



Inspiring Excellence

**CSE-491 Cloud Computing
Assignment-1**

Lets familiar with Ubuntu

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Submitted To,

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1. Write down some different kinds of cloud computing applications.

What is Cloud Computing:

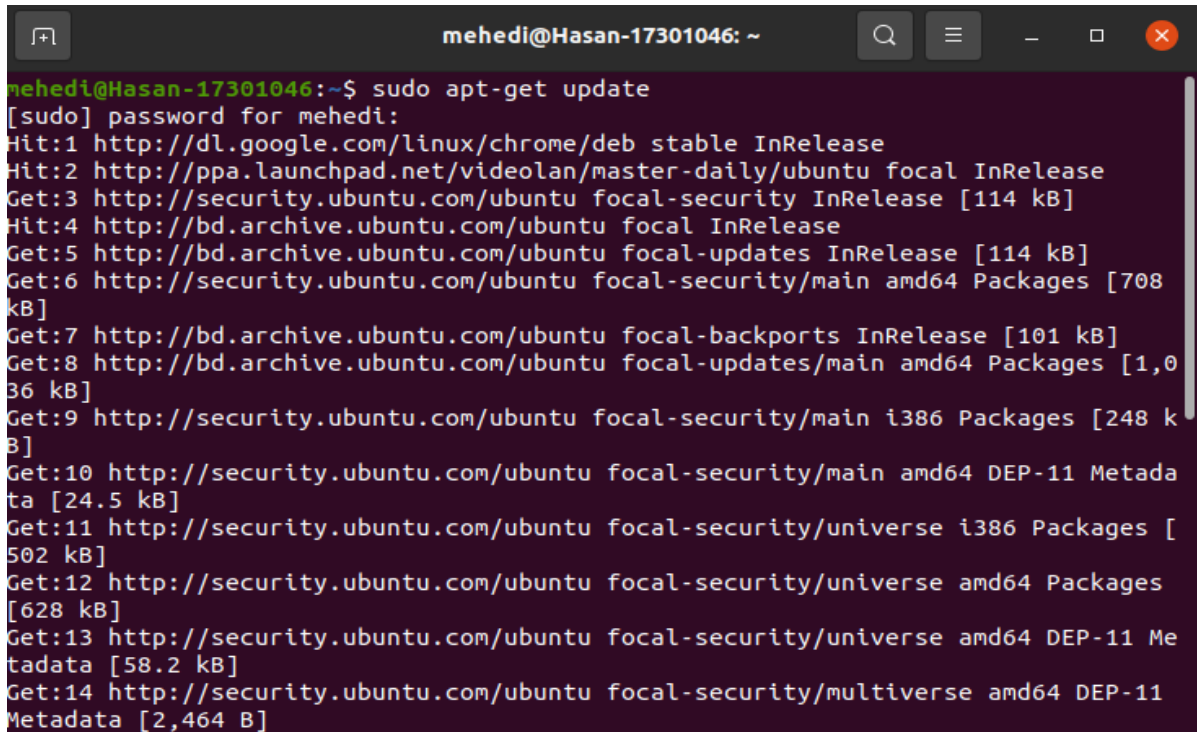
Cloud Computing is something that is the delivery of computing services over the Internet. Such as we have Hard disk (HDD) in our computer or laptop. And that is for single user. Like who owned the PC, only he can use the HDD. If we could make that HDD system in online (for over the Internet Use) and that online HDD can be used by so many client at a same time that is cloud computing. For example Google Drive is a most popular Cloud Storage.

There are different kinds of Cloud Computing Applications available right now. For Example:

- **Cloud Storage:** Cloud Storage is something that we can store our data in online and it can be used by everyone. Some of the most famous Cloud storage are : Mega Drive, Dropbox, Apple iCloud, PhotoBucket, Dracoon, Jumpshare etc
- **Cloud Computing in Medical or Healthcare:** For the availability of cloud computing Dr. now can check- up their patient's online. And can give easily treatment. Suppose for this Covid-19 pandemic we can't go out every time. Even If we need treatment we can talk to the Dr online and can follow their instructions. Some of the most used Healthcare are Praava Health Care, Doctor Dekhao, Sebahor, Dokter Bari etc
- **Cloud Computing in Educations:** Today is the era of Technology. Now we can learn a lot of thing over the internet. Online Educations is one the important part during the pandemic time. We can learn and continue our educations without going to School or University. This is possible just because of cloud Computing. Some of them are : BUX, GregMat, Coursera etc.
- **Cloud Computing in Business:** Biggest example of using online business in cloud computing is E-commerce business. Now we can buy our desire products without going to the market. This is possible because of cloud computing. For example : Daraz, Evaly, Alibaba, Shawpno, Chaldal Etc

