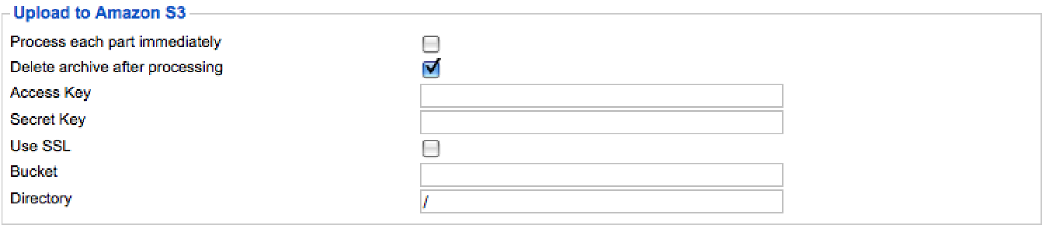
The available configuration settings for this engine, accessed by pressing the Configure... button next to it, are:

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.

2.3.5.3. Upload to Amazon S3

Using this engine, you can upload your backup archives to the Amazon S3 cloud storage service. 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.

Since Akeeba Backup 3.2 we support 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.



Upload to Amazon S3

Process each part immediately	☐
Delete archive after processing	☑
Access Key	
Secret Key	
Use SSL	☐
Bucket	
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 Amazon S3.
Access Key	Your Amazon S3 Access Key
Secret Key	Your Amazon S3 Secret Key
Use SSL	If enabled, an encrypted connection will be used to upload your archives to Amazon S3. 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.
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.
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/sub-subdirectory`. **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.

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.

- 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 Akeeba Backup couldn't connect to S3. This is normal and expected behaviour, as Amazon S3 drops the connection when it encounters invalid bucket or directory names.

2.3.5.4. Upload to DropBox

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.

Before you begin, you should know the limitations. DropBox 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 DropBox 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

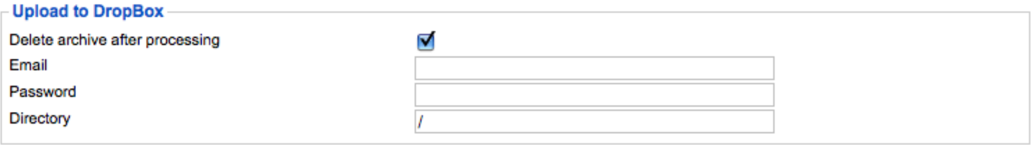
If you use the native CRON mode (backup.php), there is usually no time limit - or there is a very high time limit in the area of 3 minutes or so. Ask your host about it. Setting up a profile for use only with the native CRON mode allows you to increase the part size and reduce the number of parts a complete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

Warning

You can not upload files over 50Mb to DropBox using Akeeba Backup's post-processing engine. This is a limitation of the engine. We regret to inform you that there is no workaround to this.

You should also note that we do not use DropBox's official API, because the way it works would mean that Akeeba Backup would instantly time out or throw a memory outage error when trying to upload files from the majority of shared hosting plans. The solution used in Akeeba Backup is a "workaround"; it logs you in DropBox's web file management interface and tries to use the web upload form for storing your files. This has two major consequences.

First, the login procedure takes a substantial amount of time (1-3 seconds, depending on your connection speed), which limits the maximum file size you may use. Second, if DropBox.com decides to change something in the way their site works, this feature will probably stop working. As a result, until the official DropBox API is modified for taking into account large file uploads from restrictive PHP environments, this storage option should only be used when you are very low on budget and accept the risk of it suddenly stopping working.



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 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.
Email	The email associated with your DropBox.com login
Password	Your DropBox.com password
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/sub-subdirectory`.

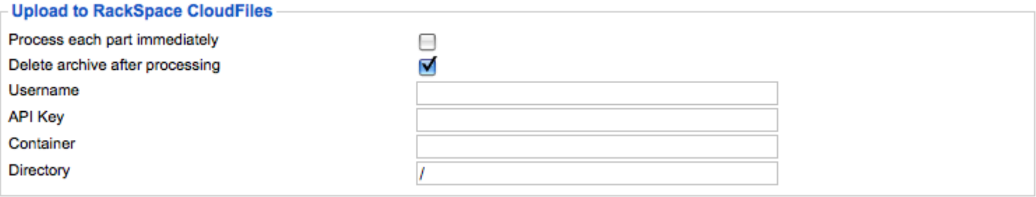
2.3.5.5. Upload to RackSpace CloudFiles

Using this engine, you can upload your backup archives to the RackSpace CloudFiles [www.rackspacecloud.com/cloud_hosting_products/files] cloud storage service. This service has been around for a long time, under the Mosso brand, and is considered one of the most dependable ones. Its cheap prices make it ideal for applications where storing large quantities of backup archives is more likely than downloading them.

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 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 (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.

Akeeba Backup is using the very stable official PHP bindings for CloudFiles access, which is unlikely to stop working for the foreseeable future. As a result, we consider it a good candidate for backup archives storage.



Upload to RackSpace CloudFiles

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.

2.3.5.6. Upload to Microsoft Windows Azure BLOB Storage service

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.

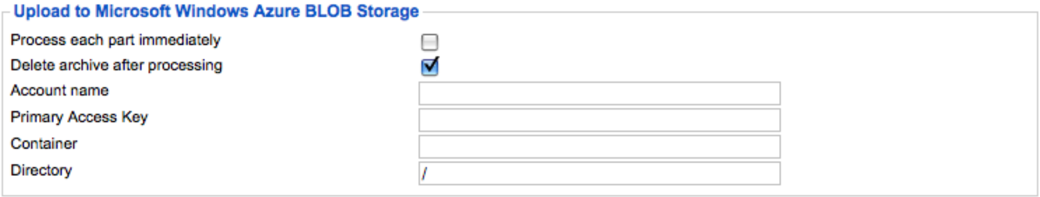
> **Warning**
>
> Azure, unlike other cloud storage providers, doesn't support storing files over 64Mb without resorting to proprietary hacks. As a result you MUST use a part size for archive splitting lower than 64Mb at all times. Failure to do so might cause your backup uploads to fail.

Before you begin, you should know the limitations. As 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 CloudFiles 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 (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.

Akeeba Backup is using the very stable official PHP bindings for Microsoft Windows Azure access, which is unlikely to stop working for the foreseeable future. As a result, we consider it a good candidate for backup archives storage.



Upload to Microsoft Windows Azure BLOB Storage

Process each part immediately	☐
Delete archive after processing	☑
Account name	
Primary Access Key	
Container	
Directory	/

The required settings for this engine are:

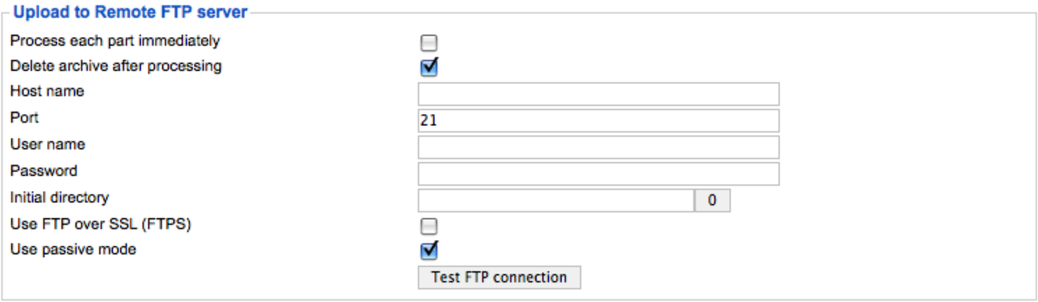
Process each part immediately	If you enable this, each backup part will be uploaded as soon as it's ready. This is useful if you are low on disk space (disk quota) when used in conjunction with Delete archive after processing. When using this feature we suggest having 10Mb plus the size of your part 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.
Account name	The account name for your Microsoft Azure subscription. If your endpoint looks like `foobar.blobl.core.windows.net` 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. `/directory/subdirectory/subsubdirectory`. Leave blank to store the files on the container's root.

2.3.5.7. Upload to Remote FTP server

Using this engine, you can upload your backup archives to any FTP or FTPS (FTP over implicit SSL) server. There are some "FTP" protocols and other file storage protocols which are not supported, such as SFTP, SCP, Secure FTP, FTP over explicit 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.

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 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.



Upload to Remote FTP server

Process each part immediately	☐
Delete archive after processing	☑
Host name	
Port	21
User name	
Password	
Initial directory	
Use FTP over SSL (FTPS)	☐
Use passive mode	☑

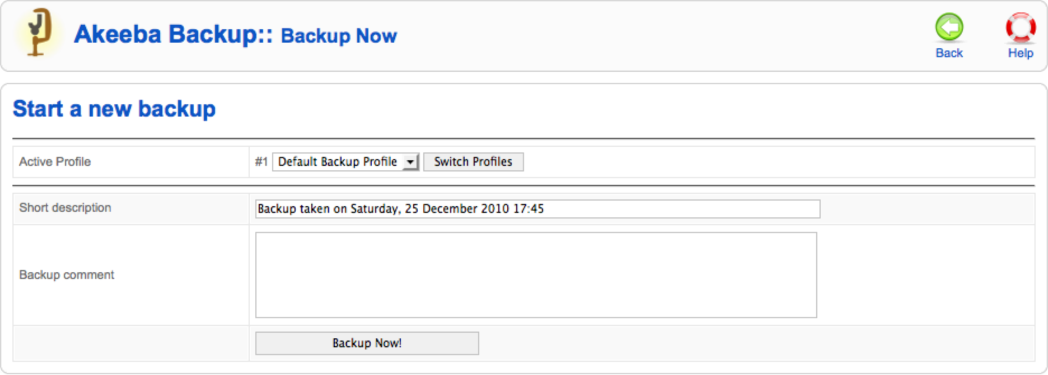
The available configuration options are:

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. `ftp.example.com`.
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. Alternatively, use the button next to the edit box to launch an interactive FTP folder browser which allows you to select the directory visually.
Use FTP over SSL	If your remote server supports secure FTP connections over SSL (they have to be implicit SSL; explicit SSL - a.k.a. FTPES - 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, you 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!

2.4. 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' many webmasters use, that is 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!



Active Profile: #1 Default Backup Profile

Short description: Backup taken on Saturday, 25 December 2010 17:45

Backup comment:

That being said, 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.

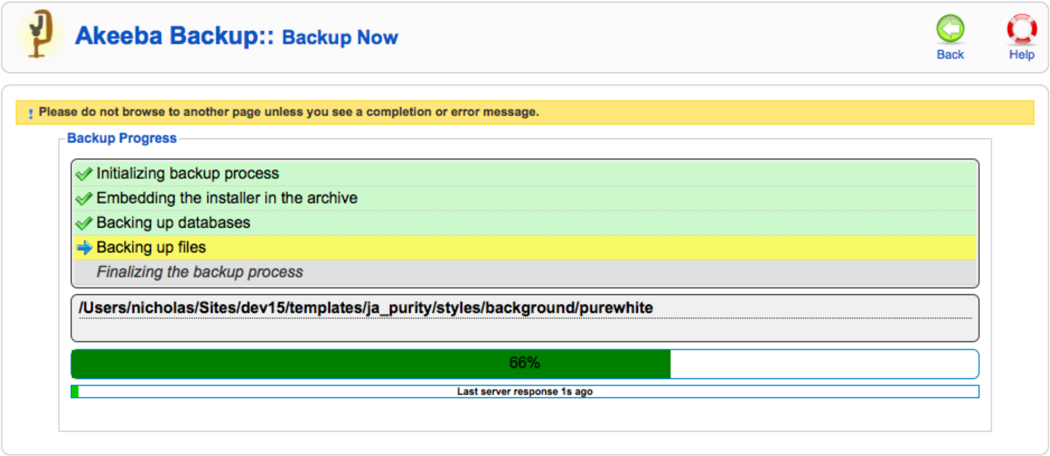
Since Akeeba Backup 3.1.b1 both the description and the comment support Akeeba Backup's file naming "variables", e.g. `[SITE]`, `[DATE]` and `[TIME]`. These variables are documented in the Output Directory configuration option's description. It goes without saying, but these variables can also be used in the case of automated backups, e.g. CRON-mode backups.

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. We can't know this information; we haven't set up your host's server.

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 greatest degree of protection.



Akeeba Backup:: Backup Now

Please do not browse to another page unless you see a completion or error message.

Backup Progress

- ✓ Initializing backup process
- ✓ Embedding the installer in the archive
- ✓ Backing up databases
- → Backing up files
- *Finalizing the backup process*

/Users/nicholas/Sites/dev15/templates/ja_purity/styles/background/purewhite

66%

Last server response 1s ago

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. If, however, the timeout bar (the second one which looks as a progress bar and changes its color from green to yellow to red) fills up, you can safely 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 toying with the minimum execution time - before submitting a bug report on our support forum.

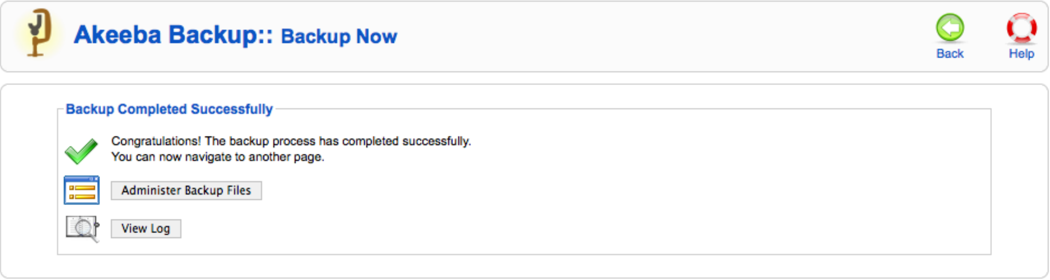
The backup progress page consists of a large pane. The top section of the pane lists the steps Akeeba Backup has to take in order to complete your backup. Steps in gray background have not been dealt with yet. Steps in green background, featuring a green check mark on the left-hand side, have been successfully completed. The step in yellow background, featuring a blue arrow on the left-hand side, is the one being currently processed.

Below that, you will find two lines, called Step/Substep in Akeeba Backup jargon. The first line will show you which table or directory has **been backed up until now**. This is very important. When the backup crashes, it hasn't crashed on the table or directory you see on the screen! In fact, you can be sure that this table/directory 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 Substep 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 the "timeout bar". This is not a progress bar. This bar counts the time elapsed while running the current step. Each time a new backup step starts, it resets to zero. The bar changes color from green to yellow to red. Green means that it's within the expected limits. Yellow means that we have exceeded the time we expected to consume, but are still within the configured limits. The red area means that this step is taking substantially more time than we expected. This doesn't mean that your backup is stuck; it may just be network latency or other unexpected issues which delay the server response. Do not consider the backup failed unless you either see an error page, or the timeout bar fills up all the way to the right - which means no server response was received within 3 minutes, which is just too long, therefore the backup has most probably failed.

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.



Backup Completed Successfully

Congratulations! The backup process has completed successfully.
You can now navigate to another 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.

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.

Frequently asked questions

Where are my backup files? [https://www.akeebabackup.com/documentation/troubleshooter/abwherearemyfiles.html]

How can I download my backup files? [https://www.akeebabackup.com/documentation/troubleshooter/abwherearemyfiles.html]

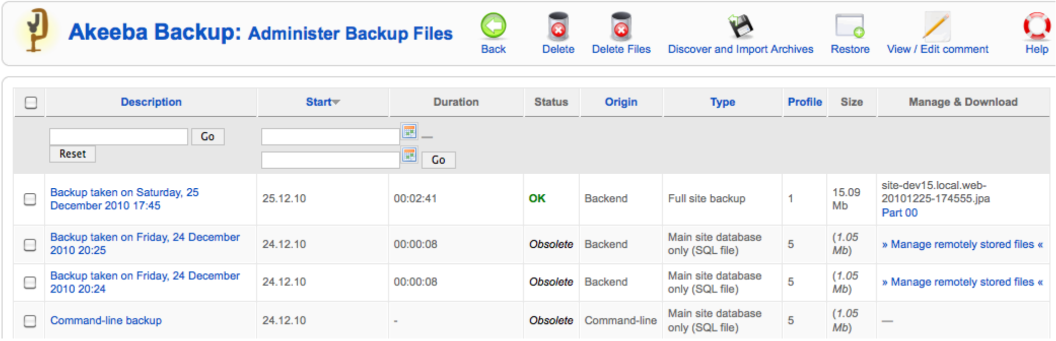
I got an "AJAX loading error" when backing up. What should I do? [???]

