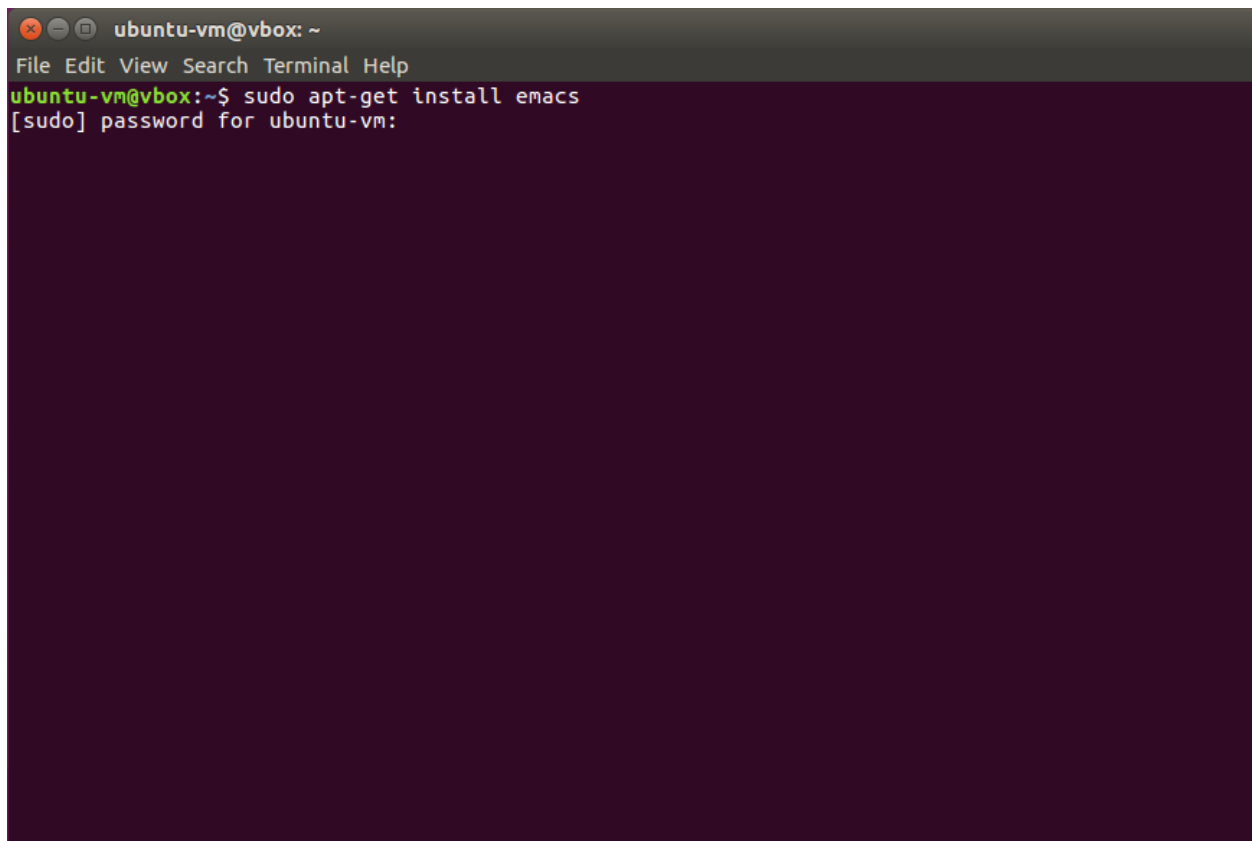Linux tutorial for beginners. This tutorial will teach you how to do **Software Installation** and **Software Maintenance** in **Linux**.

- Installing a software or program

For this tutorial, we will be installing the package or program called "emacs". To install the program, open the terminal program and use the command **sudo apt-get install emacs** then press enter, if prompted for a password, enter your user account password to confirm, then you will prompted for another confirmation, Enter Y then press enter to confirm or enter N to cancel the operation.

