

JoomlaPack User Manual

for Version 1.0.4-a3



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Introduction

What is JoomlaPack

In broad terms, JoomlaPack is designed as a Joomla! component that can create a backup of your whole site (files and database) in the form of a single archive. In order to help you restore this, it also adds a slightly modified version of the standard Joomla! installer. All you have to do to restore your backup is follow the regular Joomla! installation procedure: unpack the archive, upload files, point your browser to the installation script, follow the installation screens and you're ready.

As an added bonus, you can restore the backup on *any* server, not only the one you got the backup from! JoomlaPack uses a MySQL-version neutral database backup technology. This enables you – for example – to take a backup on a MySQL 5 enabled host and restore it on a MySQL 3.23 enabled host. The possibilities for using this component are endless. Indicative usage might be:

- Backing up your site.
- Developing on a local server and then transferring a working site on the live server, instead of developing the site directly on the live server.
- Moving a site between web hosts.
- Creating reusable customized / localized Joomla! distributions.
- Creating “template sites” you can use to build the sites your clients pay you for.
- Creating an exact copy of your live site on your local development server to test an upgrade that you suspect might cause problems along the way.

Installation

Getting the component

The latest version of the component and the documentation is always available from the [official JoomlaPack site](#). Just take a look in the Downloads section.

Installing the component

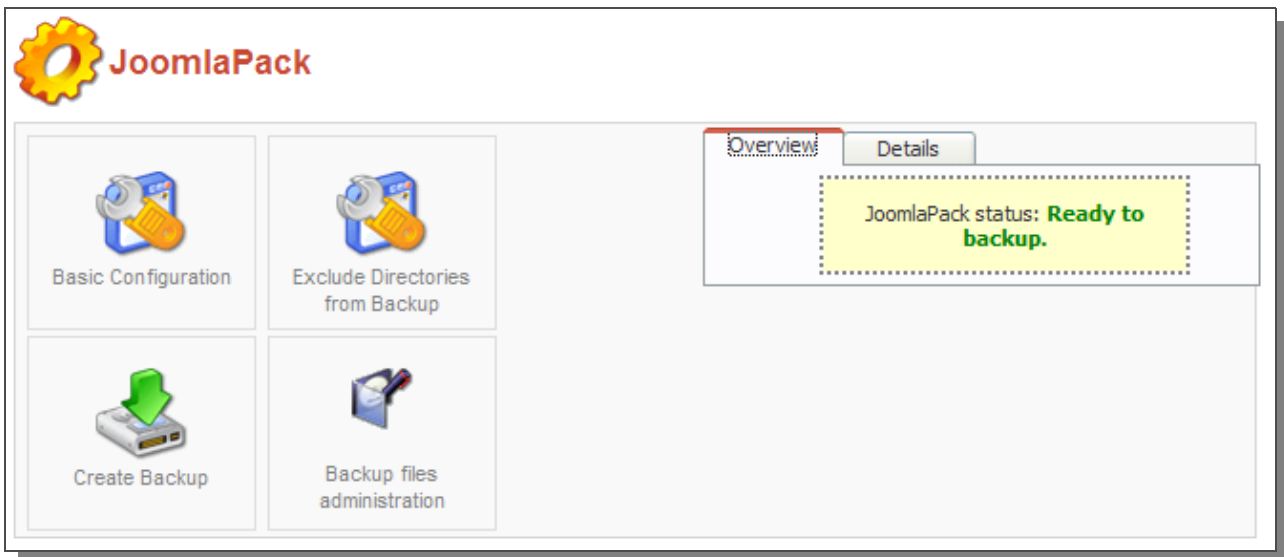
The installation of the component is no different than the installation of any other Joomla! component. In case you are not familiar with the procedure yet, the following is a quick summary of it.

After you have downloaded the component, log in as a Super Administrator in your website. From the top menu bar chose Installer ➤ Components. Click browse and locate the archive you have already downloaded. Then click on “Upload & Install”.

The component is available only to the Super Administrator group. This is a security measure, since the generated backup files contain everything in your site! For more information on security concerns and advice, please take a look at the ["Security concerns"](#) chapter in this document.

Using the component

The first page (control panel)



The first page that loads when you click on Components ➤ JoomlaPack 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.

On the right hand position of the page you can see two tabs. The first, named “overview” will show if your configuration is in working order (green text) or there are errors (red text). The tab named “Details” give you the specifics of each configuration value monitored. There are currently two things being monitored:

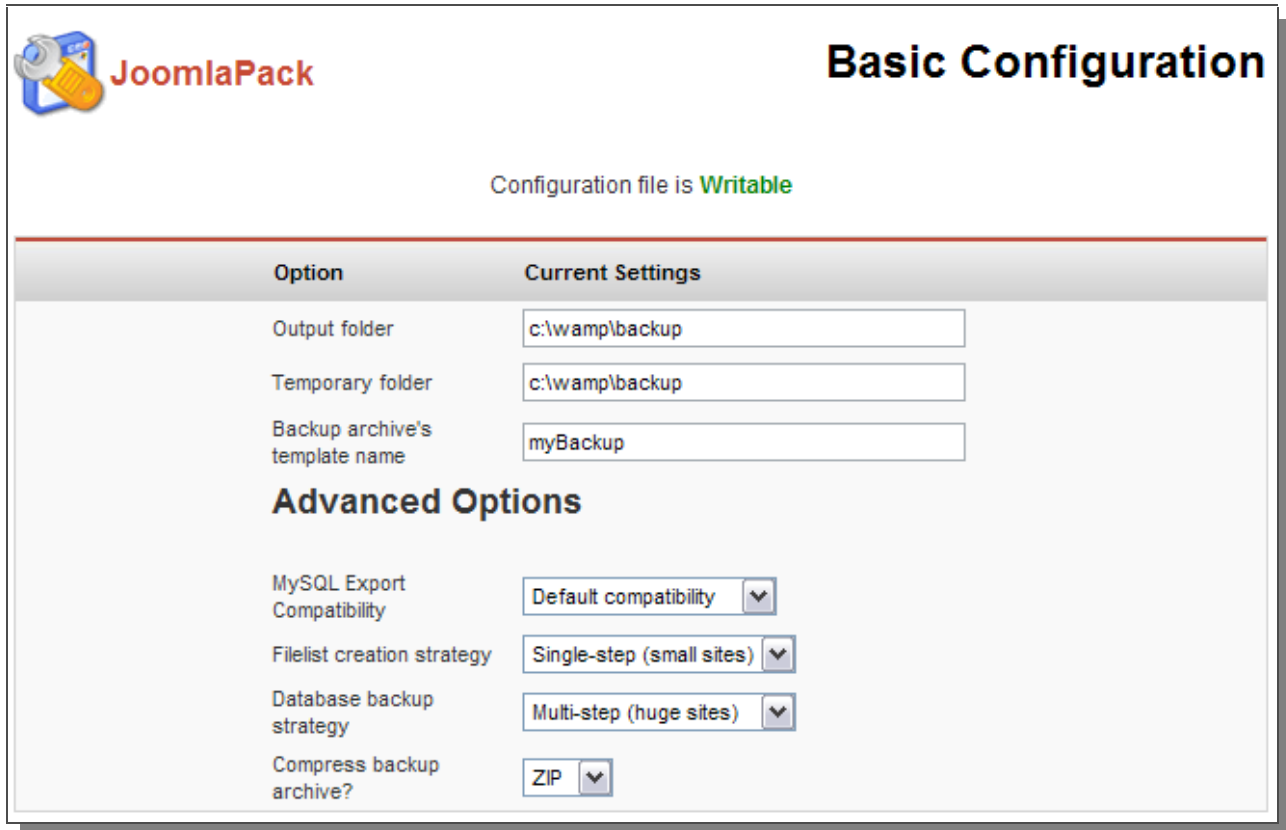
- **Temporary Folder.** It is where JoomlaPack stores some temporary files (currently a snapshot of the installer and the backup of your database) while it is packing your site. It needs to be writable for the application to work correctly.
- **Output Folder.** It is where your site backup will be stored and – obviously – needs to be writable to be able to backup your site.

The left navigation panel allows access to the different functions of the component:

- **Basic Configuration** allows you to edit the configuration options that control the backup process.
- **Exclude Directories from Backup** allows you to select whole directories that will be excluded from the backup. This is very useful if your host keeps access statistics in the web server's root (a very common practice these days).
- **Create Backup** does all the magic, as it navigates to the screen where the actual backup process occurs.

- **Backup files administration** lets you administer your backup files (download, delete) through a handy web interface.

Configuration



JoomlaPack **Basic Configuration**

Configuration file is **Writable**

Option	Current Settings
Output folder	c:\wamp\backup
Temporary folder	c:\wamp\backup
Backup archive's template name	myBackup

Advanced Options

MySQL Export Compatibility	Default compatibility ▼
Filelist creation strategy	Single-step (small sites) ▼
Database backup strategy	Multi-step (huge sites) ▼
Compress backup archive?	ZIP ▼

On the top of the page you can see if the configuration file is writeable. The configuration file exists under the com_jpack root installation directory (/administrator/component/com_jpack) and is named jpack.config.php . It – obviously – needs to be writeable for changes in this page to take effect.

The first set of available options is:

1. **Output folder.** This is where you want your site backup to be stored. By default it is set to be a sub-folder of the JoomlaPack installation, inside the default temporary directory, namely /administrator/components/com_jpack/temp (relative to your site's root). Keep in mind that you have to enter an absolute path, meaning that if your site's root is /var/www/html/my-joomla, the aforementioned directory must be entered as /var/www/html/myjoomla/administrator/components/com_jpack/temp.
2. **Temporary folder.** This is where you want the component to store some temporary files during the site packing operation. By default it is set to be a sub-folder of the JoomlaPack installation, namely /administrator/components/com_jpack/temp (relative to your site's root). Keep in mind that you have to enter an absolute path, meaning that if your site's root is /var/www/html/myjoomla, the aforementioned directory must be entered as /var/www/html/myjoomla/administrator/components/com_jpack/temp.