How do I know that my backup archive works? [https://www.akeebabackup.com/documentation/troubleshooter/abtestsupport.html]

What happens if I have a backup problem? [https://www.akeebabackup.com/documentation/troubleshooter/abtestsupport.html]

How do I get support? [https://www.akeebabackup.com/documentation/troubleshooter/abtestsupport.html]

2.5. Administer Backup Files


Akeeba Backup: Administer Backup Files
Back
Delete
Delete Files
Discover and Import Archives
Restore
View / Edit comment
Help
Go
Reset
Go

☐	Description	Start	Duration	Status	Origin	Type	Profile	Size	Manage & Download
☐	Backup taken on Saturday, 25 December 2010 17:45	25.12.10	00:02:41	OK	Backend	Full site backup	1	15.09 Mb	site-dev15.local.web-20101225-174555.jpa Part 00
☐	Backup taken on Friday, 24 December 2010 20:25	24.12.10	00:00:08	*Obsolete*	Backend	Main site database only (SQL file)	5	(*1.05 Mb*)	» Manage remotely stored files «
☐	Backup taken on Friday, 24 December 2010 20:24	24.12.10	00:00:08	*Obsolete*	Backend	Main site database only (SQL file)	5	(*1.05 Mb*)	» Manage remotely stored files «
☐	Command-line backup	24.12.10	-	*Obsolete*	Command-line	Main site database only (SQL file)	5	(*1.05 Mb*)	—

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. In case of frontend backups, this contains the default description which was assigned. 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.

Start

The date when the backup started. The date is expressed in the user's preferred time zone, as it is set in the User Managment page of Joomla!™ itself.

Note

Backups taken without a logged in user, i.e. remote, front-end and native CRON backups, express the time in the UTC time zone. We can't "fix" that; without a user, Joomla!™ can't reliably report the time zone.

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 and can be one of:

OK

A complete backup whose backup archive is available for download.

Obsolete

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

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	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	A backup attempt which failed with a catchable error condition.

Origin	Indicates the origin of the backup and can be either frontend for backups originating from the front-end - or remote interface - or backend for backups originating from the back-end (regular backups).
Type	Indicates the backup type and can be Full for full site backups (database and files), DB Only for database only backups, **Files only** for files only backup or **Multi DB** for multiple databases backup (an archive containing SQL dumps of the main site's database and the defined multiple databases).
Profile	Displays the numeric identifier of the backup profile used during the backup. It is possible that since then the profile may have been modified or even deleted!
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.
Archive	Displays the name of the backup file, if it is available. Moreover, it will show you the backup download links which allow you to download the backup archive directly to your browser. These links show as "Part 00", "Part 01" and so on. Single-part archives (the default setting on most hosts) will always have only one download link, titled "Part 00". If you have a multi-part archive, you will see as many links as the number of parts generated by Akeeba Backup. **Important** The only supported and guaranteed method of downloading your backup archives error-free is using FTP/SFTP in BINARY transfer mode. Anything else has the potential to CORRUPT your backup archives. If the file is stored on a remote storage location, e.g. Amazon S3 or a remote FTP server, you will also see a Manage remote stored files link if you are using Akeeba Backup 3.2 or later. 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.

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 Start descending, so that the newest backup attempts will appear on top. Below the header there are three 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.

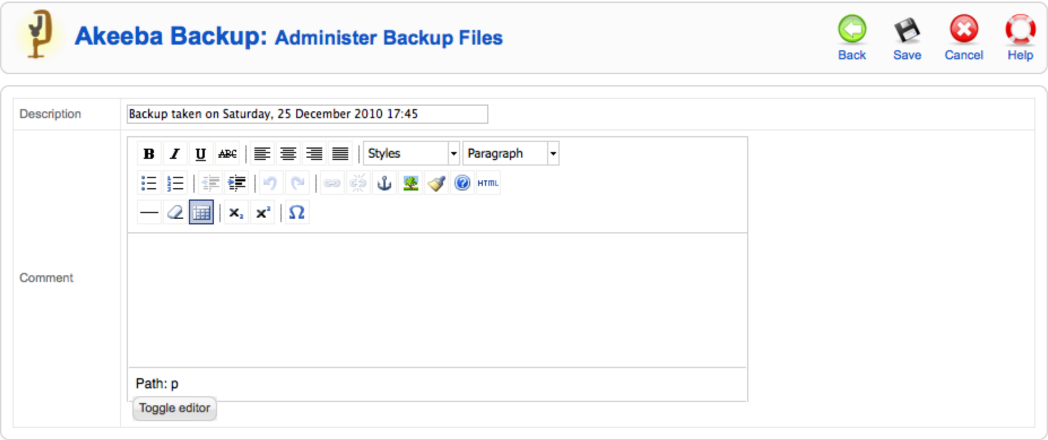
On the top of the page you can find a tool bar with operations buttons. The Delete button will remove the selected backup attempt entries along with their backup archives (if applicable), whereas the Delete Files button will only remove the files (if found on your server). The Restore button (Akeeba 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 in the 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 or Akeeba eXtract Wizard to extract the archive and restore it on their server. The procedure is detailed in our Quick Start Guide and our Video Tutorials (both found under the Documentation menu item on our site).

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 or Quick Start Guide instructions to easily restore their backups using Kickstart or eXtract Wizard.



Description: Backup taken on Saturday, 25 December 2010 17:45

Comment:

Path: p

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 button. The same page will open if you click on a backup record's description (appearing as a link).

2.5.1. Integrated restoration

Note

This feature is only available in the Akeeba Backup Professional edition; users of Akeeba Backup Core - and users of the Professional edition when their site is completely inaccessible- can use Akeeba Kickstart or Akeeba eXtract Wizard to extract the archive and restore it on their server. The procedure is detailed in our Quick Start Guide and our Video Tutorials (both found under the Documentation menu item on our site).

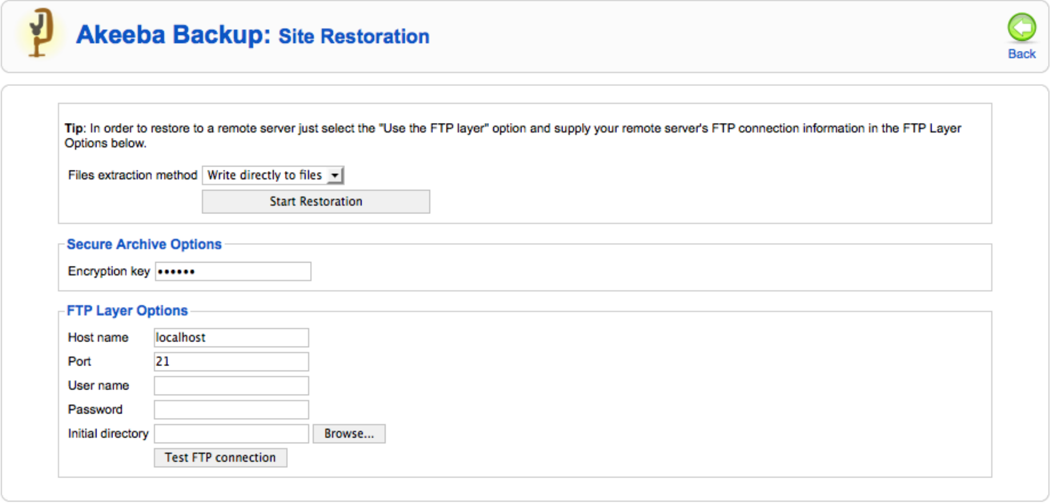
Warning

THE INTEGRATED RESTORATION FEATURE MAY DESTROY YOUR SITE IF YOU ARE NOT CAREFUL.

> Remember that you are OVERWRITING your site with the one contained in the backup archive. Do not do that on a live site unless it is absolutely necessary, i.e. you have already destroyed something vital in your site and want to revert to a "last known good" state.
>
> As with any backup restoration method, practise on a local testing server first. Don't push your luck by trying a potentially dangerous procedure you are unfamiliar with on a live server. Many sites have been destroyed by human error, augmented by the "bliss of ignorance" effect. Never, ever, under any circumstances, attempt a restoration on a live site unless you are familiar with the procedure and confident of all the steps you take.
>
> That said, we trust our own software and use it on our sites. Do note that we are extremely familiar with the procedure and extremely careful when doing restorations. This message tries to excessively - if that's ever possible - stress the point that you *must* be careful and that the best method to achieve that is practising on a local testing server first.

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.



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.

Files extraction method: Write directly to files

Encryption key: ••••••

Host name: localhost

Port: 21

User name:

Password:

Initial directory:

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.

You MUST use this option if you want to restore your backup archive to a different site than the one you are in right now. Just select this option and provide the FTP connection details to the other site before clicking on Start Restoration.

The default mode is writing directly to files, unless your site's Global Configuration indicates that the FTP layer should be used.

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 (Akeeba Backup Installer, a.k.a. ABI). 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, `ftp.example.com` is valid, `ftp://ftp.example.com` is *invalid*.
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 *is not the same as the filesystem directory* 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 `configuration.php` and directories such as `administrator`, `component`, `language`, `includes`, `cache` and `xmlrpc` 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. Alternatively, click on the Browse button next to the text box to launch an interactive FTP directory browser. Navigate into the directory where you want your files to be restored and click on the OK button.
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 encrypted data with 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 intelli-

gent 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.

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 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 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 competed 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.

4. If you are restoring to a remote server, the previous step will result in a 404 page. 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. After finishing the restoration procedure, do NOT click the Finalize button. Instead, 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`.

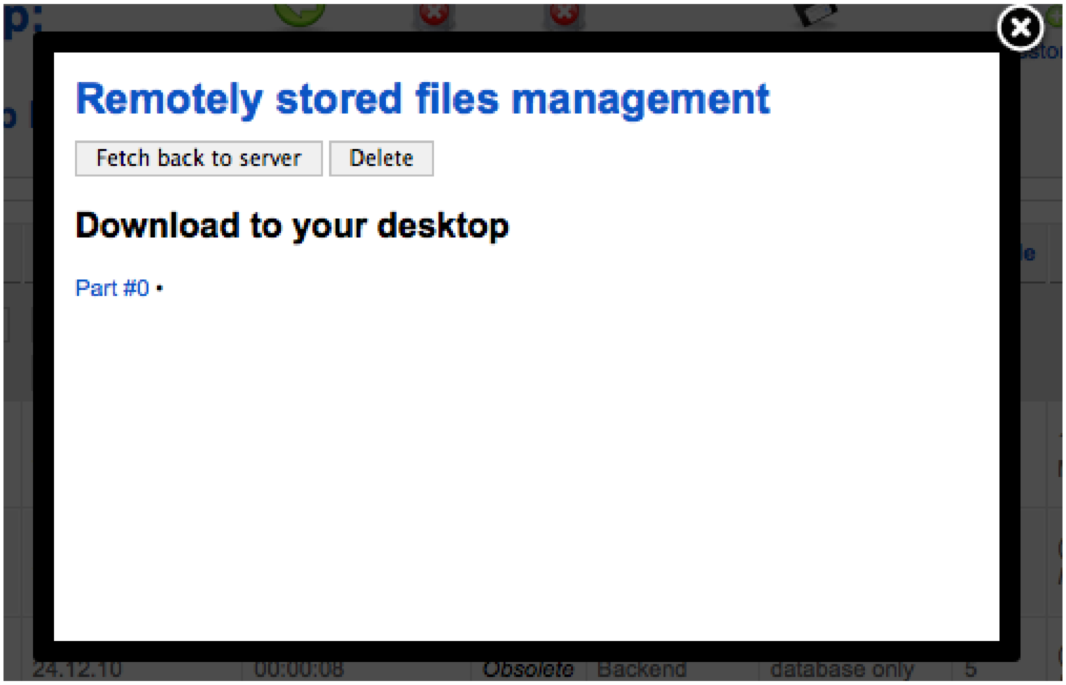
2.5.2. Manage remotely stored files

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 Administer Backup Files page. Do note that, if you have upgraded from Akeeba Backup 3.0.x or 3.1.x, backup records created by older versions of the software do not support this feature. Clicking on that link opens a lightbox (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.



Remotely stored files management

Download to your desktop

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 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.

2.5.3. Discover and import archives

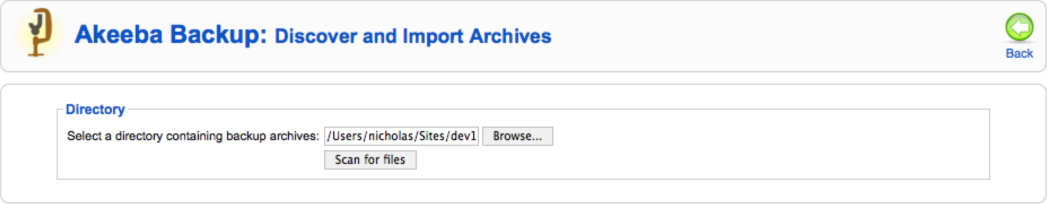
Note

This feature is only available in the Akeeba Backup Professional edition

Sometimes you may have accidentally deleted a backup record from the 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.

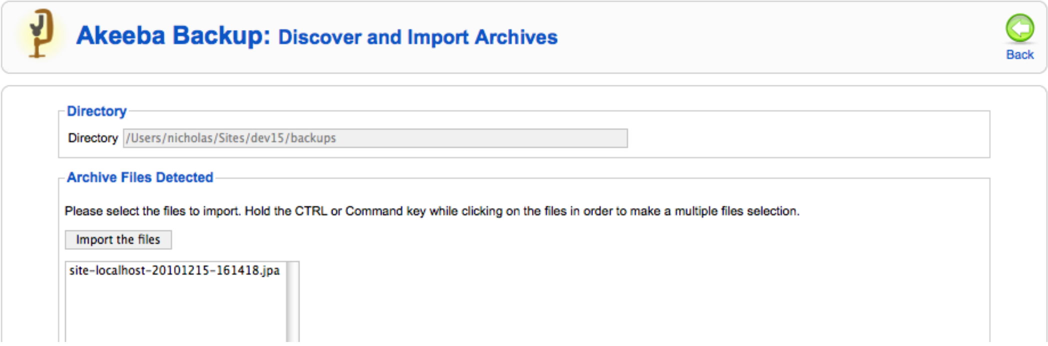
This feature allows you to automatically find and import archives stored anywhere on your account. This means that you can upload backup archives anywhere in your site's folder structure, or even on a private off-site directory and Akeeba Backup will be able to import them. All backup archives are imported 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 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.



Select a directory containing backup archives: /Users/nicholas/Sites/dev1

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.



Directory /Users/nicholas/Sites/dev15/backups

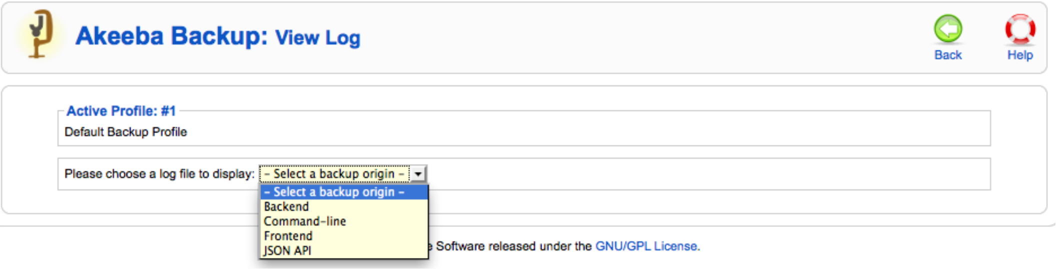
Please select the files to import. Hold the CTRL or Command key while clicking on the files in order to make a multiple files selection.

site-localhost-20101215-161418.jpa

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 Administer Backup Files button to view the newly imported backup archives. You can now download or restore the imported backup archives.

2.6. View Log

The View Log option allows you to download or view the output from the most recent backup operation attempted on each origin. This information may be useful in diagnosing problems if you are having a problem completing a backup.


Akeeba Backup: View Log
Back
Help
Active Profile: #1
- Select a backup origin -
- Select a backup origin -
Backend
Command-line
Frontend
JSON API
Software released under the GNU/GPL License.

Default Backup Profile

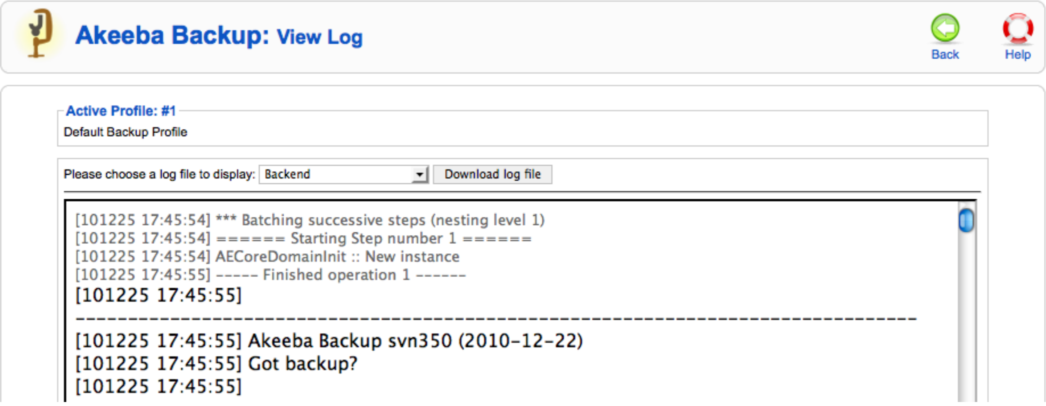
Please choose a log file to display: - Select a backup origin -

The first page allows you to select an origin. Backups attempted using the Joomla! administrative back-end belong to the Backend origin. The Frontend origin applies to backup archives taken with the front-end backup method (also referred to as legacy CRON in our documentation) or using the `altbackup.php` script. The Command Line origin applies only to backups taken with the `backup.php` script file of the Professional release. The XML-RPC origin applies to backups taken with Akeeba Remote Control up to version 3.x. Finally, the JSON API origin applies to backups taken with Akeeba Remote Control 4.x or later.

