

Using Omega

How to install and use recommended tools

Omega

Omega is a university-owned, student accessible UNIX server. You can log into it using your UTA netid and password.

OIT FAQ page for Omega has more details...

https://uta.service-now.com/kb_view.do?sysparm_article=KB0010329

You will need the ability to transfer files from your PC to Omega since you will be compiling programs on Omega.

Omega

FileZilla is the recommended (by OIT) FTP program.

FileZilla works for both PC and Mac and you can download it from

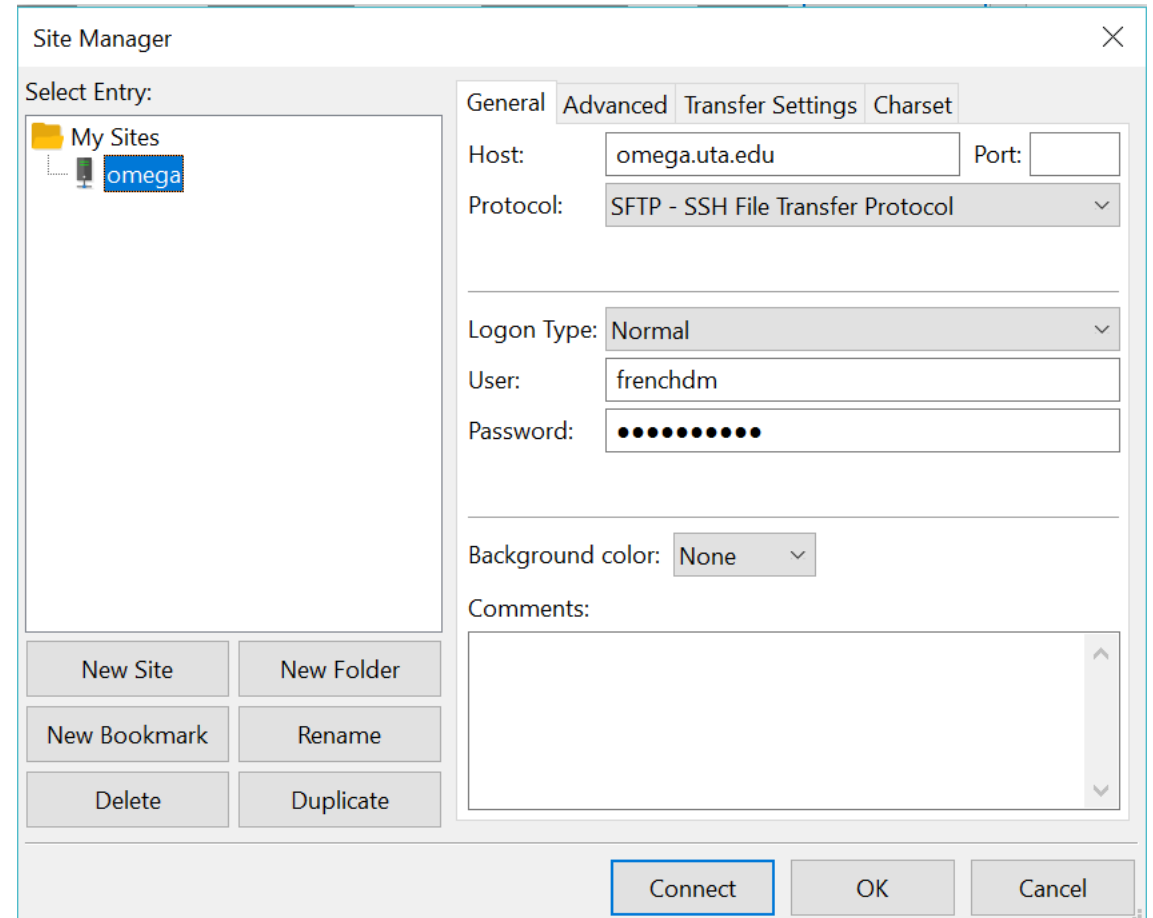
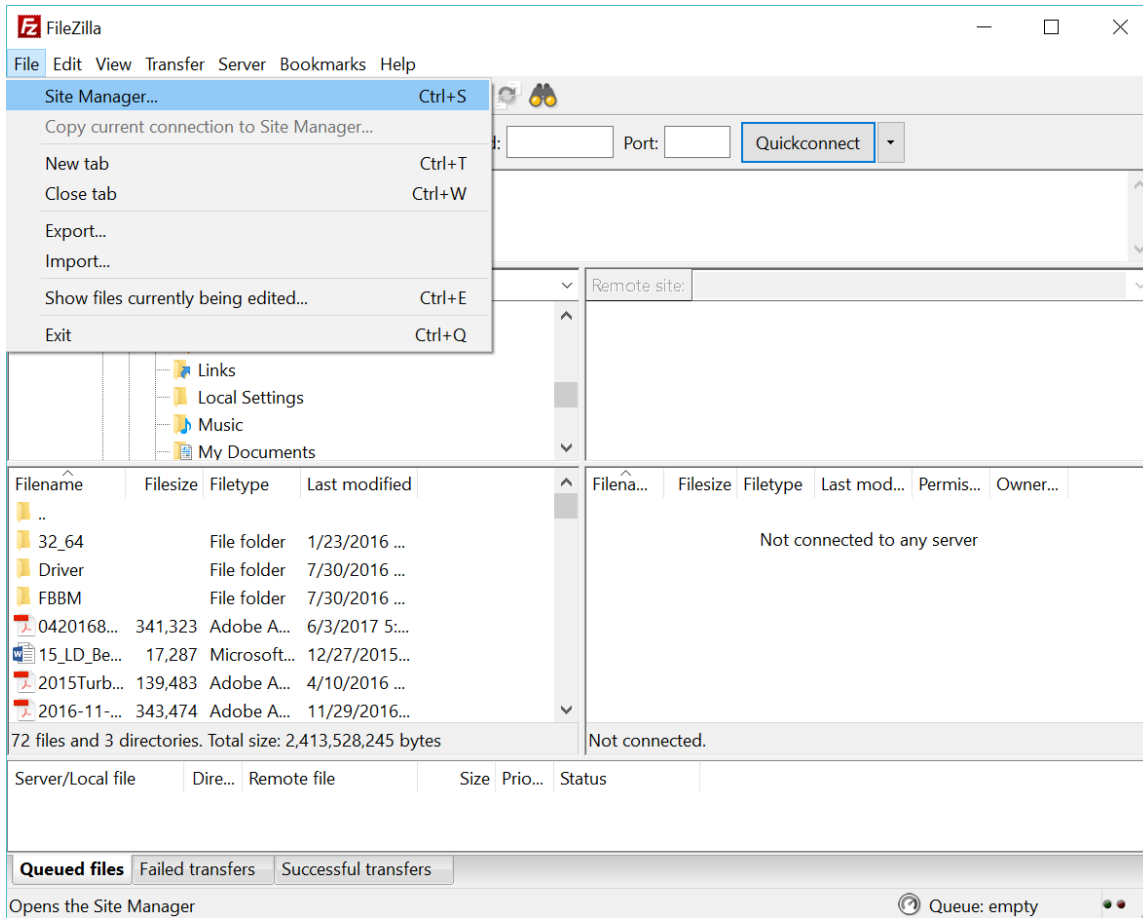
<https://filezilla-project.org/>

