Linux on IBM System z Web 2.0

Open Source Web 2.0 applications on Red Hat Enterprise Linux 5.3 May 2009

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Note
Before using this document, be sure to read the information in “Notices” on page 23.

Second Edition – May 2009

This edition applies to Red Hat Enterprise Linux 5.3 only.

Contents

Summary of changes

This section describes the changes made in this documentation compared to previous editions. This edition may also include minor corrections and editorial changes that are not identified.

May 2009, Second Edition

- Upgrade to Red Hat Enterprise Linux® 5.3
- Updates to document the current version of each Web 2.0 application
- Correction of minor editorial issues

Chapter 1. Introduction

In recent years, Web 2.0 applications have become more and more attractive to use. Today, the number of available Web 2.0 applications increases day by day, with applications supporting more functionality and providing more flexibility.

The success of a Web 2.0 application is measured by the number of users who are satisfied using that specific application. Open Source Software packages as described in this document, extend the available functionality of Web 2.0 rapidly to exceed the expectations of their users.

Chosen Web 2.0 applications

This document describes the setup of Open Source Web 2.0 applications for the types Wikis, Blogs, Content Management Systems (CMS), Customer Relationship Management (CRM) and e-Commerce. The chosen applications fulfill the following requirements:

- Frequent activity in development community
- Visibility in the press and the Internet
- Good documentation for end users
- Support at least basic functionality

Table 1. Open Source Web 2.0 applications described in this document

Application Type	Application name	Version
Wiki	MediaWiki	1.14.0
	MoinMoin	1.8.3
	XWiki	1.8.2
Blogs	WordPress	2.7.1
	Movable Type	4.25
Content Management Systems (CMS)	Drupal	6.11
	Typo 3 Community Edition	4.2.6
	OpenCMS	7.0.5
	Joomla	1.5.10
e-Commerce	osCommerce	2.2rc2a

Requirements

As required by any application, a specific environment must be set up. Also for a Web 2.0 application the setup of some components must be completed before installation and execution of the application.

The basic setup is described in another white paper *“Setting up a Web 2.0 stack on Red Hat Enterprise Linux 5.3”*, which is available on the developerWorks® Web site “Web 2.0 with RHEL5”. For each application described in this document, the related ’Requirements’ section shows, which components of the Web 2.0 stack are needed.

Assumptions for this white paper

System administrators who read this document should be familiar with, how to setup YUM to include the Red Hat Enterprise Linux 5.3 DVD image and the related supplementary ISO image as repositories.

The configuration of the Web 2.0 applications for SELinux is not covered in this document. In case SELinux is enabled, further steps during the set up of the Web 2.0 applications are required to allow the Apache HTTP server to access the new installed files. For information about SELinux read the SELinux documentation at http://www.nsa.gov/research/selinux/index.shtml.

The commands that are used in this document require specific user rights. Therefore, different command prompts are used:

root@host#
: This is the account of the system administrator named root.

user@host$
: This is an account of a system user. The user root can also be used to perform these commands.

Where to find this document

The latest version of this document and other Web 2.0 related documentation are available on the developerWorks Web site “Web 2.0 with RHEL5”.

Chapter 2. Wikis

A Wiki is a very easy way to setup a collaborative Web page. Every person who has access to the Web page is invited to contribute to it which means to add or modify the existing information. A simplified markup language is used for the editing purpose by default. Almost every Wiki has plugins available which increase the set of functions such as rich text editors which enable the user to use graphical user interfaces to create the content for the Web page.

Setting up MediaWiki

MediaWiki, http://mediawiki.org - the project behind Wikipedia - is a Wiki implemented in PHP. While writing this documentation, the current version is 1.14.0.