Tip

If you just tried taking a backup using Akeeba Backup's interface, please select the Backend option from the drop-down.

This takes you to the View Log visualization page.



Active Profile: #1
Default Backup Profile

Please choose a log file to display: Backend

```
[101225 17:45:54] *** Batching successive steps (nesting level 1)
[101225 17:45:54] ====== Starting Step number 1 ======
[101225 17:45:54] AECoreDomainInit :: New instance
[101225 17:45:55] ----- Finished operation 1 ------
[101225 17:45:55]
--------------------------------------------------------------------------------
[101225 17:45:55] Akeeba Backup svn350 (2010-12-22)
[101225 17:45:55] Got backup?
[101225 17:45:55]
```

If you wish to ask for support, you must download the raw log (a text file). Just click on the download button above the log viewer. Do not copy and paste the text appearing in the log viewer. If you do that, you will lose a day as we're going to tell you to download the raw log, ZIP it and attach it to your next post. Once again, please DO NOT copy and paste text. We absolutely and beyond any doubt need the raw log file in order to support you. Help us help you so that we can solve your issues as soon as possible.

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 useless in supporting you.

The bulk of this page is the log visualization box. 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). 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 this information 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.

2.7. Access Control

Akeeba Backup is able to run on a variety of Joomla! based CMS system, including Joomla!™ 1.5 and Joomla! 1.6 or later. By default, it's restricted to users with Super Administrator privileges. This makes sense, as anyone who is able to take and download a backup archive immediately has full access to every bit of information in your site, including database passwords.

That said, many web professionals asked for a way to setup Akeeba Backup in a way that makes it possible for their clients to backup their sites, but not touch any configuration options. Some others asked for a way to allow some people act as "backup operators", i.e. take a backup but not being able to download or restore it. In order to cope with this requirement, Akeeba Backup includes fine-grained access control (ACL) since version 3.2. The exact ACL method is specific to the platform it's running on.

Important

The following options apply to back-end backups only. Front-end backups, including legacy front-end CRON jobs, remote backups and Lite Mode backups, are controlled by means of the Secret Word you define in the Component Parameters page. These backup modes are not controlled by the access control settings because they do not require a user to be logged in to take a backup; they only require knowledge of the Secret Word.

2.7.1. Joomla! 1.5 and other Joomla! 1.5 distributions

When Akeeba Backup runs on Joomla! 1.5, Nooku Server or any other CMS distribution based on Joomla! 1.5, there are two levels of access control: component access and per-user ACL (permissions) settings.

The first level of access control defines who can access the component at all, i.e. who can see its interface. In order to configure it, go to Components, Akeeba Backup and click on the Component Parameters button. In the parameters interface look for the Minimum access level option. Each one of the three options has the following meaning:

Super Administrator	Only Super Administrators can access the component
Administrator	Only users in the Administrator or Super Administrator group can access the component
Manager	Any user with back-end access (Manager, Administrator or Super Administrator) can access the component

Please note that this setting has precedence over the per-user ACL. This means that if you set this setting to Super Administrator, an Administrator will not be able to use Akeeba Backup even if you grant him all permissions in the per-user ACL settings.

The second level of access control is per-user ACL. By default Super Adminsitrator can do everything, Administrators can backup and download backup archives and Managers can only perform a backup but not download backup archives or configure the component. This feature allows you to have fine grained control over what each user can and can not do. To access it go to Components, Akeeba Backup and click on the Access Control button. You will see a list with all users granted back-end access (Managers, Administrators and Super Administrators). On each row, you will see the following columns:

Username	The username this row applies to
Group	Which user group (Manager, Administrator, Super Administrator) this user belongs to
Backup	A green check means that the user can use the Backup Now button to take a new backup. A white X in red background means he has no access to that feature. Click on the icon to toggle between the two states.
Download	A green check means that the user can use the download links in the Administer Backup Files page to download the backup archives. If you are using Akeeba Backup Professional, a user with the Download privilege will also be able to download or delete files from a remote storage location (e.g. Amazon S3). A white X in red background means he has no access to that feature. Click on the icon to toggle between the two states.
Configure	A green check means that the user can use all of the configuration pages of Akeeba Backup, including filter pages, to modify the backup settings. A white X in red background means he has no access to that feature. Click on the icon to toggle between the two states.

Setting up a backup operator is trivial: make sure that the user only has the Backup privilege (green check), whereas all of the other options are disabled. Similarly, to allow a user backup and restore a site but not touch the configuration settings just give him the Backup and Download privileges. The power is yours!

2.7.2. Joomla! 1.6, 1.7, 2.x and other Joomla! 1.6/1.7/2.x distributions

Joomla! 1.6 and later comes with a very powerful and somewhat complex ACL system on its own. Akeeba Backup is designed to make full use of it ever since the early 3.1.x releases. In order to access the ACL setup, go to Components, Akeeba Backup and click on the Component Parameters button. Then, click on the Permissions tab. Each group can be setup with the following privileges:

Configure (the one on top)	Allows access to Component Parameters button. This is a core Joomla! privilege.
Access Component	Self explanatory. If a user doesn't have this privilege, he won't be able to access the component! This is a core Joomla! privilege.
Backup Now	The user can use the Backup Now button to take a new backup. This is a privilege specific to Akeeba Backup.
Configure (the one towards the bottom)	The user can use all of the configuration pages of Akeeba Backup, including filter pages, to modify the backup settings. This is a privilege specific to Akeeba Backup; it has nothing to do with the first "Configure" item on that list.
Download	The user can use the download links in the Administer Backup Files page to download the backup archives. If you are using Akeeba Backup Professional, a user with the Download privilege will also be able to download or delete files from a remote storage location (e.g. Amazon S3). This is a privilege specific to Akeeba Backup.

We won't go into more details regarding the ACL setup on Joomla! 1.6. If you want more information about how the ACL system works in Joomla! 1.6, please consult its documentation or ask on the Joomla! forums.

2.8. Site Transfer Wizard

Note

This feature is only available in the for-a-fee Professional edition since version 3.3.5

Important

While the Site Transfer Wizard may be useful in transferring a site to another server, it is neither the optimal nor the only way. In fact, you could just as well back your site up, move the backup archive to the new server and use Kickstart to restore it. Yes, it's that easy. The wizard may make this process easier, but it's possible that it doesn't work under some server combinations. It's not a bug, it has to do with the way PHP works and how different FTP servers are configured between hosts.

Many times you simply want to move your site between hosts, e.g. from a local or development server back to the live server or move your site from Host A to Host B. Traditionally, this was a multi-step process: take a backup, download it to your local PC, upload it to the live server, upload Kickstart, run Kickstart and finalize the restoration. Since version 2.2 we offer a backup engine called DirectFTP which allows you to take a backup directly to a remote FTP server instead of an archive. This means that you no longer need to download/upload a backup archive or even use Kickstart. By the time the backup is finished, you are able to simply point your browser to the new host and start the restoration. The biggest drawback of this approach was that setting it up was a little difficult for novice users. Our Site Transfer Wizard feature is here to make using that feature dead simple!

The Site Transfer Wizard guides you through a series of steps which allow you to define the connection parameters to your remote server and automatically takes care of all the details necessary for moving your site to the new host. It consists of only three simple steps.

Step 1: Choose your profile

The Site Transfer Wizard requires to create a dedicated backup profile for the site transfer backup job. This step allows you to select how this is going to happen.

Use the existing profile	If you had already used the Site Transfer Wizard in the past, all of its settings are stored in its dedicated backup profile. Selecting this option will recall them and allow you to modify them or use the same settings to transfer your site again.
Copy settings from	Select an existing backup profile to copy all settings from. This allows you to "clone" special configuration options (such as the optimal settings defined by the Configuration Wizard) as well as any filter options, e.g. directories, files and database tables to exclude from the backup. If it is the first time you are running the wizard and you are not a very experienced user, it's suggested to copy the settings from the Default Backup Profile.
Create a new profile, resetting its settings to default	This will reset all the configuration and filter options of the Site Transfer Wizard backup profile to factory defaults. This should only be used by experienced users who know what they are doing or if you are willing to apply special configuration and/or filter settings manually.

Clicking on Next will take you to the next and most important step.

Step 2: Chose your transfer settings

In this step you will tell Akeeba Backup how to connect to your new host in order to transfer your site there.

Connection method	You can choose between FTP, FTP over SSL (FTPS) or –if you have the Professional version– Secure File Transfer over SSL (SFTP). If you are not sure which one to use, please ask your host. Most hosts support FTP, a few of them FTPS and very few of them SFTP. Please do not ask us which method to use. We are not your host and we can not possibly know which method your host's servers support.
Host name	The hostname of your FTP, FTPS or SFTP server. Please do not specify a protocol. For example, `ftp.example.com` is a valid host name whereas `ftp://ftp.example.com` IS NOT. If unsure, please ask your host. Once more, we can't possibly know how to connect to your server, it's your host that has to give you this information
Port	This is the number of the TCP port used to connect to your server. Usually it's 21 for FTP, 22 for SFTP and 990 for FTPS. If unsure, please ask your host.
Username	The username used to connect to your remote server. Do note that if your host requires an SSH certificate to connect to their server through SFTP, you will not be able to use SFTP with Akeeba Backup to transfer your site. Our software only supports username/password authentication to the remote server.
Password	The password used to connect to your remote server
FTP/FTPS/SFTP directory to the remote site's root	This is the full FTP, FTPS or SFTP directory to your remote site's web root. This may not always be obvious and most likely should not be left blank. You can always connect to your remote site using FileZilla, navigate to the web root directory of your new host and take a look above the right-hand directory pane. You will see a path. Copy it and paste it in this box of the Site Transfer Wizard.
Use Passive mode	For FTP/FTPS connections only. The default behaviour is to use FTP Passive Mode for all site transfers, as it is the only guaranteed way to pass through firewalls. If your remote site requires

	FTP Active Mode (very rare) uncheck this box. If you are unsure if this is required, please ask your host.
URL to the remote site	Enter the full URL to the remote site, e.g. `http://www.example.com/joomla`. Please, do not include a trailing slash.

Clicking on Next, Akeeba Backup will try to establish an FTP/FTPS/SFTP connection to your remote host and upload a small file named akeeba_connection_test.png. If that fails, it will let you know about the error which occurred so that you can fix it. If you have entered an incorrect directory, i.e. it doesn't correspond to the location used to store the files accessible through the "URL to the remote site" address, you will also get an error telling you that you have to fix it.

Important

Not all hosts are able to initiate FTP/FTPS/SFTP connections to other servers. The most common limiting factor is a server-side firewall which disallows outbound connections. If you are perfectly sure that your FTP/FTPS/SFTP connection settings are correct and you still can not connect to your remote site, do not ask us for support. If you do, we'll tell you to read the documentation (this paragraph!). What you have to do instead is to contact your current host and ask them to open their firewall so that you can connect to your new host through FTP/FTPS/SFTP.

If you get an error about not being able to change to the requested directory, you have entered the "FTP/FTPS/SFTP directory to the remote site's root" wrong. Please refer to the section above about how to determine its correct setting.

If you get an error reading "Your FTP/FTPS/SFTP directory is not defined correctly. You will be redirected back to the previous page to correct it. If in doubt about what this means, please read our documentation." then you have entered the "FTP/FTPS/SFTP directory to the remote site's root" wrong. Please refer to the section above about how to determine its correct setting.

Do not ask for support if you have not read the above and followed all of these instructions. Such requests will be deleted without a reply.

Step 3: Transfer your site

In the final step, you are ready to transfer your site! Click on the button titled Begin the site transfer to start transferring your site to the remote host.

If you get an error message about not being able to write to a remote file or directory, please check that this file or directory doesn't already exist on your remote site. If it does, try removing it or adjust its permissions so that it is writable through FTP/FTPS/SFTP. If you are not sure how to do that, please ask your host for instructions, as the solution is entirely host-specific.

When the transfer is complete, you will be forwarded to the restoration script which was uploaded together with your site's files and database dump to the remote server. Follow all of its steps to restore your site's database and configure your site so that it can be used on the remote host.

If you end up back on your source site (the one you are transferring from), a blank page or an Internal Server Error page, please use your favourite FTP client (e.g. FileZilla) to rename or remove the `.htaccess` file from the remote site and reload the page. Do not contact us for support unless you do that first. For your information, it is possible that your .htaccess file contains directives which either have a hardcoded site URL in them or are simply not compatible with your new host. Renaming the file "neutralizes" it and you can access the installation script normally. If your new host is GoDaddy, do note that *it may take anywhere from 10 to 30 minutes after you rename .htaccess before the changes take any effect at all*!

After the restoration is over, click on the "remove the installation directory" link to remove the installation directory from your new host and begin using your site. If that is not possible or throws an error, please use your favourite FTP client (e.g. FileZilla) to manually remove the installation directory and all of its contents from your new host. Please do not ask for support if trying to access your site is causing the installation script to appear again. The solution is to remove the installation directory manually.

If, after the restoration, you have any problems accessing the remote site, please refer to these troubleshooting instructions [https://www.akeebabackup.com/documentation/troubleshooter/prbasicts.html] first. Unless you have followed all of them, please do not ask us for support. 99.9% of all post-restoration problems that have ever been reported to our forum are solved by following these simple instructions.

3. Include data to the backup

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

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 - for example, one used by your non-Joomla!™ newsletter software - 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.

3.1. Multiple Databases Definitions

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

Sometimes your site grows beyond Joomla!. A forum, a torrent tracker, a custom script... Some of them get to be installed in a database of their own, not as tables in the same database as the one Joomla! is using. If you really want to take a full site backup, you really need these databases backed up as well. The solution to this 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.

Warning

Do not use this feature to add your site's database. It is automatically added anyway. Doing so **will cause errors during the restoration of your site**! You have been warned. Do not seek support for this kind of issues.

Warning

Do 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 standalone photo gallery script, tables from another Joomla!™ site on the same server (e.g. a subdomain), tables from a standalone PHPList installation and so forth. As far as Akeeba Backup is concerned, all of those tables exist **in the same database**. Unless you tell it otherwise, it will backup ALL tables of the database.

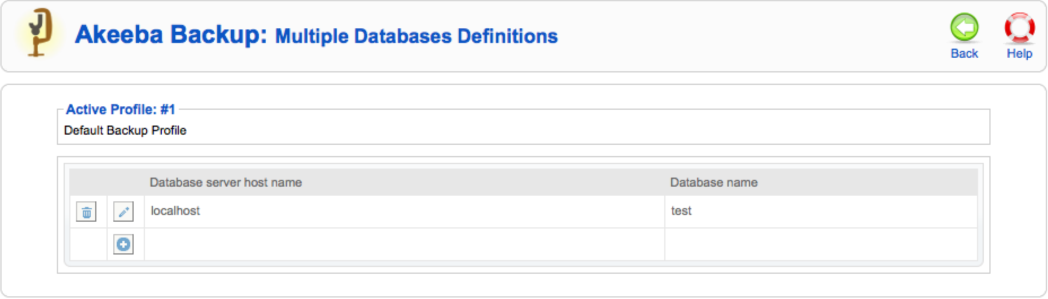
A common misconception is that if you want to also backup a subdomain running on Joomla!™ and having its tables inside the same database as the main site, you should add its database a multiple database definition. **DO NOT DO THAT, IT WILL MAKE THE RESTORATION FAIL**! After all, Akeeba Backup already backs up those tables. Why should you have to back them up a second time?

Warning

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.

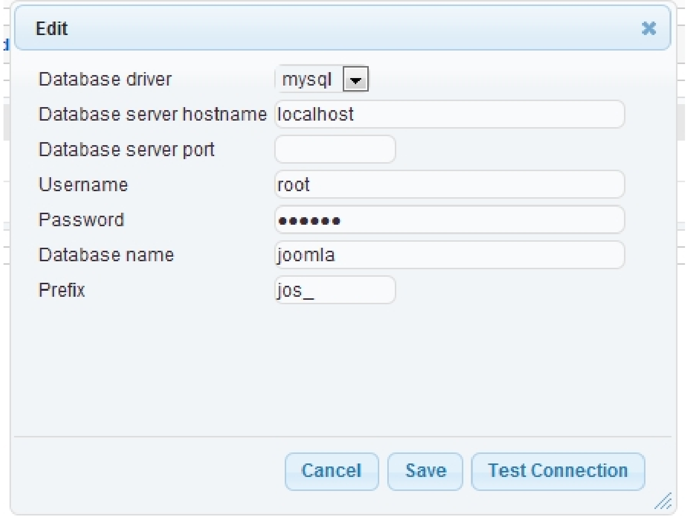


Active Profile: #1
Default Backup Profile

Database server host name	Database name
localhost	test

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.