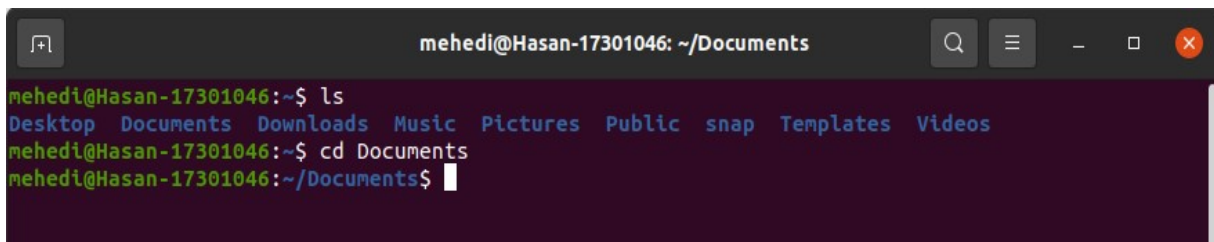
2. Basic Command of Ubuntu

- **Sudo apt-get Update:** Sudo apt update is used for updating the list of available important packages for Ubuntu and make Ubuntu up to date.



```
mehedi@Hasan-17301046: ~  
mehedi@Hasan-17301046:~$ sudo apt-get update  
[sudo] password for mehedi:  
Hit:1 http://dl.google.com/linux/chrome/deb stable InRelease  
Hit:2 http://ppa.launchpad.net/videlan/master-daily/ubuntu focal InRelease  
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]  
Hit:4 http://bd.archive.ubuntu.com/ubuntu focal InRelease  
Get:5 http://bd.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]  
Get:6 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [708 kB]  
Get:7 http://bd.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]  
Get:8 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1,036 kB]  
Get:9 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [248 kB]  
Get:10 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [24.5 kB]  
Get:11 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [502 kB]  
Get:12 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [628 kB]  
Get:13 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Metadata [58.2 kB]  
Get:14 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11 Metadata [2,464 B]
```

- **Cd :** cd is change directory. It is mostly used command in every terminal such as ubuntu, linux, mac etc. this command is used to change the current working directory of the working drive or another drive. If there was 5 files or folder in terminal we can just use cd command. It will move us to that directory.



```
mehedi@Hasan-17301046: ~/Documents  
mehedi@Hasan-17301046:~$ ls  
Desktop Documents Downloads Music Pictures Public snap Templates Videos  
mehedi@Hasan-17301046:~$ cd Documents  
mehedi@Hasan-17301046:~/Documents$
```

- **Sudo apt-get Upgrade:** Sudo apt get upgrade is used for installing newer versions of the packages that are already installed in my device. It will not removed my existing packages. And it is configured via sources.list file.

```
mehedi@Hasan-17301046: ~
Reading package lists... Done
mehedi@Hasan-17301046:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages will be upgraded:
  alsa-ucm-conf fprintd libpam-fprintd libpulse-mainloop-glib0 libpulse0
  libpulsedsp pulseaudio pulseaudio-module-bluetooth pulseaudio-utils
  thunderbird thunderbird-gnome-support thunderbird-locale-en
  thunderbird-locale-en-us
13 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 53.1 MB of archives.
After this operation, 1,202 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 libpulse-main
loop-glib0 amd64 1:13.99.1-1ubuntu3.11 [11.7 kB]
Get:2 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 libpulsedsp a
md64 1:13.99.1-1ubuntu3.11 [21.7 kB]
Get:3 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 pulseaudio-ut
ils amd64 1:13.99.1-1ubuntu3.11 [55.0 kB]
Get:4 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 pulseaudio-mo
dule-bluetooth amd64 1:13.99.1-1ubuntu3.11 [60.4 kB]
Get:5 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 pulseaudio am
```

