NAME

rpm - RPM Package Manager

SYNOPSIS

QUERYING AND VERIFYING PACKAGES:

rpm {**-q|--query**} [**select-options**] [**query-options**]

rpm --querytags

rpm {**-V|--verify**} [**select-options**] [**verify-options**]

INSTALLING, UPGRADING, AND REMOVING PACKAGES:

rpm {**-i|--install**} [**install-options**] *PACKAGE_FILE ...*

rpm {**-U|--upgrade**} [**install-options**] *PACKAGE_FILE ...*

rpm {**-F|--freshen**} [**install-options**] *PACKAGE_FILE ...*

rpm {**--reinstall**} [**install-options**] *PACKAGE_FILE ...*

rpm {**-e|--erase**} [**--allmatches**] [**--justdb**] [**--nodb**] [**--nodeps**] [**--noscripts**] [**--notriggers**] [**--test**] *PACKAGE_NAME ...*

MISCELLANEOUS:

rpm --showrc

rpm --restore [**select-options**]

select-options

[*PACKAGE_NAME*] [**-a,--all** [*SELECTOR*]] [**-f,--file** *FILE*] [**--path** *PATH*] [**-g,--group** *GROUP*] [**-p,--package** *PACKAGE_FILE*] [**--hdrid** *SHA1*] [**--pkgid** *MD5*] [**--tid** *TID*] [**--querybynumber** *HDRNUM*] [**--triggeredby** *PACKAGE_NAME*] [**--whatprovides** *CAPABILITY*] [**--whatrequires** *CAPABILITY*] [**--whatrecommends** *CAPABILITY*] [**--whatsuggests** *CAPABILITY*] [**--whatsupplements** *CAPABILITY*] [**--whatenhances** *CAPABILITY*] [**--whatobsoletes** *CAPABILITY*] [**--whatconflicts** *CAPABILITY*]

query-options

General: [**--changelog**] [**--changes**] [**--dupes**] [**-i,--info**] [**--last**] [**--qf,--queryformat** *QUERYFMT*] [**--xml**]

Dependencies: [**--conflicts**] [**--enhances**] [**--obsoletes**] [**--provides**] [**--recommends**] [**-R,--requires**] [**--suggests**] [**--supplements**]

Files: [**-c,--configfiles**] [**-d,--docfiles**] [**--dump**] [**--fileclass**] [**--filecolor**] [**--fileprovide**][**--filerequire**] [**--filecaps**] [**--filesbypkg**] [**-l,--list**] [**-s,--state**] [**--noartifact**] [**--noghost**] [**--noconfig**]

Scripts and triggers: [**--filetriggers**] [**--scripts**] [**--triggers,--triggerscripts**]

verify-options

[**--nodeps**] [**--nofiles**] [**--noscripts**] [**--nodigest**] [**--nosignature**] [**--nolinkto**] [**--nofiledigest**] [**--nosize**] [**--nouser**] [**--nogroup**] [**--nomtime**] [**--nomode**] [**--nordev**] [**--nocaps**]

install-options

[**--allfiles**] [**--badreloc**] [**--excludepath** *OLDPATH*] [**--excludedocs**] [**--force**] [**-h,--hash**] [**--ignoresize**] [**--ignorearch**] [**--ignoreos**] [**--includedocs**] [**--justdb**] [**–nodb**] [**--nodeps**] [**--nodigest**] [**--noplugins**] [**--nocaps**] [**--noorder**] [**--noverify**] [**--nosignature**] [**--noscripts**] [**--notriggers**] [**--oldpackage**] [**--percent**] [**--prefix** *NEWPATH*] [**--relocate** *OLDPATH=NEWPATH*] [**--replacefiles**] [**--replacepkgs**] [**--test**]

DESCRIPTION

rpm is a powerful **Package Manager**, which can be used to build, install, query, verify, update, and erase individual software packages. A **package** consists of an archive of files and meta-data used to install and erase the archive files. The meta-data includes helper scripts, file attributes, and descriptive information about the package. **Packages** come in two varieties: binary packages, used to encapsulate software to be installed, and source packages, containing the source code and recipe necessary to produce binary packages.

