

JoomlaPack Remote 2009.4 User's Guide

The definitive reference

Nicholas Dionysopoulos

JoomlaPack Remote 2009.4 User's Guide: The definitive reference

Nicholas Dionysopoulos

Published July 2009

Copyright (c) 2008-2009 JoomlaPack Developers. Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

Table of Contents

1. Introduction	1
What is JoomlaPack Remote?	1
Features	1
Credits	2
About the documentation	2
2. Quick Results	3
Preparing your site for use with JoomlaPack Remote	3
Joomla! 1.5.x sites	3
Joomla! 1.0.x sites	4
Information for expert users	4
Adding a new site to Remote	4
Backing up your site	11
The notification area during the backup process	11
The notification area during the backup file download process	12
Simultaneous multiple site backup	12
Using Remote as a portable application	12
Tips on how scheduling works	13
3. JoomlaPack Remote reference	14
Installing the JoomlaPack Remote desktop application	14
Introduction	14
Getting and installing	14
Upgrading	14
The main window	15
The options dialog	16
The site definition editor dialog	17
Manage backup files	24
Viewing the log	24
Keyboard shortcuts	24
Installing SSL support	24
A. GNU Free Documentation License	25

Chapter 1. Introduction

What is JoomlaPack Remote?

JoomlaPack Remote is the evolution of full site backup. It literally harnesses the full power of the JoomlaPack web site backup component from inside a desktop application. It enables you to backup your site and download the backup file locally with a single click; or assign a fixed schedule for performing this automatically, as long as your PC is turned on, connected on the Internet and running JoomlaPack Remote.

JoomlaPack Remote is a utility which remains compatible with both current branches of the JoomlaPack component: the 2.x branch for Joomla! 1.5.x sites and the 1.2.x branch for Joomla! 1.0.x sites. Therefore it is able to operate with virtually every single Joomla! powered web site. JoomlaPack Remote works by utilizing the proven web technologies of XML-RPC (web services) and FTP. On Joomla! 1.5.x sites you have to install the JoomlaPack component and a special XML-RPC plugin. On Joomla! 1.0.x sites it is sufficient to install the JoomlaPack 1.2.3 component and enable the front-end backup feature.

My objective when designing and building this tool was to provide a reliable “setup and forget” means of backing up your site. I've even made it so that it can run off a portable hard disk or a USB pen drive, effectively acting as a portable application, which can be optionally integrated with the PortableApps.com launcher.

JoomlaPack Remote is able to work with multiple sites simultaneously. If you are a web developer, or a professional web master, administering dozens of sites, JoomlaPack Remote allows you to back them all up at once, automatically. This increases your productivity and enhances your site's security. There will be, quite simply, no excuse to not taking a backup; you only have to set this tool up only once, then let it do the dirty job of backing up and downloading the backup all be itself, be it for one site or for hundreds of them.

This utility is provided free of charge, under the terms of the GNU General Public License version 3 or, at your option, any later version. I sincerely value your Freedom to use software the way you need to use it, free from software patents and other crippling “features” which are commonly found in software nowadays. I only ask you, if you find it useful, to consider donating a small amount of money, clicking the secure donation button found in the About dialogue. This provides me with a strong incentive to keep on developing this software, while keeping it Free – and giving it away for free, too.

Keep in mind that Remote is still considered “young” software. As such, it is very possible that it has some bugs and it certainly can be improved upon. You are kindly requested to report any problems you have and post your feature requests on our support forum. If you like this software and want to translate it in your native language, please do so and share your translation with us by posting it in the relevant section of our support forum.

Features

JoomlaPack Remote offers an array of useful features, including:

- High-performance, native application with an intuitive interface
- Remotely backs up your sites without having to start a web browser, using XML-RPC calls
- Manual single-click backup or scheduled backup supported
- Optionally remove server copy of the backup file upon download completion
- Remote administration of backup files, allows you to view a list of all backups performed on the site and download any one of them, if its file is available on the server.

- Supports plain HTTP and SSL-encrypted HTTP (HTTPS) connections
- Independent backup and download queues to avoid bandwidth hogging and/or server clogging
- It can download backup archives through FTP / FTP over SSL, using passive or active mode
- Supports most HTTP and FTP proxies
- Ability to run as a portable application
- It can hide away from view, iconified on the system tray
- Runs on leading Windows™ versions and most operating systems supported by WINE, as long as they run on x86 architecture machines, including Intel-based Apple Macintosh™ machines! WINE 1.1 is recommended for smooth, trouble free operation.

Credits

JoomlaPack Remote is being developed using Ebracadero Technologies Turbo Delphi 2006 Explorer™. We would like to give the proper credit to the following libraries, code fragments and utilities used in JoomlaPack Remote:

- Brian Cryer's Browse For Folder code, used whenever you see a button to browse for a folder
- Delphi XML-RPC library for communication with the XML-RPC plug-in
- Internet Direct (Indy.Sockets) library, version 10, for the HTTP and FTP connectivity features
- OpenSSL for HTTPS communications
- SQLite for storing configuration data
- Inno Setup is used for producing the executable installer
- DryIcon's Blue Velvet icon set

I would like to give a special “thank you” to the entire JoomlaPack Ahead Testing Squad (JATS) for their patience, relentless testing and positive feedback during the internal testing phase. Without them JoomlaPack Remote would still be in my drawing board.

About the documentation

This Definitive Guide consists of two chapters. The first chapter, entitled “Quick Results”, is a task-based approach to the software. It lets you get up to speed really fast, sacrificing full coverage of the entire application. Its purpose is to give you quick solutions for common tasks.

The second chapter, entitled “User's Reference”, is a thorough coverage of the software, one window and dialogue at a time. Even though it covers the entire feature set of JoomlaPack Remote and mentions solutions to common problems, it is virtually impossible to be your primary source of information for performing common tasks.

The two chapters are designed to be read in parallel. You can start reading the first chapter and should you have questions – or run into problems – you can refer to the relevant section of the second chapter.

The entire document is available on-line, on www.joomlapack.net and in PDF format for off-line viewing. We strongly recommend using the former format, as it is more frequently updated.

Chapter 2. Quick Results

Preparing your site for use with JoomlaPack Remote

The absolute pre-requisite for using JoomlaPack Remote on your site is to have a fully functional installation of the JoomlaPack component. If you have not installed JoomlaPack yet, please visit our downloads page and download the version which is fit to your site. Make sure that JoomlaPack is able to take backups before proceeding with any preparation for use with JoomlaPack Remote!

Joomla! 1.5.x sites

Before using the desktop application it is absolutely necessary to install and setup JoomlaPack 2.0 (or later) component and the plg_jpreremote plug-in on your site. This section only covers the installation and setup of the plug-in.

You can always get the latest version of the plug-in from our File Release System on JoomlaCode.org. Check the JoomlaPack Native Tools package releases. The plug-in is offered as an installable ZIP file.

Important

Always use at least the version of the plug-in released with the version of JoomlaPack Remote you are using. Newer versions of the plug-in fix outstanding bugs and implement new features required by the desktop application. Using a newer version of the plug-in than that of the desktop application does no harm; the plug-in is designed to be backwards-compatible with the desktop application.

Warning

You are **not** supposed to extract the ZIP file you have downloaded! Joomla! will take care of that.

In order to install it on your Joomla!™ site you have to follow the standard Joomla! extension installation procedure first. In short, you have to log in to the administrator back end and select the Extensions - Install/Uninstall menu item. In the Upload Package File area, please browse to the downloaded ZIP file and then click on the Upload File & Install button.

The next step is to enable the web services on your site, if you have not already done so. Select the Site - Global Configuration menu item from the Joomla! administrator back end menu. Click on the System tab; on the upper-left box entitled System Settings locate the Enable Web Services options and set it to Yes. Then, click on the Save button on the top tool bar.

Finally, we need to enable the plug-in itself. In order to do so, you have to select the Extensions - Plugin manager menu item from the administrator back end menu. To make life easier for you, select the `xmlrpc` option from the Select Type drop-down list on the top right corner of this page. Locate the JoomlaPack Remoting XMLRPC services for JoomlaPack 2.x item and make sure there is a green check mark on the Enabled column. If it is a red circle with a white X in it, just click on it and it will turn into a green check mark. You are done!