3. **Backup archive's template name.** The name that will be used for the backup file, but without an extension. The template name can contain any of the following “macros” in any order and quantity. The macros are expanded only at the time the backup procedure starts (file list creation) and can be used to make the backup name much less obvious to malicious users. Keep in mind that “macro” names are case sensitive!
 1. [DATE] – It is replaced by the date at the moment the backup starts in the YYYYMMDD format. e.g. 20070127 for January 27th 2007.
 2. [TIME] – It is replaced by the time at the moment the backup starts in the HHMMSS format, e.g. 231753 for 11:17:53 p.m.
 3. [HOST] – It is replaced by the host domain name, e.g. www.example.com

On the “Advanced Options” section you can find a set of options that define the backup behavior of JoomlaPack.

1. **MySQL Export Compatibility.** In the event that the host on which you will restore your backup is different than the host which you are taking the backup from, this option might come in handy as it sets the target version the exported MySQL snapshot will be compatible with. This option has only effect to newer versions of MySQL (I think 4.1 at least), otherwise it will be silently ignored. The available options are:
 1. **Default compatibility** (default). JoomlaPack will not try to take corrective actions on the exported backup. If you're running on MySQL 5.0 or later and then try to restore on an older version of MySQL your site will probably be rendered inoperative.
 2. **MySQL 4 Compatibility.** JoomlaPack will try to get a backup of your database that is compatible at least with version 4.0 of MySQL. Specifically, it disregards extended MySQL table options (i.e. character set, type of MySQL engine, etc) so that earlier version of MySQL do not choke on the file when creating the tables.
2. **File list creation strategy.** This option can accept two settings and determines how JoomlaPack works to find out which files it has to compress.
 1. **Single-step (small sites).** JoomlaPack will try to get a list of your files in one go, but this can make it stick sometimes. It is recommended only for very small sites. File list creation freezes will happen when you have a big number of files (no matter the total size) and/or a low PHP `max_execution_time` combined with PHP Safe Mode enabled or a setting in your server software that ultimately limits the execution of script code. Should a freeze occur, you should use the *multi-step* option.
 2. **Multi-step (huge sites).** With this setting, JoomlaPack will create the file list one directory at a time. This is substantially slower than the option above, but will work regardless of PHP Safe Mode and `max_execution_time` settings. Exception: if you have folders with thousands of files, you might again experience freezes. If so, send me an email.
3. **Database backup strategy.** This option can accept two settings and determines how JoomlaPack works to take a snapshot of your database.
 1. **Single-step (small sites).** JoomlaPack will try to backup your database in one go, but this can make it stick sometimes. It is recommended only for very small sites or sites with a

reasonably small database size. Database dump freezes will happen when you have a big database and/or a low PHP `max_execution_time` combined with PHP Safe Mode enabled or a setting in your server software that ultimately limits the execution of script code. Should a freeze occur, you should use the *multi-step* option.

2. **Multi-step (huge sites).** With this setting, JoomlaPack will dump the database one table at a time (in fact a maximum of 100 records at a time). This is substantially slower than the option above, but will work regardless of PHP Safe Mode and `max_execution_time` settings. As an added bonus, you get to see the name of the table being backed up.
4. **Compress backup archive.** When set to **Yes**, JoomlaPack will create a gzip compressed tar (.tar.gz) archive. Because the compression happens in-memory, there's a high chance JoomlaPack freezes if PHP can't allocate enough memory, something that will most probably happen with sites larger than 20Mb. Selecting the **No** option which forces JoomlaPack not to compress the archive, thus creating a .tar archive. There is also the option to create a **ZIP** archive. Each file is compressed individually, but it requires ample temporary storage space for large files.

Important! Please make sure you take a look at the “[Security concerns](#)” chapter for a more in-depth discussion of security issues regarding the JoomlaPack configuration.

Directory Exclusion Filters

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 analyzer 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. This is where the Directory Exclusion Filters fit the bill.

Directory Exclusion Filters (DEF for short) is a utility function that lets you select which directories to exclude from the backup. All you have to do is filter out a directory and you can rest assured that this directory and its subdirectories will be missing from your backup. The whole process is done in an explorer-like interface; point, click, done.

To activate the interface to Directory Exclusion Filters, click on “Exclude Directories from Backup” from the component's start page. You'll get a page like the following:

Exclude ?	Directory
<input checked="" type="checkbox"/>	HUGE
<input type="checkbox"/>	administrator
<input type="checkbox"/>	cache
<input type="checkbox"/>	components
<input type="checkbox"/>	dmdocuments
<input type="checkbox"/>	editor
<input type="checkbox"/>	help
<input type="checkbox"/>	images
<input type="checkbox"/>	includes
<input type="checkbox"/>	language
<input type="checkbox"/>	mambots
<input type="checkbox"/>	media
<input type="checkbox"/>	modules
<input type="checkbox"/>	templates

In order to exclude a directory, just tick (by clicking) the check box next to the directory's name. The directory name becomes black and can't be clicked. This means that the filter is active for that directory and it will be excluded from the next backup.

In order to remove the filter, just remove the tick (by clicking) the check box next to the directory's name. The directory name becomes a link that can be clicked. This means that the filter is removed for that directory and it will be included in the next backup.

When you click on a directory name, the page displays its contents. You will only see the names of the directories, not the files (since this is a directory exclusion filter interface after all). Very simple, but hopefully effective.