One of the following basic modes must be selected: **Query**, **Verify**, **Install/Upgrade/Freshen/Reinstall**, **Uninstall**, **Set Owners/Groups**, **Show Querytags**, and **Show Configuration**.

GENERAL OPTIONS

These options can be used in all the different modes.

-?, --help
Print a longer usage message than normal.

--version
Print a single line containing the version number of **rpm** being used.

--quiet Print as little as possible - normally only error messages will be displayed.

-v, --verbose
Print verbose information - normally routine progress messages will be displayed.

-vv Print lots of ugly debugging information.

--rcfile *FILELIST*
Replace the list of configuration files to be read. Each of the files in the colon separated *FILELIST* is read sequentially by **rpm** for configuration information. Only the first file in the list must exist, and tildes will be expanded to the value of **$HOME**. The default *FILELIST* is */usr/lib/rpm/rpmrc*:*/usr/lib/rpm/redhat/rpmrc*:*/etc/rpmrc*:*~/.rpmrc*.

--load *FILE*
Load an individual macro file.

--macros *FILELIST*
Replace the list of macro files to be loaded. Each of the files in the colon separated *FILELIST* is read sequentially by **rpm** for macro definitions. Only the first file in the list must exist, and tildes will be expanded to the value of **$HOME**. The default *FILELIST* is */usr/lib/rpm/macros*:*/usr/lib/rpm/macros.d/macros.**:*/usr/lib/rpm/platform/%{_target}/macros*:*/usr/lib/rpm/fileattrs/*.attr*:*/usr/lib/rpm/redhat/macros*:*/etc/rpm/macros.**:*/etc/rpm/macros*:*/etc/rpm/%{_target}/macros*:*~/.rpmmacros*

--pipe *CMD*
Pipes the output of **rpm** to the command *CMD*.

--dbpath *DIRECTORY*
Use the database in *DIRECTORY* rather than the default path */var/lib/rpm*

--root *DIRECTORY*
Use the file system tree rooted at *DIRECTORY* for all operations. Note that this means the database within *DIRECTORY* will be used for dependency checks and any scriptlet(s) (e.g. **%post** if installing, or **%prep** if building, a package) will be run after a chroot(2) to *DIRECTORY*.

Note that rpm assumes the environment inside the root is set up by the caller, such as any mounts needed for the operation inside the root directory.

-D, --define='*MACRO EXPR***'**
Defines *MACRO* with value *EXPR*.

--undefine='*MACRO***'**
Undefines *MACRO*.

-E, --eval='*EXPR***'**
Prints macro expansion of *EXPR*.

More - less often needed - options can be found on the **rpm-misc(8)** man page.

INSTALL AND UPGRADE OPTIONS

In these options, *PACKAGE_FILE* can be either **rpm** binary file or ASCII package manifest (see **PACKAGE SELECTION OPTIONS**), and may be specified as an **ftp** or **http** URL, in which case the package will be downloaded before being installed. See **FTP/HTTP OPTIONS** for information on **rpm**'s **ftp** and **http** client support.

The general form of an rpm install command is

rpm {**-i|--install**} [**install-options**] *PACKAGE_FILE ...*

This installs a new package.

The general form of an rpm upgrade command is

rpm {**-U|--upgrade**} [**install-options**] *PACKAGE_FILE ...*

This upgrades or installs the package currently installed to a newer version. This is the same as install, except all other version(s) of the package are removed after the new package is installed.

rpm {**-F|--freshen**} [**install-options**] *PACKAGE_FILE ...*

This will upgrade packages, but only ones for which an earlier version is installed.

The general form of an rpm reinstall command is

rpm {**--reinstall**} [**install-options**] *PACKAGE_FILE ...*

This reinstalls a previously installed package.

--allfiles
Installs or upgrades all the missingok files in the package, regardless if they exist.

--badreloc
Used with **--relocate**, permit relocations on all file paths, not just those *OLDPATH*'s included in the binary package relocation hint(s).

--excludepath *OLDPATH*
Don't install files whose name begins with *OLDPATH*.

