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## 20 Linux YUM (Yellowdog Updater, Modified) Commands for Package Management

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In this article, we will learn how to install, update, remove, find packages, manage packages and repositories on Linux systems using YUM (Yellowdog Updater Modified) tool developed by RedHat.

The example commands shown in this article are practically tested on our [RHEL 8 server](#), you can use these materials for study purposes, [RHEL certifications](#), or just to explore ways to install new packages and keep your system up-to-date.

The basic requirement of this article is, you must have a [basic understanding of commands](#) and a working Linux operating system, where you can explore and practice all the commands listed below.

### What is YUM?

YUM (Yellowdog Updater Modified) is an open-source command-line as well as graphical-based package management tool for RPM (RedHat Package Manager) based Linux systems.

It allows users and system administrators to easily install, update, remove or search software packages on a system. It was developed and released by Seth Vidal under GPL (General Public License) as an open-source, which means anyone can be allowed to download and access the code to fix bugs and develop customized packages.

YUM uses numerous third-party repositories to install packages automatically by resolving their dependencies issues.

**Update:** The yum command is replaced by the [dnf command](#), which is a next-generation version of yum and considered to be the replacement for YUM in most newer [RPM-based distributions](#).

## 1. Install a Package with YUM

---

To install a package called [Firefox](#), just run the below command it will automatically find and install all required dependencies for Firefox.

```
# yum install firefox
Loaded plugins: fastestmirror
Dependencies Resolved

=====
Package                        Arch      Version                Repository
=====
Updating:
firefox                        i686      10.0.6-1.el6.centos    updates
Updating for dependencies:
xulrunner                      i686      10.0.6-1.el6.centos    updates
```

## Transaction Summary

=====

Install 0 Package(s)

Upgrade 2 Package(s)

Total download size: 32 M

Is this ok [y/N]: y

Downloading Packages:

(1/2): firefox-10.0.6-1.el6.centos.i686.rpm |

(2/2): xulrunner-10.0.6-1.el6.centos.i686.rpm |

-----

Total 63 kB/s | 32

Updated:

firefox.i686 0:10.0.6-1.el6.centos

Dependency Updated:

xulrunner.i686 0:10.0.6-1.el6.centos

Complete!

The above command will ask for confirmation before installing any package on your system. If you want to install packages automatically without asking for any confirmation, use the option `-y` as shown below example.

```
# yum -y install firefox
```

## 2. Removing a Package with YUM

To remove a package completely with all the dependencies, just run the following command as shown below.

```
# yum remove firefox
```

```
Loaded plugins: fastestmirror
```

```

Setting up Remove Process
Resolving Dependencies
--> Running transaction check
--> Package firefox.i686 0:10.0.6-1.el6.centos set to be erased
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                        Arch      Version                               Reposit
=====
Removing:
  firefox                      i686      10.0.6-1.el6.centos                 @update

Transaction Summary
=====
Remove          1 Package(s)
Reinstall       0 Package(s)
Downgrade       0 Package(s)

Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Erasing          : firefox-10.0.6-1.el6.centos.i686

Removed:
  firefox.i686 0:10.0.6-1.el6.centos

Complete!

```

In the same way, the above command will ask for confirmation before removing a package. To disable the confirmation prompt just add option `-y` as shown below.

```
# yum -y remove firefox
```

### 3. Updating a Package using YUM

Let's say you have an outdated version of the [MySQL](#) package and you want to update it to the latest stable version. Just run the following command it will automatically resolve all dependencies issues and install them.

```
# yum update mysql
Loaded plugins: fastestmirror
Dependencies Resolved

=====
Package                Arch                Version              Repository
=====
Updating:
vsftpd                 i386                2.0.5-24.el5_8.1     updates

Transaction Summary
=====
Install      0 Package(s)
Upgrade     1 Package(s)

Total size: 144 k
Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Updating      : vsftpd
  Cleanup       : vsftpd

Updated:
vsftpd.i386 0:2.0.5-24.el5_8.1
```

Complete!

