

This page uses a table to display the correspondence of package management

Commands among some of the most popular Linux distributions. The original inspiration was given by :

- [openSUSE's Software Management Command Line Comparison](#)
- [Pacman/Wiki Archlinux](#)

Basic operations

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Install a package(s) by name	pacman -S	dnf install	apt install	zypper install or zypper in	emerge [-a]
Remove a package(s) by name	pacman -Rs	dnf remove	apt remove	zypper remove or zypper rm	emerge -vc
Search for package(s) by searching the expression in name, description, short description. What exact fields are being searched by default varies in each tool. Mostly options bring tools on par.	pacman -Ss	dnf search	apt search	zypper search or zypper se [-s]	emerge -S
Upgrade Packages - Install packages which have an older version already installed	pacman -Syu	dnf upgrade	apt update and then apt upgrade	zypper update or zypper up	emerge -uDN @world
Upgrade Packages - Another form of the update command, which can perform more complex updates -- like distribution upgrades. When the usual update command will omit package updates, which include changes in dependencies, this command can perform those updates.	pacman -Syu	dnf distro-sync	apt update and then apt dist-upgrade	zypper dup	emerge -uDN @world
Clean up all local caches. Options might limit what is actually cleaned. autoclean removes only unneeded, obsolete information.	pacman -Sc or pacman -Scc	dnf clean all	apt autoclean or apt clean	zypper clean	eclean distfiles
Remove dependencies that are no longer needed, because e.g. the package which needed the dependencies was removed.	pacman -Qdtq pacman -Rs -	dnf autoremove	apt autoremove	zypper rm -u	emerge --depclean
Remove packages no longer included in any repositories.	pacman -Qmq pacman -Rs -	dnf repoquery --extras	aptitude purge '~o'		
Mark a package previously installed as a dependency as explicitly required.	pacman -D --asexplicit	dnf mark install	apt-mark manual		emerge --select
Install package(s) as dependency / without marking as explicitly required.	pacman -S --asdeps	dnf install and then dnf mark remove	apt-mark auto		emerge -1
Only downloads the given package(s) without unpacking or installing them	pacman -Sw	dnf download	apt install --download-only (into the package cache) or apt download (bypass the package cache)	zypper --download-only	emerge --fetchonly
Start a shell to enter multiple commands in one session			apt-config shell	zypper shell	
Show a log of actions taken by the software management.	read /var/log/pacman.log	dnf history	read /var/log/dpkg.log	read /var/log/zypp/history	see /var/log/portage
Get a dump of the whole system information - Prints, Saves or similar the current state of the package management system. Preferred output is text or XML. (Note: Why either-or here? No tool offers the option to choose the output format.)	see /var/lib/pacman/local	see /var/lib/rpm/Packages	apt-cache stats		emerge --info
e-mail delivery of package changes			apt install apt-listchanges		

Querying specific packages

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Show all or most information about a package. The tools' verbosity for the default command vary. But with options, the tools are on par with each other.	pacman -Si or pacman -Qi	dnf list or dnf info	apt show or apt-cache policy	zypper info or zypper if	emerge -S, emerge -pv or eix
Display local package information: Name, version, description, etc.	pacman -Qi	rpm -qi / dnf info installed	dpkg -s or aptitude show	zypper info or rpm -qi	emerge -pv or emerge -S
Display remote package information: Name, version, description, etc.	pacman -Si	dnf info	apt-cache show or aptitude show	zypper info	emerge -pv and emerge -S or equery meta
Display files provided by local package	pacman -Ql	rpm -ql	dpkg -L	rpm -Ql	equery files or qlist
Display files provided by a remote package	pacman -Fl	dnf repoquery -l or repoquery -l (from package yum-utils)	apt-file list		pfl
Query the package which provides FILE	pacman -Qo	rpm -qf (installed only) or dnf provides (everything) or repoquery -f (from package yum-utils)	dpkg -S or dlocate	zypper search -f	equery belongs or qfile
List the files that the package holds. Again, this functionality can be mimicked by other more complex commands.	pacman -Ql or pacman -Fl	dnf repoquery -l	dpkg-query -L	rpm -ql	equery files or qlist
Displays packages which provide the given exp. aka reverse provides. Mainly a shortcut to search a specific field. Other tools might offer this functionality through the search command.	pacman -F	dnf provides	apt-file search	zypper what-provides or zypper wp	equery belongs (only installed packages) or pfl
Search all packages to find the one which holds the specified file. auto-apt is using this functionality.	pacman -F	dnf provides	apt-file search	zypper search -f	equery belongs or qfile
Show the changelog of a package	pacman -Qc	rpm -q --changelog	apt-get changelog	rpm -q --changelog	equery changes -f