Warning

Make sure that the JoomlaPack component is properly configured and able to take backups already. In any other case, attempting to use the plug-in may result in errors. For your

convenience, please do not seek support regarding the plug-in if you are unable to perform backups from the component. You will only make it more difficult for us to identify the source of your problem, delaying finding the proper solution for it.

Upgrading the plug-in

Upgrading is by no means different than a normal installation. You have to follow the exact same procedure, but the last two steps are normally not necessary; the web services should be already enabled and the plug-in already published by default.

Tip

You do not need to uninstall the old version when upgrading sites running on Joomla! 1.5.5 or later. The plug-in installation package utilizes the upgrade mode, introduced in Joomla! 1.5.5.

Joomla! 1.0.x sites

The procedure for Joomla! 1.0.x site is much simpler. The first thing you need to do is to install the JoomlaPack component, version 1.2.3 or later. Then, go to JoomlaPack's Configuration page and enable the front-end backup feature. That's all there is to it. The XML-RPC services server is an integral part of the component and you just enabled it.

Important

Older versions of the component (i.e. 1.2.2 and earlier) can't work with JoomlaPack Remote, at all.

Information for expert users

The XML-RPC server URL for the two branches of the JoomlaPack component are:

- **JoomlaPack 1.2.x:** `http://www.example.com/index.php?option=com_joomlapack&act=xmlrpc&no_html=1`
- **JoomlaPack 2.x:** `http://www.example.com/xmlrpc/index.php`

You must replace `www.example.com` with the real URL of your site.

In the former case, the XML-RPC communications layer is provided by JoomlaPack, using a local copy of the XML-RPC library inside the component's directory. In the latter case, the XML-RPC communications layer is provided by Joomla! itself, using its own copy of the library. The plug-in acts as a bridge between the XML-RPC layer and JoomlaPack's backup core.

Adding a new site to Remote

Adding a new site to Remote can be performed either using a wizard interface, or the advanced configuration interface. By default, clicking on the Add button in the toolbar, the Sites, Add menu item or pressing **CTRL-N** on your keyboard opens up the wizard interface.

Tip

You can switch to the Expert Mode at any time, clicking the Expert mode button on the lower left corner of this window. This will show the Site Definition Editor dialog, documented in the User's Guide.

Add a New Site

Connect to your site

Please enter the address to your site. This lets JoomlaPack Remote determine the address of the XML-RPC service so that it can communicate with the JoomlaPack XML-RPC Remoting Services plugin.

The full site address (URL) is needed.
For example, "http://www.example.com/joomla" or "https://www.example.com/joomla"

Site's Name: Demo site to be backed up

Address (URL): http://dionysopoulos.sledge81.web

Proxy...

Please also enter the login credentials for a Joomla! user authorized to use the JoomlaPack component, for example a Super Administrator

Username: admin

Password: ****

Expert Mode Next Back Cancel

In the first page of the wizard, you have to enter the connection information to your website:

- **Site's name.** Enter a descriptive name for your site. This isn't used in any way by JoomlaPack Remote. We highly recommend using something descriptive to help you distinguish between multiple site's.
- **Address (URL).** Enter the full URL, including the protocol, to your web site. For example, if your domain is `www.example.com`, you have installed Joomla! under the directory `portal` and want to connect using the SSL-secured HTTP (HTTPS) protocol, you must enter `https://www.example.com/portal`. You can optionally enter a non-standard XML-RPC server address directly. For example, if your example site runs on Joomla! 1.5.x and we had renamed the `xmlrpc` Joomla! directory to `foobar`, we should enter here `http://www.example.com/foobar/index.php`.

Remember that when you hit the Next button, JoomlaPack Remote will try to figure out the XML-RPC server address by testing the following possibilities:

- The URL you have entered is the XML-RPC server
- Appending `xmlrpc` to the URL you entered
- Appending `xmlrpc/index.php` to the URL you entered (for servers which don't support `index.php` as the default directory document)
- Appending `index.php?option=com_joomlapack&act=xmlrpc&no_html=1` to the URL you entered, in case it's a Joomla! 1.0.x site

This gives you maximum flexibility in virtually all possible server configurations.

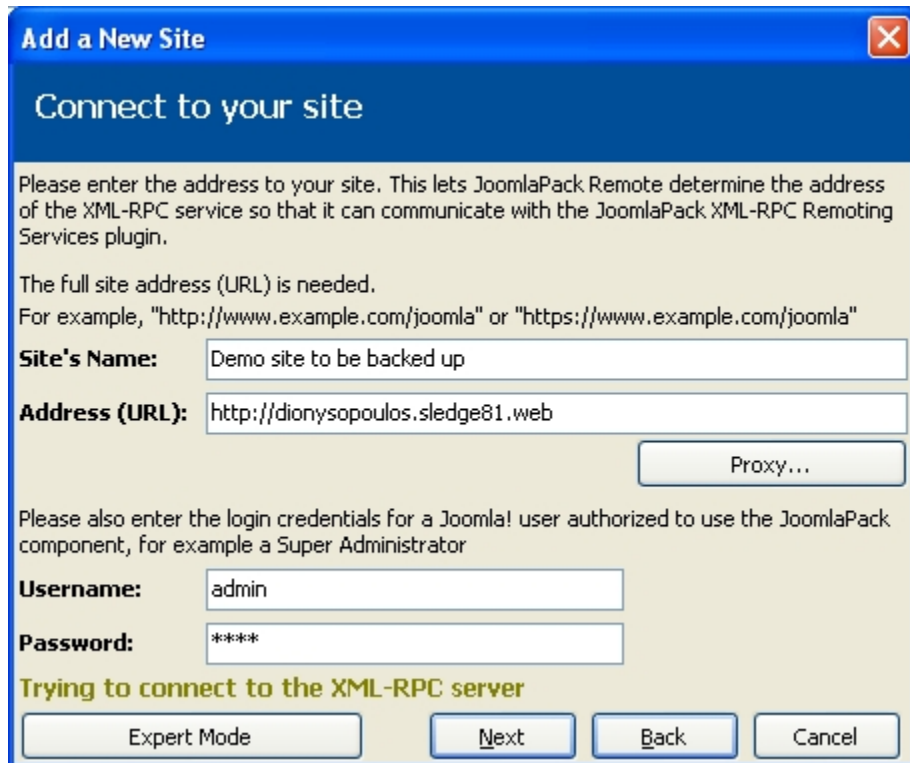
- **Username.** The username of a Joomla! user account with sufficient permissions to perform a backup. The minimum user level (group) required to perform a backup is configured in the JoomlaPack component.

- **Password.** The password for the aforementioned Joomla! user account.

When you're done, click the Next button. JoomlaPack Remote starts performing a series of tests in order to determine connection status to your site. It informs you by printing messages in dark yellow type right above the buttons bar, as you can see in the picture below.

Note

If you have entered an HTTPS site URL, JoomlaPack Remote will present you with a dialog to confirm your server's SSL certificate before proceeding. This is necessary in order to avoid man-in-the-middle attacks. JoomlaPack Remote, unlike a web browser, doesn't have a list of trusted certificate publishers, so you'll have to manually verify the validity of the server's certificate. Consult your SSL certificate issuing company or your host for more information.

