

# Unix Command Line 101

# Unix Basics

\$> AT&T Unix, 1970s

\$> Several Unix-like Derivatives

- Linux
- FreeBSD
- macOS



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# Unix Basics - File System



Folder /boot

Folder /home

Folder /opt

Folder /srv

Folder /bin

Folder /lib

Folder /proc

Folder /tmp

Folder /dev

Folder /media

Folder /root

Folder /usr

Folder /etc

Folder /mnt

Folder /sbin

Folder /var

# The Prompt

**brainstorm**@brainstorm-VirtualBox:~\$

Username

# The Prompt

brainstorm@brainstorm-VirtualBox:~\$

Hostname

# The Prompt

brainstorm@brainstorm-VirtualBox: ~\$

↑  
Current  
Directory

# Commands

```
$ ls -al Documents
```

Command

# Commands

\$ ls -al Documents

Options

# Commands

\$ ls -al Documents

Arguments

# Exercise 1

1. Start at your home directory
2. List the contents of the `/etc` directory
3. Switch to the `/etc/network` directory
4. Switch back to your home directory in one command
5. Switch back to `/etc/network` without using `cd`

# Commands

`pwd`

`cd [folder]`

`ls [options] [location]`

- `ls -l /folder`

- `ls -a`

# Exercise 2

1. Go to your home directory
2. Create a file called `brainstorm.txt`
3. Create a folder called `dells`
4. Move the file `brainstorm.txt` into the folder `dells`
5. Make a copy of the `brainstorm.txt` file. Name it whatever you want.
6. Delete the file `brainstorm.txt`
7. Open the file you created in a text editor, and add some text. Save the file.
8. Delete the `dells` folder

# Commands

`mkdir [options] <Directory>`

`mkdir -p`

`mkdir -v`

`rmdir`

# Commands

**touch**

**cp [options] <source path> <destination path>**

**cp -r**

**mv [options] <source> <destination>**

**rm [options] <file>**

**rm -r <file>**

**nano**

**vi**

# Exercise 3

1. Go to your home directory
2. Create three files with a `.txt` extension, and one file with a `.sh` extension
3. List all of the `.txt` files in one command
4. List all of the `.sh` files in one command

# Permissions

```
drwx-----+  161 jeremyschoonover  staff      5152 Mar  1 14:46 Desktop
drwx-----+  142 jeremyschoonover  staff      4544 Feb 20 14:04 Documents
drwx-----+ 1119 jeremyschoonover  staff    35808 Mar  3 09:04 Downloads
```

# Exercise 4

1. Long List the files in your home directory
2. What are the verbs for each file?
3. What are the nouns?
4. Create a folder, name it whatever you want
5. Long list the files again. How can you tell a regular file from a directory?
6. Change the permissions on your folder so that only the owner of the file has access
7. Do the same for one of your files, but use the Octal method

# Redirection

```
ls /etc > output.txt
```

```
ls /etc >> output.txt
```

# Exercise 5

1. `ls` the files in the `/etc` directory, but output them into a file called `output.txt`
2. `ls` the files in the `/var` directory, and put them in the `output.txt` file
3. What happened to the contents?
4. `ls` the files in the `/etc` directory again, but don't wipe the contents of the `output.txt` file

# Redirection

```
ping 10.9.2.15
```

```
ssh user@server
```

```
top
```

```
scp user@server:/destination sourcefile
```

# Exercise 6

1. Start up your server and find the server's IP address
2. ping the server
3. Log into the server using ssh
4. Run top on the server and see what's running, then quit top
5. Install htop