

# Debian Package Management Cheatsheet

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## 1 Update the local package list

Tool	Command	Notes
APT	<code>apt update</code>	
	<code>apt-get update</code>	
Aptitude	<code>aptitude update</code>	

## 2 Install new software packages

Tool	Command	Notes
APT	<code>apt install <i>package</i></code>	Package is obtained from the package repository
	<code>apt --no-download install <i>package</i></code>	Package is not obtained from the package mirror, but is instead taken from the package cache
	<code>apt-get install <i>package</i></code>	Package is obtained from the package repository
	<code>apt-get --no-download install <i>package</i></code>	Package is not obtained from the package mirror, but is instead taken from the package cache
Aptitude	<code>aptitude install <i>package</i></code>	Package is obtained from the package repository
Dpkg	<code>dpkg -i <i>filename</i></code>	Filename refers to a local package file in <code>.deb</code> format

## 3 Renew existing software packages

Tool	Command	Notes
APT	<code>apt install <i>package</i></code>	Install an updated version of the same package if this package is already installed. Package is obtained from the package repository.
	<code>apt safe-upgrade <i>package</i></code>	Install a newer version of the package. Package is obtained from the package repository.
	<code>apt-get install <i>package</i></code>	Install an updated version of the same package if this package is already installed. Package is obtained from the package repository.
	<code>apt-get upgrade <i>package</i></code>	Install a newer version of the package. Package is obtained from the package repository.
Aptitude	<code>aptitude safe-upgrade <i>package</i></code>	Install a newer version of the package. Package is obtained from the package repository

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## 4 Reinstall an existing software package

Tool	Command	Notes
APT	<code>apt reinstall <i>package</i></code>	Package is obtained from the package repository
	<code>apt-get install --reinstall <i>package</i></code>	Package is obtained from the package repository
	<code>apt-get reinstall <i>package</i></code>	Package is obtained from the package repository
Aptitude	<code>aptitude reinstall <i>package</i></code>	Package is obtained from the package repository

## 5 Download software packages, only

Tool	Command	Notes
APT	<code>apt download <i>package</i></code>	The package is obtained from the package repository, saved in the current directory. After that it can be installed using the command <code>dpkg -i <i>filename</i></code>
Aptitude	<code>aptitude download <i>package</i></code>	The package is obtained from the package repository, saved in the current directory. After that it can be installed using the command <code>dpkg -i <i>filename</i></code>

## 6 Remove software packages, and keep the configuration files

Tool	Command	Notes
APT	<code>apt remove <i>package</i></code>	
	<code>apt-get remove <i>package</i></code>	
Aptitude	<code>aptitude remove <i>package</i></code>	
Dpkg	<code>dpkg -r <i>package</i></code>	
	<code>dpkg --remove <i>package</i></code>	

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## 7 Remove software packages as well as the configuration files

Tool	Command	Notes
APT	<code>apt purge <i>package</i></code>	
	<code>apt-get purge <i>package</i></code>	
	<code>apt-get --purge remove <i>package</i></code>	
Aptitude	<code>aptitude purge <i>package</i></code>	
Dpkg	<code>dpkg -P <i>package</i></code>	
	<code>dpkg --purge <i>package</i></code>	

## 8 List installed software packages

Tool	Command	Notes
APT	<code>apt list --installed</code>	List all installed packages
Apt-cache	<code>apt-cache search <i>package</i></code>	List all available packages for the given package name; search includes package name as well as the package description
	<code>apt-cache search --names-only <i>package</i></code>	List all available packages for the given package name; search includes package names, only
Aptitude	<code>aptitude search '~i'</code>	List all installed packages
Dpkg	<code>dpkg -l</code>	List all installed packages
	<code>dpkg --get-selections</code>	List all installed packages

## 9 Display information about a single software package

Tool	Command	Notes
APT	<code>apt list <i>package</i></code>	Display package information, and installation status
	<code>apt show <i>package</i></code>	Display detailed package information, and installation status
Aptitude	<code>aptitude show <i>package</i></code>	Display detailed package information, and installation status
Dpkg	<code>dpkg -l <i>package</i></code>	Display installation status
	<code>dpkg --get-selections <i>package</i></code>	Display installation status
	<code>dpkg -s <i>package</i></code>	Display package information
	<code>dpkg --get-architecture <i>package</i></code>	Display package information