- **Sudo apt-get dist upgrade :** sudo apt dist upgrade is the enhanced version of apt upgrade. In apt upgrade just new version of packages will install and upgrade but in dist upgrade it will install and remove some of the packages to satisfy some dependencies when it needed.

```
mehedi@Hasan-17301046: ~
mehedi@Hasan-17301046:~$ sudo apt-get dist-upgrade
[sudo] password for mehedi:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages will be upgraded:
  gcc-10-base gcc-10-base:i386 initramfs-tools initramfs-tools-bin
  initramfs-tools-core libatomic1:i386 libcc1-0 libgcc-s1 libgcc-s1:i386
  libgomp1 libstdc++6 libstdc++6:i386 libvulkan1 libvulkan1:i386
14 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 1,610 kB of archives.
After this operation, 133 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://ppa.launchpad.net/video4linux/master-daily/ubuntu focal/main i386 libvu
lkan1 i386 1.2.141.0-1~ubuntu20.04.1~ppa1 [108 kB]
Get:2 http://bd.archive.ubuntu.com/ubuntu focal-updates/main i386 gcc-10-base i38
6 10.3.0-1ubuntu1~20.04 [20.2 kB]
Get:3 http://bd.archive.ubuntu.com/ubuntu focal-updates/main amd64 gcc-10-base am
```

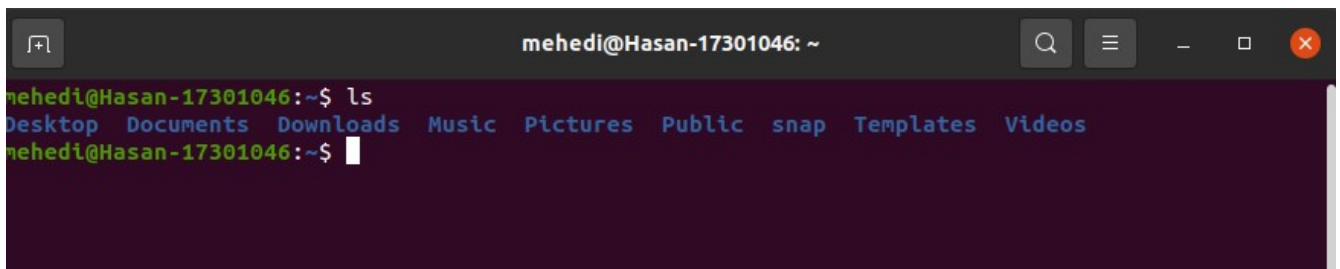
- **sudo apt install gnome-shell-extensions:** sudo apt gnome-shell-extensions to enable tweaks in Ubuntu. It will help you to change some of the interface in ubuntu. Such as switching windows, displaying notifications and so on.

```
mehedi@Hasan-17301046: ~
Processing triggers for systemd (245.4-4ubuntu3.7) ...
mehedi@Hasan-17301046:~$ sudo apt install gnome-shell-extensions
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  chrome-gnome-shell gir1.2-clutter-1.0 gir1.2-cogl-1.0 gir1.2-coglpango-1.0
  gir1.2-handv-0.0 gnome-shell-extension-prefs gnome-tweaks
Suggested packages:
  chromium | chromium-browser
The following NEW packages will be installed:
  chrome-gnome-shell gir1.2-clutter-1.0 gir1.2-cogl-1.0 gir1.2-coglpango-1.0
  gir1.2-handv-0.0 gnome-shell-extension-prefs gnome-shell-extensions
  gnome-tweaks
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
Need to get 386 kB of archives.
After this operation, 2,527 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://bd.archive.ubuntu.com/ubuntu focal/universe amd64 chrome-gnome-shell all 10.1-5 [13.9 kB]
Get:2 http://bd.archive.ubuntu.com/ubuntu focal/main amd64 gir1.2-cogl-1.0 amd64 1.22.6-1 [32.5 kB]
Get:3 http://bd.archive.ubuntu.com/ubuntu focal/main amd64 gir1.2-coglpango-1.0 amd64 1.22.6-1 [4,792 B]
Get:4 http://bd.archive.ubuntu.com/ubuntu focal/main amd64 gir1.2-clutter-1.0 amd64 1.26.4+dfsg-1 [105 kB]
Get:5 http://bd.archive.ubuntu.com/ubuntu focal/main amd64 gir1.2-handv-0.0 amd64
```

- **History :** to check all the previous history that are used in the terminal we can use history command. It will help us to find our old used history in terminal. Here in the pictures we are used some of the command in terminal. And we can easily check them by using history command in later on.