## 4. List a Package using YUM

Use the **list** function to search for the specific package with a name. For example to search for a package called OpenSSH, use the command.

```
# yum list openssh
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirror.neu.edu.cn
 * epel: mirror.neu.edu.cn
 * extras: mirror.neu.edu.cn
 * rpmforge: mirror.nl.leaseweb.net
 * updates: mirror.nus.edu.sg
Installed Packages
openssh.i386                                4.3p2-72.el5_6.3
Available Packages
                                           4.3p2-82.el5
```

To make your search more accurate, define package names with their version, in case you know. For example to search for a specific version OpenSSH-4.3p2 of the package, use the command.

```
# yum list openssh-4.3p2
```



[ You might also like: [How to Secure and Harden OpenSSH Server](#) ]

## 5. Search for a Package using YUM

If you don't remember the exact name of the package, then use the **search** function to search all the available packages to match the name of the package you specified. For example, to search all the packages that match the word.

```
# yum search vsftpd
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror.neu.edu.cn
* epel: mirror.neu.edu.cn
* extras: mirror.neu.edu.cn
* rpmforge: mirror.nl.leaseweb.net
* updates: ftp.iitm.ac.in

===== Matched: vsftpd =====
ccze.i386 : A robust log colorizer
pure-ftpd-selinux.i386 : SELinux support for Pure-FTPd
vsftpd.i386 : vsftpd - Very Secure Ftp Daemon
```

## 6. Get Information about a Package using YUM

Say you would like to know the information about a package before installing it. To get information on a package just issue the below command.

```
# yum info firefox
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror.neu.edu.cn
* epel: mirror.neu.edu.cn
* extras: mirror.neu.edu.cn
```

```
* rpmforge: mirror.nl.leaseweb.net
```

```
* updates: ftp.iitm.ac.in
```

#### Available Packages

```
Name      : firefox
```

```
Arch       : i386
```

```
Version    : 10.0.6
```

```
Release    : 1.el5.centos
```

```
Size       : 20 M
```

```
Repo       : updates
```

```
Summary    : Mozilla Firefox Web browser
```

```
URL        : http://www.mozilla.org/projects/firefox/
```

```
License    : MPLv1.1 or GPLv2+ or LGPLv2+
```

```
Description: Mozilla Firefox is an open-source web browser, designed for stand  
              : compliance, performance and portability.
```

## 7. List all Available Packages using YUM

To list all the available packages in the Yum database, use the below command.

```
# yum list | less
```

## 8. List all Installed Packages using YUM

To list all the installed packages on a system, just issue the below command, it will display all the installed packages.

```
# yum list installed | less
```

## 9. Yum Provides Function

Yum **provides** function is used to find which package a specific file belongs to. For example, if you would like to know the name of the package that has the `/etc/httpd/conf/httpd.conf`.



```
# yum provides /etc/httpd/conf/httpd.conf
Loaded plugins: fastestmirror
httpd-2.2.3-63.el5.centos.i386 : Apache HTTP Server
Repo                          : base
Matched from:
Filename                      : /etc/httpd/conf/httpd.conf

httpd-2.2.3-63.el5.centos.1.i386 : Apache HTTP Server
Repo                          : updates
Matched from:
Filename                      : /etc/httpd/conf/httpd.conf

httpd-2.2.3-65.el5.centos.i386 : Apache HTTP Server
Repo                          : updates
Matched from:
Filename                      : /etc/httpd/conf/httpd.conf

httpd-2.2.3-53.el5.centos.1.i386 : Apache HTTP Server
Repo                          : installed
Matched from:
Other                        : Provides-match: /etc/httpd/conf/httpd.conf
```

## 10. Check for Available Updates using Yum

---

To find how many installed packages on your system have updates available, check to use the following command.

```
# yum check-update
```

## 11. Update System using Yum

---



To keep your system up-to-date with all security and binary package updates, run the following command. It will install all the latest patches and security updates to your system.

```
# yum update
```