Command: sudo apt-get install (package)

```
ubuntu-vm@vbox: ~
File  Edit  View  Search  Terminal  Help
ubuntu-vm@vbox:~$ sudo apt-get install emacs
[sudo] password for ubuntu-vm:
```

```
ubuntu-vm@vbox: ~

File  Edit  View  Search  Terminal  Help

ubuntu-vm@vbox:~$ sudo apt-get install emacs
[sudo] password for ubuntu-vm:
Sorry, try again.
[sudo] password for ubuntu-vm:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  emacs24 emacs24-bin-common emacs24-common emacs24-common-non-dfsg emacs24-el libgif7
  liblockfile-bin liblockfile1 libm17n-0 libotf0 m17n-db
Suggested packages:
  ncurses-term m17n-docs gawk
The following NEW packages will be installed:
  emacs emacs24 emacs24-bin-common emacs24-common emacs24-common-non-dfsg emacs24-el libgif7
  liblockfile-bin liblockfile1 libm17n-0 libotf0 m17n-db
0 upgraded, 12 newly installed, 0 to remove and 10 not upgraded.
Need to get 0 B/37.6 MB of archives.
After this operation, 113 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

```
ubuntu-vm@vbox: ~

File  Edit  View  Search  Terminal  Help

Setting up liblockfile1:amd64 (1.09-6ubuntu1) ...
Setting up emacs24-common-non-dfsg (24.4+1-2) ...
Setting up emacs24-common (24.5+1-6ubuntu1.1) ...
Setting up emacs24-bin-common (24.5+1-6ubuntu1.1) ...
update-alternatives: using /usr/bin/ctags.emacs24 to provide /usr/bin/ctags (ctags) in auto mod
e
update-alternatives: using /usr/bin/ebrowse.emacs24 to provide /usr/bin/ebrowse (ebrowse) in au
to mode
update-alternatives: using /usr/bin/emacsclient.emacs24 to provide /usr/bin/emacsclient (emacsc
lient) in auto mode
update-alternatives: using /usr/bin/etags.emacs24 to provide /usr/bin/etags (etags) in auto mod
e
update-alternatives: using /usr/bin/grep-changelog.emacs24 to provide /usr/bin/grep-changelog (
grep-changelog) in auto mode
Setting up libgif7:amd64 (5.1.4-0.3~16.04.1) ...
Setting up libotf0:amd64 (0.9.13-3) ...
Setting up m17n-db (1.7.0-2) ...
Setting up libm17n-0:amd64 (1.7.0-3) ...
Setting up emacs24 (24.5+1-6ubuntu1.1) ...
update-alternatives: using /usr/bin/emacs24-x to provide /usr/bin/emacs (emacs) in auto mode
Install emacsen-common for emacs24
emacsen-common: Handling install of emacsen flavor emacs24
