

Guide

Axway
API Management Best Practices

API Portal – Promotion with Akeeba Backup

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Status: Applicable

Document History

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1.0	4 th May 2017		Axway	
1.1	24 th May 2017	More details concerning php-mbstring	Axway	
1.2	10 th July 2017	Akeeba Automation	Axway	

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1 Introduction

The purpose of this guide is to provide step by step instructions on how to promote the API Portal configuration and customizations from a source environment to a target environment using the [Akeeba Backup](#) Joomla Plugin.

For example, it can be from Dev Environment to Test Environment. It can either be from Pre-Production to Production.

Promotion is usually a three phase process:

1. **Export** data from the source environment product into a package
2. **Copy/move** this package toward the target environment (system specific, out of scope of this doc.)
3. **Import** this package into the target environment product

These operations can be made **manually** or be **automated**.

This document treats the four combinations of operations in dedicated chapters:

Operation	Tool used	Chapter
Manual Export	Akeeba Backup	Manual Export from Source Environment
Manual Import	Akeeba Kickstart	Manual Import to the Target Environment
Automated Export	Akeeba Remote CLI	Automated Export from Source Environment
Automated Import	Akeeba UNiTE (*)	Automated Import to the Target Environment

(*) inexpensive subscription needed

This document applies to API Portal 7.4.1, 7.5.1, 7.5.2, 7.5.3 and 7.5.4.

The source environment and target environment must run the same version of API Portal.

2 Manual Export from Source Environment

1. Login to the Source API Portal OS (often through SSH).

2. Install php-mbstring:

- Check if mbstring is already installed or not:
`php -m | grep mbstring`

If output shows “mbstring”, it means it is already installed. In this case, continue step 3 now.

- Install mbstring and restart Apache:

On RHEL / Cent Os (for PHP version 5.6)

- `yum install php56w-mbstring`
- `service httpd reload`

On SUSE (SLES)

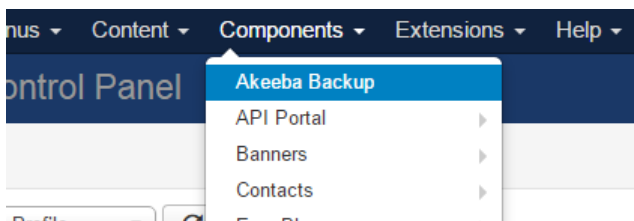
- `zypper install php5-mbstring`
- `systemctl reload apache2.service`

3. Open a browser and login to the Joomla administrator panel (<https://{source-host}/administrator>).

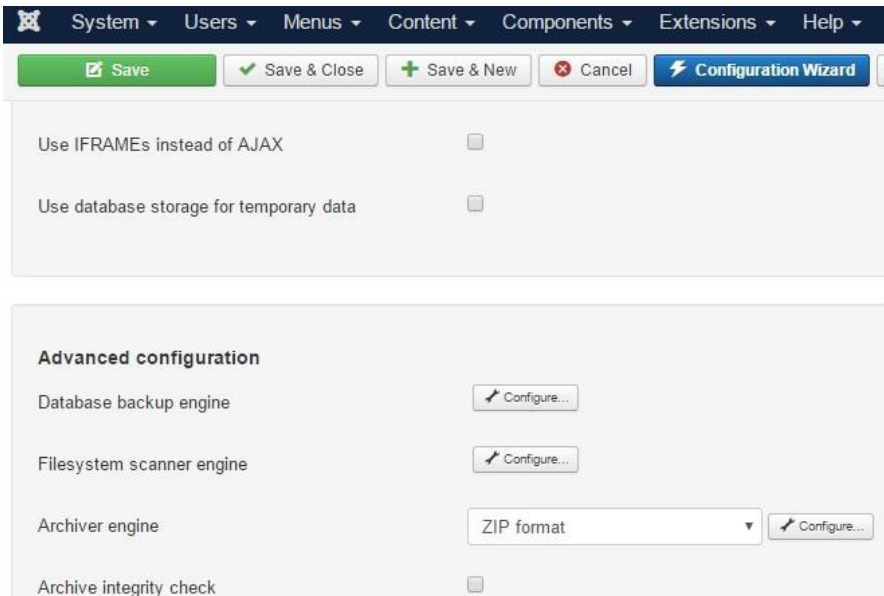
4. Install and Configure Akeeba backup Joomla component.

- You can download it from <https://www.akeebabackup.com>
- Doc: <https://www.akeebabackup.com/documentation/akeeba-backup-documentation.html>

5. Go to the component settings page:



6. If a wizard for configuration is prompted, follow the wizard. Select zip options for archive engine in Advanced configuration and save the changes:



The screenshot shows the Akeeba Backup configuration window. At the top is a dark blue menu bar with options: System, Users, Menus, Content, Components, Extensions, and Help. Below the menu is a toolbar with buttons: Save (green), Save & Close (green), Save & New (green), Cancel (red), and Configuration Wizard (blue). The main content area is divided into two sections. The top section contains two options: 'Use IFRAMEs instead of AJAX' and 'Use database storage for temporary data', each with an unchecked checkbox. The bottom section is titled 'Advanced configuration' and contains four options: 'Database backup engine' with a 'Configure...' button, 'Filesystem scanner engine' with a 'Configure...' button, 'Archiver engine' with a dropdown menu set to 'ZIP format' and a 'Configure...' button, and 'Archive integrity check' with an unchecked checkbox.