You should not download it from any other site – you will not be guaranteed the latest and safest version if you download from some other site.

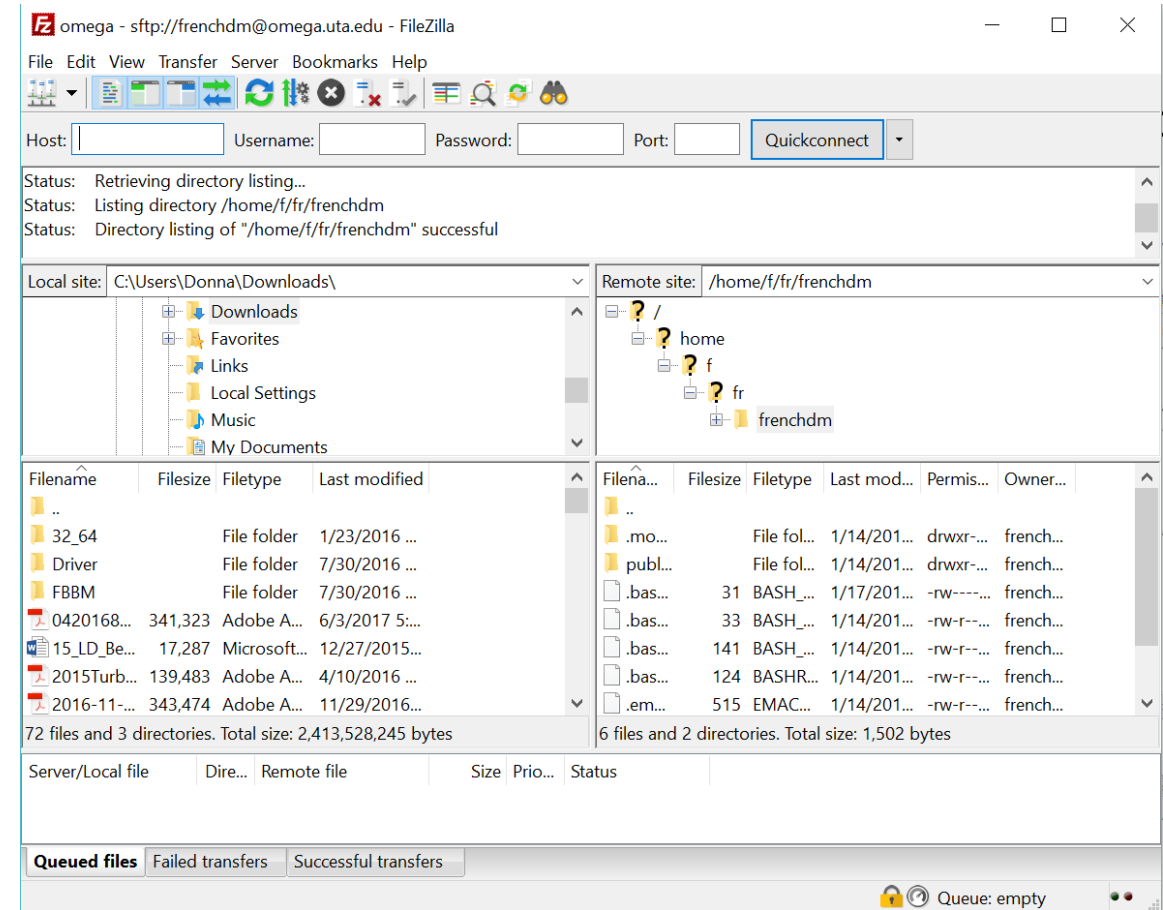
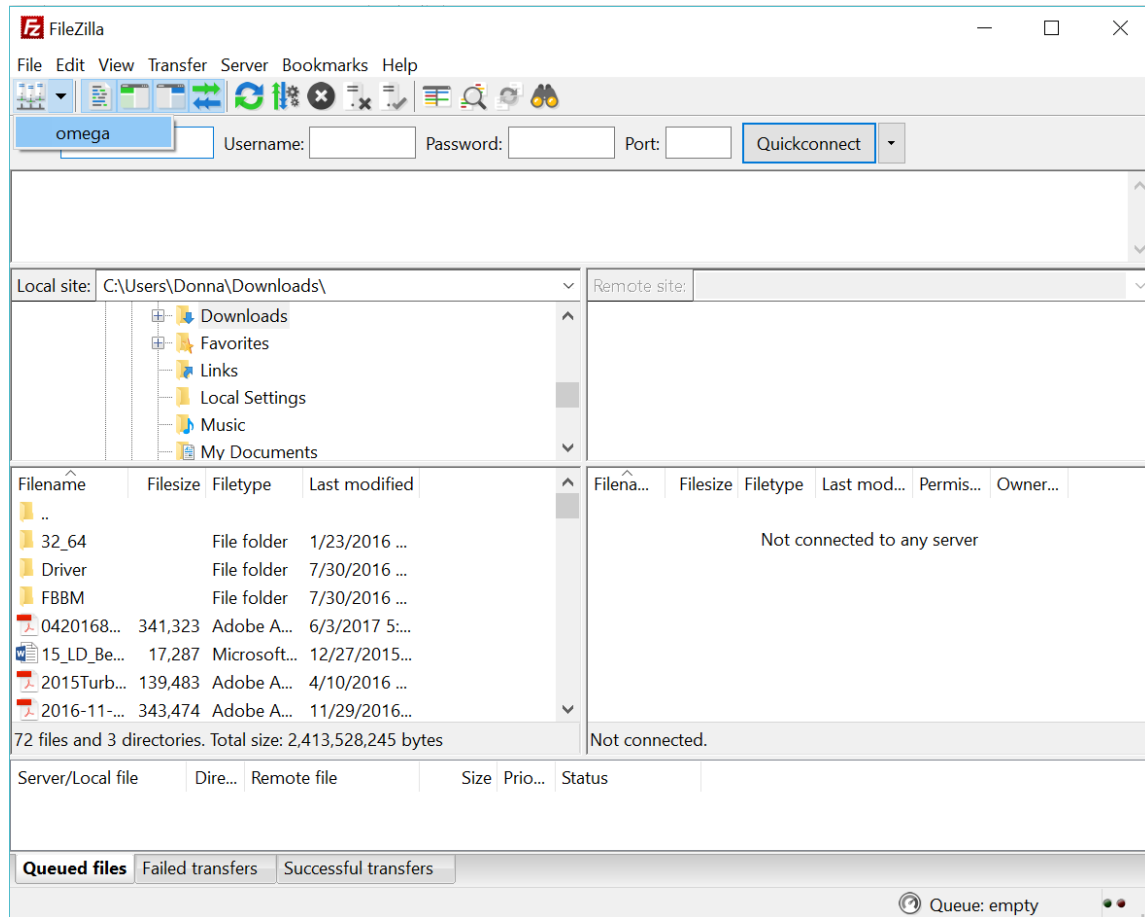
The next few slides show how to configure FileZilla and use it.

