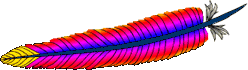
Previously we discussed about how to install [Apache](http://www.thegeekstuff.com/2008/07/install-apache-2-from-source-on-linux/)and [PHP](http://www.thegeekstuff.com/2008/07/instruction-guide-to-install-php5-from-source-on-linux/)from source. Installing LAMP stack from source will give you full control to configure different parameters.

**Installing LAMP stack using yum** is very easy and takes only minutes. This is a good option for beginners who don’t feel comfortable installing from source. Also, Installing LAMP stack using yum is a good choice, if you want to keep things simple and just use the default configuration.

1. Install Apache using Yum



# **rpm -qa | grep httpd**

[Note: If the above command did not return anything,

install apache as shown below]

# **yum install httpd**

Verify that Apache got installed successfully

# **rpm -qa | grep -i http**

httpd-tools-2.2.9-1.fc9.i386

httpd-2.2.9-1.fc9.i386

Enable httpd service to start automatically during system startup using chkconfig.  Start the Apache as shown below.

# **chkconfig httpd on**

# **service httpd start**

Starting httpd: [ OK ]

2. Upgrade Apache using Yum

If you’ve selected web server package during Linux installation, Apache is already installed on your Linux. In which case, you can upgrade Apache to the latest version as shown below.

Check whether Apache is already installed.

# **rpm -qa | grep -i http**

httpd-tools-2.2.8-3.i386

httpd-2.2.8-3.i386

[Note: This indicates that Apache 2.2.8 version is installed already]

Check whether latest version of Apache is available for installation using yum.

# **yum check-update httpd**

Loaded plugins: refresh-packagekit

httpd.i386 2.2.9-1.fc9 updates

[Note: This indicates that the latest Apache version 2.2.9

is available for upgrade]

Upgrade Apache to latest version using yum.

# **yum update httpd**

Output of the *yum update httpd* command:

Loaded plugins: refresh-packagekit

Setting up Update Process

Resolving Dependencies

--> Running transaction check

---> Package httpd.i386 0:2.2.9-1.fc9 set to be updated

--> Processing Dependency: httpd-tools = 2.2.9-1.fc9 for package: httpd

--> Running transaction check

---> Package httpd-tools.i386 0:2.2.9-1.fc9 set to be updated

--> Finished Dependency Resolution

Dependencies Resolved

=============================================================================

Package Arch Version Repository Size

=============================================================================

Updating:

httpd i386 2.2.9-1.fc9 updates 975 k

httpd-tools i386 2.2.9-1.fc9 updates 69 k

Transaction Summary

=============================================================================

Install 0 Package(s)

Update 2 Package(s)

Remove 0 Package(s)

Total download size: 1.0 M

Is this ok [y/N]: y

Downloading Packages:

(1/2): httpd-tools-2.2.9-1.fc9.i386.rpm | 69 kB 00:00

(2/2): httpd-2.2.9-1.fc9.i386.rpm | 975 kB 00:00

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

**Updating : httpd-tools [1/4]**

**Updating : httpd [2/4]**

**Cleanup : httpd [3/4]**

**Cleanup : httpd-tools [4/4]**

Updated: httpd.i386 0:2.2.9-1.fc9 httpd-tools.i386 0:2.2.9-1.fc9

**Complete!**

Verify whether the Apache got upgraded successfully.

# **rpm -qa | grep -i http**

httpd-tools-2.2.9-1.fc9.i386

httpd-2.2.9-1.fc9.i386

[Note: This indicates that Apache was upgraded to 2.2.9 successfully]

3. Install MySQL using Yum



Yum is very smart to identify all the dependencies and install those automatically. For example, while installing mysql-server using yum, it also automatically installs the depended mysql-libs, perl-DBI, mysql, perl-DBD-MySQL packages as shown below.