System ▾ Users ▾ Menus ▾ Content ▾ Components ▾ Extensions ▾ Help ▾

Save Save & Close Save & New Cancel Configuration Wizard

Use IFRAMEs instead of AJAX ☐

Use database storage for temporary data ☐

Advanced configuration

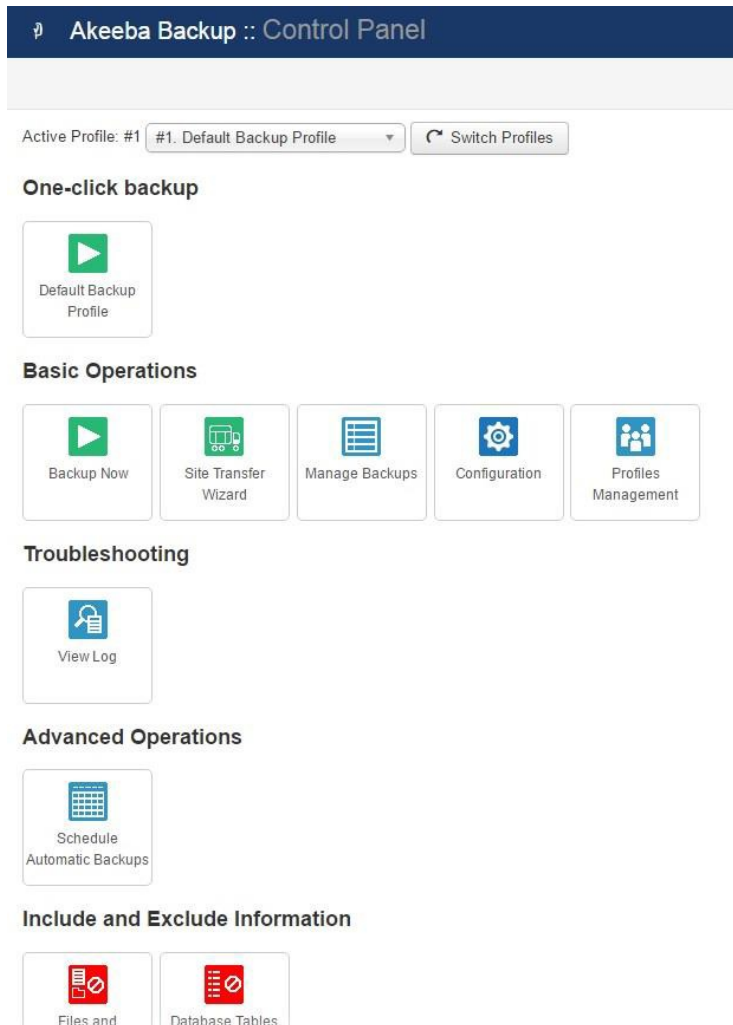
Database backup engine [Configure...](#)

Filesystem scanner engine [Configure...](#)

Archiver engine ZIP format [Configure...](#)

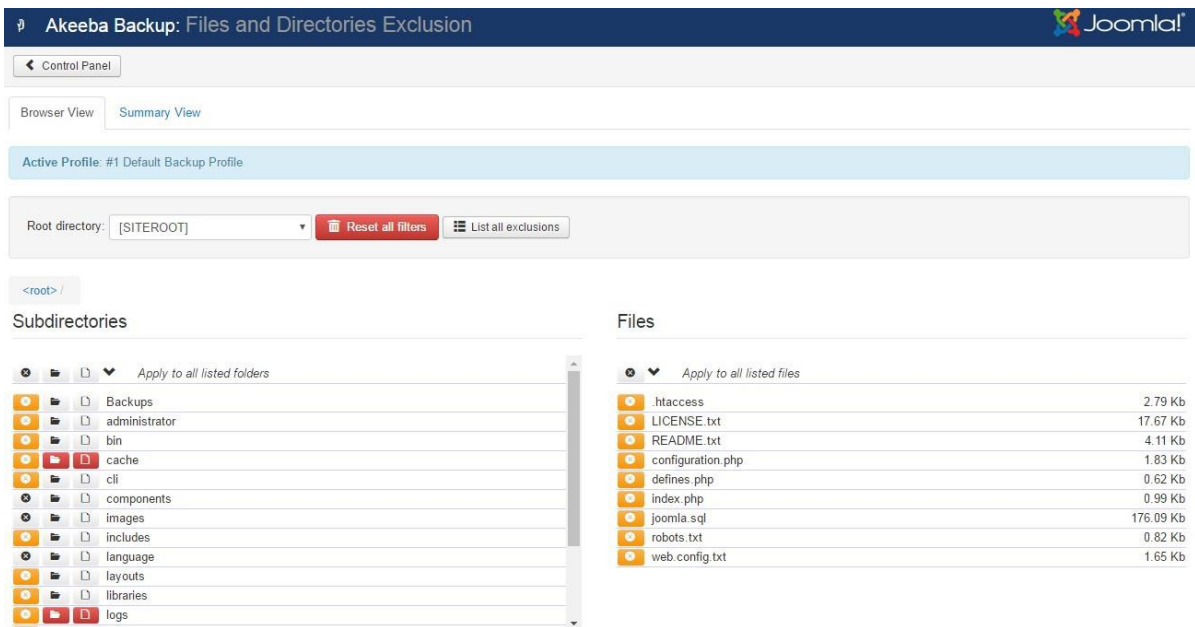
Archive integrity check ☐

7. The Akeeba control panel is displayed:



8. Select 'Files and Directories Exclusion' from 'Include and Exclude' Information section.

9. Exclude all files from the root directory and all directories except 'components', 'images', 'language' and 'templates'.

