

The Linux Command Line

Managing packages

```
apt update
apt list
apt install nano
apt remove nano
```

Navigating the file system

```
pwd          # to print the working directory
ls           # to list the files and directories
ls -l        # to print a long list
cd /         # to go to the root directory
cd bin       # to go to the bin directory
cd ..        # to go one level up
cd ~         # to go to the home directory
```

Manipulating files and directories

```
mkdir test          # to create the test directory
mv test docker      # to rename a directory
touch file.txt       # to create file.txt
mv file.txt hello.txt # to rename a file
rm hello.txt         # to remove a file
rm -r docker         # to recursively remove a directory
```

Editing and viewing files

```
nano file.txt          # to edit file.txt
cat file.txt           # to view file.txt
less file.txt          # to view with scrolling capabilities
head file.txt          # to view the first 10 lines
head -n 5 file.txt     # to view the first 5 lines
tail file.txt          # to view the last 10 lines
tail -n 5 file.txt     # to view the last 5 lines
```

Searching for text

```
grep hello file.txt    # to search for hello in file.txt
grep -i hello file.txt # case-insensitive search
grep -i hello file*.txt # to search in files with a pattern
grep -i -r hello .     # to search in the current directory
```

Finding files and directories

```
find                # to list all files and directories
find -type d        # to list directories only
find -type f        # to list files only
find -name "f*"     # to filter by name using a pattern
```

Managing environment variables

```
printenv          # to list all variables and their value
printenv PATH     # to view the value of PATH
echo $PATH        # to view the value of PATH
export name=bob   # to set a variable in the current session
```

Managing processes

```
ps                # to list the running processes
kill 37           # to kill the process with ID 37
```

Managing users and groups

```
useradd -m john   # to create a user with a home directory
adduser john      # to add a user interactively
usermod           # to modify a user
userdel           # to delete a user

groupadd devs     # to create a group
groups john       # to view the groups for john
groupmod          # to modify a group
groupdel          # to delete a group
```

File permissions

```
chmod u+x deploy.sh    # give the owning user execute permission
chmod g+x deploy.sh    # give the owning group execute permission
chmod o+x deploy.sh    # give everyone else execute permission

chmod ug+x deploy.sh   # to give the owning user and group
                        # execute permission

chmod ug-x deploy.sh   # to remove the execute permission from
                        # the owning user and group
```