## 12. List all available Group Packages

---

In Linux, a number of packages are bundled into a particular group. Instead of installing individual packages with yum, you can install a particular group that will install all the related packages that belong to the group. For example to list all the available groups, just issue the following command.

```
# yum grouplist
Installed Groups:
  Administration Tools
  DNS Name Server
  Dialup Networking Support
  Editors
  Engineering and Scientific
  FTP Server
  Graphics
  Java Development
  Legacy Network Server
Available Groups:
  Authoring and Publishing
  Base
  Beagle
  Cluster Storage
  Clustering
```

```

Development Libraries
Development Tools
Eclipse
Educational Software
KDE (K Desktop Environment)
KDE Software Development

```

### 13. Install Group Packages

To install a particular package group, we use the option as `groupinstall`. For example, to install "MySQL Database", just execute the below command.

```

# yum groupinstall 'MySQL Database'
Dependencies Resolved

=====
Package                                                    Arch      Vers
=====
Updating:
  unixODBC                                                    i386      2.2.11-10.el5      base
Installing for dependencies:
  unixODBC-libs                                                i386      2.2.11-10.el5      base

Transaction Summary
=====
Install      1 Package(s)
Upgrade      1 Package(s)

Total size: 841 k
Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction

```

```
Installing      : unixODBC-libs      1/3
Updating        : unixODBC           2/3
Cleanup         : unixODBC           3/3
```

#### Dependency Installed:

```
unixODBC-libs.i386 0:2.2.11-10.el5
```

#### Updated:

```
unixODBC.i386 0:2.2.11-10.el5
```

Complete!

## 14. Update a Group Packages

To update any existing installed group packages, just run the following command as shown below.

```
# yum groupupdate 'DNS Name Server'
```

#### Dependencies Resolved

```
=====
Package                                Arch      Version
=====
```

#### Updating:

```
bind                                i386      30:9.3.6-20.P1.el5_8.2
bind-chroot                        i386      30:9.3.6-20.P1.el5_8.2
```

#### Updating for dependencies:

```
bind-libs                          i386      30:9.3.6-20.P1.el5_8.2
bind-utils                         i386      30:9.3.6-20.P1.el5_8.2
```

#### Transaction Summary

```
=====
Install      0 Package(s)
Upgrade      4 Package(s)
```

```

Total size: 2.0 M
Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Updating      : bind-libs                1/8
  Updating      : bind                    2/8
  Updating      : bind-chroot             3/8
  Updating      : bind-utils             4/8
  Cleanup       : bind                    5/8
  Cleanup       : bind-chroot            6/8
  Cleanup       : bind-utils             7/8
  Cleanup       : bind-libs              8/8

Updated:
  bind.i386 30:9.3.6-20.P1.el5_8.2          bind-chroot.i386 30:9.3.6-

Dependency Updated:
  bind-libs.i386 30:9.3.6-20.P1.el5_8.2    bind-utils.i386 30:9.3.6-2

Complete!

```

## 15. Remove Group Packages

To delete or remove any existing installed group from the system, just use the below command.

```

# yum groupremove 'DNS Name Server'

Dependencies Resolved

=====
Package                                Arch          Version                                Repo

```

```

=====
Removing:
  bind                i386                30:9.3.6-20.P1.el5_8.2      inst
  bind-chroot         i386                30:9.3.6-20.P1.el5_8.2      inst

Transaction Summary
=====
Remove          2 Package(s)
Reinstall       0 Package(s)
Downgrade       0 Package(s)

Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Erasing          : bind                                1/2
warning: /etc/sysconfig/named saved as /etc/sysconfig/named.rpmsave
  Erasing          : bind-chroot                          2/2

Removed:
  bind.i386 30:9.3.6-20.P1.el5_8.2                      bind

Complete!