FileZilla

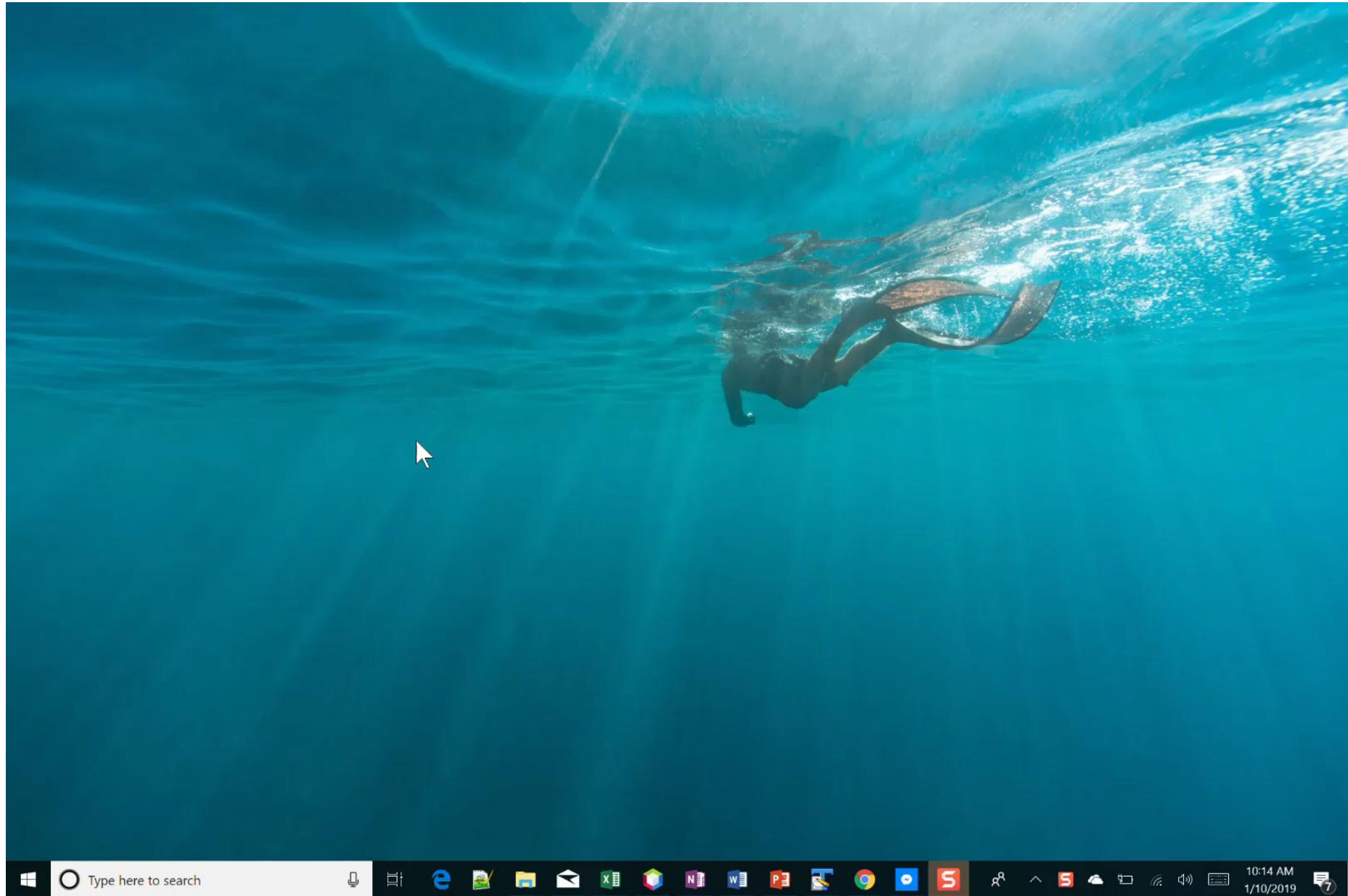
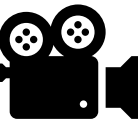
FTP Tool for both PC and Mac



FileZilla



FileZilla



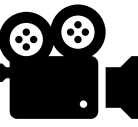
Terminal Emulator

You will need to use either a terminal emulator (like PuTTY) or ssh to interact with Omega.

