

Analisis Data Geofisika 1

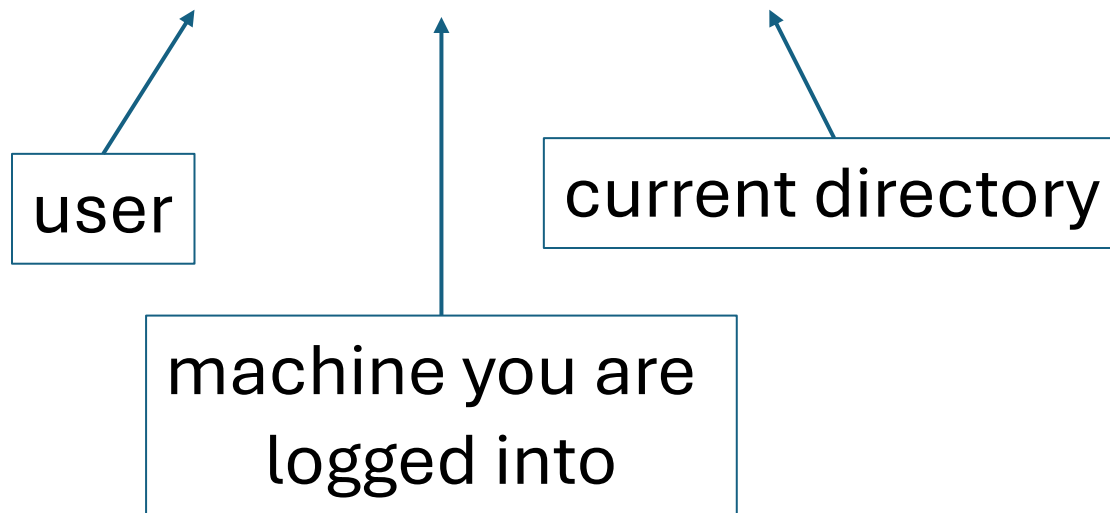
SCGF603501 - Seismic Processing using Seismic Unix

Introduction to Linux

- Command prompt

When you login to a system you will be presented with what is referred to as a command prompt.

Example: `user@hostname: ~$`



Introduction to Linux

- Basic File System Functionality

pwd - Print name of current Working Directory.

```
vandanu@computer: ~$ pwd  
/home/vandanu
```

cd - Change Directory. Changes the current working directory.

```
vandanu@computer: ~$ cd Devito/devito-env  
vandanu@computer: ~/Devito/devito-env$
```

Introduction to Linux

- Basic File System Functionality

which - Which is a command used to locate executables.

```
vandanu@computer: ~$ which suxwigb  
/mnt/d/SU/bin/suxwigb
```

ls - Displays a listing of files and directories.

useful flags: -l, -a

```
vandanu@computer: ~$ ls  
Devito    SeisElastic2D_1.1  SeisUnix  devito_project  
las_converter
```

...(cont.)

Introduction to Linux

- Basic File System Functionality

```
vandanu@computer: ~$ ls -l
```

```
total 20
```

```
drwxr-xr-x 5 vandanu vandanu 4096 Aug 14 15:08 Devito
drwxr-xr-x 7 vandanu vandanu 4096 Aug 25 08:46 SeisElastic2D_1.1
drwxr-xr-x 8 vandanu vandanu 4096 Feb 28 15:38 SeisUnix
drwxr-xr-x 3 vandanu vandanu 4096 Aug 14 14:21 devito_project
drwxr-xr-x 5 vandanu vandanu 4096 Mar  8 23:55 las_converter
```

```
vandanu@computer: ~$ ls -a
```

```
.bash_logout      .bashrc           .config           .gmt
.landscape         .local            .profile          .vscode-server
Devito            SeisUnix          las_converter
```

Introduction to Linux

- Basic File System Functionality

mkdir - Creates a new empty directory.

```
vandanu@computer: ~$ mkdir test
```

```
vandanu@computer: ~$ ls
```

```
test
```

cp - Copy a file or directory.