# **yum install mysql-server**

Output of *yum install mysql-server* command:

Loaded plugins: refresh-packagekit

Setting up Install Process

Parsing package install arguments

Resolving Dependencies

--> Running transaction check

---> Package mysql-server.i386 0:5.0.51a-1.fc9 set to be updated

--> Processing Dependency: libmysqlclient\_r.so.15 for mysql-server

--> Processing Dependency: libmysqlclient.so.15 for mysql-server

--> Processing Dependency: perl-DBI for package: mysql-server

--> Processing Dependency: mysql = 5.0.51a-1.fc9 for package: mysql-server

--> Processing Dependency: libmysqlclient.so.15 for package: mysql-server

--> Processing Dependency: perl(DBI) for package: mysql-server

--> Processing Dependency: perl-DBD-MySQL for package: mysql-server

--> Processing Dependency: libmysqlclient\_r.so.15 for package: mysql-server

--> Running transaction check

---> Package mysql.i386 0:5.0.51a-1.fc9 set to be updated

---> Package mysql-libs.i386 0:5.0.51a-1.fc9 set to be updated

---> Package perl-DBD-MySQL.i386 0:4.005-8.fc9 set to be updated

---> Package perl-DBI.i386 0:1.607-1.fc9 set to be updated

--> Finished Dependency Resolution

Dependencies Resolved

=============================================================================

Package Arch Version Repository Size

=============================================================================

Installing:

mysql-server i386 5.0.51a-1.fc9 fedora 9.8 M

Installing for dependencies:

mysql i386 5.0.51a-1.fc9 fedora 2.9 M

mysql-libs i386 5.0.51a-1.fc9 fedora 1.5 M

perl-DBD-MySQL i386 4.005-8.fc9 fedora 165 k

perl-DBI i386 1.607-1.fc9 updates 776 k

Transaction Summary

=============================================================================

Install 5 Package(s)

Update 0 Package(s)

Remove 0 Package(s)

Total download size: 15 M

Is this ok [y/N]: y

Downloading Packages:

(1/5): perl-DBD-MySQL-4.005-8.fc9.i386.rpm | 165 kB 00:00

(2/5): perl-DBI-1.607-1.fc9.i386.rpm | 776 kB 00:00

(3/5): mysql-libs-5.0.51a-1.fc9.i386.rpm | 1.5 MB 00:00

(4/5): mysql-5.0.51a-1.fc9.i386.rpm | 2.9 MB 00:00

(5/5): mysql-server-5.0.51a-1.fc9.i386.rpm | 9.8 MB 00:01

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

**Installing : mysql-libs [1/5]**

**Installing : perl-DBI [2/5]**

**Installing : mysql [3/5]**

**Installing : perl-DBD-MySQL [4/5]**

**Installing : mysql-server [5/5]**

Installed: mysql-server.i386 0:5.0.51a-1.fc9

Dependency Installed:

mysql.i386 0:5.0.51a-1.fc9 mysql-libs.i386 0:5.0.51a-1.fc9

perl-DBD-MySQL.i386 0:4.005-8.fc9 perl-DBI.i386 0:1.607-1.fc9

**Complete!**

Verify whether MySQL got installed properly.

# **rpm -qa | grep -i mysql**

php-mysql-5.2.6-2.fc9.i386

mysql-libs-5.0.51a-1.fc9.i386

mysql-server-5.0.51a-1.fc9.i386

perl-DBD-MySQL-4.005-8.fc9.i386

mysql-5.0.51a-1.fc9.i386

# **mysql -V**

mysql Ver 14.12 Distrib 5.0.51a, for redhat-linux-gnu (i386) using readline 5.0

Configure MySQL to start automatically during system startup.

# **chkconfig mysqld on**

Start MySQL service.

# **service mysqld start**

The first time when you start mysqld, it will give additional information message indicating to perform post-install configuration as shown below.

**Initializing MySQL database:**

Installing MySQL system tables... OK

Filling help tables... OK

To start mysqld at boot time you have to copy

support-files/mysql.server to the right place for your system

**PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER !**

To do so, start the server, then issue the following commands:

/usr/bin/mysqladmin -u root password 'new-password'

/usr/bin/mysqladmin -u root -h dev-db password 'new-password'

**Alternatively you can run: /usr/bin/mysql\_secure\_installation**

which will also give you the option of removing the test

databases and anonymous user created by default. This is

highly recommended for production servers.