Querying package lists

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Search for package(s) by searching the expression in name, description, short description. What exact fields are being searched by default varies in each tool. Mostly options bring tools on par.	pacman -Ss	dnf search	apt search	zypper search or zypper se -s	emerge -S or eix
Lists packages which have an update available. Note: Some provide special commands to limit the output to certain installation sources, others use options.	pacman -Qu	dnf list updates or dnf check-update	apt-get upgrade (press n to only see the list)	zypper list-updates or zypper patch-check (just for patches)	emerge -uDNp @world
Display a list of all packages in all installation sources that are handled by the packages management. Some tools provide options or additional commands to limit the output to a specific installation source.	pacman -Sl	dnf list available	apt-cache dumpavail or apt-cache dump (Cache only) or apt-cache pkgnames	zypper packages	portageq all_best_visible /
Generates a list of installed packages	pacman -Q	dnf list installed	dpkg --get-selections grep ^i	zypper search --installed-only	qlist -IC
List packages that are installed but are not available in any installation source (anymore).	pacman -Qm	dnf list extras	deborphan	zypper se -si grep 'System Packages'	eix-test-obsolete
List packages that were recently added to one of the installation sources, i.e. which are new to it.		dnf list recent	aptitude search '~N' or aptitude forget-new		eix-diff
List installed local packages along with version	pacman -Q	rpm -qa	dpkg -l	zypper search -s or rpm -qa	qlist -ICv
Search locally installed package for names or descriptions	pacman -Qs	rpm -qa '*<str>*'	aptitude search '~i(~n \$name ~d \$description)'		eix -S -l
List packages not required by any other package	pacman -Qt	dnf leaves	deborphan -anp1		emerge -pc
List packages installed explicitly (not as dependencies)	pacman -Qe	dnf history userinstalled	apt-mark showmanual		emerge -pvO @selected or eix --selected
List packages installed automatically (as dependencies)}}}	pacman -Qd		apt-mark showauto		

Querying package dependencies

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Display packages which require X to be installed, aka show reverse dependencies.	pacman -Sii	dnf repoquery --alldeps --whatrequires or repoquery --whatrequires	apt-cache rdepends or aptitude search ~D\$pattern	zypper search --requires	emerge -pvc
Display packages which conflict with given expression (often package). Search can be used as well to mimic this function.		dnf repoquery --conflicts	aptitude search '~C\$pattern'		
List all packages which are required for the given package, aka show dependencies.	pacman -Si or pacman -Qi	dnf repoquery --requires or repoquery -R	apt-cache depends or apt-cache show	zypper info --requires	emerge -ep
List what the current package provides		dnf provides	dpkg -s or aptitude show	zypper info --provides	equery files or qlist
List all packages that require a particular package		dnf repoquery --installed --alldeps --whatrequires	aptitude search ~D{depends,recommends,suggests}:\$pattern or aptitude why	zypper search --requires	equery depends -a
Display all packages that the specified packages obsoletes.		dnf list obsoletes	apt-cache show		
Generates an output suitable for processing with dotty for the given package(s).			apt-cache dotty		

Installation sources management

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Installation sources management	edit /etc/pacman.conf	edit /etc/yum.repos.d/\${REPO}.repo	edit /etc/apt/sources.list	edit /etc/zypp/repos.d/\${REPO}.repo	layman or eselect repository
Add an installation source to the system. Some tools provide additional commands for certain sources, others allow all types of source URI for the add command. Again others, like apt and dnf force editing a sources list. apt-cdrom is a special command, which offers special options design for CDs/DVDs as source.	edit /etc/pacman.conf	/etc/yum.repos.d/*.repo	apt-cdrom add	zypper service-add	layman or overlays
Refresh the information about the specified installation source(s) or all installation sources.	pacman -Sy (always upgrade the whole system afterwards)	dnf clean expire-cache and then dnf check-update	apt-get update	zypper refresh or zypper ref	emerge --sync or layman -S
Prints a list of all installation sources including important information like URI, alias etc.	cat /etc/pacman.d/mirrorlist	cat /etc/yum.repos.d/*	apt-cache policy	zypper service-list	layman -l or eselect repository list
List all packages from a certain repo	paclist <repo>				eix --in-overlay
Disable an installation source for an operation		dnf --disablerepo=			emerge package::repo-to-use
Download packages from a different version of the distribution than the one installed.		dnf --releasever=	apt-get install -t release package or apt-get install package/release (dependencies not covered)		echo "category/package ~amd64" >> /etc/portage/package.keywords and then emerge package