PuTTY only works for PC. It is an OIT approved emulator and can be downloaded for free

<https://www.putty.org>

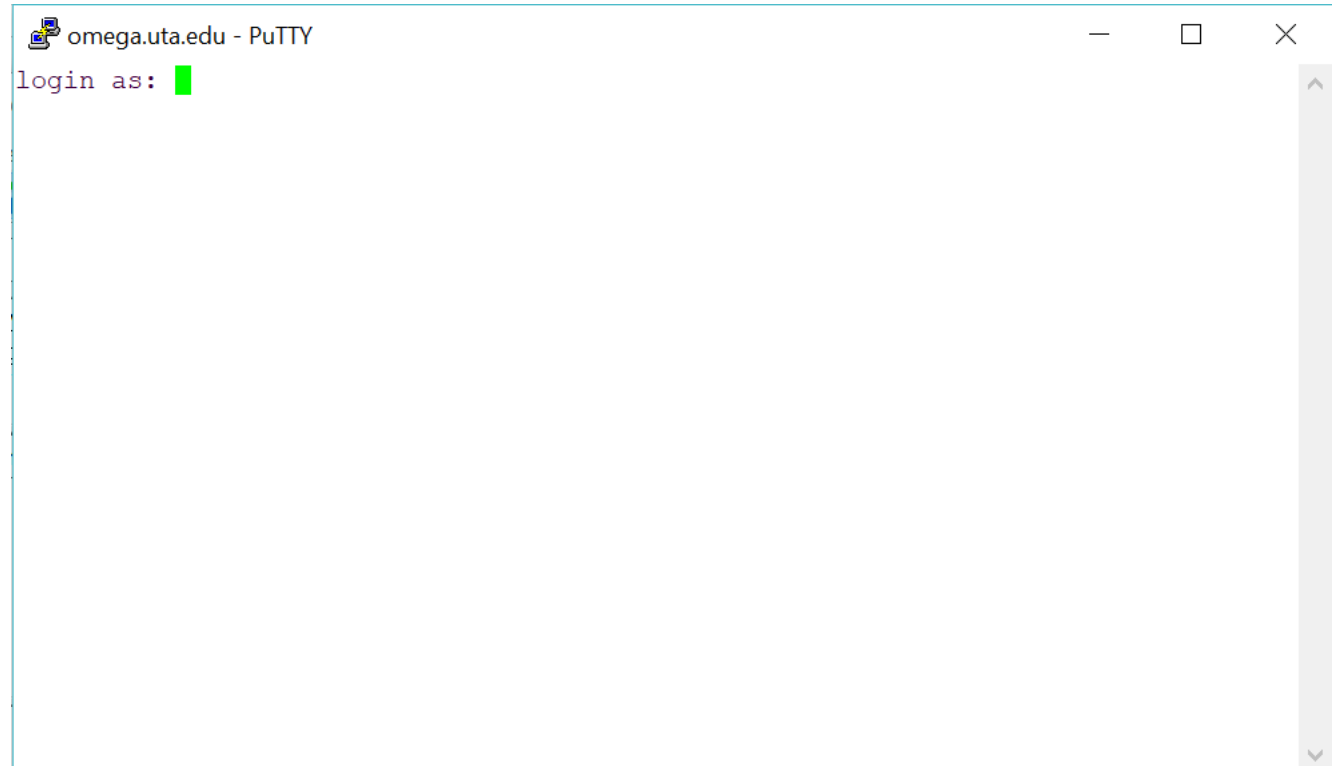
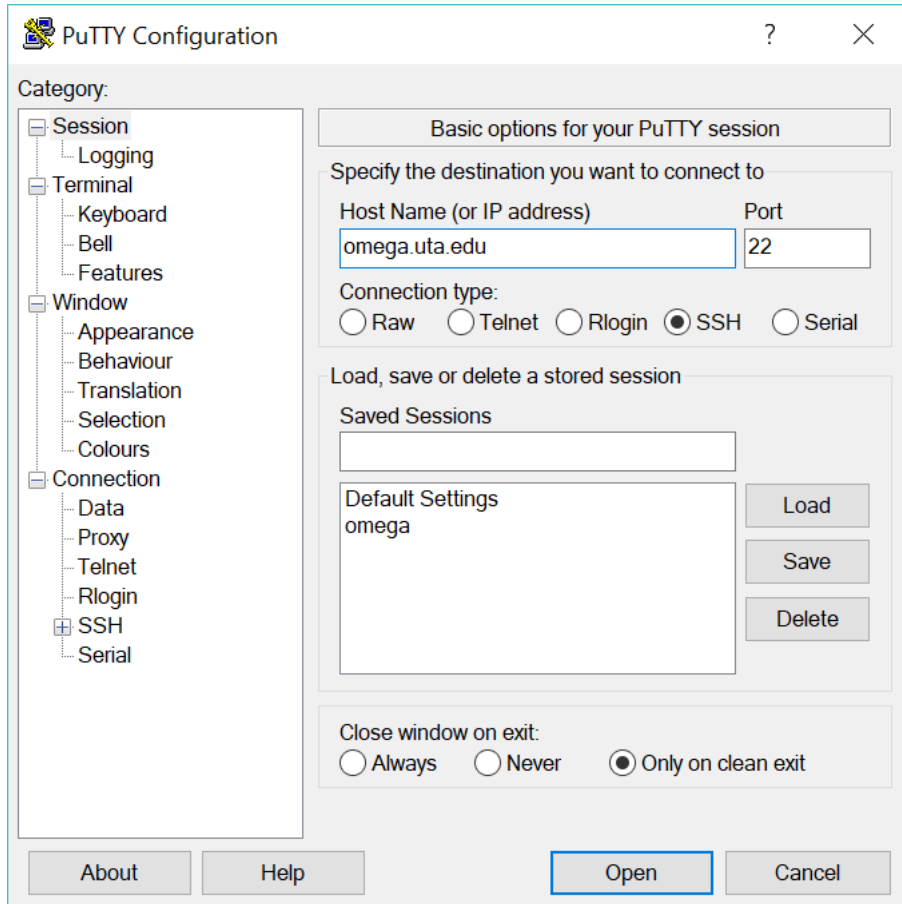
Both PC and Mac users can just use ssh (secure shell) to connect to Omega.