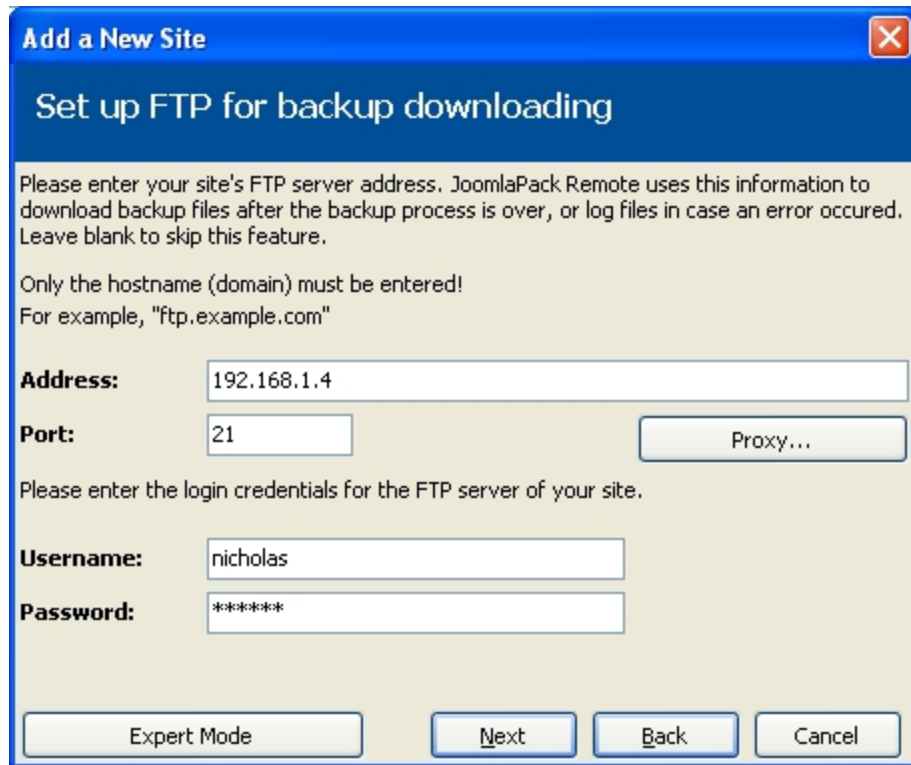


Should it encounter an error, JoomlaPack Remote will warn you of the type of this error and allow you to fix it. Sometimes you may need to specify an HTTP proxy server. You can enter its parameters by clicking on the Proxy... button.

Important

Some servers don't like the way JoomlaPack Remote probes their on-line status and return HTTP 500 error, or drop the connection. The only way to add such a site to Remote is by using the Expert Mode button.

If JoomlaPack Remote is able to connect to your site, it will present you with the next dialog page, which lets you set up backup files downloads.



The screenshot shows a Windows-style dialog box titled "Add a New Site" with a close button (X) in the top right corner. Below the title bar, the main heading is "Set up FTP for backup downloading". The text inside the dialog reads: "Please enter your site's FTP server address. JoomlaPack Remote uses this information to download backup files after the backup process is over, or log files in case an error occurred. Leave blank to skip this feature." followed by "Only the hostname (domain) must be entered! For example, 'ftp.example.com'". There are four input fields: "Address:" with the value "192.168.1.4", "Port:" with the value "21", "Username:" with the value "nicholas", and "Password:" with masked characters "*****". To the right of the "Port:" field is a button labeled "Proxy...". At the bottom, there are four buttons: "Expert Mode", "Next", "Back", and "Cancel".

If you do not wish to enable FTP downloads at this time, please click on the Next button without entering any information on this page. Otherwise, you have to fill in your FTP server's connection parameters. You can ask your host about them. Sometimes you may need to specify a FTP proxy server. You can enter its parameters by clicking on the Proxy... button.

Important

JoomlaPack Remote sets up an unencrypted, passive FTP connection to your server using the settings on this wizard page. If your server requires an active connection or if you have to use Secure FTP (FTP over SSL), then you have to use the Expert Mode, or skip this step and define these settings in the editor.

- **Address.** The FTP server's address without a protocol. For example, if your FTP server is accessible at `ftp.example.com` you must type in `ftp.example.com` in this box.

Important

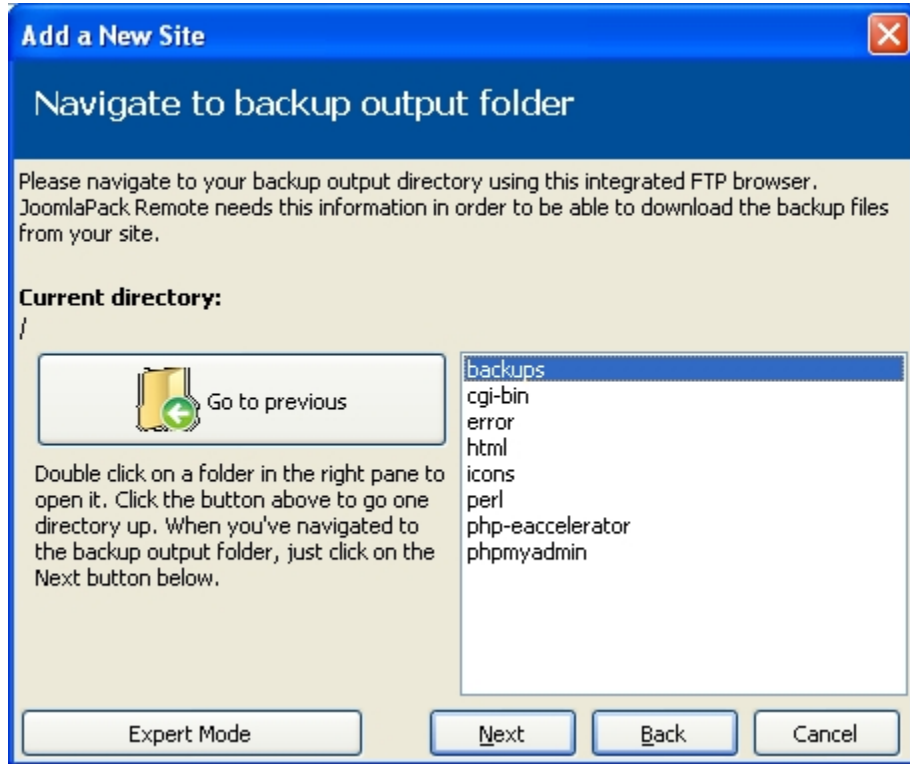
JoomlaPack Remote only supports plain FTP connections. Some more exotic/secure protocols, e.g. SFTP or FTPS, are not yet supported.

- **Port.** The TCP port of your FTP server. Unless you're told otherwise by your host, you can assume that the default value of 21 is correct.
- **Username.** The username you use to connect to your site through FTP.
- **Password.** The password you use to connect to your site through FTP.

Important

JoomlaPack Remote only supports Passive FTP connections. If your host only supports Active FTP connections, you can't use this version of JoomlaPack Remote. We are working on an update which will address this problem.

Clicking on Next will perform a connection test to your site's FTP server. If it doesn't succeed, it will let you know why it failed, otherwise it will proceed to the next wizard page. If you had not entered FTP connection information, the wizard will skip to the scheduling options page.

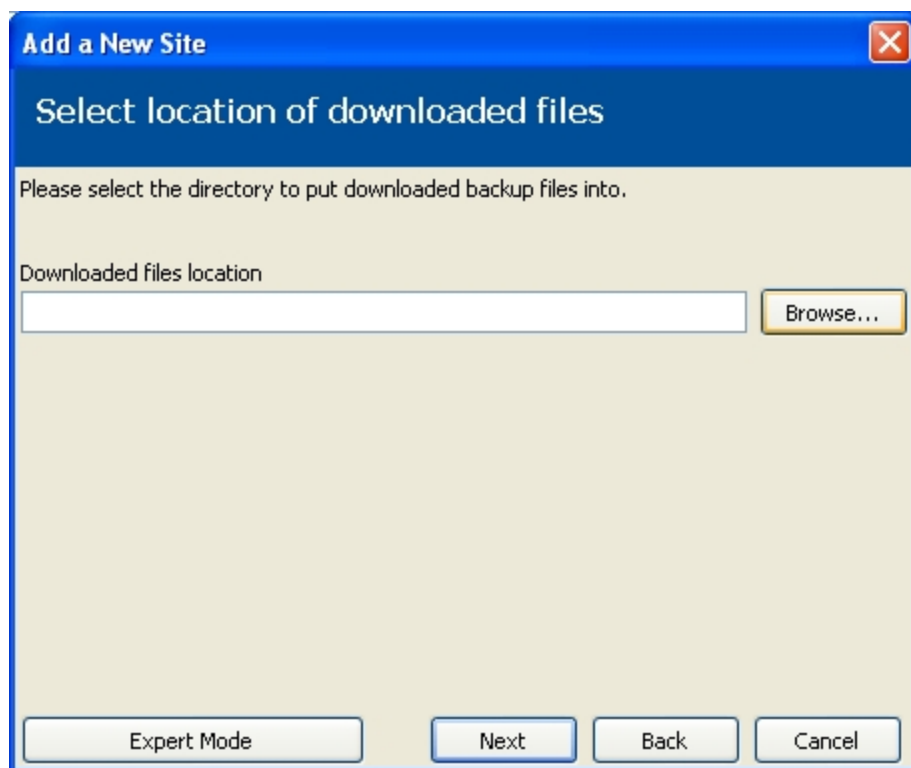


This wizard page is a rudimentary FTP explorer interface. The idea is to navigate inside your backup output directory before clicking the Next button. Double-clicking on a folder on the right hand pane navigates in that directory. The path to the current directory is shown below the Current directory label, above and to the left of this pane. Should you need to go the parent (one level up) of the current directory, click on the Go to previous button.