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## 10 Display package dependencies

Tool	Command	Notes
<b>Apt-cache</b>	<code>apt-cache depends <i>package</i></code>	Display reverse dependencies
	<code>apt-cache rdepends <i>package</i></code>	Display dependencies
<b>Aptitude</b>	<code>aptitude search '~R' <i>package</i></code>	Display dependencies
	<code>aptitude search '~D' <i>package</i></code>	Display reverse dependencies
<b>Apt-rdepends</b>	<code>apt-rdepends -r <i>package</i></code>	Display dependencies
	<code>apt-rdepends <i>package</i></code>	Display reverse dependencies
<b>Dpkg</b>	<code>dpkg -f <i>filename</i> Depends</code>	Filename refers to a local .deb file; Display dependencies
	<code>dpkg-deb -f <i>filename</i> Depends</code>	Filename refers to a local .deb file; Display dependencies
<b>Grep-status</b>	<code>grep-status -F Package -s Depends <i>package</i></code>	Display dependencies
	<code>grep-status -P -s Depends <i>package</i></code>	Display dependencies

## 11 List files of a package prior to installation

Tool	Command	Notes
<b>Dpkg</b>	<code>dpkg -c <i>package</i></code>	
	<code>dpkg --contents <i>package</i></code>	
<b>Dpkg-deb</b>	<code>dpkg-deb -c <i>package</i></code>	
	<code>dpkg-deb --contents <i>package</i></code>	

## 12 List files of an installed package

Tool	Command	Notes
<b>Apt-file</b>	<code>apt-file -list <i>package</i></code>	
	<code>apt-file -show <i>package</i></code>	
<b>Dpkg</b>	<code>dpkg -L <i>package</i></code>	
	<code>dpkg --listfiles <i>package</i></code>	
<b>Dpkg-query</b>	<code>dpkg-query -L <i>package</i></code>	
	<code>dpkg-query --listfiles <i>package</i></code>	

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## 13 List configuration files of a package

Tool	Command	Notes
<b>Dpkg</b>	<code>dpkg -s <i>package</i></code>	
	<code>dpkg --status <i>package</i></code>	
<b>Dpkg-query</b>	<code>dpkg-query -s <i>package</i></code>	
	<code>dpkg-query --status <i>package</i></code>	

## 14 Identify the package from which a file originates

Tool	Command	Notes
<b>Apt-file</b>	<code>apt-file find <i>filename</i></code>	Search in all available packages
	<code>apt-file search <i>filename</i></code>	Search in all available packages
<b>Dpkg</b>	<code>dpkg -S <i>filename</i></code>	Search in all installed packages
	<code>dpkg --search <i>filename</i></code>	Search in all installed packages
<b>Dpkg-query</b>	<code>dpkg-query -S <i>filename</i></code>	Search in all installed packages
	<code>dpkg-query --search <i>filename</i></code>	Search in all installed packages

## 15 Display package status

Tool	Command	Notes
<b>Apt-cache</b>	<code>apt-cache show <i>package</i></code>	Search in all available packages
<b>Aptitude</b>	<code>aptitude show <i>package</i></code>	Search in all available packages
<b>Dpkg</b>	<code>dpkg -s <i>package</i></code>	Package has to be installed locally
	<code>dpkg --status <i>package</i></code>	Package has to be installed locally
	<code>dpkg -I <i>filename</i></code>	Filename refers to a local <code>.deb</code> file
	<code>dpkg --info <i>filename</i></code>	Filename refers to a local <code>.deb</code> file
<b>Dpkg-query</b>	<code>dpkg-query -s <i>package</i></code>	Package has to be installed locally
	<code>dpkg-query --status <i>package</i></code>	Package has to be installed locally

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## 16 Validate package signature

