

What does “sudo apt-get update” do?

Asked 6 years, 11 months ago Active 2 years, 4 months ago Viewed 1.5m times



I am wondering what `sudo apt-get update` does?

520

What does it update?



command-line

apt

updates



191

edited Aug 31 '14 at 5:34



Pandya

22.2k

31

99

164

asked Nov 27 '12 at 0:07



Elysium

4,494

21

48

76

9 Answers



558



In a nutshell, `apt-get update` doesn't actually install new versions of software. Instead, it updates the package lists for upgrades for packages that need upgrading, as well as new packages that have just come to the repositories.

- `apt-get update` downloads the package lists from the repositories and "updates" them to get information on the newest versions of packages and their dependencies. It will do this for all repositories and PPAs. From <http://linux.die.net/man/8/apt-get>:

Used to re-synchronize the package index files from their sources. The indexes of available packages are fetched from the location(s) specified in `/etc/apt/sources.list` (5). An update should always be performed before an upgrade or `dist-upgrade`.

- `apt-get upgrade` will fetch new versions of packages existing on the machine if APT knows about these new versions by way of `apt-get update`.

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Used to install the newest versions of all packages currently installed on the system from the sources enumerated in `/etc/apt/sources.list` (5). Packages currently installed with new versions available are retrieved and upgraded; under no circumstances are currently installed packages removed, nor are packages that are not already installed retrieved and installed. **New versions of currently installed packages that cannot be upgraded without changing the install status of another package will be left at their current version.** [Emphasis mine] An update must be performed first so that apt-get knows that new versions of packages are available.

- `apt-get dist-upgrade` will do the same job which is done by `apt-get upgrade`, plus it will also intelligently handle the dependencies, so it might remove obsolete packages or add new ones. See here: [What is "dist-upgrade" and why does it upgrade more than "upgrade"?](#)

From <http://linux.die.net/man/8/apt-get>:

In addition to performing the function of upgrade, this option also intelligently handles changing dependencies with new versions of packages; apt-get has a "smart" conflict resolution system, and it will attempt to upgrade the most important packages at the expense of less important ones, if necessary. The `/etc/apt/sources.list` (5) file contains a list of locations from which to retrieve desired package files. See also `apt_preferences(5)` for a mechanism for over-riding the general settings for individual packages.

You can combine commands with `&&` as follows:

```
sudo apt-get update && sudo apt-get install foo bar baz foo-dev foo-dbg
```

or to get newest versions possible as per version requirements of dependencies:

```
sudo apt-get update && sudo apt-get dist-upgrade
```

You need `sudo` both times, but since `sudo` by default doesn't prompt you within 5 or so minutes since the last `sudo` operation, you will be prompted for your password only once (or not at all).

edited Jun 18 '17 at 20:04

user364819

answered Nov 27 '12 at 0:17



ζ--

17.1k

10

55

86

11 Do we always need to run `sudo apt-get update` command whenever we install packages? What's the disadvantage if we don't do so? – JohnnyQ

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ah sounds like it's just a convention thing then. So I'm assuming it's really no that necessary especially if you are just using basic packages with basic commands that don't get updated usually. Problem in my situation is that `apt-get update` takes a while, internet here is still primitive. – [JohnnyQ](#) Jun 10 '16 at 16:53 ✎

- 3 @JohnnyQ, if your `apt-get update` is slow, then your `apt-get dist-upgrade` will also be slow, so that's not really an argument not to do `apt-get update` first. Btw, you can speed up your `apt-get update` by looking into the folder `/etc/apt/sources.d/` to see if you have any custom repositories added and one of those might be unresponsive, which will slow down entire update process. – [Mladen B.](#) Nov 11 '17 at 4:48 ✎
- 1 By the way, "apt" stands for Advanced Packaging Tool (wiki.debian.org/Apt "What is APT?"). Something I learned the other day, thought I'd share. ("apt" appears often in `man apt-get`, `man apt`, but I had never seen the acronym expanded before). – [jgreve](#) Sep 1 '18 at 14:31



48



A Google search can give you the definition for almost any terminal command, as can `--help` in the terminal. For example,

```
apt-get --help
```

`sudo apt-get update` essentially has three parts:

```
sudo
```

performs the following command with super-user (root) capabilities. Many actions that require modifying system files or installing applications require extra permissions to go through.

```
apt-get
```

is a command-line tool which Ubuntu uses to install, remove, and manage software packages

```
update
```

is an option for the `apt-get` program to use which updates the package lists from a server on the internet. The package lists provide the `apt-get` utility with important information about the software packages that you can install using `apt-get`. `apt-get` uses these lists to determine which software to install when given a command to install. For example

```
sudo apt-get install guake
```


