Tips for Linux

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GNU is not Unix. Chief GNUisance, it can decomposed as Chief GNU nuisance.

1   Signs

$ (ubuntu) and % (some unix system) in the terminal mean the user is a normal user, however #
means a root user

2   MobaXterm

In this section, based on https://www.topbestalternatives.com/mobaxterm/

MobaXterm is a free server and tabbed SSH client for Windows operating. It is one of the best
and enhanced terminals for multiple types of network tools for remote computing purposes. The
developers consider the MobaXterm an ultimate toolbox for remote computing that is why it is
being used largely.

3   How To Use Linux Screen

In this section, based on https://www.rackaid.com/blog/linux-screen-tutorial-and-how-to/.

Have you ever faced the situation where you perform a long-running task on a remote machine and
suddenly your connection drops, the SSH session is terminated and your work is lost. Well, it has
happened to all of us at some point, hasn't it? Luckily, there is a utility called screen that allows
us to resume the sessions.

Screen or GNU Screen is a terminal multiplexer. In other words, it means that you can start
a screen session and then open any number of windows (virtual terminals) inside that session.
Processes running in Screen will continue to run when their window is not visible even if you get
disconnected.

How to use screen:

1. Check the screen if it is installed in our system: $ screen -version

2. Install in different linux systems:

    (a) Install screen in Ubuntu and Debian: $ sudo apt install screen

    (b) Install screen in CentOS and Fedora: $ sudo yum install screen

3. Create a named session: $ screen -S session_name

4. Detach from Linux screen session: $ Ctrl+a d

    Remark. *The program running in the screen session will continue to run after you detach from the session*

5. Resume a screen session: $ screen -d -r session_name

6. Delete it in the screen session forever: $ exit

4 Linux apt

In this section, based on

APT (Advanced Package Tool) is the command line tool to interact with the packaging system. repository.

List all installed packages in Ubuntu: $ apt list –installed or $ dpkg -l

1. Update the package database: $ sudo apt update

2. Upgrade installed packages with apt: $ sudo apt upgrade

    Remark. *The fastest and the most convenient way to update Ubuntu system: $ sudo sudo apt update && sudo apt upgrade -y*

3. Install new packages with apt: sudo apt install package_name

4. Install packages without upgrading: sudo apt install package_name –no-upgrade

5. Install a specific version of an application: sudo apt install package_name=version_number

6. Remove installed package: sudo apt remove package_name and it leaves residue configuration files, but sudo apt purge package_name deletes absolutely.

5 Decompress .zip files

In this section, based on .

1. To unzip single file to the current folder: $ unzip filename.zip

    (a) Unzip a file without displaying any output: $ unzip -q filename.zip

    (b) Extract password protected zip files: $ unzip -P password filename.zip

(c) if you want to not overwrite existing files, $ unzip -n file.name, else $ unzip -o filename.zip

(d) Show the contents of a compressed zip file: $ unzip -l filename.zip

(e) Test a zip file is valid or not: $ unzip -t filename.zip

(f) See detailed information on a zip file: $ unzip -v filename.zip

2. Extract a zip file to a different directory: $ unzip filename.zip -d new_directory_path

3. Decompress multiple zip files: $ unzip *.zip

6   Matlab in Linux

In this section based on   https://blog.csdn.net/xiaotao_1/article/details/78646219

You can run other software if you like when you run Matlab: $ matlab&

7   Create directories in Linux

In this section, based on   https://www.lifewire.com/create-directories-linux-mkdir-command-3991847

1. Create a new direction to the current folder: $ mkdir fold_name

2. Create a new direction to the specify folder:

   (a) all the parent folders exist: $ mkdir /grandfather/father/fold_name

   (b) the parent folders exist or not: $ mkdir -p /grandfather/father/fold_name

3. more verbose output the direction has been created: $ mkdir -v foldname

Change the mode of a file or directory (chmod): Read = 4, Write = 2, Execute = 1.

$ chmod 777 participants: the first 7 sets the permissions for the user, the second 7 sets the permissions for the group, and the third 7 sets the permissions for everybody else.

8   Remove directories in Linux

In this section, based on   https://linux.die.net/man/1/rm

Remark. *$ rm : it won't delete a directory (unless you use the -r flag).*

1. Remove file forcefully: $ rm -f filename

2. Delete all files recursively in a fold: : rm -rf foldname

9 Copy directories in Linux

In this section, based on https://www.folkstalk.com/2012/02/copy-cp-file-and-directory-examples.html

1. Copy single file to destination directory: $ cp filename destination_directory

2. Copy a complete directory and its sub directory to another directory recursively: $ cp -r source_directory destination_directory

visual instrument (vi), concatenate(cat).

10 Decompress .gz & .tar.gz files

In this section, based on https://www.cyberciti.biz/faq/unpacking-or-uncompressing-gz-files/

1. Decompressing .gz files: $ gunzip file.gz

2. Decompressing .tar.gz files: $ tar -zxvf file.tar.gz

   Remark. *z: tells the tar command to uncompress the gzip file; x: tells tar to extract the files; v: stands for verbose; f: tells tar that you are going to give it a file name to work with.*

If you want to decompress these files, you can use -C /destinate_direction

11 Others

To select a GPU: nvidia-smi CUDA_VISIBLE_DEVICES=5 python ....

To download files from a website: wget -c -r -np -k -L -p www

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