Most Linux distributions have a package management system with online repositories containing thousands of packages. This makes it very easy to install and remove applications, operating system components, documentation and much more

Debian package format .deb and its tools dpkg, apt-get and aptitude. This should be similar on Debian, Ubuntu, Mint and all derived distributions.

Red Hat package format .rpm and its tools rpm and yum. This should be similar on Red Hat, Fedora, CentOS and all derived distributions

A lot of software and documentation for your Linux distribution is available as packages in one or more centrally distributed repositories

Red Hat, Fedora, CentOS, OpenSUSE, Mandriva, Red Flag and others use .rpm packages. The tools to manage software packages on these systems are yum (dnf) and rpm.

Rpm – Red Hat Package Manager

RPM also refers to the rpm command and .rpm file format.

An RPM Package consists of an archive of files and metadata including information such as dependencies and install location.

It allows you to install, query, update, verify, and remove .rpm packages.

Package syntax

Package Name-version-Release.Architecture.Extention

RHEL/OEL-9

acl-2.2.53-1.el9.x86_64.rpm

RHEL/OEL-8

acl-2.2.53-1.el8.x86_64.rpm

RHEL/OEL-7

acl-2.2.53-1.el7.x86_64.rpm

RHEL/OEL-6

acl-2.2.51-1.el6.x86_64.rpm - 64 bit

acl-2.2.51-1.el6.i386.rpm - 32 bit

vsftpd	This is the name of actual package.

3.0.2	This is the corresponding version of package.

21	This is the subversion of package.

el7	This is the Red Hat version for which the packet was created.

x86_64	Tis is hardware architecture for which the packet was created.

rpm	This the package file extension.

rpm -qa passwd --queryformat '%{name}-----%{version}-----%{release}------%{arch}'

rpm -qa --queryformat '%{name}-%{version}-%{release} %{size}\n'

How to Install an RPM Package

rpm -ivh at-3.1.20-11.el8.x86_64.rpm

rpm -ivh acl-2.2.53-1.el8.x86_64.rpm at-3.1.20-11.el8.x86_64.rpm

-i : install a package

-v : verbose

-h : print hash marks as the package archive is unpacked.

How to List All Installed RPM Packages

#rpm -qa

#rpm -qa httpd wget

#rpm -q httpd

#rpm -qa

#rpm -qa|grep httpd

#rpm -qa|wc -l

#rpmquery httpd

#rpmquery -a

#rpmquery -a|grep net-tools

-q query operation

-a queries all installed packages

How to check dependencies of RPM Package before Installing

rpm -qpR createrepo_c-0.11.0-1.el8.x86_64.rpm

-q : Query a package

-p : List capabilities this package provides.

-R: List capabilities on which this package depends..

How to List all files of an installed RPM package

#rpm -ql httpd

How to List Recently Installed RPM Packages

#rpm -qa --last

How to Upgrade a RPM Package

#rpm -Uvh

How to Remove a RPM Package

#rpm -evv httpd

#rpm -evh httpd

How to Remove an RPM Package Without Dependencies

#rpm -ev --nodeps vsftpd

How to Query a file that belongs which RPM Package

#rpm -qf /usr/bin/htpasswd

How to Query a Information of Installed RPM Package

#rpm -qi vsftpd

Get the Information of RPM Package Before Installing

#rpm -qip sqlbuddy-1.3.3-1.noarch.rpm

#rpm -qlp

#rpm -qdp

#rpm -qcp

-i : view information about an rpm

-p : specify a package name

q : query the rpm file

l : list the files in the package

p : specify the package name

How to Query documentation of Installed RPM Package

#rpm -qdf /usr/bin/vmstat

Attach ISO disk to VM

select VM => settings => CD/DVD => select use ISO image => select CentOS iso

[root@vm-3 Packages]# ls -l /dev/sr0

brw-rw---- 1 root cdrom 11, 0 Oct 25 18:04 /dev/sr0

[root@vm-3 Packages]# ls -l /dev/cdrom

lrwxrwxrwx 1 root root 3 Oct 25 18:04 /dev/cdrom -> sr0

[root@vm-3 Packages]# mkdir /iso

[root@vm-3 Packages]# mount /dev/sr0 /iso

[root@vm-3 Packages]# df -h

```
Filesystem         Size  Used Avail Use% Mounted on
devtmpfs          4.0M    0 4.0M   0% /dev
tmpfs             874M    0 874M   0% /dev/shm
tmpfs             350M 5.2M 345M   2% /run
/dev/mapper/cs-root  17G 2.1G  15G  12% /
/dev/sda1         960M 229M 732M  24% /boot
tmpfs             175M    0 175M   0% /run/user/0
/dev/sr0          9.1G 9.1G    0 100% /iso        <<<<<<<<<


[root@vm-3 Packages]#
[root@vm-3 Packages]# cd /iso/
[root@vm-3 iso]# ls
AppStream  BaseOS  EFI  EULA  extra_files.json  images  isolinux  LICENSE  media.repo
[root@vm-3 iso]# ls -l
total 30
dr-xr-xr-x 1 root root  2048 Jul  4 09:57 AppStream
dr-xr-xr-x 1 root root  2048 Jul  4 09:57 BaseOS
dr-xr-xr-x 1 root root  2048 Jul  4 09:45 EFI
-r--r--r-- 1 root root   299 Jul  4 09:57 EULA
-r--r--r-- 1 root root   745 Jul  4 09:57 extra_files.json
dr-xr-xr-x 1 root root  2048 Jul  4 09:45 images
dr-xr-xr-x 1 root root  2048 Jul  4 09:45 isolinux
-r--r--r-- 1 root root 18092 Jul  4 09:57 LICENSE
-r--r--r-- 1 root root    88 Jul  4 09:57 media.repo
```