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```
sudo apt-get update
sudo apt-get install <package>
```


ensuring that apt-get knows to install the most recent version of the package.

Another useful source for information is the help.ubuntu.com site. For example, if you searched that site for `apt-get` you would find [AptGet/Howto](#) as one of the results.

edited Dec 14 '15 at 2:25

 **TheWanderer**
16.6k 11 40 61

answered Nov 27 '12 at 0:16

 **Alex**
1,003 4 14 27

Alex, can I basically use the command like you put it: "apt-get update apt-get install <package>" Basically 2 things can be performed just typing the 2 commands together like this? – [Elysium](#) Nov 27 '12 at 0:46

- 1 @Elysium Yes, if you have `&&` between them as `sudo apt-get update&&sudo apt-get install foo bar baz` – [ζ--](#) Nov 27 '12 at 0:48
- 8 Using `&&` means that the second command will only run if the first one succeeds. If you don't care about the success of the first command, use `;` instead. – [Flimm](#) Nov 27 '12 at 13:36
- 4 A Google search led me to this question/answer. Just FYI ;) – [teewuane](#) May 6 '16 at 18:25

▲

19

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Running `sudo apt-get update` simply makes sure your list of packages from all repositories and PPA's is up to date. If you do not run this command, you could be getting older versions of various packages you are installing, or worse, dependency issues. If you have just added a PPA and have not updated, nothing from the PPA will work at all as you do not have a package list from that PPA or repository.

In a nutshell: It is *highly* recommended to run `sudo apt-get update` before installing, but it *may be skipped if you are really pressed for time* unless you have changed repositories or PPAs since the last `apt-get update`.

edited Nov 27 '12 at 12:33

 **ζ--**
17.1k 10 55 86

answered Jun 5 '12 at 23:21

▲ It updates the available software list on your computer.

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Your computer has a list (like a catalog) that contains all the available software that the Ubuntu servers have available. But the available software and versions might change, so a "update" will hit the server and see what software is available in order to update its local lists (or catalogs).

Note that `update` is diferent from `upgrade` . Update, as mentioned above, will fetch available software and update the lists while `upgrade` will install new versions of software installed on your computer (actual software updates).

To actually upgrade your software (not "update" the lists), you execute the command

```
sudo apt-get upgrade
```

which is usually executed after an "update".

edited Jul 27 '14 at 14:20



Peter Mortensen

1,026 2 11 17

answered Nov 27 '12 at 0:21



Sam

2,233 10 10

What is `sudo apt-get install` for then? Installing particular packages instead of a general upgrade? – Peter Mortensen Nov 26 '17 at 17:42



12



You need to run `apt-get update` once before installing new packages as this updates the local repository information. If you are going to install multiple packages shortly after each other, you do not need to run `apt-get update` . Also, you can install multiple packages at once if you type `sudo apt-get install package1 package2...`

edited Apr 29 '15 at 23:34



chicks

406 6 15

answered Jun 5 '12 at 23:23



Jason Petrilla

138 6

Nice trick for that! – Emerson Hsieh Jun 17 '12 at 6:41



When you install packages from the command line with `sudo apt-get install ...` (or `sudo aptitude install ...`), or when you upgrade them from the command line (with `upgrade` or `dist-upgrade` instead of `install`), the following information is obtained from your local

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2. what versions of them are available

3. where the available packages should be retrieved from

Running `sudo apt-get update` (or `sudo aptitude update`) updates this on your local system. This is the step that actually retrieves information about what packages can be installed, **including what updates to currently installed packages are available**, from Internet sources.

When you install packages with a GUI interface (the Update Manager, the Software Center, or the Synaptic Package Manager), the work of `sudo apt-get update` is done automatically. When you install packages from the command-line, it is not, and you should always do this yourself *unless you have done so very recently*.

Because information about what updated versions of packages are available is obtained by running `sudo apt-get update` (or `sudo aptitude update`), it is advisable to run this before installing any package, and necessary to run it to install the latest updates, *even if you have not added or removed any Software Sources (such as a PPA)*.

Please note that if you are going to perform multiple package management operations around the same time, you don't need to run `sudo apt-get update` before each one. It's only if the information hasn't been updated for a while, that you should make sure to run it.

answered Jun 5 '12 at 23:59



Eliah Kagan

93.2k 25 256 409



4

As Eliah Kagan mentioned above, you would **expect** that a GUI application would run `apt-get update` before `apt-get install` / `apt-get upgrade`, but I just discovered an interesting error 404, on a relatively new offensive-security VM machine, that had me stumped for a minute.



From the command line, I ran `apt-get update`, and then tried the System Tools/Software-Update command again, and this time it ran with no 404 errors.

So, I guess you can't always assume that `apt-get update` is run from GUI applications...

edited Sep 30 '15 at 6:59



kos

27.4k 9 73 128

answered Apr 2 '15 at 2:58



mikepratt

41 1

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What mirror do you use? With more info, maybe I could improve my answer. (Btw, is this intended as a separate answer, or should it be converted to a comment?) – [Eliah Kagan](#) Apr 2 '15 at 3:05



As said by plenty of people before me this updates your local repository (package list).

3

You may run into trouble if you try to install



```
apt-get install foobar
```

and foobar or a dependency don't have their latest version in the repository. This can be especially problematic if installing a .deb file manually or a ppa from a 3rd party.

Basically it makes sure *your list* matches the *master* list.

answered Jun 5 '12 at 23:38



N8tron

392 1 4 21



Let's consider the example of installing [VLC media player](#) on Ubuntu:

2

```
sudo apt-get update
```



It will check the repositories for available updates.

Whereas

```
sudo apt-get install vlc vlc-plugin-pulse mozilla-plugin-vlc
```

will install VLC media player from the repositories which we searched for.

If you had logged in as a root user (administrator), you don't have to use `sudo`, because you already have the super user privileges.

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