See the manual for more instructions.

You can start the MySQL daemon with:

cd /usr ; /usr/bin/mysqld\_safe &

You can test the MySQL daemon with mysql-test-run.pl

cd mysql-test ; perl mysql-test-run.pl

Please report any problems with the /usr/bin/mysqlbug script!

The latest information about MySQL is available on the web at

http://www.mysql.com

Support MySQL by buying support/licenses at http://shop.mysql.com

**Starting MySQL: [ OK ]**

4. Perform MySQL post-installation activities

After the mysql installation, you can login to mysql root account without providing any password as shown below.

# **mysql -u root**

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 2

Server version: 5.0.51a Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql>

To fix this problem, you need to assign a password to mysql root account as shown below. Execute mysql\_secure\_installation script, which performs the following activities:

* Assign the root password
* Remove the anonymous user
* Disallow root login from remote machines
* Remove the default sample test database

# **/usr/bin/mysql\_secure\_installation**

Output of mysql\_secure\_installation script:

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MySQL

SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!

In order to log into MySQL to secure it, we'll need the current

password for the root user. If you've just installed MySQL, and

you haven't set the root password yet, the password will be blank,

so you should just press enter here.

Enter current password for root (enter for none):

OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MySQL

root user without the proper authorisation.

**Set root password?** [Y/n] Y

**New password:** [Note: Enter the mysql root password here]

Re-enter new password:

Password updated successfully!

Reloading privilege tables..

... Success!

By default, a MySQL installation has an anonymous user, allowing anyone

to log into MySQL without having to have a user account created for

them. This is intended only for testing, and to make the installation

go a bit smoother. You should remove them before moving into a

production environment.

**Remove anonymous users?** [Y/n] Y

... Success!

Normally, root should only be allowed to connect from 'localhost'. This

ensures that someone cannot guess at the root password from the network.

**Disallow root login remotely?** [Y/n] Y

... Success!

By default, MySQL comes with a database named 'test' that anyone can

access. This is also intended only for testing, and should be removed

before moving into a production environment.

**Remove test database and access to it?** [Y/n] Y

- Dropping test database...

... Success!

- Removing privileges on test database...

... Success!

Reloading the privilege tables will ensure that all changes made so far

will take effect immediately.

**Reload privilege tables now?** [Y/n] Y

... Success!

Cleaning up...

All done! If you've completed all of the above steps, your MySQL

installation should now be secure.

Thanks for using MySQL!

Verify the MySQL post-install activities:

# **mysql -u root**

ERROR 1045 (28000):Access denied for user 'root'@'localhost'(using password:NO)

[Note: root access without password is denied]

# **mysql -u root -p**

Enter password:

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 13

Server version: 5.0.51a Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> **show databases;**

+--------------------+

| Database |

+--------------------+

| information\_schema |

| mysql |

+--------------------+

2 rows in set (0.00 sec)

[Note: test database is removed]

5. Upgrade MySQL using Yum

Check whether MySQL is already installed.

# **rpm -qa | grep -i mysql**

Check whether a latest version of MySQL is available for installation using yum.

# **yum check-update mysql-server**

Upgrade MySQL to latest version using yum.