Wrote /etc/emacs24/site-start.d/00debian-vars.elc
Wrote /usr/share/emacs24/site-lisp/debian-startup.elc
Install dictionaries-common for emacs24
install/dictionaries-common: Byte-compiling for emacsen flavour emacs24
Wrote /usr/share/emacs24/site-lisp/dictionaries-common/debian-ispell.elc
Setting up emacs (46.1) ...
Setting up emacs24-el (24.5+1-6ubuntu1.1) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
ubuntu-vm@vbox:~$
```

- Removing or uninstalling a program

To remove or uninstall a program in linux, so for this tutorial we're removing emacs use the sudo apt-get remove emacs command to remove the package. You will be prompted to enter your user account password then another confirmation to confirm the operation like the previous part.

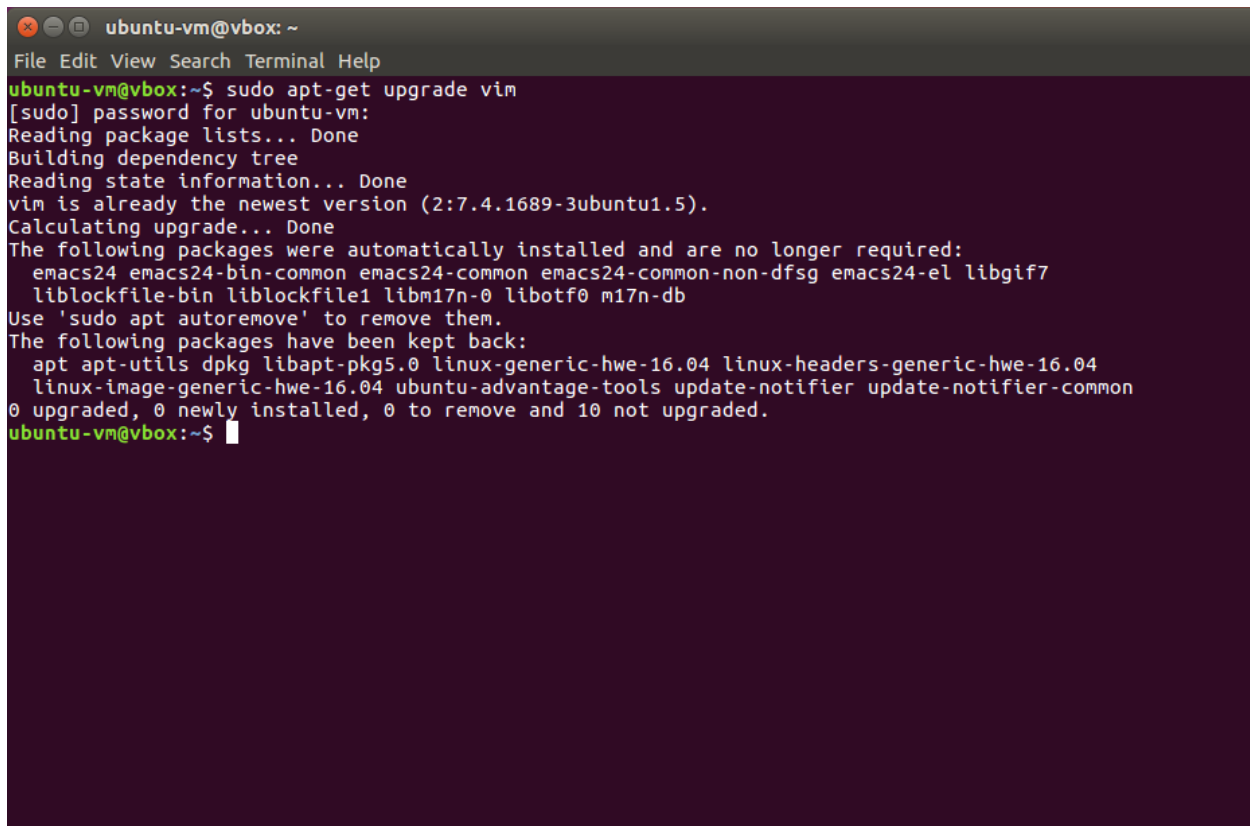**Command: sudo apt-get remove (package)**

- Performing maintenance like updating (upgrading) packages on linux

To perform package maintenance like updating or upgrading a package on linux, open the terminal program and use the **upgrade** on the command. For Example: **sudo apt-get upgrade emacs**. You will prompted for a confirmation by entering your user account password to confirm. If not prompted for a confirmation then the package that you wanted to upgrade has latest version and does not need updating.

Command: sudo apt-get upgrade (package)

```
ubuntu-vm@vbox: ~

File Edit View Search Terminal Help
ubuntu-vm@vbox:~$ sudo apt-get upgrade vim
[sudo] password for ubuntu-vm:
Reading package lists... Done
Building dependency tree
Reading state information... Done
vim is already the newest version (2:7.4.1689-3ubuntu1.5).
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  emacs24 emacs24-bin-common emacs24-common emacs24-common-non-dfsg emacs24-el libgif7
  liblockfile-bin liblockfile1 libm17n-0 libotf0 m17n-db
Use 'sudo apt autoremove' to remove them.
The following packages have been kept back:
  apt apt-utils dpkg libapt-pkg5.0 linux-generic-hwe-16.04 linux-headers-generic-hwe-16.04
  linux-image-generic-hwe-16.04 ubuntu-advantage-tools update-notifier update-notifier-common
0 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
ubuntu-vm@vbox:~$
```