Tip

The default backup output directory of JoomlaPack is the `administrator/components/com_joomlapack/backup` directory, under your Joomla! root. Since JoomlaPack Remote can't determine where your Joomla! root is located, you'll have to nevertheless navigate to this directory manually.

When you have navigated *inside* the directory you use for backup output, click on the Next button. It will then show you the next wizard page.



This is a very trivial page, allowing you to either type in or graphically select (by means of the Browse... button) the location where downloaded backup files should be stored in. Please either use an absolute path, e.g. E:\MyStuff\Site Backups, or a path relative to the application's executable file, e.g. . . . \MyStuff\Backups.

Note

If JoomlaPack Remote is running as a portable application, using the Browse button will result in a path relative to the application's executable file. This is extremely useful if you use the portable application on many different computers, which leads to a different drive letter being assigned to the medium on each one of them.

Clicking on the Next button will get you to the backup scheduling information page.

Add a New Site

Scheduled backup

JoomlaPack Remote can automatically backup your site on a schedule - provided that your PC is turned on and JoomlaPack Remote is running.

☒ Run backup on a schedule

Frequency

Every day

Scheduled date and time

1/ 1 /2000 13:30

Backup will run on
The site will be backed up every day on 1:30 μμ

Expert Mode Next Back Cancel

From this page you can select - if you want - how JoomlaPack Remote will run your site's backup based on a schedule.

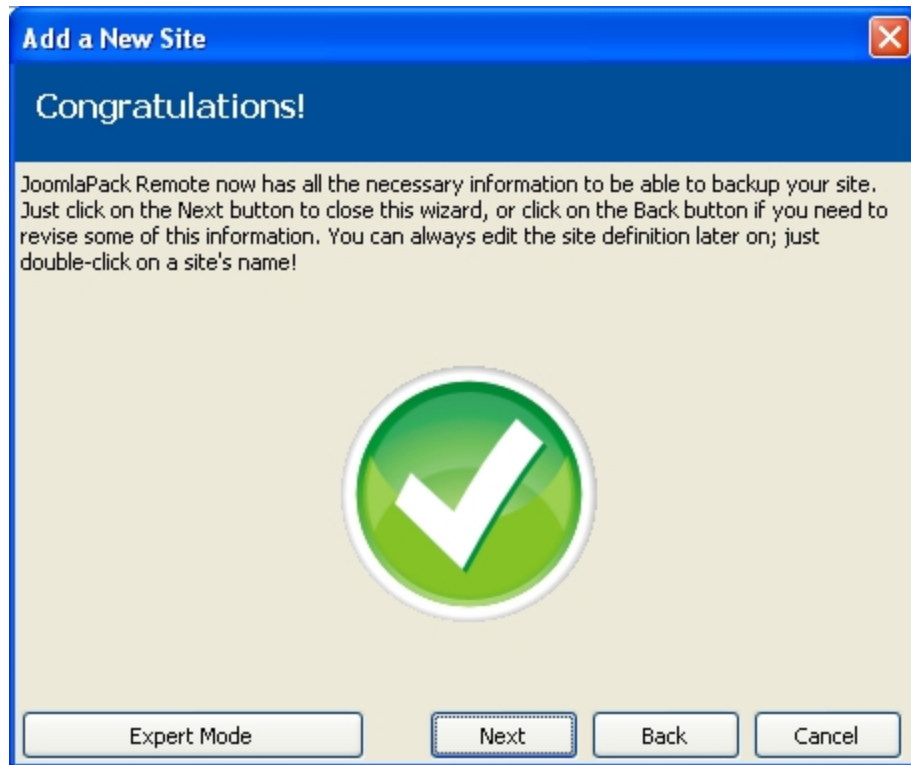
If you leave the Run backup on a schedule box un-checked, you skip this feature.

The Frequency field determines how often your site is going to be backed up:

- **Every day.** The backup will run every day on the specified time.
- **Every week.** The backup will run on the same day of the week (e.g. every Monday) on the specified time. The day of the week is determined by the date you give in the box below. So, if you select a Monday (any Monday!) your backup will run on Mondays.
- **Every month.** Your backup will run once every month, on the same day of the month, on the specified time. So, if you select the 15th of any month in the date box below, your backup will run on the 15th of every month. If you select the 31st of a month, your backup will run on the last day of every month, no matter if it's the 31st or the 30th or the 29th (for February on leap years) or 28th (for February on non-leap years).
- **Every year.** Your backup will run once every year on the specified day of the month and month. So, if you select January 24th of any year in the date box below, your backup will run on January 24th of every year. If you select February 29th of a leap year, the backup will run on February 28th for non-leap years.

The label towards the bottom will display in plain English when the backup will run, based on your settings. This is the easiest way to understand how this feature works!

Click on Next to finalize the wizard.



The final page of the wizard informs you that your site is set up for use with Remote. If you want to review your settings, start clicking in the Back button to return to previous wizard pages. Your settings are retained between wizard page changes. If you're satisfied with your settings, click on Next to close the wizard and save your changes.

Backing up your site

In order to backup a site, just click on its definition in the site list grid and then click on the Backup, Current Site menu, or press **F11**. The backup process starts right away and the site's status changes to Running to reflect that.

The notification area during the backup process

The first line of the notification area consists of:

- An icon. It is a visual cue to the status of the site.
- The site's name.
- The site's status in parentheses.

The second line of this area displays the current action performed on your site, e.g. backing up the database or backing up the site folders and files. The next line displays the current item which is being acted upon, as reported by the JoomlaPack component. When downloading a file, a download progress bar will be displayed instead.

If an error occurred, right below these three lines an area with red text is displayed, containing the error message.

The notification area during the backup file download process

The notification area during the download of the backup archive (or debug log, in case an error happened) is similar in layout to what it looks like during the backup process. The first line consists of:

- An icon. It's a visual cue to the status of the site.
- The site's name.
- The site's status in parentheses.

The second line displays a progress bar which fills while the file is being downloaded, provided that your FTP server supports reporting of the file sizes. Otherwise, it will remain empty. Below this there is another line which indicates the amount of Kilobytes received over the total file size, again if your FTP server supports reporting of the file sizes.

Simultaneous multiple site backup

The process is by no means different than the single site backup. You can either start the backup process for each site manually, following the advice above, or use the Backup, All Sites menu item to start backing up all of the sites at once. If the need arises, you can abort any of those backups, or even all of them. In fact, JoomlaPack Remote is not aware if it's backing up a single site or multiple sites. Each backup process runs in its own, self-contained thread, isolated from the rest of the application.

You can select multiple sites. Just click and drag your cursor to select multiple rows. Do note, however, that you only make contiguous selections, i.e. select only adjacent rows. The Backup and Abort operations will apply to all selected rows at once.

It goes without saying that the queue limits are respected. If the number of sites to backup is greater than the queue size then the rest of the sites are queued.

Using Remote as a portable application

The executable of JoomlaPack Remote can be used as a portable application. This means that all of the settings and site definitions will be kept in files located in the same directory as the executable. This location is determined during the application startup, so it doesn't matter if - for example - the drive letter changes between subsequent runs. Using this technique you can put JoomlaPack Remote on a USB flash drive (pen drive), or any other portable storage device, and use it among different PC's. It even integrates with the PortableApps.com Portable Application Launcher, as long as you put the JoomlaPack Remote files inside a subdirectory of your USB drive's PortableApps directory.