Overrides

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Add a package lock rule to keep its current state from being changed	edit /etc/pacman.conf modifying IgnorePkg array	edit dnf.conf adding/amending the exclude option	apt-mark hold pkg	zypper al or put package name in /etc/zypp/locks	/etc/portage/package.mask
Delete a package lock rule	edit /etc/pacman.conf removing package from IgnorePkg line		apt-mark unhold pkg	zypper rl or remove package name from /etc/zypp/locks	/etc/portage/package.mask (or package.unmask)
Show a listing of all lock rules	cat /etc/pacman.conf		/etc/apt/preferences	zypper ll or view /etc/zypp/locks	cat /etc/portage/package.mask
Set the priority of the given package to avoid upgrade, force downgrade or to overwrite any default behavior. Can also be used to prefer a package version from a certain installation source.	edit /etc/pacman.conf modifying HoldPkg and/or IgnorePkg arrays		/etc/apt/preferences, apt-cache policy	zypper mr -p	edit /etc/portage/package.accept_keywords adding a line with =category/package-version
Remove a previously set priority			/etc/apt/preferences	zypper mr -p	edit /etc/portage/package.accept_keywords removing offending line
Show a list of set priorities			apt-cache policy or /etc/apt/preferences	zypper lr -p	grep -r . /etc/portage/package.accept_keywords
Ignore problems that priorities may trigger.				n/a	

Verification and repair

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Verify single package	pacman -Qk (can add another k)	rpm -V	debsums	rpm -V	eqquery check
Verify all packages	pacman -Qk (can add another k)	rpm -Va	debsums	rpm -Va	eqquery check
Reinstall given package; this will reinstall the given package without dependency hassle	pacman -S	dnf reinstall	apt install --reinstall	zypper install --force	emerge -10
Verify dependencies of the complete system; used if installation process was forcefully killed	pacman -Dk	dnf repoquery --requires	apt-get check	zypper verify	emerge -uDN @world
Use some magic to fix broken dependencies in a system	for pacman dependency level, use pacman -Dk; for shared library level, use findbrokenpkgsAUR or lddd (from devtools)	dnf repoquery --unsatisfied	apt-get --fix-broken and then aptitude install	zypper verify	revdep-rebuild
Add a checkpoint to the package system for later rollback		(unnecessary, it is done on every transaction)		n/a	
Remove a checkpoint from the system	n/a	n/a		n/a	
Provide a list of all system checkpoints	n/a	dnf history list		n/a	
Rolls entire packages back to a certain date or checkpoint	n/a	dnf history rollback		n/a	
Undo a single specified transaction	n/a	dnf history undo		n/a	

Using package files and building packages

Action	Arch	Red Hat/Fedora	Debian/Ubuntu	SLES/openSUSE	Gentoo
Query a package supplied on the command line rather than an entry in the package management database	pacman -Qp	rpm -qp	dpkg -I		
List the contents of a package file	pacman -Qpl	rpm ls rpm -qpl	dpkg -c	rpm -qpl	
Install local package file, e.g. app.rpm and uses the installation sources to resolve dependencies	pacman -U	dnf install	apt install	zypper in	emerge
Updates package(s) with local packages and uses the installation sources to resolve dependencies	pacman -U	dnf upgrade	debi		emerge
Add a local package to the local package cache mostly for debugging purposes.	cp package-filename /var/cache/pacman/pkg/		apt-cache add package-filename	n/a	cp package-filename /usr/portage/distfiles
Extract a package	tar -Jxvf	rpm2cpio cpio -vid	dpkg-deb -x	rpm2cpio cpio -vid	tar -Jxvf
Install/Remove packages to satisfy build-dependencies. Uses information in the source package	Use ABS and makepkg -seoc	dnf builddep	apt-get build-dep	zypper si -d	emerge -o
Display the source package to the given package name(s)		dnf repoquery -s	apt-cache showsrc	n/a	
Download the corresponding source package(s) to the given package name(s)	Use ABS and makepkg -o	dnf download --source	apt-get source or debcheckout	zypper source-install	emerge --fetchonly
Build a package	makepkg -s	rpmbuild -ba (normal) or mock (in chroot)	debuild	rpmbuild -ba, then build, and then osc build	ebuild or quickpkg
Check for possible packaging issues	namcap (requires namcap)	rpmlint	lintian	rpmlint	repoman