Requirements

To run MediaWiki properly, several dependent packages must be installed. These are:

- Apache Web server
- PHP 5.0 (or later)
- MySQL 4.0 (or later) or PostgreSQL 8.1 (or later)

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install MediaWiki on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the MediaWiki TAR file:

```
user@host$ wget -c http://download.wikimedia.org/mediawiki/1.14/mediawiki-1.14.0.tar.gz
```

2. Extract the TAR file:

```
user@host$ tar xzf mediawiki-1.14.0.tar.gz
```

3. Move the extracted folder into a folder which the Apache Web server can access:

```
root@host# mv mediawiki-1.14.0 /var/www/html/mediawiki
```

4. Grant write access on the config folder:

```
root@host# chmod a+xw /var/www/html/mediawiki/config
```

Configuration

To configure MediaWiki, start a Web browser and open the URL http://<server-name>/mediawiki/config. Follow the instructions on the Web page and complete the configuration by clicking the "Install MediaWiki!" button. Next, follow these steps:

1. Remove write access on the config folder:

```
root@host# chmod a-wx /var/www/html/mediawiki/config
```

2. Place the configuration file LocalSettings.php, which has been created during the previous step, into the MediaWiki main folder:

```
root@host# mv /var/www/html/mediawiki/config/LocalSettings.php /var/www/html/mediawiki
```

Finally, restart the Apache HTTP server and access MediaWiki at http://<server-name>/mediawiki.

References

The following URLs provide more detailed information about MediaWiki:

- MediaWiki project Web page, see http://mediawiki.org
- Package requirements, see http://www.mediawiki.org/wiki/Installation
- Installation instructions, see http://www.mediawiki.org/wiki/Manual:Installation_guide

Setting up MoinMoin

MoinMoin, http://moinmo.in, is a Wiki implemented in Python. While writing this documentation, the current version is 1.8.3.

Requirements

To run MoinMoin properly, several dependent packages must be installed. These are:

- Apache Web server
- Python 2.3 (or later) with XML package (PyXML)

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install MoinMoin on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the TAR file:

```
user@host$ wget -c http://static.moinmo.in/files/moin-1.8.3.tar.gz
```

2. Extract the TAR file:

```
user@host$ tar xzf moin-1.8.3.tar.gz
```

3. Installation of static components of MoinMoin:

```
root@host# cd moin-1.8.3
root@host# python setup.py install --prefix='/usr/local' --record=install.log
```

4. Installation of a MoinMoin entity. Download the script createinstance.sh, which is available at http://moinmo.in/HelpOnInstalling/WikiInstanceCreation.
5. Modify the createinstance.sh script:
   - Set the variable SHARE to 'SHARE=/usr/local/share/moin'
   - Set the variable USER to 'USER=apache'
   - Set the variable GROUP to 'GROUP=apache'
6. Set the executable flag for the createinstance.sh script:

```
root@host# chmod a+x createinstance.sh
```

7. Run the createinstance.sh script to create a Wiki instance at /var/data/moin/moinmoin:

```
root@host# ./createinstance.sh /var/data/moin/moinmoin
```

Configuration

To complete the setup, some adjustments to the configuration of the newly created Wiki instance are required:

1. Modify the configuration file /var/data/moin/moinmoin/wikiconfig.py:
   - Set the 'data_dir' variable to 'data_dir=/var/data/moin/moinmoin/data/'

- Set the 'data_underlay_dir' variable to 'data_underlay_dir=/var/data/moin/moinmoin/underlay/'

2. Copy moin.cgi from the static MoinMoin installation to the newly created Wiki instance:

```
root@host# cp /usr/local/share/moin/server/moin.cgi /var/data/moin/moinmoin
```

3. Modify the /var/data/moin/moinmoin/moin.cgi to adapt the location of the MoinMoin Python modules:

```
sys.path.insert(0, '/usr/local/lib/python2.4/site-packages/')
```

4. Extend the Apache HTTP server to include the setup of the newly created MoinMoin Wiki instance. As user “root”, create a file named '/etc/httpd/conf.d/moinmoin.conf' with the following content:

```
Alias /moin_static183/ "/usr/local/share/moin/htdocs/"
<Directory "/usr/local/share/moin/htdocs/">
  Order allow,deny
  Allow from all
</Directory>

ScriptAlias /moinmoin "/var/data/moin/moinmoin/moin.cgi"
<Directory "/var/data/moin/moinmoin/">
        AllowOverride None
        Options +ExecCGI -Includes
        Order allow,deny
        Allow from all
</Directory>
```

Finally, restart the Apache HTTP server and access MoinMoin at http://<server-name>/moinmoin.