In order to install as a portable application, we recommend you to use the ZIP version of the JoomlaPack Native Tools distribution. Just unzip these files somewhere, e.g. inside your USB drive's PortableApps \JoomlaPack directory. In the same directory, create a text file named `JoomlaPackRemote.ini` containing nothing but the following lines:

```
[Global]
Portable=-1
```

This is it! From now on, JoomlaPack Remote will look for its database file in the same directory as its executable (`JoomlaPackRemote.exe`). After you run your application for the first time, you can remove the INI file. JoomlaPack Remote will figure out that since there is a database in the same directory, it must run as a portable application.

Instead of the above procedure, you can copy the database of a regularly installed JoomlaPack Remote in your USB drive, where the Remote executable resides. This has the added convenience that it keeps all of your site's definitions. You'll have to edit the location of the downloaded files, though.

Tips on how scheduling works

The scheduling function of JoomlaPack Remote is very simple in conception. There is a piece of code executing every 3 seconds which determines if the backup is overdue. If so, it will enqueue the site for download. In order for JoomlaPack Remote to track the site's backup status, it has to record the last date and time a backup attempt last ran or was aborted. Since 2009.3 release, if the backup fails it will count as an aborted backup in order to keep a wrongfully setup site from infinitely trying to backup.

Chapter 3. JoomlaPack Remote reference

Installing the JoomlaPack Remote desktop application

Introduction

We assume that you have already prepared your sites for use with JoomlaPack Remote, as described elsewhere in this guide.

Getting and installing

JoomlaPack Remote is part of a suite of utilities called the JoomlaPack Native Tools. At the time of this writing, this suite included JoomlaPack Remote itself, as well as the JoomlaPack eXtract, a wizard for extracting ZIP and JPA backup archives generated by JoomlaPack. You can always get the latest version from our File Release System on JoomlaCode.org. Check the JoomlaPack Native Tools package releases.

The JoomlaPack Native Tools are distributed in two forms: an executable installer and a ZIP file containing all of the run-time files. Downloading either of them is sufficient. The executable installer is the preferred method of installation. The ZIP file is provided for systems on which the installer fails and should be used as a last resort method of installation. You should also use the ZIP file if you mean to install JoomlaPack Remote as a portable application.

Using the installer is pretty much intuitive, following the standard Windows software installation procedure.

Upgrading

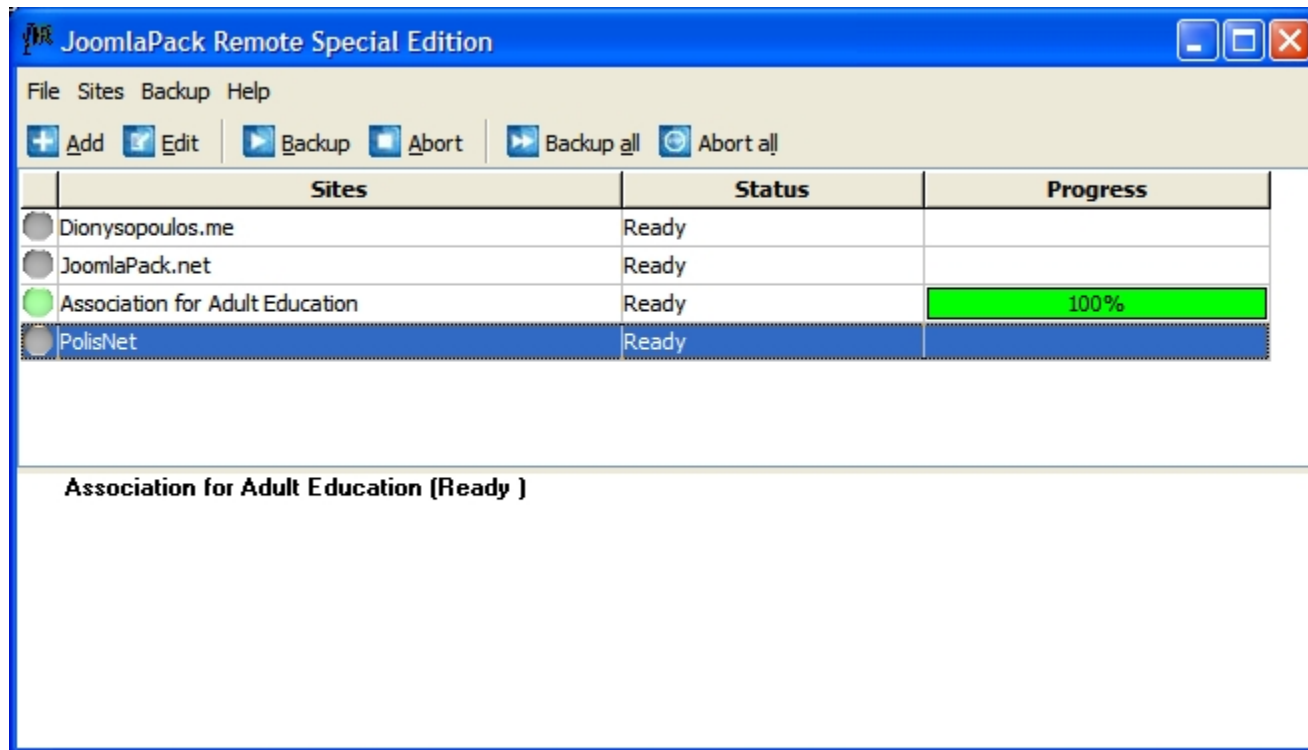
Upgrading JoomlaPack Remote is by no means different than a new installation. You only have to install the newer version; your settings and site definitions will be kept.

If you had installed JoomlaPack Remote as a portable application, copy the files from the new version on top of the files of the older version. This should be adequate.

Warning

Upgrading from versions earlier than 2009.1 will result in loss of your site's definitions. This is caused by the change of format of the stored data. Old versions used XML files, whereas newer versions use an SQLite database. There isn't a clean upgrade path; you'll have to re-enter your site definitions in the new version.

The main window



The main window consists of two main areas. From top to bottom they are the site list grid and the notification area.

The **site list grid** contains a list of the configured sites and their status. The status can be one of:

- **Idle.** The site has completed being backed up, or is simply waiting to be backed up at your command. Denoted by a gray circular icon.
- **Running.** The backup process for this site is still running, or the backup file is being downloaded. Denoted by a green triangle icon.
- **Error.** An error occurred while backing up or downloading the backup file. Denoted by a flames icon.
- **Download.** The site's backup archive (or debug log, if an error occurred) is being downloaded - by means of FTP - to your PC. Denoted by a blue, downward pointing arrow icon.
- **Queued Backup.** The backup queue is currently full; as soon as another site finishes being backed up the queue will be re-evaluated and the first site marked as queued for backup will enter the "Running" state. Denoted by a gold (yellow) triangle icon.
- **Queued Download.** The download queue is currently full; as soon as another site's backup archive finishes being downloaded the queue will be re-evaluated and the first site marked as queued for download will enter the "Download" state. Denoted by a gray, downward pointing arrow icon.

The last column contains the download progress information. While a site's backup is being downloaded, this progress bar keeps filling up. This allows you to easily track the download progress, especially when you have multiple sites downloading at the same time.

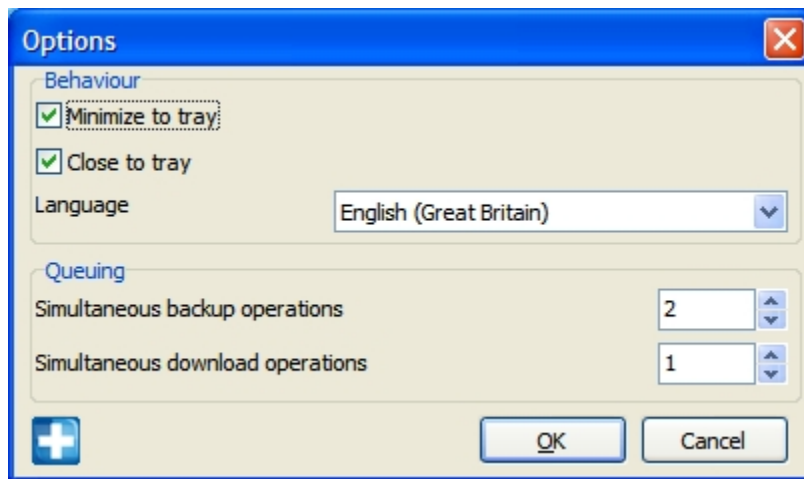
In order to select a site and make it current, just click on it. Double-clicking on a site name will display the editor window where you can modify its parameters. If you wish to delete a site definition, just click on it to make it current and then click on the Sites, Delete menu.

