

# Notes 2: The Linux FS

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## Each of the commands used for navigating the file system

Here is an example from the previous notes! use the same format for the commands to navigate the file system!

### CD

#### Definition:

- Change the current working directory. In other words, it moves you from one directory to another.

#### usage

`cd + destination absolute path or relative path`

#### Example:

- Go to specified directory with absolute path `cd /usr/share/themes`
- Go to a specified directory with absolute path: `cd /usr/share/themes`
- Go to the previous directory in the directory tree. One directory above. `cd ../`

### LS

#### Definition:

- ls is used for listing files and directories. By default it will list the current directory when no directory is specified. Listing means to see what is inside a directory.

#### Usage

`ls + option + directory to list`

#### Example:

- See all the options of the ls command (extracted from the man page): `ls --help`
- List all the files including hidden files in current directory: `ls -A`
- Long list a directory `ls -lA ~/Pictures`

### Tree

#### Definition:

- used to display a recursive directory listing (tree) of files.

#### Usage

`tree + option + directory`

## Example:

- Display a tree of the home directory `tree ~` or `tree $HOME` or `tree /home/$USER`
- Display a tree of a directory with file permissions `tree -p ~/practice1s`
- Display a tree of a directory with the full path prefix, with the user and group owner, human readable file sizes, and the date of last modified. `tree -pughD ~/practice1s/`

## Definitions of the following terms:

- **File system**
- The way files are stored and organized.
- **pathname**
- every file has a pathname which indicates the location of the file in the filesystem (like an address).
- **Absolute path**
- The location of a file starting at the root of the file system.
- **Relative path**
- The location of a file starting from the current working directory or a directory that is located inside the current working directory.
- **The difference between YOUR HOME directory and THE HOME directory**
- YOUR HOME is your user's personal directory where all your files are located. THE HOME IS the parent directory of all the home directories.
- **Parent directory**
- a directory containing one or more directories and files.
- **child directory or subdirectory**
- a better name for this is a subdirectory or subfolder. This is a directory inside another directory. See image for visual reference.
- **Bash special characters**
- Special characters are function like commands that tell the shell to perform a specific action without having to type the complete command. These special characters make working on the command line more efficiently. Here is short list to keep in mind.
- **environment variables**
- Environment variables store values of a user's environment and can be used in commands in the shell.
- **user defined variable**
- In programming, a variable is place to store data.
- **Why do we need use \$ with variables in bash shell scripting?**
- To use the value stored in an environment variable you must prepend the variable name with a \$.