# **yum update mysql-server**

6. Install PHP using Yum



# **yum install php**

Output of *yum install php*:

Loaded plugins: refresh-packagekit

Setting up Install Process

Parsing package install arguments

Resolving Dependencies

--> Running transaction check

---> Package php.i386 0:5.2.6-2.fc9 set to be updated

--> Processing Dependency: php-common = 5.2.6-2.fc9 for package: php

--> Processing Dependency: php-cli = 5.2.6-2.fc9 for package: php

--> Running transaction check

---> Package php-common.i386 0:5.2.6-2.fc9 set to be updated

---> Package php-cli.i386 0:5.2.6-2.fc9 set to be updated

--> Finished Dependency Resolution

Dependencies Resolved

=============================================================================

Package Arch Version Repository Size

=============================================================================

Installing:

php i386 5.2.6-2.fc9 updates 1.2 M

Installing for dependencies:

php-cli i386 5.2.6-2.fc9 updates 2.3 M

php-common i386 5.2.6-2.fc9 updates 228 k

Transaction Summary

=============================================================================

Install 3 Package(s)

Update 0 Package(s)

Remove 0 Package(s)

Total download size: 3.8 M

Is this ok [y/N]: y

Downloading Packages:

(1/3): php-common-5.2.6-2.fc9.i386.rpm | 228 kB 00:00

(2/3): php-5.2.6-2.fc9.i386.rpm | 1.2 MB 00:00

(3/3): php-cli-5.2.6-2.fc9.i386.rpm | 2.3 MB 00:00

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

**Installing : php-common [1/3]**

**Installing : php-cli [2/3]**

**Installing : php [3/3]**

Installed: php.i386 0:5.2.6-2.fc9

Dependency Installed: php-cli.i386 0:5.2.6-2.fc9 php-common.i386 0:5.2.6-2.fc9

**Complete!**

Verify that php got installed successfully.

# **rpm -qa | grep -i php**

php-cli-5.2.6-2.fc9.i386

php-5.2.6-2.fc9.i386

php-common-5.2.6-2.fc9.i386

Install MySQL module for PHP.

# **yum search php-mysql**

Loaded plugins: refresh-packagekit

=========== Matched: php-mysql =============

php-mysql.i386 : A module for PHP applications that use MySQL databases

# **yum install php-mysql**

Output of *yum install php-mysql*:

Loaded plugins: refresh-packagekit

Setting up Install Process

Parsing package install arguments

Resolving Dependencies

--> Running transaction check

---> Package php-mysql.i386 0:5.2.6-2.fc9 set to be updated

--> Processing Dependency: php-pdo for package: php-mysql

--> Running transaction check

---> Package php-pdo.i386 0:5.2.6-2.fc9 set to be updated

--> Finished Dependency Resolution

Dependencies Resolved

=============================================================================

Package Arch Version Repository Size

=============================================================================

Installing:

php-mysql i386 5.2.6-2.fc9 updates 81 k

Installing for dependencies:

php-pdo i386 5.2.6-2.fc9 updates 62 k

Transaction Summary

=============================================================================

Install 2 Package(s)

Update 0 Package(s)

Remove 0 Package(s)

Total download size: 143 k

Is this ok [y/N]: y

Downloading Packages:

(1/2): php-pdo-5.2.6-2.fc9.i386.rpm | 62 kB 00:00

(2/2): php-mysql-5.2.6-2.fc9.i386.rpm | 81 kB 00:00

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

**Installing : php-pdo [1/2]**

**Installing : php-mysql [2/2]**

Installed: php-mysql.i386 0:5.2.6-2.fc9

Dependency Installed: php-pdo.i386 0:5.2.6-2.fc9

**Complete!**

If you need additional PHP modules, install them using yum as shown below.

# **yum install php-common php-mbstring php-mcrypt php-devel php-xml php-gd**

7. Upgrade PHP using Yum

Check whether PHP is installed.

# **rpm -qa | grep -i php**

Check whether a latest version of PHP is available for installation using yum.

# **yum check-update php**

Upgrade PHP to the latest version using yum.

# **yum update php**

Upgrade any additional PHP modules that you’ve installed using yum.

# **yum check-update php-common php-mbstring php-mcrypt php-devel php-xml php-gd**

# **yum update php-common php-mbstring php-mcrypt php-devel php-xml php-gd**

Verify the PHP installation by creating a test.php file as shown below.

# **cat /var/www/html/test.php**

<? phpinfo(); ?>



Invoke the test.php from the browser http://{lamp-server-ip}/test.php , which will display all PHP configuration information and the installed modules.