--excludeartifacts
Don't install any files which are marked as artifacts, such as build-id links.

--excludedocs
Don't install any files which are marked as documentation (which includes man pages and texinfo documents).

--force Same as using **--replacepkgs**, **--replacefiles**, and **--oldpackage**.

-h, --hash
Print 50 hash marks as the package archive is unpacked. Use with **-v|--verbose** for a nicer display.

--ignoresize
Don't check mount file systems for sufficient disk space before installing this package.

--ignorearch
Allow installation or upgrading even if the architectures of the binary package and host don't match.

--ignoreos
Allow installation or upgrading even if the operating systems of the binary package and host don't match.

--includedocs
Install documentation files. This is the default behavior.

--justdb
Update only the database, not the filesystem.

--nodb Update only the filesystem, not the database.

--nodigest
Don't verify package or header digests when reading.

--nomanifest
Don't process non-package files as manifests.

--nosignature
Don't verify package or header signatures when reading.

--nodeps
Don't do a dependency check before installing or upgrading a package.

--nocaps
Don't set file capabilities.

--noorder
Don't reorder the packages for an install. The list of packages would normally be reordered to satisfy dependencies.

--noverify
Don't perform verify package files prior to installation.

--noplugins
Do not load and execute plugins.

--noscripts, **--nopre**, **--nopost**, **--nopreun**, **--nopostun**, **--nopretrans**, **--noposttrans**
Don't execute the scriptlet of the same name. The **--noscripts** option is equivalent to

--nopre --nopost --nopreun --nopostun --nopretrans --noposttrans

and turns off the execution of the corresponding **%pre**, **%post**, **%preun**, **%postun** **%pretrans**, and **%posttrans** scriptlet(s).

--notriggers, **--notriggerin**, **--notriggerun**, **--notriggerprein**, **--notriggerpostun**
Don't execute any trigger scriptlet of the named type. The **--notriggers** option is equivalent to

--notriggerprein --notriggerin --notriggerun --notriggerpostun

and turns off execution of the corresponding **%triggerprein**, **%triggerin**, **%triggerun**, and **%triggerpostun** scriptlet(s).

--oldpackage
Allow an upgrade to replace a newer package with an older one.

--percent
Print percentages as files are unpacked from the package archive. This is intended to make **rpm** easy to run from other tools.

--prefix *NEWPATH*
For relocatable binary packages, translate all file paths that start with the installation prefix in the package relocation hint(s) to *NEWPATH*.

--relocate *OLDPATH*=*NEWPATH*
For relocatable binary packages, translate all file paths that start with *OLDPATH* in the package relocation hint(s) to *NEWPATH*. This option can be used repeatedly if several *OLDPATH*'s in the package are to be relocated.

--replacefiles
Install the packages even if they replace files from other, already installed, packages.

--replacepkgs
Install the packages even if some of them are already installed on this system.

--test Do not install the package, simply check for and report potential conflicts.

ERASE OPTIONS

The general form of an rpm erase command is

rpm {**-e**|**--erase**} [**--allmatches**] [**--justdb**] [**--nodeps**] [**--noscripts**] [**--notriggers**] [**--test**] *PACKAGE_NAME ...*

The following options may also be used:

--allmatches
Remove all versions of the package which match *PACKAGE_NAME*. Normally an error is issued if *PACKAGE_NAME* matches multiple packages.

--justdb
Update only the database, not the filesystem.

--nodeps
Don't check dependencies before uninstalling the packages.

--noscripts, **--nopreun**, **--nopostun**
Don't execute the scriptlet of the same name. The **--noscripts** option during package erase is equivalent to

--nopreun --nopostun

and turns off the execution of the corresponding **%preun**, and **%postun** scriptlet(s).

--notriggers, **--notriggerun**, **--notriggerpostun**
Don't execute any trigger scriptlet of the named type. The **--notriggers** option is equivalent to

--notriggerun --notriggerpostun

and turns off execution of the corresponding **%triggerun**, and **%triggerpostun** scriptlet(s).