Terminal Emulator



PuTTY



PuTTY

```
omega.uta.edu - PuTTY
login as: frenchdm

This UT Arlington information resource, including all related equipment,
networks and network devices, is provided for authorized use only. All
unauthorized use of this information resource is prohibited. Misuse is
subject to criminal prosecution and/or administrative or other
disciplinary action.

Usage of this information resource, authorized or unauthorized, may be
subject to security testing and monitoring. In addition, all information,
including personal information that is placed on or sent over this
resource is the property of the State of Texas and may also be subject
to security testing and monitoring. Evidence of unauthorized use and/or
misuse collected during security testing and monitoring is subject to
criminal prosecution and/or administrative or other disciplinary action.

Usage of this information resource constitutes consent to all policies
and procedures set forth by UT Arlington and there is no expectation of
privacy except as otherwise provided by applicable privacy laws.

frenchdm@omega.uta.edu's password: █
```

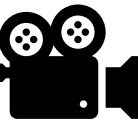
```
frenchdm@omega:~
This UT Arlington information resource, including all related equipment,
networks and network devices, is provided for authorized use only. All
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misuse collected during security testing and monitoring is subject to
criminal prosecution and/or administrative or other disciplinary action.

Usage of this information resource constitutes consent to all policies
and procedures set forth by UT Arlington and there is no expectation of
privacy except as otherwise provided by applicable privacy laws.

frenchdm@omega.uta.edu's password:
Last login: Thu Jan 18 18:39:09 2018 from 71-91-162-160.dhcp.gwnt.ga.charter.com
[frenchdm@omega ~]$ █
```

PuTTY

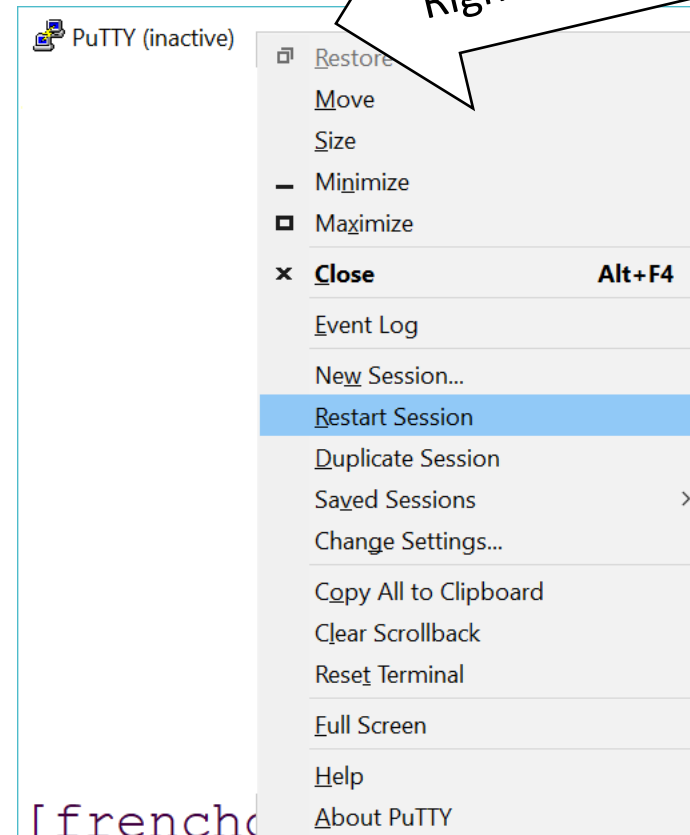
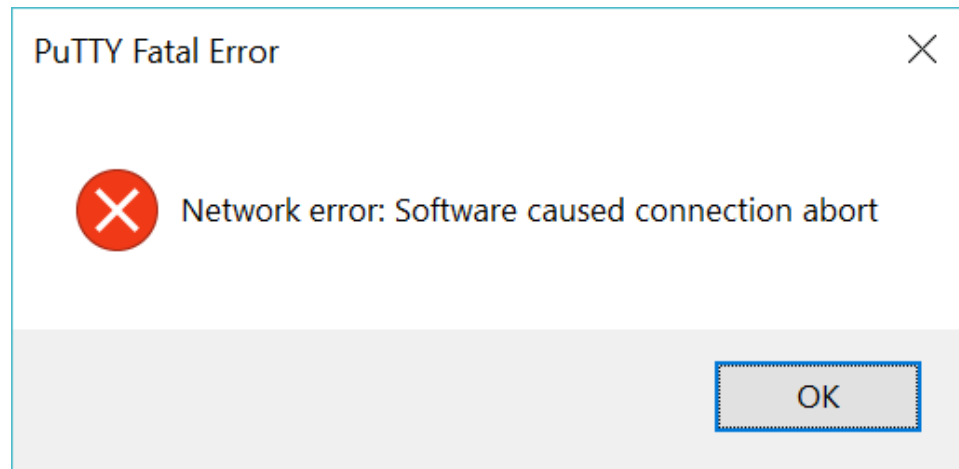


PuTTY

If you leave an Omega session idle for too long, it will automatically disconnect.