You can select multiple sites. Just click and drag your cursor to select multiple rows. Do note, however, that you only make contiguous selections, i.e. select only adjacent rows. The Backup and Abort operations will apply to all selected rows at once.

The **notification area**, below the site grid, displays information regarding the currently selected site and is documented in depth in the Backing Up section of the first chapter.

Press **F1** to open up the help page. Help pages are rendered in an integrated web browser window, loading the help pages straight from JoomlaPack.net.

The options dialog



The settings dialog allow you to define application-wide settings, affecting the way JoomlaPack remote operates. The available settings are:

Minimize to tray	When you minimize the application, instead of Remote appearing in the task bar it iconifies as a system tray icon, much like other applications, e.g. Outlook, do. You can then double click this icon to restore Remote into view.
Close to tray	When you try to close the application, for example clicking on the close button icon of the main screen, it won't close, but iconify to the system tray instead.
Language	You can select the language for the JoomlaPack Remote interface. Languages are stored as INI files in the <code>languages</code> subdirectory of the location where the application's executable is stored. Since the 2009.3 release, changing the language and clicking on the OK button will result in the interface being refreshed with the newly selected language, without the need to shutdown and restart the application.
Simultaneous backup operations	Defines the size of the backup queue. Remote will perform at most as many backups as the value of this parameter. If there are more sites to be backed up, they will be queued (wait for an empty slot to

appear in the queue before they are backed up). Setting this value to 0 overrides the queue feature and is equivalent to an infinite queue size.

Simultaneous download operations Similar as above, but for the FTP download queue.

Pressing OK saves the settings, whereas pressing Cancel aborts all changes.

Click on the cross icon to open up the help page. Help pages are rendered in an integrated web browser window, loading the help pages straight from JoomlaPack.net.

The site definition editor dialog

In order to display the Edit Site Definition window, from the main window you can:

- select a site from the list and click on the Sites, Edit menu, or right-click and choose Edit, use the toolbar Edit button or press **CTRL-E** to edit an existing site definition
- double click on a site definition to edit it.

You can click on the cross icon anytime to open up the help page. Help pages are rendered in an integrated web browser window, loading the help pages straight from JoomlaPack.net.

The screenshot shows the 'Site Definition Editor' dialog box with the 'Basic' tab selected. The fields are as follows:

- Site's name: Test site
- URL to XML-RPC host: www.example.com/xmlrpc/index.php
- Port: 80
- Use secured (HTTPS) connection: ☐
- Joomla! username: admin
- Joomla! password: *****
- Profile ID: 42
- Time to pause between subsequent XML-RPC calls [seconds]: 0

Buttons include 'Get SSL certificate', 'Get profiles', 'OK', and 'Cancel'. A plus icon is in the bottom left corner.

The first tab of this window, Basic, contains the basic information you must define in order to backup a site.

- **Site's name.** This is a label, the site's name, which can be used for identification purposes. It doesn't have to be unique. It is only used to help you, the user, to identify individual sites.

- **URL to XML-RPC host.** You have to enter the full URL to the Joomla! XMLRPC proxy, without the protocol. If your site's URL is `http://www.example.com`, then the required url to enter is `www.example.com/xmlrpc/index.php`. In other words, you have to append `/xmlrpc/index.php` to your site's URL omitting the protocol (the `http://` part).

Important

You have to omit the protocol (`http://`)! If you mistakenly add it, using any JoomlaPack Remote operation on this site will fail.

- **Port.** If your site is using a non-standard port number, please specify it in this box, or accept the default.

Important

The text box won't accept values over 32767. It's highly unlikely your server will ever use a port such high, though.

Note

Standard ports are 80 for HTTP and 443 for HTTPS.

- **Use SSL secured (HTTPS) connection.** Ticking this box will force JoomlaPack Remote to connect to your site over the HTTPS (secured) protocol. The port number automatically changes to the standard HTTPS port, 443.

Warning

Before being able to connect to your site over HTTPS you must use the Get SSL certificate button to authorize and cache your server's SSL certificate signature. Not doing so will result in almost instant connection failure.

- **Get SSL certificate.** Pressing this button tries to retrieve your host's SSL certificate and present it to you for approval. Once approved, the signature of the SSL certificate is cached inside the site's profile. This feature allows you to positively prevent man-in-the-middle attacks.
- **Username.** You have to enter the Joomla! user name of a user who has enough privileges to run a regular JoomlaPack backup from the administrator back end. Under the default configuration, this is limited to Super Administrators only, but JoomlaPack can also be configured to allow Administrators and Managers to perform backups. The JoomlaPack Remote Plug-In authenticates your user with Joomla! before attempting to execute any backup-related command.
- **Password.** The password for the user discussed above.
- **Profile ID** (edit box). In the edit box you have to give the numeric ID of the backup profile you want to use. Using 0 or 1 in this box will force JoomlaPack Remote to use the default backup profile. The contents of this edit box can be easier changed using the combo box next to it.
- **Profile ID** (combo box). The combo box contains a list of profile's descriptions. Changing the selection also changes the contents of the Backup Profile edit box. This combo box is initially disabled (grayed out). You have to press the Get profiles button to populate it with the current list of profiles and enable it. If you try to change any of the connection parameters (URL, username, password) this combo box will become disabled and you'll have to Get profiles to enable it again.
- **Get profiles** button. When clicked, it tries to connect to your site and fetch a list of available profiles. It will notify you of the outcome. If the connection is successful, the Profile ID combo box is populated with the current list of available profiles on your site and becomes enabled as well.

- **Time to pause between subsequent XML-RPC calls [seconds].** Indicates an optional amount of time you'd like JoomlaPack Remote to pause between XML-RPC calls. Some servers handle continuous calls to same URL as Denial of Service attack, therefore they will block XML-RPC calls and halt the backup process. Defining a sane value (usually 1-3 seconds) in this field allows Remote to pause between each XML-RPC call and overcome this server limitation. On the downside, it will considerably slow down the backup.

The screenshot shows the 'Site Definition Editor' dialog box with the 'Downloads' tab selected. The 'Download Options' section includes three checked checkboxes: 'Download backup files on successful backup', 'Download log file on failure', and 'Delete backup file on server after download'. Below these is a 'Delay before download [seconds]' spinner set to 0, and a 'Downloaded files location' text field containing 'c:\foo\bar' with a 'Browse...' button. The 'FTP Connection Options' section includes a 'Host' field with 'ftp.example.com', a 'Port' spinner set to 21, an unchecked 'Use secured (FTP over SSL) connection' checkbox, a 'Username' field with 'batman', and a 'Password' field with masked characters. Below these is an 'FTP path to backup output directory' field with '/hidden/room/behind/the/bookshelf/batcave' and a 'Test' button. At the bottom are 'Use FTP active mode' and 'Try to keep FTP connection alive' checkboxes, a plus icon, and 'OK' and 'Cancel' buttons.

The Downloads tab allows you to optionally define if and how JoomlaPack will download the backup file when done, or the log file upon failure.

The first area, labelled Download Options, allows you to define if and where files will be downloaded. This is a per-site setting, so that you can store, let's say, each of your site's backup files to a separate directory.

- **Download backup files on successful backup.** When enabled, JoomlaPack Remote will download the backup file through FTP upon backup completion. This is the easiest and recommended way of making sure you have an up-to-date local copy of the site's backup archive.
- **Download log file on failure.** When enabled, if the backup process fails for any reason, JoomlaPack will try to download the `joomlapack.log` log file through FTP. The log file will be named like your (failed) backup file, with a `.log` extension to help you identify to which attempt it refers to.
- **Delete backup file on server after download.** As an optional security measure, JoomlaPack Remote can delete the server copy of the backup file once it's done downloading it. This ensures that no malicious person can gain access to your backup file as it will only exist locally, on the "Downloaded files location", not on your live server.
- **Downloaded files location.** By either typing in, or visually selecting by clicking the folder icon, you must specify the target directory for downloaded files.