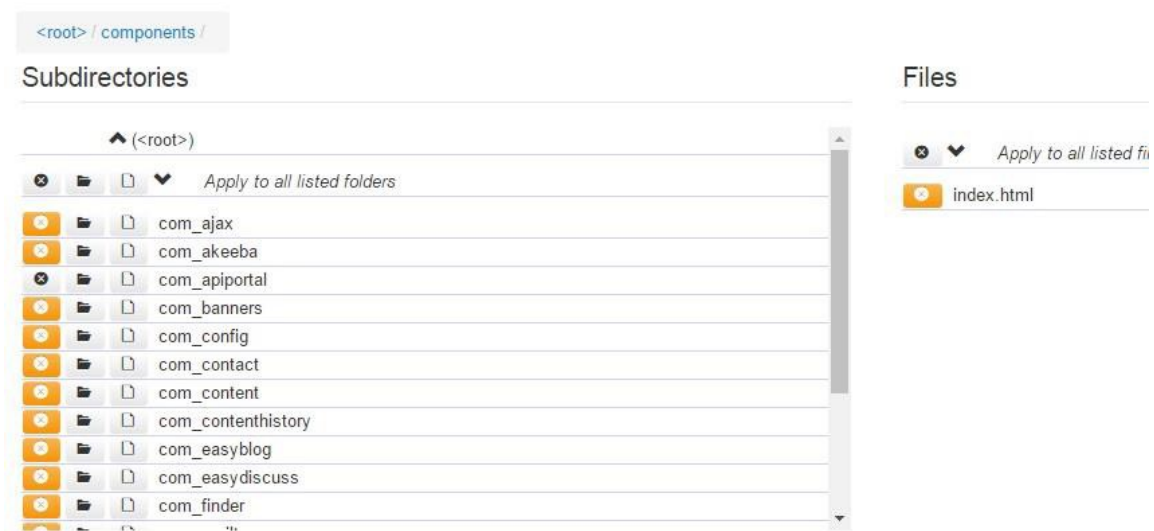


The screenshot shows the Akeeba Backup interface for Joomla! with the title "Akeeba Backup: Files and Directories Exclusion". It includes a "Control Panel" button and tabs for "Browser View" and "Summary View". The "Active Profile: #1 Default Backup Profile" is selected. The "Root directory" is set to "[SITEROOT]". Below this, there are two main sections: "Subdirectories" and "Files".

Subdirectories: A list of folders with checkboxes for exclusion. The "cache" folder is currently selected for exclusion. Other folders listed include Backups, administrator, bin, cli, components, images, includes, language, layouts, libraries, and logs.

Files: A list of files with checkboxes for exclusion. The "web.config.txt" file is currently selected for exclusion. Other files listed include htaccess, LICENSE.txt, README.txt, configuration.php, defines.php, index.php, joomla.sql, robots.txt, and web.config.txt.

10. Enter the 'components' folder and exclude all files and directories except the 'com_apiportal' directory:



The screenshot shows the Akeeba Backup interface with the breadcrumb path "<root> / components /". The "Subdirectories" section shows a list of folders within the 'components' directory, including com_ajax, com_akeeba, com_apiportal, com_banners, com_config, com_contact, com_content, com_contenthistory, com_easyblog, com_easydiscuss, and com_finder. The "Files" section shows a list of files, with "index.html" currently selected for exclusion.

11. Enter the 'com_apiportal' directory and exclude all files and directories except the 'views' directory:



The screenshot shows the Akeeba Backup interface with the path '<root> / components / com_apiportal /'. Under 'Subdirectories', there is a checkbox for '(components)' and a list of folders: assets, controllers, helpers, lib, models, and views. Under 'Files', there is a checkbox for 'Apply to all listed files' and a list of files: apiportal.php, controller.php, index.html, and router.php.

12. Enter the 'views' folder and exclude all files and folder except for 'documentation', 'help', 'home', 'pricing', 'started' and 'terms' directories.



The screenshot shows the Akeeba Backup interface with the path '<root> / components / com_apiportal / views /'. Under 'Subdirectories', there is a checkbox for '..' and a list of folders: applications, definition, documentation, download, help, home, image, monitoring, pricing, registration, reset, ssologin, started, and terms. Under 'Files', there is a checkbox for 'Apply to all listed files' and a list of files: index.html.

13. Return to the control panel from the button at the left top.
14. Select 'Database Tables Exclusion' from the 'Include and Exclude Information' section
15. Exclude all tables except

- # assets	- # content_types	- # menu_types
- # associations	- # contentitem_tag_map	- # modules
- # categories	- # discuss_configs	- # modules_menu
- # content	- # easyblog_configs	- # override
- # content_frontpage	- # languages	- # template_styles
- # content_rating	- # menu	- # tags

Akeeba Backup: Database Tables Exclusion

Control Panel

Browser View Summary View

Active Profile: #1 Default Backup Profile

Current database: Site's main database Exclude non-core tables Reset all filters

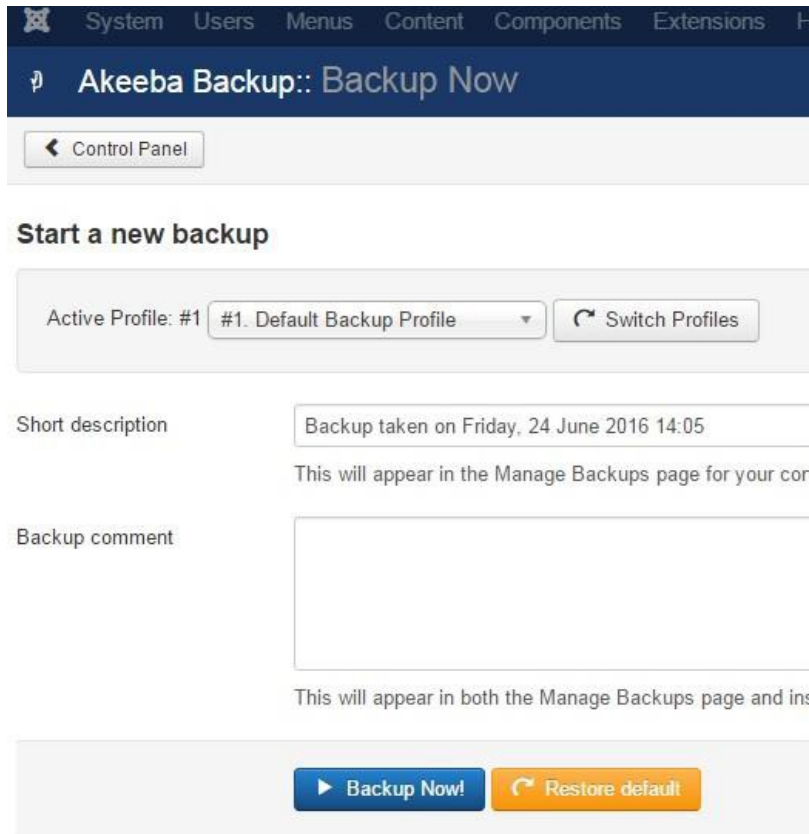
Database tables, views, procedures, functions and triggers

<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_ak_profiles
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_ak_stats
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_ak_storage
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_akeeba_common
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_apiportal_configuration
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_apiportal_user
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_assets
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_associations
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_banner_clients
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_banner_tracks
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_banners
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_categories
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_contact_details
<input checked="" type="checkbox"/>	<input type="checkbox"/>	#_content

See [Appendix 1: Artefacts Promoted](#) for more information about the artefacts that are promoted.

