RPM Commands

RPM (Red Hat Package Manager) is an default open source and most popular package management utility for Red Hat based systems like (RHEL, CentOS and Fedora). The tool allows system administrators and users to install, update, uninstall, query, verify and manage system software packages in Unix/Linux operating systems. The RPM formerly known as .rpm file, that includes compiled software programs and libraries needed by the packages. This utility only works with packages that built on .rpm format. *The RPM used to deal with rpm files that existing locally on PC not with that located in repositories, & by this it is corresponding to dpkg on Debian.*

***Some Facts about RPM (RedHat Package Manager):***

- RPM is free and released under GPL (General Public License).

- RPM keeps the information of all the installed packages under /var/lib/rpm database.

- RPM is the only way to install packages under Linux systems, if you’ve installed packages using source code, then rpm won’t manage it.

- RPM deals with .rpm files, which contains the actual information about the packages such as: what it is, from where it comes, dependencies info, version info etc.

***The following table show main rpm operations:***

| Operation | Short Option | Long Option |
| --- | --- | --- |
| Upgrade/install | -U | --upgrade |
| Install | -I | --install |
| Remove | -e | --erase |
| Query | -q | --query |
| Verify | -V | --verify |
| Check signature | -K | --checksig |
| Freshen (upgrade) already-installed package | -F | --freshen |
| Initialize database | None | --initdb |
| Rebuild database | None | --rebuilddb |

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| --- | --- |
| # rpm --checksig foo-version no.rpm | To check signature of local rpm file |
| rpm -K /mnt/iso/suse/i586/{foo-version no.rpm} | Checking package to ensure its integrity and origin: (Note: gpg or pgp software must be installed on your system before you use this command) |
| rpm -qpl /mnt/iso/suse/i586/{foo-version no.rpm} | To list all files included in a local rpm file |
| # rpm -ivh {foo-version no.rpm} | To install local rpm file (Note: you must be inside directory where rpm package located by cd command before using this command, or you must otherwise include location of package within command itself like:  # rpm -ivh /mnt/iso/suse/i586/foo-version no.rpm  This is applied to all commands directed toward local file “foo-version no.rpm” on PC) |
| # rpm -qpR {foo-version no.rpm} | To list dependencies that needed by local rpm file |
| # rpm -qR foo | To list dependencies that needed by already installed rpm package |
| # rpm -ivh --nodeps {foo-version no.rpm} | To install local rpm file without dependencies (only use it if you sure that all these dependencies are already installed) |
| # rpm -q foo | To check whether a specific rpm package is installed or not |
| # rpm -qa | grep foo | Same as above command |
| # rpm -ql foo | To list all files of already installed rpm package |
| # rpm -qa --last | To list recently installed rpm packages |
| # rpm -qa | To list all already installed rpm packages |
| # rpm -V foo | To check what has changed in the files on the system since the foo rpm package originally installed |
| # rpm -Uvh {foo-version no.rpm} | To upgrade rpm package (with backup for old version so that old version can be restored if new one not work). (NOTE: if the package is not installed it will install it for You, like option “-ivh”) |
| # rpm -Fvh {foo-version no.rpm} | To upgrade rpm package (if it exists already) without backup. (NOTE: This command differ from above command in that if case of of package not already installed it will not installed it for you) |
| # rpm -e foo | To uninstall already installed rpm package |
| # rpm -evv foo | To uninstall (remove/erase) already installed rpm package |
| # rpm -ev --nodeps foo | For forceful removal of package even being a dependency for other package(s) (removal of rpm package without checking it being a dependency or not for other rpm package(s) |
| # rpm -qc foo | To list the configuration file of an already installed rpm package |
| # rpm -qf /usr/bin/htpasswd | To query a file that belongs which RPM Package  (Let’s say, you have list of files and you would like to find out which package belongs to these files. For example, the following command with -qf (query file) option will show you a file /usr/bin/htpasswd is own by which package) |
| # rpm -qi foo | To know available data about already installed rpm package |
| # rpm -qip {foo-version no.rpm} | To know available data about local rpm package before installing it |
| # rpm -qdf /usr/bin/vmstat | To get the list of available documentation of an installed package (will display the manual pages related to vmstat package) |
| # rpm -qd httpd | To view the documentation files for the command httpd |
| # rpm -qcf /usr/sbin/httpd | To display list of configuration files for a command |
| # rpm -Vp {foo-version no.rpm} | To verify an already installed rpm package (note: verifying a package compares information of installed files of the package against the rpm database – which in this case “foo-version no.rpm” that touched by this command after being inside it’s local directory) |
| # rpm -Va | To verify all already installed rpm packages |
| # rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-6 | To verify RHEL/CentOS/Fedora packages, you must import the GPG key. To do so, execute the this command. In this example it will import CentOS 6 GPG key. |
| # rpm -qa gpg-pubkey\* | To list all imported GPG keys in the system |
| # cd /var/lib  # rm \_\_db\*  # rpm --rebuilddb  # rpmdb\_verify Packages | Sometimes rpm database gets corrupted and stops all the functionality of rpm and other applications on the system. So, at the time we need to rebuild the rpm database and restore it with the help of these commands. |
| # rm -f /var/lib/rpm/\_\_db\*  # rpm --rebuilddb | Same as above  (Recommended) |
| # rpm -qV foo | To check integrity of files of a package |
| # rpm -qaV | To check integrity of files of all packages of system |