--test Don't really uninstall anything, just go through the motions. Useful in conjunction with the **-vv** option for debugging.

QUERY OPTIONS

The general form of an rpm query command is

rpm {**-q|--query**} [**select-options**] [**query-options**]

You may specify the format that package information should be printed in. To do this, you use the

--qf|--queryformat *QUERYFMT*

option, followed by the *QUERYFMT* format string. Query formats are modified versions of the standard **printf(3)** formatting. The format is made up of static strings (which may include standard C character escapes for newlines, tabs, and other special characters (not including \0)) and **printf(3)** type formatters. As **rpm** already knows the type to print, the type specifier must be omitted however, and replaced by the name of the header tag to be printed, enclosed by **{}** characters. Tag names are case insensitive, and the leading **RPMTAG_** portion of the tag name may be omitted as well.

Alternate output formats may be requested by following the tag with **:***typetag*. Currently, the following types are supported:

:armor Wrap a public key in ASCII armor.

:arraysize
Display number of elements in array tags.

:base64
Encode binary data using base64.

:date Use strftime(3) "%c" format.

:day Use strftime(3) "%a %b %d %Y" format.

:depflags
Format dependency comparison operator.

:deptype
Format dependency type.

:expand
Perform macro expansion.

:fflags Format file flags.

:fstate Format file state.

:fstatus
Format file verify status.

:hex Format in hexadecimal.

:octal Format in octal.

:humaniec
Human readable number (in IEC 80000). The suffix K = 1024, M = 1048576, ...

:humansi
Human readable number (in SI). The suffix K = 1000, M = 1000000, ...

:perms Format file permissions.

:pgpsig
Display signature fingerprint and time.

:shescape
Escape single quotes for use in a script.

:string Display string format. (default)

:tagname
Display tag name.

:tagnum
Display tag number.

:triggertype
Display trigger suffix.

:vflags File verification flags.

:xml Wrap data in simple xml markup.

For example, to print only the names of the packages queried, you could use **%{NAME}** as the format string. To print the packages name and distribution information in two columns, you could use **%-30{NAME}%{DISTRIBUTION}**. **rpm** will print a list of all of the tags it knows about when it is invoked with the **--querytags** argument.

There are three subsets of options for querying: package selection, file selection and information selection.

PACKAGE SELECTION OPTIONS:

PACKAGE_NAME
Query installed package named *PACKAGE_NAME*. To specify the package more precisely the package name may be followed by the version or version and release both separated by a dash or an architecture name separated by a dot. See the output of **rpm -qa** or **rpm -qp** *PACKAGE_FILE* as an example.

-a, --all [*SELECTOR*]
Query all installed packages.

An optional *SELECTOR* in the form of tag=pattern can be provided to narrow the selection, for example name="b*" to query packages whose name starts with "b".

--dupes
List duplicated packages.

-f, --file *FILE*
Query package owning installed *FILE*.

--filecaps
List file names with POSIX1.e capabilities.

--fileclass
List file names with their classes (libmagic classification).

--filecolor
List file names with their colors (0 for noarch, 1 for 32bit, 2 for 64 bit).

--fileprovide
List file names with their provides.

--filerequire
List file names with their requires.

-g, --group *GROUP*
Query packages with the group of *GROUP*.

--hdrid *SHA1*
Query package that contains a given header identifier, i.e. the *SHA1* digest of the immutable header region.

-p, --package *PACKAGE_FILE*
Query an (uninstalled) package *PACKAGE_FILE*. The *PACKAGE_FILE* may be specified as an **ftp** or **http** style URL, in which case the package header will be downloaded and queried. See **FTP/HTTP OPTIONS** for information on **rpm**'s **ftp** and **http** client support. The *PACKAGE_FILE* argument(s), if not a binary package, will be interpreted as an ASCII package manifest unless **--nomanifest** option is used. In manifests, comments are permitted, starting with a '#', and each line of a package manifest file may include white space separated glob expressions, including URL's, that will be expanded to paths that are substituted in place of the package manifest as additional *PACKAGE_FILE* arguments to the query.