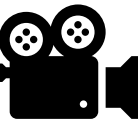
When this happens, just restart your current session. No need to quit completely.

Right click on top menu bar



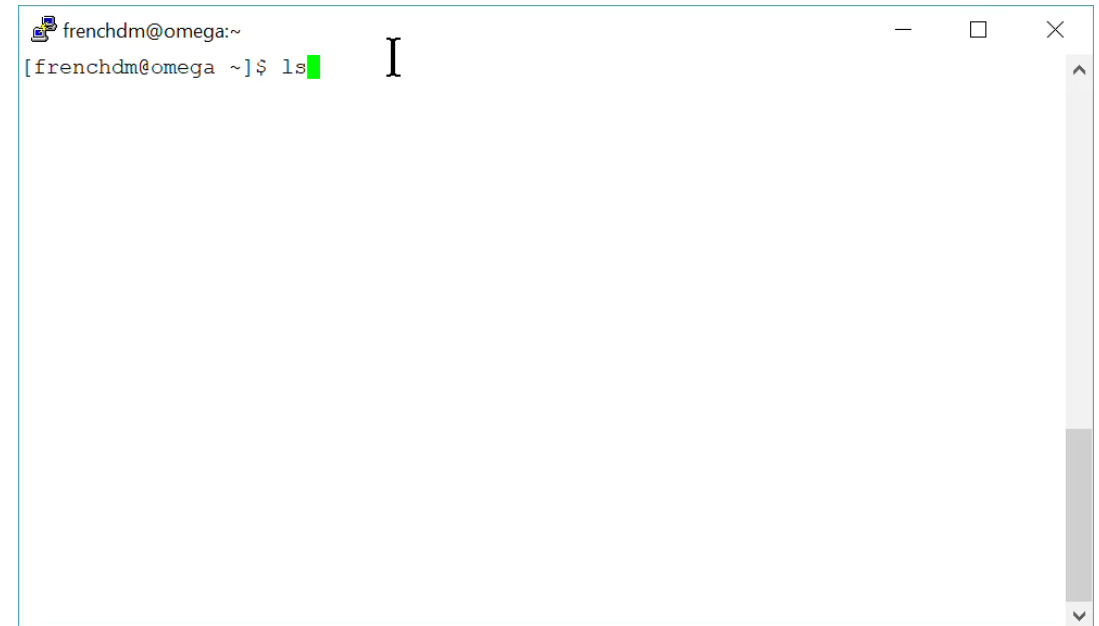
[frenchch





UNIX and Omega

- When you first login, you will be in your home directory which will have the same name your user name, for example, **frenchdm**, and it is where your personal files and subdirectories are saved.
- The **ls** command lists the contents of your current working directory.
- The **ls -a** command lists files that are normally hidden.
- The **ls -l** command lists more information about the files

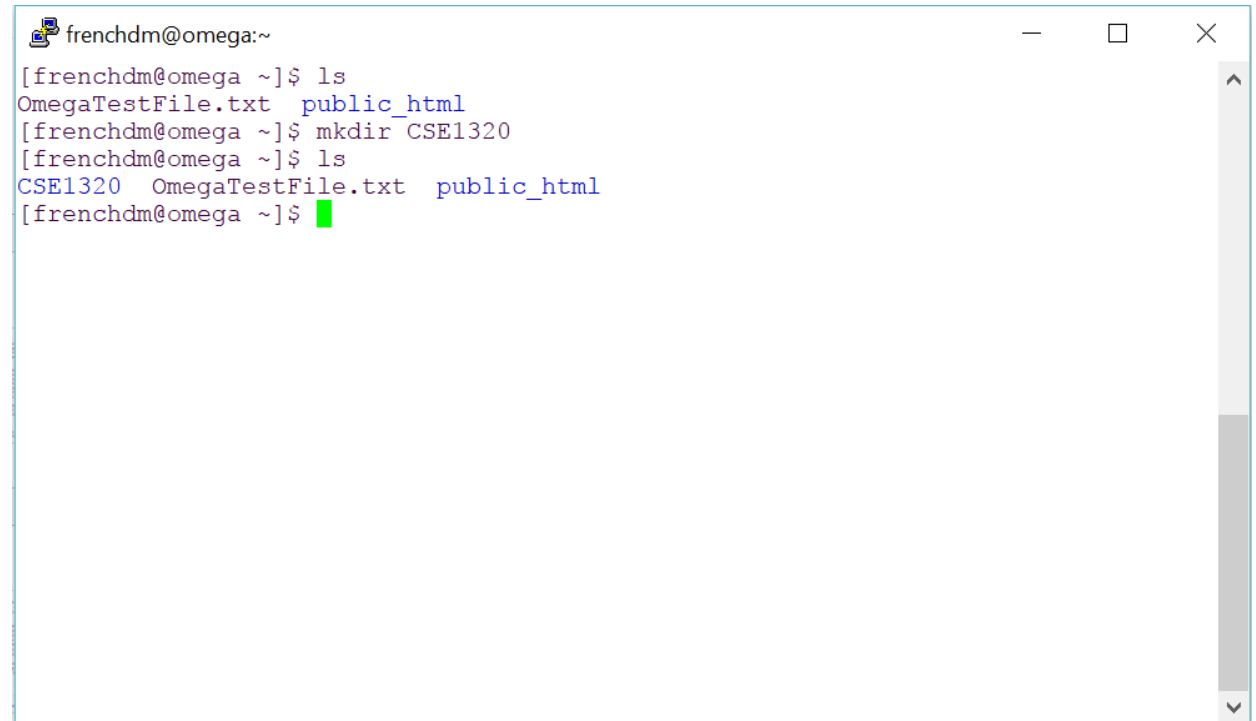


```
frenchdm@omega:~  
[frenchdm@omega ~]$ ls
```



