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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'rpm.8' command**

**\$ man rpm.8**

RPM(8)                    System Manager's Manual                    RPM(8)

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] [--nodeps] [--noscripts]

  [--notriggers] [--test] PACKAGE\_NAME ...

MISCELLANEOUS:

rpm --showrc

rpm --setperms PACKAGE\_NAME ...

rpm --setugids PACKAGE\_NAME ...

rpm --setcaps PACKAGE\_NAME ...

rpm --restore PACKAGE\_NAME ...

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][--fileresolve] [--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] [--ignoreeos]  
 [--includedocs] [--justdb]

[--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 in? stalling, or %prep if building, a package) will be run after a chroot(2) to 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 missing 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.

`--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, --notrig?

gerpostun

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=NEWDPATH

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 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) 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)

: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 architecture name 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.

##### --hdr 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 OPERATIONS 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:

but 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**boldened) 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 PACKAGE_NAME`

sets permissions of files in the given package. Consider using `--restore` instead.

`rpm --setugids PACKAGE_NAME`

sets user/group ownership of files in the given package. This command can change permissions and capabilities of files in that package. In most cases it is better to use `--restore` instead.

`rpm --setcaps PACKAGE_NAME`

sets capabilities of files in the given package. Consider using `--restore` instead.

`rpm --restore PACKAGE_NAME`

The option restores owner, group, permissions and capabilities of files in the given package.

Options `--setperms`, `--setugids`, `--setcaps` and

`--restore` are mutually exclusive.

## 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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RPM(8)