Packing your site



Illustration 1: Ready to backup

When you start working with the “Create Backup” screen, you are welcomed by a short informative message that prompts you to hit the button to start packing (backing up) your site. The whole process is automated by means of AJAX (Javascript). It's recommended to use either Firefox or Internet Explorer, otherwise it might not work at all. The rest of the screens you can see below are produced without any further user interaction.

Important! Do not navigate away from this page or close your browser window until the packing is complete. Otherwise, the backup process will be interrupted and no backup file will be created (or you'll get stuck with an incomplete backup file).

Whenever JoomlaPack has reasons to believe that the process has been halted, it will issue a timeout warning, informing you of the next steps you should take. Always try different configuration options before submitting a bug report.

Important! Some hosts produce warning messages that interfere with JoomlaPack's backup procedure. In order to alleviate this problem, please go to Joomla!'s Global Configuration. Under the “Server” tab set the “Error Reporting” to “None” and save the configuration. Keep in mind, however, that this setting disables error reporting in Joomla!, so if you are a developer you will most probably have to switch it back on at some point.

At first, JoomlaPack will scan your Joomla! installation root and gather the names and sizes of all the files and folders it contains. During that process it stores them in a database and groups them to “fragments”. Each fragment is at most 1 Mb, with the exception of larger files which are each a fragment of its own each. This is necessary in order for you to not experience server timeouts during the packing process.

At the end of this process it will also unpack the snapshot of the modified Joomla! installation files that is shipped with JoomlaPack into the temporary folder you have specified in the configuration screen.

Depending on the “**File List Creation Strategy**” setting, you'll see one of the two versions of this step.

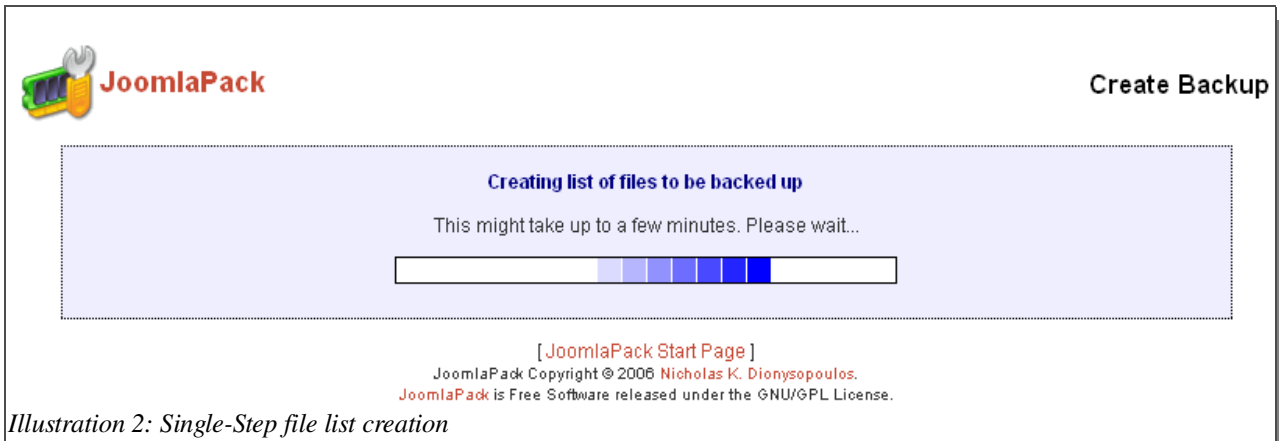


Illustration 2: Single-Step file list creation

If you selected “**Single-Step (small sites)**”, at this stage you will see a blue XP-ish progress bar moving on your screen. Depending from the size of your site and the speed of your connection it will take anywhere from 10 seconds to over than 2 minutes before you proceed to the next screen.