Database driver: mysql
Database server hostname: localhost
Database server port:
Username: root
Password: ••••••
Database name: joomla
Prefix: jos_

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:
  - **mysql**. This is the regular MySQL connection driver for PHP. It has the widest compatibility, but the lowest performance.
  - **mysqli**. This is an improved MySQL 5 connection driver. It must be supported by your server in order to work at all.
- **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.

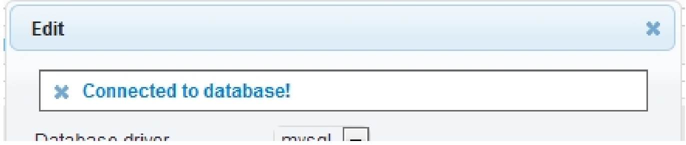
- **Database server port**. Leave it blank, unless your host has told you to use a non standard port for connecting to his database server.
- **Username**. The username of the database user needed to connect to the database.
- **Password**. The password of the database user needed to connect to the database.
- **Database name**. The name of the database you are connecting to.
- **Prefix**. The prefix used in the table name's prefixes. If you leave this blank, you won't be able to assign a different prefix when restoring your database.

Warning

Some hosts use your account name as a prefix for the database and username. **This is not the same as the Prefix setting above!** In fact, you have to incorporate that account prefix in your database and username values. 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 doesn't take a prefix!!! Don't laugh, this question has been already asked in the forum.

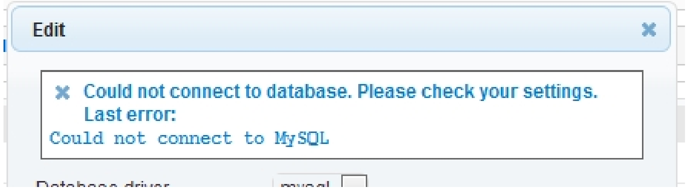
If in doubt, contact your host. We can't guess the right values for you because we are neither your host nor your host's client (that is, you). If you ask your host to give you the connection information to your database, they must be able to do so.

When you think you have all the connection information ready, click on Test Connection. This will check all settings except the Prefix. If the connection test succeeds, it will inform you:



Connected to database!

Same goes if it fails:



Could not connect to database. Please check your settings. Last error:

```
Could not connect to MySQL
```

If your connection works properly, it's time to save your changes by clicking the Save 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.

3.2. Off-site Directories Inclusion

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

More often than not, seasoned web masters prefer to place file repositories outside the site's root (usually, outside the web server's root as well!) in order to deter potential crackers and "leechers" from having direct access to those files. Such repositories can include downloads, image galleries, media (audio and video) or controlled access documents files. As you know, Akeeba Backup Core will only backup file under the site's root, which made these files impossible to backup. Well, it's possible with Akeeba Backup Professional.

Using the off-site directories inclusion, Akeeba Backup can be instructed to look for files in arbitrary locations, even if they are outside the site's root (hence the name). 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 folder the "virtual folder", because it doesn't physically exist on the server, it only exists inside the backup archive.

For example, if you want to backup an off-site directory named `images` , if we weren't using the virtual folder it's contents would end up being backed up (and subsequently restored!) inside the Joomla! `images` directory. This is something you'd like to happen. If your virtual folder is called `my_offsite_includes` , this directory would end up being backed up as something like `my_offsite_includes\1-images` . Notice the number and the dash before the actual directory name? This is a smart feature which allows you to backup many directories of the same name. You could, for instance, backup two directories named `images` , confident that there would be no name clash inside the archive.

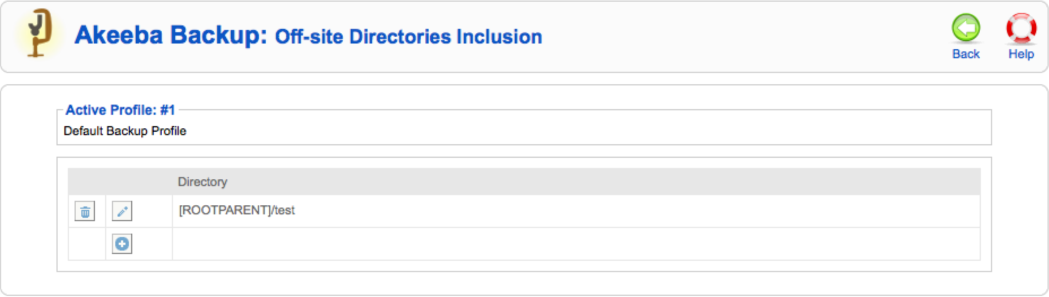
Since keeping track of these folders is a pain, Akeeba Backup includes a `readme.txt` text file inside the virtual folder which tells you which backed up folder corresponds to which physical folder, making it easy for you to restore these directories to their rightful place.

Important

Akeeba Backup *will not* automatically restore the off-site directories to their original location. Since Akeeba Backup is meant for backing up, restoring and *migrating* sites to another host we chose not to automatically restore off-site directories, as this would break the migration process. A future version of Akeeba Backup might address this issue more elegantly. We are open to suggestions!

Warning

Under no circumstances should you 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 set without any manual intervention. If you manually add this directory you will be backing up the same files twice, bloating your backup size - which could in turn lead to backup problems, such as running out of disk space.

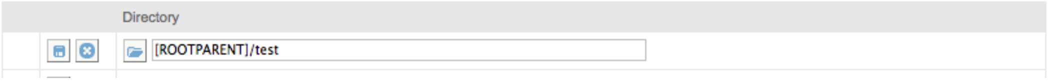


Active Profile: #1
Default Backup Profile

Directory
[ROOTPARENT]/test

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.



Directory
[ROOTPARENT]/test

When a row enters the edit mode, the pencil icon changes to two different icons:

- **The diskette**. 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
- **[ROOTPARENT]** is the absolute path to your site root's parent directory, i.e. one level above your site's root.

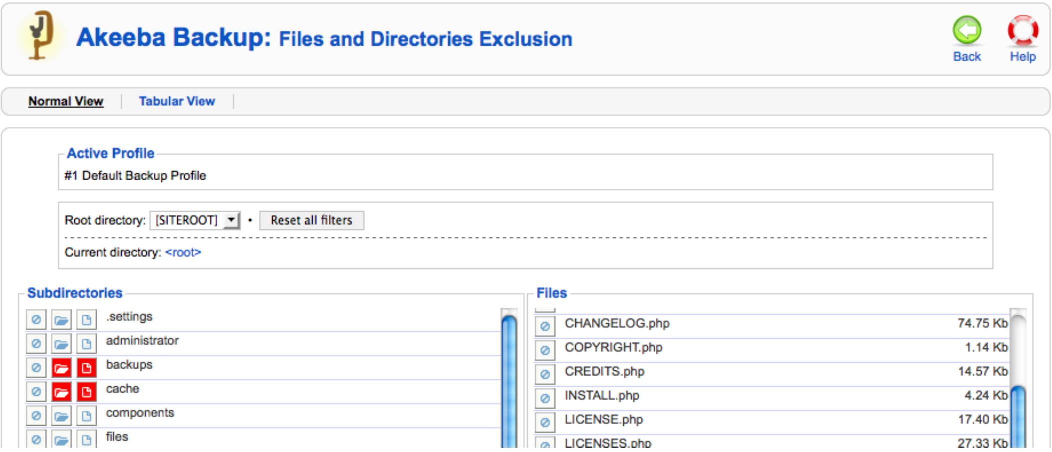
4. Exclude data from the backup

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.

4.1. Files and Directories Exclusion

Ever had a file in your site's root put there by your host? Or how about that 200Mb video file in the media directory you don't want to backup? If you need to exclude just a few files here and there but let the other files in the directory be backed up, you can use this filter. Or, let's say you have a downloads folder with a size of 10Gb you don't want to backup every time. Or, maybe, your host saves Apache logs in your site's root so that they can be accessible by the provided analyser script. Possibly, you have another script (for example, a forum, a torrent tracker, you name it) in a subdirectory of your site's root - or even buried deeper in the directory structure - that you don't want to backup. Anyway, you need to exclude the contents of a directory from your backup. The Files and Directories Exclusion filters are just right for you.

Before we begin our discussion regarding the operation mode of this filter, you have to know some automatic filters put in place by Akeeba Backup. It will automatically exclude your site's temp-folder, the "cache" directory on your site's root as well as all files and directories inside the component's output directory. This means that you should **never, ever use a folder whose contents you want to backup as your output directory**.



Active Profile
#1 Default Backup Profile

Root directory: [SITEROOT]

Current directory: <root>

Subdirectories:
.settings
administrator
backups
cache
components
files

Files:

CHANGELOG.php	74.75 Kb
COPYRIGHT.php	1.14 Kb
CREDITS.php	14.57 Kb
INSTALL.php	4.24 Kb
LICENSE.php	17.40 Kb
LICENSES.php	27.33 Kb

The normal view of this page consists of three discrete areas.

The top area contains the component and page names and two links to switch between the normal and the tabular view modes.

The middle area contains two interface elements:

- 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 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.

Below that, there is a button to Reset all filters. Clicking it will remove all Files and Directories Filters, for all of the current root's subdirectories. This is useful in case you have messed up with the filters a lot and you need a quick way to revert to the factory default settings.

The lower area consists of two panes. Each pane contains rows with icons and text. The icons represent an exclusion type and can have three states: on (yellow background), off (white 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.

The left hand pane is a list of subdirectories of the Current directory. Each row consists of:

- ⊘ **Exclusion**. When enabled, the entire directory will be skipped from the backup set. It will be as if this directory never existed on your server.

- 📂 **Skip subdirectories**. When enabled, the subdirectories of this directory will be skipped from the backup set. It will be as if this directory's subdirectories never existed on your server.

- 🗋 **Skip files**. When enabled, the files inside this directory will be skipped from the backup set. It will be as if the files inside this directory never existed on your server.

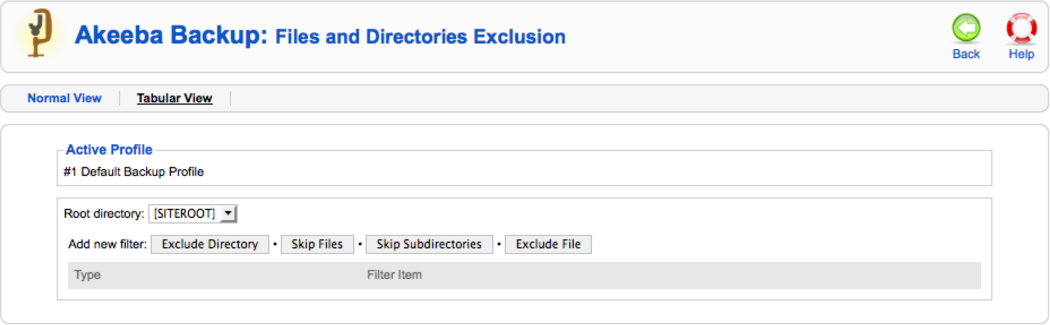
- The directory name. Clicking on it will load the contents of this directory in both panes and will make this directory current.

The right hand pane is a list of files contained inside Current directory. Each row consists of:

- ⊘ **Exclusion**. When enabled, the file will be skipped from the backup set. It will be as if this file never existed on your server.

- The file name.

- The file size. It will be expressed in the unit which is more convenient, i.e. bytes, Kb, Mb or Gb. This enables you to quickly pick very large files within your site, which are usually the ones you'd like to exclude from the backup set.



Active Profile: #1 Default Backup Profile

Root directory: [SITEROOT]

When you click on the Tabular View link, the page radically changes format. Instead of browser panes, you now have a grid.

On the top side of the grid you have the Add new filter buttons:

- **Exclude directory**. Completely skips backing up the given subdirectory.
- **Exclude file**. Completely skips backing up the given file.
- **Skip subdirectories**. Skips backing up all the subdirectories inside the given directory.
- **Skip files**. Skips backing up all the files inside the given directory.

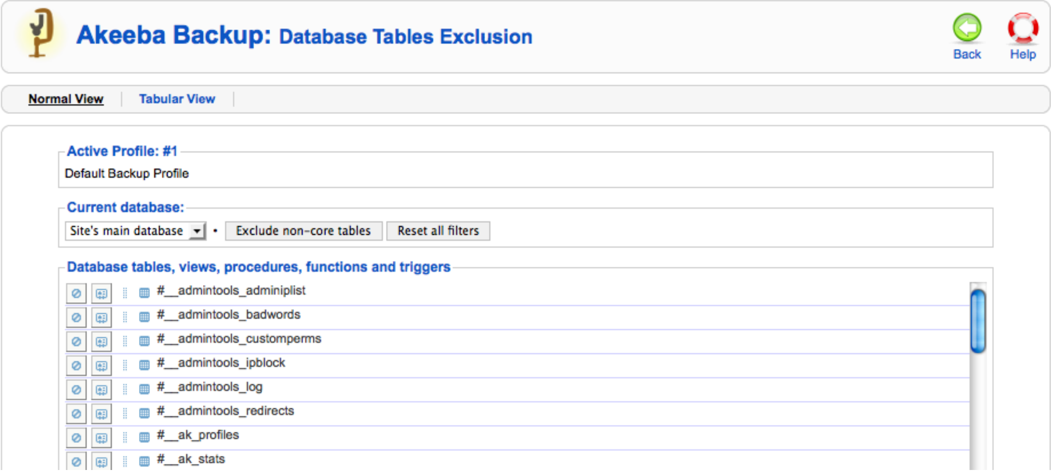
Each line of the grid displays the following information:

- **The filter type**. It can be one of:
  - **Exclude directory**. Completely skips backing up the given subdirectory.
  - **Exclude file**. Completely skips backing up the given file.
  - **Skip subdirectories**. Skips backing up all the subdirectories inside the given directory.
  - **Skip files**. Skips backing up all the files inside the given directory.
- 🗑 **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. There is no way to undo your changes.

4.2. Database Tables Exclusion

Sometimes you can have multiple sites installed in the same database, a common situation with sub-domains on cheap hosts who allow only one MySQL database per account. Some other times you have installed a forum, a torrent tracker or whatever on a subdirectory of your site and it has created tables in your site's database. Now it is possible to exclude these tables using the Database tables exclusion feature.



Active Profile: #1

Default Backup Profile

Current database: Site's main database

Database tables, views, procedures, functions and triggers

- #__admintools_adminiplist
- #__admintools_badwords
- #__admintools_customperms
- #__admintools_ipblock
- #__admintools_log
- #__admintools_redirects
- #__ak_profiles
- #__ak_stats

The normal view of this page consists of three discrete areas.

The top area contains the component and page names and two links to switch between the normal and the tabular view modes.

The middle area contains 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 extra databases, you can select the appropriate database from the drop-down list in order to define filters for that database.

The middle area also contains two quick buttons:

- **Exclude non-core tables**. This option automatically filters out the tables whose name doesn't begin with your site's prefix. These are usually tables which do not belong to the current Joomla! installation. However, be warned of the major pitfall! If you host many Joomla! installations on the same database you'll have to use this option *every time* you add a new extension on any of the other Joomla! sites. Alternatively, you can use the Regular Expressions Database Tables feature of the Professional edition which can be set up to automatically deal with such installations.
- **Reset all filters**. Clicking this button will delete all database table filters.

The lower area consists of a single pane, showing the contents of the database: tables, views, triggers, stored procedures and functions. Each row represents one database entity and consists of icons and text. The two leftmost icons represent an exclusion type and can have three states: on (yellow background), off (white 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 regular expressions filters or simply denote that a specific filter is not applicable to this entity. For example, there is no point skipping dumping the data of a view, or a stored procedure, as they have no data in the sense a table does. The third icon, next to the database entity's name, represents the type of the entity, e.g. table, view, etc. You can hover your mouse over the icon to get a tooltip describing the kind of this entity.

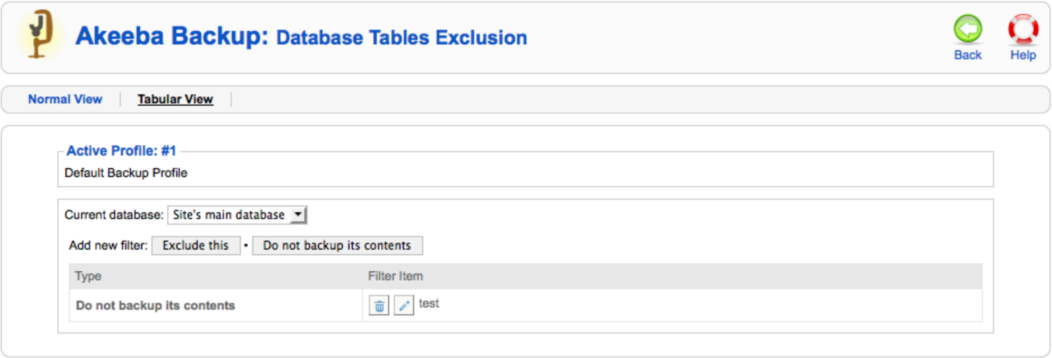
Important

The prefixes of the entities' names appear abstracted. If your site's prefix is `jos_` (the default Joomla!™ setting), the table `jos_users` will appear as `#__users`. This is done to help you quickly identify the tables your site runs on.