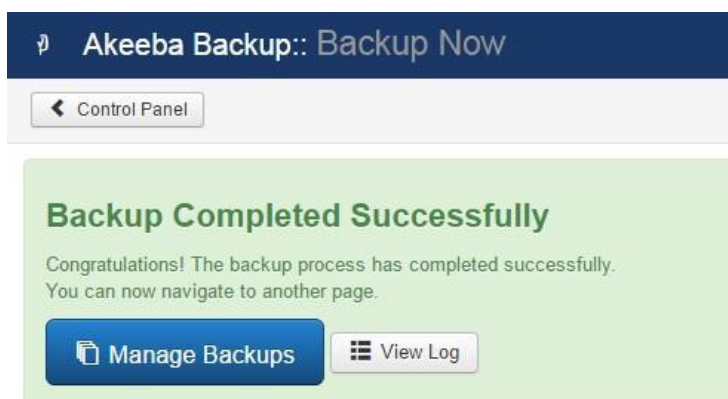
Note that it's recommended to create "profiles" to avoid having to follow steps 8 to 15 each time and be consistent in the process. The profiles are also needed to automate the procedure as described in chapter 4 below.

16. Return to the control panel and from 'Basic Operation', click on the 'Backup Now!' button:



The process will begin.

17. Once the backup is completed, click on Manage Backups:



18. From this page, download the backup package just generated:

System
Users
Menus
Content
Components
Extensions
Help

Akeeba Backup: Manage Backups

Restore
View / Edit comment
Delete
Delete Files
Control Panel

How do I restore my backups?

It's easy! Select the check box next to a backup entry. Now click on the *Restore* button in the toolbar.

If you want to restore to a new, public server you can use the Site Transfer Wizard. If you'd rather do it manually or restore to your own computer or intranet please watch our video tutorial and download Akeeba Kickstart Core (free of charge) to extract

Description
Search
Close
Calendar
Calendar
Search
--Profile--
Backup Start Time

ID	Description	Profile	Duration	Status	Size	Manage & Download
1	<div> Backup taken on Wednesday, 03 May 2017 06:13 2017-05-03 UTC </div>	#1, Default Backup Profile Full site backup	00:01:42	<input checked="" type="checkbox"/>	47.88 Mb	Download View Log i

You're done with the Export.

3 Manual Import to the Target Environment

Describing how to move the backup package from the Source Environment to the Target Environment is out of the scope of this document as it's very dependent on the network infrastructure and security policies in place.

This Import Process must be repeated for each node of a clustered target environment.

1. Login to the Target API Portal OS (often through SSH).
2. Install or make sure the php-mbstring is installed (see detailed instructions in chapter 2 above)
3. Download the kickstart package of Akeeba
 - You can download it from <https://www.akeebabackup.com/products/akeeba-kickstart.html>.
 - Doc: <https://www.akeebabackup.com/documentation/akeeba-kickstart-documentation/using-kickstart.html>
4. Unzip it into the /opt/axway/apiportal/htdoc directory as a wwwrun user
 - `sudo -u wwwrun unzip {path to kickstart package}`
5. Put the backup package into the /opt/axway/apiportal/htdoc directory. The backup package must be assigned to the wwwrun user and must have 0770 permissions:
 - `chown wwwrun:www {path to backup package}`
 - `chmod 770 {path to backup package}`

6. Open a browser and go to <https://{target-host}/kickstart.php>. Choose 'Directly' for 'Write to files' and press the 'Start' button:

Want some help to use this tool? Read this first: [Quick Start Guide](#)

1 Select a backup archive

Import from URL

Archive directory:

Reload

Archive file:

Archive Password (for JPS files)

2 Select an extraction method

Write to files:

Ignore most errors

☐

3 Fine tune

Show advanced options (for experts)

4 Extract files

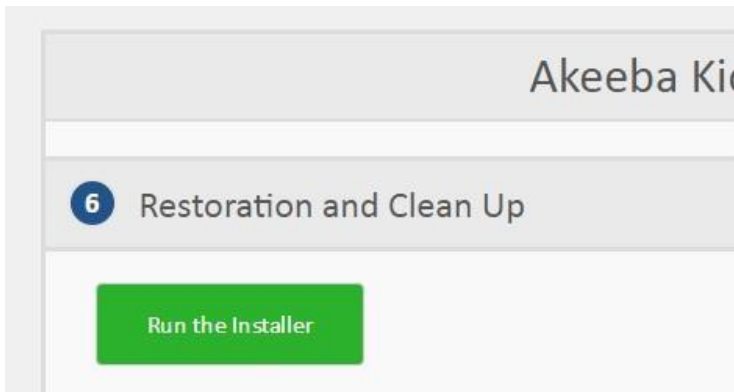
Start

Copyright © 2008–2016 Nicholas K. Dionysopoulos / Akeeba Backup. All legal rights reserved.

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

Design credits: Internet Inspired, heavily modified by AkeebaBackup.com

7. On the next page, click on the 'Run the Installer' button and wait until the next page is loaded:



8. No change is needed here so press the 'Next' button (top or bottom right):

ANGIE – Akeeba Next Generation Installer Engine v5.1.0 Start over Check again Next

No idea what you are supposed to do? Don't panic! [Read the documentation page](#) [Watch the tutorial video](#)

[Pre-installation](#) > [Database Restoration](#) > [Site Setup](#) > [Finished](#)

Pre-installation check

If any of these items is not supported (marked as No) then please take actions to correct them. Failure to do so could lead to your Joomla! installation not functioning correctly.

Setting	Current
PHP Version >= 5.3.1	Yes
Magic Quotes GPC Off	Yes
Register Globals Off	Yes
Zlib Compression Support	Yes
XML Support	Yes
Database Support	Yes
INI Parser Support	Yes
JSON Support	Yes
configuration.php Writeable	Yes

Recommended settings

These settings are recommended for PHP in order to ensure full compatibility with Joomla!. However, Joomla! will still operate if your settings do not quite match the recommended configuration.