--path *PATH*
Query package(s) owning *PATH*, whether the file is installed or not. Multiple packages may own a *PATH*, but the file is only owned by the package installed last.

--pkgid *MD5*
Query package that contains a given package identifier, i.e. the *MD5* digest of the combined header and payload contents.

--querybynumber *HDRNUM*
Query the *HDRNUM*th database entry directly; this is useful only for debugging.

--specfile *SPECFILE*
Parse and query *SPECFILE* as if it were a package. Although not all the information (e.g. file lists) is available, this type of query permits rpm to be used to extract information from spec files without having to write a specfile parser.

--tid *TID*
Query package(s) that have a given *TID* transaction identifier. A unix time stamp is currently used as a transaction identifier. All package(s) installed or erased within a single transaction have a common identifier.

--triggeredby *PACKAGE_NAME*
Query packages that are triggered by package(s) *PACKAGE_NAME*.

--whatobsoletes *CAPABILITY*
Query all packages that obsolete *CAPABILITY* for proper functioning.

--whatprovides *CAPABILITY*
Query all packages that provide the *CAPABILITY* capability.

--whatrequires *CAPABILITY*
Query all packages that require *CAPABILITY* for proper functioning.

--whatconflicts *CAPABILITY*
Query all packages that conflict with *CAPABILITY*.

--whatrecommends *CAPABILITY*
Query all packages that recommend *CAPABILITY*.

--whatsuggests *CAPABILITY*
Query all packages that suggest *CAPABILITY*.

--whatsupplements *CAPABILITY*
Query all packages that supplement *CAPABILITY*.

--whatenhances *CAPABILITY*
Query all packages that enhance *CAPABILITY*.

PACKAGE QUERY OPTIONS:

--changelog
Display change information for the package.

--changes
Display change information for the package with full time stamps.

--conflicts
List capabilities this package conflicts with.

--dump
Dump file information as follows (implies **-l**):

```
path size mtime digest mode owner group isconfig isdoc rdev symlink
```

--enhances
List capabilities enhanced by package(s)

--filesbypkg
List all the files in each selected package.

--filetriggers
List filetrigger scriptlets from package(s).

-i, --info
Display package information, including name, version, and description. This uses the **--queryformat** if one was specified.

--last Orders the package listing by install time such that the latest packages are at the top.

-l, --list List files in package.

--obsoletes
List packages this package obsoletes.

--provides
List capabilities this package provides.

--recommends
List capabilities recommended by package(s)

-R, --requires
List capabilities on which this package depends.

--suggests
List capabilities suggested by package(s)

--supplements
List capabilities supplemented by package(s)

--scripts
List the package specific scriptlet(s) that are used as part of the installation and uninstallation processes.

-s, --state
Display the *states* of files in the package (implies **-l**). The state of each file is one of *normal*, *not installed*, or *replaced*.

--triggers, --triggerscripts
Display the trigger scripts, if any, which are contained in the package. **--xml** Format package headers as XML.

FILE SELECTION OPTIONS:

-A, --artifactfiles
Only include artifact files (implies **-l**).

-c, --configfiles
Only include configuration files (implies **-l**).

-d, --docfiles
Only include documentation files (implies **-l**).

-L, --licensefiles
Only include license files (implies **-l**).

--noartifact
Exclude artifact files.

--noconfig
Exclude config files.

--noghost
Exclude ghost files.

VERIFY OPTIONS

The general form of an rpm verify command is

rpm {**-V|--verify**} [**select-options**] [**verify-options**]

Verifying a package compares information about the installed files in the package with information about the files taken from the package metadata stored in the rpm database. Among other things, verifying compares the size, digest, permissions, type, owner and group of each file. Any discrepancies are displayed. Files that were not installed from the package, for example, documentation files excluded on installation using the "**--excludedocs**" option, will be silently ignored.

The package and file selection options are the same as for package querying (including package manifest files as arguments). Other options unique to verify mode are:

--nodeps
Don't verify dependencies of packages.

--nodigest
Don't verify package or header digests when reading.

--nofiles
Don't verify any attributes of package files.

--noscripts
Don't execute the **%verifyscript** scriptlet (if any).