Warning

Sometimes, using non-ASCII characters in the path might appear as garbled text when the visual selection button is used. You can edit them manually to fix this. However, we strongly advise you to use locations which do not make use of non-ASCII characters to avoid potential problems occurring by accidentally clicking on this icon.

The Connection parameters area allows you to define the FTP connection options specific to your site.

Important

Currently, JoomlaPack Remote only supports plain FTP connections. There is no support for Secure FTP (FTPS / SFTP) or other FTP variants.

- **FTP server's host name.** The host name or IP of your FTP server.

Warning

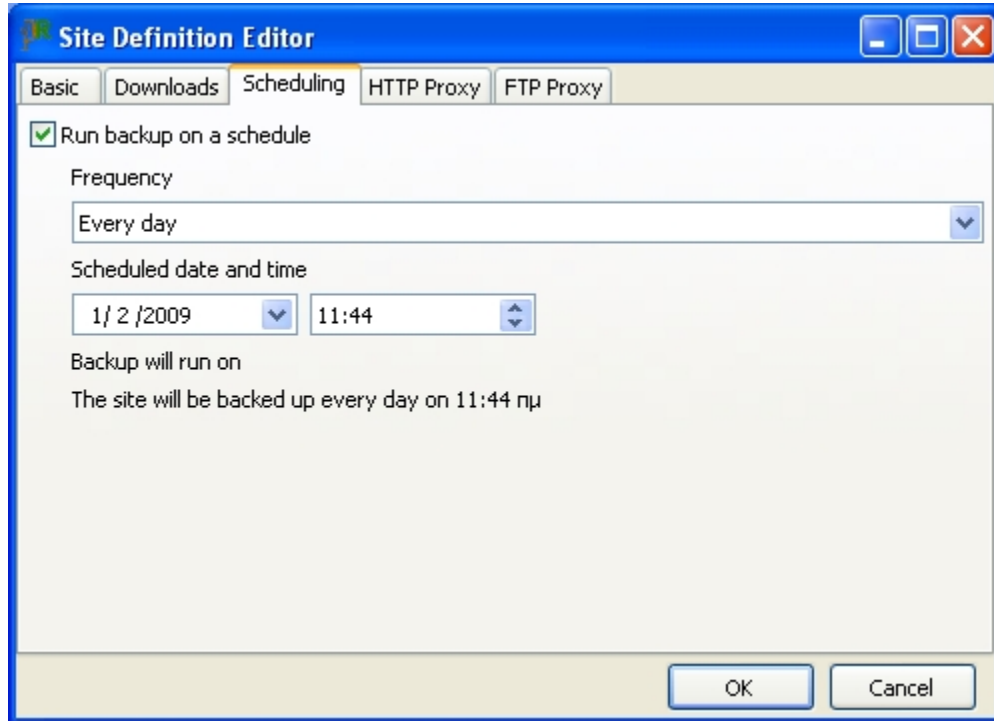
Contrary to the site's URL, you must not include a protocol in this field! This means that `ftp://ftp.example.com` is invalid, whereas `ftp.example.com` is valid.

- **Port.** You can enter the TCP/IP port which your FTP server listens to. If you leave it to 0, the default FTP service port 21 will be used instead.
- **Use secured (FTP over SSL) connection.** Remote will use an SSL-encrypted communication channel to your server. This is often called FTPS (which has nothing to do with SFTP, they're different protocols!). You have to check if your server supports it and what is the port you have to use with this feature.
- **Username.** The username of your FTP user.
- **Password.** The password of your FTP user.
- **Initial Directory.** The FTP directory to your backup output directory. This path usually must be given in UNIX format, using forward slashes as path separators. If in doubt, use a graphical FTP client (i.e. FileZilla) to navigate to your backup output directory and copy the path displayed there to this field. For example, if your site's root is accessible in the `httpdocs` FTP directory and you use the default JoomlaPack backup output directory (`administrator/components/com_joomlapack/backup`) then you should enter `/httpdocs/administrator/components/com_joomlapack/backup` on this field.
- **Test.** Clicking on this button tests connection to the FTP server and tries to see if the configured Initial Directory exists. However, it is not possible to detect if the configured Initial Directory is in fact the Backup Output directory! It is your responsibility to ensure that.
- **Use FTP active mode.** Remote uses the FTP passive mode by default, just like your browser, so that it can pass through firewalls. However, some sites will refuse to operate with the Passive mode. Tick this box to disable the passive mode. If unsure, leave this unchecked unless you can connect to your FTP site but not download anything.
- **Try to keep FTP connection alive.** Enabling this option sends a NOOP command every 10 seconds in order to keep the FTP connection from closing.

Warning

Most servers do not require this option. In fact, most servers will halt the download at about 32Kb if this option is enabled. Use only on servers which always seem to abort the download after a constant amount of time.

Bear in mind that in most cases you **must not** select the last two check boxes. More specifically, the majority of servers does not require the Active mode. Selecting it may cause FTP connection failures, especially if you are behind a firewall or a NAT router, for example an ADSL modem/router. Moreover, the FTP connection keep-alive feature may be incompatible with your server. If this is so and you have enabled this feature you will experience a download stall early through the process.



This tab allows you to determine if your site's backup should run on a specific schedule.

If you leave the Run backup on a schedule box un-checked, you skip this feature. This means that your site will only run when you manually select it for backup.

Important

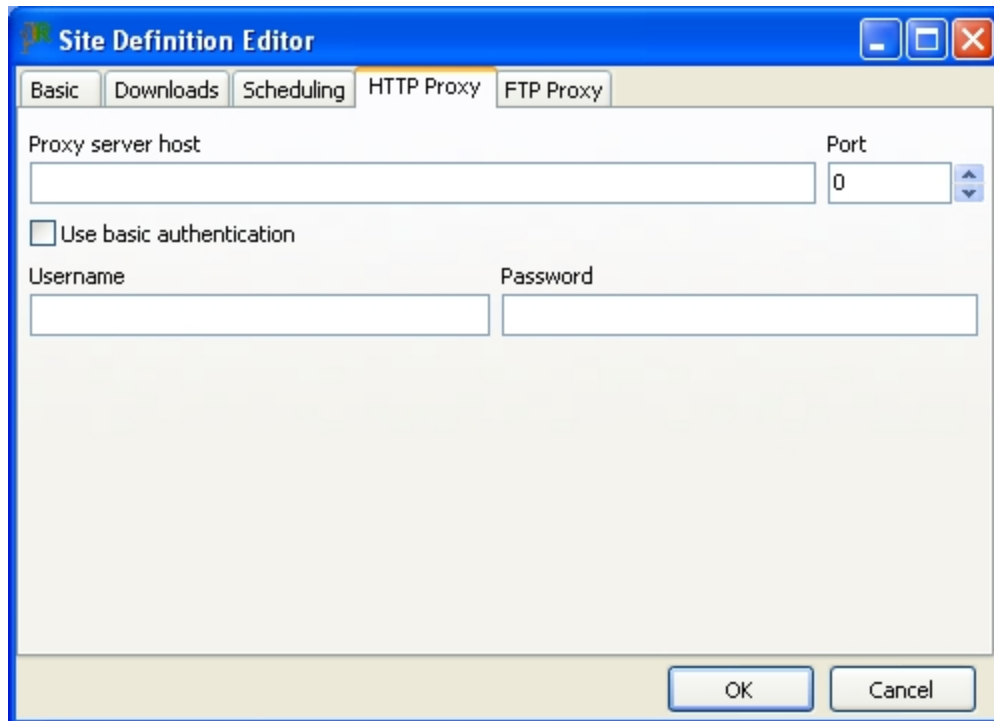
In order for the backup to run on a schedule, your PC must be turned on, with JoomlaPack Remote running and Internet connectivity enabled. If JoomlaPack Remote wasn't running at the time of a scheduled backup, the backup operation will run immediately the next time you start JoomlaPack Remote. You can always abort the running backup if you didn't want the backup to happen at that time, though.

The Frequency field determines how often your site is going to be backed up:

- **Every day.** The backup will run every day on the specified time.
- **Every week.** The backup will run on the same day of the week (e.g. every Monday) on the specified time. The day of the week is determined by the date you give in the box below. So, if you select a Monday (any Monday!) your backup will run on Mondays.