Setting	Recommended	Current
Safe Mode	Off	Off
Display Errors	Off	Off
File Uploads	On	On
Magic Quotes Runtime	Off	Off
Output Buffering	Off	Off
Session Auto Start	Off	Off
Native ZIP support	On	On

Backup Information

This information was collected at the time of the backup. They represent the configuration of the server and site which was backed up. It is presented here for your reference and for easier debugging.

Setting	At Backup Time
Host name	10.134.56.72
Backup date	2016-06-24 09:14:16 UTC
Akeeba Backup version	5.1.0
PHP version	5.5.17
Root directory	/opt/axway/apiportal/htdocs

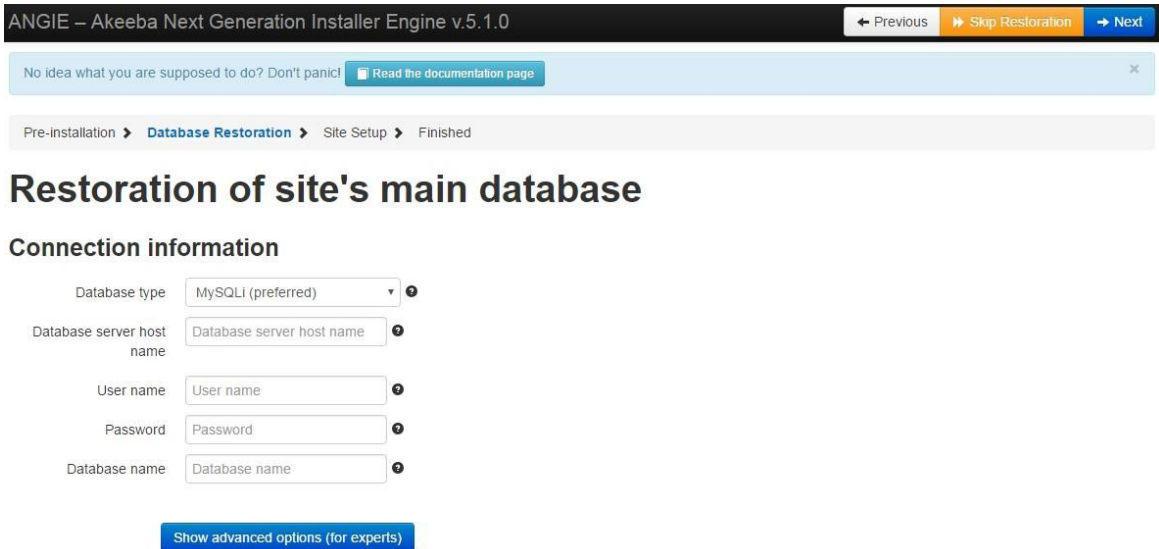
[View README.html](#)

Click the button above to view the README.html file, generated at backup time, containing useful information about your backup.

Copyright ©2006 – 2016 Akeeba Ltd. All rights reserved.
ANGIE is Free Software distributed under the [GNU GPL version 3](#) or any later version published by the FSF.

Start over Check again Next

9. On the next page enter your database credentials and press the 'Next' button:



ANGIE – Akeeba Next Generation Installer Engine v.5.1.0

← Previous Skip Restoration → Next

No idea what you are supposed to do? Don't panic! [Read the documentation page](#)

Pre-installation > **Database Restoration** > Site Setup > Finished

Restoration of site's main database

Connection information

Database type: MySQLi (preferred)

Database server host name: Database server host name

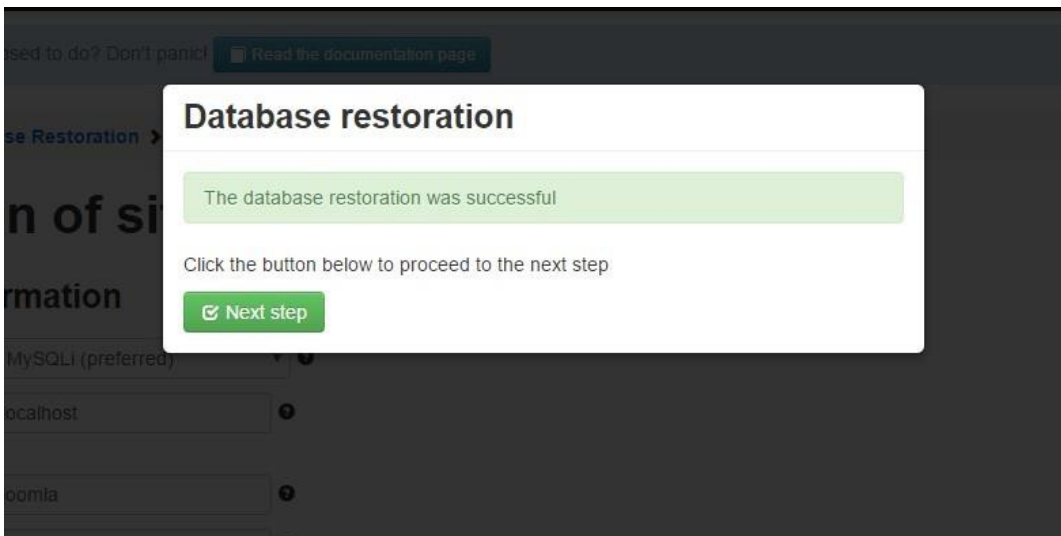
User name: User name

Password: Password

Database name: Database name

Show advanced options (for experts)

10. If the database restore process was successful you will see the follow message box:



Database restoration

The database restoration was successful

Click the button below to proceed to the next step

✓ Next step

11. Go to the 'Next step' where you can make changes to the main configuration as Site Name, Force SSL and etc. Once done, click the 'Next' button:

ANGIE – Akeeba Next Generation Installer Engine v.5.1.0
Previous
Next

No idea what you are supposed to do? Don't panic!
Read the documentation page

Pre-installation > Database Restoration > Site Setup > Finished

Site Parameters

Site name: APIPortal
Site e-mail address: admin@localhost
Site e-mail sender name: APIPortal
Live site URL:
Force SSL: Entire Site
Cookie domain:
Cookie path:
Turn on mail sending: No Yes
Override tmp and log paths

Super User settings

Super User: admin
E-mail: admin@localhost
Password:
Password (repeat):