```

## 16. List Enabled Yum Repositories

To list all enabled Yum repositories in your system, use the following option.

```

# yum repolist

repo id                repo name
base                   CentOS-5 - Base

```

```
epel           Extra Packages for Enterprise Linux 5 - i386
extras         CentOS-5 - Extras
mod-pagespeed  mod-pagespeed
rpmforge       RHEL 5 - RPMforge.net - dag
updates        CentOS-5 - Updates
repolist: 20,824
```

## 16. List all Enabled and Disabled Yum Repositories

The following command will display all enabled and disabled yum repositories on the system.

```
# yum repolist all

repo id          repo name
C5.0-base        CentOS-5.0 - Base
C5.0-centosplus  CentOS-5.0 - Plus
C5.0-extras      CentOS-5.0 - Extras
base             CentOS-5 - Base
epel             Extra Packages for Enterprise Linux 5 - i386
extras           CentOS-5 - Extras
repolist: 20,824
```

## 17. Install a Package from a Specific Repository

To install a particular package from a specific enabled or disabled repository, you must use `--enablerepo` an option in your yum command. For example to [Install the PhpMyAdmin](#) package, just execute the command.

```
# yum --enablerepo=epel install phpmyadmin
```

Dependencies Resolved

```
=====
```

Package	Arch	Version	Repository
---------	------	---------	------------

```
=====
```

Installing:

phpMyAdmin	noarch	3.5.1-1.el6	epel
------------	--------	-------------	------

Transaction Summary

```
=====
```

Install	1 Package(s)
---------	--------------

Total download size: 4.2 M

Installed size: 17 M

Is this ok [y/N]: y

Downloading Packages:

phpMyAdmin-3.5.1-1.el6.noarch.rpm	4.2 MB	00:25
-----------------------------------	--------	-------

Running rpm\_check\_debug

Running Transaction Test

Transaction Test Succeeded

Running Transaction

Installing	: phpMyAdmin-3.5.1-1.el6.noarch	1/1
Verifying	: phpMyAdmin-3.5.1-1.el6.noarch	1/1

Installed:

phpMyAdmin.noarch 0:3.5.1-1.el6

Complete!



## 18. Interactive Yum Shell

Yum utility provides a custom shell where you can execute multiple commands.

```
# yum shell
Loaded plugins: fastestmirror
Setting up Yum Shell
> update httpd
Loading mirror speeds from cached hostfile
* base: mirrors.sin3.sg.voxel.net
* epel: ftp.riken.jp
* extras: mirrors.sin3.sg.voxel.net
* updates: mirrors.sin3.sg.voxel.net
Setting up Update Process
>
```

## 19. Clean Yum Cache

By default yum keeps all the repository enabled package data in `/var/cache/yum/` with each sub-directory, to clean all cached files from the enabled repository, you need to run the following command regularly to clean up all the cache and make sure that there is nothing unnecessary space is using. We don't want to give the output of the below command, because we like to keep cached data as it is.

```
# yum clean all
```

## 20. View History of Yum

To view all the past transactions of the yum command, just use the following command.

```
# yum history

Loaded plugins: fastestmirror

ID      | Login user          | Date and time      | Action(s)          | Altere
```

```

-----
 10 | root          | 2012-08-11 15:19 | Install      | 3
   9 | root          | 2012-08-11 15:11 | Install      | 1
   8 | root          | 2012-08-11 15:10 | Erase        | 1 EE
   7 | root          | 2012-08-10 17:44 | Install      | 1
   6 | root          | 2012-08-10 12:19 | Install      | 2
   5 | root          | 2012-08-10 12:14 | Install      | 3
   4 | root          | 2012-08-10 12:12 | I, U         | 13 E<
   3 | root          | 2012-08-09 13:01 | Install      | 1 >
   2 | root          | 2012-08-08 20:13 | I, U         | 292 EE
   1 | System        | 2012-08-08 17:15 | Install      | 560
history list

```

We have tried to cover all the basic to advance yum commands with their examples. If anything related to yum commands may have missed out. Please update us through our comment box.

So, we keep updating the same based on feedback received.



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