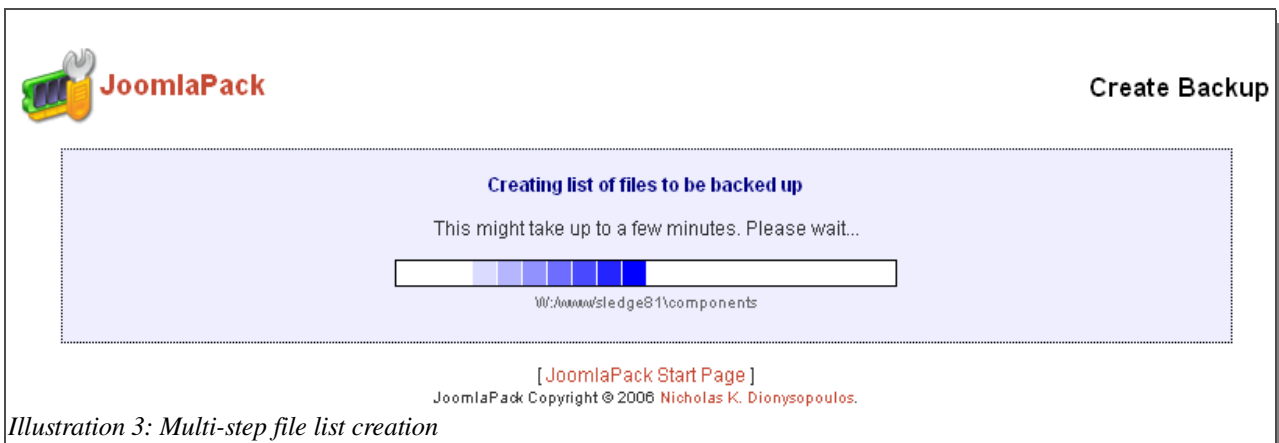


Illustration 3: Multi-step file list creation

If you selected “**Multi-Step (huge sites)**”, at this stage you will see a blue XP-ish progress bar moving on your screen. Below this, on gray letters, you can see the name of the folder that is being processed at the moment. Depending from the size of the folder and the speed of your server it will take anywhere from 10 seconds to over than 2 minutes before each folder is processed.

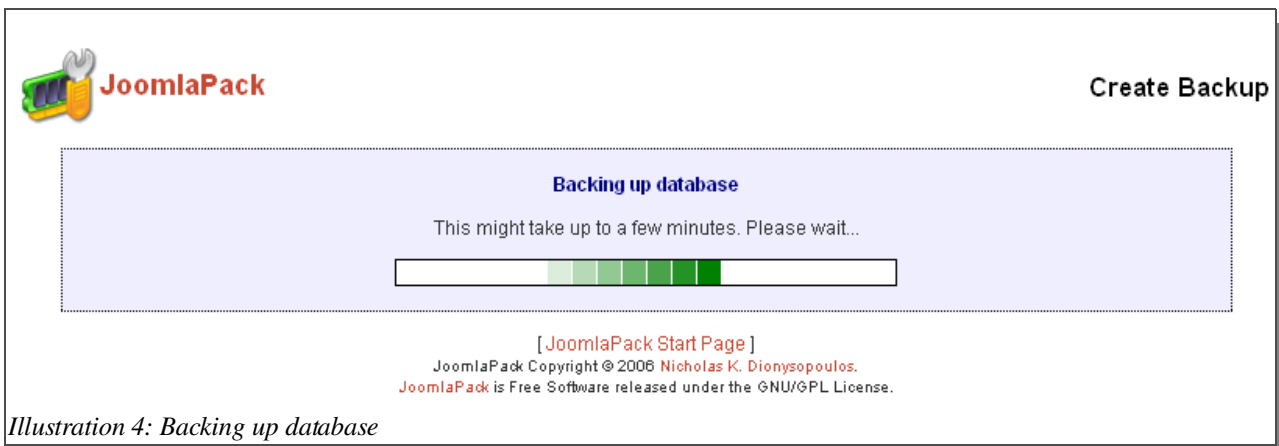


Illustration 4: Backing up database

At this point the progress bar turns green and JoomlaPack saves a snapshot of your site's database. The snapshot is created into the temporary folder you have specified in the configuration screen. Depending on the size of your database it will take anywhere from 30 seconds to 2 minutes before you proceed to the next screen.

If you have enabled the “**Multi-Step (huge sites)**” database backup strategy option, while this step is running you are also going to see in gray letters the name of the database table being backed up below the progress bar.

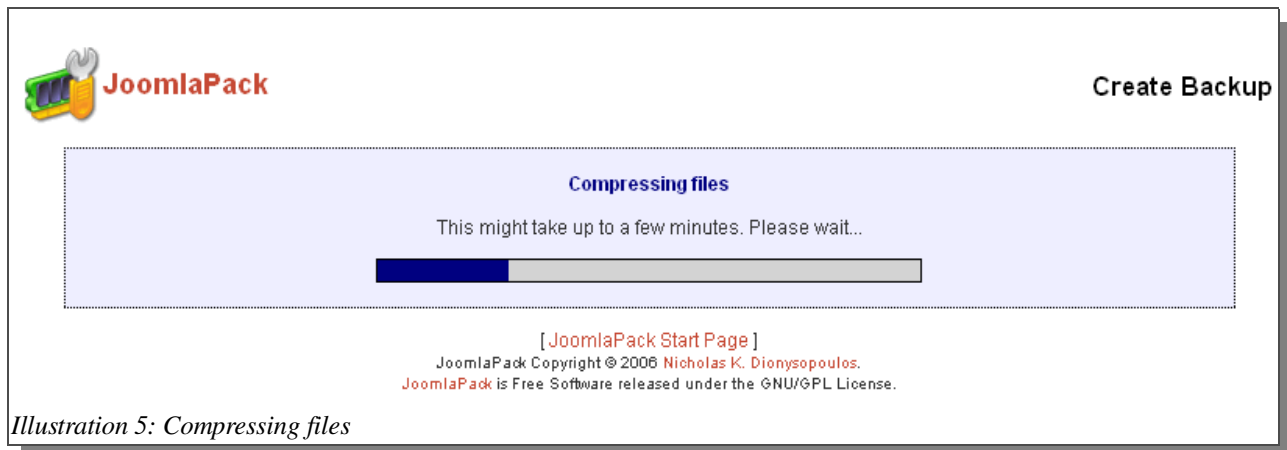


Illustration 5: Compressing files

When you reach this step you will see a progress bar that slowly starts to fill up as each “fragment” of your site is packed into the archive. The time required to pack each fragment is roughly 10 seconds, but if you have some large files it will take substantially more time. When the bar fills to 100% you will see that it will backtrack a little and then fill again to 100%. This is the point where the installation files and the database backup are attached to the backup archive of your site and is a normal behavior.