Directories fine-tuning

Site root: /opt/axway/apiportal/htdocs
Temporary directory: /opt/axway/apiportal/htdocs/tmp
Log directory: /opt/axway/apiportal/htdocs/logs

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ANGIE is Free Software distributed under the GNU GPL version 3 or any later version published by the FSF.
Previous
Next

12. When the below page displays, the promotion process is completed:

ANGIE – Akeeba Next Generation Installer Engine v.5.1.0

No idea what you are supposed to do? Don't panic!
Read the documentation page

Pre-installation > Database Restoration > Site Setup > Finished

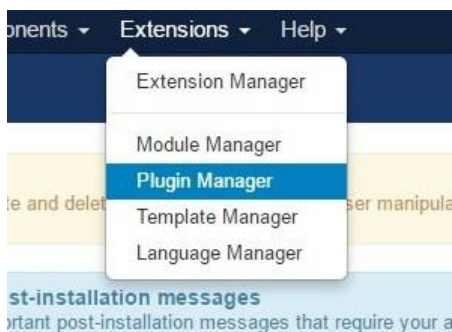
Almost there!

Close this window to return to Kickstart. Click the **Clean Up** button to start using your restored site.

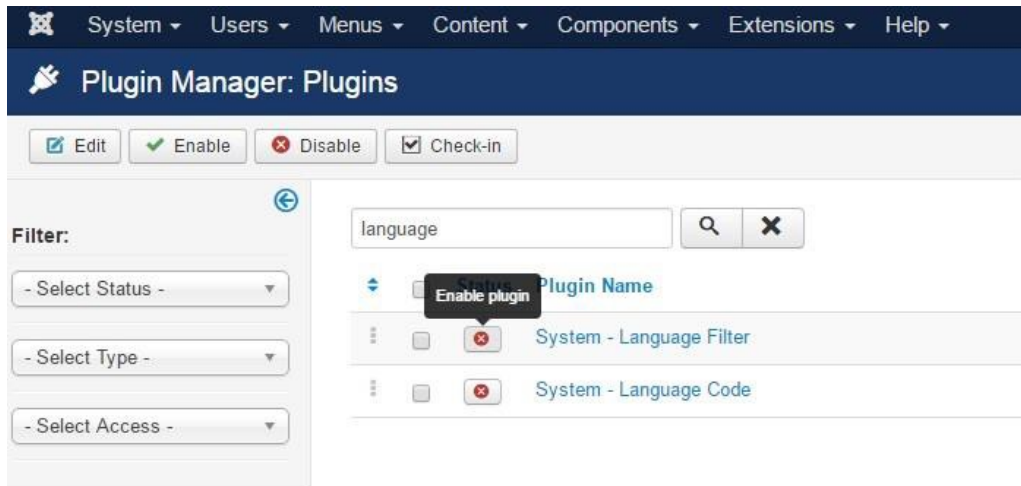
13. Close the current browser tab or just navigate to the one containing the following page and click the 'Clean Up' button:



14. If you have a multi-language setup, one additional step is needed to finish the procedure. Login administrator panel <https://{target-host}/administrator> and go to Extensions->Plugin Manager:



Search for 'language' and in the results find 'System – Language Filter' and enable the plugin:

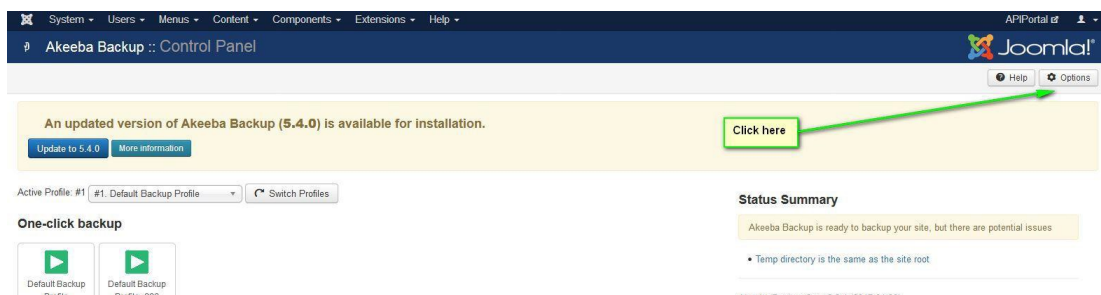


The promotion process is complete.

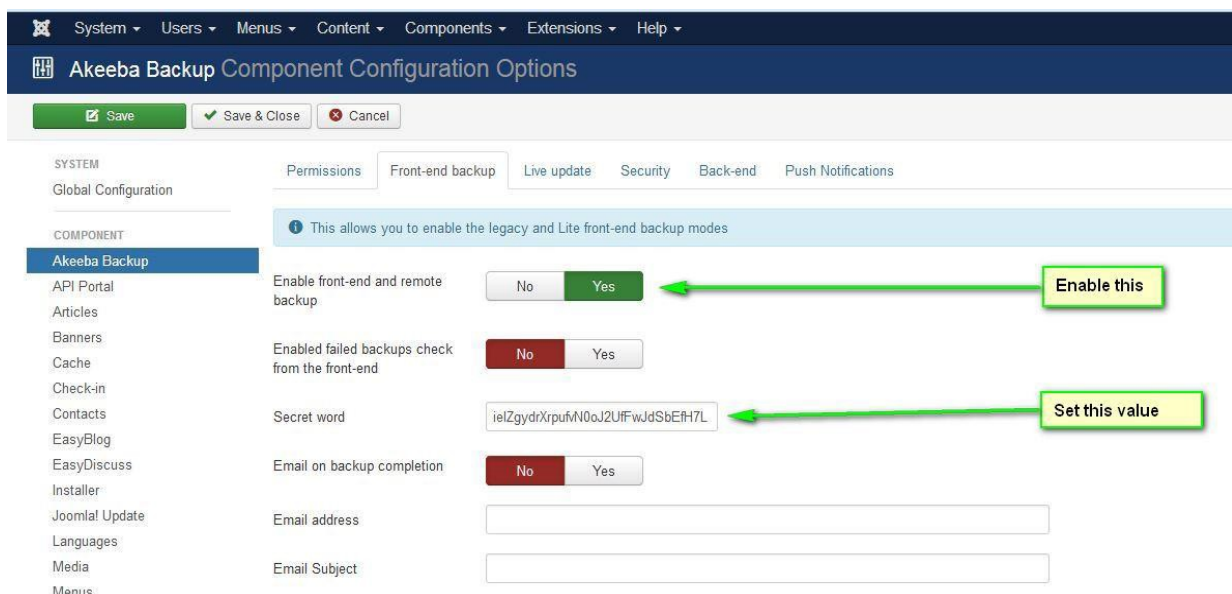
4 Automated Export from Source Environment

Pre-requisite: Automating the export phase requires that a manual export is done at least once before so that Akeeba Backup is installed and a Backup Profile is available for the automated procedure. See chapter 2 above.