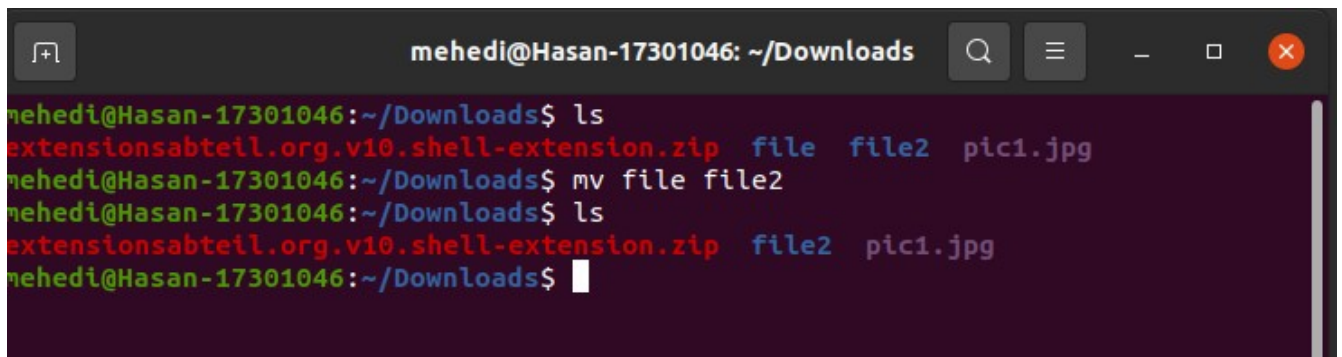
```
mehedi@Hasan-17301046: ~
mehedi@Hasan-17301046:~$ history
 1 sudo apt-get update
 2 sudo apt-get upgrade
 3 clear
 4 history
mehedi@Hasan-17301046:~$
```

- **Ls:** Its meaning is list. In terminal sometimes we need to see all the files that are contained in that directory. So that we can use the ls command to see all the files and folders.



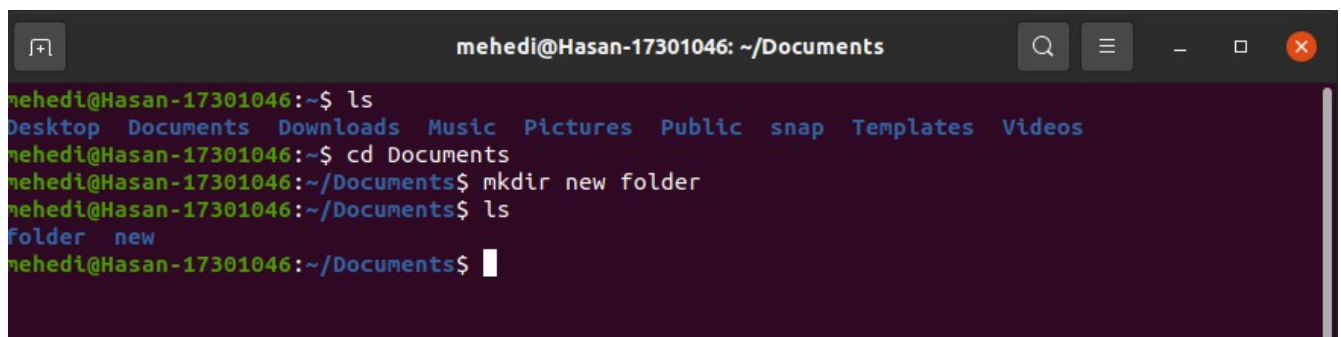
```
mehedi@Hasan-17301046: ~  
mehedi@Hasan-17301046:~$ ls  
Desktop Documents Downloads Music Pictures Public snap Templates Videos  
mehedi@Hasan-17301046:~$
```

- **Mv:** In Ubuntu terminal it is very easy to move a folder from one to another. Suppose I have two folders and I want to move folder 1 to folder 2. So I can just use mv folder 1 folder 2. My first folder will move to folder 2.