- **Every month.** Your backup will run once every month, on the same day of the month, on the specified time. So, if you select the 15th of any month in the date box below, your backup will run on the 15th of every month. If you select the 31st of a month, your backup will run on the last day of every month, no matter if it's the 31st or the 30th or the 29th (for February on leap years) or 28th (for February on non-leap years).
- **Every year.** Your backup will run once every year on the specified day of the month and month. So, if you select January 24th of any year in the date box below, your backup will run on January 24th of every year. If you select February 29th of a leap year, the backup will run on February 28th for non-leap years.

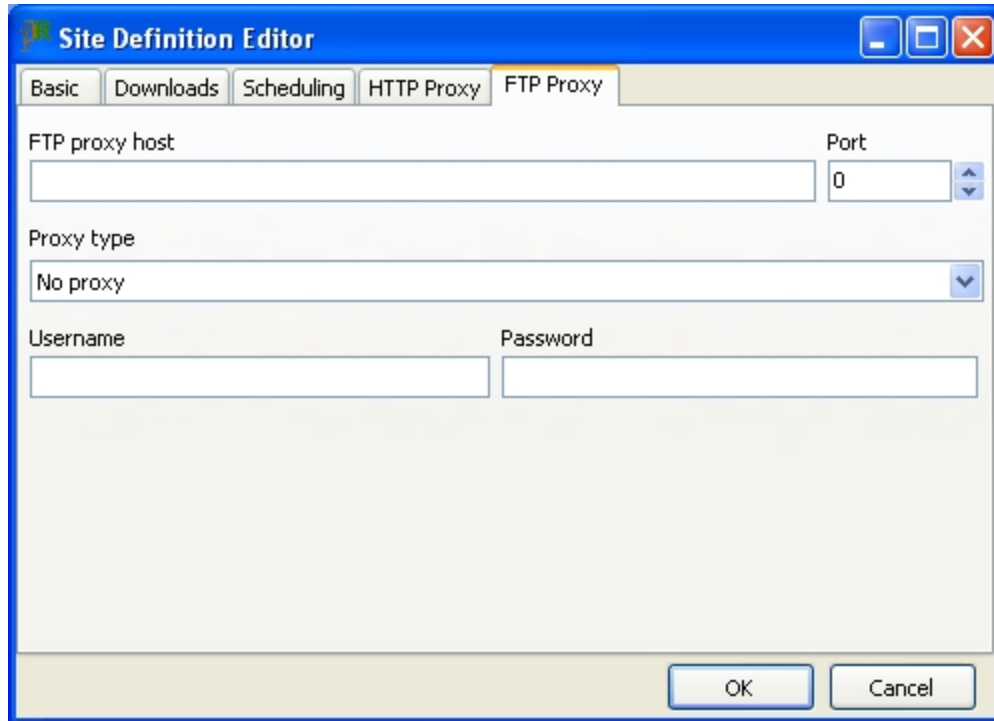
The label towards the bottom will display in plain English when the backup will run, based on your settings. This is the easiest way to understand how this feature works!

The screenshot shows a Windows-style dialog box titled "Site Definition Editor". It has five tabs: "Basic", "Downloads", "Scheduling", "HTTP Proxy", and "FTP Proxy". The "HTTP Proxy" tab is currently selected. Inside the dialog, there are several input fields: "Proxy server host" (a text box), "Port" (a spinner box set to 0), a checkbox labeled "Use basic authentication", "Username" (a text box), and "Password" (a text box). At the bottom right, there are "OK" and "Cancel" buttons. The dialog box has standard Windows window controls (minimize, maximize, close) in the top right corner.

The HTTP Proxy tab allows you to configure a proxy server to use when connecting to your site.

- **Proxy server host name.** The full URL to your proxy server, for example `http://proxy.example.com`.
- **Port.** The port to use. Usually this is 8080, but you have to ask your proxy's administrator for this.
- **Use basic authentication.** Check this if your proxy requires authentication (usually in corporate environments).
- **Username.** The user name you use to log in to your proxy.
- **Password.** The password of your proxy user.

Leaving the host name blank will result in no proxy being used.

The screenshot shows a Windows-style dialog box titled "Site Definition Editor". It has five tabs: "Basic", "Downloads", "Scheduling", "HTTP Proxy", and "FTP Proxy". The "FTP Proxy" tab is currently selected. Inside the dialog, there are several input fields: "FTP proxy host" (a text box), "Port" (a spinner box set to 0), "Proxy type" (a dropdown menu showing "No proxy"), "Username" (a text box), and "Password" (a text box). At the bottom right, there are "OK" and "Cancel" buttons.

The FTP Proxy tab allows you to define an FTP proxy, if it is necessary.

- **FTP Proxy host name.** The host name to your FTP proxy server.
- **Port.** The port of your FTP proxy server.
- **Proxy type.** There are several options for the proxy type:
 - **No proxy.** No proxy shall be used.
 - **Send command USER user@hostname - USER after login.**
 - **Send command SITE (with logon).**
 - **Send command OPEN USER user@firewalluser@hostname / PASS pass@firewallpass.**
 - **First firewall USER/PASS, then target host USER/PASS.**
 - **USER hostuserId@hostname firewall Username.**
 - **Novell BorderManager Proxy.**
 - **HTTP Proxy with FTP support.** This option currently does not work due to limitations in the network connection library (Internet Direct) used by JoomlaPack Remote.
- **FTP Proxy username.** The username used to authenticate to your FTP proxy server.
- **FTP Proxy password.** The password of your FTP proxy's user.

Click on OK to save and apply the settings, Cancel to discard all changes.

Manage backup files

You can view a list of all backup attempts of your site by clicking on the Sites, Manage Backups menu item or right-clicking on a site and selecting Manage Backups from the pop-up menu. This will contact your site and open a new window with a list of all backup attempts. The interface resembles the Administer Backup Files page of the JoomlaPack component.

Selecting a row gives you the opportunity to download the associated backup file by clicking on the Download button on the bottom left-hand corner of this window. Doing so will enqueue the file for download. This will have no effect if the backup file is not available in the server. In such a case, JoomlaPack will notify you.

Viewing the log

Right clicking on a site definition in the main screen's grid reveals the View Log... menu item. Clicking it opens a window with the log from the last backup attempt, including all the raw XML-RPC activity going on behind the scenes, with your username and password masked out. This is essential information you must provide when seeking assistance in our forums. Clicking on the Save as text file button allows you to save the log as a plain text file. You are kindly requested to attach this file to your forum posts when seeking assistance in backup-related problems with JoomlaPack Remote.

Keyboard shortcuts

JoomlaPack Remote is designed so that its main operations can be accomplished by means of a keyboard. The main screen allow the use of the following shortcuts:

- CTRL-Q: Quit (close) the application. You will be presented with a confirmation dialog before Remote shuts down.
- CTRL-N: Create a new site definition.
- CTRL-E: Edits the currently selected site definition.
- F11: Starts backing up the currently site, if it's not started yet.
- F12: Aborts backing up the currently selected site, if it's already started.
- F1: Open the help page
- SHIFT-F11: Starts backing up all of the defined sites.
- SHIFT-F12: Aborts backing up of all the defined sites.

Installing SSL support

JoomlaPack Native Tools 2009.1 and later versions ship with SSL support libraries (OpenSSL) pre-installed. You don't have to do anything more.

Do note, however, that should JoomlaPack fail loading the SSL library's DLL file, it will report this problem only the first time you try to connect to a site over an encrypted connection. Subsequent connection attempts will misleadingly report that the connection simply failed. This is an issue with the network connectivity library (Internet Direct) we use and can't be worked around.

Appendix A. GNU Free Documentation License

Version 1.3, 3 November 2008

Copyright (C) 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc. <http://fsf.org/>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document “free” in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of “copyleft”, which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The “Document”, below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as “you”. You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A “Modified Version” of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A “Secondary Section” is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The “Invariant Sections” are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

2. VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

3. COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover,

and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

4. MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.
- I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.
- M. Delete any section Entitled "Endorsements". Such a section may not be included in the Modified Version.
- N. Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.
- O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties--for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

5. COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

6. COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

7. AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

8. TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <http://www.gnu.org/copyleft/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

11. RELICENSING

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (C) YEAR YOUR NAME.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with...Texts." line with this:

with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.