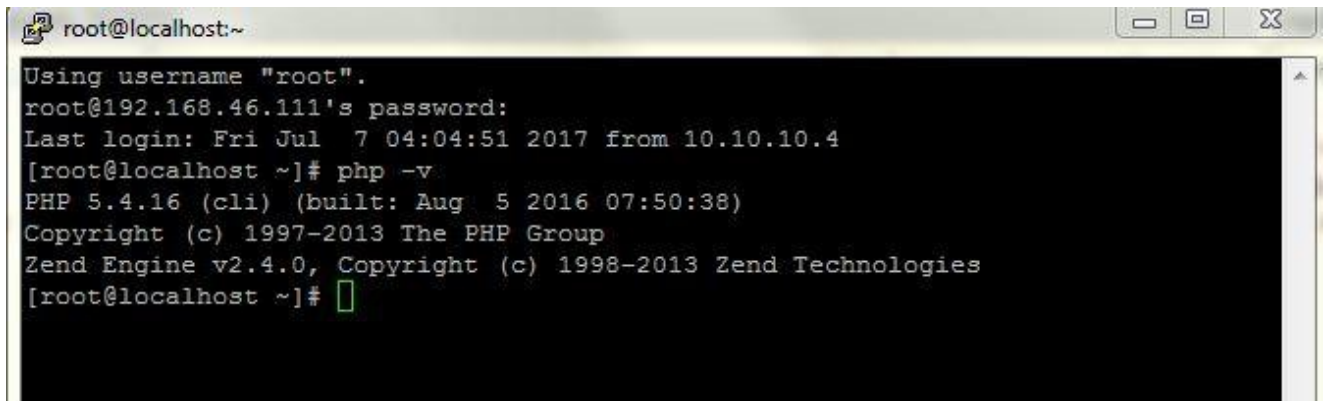
1. Open a browser and login to the Joomla administrator panel (<https://{source-host}/administrator>).
2. Enable the remote API in Akeeba Backup
 - Go to Components → Akeeba Backup and click on the “Options” button on the top right of the screen:



- Set “Enable front-end and remote backup” to Yes.
- Supply a “Secret word” of your choice. This is the passphrase to connect thru Akeeba Backup’s Remote API.



- We strongly recommend using only alphanumeric characters (a-z, A-Z, 0-9), dash and underscore in your Secret Key.
 - Example Secret Key : "ielZgydrXrpufvN0oJ2UfFwJdSbEfH7L"
 - Since API Portal 7.5.4, a Plug-in has been developed to increase further the security of this export process by restricting the IP addresses of clients allowed to connect to the service. Refer to [Appendix 2: Akeeba Export Security Plugin](#) for detailed instructions.
3. Login to the Source API Portal OS (often through SSH).
 4. A command line version of PHP (a.k.a. PHP-CLI) must be installed on your machine.
 - Make sure PHP-CLI installed with below command:
php -v



```

root@localhost:~
Using username "root".
root@192.168.46.111's password:
Last login: Fri Jul 7 04:04:51 2017 from 10.10.10.4
[root@localhost ~]# php -v
PHP 5.4.16 (cli) (built: Aug 5 2016 07:50:38)
Copyright (c) 1997-2013 The PHP Group
Zend Engine v2.4.0, Copyright (c) 1998-2013 Zend Technologies
[root@localhost ~]#
  
```

- Above command will output the version of php-cli.
5. Download Akeeba Remote CLI
 - You can download it from: <https://www.akeebabackup.com/download/remote-cli.html>
 - Doc: <https://www.akeebabackup.com/documentation/arccli.html>
 6. Unzip it. It contains a unique file called remote.phar.
 7. Test the connection with Akeeba Backup
 - Run the below command (with your own host and secret)

```

php remote.phar --action=test --host=https://www.example.com/
--secret=ieIZgydrXrpufvN0oJ2UfFwJdSbEfH7L
  
```

```

root@localhost:/AkeebaRemoteCLI
Using username "root".
root@192.168.46.111's password:
Last login: Fri Jul  7 05:16:45 2017 from 10.10.10.2
[root@localhost ~]# cd /AkeebaRemoteCLI/
[root@localhost AkeebaRemoteCLI]# php remote.phar --action=test --host=https://localhost
--secret=aWhWlm6vffW9oPb1KmSCwkL27oJ4r4BG
Akeeba Remote Control CLI 1.3 (2016-10-11)
Copyright ©2008-2016 Nicholas K. Dionysopoulos / AkeebaBackup.com
-----
This program comes with ABSOLUTELY NO WARRANTY. This is Free Software and you
are welcome to redistribute it under certain conditions. Use command line
option --license for details.
-----
Successful connection to site

[root@localhost AkeebaRemoteCLI]#

```

- Refer to <https://www.akeebabackup.com/documentation/arccli/options.html> in case of problem.
8. Trigger the backup and download the package with the below command (with your own host, secret, profile ID and download path):

```

php remote.phar --action=backup --host=https://www.example.com/apiportal/
--secret=ieIZgydrXrpufvN0oJ2UfFwJdSbEfH7L --profile=1
--download --dlmode=http --dlpath="/target/download/path"

```

You're done with the Export.