--nosignature
Don't verify package or header signatures when reading.

--nolinkto

--nofiledigest (formerly **--nomd5**)

--nosize

--nouser

--nogroup

--nomtime

--nomode

--nordev
Don't verify the corresponding file attribute.

--nocaps
Don't verify file capabilities.

The format of the output is a string of 9 characters, a possible attribute marker:

```
c %config configuration file.
d %doc documentation file.
g %ghost file (i.e. the file contents are not included in the package payload)
l %license license file.
r %readme readme file.
```

from the package header, followed by the file name. Each of the 9 characters denotes the result of a comparison of attribute(s) of the file to the value of those attribute(s) recorded in the database. A single "**.**" (period) means the test passed, while a single "**?**" (question mark) indicates the test could not be performed (e.g. file permissions prevent reading). Otherwise, the (mnemonically em**B**oldened) character denotes failure of the corresponding **--verify** test:

```
S file Size differs
M Mode differs (includes permissions and file type)
5 digest (formerly MD5 sum) differs
D Device major/minor number mismatch
L readLink(2) path mismatch
U User ownership differs
G Group ownership differs
T mTime differs
P caPabilities differ
```

MISCELLANEOUS COMMANDS

rpm --showrc
shows the values **rpm** will use for all of the options are currently set in *rpmrc* and *macros* configuration file(s).

rpm --setperms | **--setugids** | **--setcaps** *PACKAGE_NAME*
obsolete aliases for **--restore**

rpm --restore [**select-options**]
The option restores file metadata such as timestamp, owner, group, permissions and capabilities of files in packages.

FTP/HTTP OPTIONS

rpm can act as an FTP and/or HTTP client so that packages can be queried or installed from the internet. Package files for install, upgrade, and query operations may be specified as an **ftp** or **http** style URL:

http://HOST[:PORT]/path/to/package.rpm

ftp://[USER:PASSWORD]@HOST[:PORT]/path/to/package.rpm

If both the user and password are omitted, anonymous **ftp** is used.

rpm allows the following options to be used with ftp URLs:

rpm allows the following options to be used with
http and **ftp** URLs:

--httpproxy *HOST*
The host *HOST* will be used as a proxy server for all **http** and **ftp** transfers. This option may also be specified by configuring the macro **%_httpproxy**.

--httpport *PORT*
The TCP *PORT* number to use for the **http** connection on the proxy http server instead of the default port. This option may also be specified by configuring the macro **%_httpport**.

LEGACY ISSUES

Executing rpmbuild

The build modes of rpm are now resident in the */usr/bin/rpmbuild* executable. Install the package containing **rpmbuild** (usually **rpm-build**) and see **rpmbuild**(8) for documentation of all the **rpm** build modes.

FILES

rpmrc Configuration

```
/usr/lib/rpm/rpmrc
/usr/lib/rpm/<vendor>/rpmrc
/etc/rpmrc
~/.rpmrc
```

Macro Configuration

```
/usr/lib/rpm/macros
/usr/lib/rpm/<vendor>/macros
/etc/rpm/macros
~/.rpmmacros
```

Database

```
/var/lib/rpm/Basenames
/var/lib/rpm/Conflictname
/var/lib/rpm/Dirnames
/var/lib/rpm/Group
/var/lib/rpm/Installtid
/var/lib/rpm/Name
/var/lib/rpm/Obsoletename
/var/lib/rpm/Packages
/var/lib/rpm/Providename
/var/lib/rpm/Requirename
/var/lib/rpm/Sha1header
/var/lib/rpm/Sigmd5
/var/lib/rpm/Triggername
```

Temporary

*/var/tmp/rpm**

SEE ALSO

rpm-misc(8), **popt**(3), **rpm2cpio**(8), **rpmbuild**(8), **rpmdb**(8), **rpmkeys**(8), **rpmsign**(8), **rpmspec**(8)

rpm --help - as rpm supports customizing the options via popt aliases it's impossible to guarantee that what's described in the manual matches what's available.

http://www.rpm.org/ <URL:http://www.rpm.org/>

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