Each row of this pane consists of the following elements:

- ⊘ **Exclusion** icon. If enabled, this database entity will not be backed up at all, i.e. it will be missing from the database dump.

- **Data exclusion** icon. If enabled, only the structure of a table will be backed up, but not its contents. This is useful e.g. for banner tracking or log tables. You need to keep their structure so that your site works, but you don't need to back up tens of thousands of historical data rows you can certainly live without.
- **Entity type** icon. Depends on the entity type, e.g. if it's a view, table, procedure, etc.
- **Entity name**. The name of the entity, as described above.


Akeeba Backup: Database Tables Exclusion
Back
Help
Normal View
Tabular View
Exclude this
Do not backup its contents

Active Profile: #1
Default Backup Profile

Current database: Site's main database

Add new filter: Exclude this • Do not backup its contents

Type	Filter Item
Do not backup its contents	test

When you click on the Tabular View link, the page radically changes format. Instead of a database browser pane, you now have a grid.

Above the grid you have the Add new filter buttons:

- **Exclude** this. Completely skips backing up the given database entity.
- **Do not backup its contents**. Backs up only the structure but not the contents of the given table.

Each line of the grid displays the following information:

- **The filter type**. It can be one of:
  - **Exclude** this. Completely skips backing up the given database entity.
  - **Do not backup its contents**. Backs up only the structure but not the contents of the given table.
- **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 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 #__.

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.

4.3. Extension Filters

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

In our quest to provide the optimal feature set for web professionals, Akeeba Backup Professional includes the Extension Filters feature. Using it you can exclude any Joomla!™ extension (component, module, plug-in, language or template) from the backup set, as if it was never installed! This allows web professionals to have a single "template site", where every common extension is installed. Creating a new site's skeleton is as easy as taking a backup with a different exclusion set. The benefit is that instead of maintaining multiple "template sites" - having to update Joomla!™ and the installed extensions on every issued update - you only have to manage one master installation. It's sheer efficiency!

When you use this feature, Akeeba Backup Professional will automatically exclude the extension's files and/or directories, as well as any database entries pointing to it, effectively "cleaning" the backup from any traces of the extension.

The Extensions Filters page has four sub-pages, presented as links below the page's toolbar.

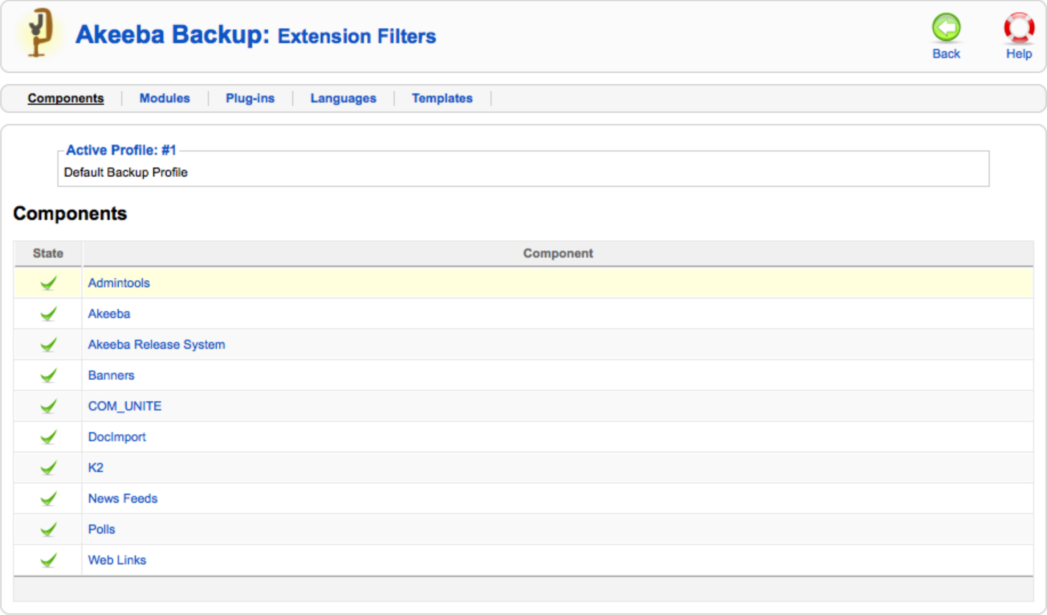
All sub-pages share the same toolbar icons. The Back icon gets you back to Akeeba Backup Professional's Control Panel.

4.3.1. Components

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

The most evident use of the Extension Filters is to exclude components, the essential building blocks of any Joomla!-powered web site.



Active Profile: #1
Default Backup Profile

Components

State	Component
✓	Admintools
✓	Akeeba
✓	Akeeba Release System
✓	Banners
✓	COM_UNITE
✓	DocImport
✓	K2
✓	News Feeds
✓	Polls
✓	Web Links

The Components exclusion page presents a list with all installed non-core components. Each component lists its State and the Component name. When the State column contains a green check mark, it means that this module will be included in the backup. A white X in a red circle means that the component will be excluded from the backup set. Clicking on the status icon toggles its state.

Important

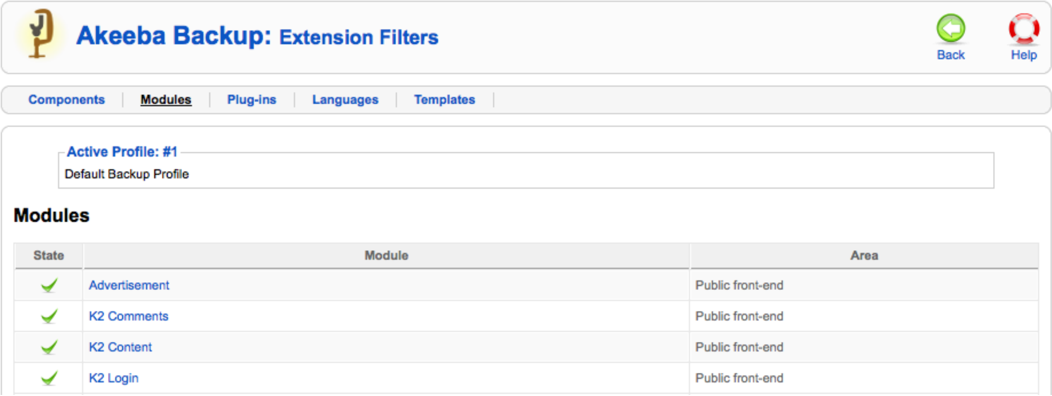
Akeeba Backup Professional is unable to automatically identify the database tables used by components. Joomla! enforces no naming standard for components' tables and there is also no standard way to automatically determine which tables are created by which component either. As a result, excluding components' database tables *is your responsibility* . Do not ask us to automate this process. The only method to do so is to implement a workaround for certain components only. This is not an optimal solution as it would mislead most users into believing that Akeeba Backup Professional can do this for every component they might have installed, which would simply be false.

4.3.2. Modules

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

From this page you can exclude any installed front-end or back-end non core module. The modules are displayed as a flat list spanning three columns.



Active Profile: #1

Default Backup Profile

Modules

State	Module	Area
✓	Advertisement	Public front-end
✓	K2 Comments	Public front-end
✓	K2 Content	Public front-end
✓	K2 Login	Public front-end

The first column, labelled State , indicates the filtering status of this item. A green check mark, it means that this module will be included in the backup. A white X in a red circle means that the module will be excluded from the backup set. Clicking on the status icon toggles its state.

The Module column contains the module's name.

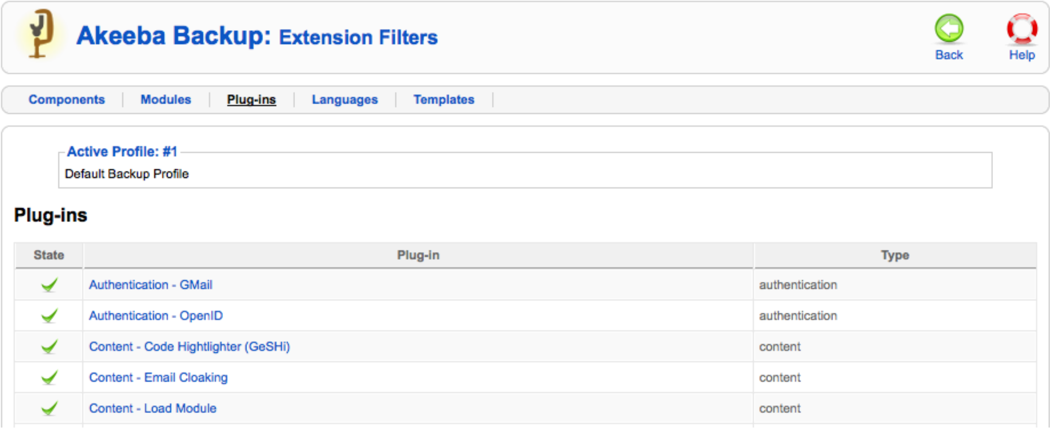
The Area column indicates if this is a front-end (labelled as Public front-end) or a back-end module (labelled as Administrator back-end). The front-end modules are always listed first.

4.3.3. Plug-ins

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

From this page you can exclude any installed front-end or back-end non core plug-ins. The plug-ins are displayed as a flat list spanning four columns.



Active Profile: #1

Default Backup Profile

Plug-ins

State	Plug-in	Type
✓	Authentication - GMail	authentication
✓	Authentication - OpenID	authentication
✓	Content - Code Hightlighter (GeSHi)	content
✓	Content - Email Cloaking	content
✓	Content - Load Module	content

The first column, labelled State , indicates the filtering status of this item. A green check mark, it means that this plug-in will be included in the backup. A white X in a red circle means that the plug-in will be excluded from the backup set. Clicking on the status icon toggles its state.

The Plug-in column contains the plug-in's name. The Type column displays the plug-in type, as reported by Joomla!.

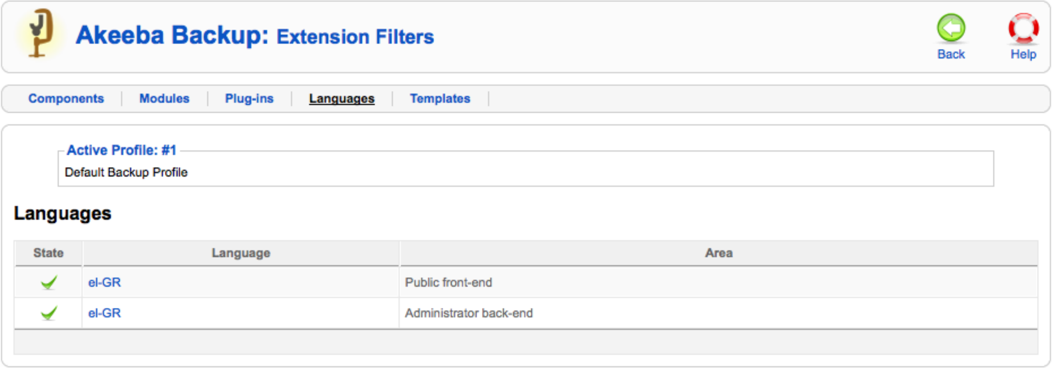
The Area column indicates if this is a front-end (labelled as Public front-end) or a back-end plug-in (labelled as Administrator back-end). The front-end plug-ins are always listed first.

4.3.4. Languages

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

From this page you can exclude any installed, non-default language. This means that each and every language marked as default for the back-end or the front-end will not be listed at all in this page! Languages are displayed in a list spanning three columns.



Active Profile: #1
Default Backup Profile

Languages

State	Language	Area
✓	el-GR	Public front-end
✓	el-GR	Administrator back-end

The first column, labelled State , indicates the filtering status of this item. A green check mark, it means that this language will be included in the backup. A white X in a red circle means that the language will be excluded from the backup set. Clicking on the status icon toggles its state.

The Language column contains the language's ISO code, for example en-GB for British English.

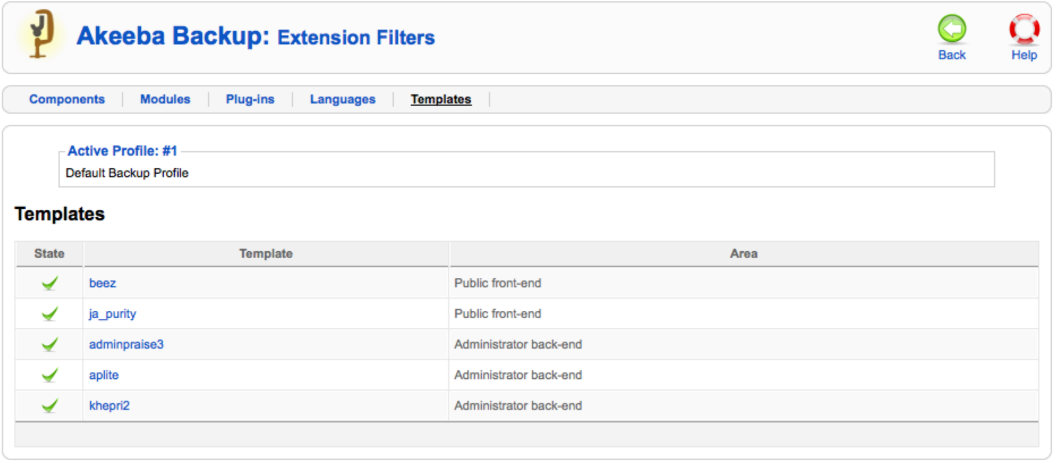
The Area column indicates if this is a front-end (labelled as Public front-end) or a back-end language (labelled as Administrator back-end). The front-end languages are always listed first.

4.3.5. Templates

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

From this page you can exclude any installed, non-default template. This means that each and every template marked as default for the back-end or the front-end will not be listed at all in this page! Templates are displayed in a list spanning three columns.



Active Profile: #1
Default Backup Profile

Templates

State	Template	Area
✓	beez	Public front-end
✓	ja_purity	Public front-end
✓	adminpraise3	Administrator back-end
✓	aplite	Administrator back-end
✓	khepri2	Administrator back-end

The first column, labelled State , indicates the filtering status of this item. A green check mark, it means that this template will be included in the backup. A white X in a red circle means that the template will be excluded from the backup set. Clicking on the status icon toggles its state.

The Template column contains the template's name.

The Area column indicates if this is a front-end (labelled as Public front-end) or a back-end template (labelled as Administrator back-end). The front-end languages are always listed first.

4.4. RegEx Files and Directories Exclusion

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

Sometimes you know that you have to exclude files or directories following a specific naming pattern, but they are so many that it's completely 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 extremely complex to track them down and exclude them. Wouldn't it be nice to have an automated way to say, for example, "exclude all SVN directories from the backup"? Enter regular expressions. What are those regular expressions? Let's see what Wikipedia has to say on the subject:

> 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] 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, I suggest the Regular Expressions Cheat Sheet (V2) [http://www.addedbytes.com/cheat-sheets/regular-expressions-cheat-sheet/] from AddedBytes.com. 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.

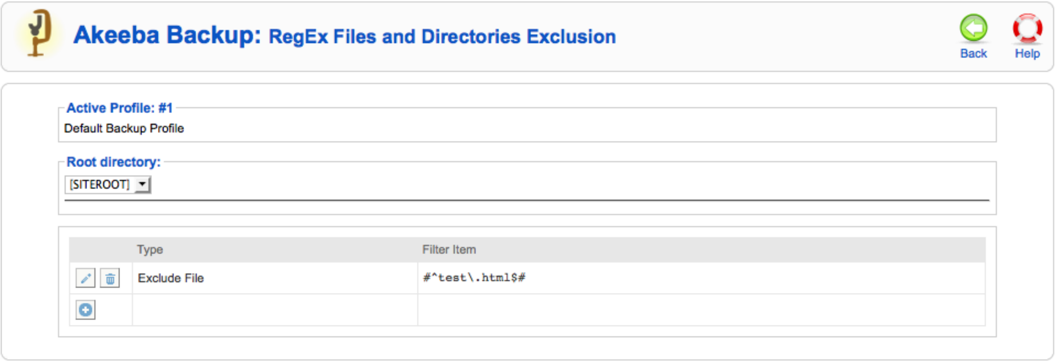
- Akeeba Backup supports an extension to the PCRE syntax. If you prefix the regex with an exclamation mark you negate its meaning. So "/^foo/" will match all entities starting with "foo", whereas "!/^foo/" will match all entities NOT starting with "foo".

- Akeeba Backup stores and parses your data as raw Unicode (UTF-8), provided that your database meets the minimum requirement of MySQL 4.1 or greater. 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.