Server timeouts can occur because of various reasons. First, PHP has a configuration value for the maximum amount of time a script is allowed to run. It usually defaults to 30 seconds and counts only the time PHP commands are executing. This means that the part of the actual compression step (which technically happens outside the PHP code) does not count toward that limit. Normally, you shouldn't suffer timeouts because of this reason, unless `max_execution_time` is set to a low value (less than 10 seconds) and PHP Safe Mode is enabled.

The second reason, is the maximum amount of time your web server (Apache, IIS, ...) allows for a page to be retrieved. This is usually set to two minutes (120 seconds). If you have a really big file (or a really huge site) and a slow server, it may be possible that the server can't compress the file within that time frame, so the web server will time out and halt the packing process. Also, there's the possibility that PHP tries to allocate more memory – in order to compress your files – than the host allows it, so it just hangs. The only actual remedy for this kind of timeouts is to set the “Compression” option to “Off” and retry.

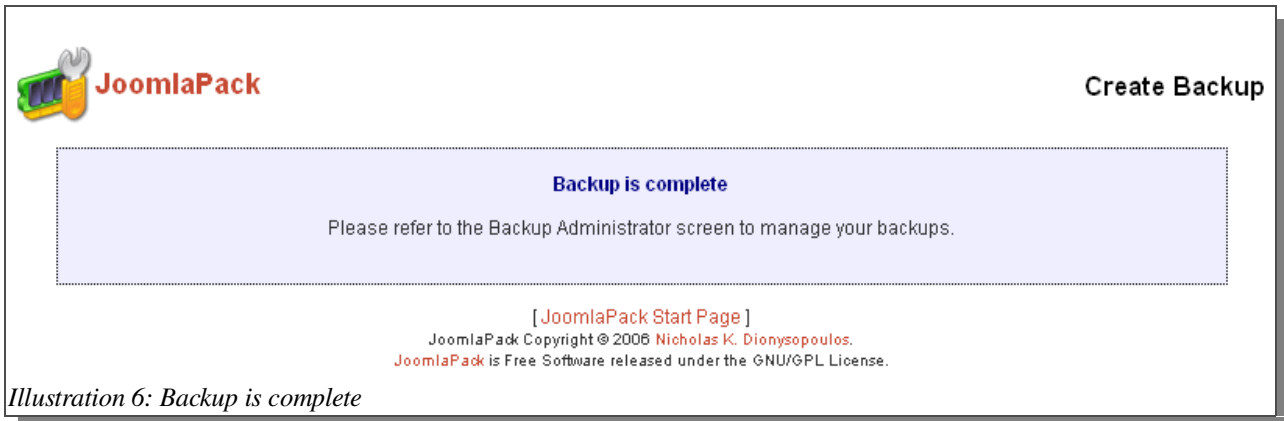


Illustration 6: Backup is complete

After the whole process is complete, JoomlaPack will clean up any temporary files it has created and empty the temporary database tables it uses. By that point, your site backup file has been created. You can now navigate out of the packing page and possibly into the “Backup File Administrator” screen.

Backup File Administration

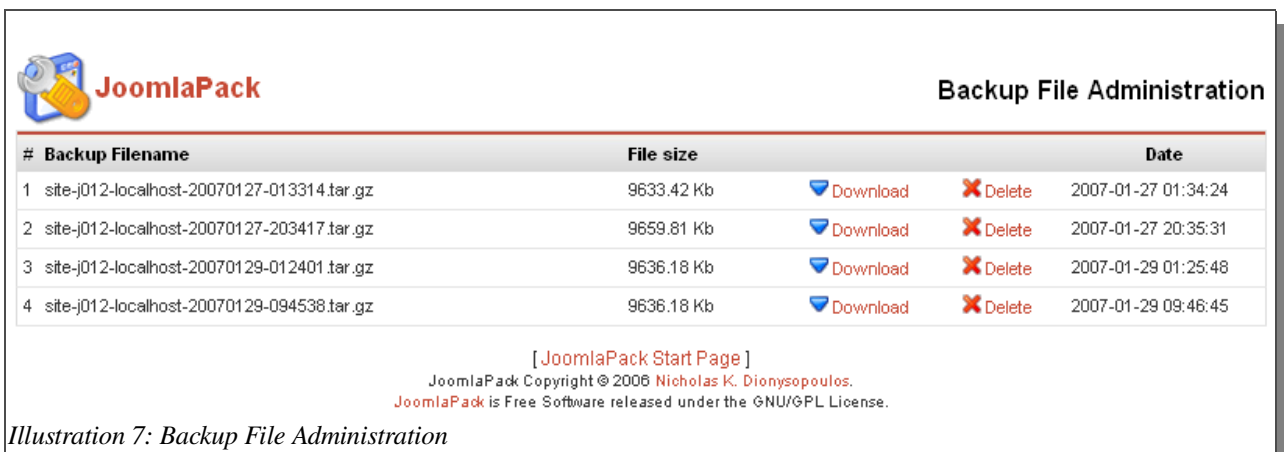


Illustration 7: Backup File Administration

The “Backup File Administration” screen is the centralized location from where you can see all of the backup files that reside in the output folder and perform two basic administration tasks: download them to your local computer or delete them.