Tool	Command	Notes
<b>Debsums</b>	<code>debsums <i>package</i></code>	Validate all files from the package (except configuration files)
	<code>debsums</code>	Validate all files for all packages (except configuration files)
<b>Dpkg</b>	<code>dpkg -V <i>package</i></code>	Validate all files from the package
	<code>dpkg --verify <i>package</i></code>	Validate all files from the package
<b>Dpkg-sig</b>	<code>dpkg-sig --verify <i>package</i></code>	Validate the GPG signature of the package
<b>Gpg</b>	<code>gpg --verify <i>package</i></code>	Validate the GPG signature of the package

## 17 Check package for changes

Tool	Command	Notes
<b>Dpkg</b>	<code>dpkg --verify <i>package</i></code>	Check this package, only
	<code>dpkg --verify</code>	Check all packages

## 18 Display available packages

Tool	Command	Notes
<b>APT</b>	<code>apt list</code>	List all known, and available packages with its status
	<code>apt list</code>	List all known, and available package versions with its status
<b>Apt-cache</b>	<code>apt-cache pkgnames</code>	List all known, and available packages

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## 19 Display renewable packages

Tool	Command	Notes
<b>Apt</b>	<code>apt list --upgradable</code>	List available packages with a new version
	<code>apt list --upgradable <i>package</i></code>	List new versions for this package
	<code>apt-get upgrade -u</code>	List available packages with a new version
	<code>apt-get upgrade --show-upgraded</code>	List available packages with a new version
	<code>apt-get upgrade -u -s</code>	Simulate upgrading available packages with a new version
	<code>apt-get upgrade --show-upgraded --simulate</code>	Simulate upgrading available packages with a new version
<b>Aptitude</b>	<code>aptitude search '~U'</code>	List available packages with a new version
	<code>aptitude search ?upgradable</code>	List available packages with a new version

## 20 List software packages that are available as a new version

Tool	Command	Notes
<b>APT</b>	<code>apt list --upgradable</code>	List the available packages as well as the new version number
	<code>apt list --upgradable <i>package</i></code>	List the new versions for this package, only
	<code>apt-get upgrade -u</code>	List the available packages as well as the new version number
	<code>apt-get upgrade --show-upgraded</code>	List the available packages as well as the new version number
	<code>apt-get upgrade -u -s</code>	Simulate updating the available packages with the new version
	<code>apt-get upgrade --show-upgraded --simulate</code>	Simulate updating the available packages with the new version
<b>Aptitude</b>	<code>aptitude search '~U'</code>	List the available packages as well as the version number
	<code>aptitude search ?upgradable</code>	List the available packages as well as the version number

## 21 Update an existing release (distribution upgrade)

Tool	Command	Notes
<b>APT</b>	<code>apt full-upgrade</code>	Update all existing packages to the newest available version
	<code>apt-get dist-upgrade</code>	Update all existing packages to the newest available version
<b>Aptitude</b>	<code>aptitude full-upgrade</code>	Update all existing packages to the newest available version
	<code>aptitude safe-upgrade</code>	Update all existing packages to the newest available version except for the unused packages



## 22 Recommended books and resources

### Axel Beckert, Frank Hofmann: Das Debian-Paketmanagement-Buch

Available languages: German  
Project website: <https://dpmb.org/>  
Contribute: via GitHub 🐙 <https://github.com/dpmb>  
Debian package: `debian-paketmanagement-buch`

### Raphaël Hertzog, Roland Mas: The Debian Administrator's Handbook

Available languages: French, English, German, Russian, Japanese, and other languages  
Project website: <https://debian-handbook.info/>  
Contribute: via Salsa 🐙 <https://salsa.debian.org/hertzog/debian-handbook/>  
Debian package: `debian-handbook`

### Frank Ronneburg: Das Debian GNU/Linux Anwenderhandbuch

Available languages: German  
Project website: <https://debiananwenderhandbuch.de/>  
Contribute: via email ✉ [fr@debiananwenderhandbuch.de](mailto:fr@debiananwenderhandbuch.de)  
Debian package: not available

### Matthew Danish: The apt-dpkg-reference list

Available languages: English  
Project website: not available  
Contribute: not known  
Debian package: `apt-dpkg-ref` (available until Debian 11 *Bullseye*)