Active Profile: #1
Default Backup Profile

Root directory:
[SITEROOT]

	Type	Filter Item
✎ 🗑	Exclude File	`#^test\.html$#`
⊕		

This page primarily consists of a grid view. Above the grid, you can find 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 grid contains three columns:

Icons column

You can perform the basic operation 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:

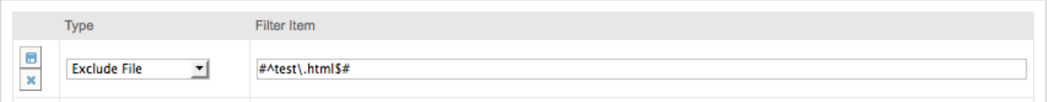
- **Exclude directory**. Completely skips backing up the given subdirectory.

- **Exclude file**. Completely skips backing up the given file.

- **Skip subdirectories**. Skips backing up all the subdirectories inside the given directory.

- **Skip files**. Skips backing up all the files inside the given directory.

Filter Item — This is the actual regular expression you have to write.



Type	Filter Item
Exclude File	#^test\.html$#

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:

- **Diskette**. 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.

In order to make sure that your filters match the directories and/or files you meant to, you can do so very easily. 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.

4.4.1. 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.

4.5. RegEx Database Tables Exclusion

Note

This feature is available only in Akeeba Backup Professional, the paid version of our component

Sometimes you know that you have to exclude database tables which follow a specific naming pattern, but they are so many that it's completely impractical going to the normal exclusion filters page and click them one by one. Or you want to exclude everything which doesn't match a specific pattern (e.g. it's not part of the site's main database), but the matching set dynamically and constantly changes over time, making it impossible to create an accurate filter without lots of maintenance. Enter regular expressions. What are those regular expressions? Let's see what Wikipedia has to say on the subject:

> 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] from Wikipedia

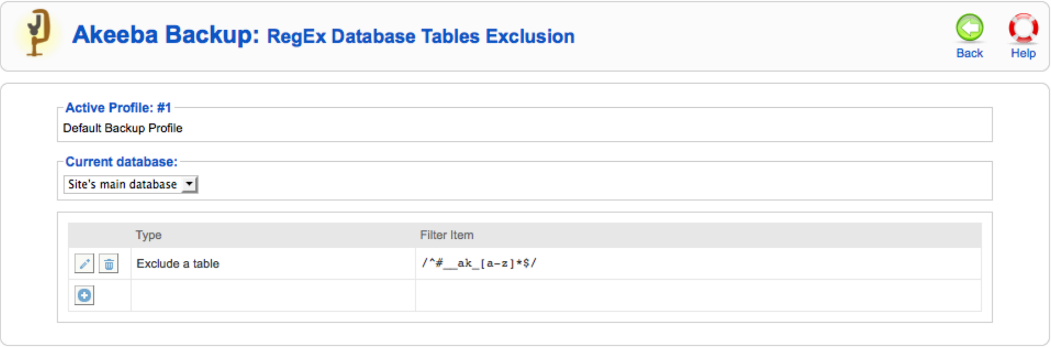
In a nutshell, regular expressions allow you to quickly define filters which match table names based on a number of criteria. If you want a quick cheatsheet you can use, I suggest the Regular Expressions Cheat Sheet (V2) [http://www.addedbytes.com/cheat-sheets/regular-expressions-cheat-sheet/] from AddedBytes.com. 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 MySQL 4.1 or greater. 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 `jos_`, `jos_users` is internally referenced as `#__users`. You must take this into account when writing regex filters, as this is the name you will have to match!
- The prefix replacement *is not* made in Database Only backup modes (either main site database, or all databases). As a result, you have to reference the tables by their full, normal name, e.g. `jos_users`.
- The examples at the end of this section apply to a full site backup scenario, where the replacement does take place.



Akeeba Backup: RegEx Database Tables Exclusion

Active Profile: #1
Default Backup Profile

Current database:
Site's main database

	Type	Filter Item
	Exclude a table	/^#__ak_[a-z]*$/

This page primarily consists of a grid view. Above the grid, you can find the Root Directory 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.

The grid contains 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.

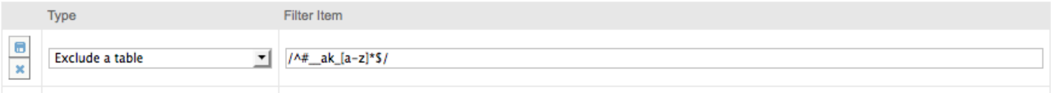
Type

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.



	Type	Filter Item
	Exclude a table	/^#__ak_[a-z]*$/

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:

- **Diskette**. 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.

In order to make sure that your filters match the directories and/or files you meant to, you can do so very easily. 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.

4.5.1. 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:

   ```
   /^(?>[^#]{1}|##|#_[^_]{1})/
   ```

2. Since nobody understood the previous filter, I have rewritten it in Akeeba Backup's compact proprietary notation which uses the non-standard negation operator (exclamation mark):

   ```
   !/^#__/
   ```

   Much simpler, huh?

3. Exclude VirtueMart tables. We know that these tables have `vm_` in their name after the table prefix, e.g. `jos_vm_foobar` becomes `#__vm_foobar`, so you only need to filter `#__vm`.

   ```
   /^#__vm_/
   ```

5. Automating your backup

Even though Akeeba Backup makes it very easy to take a backup of your Joomla!™ site, it still requires you to log in to the site's backend, click on the Backup Now button and wait for the backup to finish. If you do this daily, it is a drag. Our job is to automate your life, making repeated and time consuming procedures a breeze. To this end we offer not just one, but 3 (yes, THREE!) different backup automation possibilities for Akeeba Backup.

> ### Important
>
> Only one of those options is available in the free (as in "free beer") Akeeba Backup Core release

5.1. Front-end backup, for use with CRON

> ### Tip
>
> This option is available in both the Akeeba Backup Core and Akeeba Backup Professional releases. You don't need to subscribe to the Professional edition to use it.

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 come to the Free Support Forum complaining 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.

- 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

Do you want to automate your backups despite your host not supporting CRON? Webcron.org [http://webcron.org/] fully supports Akeeba Backup's front-end backup feature and is dirt cheap - you need to spend about 1 Euro for 1000 backup runs. Just make sure you set up your Webcron CRON job 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? No problem! Just take a regular backup from your site's back-end, then go to Administer Backup Files page and take a look at the Duration column. That's what you're looking for!

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 Component Parameters button. 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 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. Other 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. We would like to help you, but we can't. As always, the only barrier to the different ways we can help you is server configuration.

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!

Important

Do not miss the **--max-redirect=1000** 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.

Warning

Do not forget to surround the URL in double quotes. If you don't the backup will fail and it will be your fault! The reason is that the ampersand is also used to separate multiple commands in a single command line. If you don't use the double quotes at the start and end of the backup URL, your host will think that you tried to run multiple commands and load your site's homepage instead of the front-end backup URL.

If you're unsure, check with your host. Sometimes you have to get from them the full path to wget in order for CRON to work, thus turning the above command line to something like:

/usr/bin/wget --max-redirect=10000 "http://*`www.yoursite.com`*/index.php?option=com_akeeba&

view=backup&key=*`YourSecretKey`*"

Contact your host; they usually have a nifty help page for all this stuff. Read also the section on CRON jobs below.

Optionaly, you can also include an extra parameter to the above URL, `&id=`*`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.

Important

Using a web browser (Internet Explorer, Firefox, ...) or `wget` version 1.10 and earlier will most probably result into an error message concerning the maximum redirections limit being exceeded. This is *not* a bug. Most network software will stop dealing with a web site after it has redirected the request more than 20 times. This is a safety feature to avoid consuming network resources on misconfigured web sites which have entered an infinite redirection loop. Akeeba Backup uses redirections creatively, to force the continuation of the backup process without the need for client-side scripting. It is possible, depending on site size, Akeeba Backup configuration and server setup, that it will exceed the limit of 20 redirections while performing a backup operation.

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, it's the way wget works.

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 Component Parameters button. 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 (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 sterters, 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 preferrably 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.

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, it's the way wget and PHP work.

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.

5.2. Native CRON script

Tip

This option is only available in the Akeeba Backup Professional releases. You need to subscribe to the Professional edition to use it.

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. All Akeeba Backup Professional releases include the file `administrator/components/com_akeeba/backup.php`, which can be run from the command-line PHP interface (PHP CLI). In contrast with previous releases, it doesn't require the front-end backup in order to work; it is 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/administrator/components/com_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.

Since Akeeba Backup 3.3.4, the `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/administrator/components/com_akeeba/backup.php
   ```

2. Backup with profile number 2 and default description:

   ```
   usr/local/bin/php /home/johndoe/httpdocs/administrator/components/com_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/administrator/components/com_akeeba/backup.php
                                                          -description="My automated backup"
   ```

4. Backup with profile number 2 and a description reading "My automated backup":

   ```
   usr/local/bin/php /home/johndoe/httpdocs/administrator/components/com_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:

- 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. We are working on a workaround to allow operation even within such time constraints.

- 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.
- 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

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/administrator/components/com_a
```

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.

Overriding configuration variables

Since Akeeba Backup 3.1 the Native CRON Script allows you to 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 administrators 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.dropbox.email` for DropBox's email field. 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/akeeba/core`, where you will find four INI files with general settings. Inside the `administrator/components/com_akeeba/akeeba/engines` and `administrator/components/com_akeeba/akeeba/plugins/engines` directories and their subdirectories you will find one INI file per engine.

In order to save you from trouble, here are the most useful key names for providing cloud storage engine credentials. The names are designed to be self-explanatory.

Amazon S3

- engine.postproc.s3.accesskey
- engine.postproc.s3.secretkey

RackSpace CloudFiles

- engine.postproc.cloudfiles.username
- engine.postproc.cloudfiles.apikey

DropBox	• engine.postproc.dropbox.email • engine.postproc.dropbox.password
Microsoft Windows Azure BLOB Storage	• engine.postproc.azure.account • engine.postproc.azure.key
Remote FTP server	• engine.postproc.ftp.host • engine.postproc.ftp.port • engine.postproc.ftp.user • engine.postproc.ftp.pass

Applying them on the command line is easy. Take this command line as an example:

```
usr/local/bin/php /home/johndoe/httpdocs/administrator/components/com_akeeba/backup.php
-profile=2 -description="My automated backup"
-override "engine.postproc.dropbox.email=foobar@example.com"
-override "engine.postproc.dropbox.password=VerySecretPassword"
```

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 DropBox email and password.

Important

The values of the override parameters MUST be enclosed in double quotes, otherwise the operating system will not pass them back to the backup.php script.

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.

5.3. Alternative CRON script

Tip

This option is only available in the Akeeba Backup Professional releases. You need to subscribe to the Professional edition to use it.

On some hosts it is impossible to use the native CRON script outlined in the previous section. On such hosts the CRON script will get aborted if it is using too much CPU time, or if the system load exceeds a value predefined by your host company. In order to accomodate for these hosts, Akeeba Backup Professional includes an alternative CRON script. The alternative CRON script performs the backup by using the front-end backup feature of Akeeba Backup. The alternative CRON script is located in `administrator/components/com_akeeba/altbackup.php`, and must be run from the command-line PHP interface (PHP CLI).

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/administrator/components/com_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 only one 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.

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/administrator/components/com_akeeba/altbackup.p
   ```

2. Backup with profile number 2

   ```
   usr/local/bin/php /home/johndoe/httpdocs/administrator/components/com_akeeba/altbackup.p
                                                                                 -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 instalaltion 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 Parameters button on the top right corner of the toolbar. You will find the front-end backup options further down the Parameters page.
- Before using the alternative CRON script for the first time, you must visit the Akeeba Backup's Control Panel page at least once. Since the command-line version of PHP used to run the backup is oblivious to the domain name used by your site, we have to cache this information. Caching of this information occurs as soon as you visit the Control Panel page. The host name is absolutely required in order for the script to be able to access your Akeeba Backup installation's front-end backup feature.
- 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.

- Your host may have a firewall setup which doesn't allow the CRON script to access the front-end backup URL. In such a 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 man hosts.

If you are seeking assistance in our forums regarding a failed CRON job, please indicate if and which of these steps you have already tried. Not doing so will hinder our ability to help you in a timely manner.

Setting up a CRON job on cPanel

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/administrator/components/com_a` 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.

6. Miscellaneous features

Some features do not fall under any other category. We decided to reserve a place in our manual for these lesser-known but very useful features.

6.1. Lite mode for cell phones, PDAs, MIDs, etc.

In contrast to the classic front-end backup which is meant primarily for backup automation, the "Light Mode" is meant for performing site backups from a browser, without even having to log in to the administrator backend. It goes further than that, enabling you to backup your site from any web-capable device, including Pocket PC's, netbooks, your iPod or even your cell phone!

The "Light Mode" requires that your browser has at least rudimentary support for Javascript. Most recent web-capable devices, including low end cellphones, fulfill this requirement. This feature has been tested on Pocket Internet Explorer running on a Mio P560 and a HTC Touch, as well as Sony Ericsson and Nokia mobile phones. We have tested it with mobile WebKit-based browsers, such as those supplied with Android phones and iPhones. It also works on devices running Opera Mobile.

The "light mode" performs user authentication using the front-end backup's secret word and allows you to select the backup profile. It does not give you, however, the option to download your backup. If you want to do so, you'll either have to log in to the administrator back-end of your site, or use other means - e.g. FTP client software.

In order to access the "Light Mode" you have to visit the URL:

```
http://www.example.com/index.php?option=com_akeeba&view=light
```

Just replace *`www.example.com`* with the actual domain name and path to your site!

Important

> The front-end backup feature option **must** be enabled from the Parameters button in the Control Panel. If it's not, you'll get an "Access Denied" message.

In the first page you get upon accessing this URL just select the backup profile from the drop down list and enter your secret word in the text box, then click on the Backup Now button. The backup process will proceed automatically, giving you a cut-down version of the backup progress information you would get from the backend backup mode. Akeeba Backup advances through the pages automatically, using Javascript.

6.2. System Restore Points

Note

This feature is only available in Akeeba Backup Professional, the for-a-fee edition of our software

Since Akeeba Backup 3.3.a1 we support an exciting new feature called System Restore Points. In order to let you understand what it is, let's start with a simple exercise.

Imagine that you have a site on which you've spent countless hours configuring, say, a web shop component. One day you see that there is an update available. It's a minor update, so you decide to not take a backup (it takes several minutes, you're too impatient to wait for it) and go ahead with the update. Unfortunately, the update completely breaks your site. You try to re-install the previous version of your web shop component but, due to database changes, it no longer works. Your latest backup is from several weeks ago. You're stuck. You have to spend countless hours, all over again, losing sales in the meantime, to get your site working properly again.

Wouldn't it be very cool if Joomla! was able to backup the extension you're upgrading (all of its files and data) when you are upgrading it? Wouldn't it be very cool if you could just roll back to the previous state of the component, from that automatic backup, with a single click? It sounds like science fiction. No other CMS does that. It must be impossible to do, right? WRONG! We present you our System Restore Point feature which does that and is available even in the free of charge Core release of our software. And it's fully compatible with Joomla! 1.5 and later versions, out of the box!

How does it work?

All you have to do is to enable the "System - System Restore Points" plugin which is installed with Akeeba Backup 3.3.a1 or later. By default, the plugin is automatically enabled when you install Akeeba Backup. This plugin allows us to intercept your interaction with Joomla!'s Extension Installer, providing our enhanced version without modifying your Joomla! core files.

All you have to do is install a component upgrade, just like you always did. Our enhanced extensions installer will see that and before Joomla! installs it, Akeeba Backup will take a backup of the extension files and database contents. After that, the original Joomla! extensions installer will take care of the extension's installation. So simple!

What if you don't want to take a System Restore Point? That's very simple as well. Just click on the Back to regular installer link on the bottom of the page to deactivate the System Restore Point temporarily, or unpublish the plugin to deactivate System Restore Points permanently.

How do I restore a System Restore Point?

Just go to Akeeba Backup, Administer Backup Files. You will see two links below the toolbar, Backups and Restore Points. Just click on Restore Points to see a list of all restore points. Select the one you want and click on Roll Back. That's all! Please read the next few paragraphs to understand the pitfalls.

If you want to reclaim free space on your host, just select the restore points which are no longer relevant and click on Delete.

Where are restore points stored?

System Restore Point backup archives are always stored in the Output Directory of the default backup profile (profile #1). By default, that is `administrator/components/com_akeeba/backup`. You can change it by editing the default profile's configuration. All restore points are named `restore-point-*.jpa` to make it easier for you to find them with, say, an FTP client.

How can I make my extension compatible with System Restore Points?

All you have to do is to add a small snippet of XML inside your extension's XML manifest. We provide up-to-date documentation for developers in a dedicated page on our site [https://www.akeebabackup.com/documentation/item/1127-system-restore-points.html]. If you get stuck, do not hesitate to contact us, as instructed on the end of that page.

The System Restore Points feature does not allow me to install a component / plugin / module / template. Now what?

Not all extensions are compatible with the System Restore Points feature of Akeeba Backup. Some of them might fail to install at all when you're using SRP. In this case, you have two options:

1. Temporarily disable SRP. In the extensions installer page, towards the bottom, you will see a link which reads "Back to the standard installer". Click on it. The page reloads and the bottom line with the Akeeba Backup logo is no longer there. Now retry installing your extension; it should work. If not, proceed to the next option.

2. Completely disable SRP. Go to Extensions, Plugin Manager and find the System - System Restore Points plugin. Disable it by clicking on the green checkmark (Joomla! 1.5) or green hollow disk (Joomla! 1.6 and later) so that it turns red. This completely disables Akeeba Backup's SRP feature until you enable back the plugin.

I restored a System Restore Point and my component / plugin / module / template is still broken!

As you read above, not all extensions are fully compatible with Akeeba Backup's System Restore Point feature. The following problems, outside our control, may arise:

- **Database tables not backed up**. Akeeba Backup expects a specific naming convention for database table. For example, if you have com_foobar, it expects that its tables are named jos_foobar_something, where jos_ is your site's prefix and something is the last part of the table's name. Some components, however, do not follow that convention. For example, VirtueMart is called com_virtumart and its tables follow the jos_vm_something convention. Unless the extension's developer or us (as in the case of VirtueMart!) have provided an SRP integration file, Akeeba Backup's SRP feature will NOT back up the component's tables and restoring the SRP will pretty much make no difference, despite Akeeba Backup reporting that it was restored successfully. Unless Joomla! enforces a strict table naming standard, you can pretty much be sure that this will happen. The solution is to ALWAYS have a tested backup of your site and ALWAYS try extension upgrades on a dev or local copy of your site.

- **Related extensions not backed up**. Many components rely on numerous plugins and modules to provide their functionality. Major components like K2, Tienda, VirtueMart, even Akeeba Backup itself, follow this approach. Unless its developer or us have provided an SRP integration file, Akeeba Backup doesn't know about this necessary related extensions, doesn't back them up and -of course- does not restore them. Due to that, even after an SRP restoration your component may still be broken! Unless Joomla! enforces a way to positively link related extensions to the component, you can pretty much be sure that this will happen. The solution is to ALWAYS have a tested backup of your site and ALWAYS try extension upgrades on a dev or local copy of your site.

- **Added files are not removed**. This may sound a little crazy, but it can be a huge problem. If the newer version of the component added files which were not present in the previous, backed up, version it is very possible that they will cause a problem. This depends on how the component works. Unfortunately, the only workaround is to uninstall the newer version, reinstall the old one and then restore your SRP backup.

Please note that SRP is a more or less experimental technology. We are trying to provide a feature that Joomla! wasn't designed to be capable of. As a result, this feature is prone to breakage. While we have tried our best to support the major components out of the box, we can't really support everything under the sun (not with 8,000 Joomla! extensions listed in the JED and growing). Do not rely solely on SRPs for the good health of your site. We recommend to ALWAYS take a full site backup prior to the installation / uninstallation / upgrade of any extension on your site and to ALWAYS test your backups. An untested backup is not a backup! Our Quick Start Guide provides important information regarding the ways to test your backups.

I have Restore Points taken with Akeeba Backup Core 3.3.4 or earlier. How do I restore them?

The System Restore Points feature was removed from the free of charge (Core) version of our software as of Akeeba Backup Core 3.3.5. However, restoring your System Restore Points is still possible, albeit manually.

- Download the SRP backup. It's a .jpa file whose name starts with `restorepoint-` and is located in the default output directory; for most users this is `administrator/components/com_akeeba/backup`
- Extract it locally using Akeeba eXtract Wizard
- Copy all folders EXCEPT the `sql` folder to your site's root, overwriting existing files.
- Open the files in the `sql` folder with a text editor. Search and replace #__ with your site's database table name prefix (usually it's jos_).
- Restore those files to your site's database using phpMyAdmin

Chapter 4. Miscellaneous Extensions (Modules, Plugins)

1. Akeeba Backup Notification Module

The "Akeeba Backup Notification Module" is an administrator module that installs an icon which notifies you of the backup status. It's mission is rather simple: it checks the latest backup record and if it's a failed backup or if it was taken a long time ago (configurable) it tells you that the backup is out of date. Clicking on the icon takes you directly to the Backup Now page of Akeeba Backup.

In order to configure the module's behaviour, just go to your Module Manager and click on the Administrator link (Joomla! 1.5) or click on the Site drop-down and select Administrator (Joomla! 1.6). Find the "Akeeba Backup Notification Module" entry from the list and click on it. The available options are:

- **Enable warning icon** to show the backup is out of date icon (otherwise it's always just a "Backup Now" icon without a warning sign)
- **Warn on failed backups**. When enabled, if the last backup is marked as failed, the icon will be a warning sign that reminds you to take a new backup.
- **Stale backup time, in hours**. If the last successful backup (in any profile) was taken more than this many hours ago, the warning icon will appear.

Please note that the icon does not look for a specific backup type (profile). It just checks the last backup record, no matter which profile or backup method was used.

2. The plugins powering the One Click Update feature

Note

This feature is only available in Akeeba Backup Professional, the for-a-fee edition of our software

Akeeba Backup 3.3.a1 and later comes with two very important plugins, System - One Click Actions and System - Akeeba Update Check. When both are enabled, Akeeba Backup will periodically check for new versions of itself without having you to log in to your site's back-end; it will perform those checks as long as your site receives about ten visits every day at minimum.

When a new version is detected, it will send an email to all Super Administrators on your site notifying you of the fact. But we go one step further than simply notifying you of the availability of the new version. Clicking on the link found in the update notification email you are automatically logged in to your site and forwarded to the Akeeba Backup's Live Update page, which starts installing the new version automatically (the link is valid only for 24 hours since the email was sent and can only be used *once*). So, basically, you click on a link and Akeeba Backup updates itself. One click updates are no longer science fiction!

This feature is available in both Akeeba Backup Core and Akeeba Backup Professional and is fully compatible with Joomla! 1.5 and 1.6. The only prerequisite is that your site supports Akeeba Backup's Live Update feature. You can check this by visiting Akeeba Backup's Control Panel page. If it says that you already have the latest version or that an update is available, your server supports Live Update. If it says that "Live Update is not supported" then the one-click update will not work.

Wow! That's awesome! I am a developer and would like to do the same thing for my components. Is it possible?

Yes! It's all distributed under the GPLv3 and can be reused with any component/module/plugin/template using the same license. For starters, you can dissect the two plugins. It's very easy to figure out how they work. In fact, it's so darn simple that will make you wonder why this wasn't in use for decades already. If you have questions, contact us through our site's Contact Us page or by posting on our forum and we will help you. That's the spirit of Free and Open Source Software: spreading knowledge.

Chapter 5. Restoring backups

1. Restoration and troubleshooting instructions

How do I restore my backups?

We have replaced this chapter with the corresponding chapter [https://www.akeebabackup.com/documentation/quick-start-guide/restoring-backups.html] in our Quick Start Guide. Alternatively, you can try watching our Video Tutorials [https://www.akeebabackup.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.

Troubleshooting non-functional restored sites

Please refer to our Troubleshooting Wizard's section on solving post-restoration issues [https://www.akeebabackup.com/documentation/troubleshooter/post-restoration.html]. Please note that all of them have nothing to do with Akeeba Backup, but can be attributed either to some server configuration mismatch or a pesky setting in some component, plugin, module or template.

2. Unorthodox: the emergency restoration procedure

Warning

THIS IS NOT THE REGULAR RESTORATION PROCEDURE.

I will say it again.

THIS IS ****NOT**** HOW YOU ARE SUPPOSED TO RESTORE BACKUPS!!!!!

You must follow these instructions ONLY if the restoration script which is included inside the backup archive, under the installation directory (Akeeba Backup Installer) is not working on your host and you really, REALLY are in a BIG hurry to get your site up and running.

And I will say it once more.

THIS IS NOT HOW YOU ARE SUPPOSED TO RESTORE BACKUP ARCHIVES UNDER NORMAL CIRCUMSTANCES.

For normal restoration instructions, please take a look in our Quick Start Guide [https://www.akeebabackup.com/documentation/quick-start-guide/restoring-backups.html].

Note

These instructions are meant to be first read before disaster strikes. Therefore, a fair amount of humour has been used throughout. If you try to read it after disaster struck you will naturally find the humorous parts inappropriate, or even offensive. Rest assured that this is because you are under a huge amount of stress. As soon as you'll have finished following the instructions herein, you will be able to re-read this document with a light heart and enjoy the humorous puns as they were intended.

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.

If the archive is of the JPA type, you'll have to use Akeeba eXtract Wizard, available without charge from our website.

If you have a ZIP package, there are a couple of gotchas. If you are working on a Linux machine, unzip will work just fine. If you're on Windows and under certain configuration circumstances on the server you took the backup on, you might not be able to extract it with WinZIP, WinRAR, 7-Zip or other archiver software. So you'll have to use Akeeba eXtract Wizard available for free from our website. This is a GUI utility which allows direct extraction of backup archives on your Windows™ PC. It is possible to run it under other operating systems, such as Mac OS X™ and Linux™, using DarWINE and WINE respectively. Please refer to the Akeeba eXtract Wizard documentation, available on-line on our site, for more information on using it.

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, `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 `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 MySQL 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. Use either of those tools - or any other of your liking - to restore your database.

If the restoration gets stuck with SQL errors on some CREATE TABLE command, it seems that you are restoring to a server with an older MySQL version than the one you took the backup from. In this case, if you have still access to the original site, you can perform a new Akeeba Backup backup with the database compatibility mode set to MySQL 4 and start over. You did read the User Guide section on configuration options, right?

If you don't have access to the original site... Oh, this is gonna be such a long night. In a nutshell, you have two options: a) Edit all of the CREATE TABLE commands, eliminating everything between the last parenthesis and the semi-colon of each command. b) Set up a MySQL 5 enabled local server (for example, XAMPP, WAMP, LAMPP, MAMP, depending on your operating system), restore the site in there, take a backup with the database compatibility mode set to MySQL 4 and start over.

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 either mysql or mysqli (notice the extra i in the end). If unsure, your best bet is mysql.
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 `http://www.example.com/mysite/`, you have to locate the line starting with `var $live_site` and change it to become:

```
var $live_site = "http://www.example.com/mysite";
```

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!

Chapter 6. Step by step guides

Even though the previous chapters provide a good reference, they assume that you know what you're doing. Many times, especially when you are a novice user, just the number of options can be intimidating. We are perfectly aware of that, hence this section. It is designed to get you up to speed with performing complex operations or creating advanced setups for your backup operation needs. It is not meant to be a thorough reference; if you have questions about how each of the individual settings work, you should refer to the appropriate section of the other chapters in this User's Guide.

1. Backing up your site to a cloud storage service

1.1. Introduction

For most of us, our websites are a key element to our business. Either being the business itself, or acting as the storefront to the Internet, they provide a significant added value. The last thing any web site owner want is to see their site defaced, damaged or even lost. Dangers lurk everywhere. From a simple human error in site administration to malicious activity and from hardware failure to natural disasters, no web server is the bulletproof vault we'd like it to be.

While nobody expects a catastrophe to hit his site, a good deal of precaution is required. It's pretty much the same rationale as in wearing a seatbelt while driving; you don't expect to crash, but if you do you most certainly want to evade the incident unharmed. The web site equivalent to a safety belt is none other than backup.

Web site backup comes with its own set of limitations and pitfalls. If you trust your web host for backup you might find your expectations fall short. Most hosts take daily backups – if any at all –on a secondary hard disk on the same server or, even worse, on a secondary partition of the same hard disk. If the server goes down due to a hardware fault, so does your backup. A few enlightened hosts also take backups on remote storage, for example NAS arrays. Even they do so on rather sparse intervals, for example twice per week. This means that on a complete catastrophe you will most assuredly lose a fair amount of data.

The solution is simple in concept. Take your own backups and store them on a cloud storage service, like Amazon S3 or even DropBox. Taking your own backups means that you get to decide which data and how often has to be backed up, making sure that the crucial, regularly updated information routinely ends up in a backup archive. Using a cloud storage device adds a strong data safety clause to your procedure, while keeping costs low. Cloud storage is designed to be redundant and reliable, boasting a negligible risk of data corruption or data loss. Combined with its incredibly low cost (or even no cost for very low storage requirements!), it is reasonably attractive to businesses of all sizes: from hobbyists and sole proprietorships up to large corporations and government agencies.

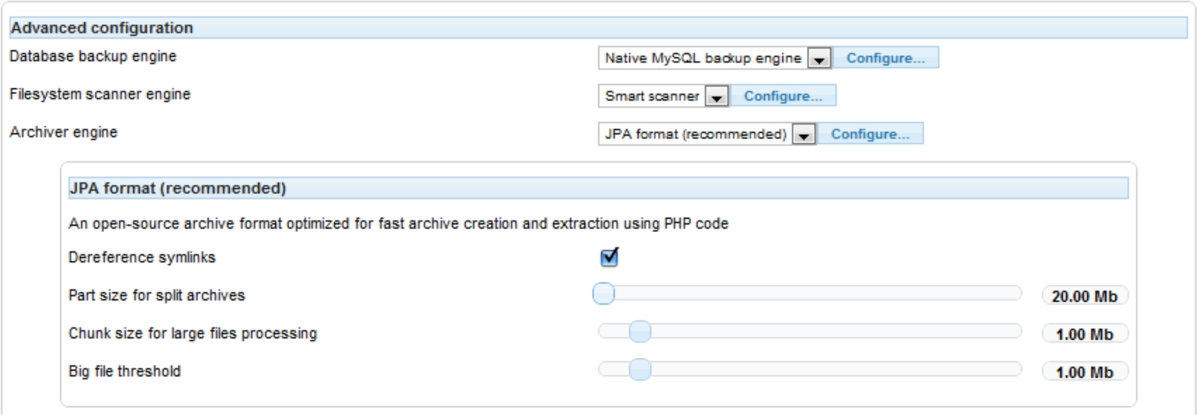
But how can you implement this seemingly Utopian data protection scheme on your Joomla!™ site today, with the lowest possible cost? Enter Akeeba Backup Professional. The Professional edition sports significant features added on top of those offered to our free of charge Akeeba Backup Core edition (formerly known as JoomlaPack). One of those features we are going to use to accomplish our objective: transferring backup archives to cloud storage.

This section describes how to set up your site to store its backup archives to either Amazon S3 or DropBox. More cloud storage providers will be added in the future. The setup always follows the same principle, no matter which cloud storage you want to use. Read along and you'll pick up the idea really fast.

1.2. Basic configuration

The most essential step is to download and install the Akeeba Backup Professional component to your site. In order to do that, you'll have to subscribe to the Professional download service first. After that, simply follow the step-by-step installation instructions. You can try to take your first, non-cloud backup to make sure that everything's in working order. If something goes wrong, just post as much information you can on our support forum. We will get back to you in 24-48 hours. Usually, we'll reply in much less time, even on weekends and bank holidays.

Provided that you are in your Joomla!™ administrator back-end, just click on the Components, Akeeba Backup menu item. In the Control Panel page which loads, click on the Configuration button. This will bring you to a quite lengthy configuration page. Locate the Archiver Engine setting in the pane titled Advanced Configuration. Click the button labeled Configure… next to it in order for the detailed settings to display. You should get something like this:



Advanced configuration

Database backup engine: Native MySQL backup engine

Filesystem scanner engine: Smart scanner

Archiver engine: JPA format (recommended)

JPA format (recommended)

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

Dereference symlinks ☑

Part size for split archives: 20.00 Mb

Chunk size for large files processing: 1.00 Mb

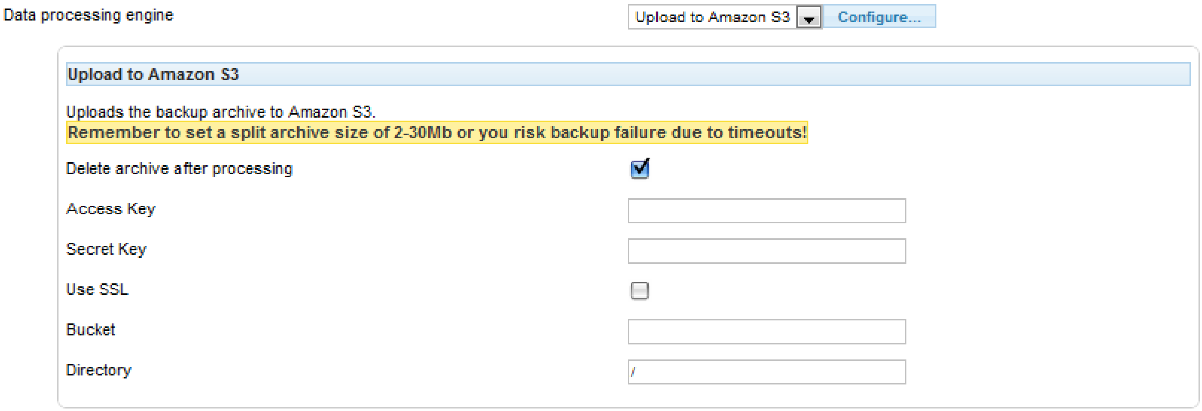
Big file threshold: 1.00 Mb

We will have to change just one option: Part size for archive splitting. Select the "Custom..." option and type in 20 in the text box that appears to the right of the drop-down. This setting will chunk our backup archive into multiple files, the maximum size of each one being the value of this setting.

You might wonder why we need to do that. PHP always has a strict time limit, i.e. the maximum time a PHP page 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. The time limit and the bandwidth are beyond our control, so we can change the only parameter we can touch in order to avoid timeouts: the file size. Akeeba Backup Professional is smart enough to upload each part of the backup archive on a PHP page load of each own, so as to avoid timing out.

1.3. Using Amazon S3

If you've followed the instructions so far, it's Amazon S3 setup time! In the Configuration page, right below the Archiver Engine setting there's another setting called Data processing engine. Use the drop-down to select the Upload to Amazon S3 value and then click the button titled Configure… next to it. You should now see something like this:



Data processing engine: Upload to Amazon S3

Upload to Amazon S3

Uploads the backup archive to Amazon S3.
Remember to set a split archive size of 2-30Mb or you risk backup failure due to timeouts!

Delete archive after processing ☑

Access Key:

Secret Key:

Use SSL ☐

Bucket:

Directory: /

In this configuration details pane you have to enter your Amazon S3 Access key and Private key. You should have been given those keys during your signup to Amazon S3. If you haven't noted them down, just sign in to your Amazon

S3 account and go to the Security Credentials page. You will find this information in the Access Keys section. Back to our configuration page, checking the Use SSL setting will make your data transfer over a secure, encrypted connection at the price of taking a little longer to process. I recommend turning it on anyway. The Bucket setting defines the Amazon S3 bucket you are going to use to store your backup into. The Directory defines a directory inside the bucket where you want the backup files stored and must have been already created.

Do note that as per S3 standards the path separator for the directory is the forward slash. For example, writing `first_level\second_level` is wrong, whereas `first_level/second_level` is the correct form. I recommend using one bucket for nothing but site backups, with one directory per site or subdomain you intend to backup. If you want to use a first-level directory, just type in its name without a trailing or leading forward slash.

Tip

Should you need a visual interface for creating and managing Amazon S3 buckets, I highly recommend using S3Fox Organizer [http://www.s3fox.net/], a free plug-in for the FireFox web browser.

Enough said. Click on Save to store the changed settings. Back to the Akeeba Backup Professional Control Panel, click on the Backup Now icon. It's backup time!

Ignore any warning about the Default output directory in use. We don't need to care about it; our backup archives will end up securely stored on Amazon S3 anyway. Just click on the big Backup Now! button and sit back. The upload to Amazon S3 takes place in the final step of the process, titled Finalizing the backup process. If during this stage you observe that the timeout bar – the bar which looks like a progress bar – fills all the way to the right, you have a timeout error. This means that you have to go back to the configuration and lower the Part size for archive splitting setting.

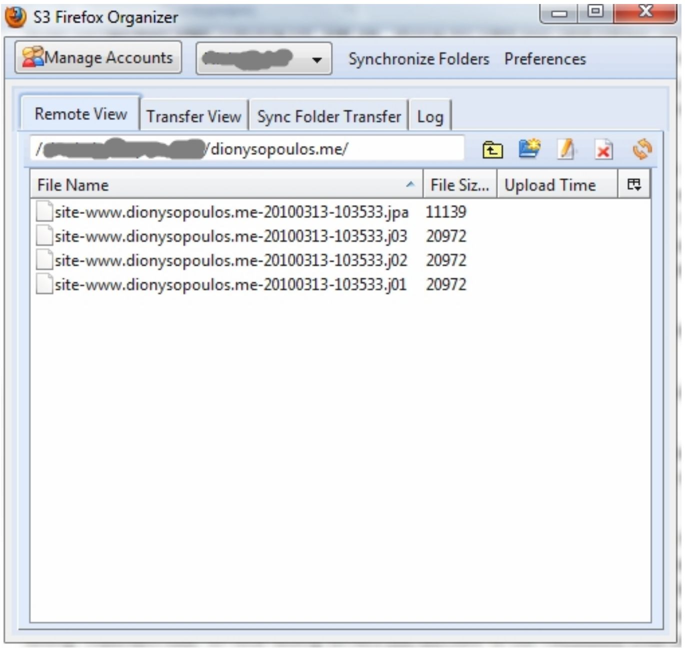
Important

On local testing servers you will have to use ridiculously small part sizes, in the area of 1-5Mb, as the xDSL consumer Internet service has a much more limited bandwidth than your host.

Warning

If you get a RequestTimeout warning while Akeeba Backup is trying to upload your backup archive to the cloud, you MUST go to the Configuration engine and enable the "Disable multipart uploads" option of the S3 engine. If you don't do that, the upload will not work. You will also have to use a relatively small part size for archive splitting, around 10-20Mb (depends on the host, your mileage may vary).

As you can see, I just backed up my personal blog to Amazon S3:



/[redacted]/dionysopoulos.me/

File Name	File Siz...	Upload Time
site-www.dionysopoulos.me-20100313-103533.jpa	11139	
site-www.dionysopoulos.me-20100313-103533.j03	20972	
site-www.dionysopoulos.me-20100313-103533.j02	20972	
site-www.dionysopoulos.me-20100313-103533.j01	20972	

1.3.1. Making your backups accessible by other Amazon S3 accounts

Often, you may find yourself in need to have one write-only user to upload the backup archives to Amazon S3 for security reasons. In that case, you need to make the backups accessible for read/write by other accounts. You can do so with Amazon IAM Policies. There are two ways to do that, with the console or with a graphical environment.

The following methods were shared with us by members of our community. We have not tried them thoroughly, but they all seem to work without any known issues.

Using the command-line tools

1. Install and configure the Command Line Interface (CLI)
2. Create a Group
3. Give Group Access to S3 Bucket
4. Create User and Add to Group
5. Create Login Profile and Create Keys
6. Test Access

These steps are detailed here: http://newtech.about.com/od/cloudcomputing/a/How-To-Setup-Amazon-Identity-And-Access-Management-Iam-With-S3-And-Cloudfront.htm

> **Note**
>
> When you're following the "Install & configure the Command line" instructions in the above tutorial, make sure to also add this into your system path: %AWS_IAM_HOME%\bin It seems they left that step out.

Once the CLI is working, here are the commands to run (don't enter the lines with #Comments. Also enter them one at a time).