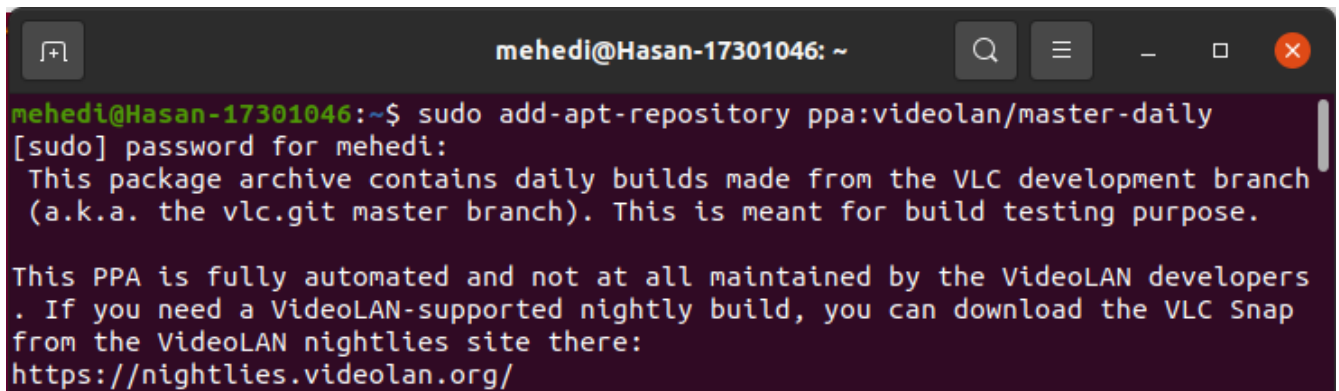
```
mehedi@Hasan-17301046: ~/Downloads  
mehedi@Hasan-17301046:~/Downloads$ ls  
extensionsabteil.org.v10.shell-extension.zip file file2 pic1.jpg  
mehedi@Hasan-17301046:~/Downloads$ mv file file2  
mehedi@Hasan-17301046:~/Downloads$ ls  
extensionsabteil.org.v10.shell-extension.zip file2 pic1.jpg  
mehedi@Hasan-17301046:~/Downloads$
```


- **mkdir:** mkdir meaning make directory. Which means create a new folder. Suppose in terminal I need to create a folder to move some file. I can instantly make a folder by using mkdir command. In the given pictures I have create two new folder. One is folder and one is new.

A terminal window titled 'mehedi@Hasan-17301046: ~/Documents'. The user runs 'ls' showing a list of directories: Desktop, Documents, Downloads, Music, Pictures, Public, snap, Templates, Videos. Then they run 'cd Documents'. Next, they run 'mkdir new folder'. Finally, they run 'ls' again, showing 'folder' and 'new' as new entries.

```
mehedi@Hasan-17301046:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  snap  Templates  Videos
mehedi@Hasan-17301046:~$ cd Documents
mehedi@Hasan-17301046:~/Documents$ mkdir new folder
mehedi@Hasan-17301046:~/Documents$ ls
folder  new
mehedi@Hasan-17301046:~/Documents$
```

- **install vlc package :** in Ubuntu sometimes we need to install some of the customs packages for work. Here in the given pictures I have installed VLC media player for playing some of the videos. VLC is good for its codec. First I add the vlc official repository to clone. After that I update that and finally install. In this way we can install google chrome or many others packages.

A terminal window titled 'mehedi@Hasan-17301046: ~'. The user runs 'sudo add-apt-repository ppa:videolan/master-daily'. A password prompt is shown. Then, a message appears: 'This package archive contains daily builds made from the VLC development branch (a.k.a. the vlc.git master branch). This is meant for build testing purpose.' Below this, another message states: 'This PPA is fully automated and not at all maintained by the VideoLAN developers . If you need a VideoLAN-supported nightly build, you can download the VLC Snap from the VideoLAN nightlies site there: https://nightlies.videolan.org/'.

```
mehedi@Hasan-17301046:~$ sudo add-apt-repository ppa:videolan/master-daily
[sudo] password for mehedi:
This package archive contains daily builds made from the VLC development branch
(a.k.a. the vlc.git master branch). This is meant for build testing purpose.

This PPA is fully automated and not at all maintained by the VideoLAN developers
. If you need a VideoLAN-supported nightly build, you can download the VLC Snap
from the VideoLAN nightlies site there:
https://nightlies.videolan.org/
```