useful flags: -r

```
vandanu@computer: ~$ cp -r test test_new
```

```
vandanu@computer: ~$ ls
```

```
test  test_new
```

Introduction to Linux

- Basic File System Functionality

mv - Moves or renames a file (actually the same operation in UNIX).

```
vandanu@computer: ~$ mv test_new test_rename
```

```
vandanu@computer: ~$ ls
```

```
test  test_rename
```

rm - Removes a file/directory.

useful flags: -r, -f

```
vandanu@computer: ~$ rm -r test_rename
```

```
vandanu@computer: ~$ ls
```

```
test
```

Introduction to Linux

- Basic File System Functionality

chmod - Change mode, is a command used to modify permissions on a file. If you would like to share your files with another user in your group, you can modify the permissions to grant read, write, or execute the file.

useful flags:

u (User)

gg (Group)

o (Other)

+ (Add permission)

- **(Remove permission)**

r (Read)

w (Write)

x (Execute)

```
vandanu@computer: ~$ ls -l
```

```
-rw-r--r-- 1 vandanu vandanu 32 Aug 28 01:28 test.txt
```

```
vandanu@computer: ~$ chmod g+rwx test.txt
```

```
vandanu@computer: ~$ ls -l
```

```
-rw-rwxr-- 1 vandanu vandanu 32 Aug 28 01:28 test.txt
```

user group other

Introduction to Linux

- Basic File System Functionality

chown - Change Owner, is a command used to modify the owner of a file. This usually can only be performed on a system where you have administrative rights and can switch files from one user to another.

chgrp - Change Group, is a command used to modify the group that can read a file. You can only switch group ownerships on a file that you are the owner of.

Introduction to Linux

- Basic File System Functionality

Relative Paths and Absolute Paths -> path which is relative to your current working directory, symbolized with single or double dot.

./ (current directory)

../ (one directory up)

Application Paths -> the shell searches directories in the path. Use echo to execute

```
vandanu@computer: ~$ echo $PATH
```

```
vandanu@computer: ~$ /usr/local/sbin:/usr/local/bin:/usr/sbin:  
/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:
```

Introduction to Linux

- Text editor

gedit - Graphical text editor with syntax highlighting for lots of languages (Python, Shell, C, Markdown, etc)

```
vandanu@computer: ~$ gedit
```

nano - Text-based editor and designed to emulate the functionality and ease-of-use of the UW Pico text editor.

```
vandanu@computer: ~$ nano
```

Introduction to Linux

- Building an application from source

apt - Linux software is mostly provided by a distribution. Software is arranged into packages and groups of packages. This is kind-a like an "app store", but everything is free and kept up to date by the distribution (On Ubuntu/Debian distributions, use apt)

```
vandanu@computer: ~$ apt-get python-numpy
```

--To install, remove, and change in system-level programs requires administrative (root) privileges. Therefore, use "sudo"

```
vandanu@computer: ~$ sudo apt install gedit
```

Introduction to Linux

- Unix help mechanism- Unix man pages

man - Every program on a Unix or Unix-like system has a system manual page, called a manpage, that gives a terse description of its usage.

```
vandanu@computer: ~$ man pwd
```

```
PWD(1)
```

```
User Commands
```

```
PWD(1)
```

```
NAME
```

```
pwd - print name of current/working directory
```

```
SYNOPSIS
```

```
pwd [OPTION]...
```

```
DESCRIPTION
```

```
Print the full filename of the current working directory.
```

Introduction to Linux

- File storage and performance across file systems

For the fastest performance speed, store your files in the WSL file system if you are working in a Linux command line (Ubuntu, OpenSUSE, etc). If you're working in a Windows command line (PowerShell, Command Prompt), store your files in the Windows file system.

-> Linux file system root directory: `/home/<user_name>/Project`

-> Windows file system root directory: `/mnt/c/Users/<user_name>/Project`

Introduction to Linux

[Task 1]

1. Download the data from the [drive](#)
2. Create a project folder for seismic processing (either in Linux or Windows file system) and check the permissions
3. Move/copy the data from the download path to the project folder
4. Extract the data

Linux
is user friendly



It's just very picky
about who its friends are