5 Automated Import to the Target Environment

1. Download Akeeba Unite (note that an active subscription is needed; it's roughly 40€/€\$)
 - You can download it from: <https://www.akeebabackup.com/download/akeeba-unite.html>
 - Documentation: <https://www.akeebabackup.com/documentation/unite/using.html>
2. Login to the Target API Portal OS (often through SSH).
3. Upload the downloaded file and unzip it to any folder of the target server, for example “/tools/unit/”.
4. Copy the backup file exported in the previous chapter into the “inbox” folder of Akeeba UNITE.
5. Create a configuration.xml file in the “inbox” folder by using the below template (modify the environment specific values to match your environment):

```
<?xml version="1.0" encoding="UTF-8"?>
<unite scripting="02_angie">
  <siteInfo>
    <package>site-localhost-20170703-061023.zip</package>
    <deletePackage>0</deletePackage>
    <localLog>test.log</localLog>
    <emailSysop>0</emailSysop>
    <name>Axway</name>
    <email>admin@example.com</email>
    <absolutePath>/opt/axway/apiportal/htdocs</absolutePath>
  </siteInfo>
  <databaseInfo>
    <database name="site">
      <changecollation>0</changecollation>
      <dbdriver>mysqli</dbdriver>
      <dbhost>localhost</dbhost>
      <dbuser>root</dbuser>
      <dbpass>Admin@123</dbpass>
      <dbname>testtram</dbname>
      <dbprefix>s8f7h_</dbprefix>
    </database>
  </databaseInfo>
</unite>
```

```
<existing>drop</existing>
<foreignkey>1</foreignkey>
<noautovalue>1</noautovalue>
<replace>0</replace>
<utf8db>0</utf8db>
<utf8tables>0</utf8tables>
<utf8mb4>0</utf8mb4>
</database>
</databaseInfo>
</unite>
```

Refer to <https://www.akeebabackup.com/documentation/unite/using.html> in case of problem.

6. Change current working directory to the directory containing “unite.php” and run the below command to execute the import:

```
php unite.php
```

7. Once the import is successful, all details will be shown on screen.

You are done with Import.

6 Appendix 1: Artefacts Promoted

The artefacts that can be promoted are:

Artefact Promoted	Remarks
API Manager settings (IP, cert, ...)	While creating backup include this certificates folder also: \administrator\components\com_apiportal\assets\cert. For config, _apiportal_configuration table needs to be included in backup
Easy Blog/Discuss Settings	Make sure to include #_easyblog_configs and #_discuss_configs tables
Easy Blog/Discuss Messages	Make sure to include #_easyblog_post and #_discuss_posts tables. Also make sure to include the dependent tables like categories, blog users etc.
Theme Magic changes	Make sure this file is included: \templates\purity_iii\local\less\themes\axway\variables-custom.less
Company Name	Make sure the #_extensions table also included while creating backup. Note there is no more company name since API Portal 7.5.3.
Company Logo	
LESS/CSS files	
reCaptcha plug-in	Plugin setting can be promoted, but make sure both site have same domain name.
Menu Entries and Order	
Joomla Articles	
Joomla Categories	
Changes in the PHP code	Make sure to include the files, which have the code changes.
Languages Installed	Make sure #_extensions table is included
Languages Content	

7 Appendix 2: Akeeba Export Security Plugin

Akeeba Remote CLI is a command-line based tool designed to generate backups of Joomla environments in an automated way. This tool is a network client of Akeeba Backup.

The native Akeeba Backup security relies on a Secret Key.

The role of the present plug-in is to add additional security on top of this by white listing IP addresses from which clients are allowed to connect to Akeeba Backup. Typical usage is to restrict to IP addresses from the LAN.

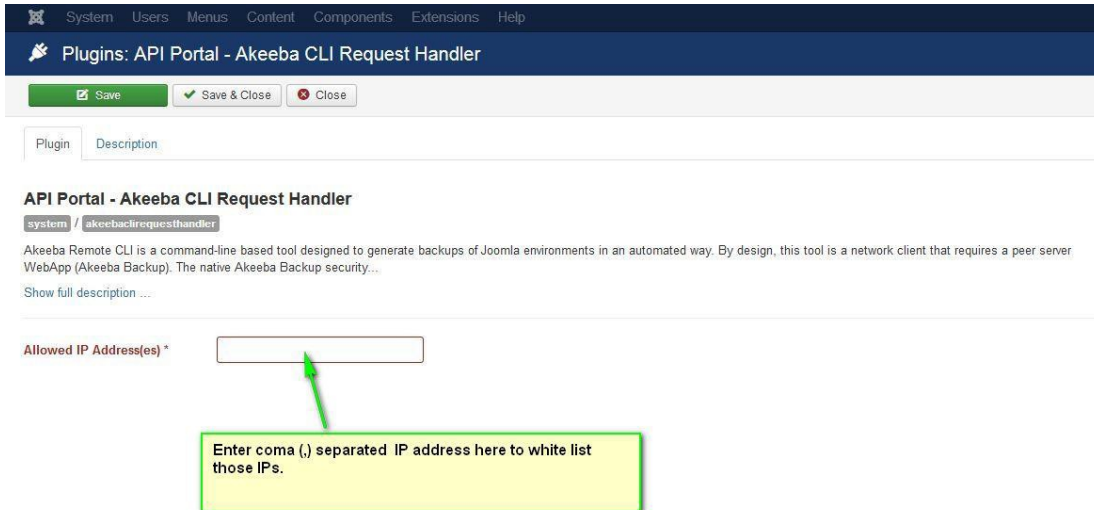
By default, this plug-in is disabled. As soon as it is enabled, it is going to block connections from all incoming IP addresses except those explicitly accepted.

Step by step configuration:

1. Open a browser and login to the Joomla administrator panel (<https://{source-host}/administrator>).
2. Go to Extensions → Plugins, search for “API Portal - Akeeba CLI Request Handler” and click on its status button to enable it:



- Once the plugin is enabled, click on it and add IP addresses to white list them (separated by coma).
An empty value blocks all incoming calls.



The screenshot shows the Joomla! administrator interface for the 'API Portal - Akeeba CLI Request Handler' plugin. The 'Allowed IP Address(es)' field is highlighted with a green arrow and a yellow callout box that reads: 'Enter coma (,) separated IP address here to white list those IPs.'

- Click [Save] or [Save & Close]

From now on, only incoming connections from the IP addresses listed will be accepted.