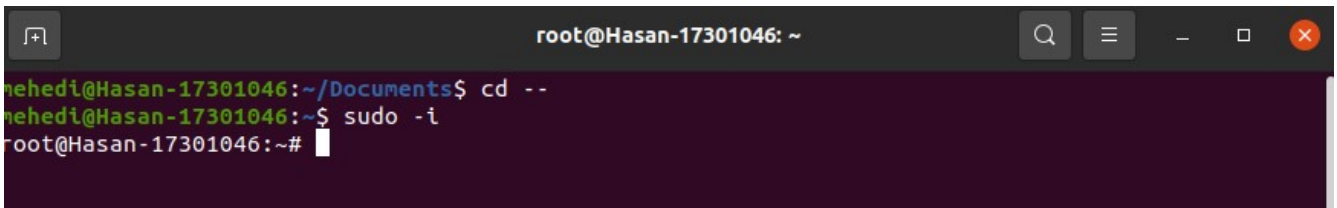
Update and Install Vlc Media (Continue)

```
mehedi@Hasan-17301046: ~  
Reading package lists... Done  
mehedi@Hasan-17301046:~$ sudo apt update  
Hit:1 http://dl.google.com/linux/chrome/deb stable InRelease  
Hit:2 http://ppa.launchpad.net/videolan/master-daily/ubuntu focal InRelease  
Hit:3 http://bd.archive.ubuntu.com/ubuntu focal InRelease  
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]  
Get:5 http://bd.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]  
Get:6 http://bd.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]  
Fetched 328 kB in 2s (131 kB/s)  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
2 packages can be upgraded. Run 'apt list --upgradable' to see them.  
mehedi@Hasan-17301046:~$ sudo apt-get install vlc qtwayland5  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  libcdcb2 libdavid4 libdc1394-22 libdca0 libdvbpsi10 libebml4v5 libfaad2  
  libixml10 libkate1 liblua5.2-0 libmad0 libmatroska6v5 libopenmpt-modplug1  
  libplacebo72 libprotobuf-lite17 libproxy-tools libqt5qml5 libqt5quick5  
  libqt5quickcontrols2-5 libqt5quicktemplates2-5 libqt5quickwidgets5  
  libqt5waylandclient5 libqt5waylandcompositor5 libqt5x11extras5  
  libresid-builder0c2a libsidplay2 libsndio7.0 libspatialaudio0 libssh2-1
```

- **Preload:** preload is one of the most important features in Ubuntu. In Ubuntu if we run some of the applications it will run from the storage. That will take some times to open. But after installing preload it will monitors some of the most used applications in ubuntu. Supposed in Ubuntu I have used google chrome mostly. So I need to open it very quickly. Preload will help to analyzing and monitor the most frequently used apps and fetches those binaries and dependencies into memory (RAM) for faster startup times.