What you get as soon as you enter this screen is a list of files. From left to right you see the following columns:

- Backup filename. The name of the backup file (backup files have an extension of .tar or .tar.gz)
- File size. The size of the backup file in kilobytes (1 Kb = 1024 bytes).
- Download. Lets you download the file. Please note that the only thing this selection does is to channel the backup file through PHP in order that your browser can get it.
- Delete. Lets you delete the backup file, provided that you have not changed its access permissions. JoomlaPack will ask you to confirm this choice before actually deleting the file.

- Date. The date and time the backup file was created. It appears in the format YYYY-MM-DD HH:MM:SS.

Administering and restoring backups

Restoring backups

Currently, there is no integrated backup restoration option. In order to restore your backups you'll have to use the same procedure you use for installing a fresh copy of Joomla!. Below I outline this procedure.

Using an automated unpacking tool to transfer the backup

TODO

Transferring the backup contents manually

At first, you should have downloaded the archive that JoomlaPack generated somewhere on your local computer. Unpack that file (Windows users can use 7-Zip or WinRAR to do that) on some directory.

Following, you'll have to transfer all of the files to your web host, for instance via FTP.

Restoring the backup (installation)

Assuming that your site's domain is www.example.com , point your browser to <http://www.example.com/installation/index.php> .

Important! Do not navigate to the site's root, i.e. <http://www.example.com> as it will simply give you an error instead of the installation screen! Many users delete the configuration.php from their server root in order to make <http://www.example.com> point to the installation page. **This is wrong!** If you do that, any customized behavior in configuration.php will be lost!

Follow the installation screens. If you are restoring to the same host as the one you got your backup from, you simply have to click on “Next” at every screen. Otherwise, make sure the database parameters are correct, or enter the correct values.

Important! In order to correctly restore your site you need to select “Install sample content” checkbox. The other check boxes are optional, but it's a good idea nevertheless to delete old tables and keep a copy of them.

Known “bug” If you have a huge database, the process might halt. This is a problem with the stock Joomla! installer. Future JoomlaPack versions will include a modified installer that overcomes this problem.

At the last step where you have to enter an administrator password, the password entered has no effect. JoomlaPack retains the original password through the use of the database backup.

Known “bug” Setting a new administrator password has no effect. This is because the Super Administrator record already exists in the database. Future JoomlaPack versions will include a modified installer that overcomes this problem.

Finally, using your FTP client or any other preferred means, remove the installation folder. You are ready!

Appendices

Frequently asked questions / Problem solving

Q. When trying to pack the site, even before generating a file list, I instantly get a timeout warning. Can you help me?

A. Before starting the packing process, JoomlaPack runs a “ping” test to ensure AJAX is working. If this test fails, it can be because a number of problems went wrong:

- PHP warnings mess AJAX result parsing. In this case, try setting Joomla!'s **Error Reporting** to **None** (this option is located in Joomla!'s **General Configuration** under the **Server** tab).
- Your browser does not support (or only partial supports) AJAX. Confirmed working browsers are Internet Explorer 6 & 7, Firefox 1.5 & 2+. If you use Konqueror, Safari or any other KHTML-powered browser, you will get errors during file list creation (this is due to the way those browsers parse Javascript). No other browsers have been tested. In any case, try using one of the supported browsers.
- Some other error has occurred. Send in a bug report to get help.

Q. When trying to pack the site, JoomlaPack issues a timeout warning in the first step (generating file list). Is it broken?

A. Please see the discussion in the [relevant section](#) of this manual. Also note that the answer to the above question also applies here.

Q. There are files missing from the backup! Why?

A. In the rare event that you have files with permission settings that do not enable your web server to read them, JoomlaPack can't access them and therefore can't pack them either. This might happen if you upload your files with FTP and don't change the permissions manually. In this case, you should also experience malfunctions on your Joomla! site prior to using JoomlaPack. Sometimes, you can have directories with wrong permissions and files with correct permissions, which makes things a little more complicated. As a general rule of thumb, the minimum permissions to be on the safe side are:

- **Directories** : Readable by user, group and other, executable by user, group and other
- **Files** : Readable by user, group and other

The execution bit for directories might also be labeled “browse” permission by some software.

Also, you'll have missing files when the backup fails.

Q. I think I have found a serious bug. What should I do?

A. First, check out the Support Forum at <http://forge.joomla.org/sf/discussion/do/listTopics/projects.-joomlapack/discussion.support> . If you do not find a relevant entry in the forum, then start a new thread. I will answer to you as soon as I can (usually, it takes 1-3 days, at most a week).

