

Basic Commands:

ls -- List the directory content

```
ls
```

```
ls -al
```

mv -- Move a file (rename)

```
mv file1.cpp file2.cpp
```

rm -- Remove (delete) a file

```
rm Myfile.cpp
```

cp -- Copy a file

```
cp file1 file2
```

lpr -- Print a file

```
lpr MyProgram.cpp
```

cd -- Change directory

```
cd dirName
```

```
cd
```

```
cd ..
```

```
cd /usr/bin
```

mkdir -- Create a directory

```
mkdir dirName
```

rmdir -- Remove a directory

```
rmdir dirName
```

more -- Display a file one page at a time

```
more MyProgram.cpp
```

head -- Display the first few lines of a file

```
head MyProgram.cpp
```

tail -- Display the last few lines of a file

```
tail MyProgram.cpp
```

cat -- list the content of a file

```
cat MyProgram.cpp
```

grep – search the content of a file or group of files

```
grep xyz *
```

```
grep xyz MyProgram.cpp
```

nano – starts the nano editor

```
nano MyProgram.cpp
```

gedit – start the Gedit editor

```
gedit myProgram.cpp
```

Compiling an running C++ programs:

g++ -- Compiles a C++ program

```
g++ -Wall myProgram.cpp -o executable-name
```

or

```
g++ -Wall myProgram.cpp
```

The executable name is a.out

Run the program

```
./executable-name
```

```
./a.out
```

To compile using C++11 add the option **-std=c++11** anywhere on the line. For example:

```
g++ -std=c++11 -Wall myprogram.cpp -o executable-name
```

File Names:

File names can be up to 256 characters long and can contain any printable characters except for a "/". **Avoid using spaces in a file name.**

Special Directory names:

..	Parent directory
\$HOME or ~	home directory
~username	user's home directory

Remote login:**Windows:**

- Download an SSH client such as *Putty* (<http://www.putty.org>) for windows.
- Save the file on your Desktop (No installation necessary).
- Double click Putty and enter one of the following addresses

`odd01.cs.ohio.edu, odd03.cs.ohio.edu, etc.`

- Login in with your Ubuntu user name and password.
- You can issue Linux commands such as editing a program and compiling:
 - `nano prog.cc`
 - `g++ -Wall prog.cc`

Macs and Linux:

Macs and Linux machines come preloaded with an SSH client called "**ssh**".

- Start a terminal window and use one of the following command:

`ssh username@odd01.cs.ohio.edu`

`ssh odd01.cs.ohio.edu -l username`

You can use `odd03, odd05, etc.`

Upload/Download files:

Using **scp** command (you will be prompted for your password):

`scp [-r] <source> <distination>`

`-r` option copies, recursively, all the subdirectories and files.

`scp prog.cpp username@odd03.cs.ohio.edu:.`

Uploads "**prog.cpp**" from local machine **to** Ubuntu using the same name. "." is used to copy the file under the same name. Replace the period with the desired name. As in:

`scp username@odd05.cs.ohio.edu:prog.cpp .`

Downloads "**prog.cpp**" **from** Ubuntu using the same name to local machine. "." is used to copy the file under the same name. Replace the period with the desired name.

`scp -r username@odd07.cs.ohio.edu:folder new_folder`

Downloads "**folder**" **from** Ubuntu to the local name "**new_folder**". This will copy all files and subdirectories.

SFTP Clients

- Cyberduck (<https://cyberduck.io>)
 - Available for Mac, Windows, and Linux
- Fetch (available free at <https://www.ohio.edu/oit/>) for Mac only.
 - Instructions: <https://www.ohio.edu/oit/webservices/people/fetchsteps.cfm>