References

The following URLs provide more detailed information about MoinMoin:

- MoinMoin project Web page, see http://moinmo.in/
- Package requirements, see http://moinmo.in/MoinMoinDependencies
- Installation instructions, see http://moinmo.in/HelpOnInstalling/BasicInstallation

Setting up XWiki

XWiki, http://www.xwiki.org, is a Wiki implemented in Java™. While writing this documentation, the current version is 1.8.2.

Requirements

To run XWiki properly, several dependent packages must be installed. These are in general:

- Apache Tomcat server
- Java 5
- MySQL (with MySQL Connector/J) or PostgreSQL (with postgresql-jdbc)
- jcip-annotations Java library

The MySQL Connector/J and the jcip-annotations Java library are not in the Red Hat Enterprise Linux 5.3 distribution. The installation of the jcip-annotations Java library is described in the 'Installation' section of this chapter. For the other components, refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5".

Installation

To install XWiki on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the XWiki Web archive:

```
user@host$ wget -c http://download.forge.objectweb.org/xwiki/xwiki-enterprise-web-1.8.2.war
```

2. Extract the Web archive into the webapps folder of the Apache Tomcat server

```
root@host# unzip -qq xwiki-enterprise-web-1.8.2.war -d /usr/share/tomcat5/webapps/xwiki
```

3. Download the jcip-annotations Java library and place it into the WEB-INF/lib directory of the XWiki application

```
user@host$ wget -c http://www.jcip.net/jcip-annotations.jar
root@host# mv jcip-annotations.jar /usr/share/tomcat5/webapps/xwiki/WEB-INF/lib
```

4. Deploy the Web application by restarting the Apache Tomcat server:

```
root@host# service tomcat5 restart
```

Configuration

The configuration of XWiki includes the setup of a database and the modification of the XWiki Hibernate configuration file. This is described in the following steps:

1. XWiki can use various databases to store the data. In this documentation, the setup using a MySQL database with specific user privileges is explained. The example uses the user "root" as MySQL admin who creates the database "xwikidb" and grants the privileges to the new user "xwiki":

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE xwikidb;
  mysql> GRANT ALL PRIVILEGES ON xwikidb.* TO "xwiki"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. Modify the Hibernate configuration file /usr/share/tomcat5/webapps/xwiki/WEB-INF/hibernate.cfg.xml as user "root" to enable the MySQL database setup. Uncomment the section "MySQL configuration." to activate the following data:

```
<property name="connection.url">
    jdbc:mysql://localhost/xwikidb?useServerPrepStmts=false&amp;sessionVariables=sql_mode=''
</property>
<property name="connection.username">xwiki</property>
<property name="connection.password">xwikipw</property>
<property name="connection.driver_class">com.mysql.jdbc.Driver</property>
<property name="dialect">org.hibernate.dialect.MySQLDialect</property>
<property name="connection.provider_class">com.xpn.xwiki.store.DBCPConnectionProvider</property>
<property name="connection.pool_size">2</property>
<property name="statement_cache.size">2</property>
<mapping resource="xwiki.hbm.xml"/>
<mapping resource="feeds.hbm.xml"/>
```

Verify the values for the properties “connection.url”, “connection.username” and “connection.password” to be set accordingly to the previously created database.

Finally, restart the Apache Tomcat server and access XWiki at http://<server-name>:<port>/xwiki.

References

The following URLs provide more detailed information about XWiki:

- XWiki project page, see http://www.xwiki.org
- Installation instructions, see http://platform.xwiki.org/xwiki/bin/view/AdminGuide/Installation

Chapter 3. Blogs

A Blog is a Web page which includes information of one user in a reverse chronographic manner. Therefore it is often compared to a personal diary. The difference is, that the information within a Blog might be shared with other users who are then enabled to comment on Blog entries.

Setting up WordPress

WordPress, http://wordpress.org, is a Blog implemented in PHP. While writing this documentation, the current version is 2.7.1.