Q. Will this component work with my Joomla! 1.5 site?

A. This version is not designed nor tested to be Joomla! 1.5 compatible. It might work with legacy mode enabled, however usage in Joomla! 1.5 is not supported. Future versions will be compatible, though. When Joomla! 1.5 enters the release candidate status, every care will be taken to ensure JoomlaPack is fully compatible with that (and gradually drop Joomla! 1.0.x support).

Security concerns

As every solution that can have access to your site as a whole, JoomlaPack can arouse some security concerns.

The first major concern is about keeping its functions accessing your site's file and database available only to authorized persons. To this end I made JoomlaPack accessible only to the Super Administrators. This is the group of people that already have infinite access to the site, making it a perfect candidate for people that can perform backups.

The other concern is where the backup files go and who can access them. By default, JoomlaPack uses a non secure place to store files, a folder within your site's folder hierarchy. It is the folder `/administrator/components/com_jpack/temp`, which is also used for other temporary files. This configuration makes it very easy for a malicious person to point his browser to the location of this folder and try downloading backup files. There are two courses of action a site administrator could possibly follow:

- 1) secure access to the folder, or
- 2) use a folder outside the web server's root

Both methods are outlined later on this chapter.

Another security risk is what happens in the case of an anomalous interruption of the packing process. If the process hangs while or any point after the creation of the database backup, it is possible that the temporary folder (by default located in `/administrator/components/com_jpack/temp`) contains SQL backups of your database. Since all the previous points about the output folder also stand true for the temporary directory, a malicious user could possibly download a copy of your database. Currently, there is no fail over method to clean up the temporary folder after a failed packing procedure. However, you could also use the aforementioned procedures for securing the output folder to also secure the temporary folder as well.

Securing access to the folder

In order to secure access to the folder, the site administrator should use the web server provided methods of user authentication for this folder. If you are using Apache and you are able to use `.htaccess` files, you could create an `.htaccess` file inside `/administrator/components/com_jpack/temp` with the following contents:

```
AuthType Basic
AuthName "Restricted Files"
# (Following line optional)
AuthBasicProvider file
AuthUserFile /path/to/your/passwords/file
Require user name_of_your_user
```

The drawback of this method is that you have to manually create the passwords file and store it somewhere outside your server's root, thus requiring a lot of expertise. More information on that subject is available at the [Apache documentation website](#).

Please note that most web hosts provide some kind of control panel that allows you to “password-protect” directories much more easily than you could by following the aforementioned procedure. In that case, you might choose to simply use the provided method to password protect `/administrator/components/com_jpack/temp`.

[Using a folder outside the web server's root](#)

The easiest and most fail-safe method is to use a folder outside the web server root. This method requires some knowledge on the directories used by your web server, so the following procedure is somewhat sketchy. The main idea is to create a folder somewhere outside the folder hierarchy used by your web server to serve files from and have JoomlaPack store its backups there.

Let's say you are using a Linux shared web host (a typical case for most people). When I FTP to my account, I can see various folders, one of which is `www`. Knowing that Joomla! located my site's root in `/home/webfarm2/mydomain/www`, I can figure out that folders in my account are located inside `/home/webfarm2/mydomain` and that only sub-folders of `www` are published to the web.

I create a folder named `backups` inside my account's root, so it won't be publicized on the web. I can also figure out that its path is `/home/webfarm2/mydomain/backups`. When I create this folder I pay great attention to the access rights. It seems that the folder I create belongs to user `mydomain`, but the server runs under the user `www`. So, I change the rights of “Other” users to read, write and execute. I go back to JoomlaPack configuration screen and change “Output folder” to `/home/webfarm2/mydomain/backups`. I check on the “Application Status Check” screen that the folder is indeed writable.

[The future of JoomlaPack](#)

The development of JoomlaPack is subject to the amount of free time I have. Lately, I have been too busy, but this doesn't mean I stopped developing JoomlaPack. It just takes longer to develop cool new features. The following is a list of features I am planning to implement in following versions.

- Alternative installers that can be included in the backup archive.
- Alternative installer script that avoids timeouts experienced with Joomla!'s default installer.
- Try to make a cron compatible procedure to automate backups (this requires major refactoring of the backup engine).
- Option to clean up temporary directory in case the packing process fails.
- Options for choosing which DB tables to include in the backup.

[Support and how to help the development of JoomlaPack](#)

If you want to help the development of JoomlaPack there are various ways you can do that. First of all, you can try to use it in any configuration you can get your hands on and report any bugs you find along the way, or even send me a patch with the fix, if you're a PHP programmer.

Then, you could translate JoomlaPack to your native language. I can only speak Greek and English fluently (I also speak French and German but not fluently), so I can't translate it in every language myself.

If you are a PHP programmer and have come up with some idea to extend JoomlaPack you can share your thoughts (and possibly code) with me.

Donate; a secure donation button exists towards the bottom of the first page of the component. Donating a small amount of money will help me continue developing this component. It is optional and you only have to do it if you really feel like it. Keep in mind that commercial backup components cost around 50€, this one's for free.

If you can do none of the above, but have comments, wishes and feature requests you can send me an email. I take seriously into account what people think of the application and how they want it to evolve. Open Source software is community driven; you can all make a difference!

So, for comments / questions / feature requests / wishes / bug fixes / other code to contribute, please send me an email at nikosdion@gmail.com.

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