UNIX and Omega

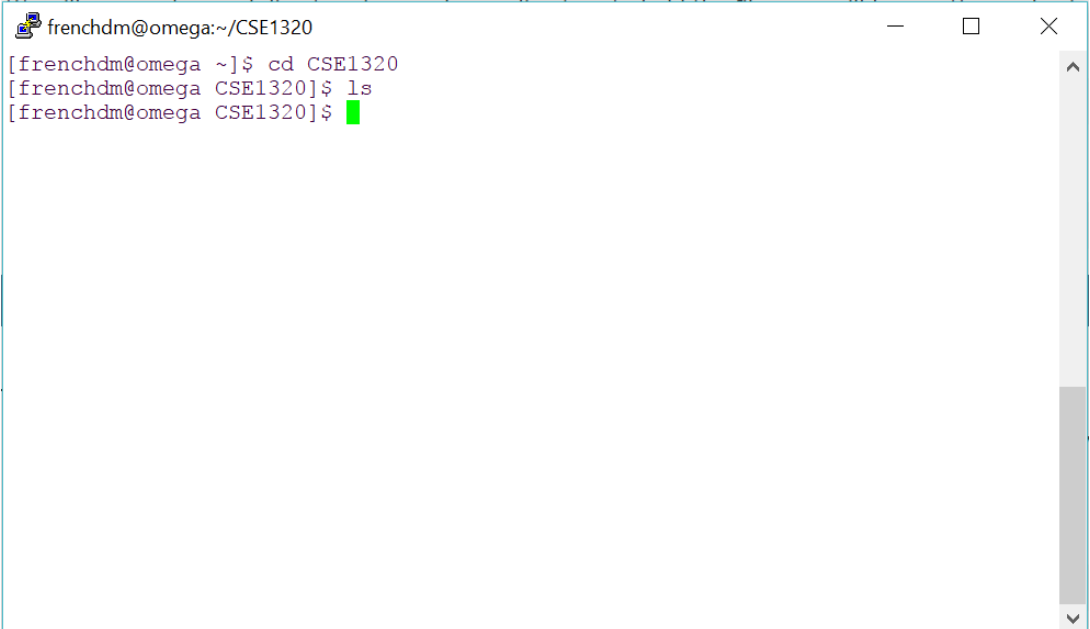
- The mkdir command is used to **make** sub**directories** in your home directory. Let's make a subdirectory called "CSE1320".
- **mkdir CSE1320**

A terminal window titled 'frenchdm@omega:~' with standard window controls (minimize, maximize, close) in the top right corner. The terminal shows a sequence of commands and their outputs: first, 'ls' lists 'OmegaTestFile.txt' and 'public_html'; second, 'mkdir CSE1320' is executed; third, 'ls' is run again, showing 'CSE1320', 'OmegaTestFile.txt', and 'public_html'; finally, the prompt returns to the user. A green cursor is visible at the end of the last line.

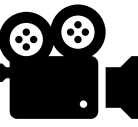
```
frenchdm@omega:~  
[frenchdm@omega ~]$ ls  
OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ mkdir CSE1320  
[frenchdm@omega ~]$ ls  
CSE1320  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$
```

UNIX and Omega

- The **c**hange **d**irectory command allows you to change from the current working directory to a different directory.
- **cd CSE1320**

A terminal window titled 'frenchdm@omega:~/CSE1320' with standard window controls. It displays a sequence of commands and their outputs: the user enters 'cd CSE1320', the prompt changes to '[frenchdm@omega CSE1320]', then the user enters 'ls', and the prompt changes again to '[frenchdm@omega CSE1320]\$' with a green cursor. No output is shown for the 'ls' command.

```
frenchdm@omega:~/CSE1320
[frenchdm@omega ~]$ cd CSE1320
[frenchdm@omega CSE1320]$ ls
[frenchdm@omega CSE1320]$
```



UNIX and Omega

`cd`

- Returns you to your home directory

`cd .`

- Keeps you in the current directory

`cd ..`

- Takes you one directory back

`cd -`

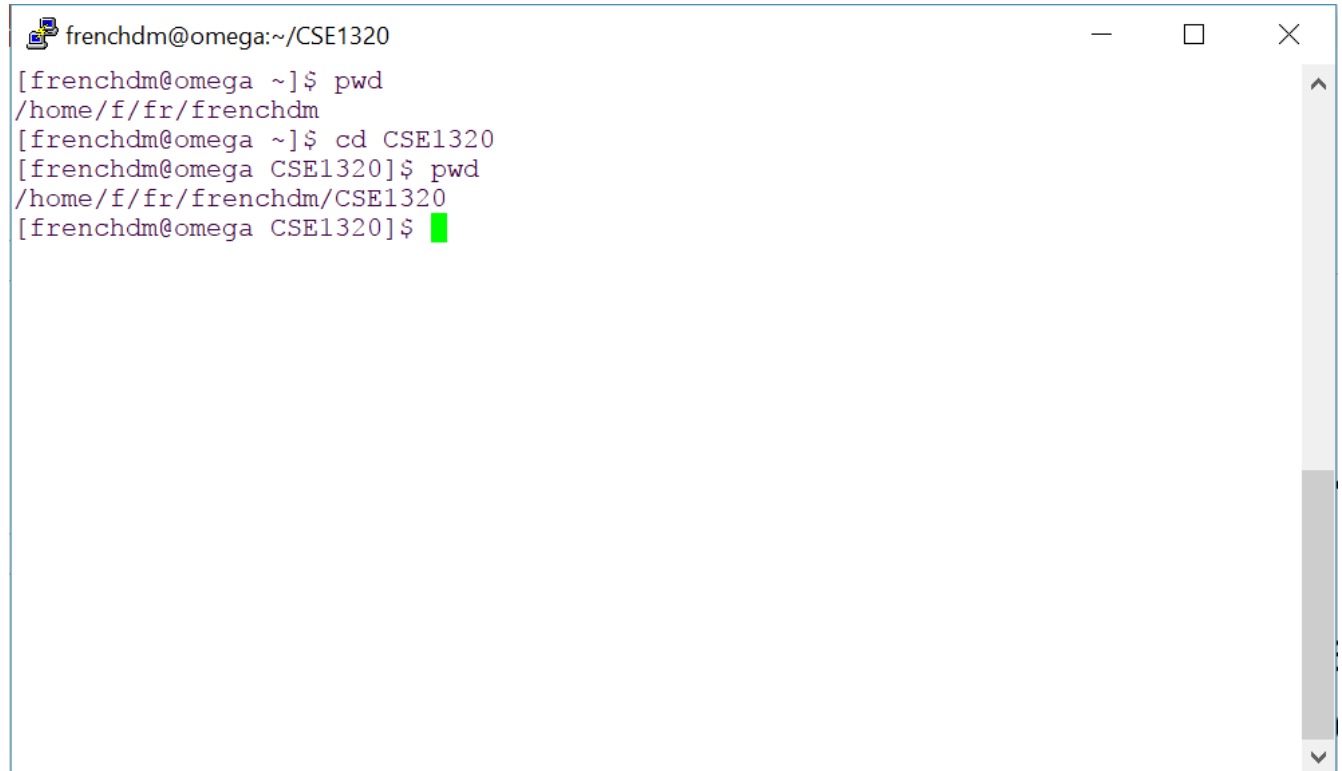
- Returns you to whatever directory you were in last