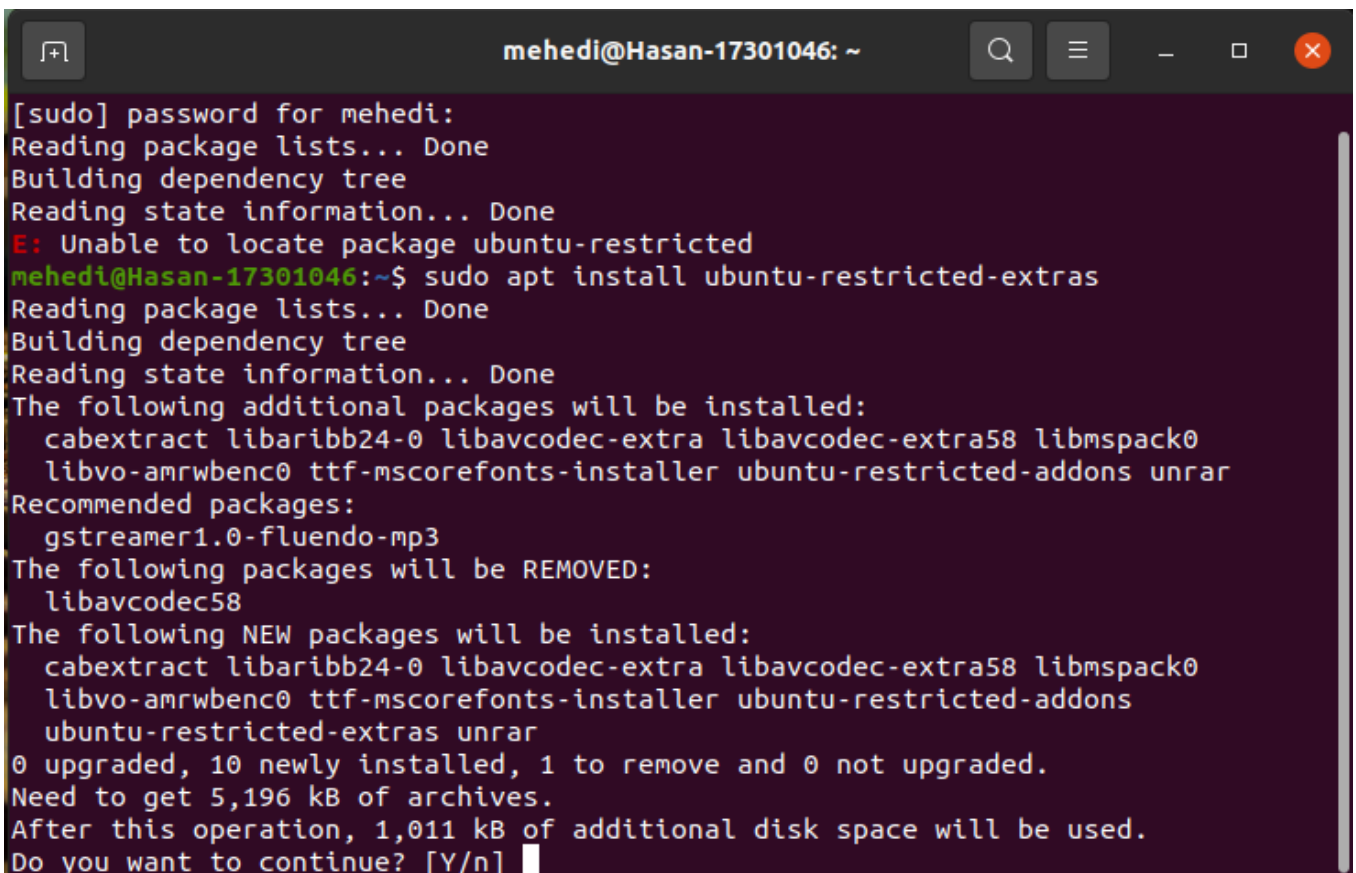
```
mehedi@Hasan-17301046: ~  
All done, no errors.  
All fonts downloaded and installed.  
mehedi@Hasan-17301046:~$ sudo apt install preload  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following NEW packages will be installed:  
  preload  
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.  
Need to get 29.5 kB of archives.  
After this operation, 94.2 kB of additional disk space will be used.  
Get:1 http://bd.archive.ubuntu.com/ubuntu focal/universe amd64 preload amd64 0.6.4-5 [29.5 kB]  
Fetched 29.5 kB in 1s (35.7 kB/s)  
Selecting previously unselected package preload.  
(Reading database ... 185497 files and directories currently installed.)  
Preparing to unpack .../preload_0.6.4-5_amd64.deb ...  
Unpacking preload (0.6.4-5) ...  
Setting up preload (0.6.4-5) ...  
Processing triggers for man-db (2.9.1-1) ...  
Processing triggers for systemd (245.4-4ubuntu3.7) ...  
mehedi@Hasan-17301046:~$
```


- **sudo -i** : Normally when we run terminal it shows the user by default. But some of the command need to run in root mode. So Sudo -i command will move to superuser (root) and we can execute some of the root command over there.



```
root@Hasan-17301046: ~
mehedi@Hasan-17301046:~/Documents$ cd --
mehedi@Hasan-17301046:~$ sudo -i
root@Hasan-17301046:~#
```

- **sudo apt install ubuntu-restricted-extras**: sudo apt install ubuntu-restricted-extras command is used for install some of the important codecs in Ubuntu to play videos without any hesitations. Some of the video or audio file dosen't play perfectly. For that we need codecs. And this command will help to play any video and audio without facing any problem.



```
mehedi@Hasan-17301046: ~
[sudo] password for mehedi:
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package ubuntu-restricted
mehedi@Hasan-17301046:~$ sudo apt install ubuntu-restricted-extras
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  cabextract libaribb24-0 libavcodec-extra libavcodec-extra58 libmpack0
  libvo-amrwbenc0 ttf-mscorefonts-installer ubuntu-restricted-addons unrar
Recommended packages:
  gstreamer1.0-fluendo-mp3
The following packages will be REMOVED:
  libavcodec58
The following NEW packages will be installed:
  cabextract libaribb24-0 libavcodec-extra libavcodec-extra58 libmpack0
  libvo-amrwbenc0 ttf-mscorefonts-installer ubuntu-restricted-addons
  ubuntu-restricted-extras unrar
0 upgraded, 10 newly installed, 1 to remove and 0 not upgraded.
Need to get 5,196 kB of archives.
After this operation, 1,011 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```