```
# Create the group
iam-groupcreate -g MYSITE-backup

# Create the user & add to the group
iam-usercreate -u MYSITE-backup -g MYSITE-backup

# Attach the policy to the group
iam-groupuploadpolicy -g MYSITE-backup -p MYSITE-backup -f L:\IAMCli-1.2.0\policy\MYSITE-b

# Get the credentials iam-useraddkey -u MYSITE-backup
```

In this example, we have created a bucket for all site backups. Within that bucket we have folders for each site. We can create credentials for each site and they can only access their subfolder. Also the credentials can only add backups. Backups can not be deleted or even downloaded. The only access the credential has is "PutObject" to upload the backup file. Here is the sample policy file (L:\IAMCli-1.2.0\policy\MYSITE-backup.txt):

```
{
  "Statement":[{
    "Sid":"XXXXXXXXXXXXXXX",
    "Action":["s3:PutObject" ],
    "Effect":"Allow",
    "Resource":"arn:aws:s3:::MYBUCKET/MYSITE/*"
  }]
}
```

You can generate your own policy file here: http://awspolicygen.s3.amazonaws.com/policygen.html

Using Amazon's graphical interface

Kudos to our user leolll for the following instructions.

Since Amazon Web Services now includes a web based IAM management interface, this may be a nice alternative:

1. Create bucket to store backups in.
2. Log into the AWS Management Console.
3. Click on the "IAM" tab.
4. Click Users under the Navigation section.
5. Click Create New Users.
6. Enter the name of the new user.
7. Copy & paste the credentials to a text editor.
8. Click on the newly created user.
9. Go to the user's Permissions tab.
10. Click Attach User Policy
11. Choose `Custom Policy`.
12. Enter the following Policy Document:

    ```
    {
    ```

```
      "Statement": [
      {
          "Action": [
              "s3:PutObject"
          ],
          "Effect": "Allow",
          "Resource": "arn:aws:s3:::YOURBUCKETNAMEHERE/*"
      }
      ]
  }
```

13.Click Apply Policy

That's it! Now you can use those S3 credentials in your Akeeba Backup profile.

Using a third party application

In this example, we will use Cloudberry S3 Explorer Pro which has an "Access Manager" function that make this process very easy. There is a 15 day free trial you can use to set this all up. The full version costs about $39.

You can create as many groups as you want and easily create policies for each group. Just create a group and policy for each subdirectory in your S3 bucket. Each subdirectory is supposed to contain backups of a single website. Then create a user to put in each group. Once that is done you can right click on the user and select "Manage Access Keys". That will give you the S3 Access keys you need to enter into your Akeeba Backup profile.

The only gotcha is that when you create the policy and are browsing for the bucket and directory to apply the "PutObject" rights to, it doesn't add the "/*" at the end that is needed to make this work. You have to specify the resource and then go back and edit it so you can add the slash and star.

Further thoughts

Giving a user only the PutObject privilege allows the user to upload backups to the bucket, but any remote quotas will fail, as the user is not allowed to delete any objects (files) in your S3 bucket. You can opt for a compromise between tight security and ease of use. If you give your user both the PutObject and DeleteObject privileges he will be able to upload backups (PutObject) and run quotas (DeleteObject) but not list or download backup archives. In other words, even in the unlikely event that an attacker gains complete access to your site's database *and* filesystem, recovers the encrypted contents of Akeeba Backup's configuration table and encryption key file, writes a script to decode the configuration, gets access to your S3 credentials and tries to use them, he won't be able to download backup archives or even use those S3 credentials with any graphical S3 tool.

1.4. Using DropBox

Under some circumstances using a for-a-fee cloud storage service may be beyond the budget of the client, as is usually the case with personal or very small business websites. DropBox offers an inexpensive storage service, giving out the first 2 Gb of storage for free. Moreover, they offer a desktop client application which synchronizes the files stored in the cloud with those stored locally on a specified directory. Within the scope of backup, this is a very desirable feature, as it allows for automatic redundant storage of the backup archives on the local PC (actually, on any number of local PCs!), without any manual intervention.

To this end, we decided to include a preliminary support for DropBox storage. We call this preliminary because there is no formal API published for DropBox yet. What we use is a workaround solution which transparently signs in the DropBox.com web site and submits each backup archive part to the file upload form located in there. This means that if DropBox decides to change the layout of their site, this solution might stop working - although we have strong reasons to believe that this is highly unlikely.

If you've followed the instructions so far, it's DropBox setup time! In the Configuration page, right below the Archiver Engine setting there's another setting called Data processing engine. Use the drop-down to select the Upload to DropBox value and then click the button titled Configure… next to it. You should now see something like this:

In this configuration details pane you have to enter your DropBox.com email and password. You should have been given those keys during your signup to DropBox.com. They are the same you use to sign in to your DropBox.com account. The Directory defines a directory inside your DropBox account where you want the backup files stored and must have been already created.

Do note that as per DropBox.com standards the path separator for the directory is the forward slash. For example, writing `first_level\second_level` is wrong, whereas `first_level/second_level` is the correct form. I recommend using one directory for nothing but site backups, with one subdirectory per site or subdomain you intend to backup. If you want to use a first-level directory, just type in its name without a trailing or leading forward slash.

Tip

If you have installed DropBox' desktop client application on your PC you can simply create the directory on your local DropBox directory (usually found under My Documents in Windows™ machines). The desktop client application will automatically synchronize the folders to your on-line account.

Enough said. Click on Save to store the changed settings. Back to the Akeeba Backup Professional Control Panel, click on the Backup Now icon. It's backup time!

Ignore any warning about the Default output directory in use. We don't need to care about it; our backup archives will end up securely stored on DropBox anyway. Just click on the big Backup Now! button and sit back. The upload to DropBox takes place in the final step of the process, titled Finalizing the backup process. If during this stage you observe that the timeout bar – the bar which looks like a progress bar – fills all the way to the right, you have a timeout error. This means that you have to go back to the configuration and lower the Part size for archive splitting setting.

Important

On local testing servers you will have to use ridiculously small part sizes, in the area of 1-5Mb, as the xDSL consumer Internet service has a much more limited bandwidth than your host.

1.5. Where to go from here?

Backing up your site to the cloud is the first step to backup autonomy and data safety. However, you still have to login to your site's back-end to take a cloud backup. This is suboptimal. What about when you are on the road for days, without reliable Internet connection? What about not wanting to go through this daily drill?

I am 100% behind you on this. I don't like routine either. You know, programmers are lazy and get bored easily.

With Akeeba Backup Professional you have three (that's not a typo, three) different options to automate your backup! Two of them are designed to utilize your host's CRON scheduling, i.e. your host's ability to run specific commands on his server, on a predefined schedule. This would mean that your backup is fully automated; you sleep at night, your site backs up itself.

You can read more about Akeeba Backup's scheduling options in the Automating your backup section of this User's Guide.

Overall, the Amazon S3 upload was our first, successful experiment in adding affordable, enterprise-grade qualities to full a site backup solution. Even though that's years ahead of the competition, we do not settle with it. Akeeba Backup has always been in very active development. Our desire to push the envelope is a core ingredient of the philosophy behind the software. As a result, S3 - and DropBox - was just the beginning. Our roadmap includes support for several options of taking the backup off your server. We will try to integrate practically all major storage facilities, as long as they have a publicized integration API. If you have a specific need not covered by our base software, just contact us. We listen carefully to the community feedback and we make the impossible happen. All that for a very low subscription fee to the Professional downloads service.

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.

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 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, it 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.

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. Due to the lack of a thorough ACL mechanism in Joomla! 1.0 and 1.5, we have decided to make the administrator (back end) of this component available by default to the Super Administrators only. This group of people already has infinite access to the access, making them the ideal candidate for backup operators. You can change this default behavior from the component's Parameters button in the Control Panel page.

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.

If you want to enhance the security of your site, we strongly advise you to use a commercial-grade ACL system, such as Dioscouri's JUGA or `CorePHP` Community ACL on top of Akeeba Backup's rudimentary access control and Joomla! 1.6's ACL system. Such ACL systems allow you to fine-tune the permission settings down to the user and component view level, if so required. Using such an ACL scheme you can create, for example, a backup operator user who has access to the Backup Now and configuration pages of Akeeba Backup, but not the Download function.

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, in the era of multi-MbPS xDSL Internet connections and scripting, 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. Security experts argue that storing backups within the potentially vulnerable system itself might be a security risk. It is possible that a malicious person could gain access via other means. Think of a simple scenario. You have an Administrator with a weak password a hacker eventually guesses. Now the hacker can log in to your site, but doesn't have access to the component. Despite that, you have installed a file administration component, such as eXtplorer, which allows administrators to browse the site's file system and download files. How long would it take before your site got compromised? Right. Not very long indeed!

The best approach is to use a directory which is outside your web server's root. By definition, this is not directly exposed to the web and is usually unavailable to file administration utilities.

If you are really paranoid about securing your site's backup files - like we are for our own sites! - you can use Akeeba Remote Control. Remote Control is a desktop application for Microsoft Windows™ which allows backing up your site from your desktop, with options to automatically downloading the backup archive and remove the server's copy of this file. Alternatively, you can use our backup file post-processing options, for example uploading all backup archives to Amazon S3 and removing your server copy.

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.

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 rations, 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.

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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.	• 0x00 for directories (instructs the client to recursively create the directory specified in Entity path data). • 0x01 for files (instructs the client to reconstruct the file specified in Entity path data)

	• 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.
Compression type, 1 byte.	• 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. • 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 filemtime().

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.akeebabackup.com`

Updated to format version 1.1, fixed incorrect descriptions of header signatures

Appendix B. The JPS archive format, v.1.9

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 AES-128 in CBC mode
- 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 rations, and be secure. However it is not as error-tolerant as other archive formats.

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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.

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. 0X01 for version 1.9.
Minor version, 1 byte	Unsigned integer represented as single byte, holding the archive format minor version, e.g. 0X09 for version 1.9.

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 1.9 of the format it is always 0.

The total size of this header is 8 bytes, plus the size of the extra headers (if any).

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.
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

it 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 AES-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.	• 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. • 0x01 for files (instructs the client to reconstruct the file specified in Entity path data) • 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.
Compression type, 1 byte.	• 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. • 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.
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	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: • Binary dump of file contents or textual representation of the symlink's target, for CT=0x00 • Gzip compression output, without a trailing Adler32 checksum, for CT=0x01 • Bzip2 compression output, for CT=0x02

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.

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 Developers `http://www.akeebabackup.com`
Described version 1.9		

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