Requirements

To run WordPress properly, several dependent packages must be installed. These are:

- Apache Web server
- PHP 4.3 (or later)
- MySQL 4.0 (or later)

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install WordPress on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the WordPress TAR file:

```
user@host$ wget -c http://wordpress.org/wordpress-2.7.1.tar.gz
```

2. Extract the TAR file:

```
user@host$ tar xzf wordpress-2.7.1.tar.gz
```

3. Move the extracted folder into a folder which the Apache Web server can access:

```
root@host# mv wordpress /var/www/html
```

Configuration

The configuration of WordPress includes the setup of a database and the modification of the WordPress configuration file. This is described in the following steps:

1. WordPress uses a MySQL database to store the data. Therefore a database with specific user privileges must be setup. In the example, the "root" user is the MySQL admin who creates the database "wordpressdb" and grants the privileges to the new user "wordpress". Here, the MySQL command prompt is used to setup the database:

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE wordpressdb;
  mysql> GRANT ALL PRIVILEGES ON wordpressdb.* TO "wordpress"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. Copy the sample configuration file /var/www/html/wordpress/wp-config-sample.php to the configuration file which gets recognized by WordPress:

```
root@host# cp /var/www/html/wordpress/wp-config-sample.php /var/www/html/wordpress/wp-config.php
```

3. Adopt the settings for the MySQL database into the configuration file /var/www/html/wordpress/wp-config.php as user “root”. Therefore set the following attributes:

```
define('DB_NAME', 'wordpressdb');
define('DB_USER', 'wordpress');
define('DB_PASSWORD', '<password>');
define('DB_HOST', 'localhost');
```

Finally, restart the Apache HTTP server and access WordPress at http://<server-name>/wordpress.

References

The following URLs provide more detailed information about WordPress:

- WordPress project page, see http://wordpress.org
- Package requirements, see http://wordpress.org/about/requirements/
- Installation instructions, see http://codex.wordpress.org/Installing_WordPress

Setting up Movable Type

Movable Type, http://www.movabletype.org, is a blogging software implemented in Perl and PHP. While writing this document, the current version is 4.25.

Requirements

To run Movable Type properly several dependent packages are required to be installed. These are:

- Apache Web server
- PHP 5
- Perl 5.8.1 (or later)
- MySQL 4.0 (or later) or PostgreSQL 8.0 (or later)

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install Movable Type on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the Movable Type TAR file:

```
user@host$ wget -c http://www.movabletype.org/downloads/stable/MTOS-4.25-en.tar.gz
```

2. Extract the TAR file:

```
user@host$ tar xzf MTOS-4.25-en.tar.gz
```

3. Move the static components of Movable Type to the Web server:

```
root@host# cd MTOS-4.25-en
root@host# mv mt-static /var/www/html/
```

4. Move the CGI content to the cgi-bin folder of the Web server:

```
root@host# cd ..
root@host# mv MTOS-4.25–en /var/www/cgi-bin/mt
```

5. Grant access and executable rights:

```
root@host# chmod a+x /var/www/cgi-bin/mt/*.cgi
root@host# chmod a+w /var/www/cgi-bin/mt
root@host# chmod a+w /var/www/html/mt-static/support
```

Configuration

The configuration of Movable Type includes the setup of a database and the execution of the installation wizard. This is described in the following steps:

1. Movable Type can use a MySQL or PostgreSQL database to store the data. In this documentation, the setup using a MySQL database with specific user privileges is explained. The example uses the user "root" as MySQL admin who creates the database "movabledb" and grants the privileges to the new user "movable". Here, the MySQL command prompt is used to setup the database:

```
userqhost$ mysql -u root -p
  mysql> CREATE DATABASE movabledb;
  mysql> GRANT ALL PRIVILEGES ON movabledb.* TO "movable"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. Create a folder for the initial Movable Type instance:

```
root@host# mkdir /var/www/html/<blog-name>
root@host# chown apache:apache /var/www/html/<blog-name>
root@host# chmod u+w /var/www/html/<blog-name>
```

3. To start the Movable Type installation wizard, open a Web browser and access the wizard at the following URL http://<server-name>/cgi-bin/mt/mt.cgi. The upcoming wizard guides the user to complete the setup.
4. After the wizard completed, adjust the access rights to the installation:

```
root@host# chmod a-w /var/www/cgi-bin/mt
```

Finally, restart the Apache HTTP server and access Movable Type at http://<server-name>/cgi-bin/mt/mt.cgi.

References

The following URLs provide more detailed information about Movable Type:

- Movable Type project page, see http://www.movabletype.org/
- Package requirements, see http://www.movabletype.org/documentation/system-requirements.html
- Installation instructions, see http://www.movabletype.org/documentation/installation/

Chapter 4. Content Management Systems (CMS)

A Content Management System (CMS) is used to organize content of different types such as documents, multimedia files, Web pages or other electronic data. The key functionality of a CMS is to store and control the data in a structured way as well as to keep the history available.

Setting up Drupal

Drupal, http://drupal.org, is a content management system (CMS) implemented in PHP. While writing this documentation, the current version is 6.11.

Requirements

To run Drupal properly, several dependent packages must be installed. These are:

- Apache Web server
- PHP 5.2 (or later) with mbstring extension (php-mbstring)
- MySQL 4.1 (or later) or PostgreSQL 7.4 (or later)

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install Drupal on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the Drupal TAR file:

```
user@host$ wget -c http://ftp.drupal.org/files/projects/drupal-6.11.tar.gz
```

2. Extract the TAR file:

```
user@host$ tar xzf drupal-6.11.tar.gz
```

3. Move the extracted folder into a folder which the Apache Web server can access:

```
root@host# mv drupal-6.11 /var/www/html/drupal
```

4. Copy the default configuration file to the configuration file settings.php used by Drupal:

```
root@host# cp /var/www/html/drupal/sites/default/default.settings.php /var/www/html/drupal/sites/default/settings.php
```

5. Grant write access to the Drupal configuration file settings.php:

```
root@host# chmod a+w /var/www/html/drupal/sites/default/settings.php
```

6. Create a data directory and grant user permissions:

```
root@host# mkdir /var/www/html/drupal/sites/default/files
root@host# chown apache:apache /var/www/html/drupal/sites/default/files
```

Configuration

The configuration of Drupal includes the setup of a database and the execution of the installation wizard. This is described in the following steps:

1. Drupal can use a MySQL or PostgreSQL database to store the information. In this documentation, the setup using a MySQL database with specific user privileges is explained. The example uses the user “root” as MySQL admin who creates the database “drupaldb” and grants the privileges to the new user “drupal”. Here, the MySQL command prompt is used to setup the database:

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE drupaldb;
  mysql> GRANT ALL PRIVILEGES ON drupaldb.* TO "drupal"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. To start the Drupal installation wizard, open a Web browser and access the wizard at the following the URL http://<server-name>/drupal. The upcoming wizard guides the user to complete the setup.
3. After the wizard completed, change the access rights of the Drupal configuration file settings.php:

```
root@host# chmod a-w /var/www/html/drupal/sites/default/settings.php
```

Finally, restart the Apache HTTP server and access Drupal at http://<server-name>/drupal.

References

The following URLs provide more detailed information about Drupal:

- Drupal project page, see http://drupal.org/
- Package requirements, see http://drupal.org/requirements
- Installation instructions, see http://drupal.org/getting-started/6/install

Setting up Typo 3

Typo 3, http://typo3.org, is a Content Management System which is implemented in PHP. While writing this documentation, the current version is 4.2.6.

Requirements

To run Typo 3 properly, several dependent packages must be installed. These are:

- Apache Web server
- PHP 5.2 (or later)
- MySQL or PostgreSQL

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install Typo 3 on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the Typo 3 archive:

```
user@host$ wget http://garr.dl.sourceforge.net/sourceforge/typo3/typo3_src+dummy-4.2.6.zip
```

2. Extract the archive:

```
user@host$ unzip -qq typo3_src+dummy-4.2.6.zip
```

3. Move the extracted folder into a folder which the Apache Web server can access:

```
root@host# mv typo3_src+dummy-4.2.6 /var/www/html/typo3
```

4. Grant write access to a configuration file and some folders:

```
root@host# chmod u+w /var/www/html/typo3/typo3conf/localconf.php
root@host# chmod u+w /var/www/html/typo3/typo3/templates
root@host# chmod u+w /var/www/html/typo3/typo3temp
```

5. Create a configuration file to initiate the Typo 3 installation tool:

```
root@host# touch /var/www/html/typo3/typo3conf/ENABLE_INSTALL_TOOL
```

6. Change the owner of the Typo 3 folder:

```
root@host# chown -R apache:apache /var/www/html/typo3
```

7. Verify the variable memory_limit in /etc/php.ini to be set to a value of at least 40M:

```
root@host# cat /etc/php.ini |grep memory_limit
memory_limit = 40M      ; Maximum amount of memory a script may consume
```

Configuration

The configuration of Typo 3 includes the setup of a database and the execution of an installation wizard. This is described in the following steps:

1. Typo 3 can use a MySQL or PostgreSQL database to store the data. In this documentation, the setup using a MySQL database with specific user privileges is explained. The example uses the user “root” as MySQL admin who creates the database “typo3db” and grants the privileges to the new user “typo3”. Here, the MySQL command prompt is used to setup the database:

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE typo3db;
  mysql> GRANT ALL PRIVILEGES ON typo3db.* TO "typo3"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. To start the Typo 3 installation wizard, open a Web browser and access the wizard at the following URL http://<server-name>/typo3. The upcoming wizard guides the user to complete the setup.

Finally, restart the Apache HTTP server and access the Typo 3 backend at http://<server-name>/typo3/typo3/backend.php.

References

The following URLs provide more detailed information about Typo 3

- Typo 3 project Web page, see http://typo3.org
- Package requirements, see http://typo3.org/about/system-requirements/
- Installation instructions, see http://typo3.org/documentation/document-library/tutorials/doc_tut_quickstart/0.1.0/view/1/2/

Setting up OpenCms

OpenCms, http://www.opencms.org, is a Content Management System (CMS) which is implemented in Java. While writing this documentation, the current version is 7.0.5.

Requirements

To run OpenCMS properly, several dependent packages are required to be installed. These are:

- Apache Tomcat server 5 (or later)
- Java 5
- MySQL 5

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install OpenCms on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the OpenCms archive:

```
user@host$ wget -c http://www.opencms.org/downloads/opencms/opencms_7.0.5.zip
```

2. Extract the Web archive from the archive:

```
user@host$ unzip -qq opencms_7.0.5.zip opencms.war
```

3. Move the Web archive to the webapps folder of the Apache Tomcat server for deployment:

```
root@host# mv opencms.war /usr/share/tomcat5/webapps/
```

4. Deploy the Web application by restarting the Apache Tomcat server:

```
root@host# service tomcat5 restart
```

Configuration

The configuration of OpenCms includes the setup of a database and the execution of an installation wizard. This is described in the following steps:

1. OpenCMS can use various databases to store the information. In this documentation, the setup using a MySQL database with specific user privileges is explained. The example uses the user "root" as MySQL admin who creates the database "opencmsdb" and grants the privileges to the new user "opencms":

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE opencmsdb;
  mysql> GRANT ALL PRIVILEGES ON opencmsdb.* TO "opencms"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. To start the OpenCms installation wizard, open a Web browser and access the wizard at the following URL http://<server-name>:<port>/opencms/setup. The upcoming wizard guides the user to complete the setup.

Note: Processing the wizard requests to drop the previously created "opencmsdb" to be able to create a new database.

Finally, the OpenCms application is available at the URL http://<server-name>:<port>/opencms/opencms/index.jsp

References

The following URLs provide more detailed information about OpenCms:

- OpenCms project page, see http://www.opencms.org
- Installation instructions, see http://www.opencms.org/en/development/installation/

Setting up Joomla

Joomla, http://www.joomla.org, is a Content Management System (CMS) which is implemented in PHP. While writing this documentation, the current version is 1.5.10.

Requirements

To run Joomla properly, several dependent packages are required to be installed. These are:

- Apache Web server
- PHP 5.0 (or later)
- MySQL 4.0 (or later)

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install Joomla on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the Joomla archive:

```
user@host$ wget -c http://joomlacode.org/gf/download/frsrelease/9910/37908/Joomla_1.5.10-Stable-Full_Package.zip
```

2. Create a folder which the Apache Web server can access:

```
root@host# mkdir /var/www/html/joomla
```

3. Extract the archive into the folder /var/www/html/joomla:

```
root@host# unzip -qq Joomla_1.5.10-Stable-Full_Package.zip -d /var/www/html/joomla
```

4. Grant write access on the folder /var/www/html/joomla:

```
root@host# chmod a+w /var/www/html/joomla/
```

Configuration

The configuration of Joomla includes the setup of a database and the execution on an installation wizard. This is described in the following steps

1. Joomla can use various databases to store the information. In this documentation, the setup using a MySQL database with specific user privileges is explained. The example uses the user "root" as MySQL admin who creates the database "joomladb" and grants the privileges to the new user "joomla":

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE joomladb;
  mysql> GRANT ALL PRIVILEGES ON joomladb.* TO "joomla"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. To start the Joomla installation wizard, open a Web browser and access the wizard at the following URL http://<server-name>/joomla. The upcoming wizard guides the user to complete the setup.
3. Remove the folder /var/www/html/joomla/installation:

```
root@host# rm -rf /var/www/html/joomla/installation
```

Finally, the Joomla application is available at the URL http://<server-name>/joomla

References

The following URLs provide more detailed information about Joomla:

- Joomla project page, see http://www.joomla.org
- Installation instructions, see http://downloads.joomlacode.org/docmanfileversion/1/7/4/17471/1.5_Installation_Manual_version_0.5.pdf

Chapter 5. e-Commerce

An e-Commerce application offers the functionality to quickly build up an online store. Managing the product portfolio, providing billing services and publishing the information on the Internet are basic functionality of an e-Commerce application.

Setting up osCommerce

osCommerce, http://www.oscommerce.com, is an online shop e-commerce solution which is implemented in PHP. While writing this documentation, the current version is 2.2rc2a.

Requirements

To run osCommerce properly, several dependent packages are required to be installed. These are:

- Apache Web server
- PHP
- MySQL

All of these dependent packages are available in the Red Hat Enterprise Linux 5.3 distribution. Refer to the document *"Setting up a Web 2.0 stack"* on the developerWorks Web site "Web 2.0 with RHEL5" on how to setup these components.

Installation

To install osCommerce on Red Hat Enterprise Linux 5.3 follow these steps:

1. Download the osCommerce package:

```
user@host$ wget -c http://www.oscommerce.com/ext/oscommerce-2.2rc2a.zip
```

2. Extract the archive:

```
user@host$ unzip -qq oscommerce-2.2rc2a.zip
```

3. Move the catalog folder of the extracted archive into a folder, which can be accessed by the Apache HTTP server:

```
root@host# cd oscommerce-2.2rc2a
root@host# mv catalog /var/www/html/
```

4. Grant write access to configuration files:

```
root@host# chmod a+w /var/www/html/catalog/includes/configure.php
root@host# chmod a+w /var/www/html/catalog/admin/includes/configure.php
```

Configuration

The configuration of osCommerce includes the setup of a database and the execution on an installation wizard. This is described in the following steps

1. osCommerce uses a MySQL database to store the data. Therefore a database with specific user privileges must be setup. In the example, the "root" user is the MySQL admin who creates the database "oscommercedb" and grants the privileges to the new user "oscommerce". Here, the MySQL command prompt is used to setup the database:

```
user@host$ mysql -u root -p
  mysql> CREATE DATABASE oscommercedb;
  mysql> GRANT ALL PRIVILEGES ON oscommercedb.* TO "oscommerce"@"localhost" IDENTIFIED BY "<password>";
  mysql> FLUSH PRIVILEGES;
  mysql> quit
```

2. To start the osCommerce installation wizard, open a Web browser and access the wizard at the following URL http://<server-name>/catalog/install. The upcoming wizard guides the user to complete the setup.
3. Remove the folder /var/www/html/catalog/install:

```
root@host# rm -rf /var/www/html/catalog/install
```

4. Remove write access to configuration files:

```
root@host# chmod a-w /var/www/html/catalog/includes/configure.php
root@host# chmod a-w /var/www/html/catalog/admin/includes/configure.php
```

Finally, the osCommerce application is available at the URL http://<server-name>/catalog

References

The following URL provide more detailed information about osCommerce:

- osCommerce project page, see http://www.oscommerce.com

Further documentation is provided within the archive which is available at

- http://www.oscommerce.com/ext/oscommerce-2.2rc2a.zip

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