A terminal window titled 'frenchdm@omega:~' with standard window controls (minimize, maximize, close). The prompt is '[frenchdm@omega ~]\$' followed by a green cursor. A large letter 'I' is centered in the terminal area.



UNIX and Omega

The **p**rint **w**orking **d**irectory command, **pwd**, shows you where you are.

A terminal window titled 'frenchdm@omega:~/CSE1320' with standard window controls. It displays a sequence of commands and their outputs: 'pwd' returns '/home/f/fr/frenchdm', 'cd CSE1320' changes the directory, and a second 'pwd' returns '/home/f/fr/frenchdm/CSE1320'. The prompt is green.

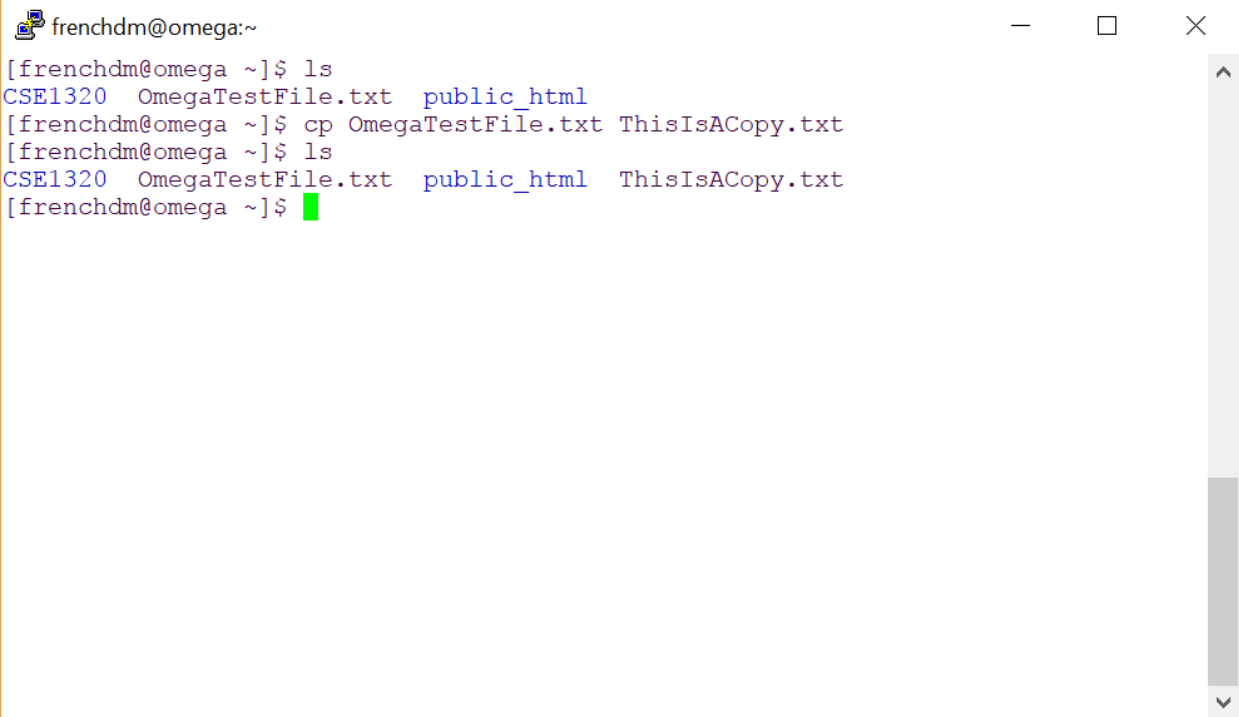
```
frenchdm@omega:~/CSE1320
[frenchdm@omega ~]$ pwd
/home/f/fr/frenchdm
[frenchdm@omega ~]$ cd CSE1320
[frenchdm@omega CSE1320]$ pwd
/home/f/fr/frenchdm/CSE1320
[frenchdm@omega CSE1320]$
```

UNIX and Omega

cp file1 file2

is the command which makes a **copy** of *file1* in the current working directory and calls it *file2*

I copied OmegaTestFile.txt to ThisIsACopy.txt

A terminal window titled 'frenchdm@omega:~' with standard window controls. It shows the execution of the 'cp' command to copy 'OmegaTestFile.txt' to 'ThisIsACopy.txt'. The window has a light gray background and a vertical scrollbar on the right.

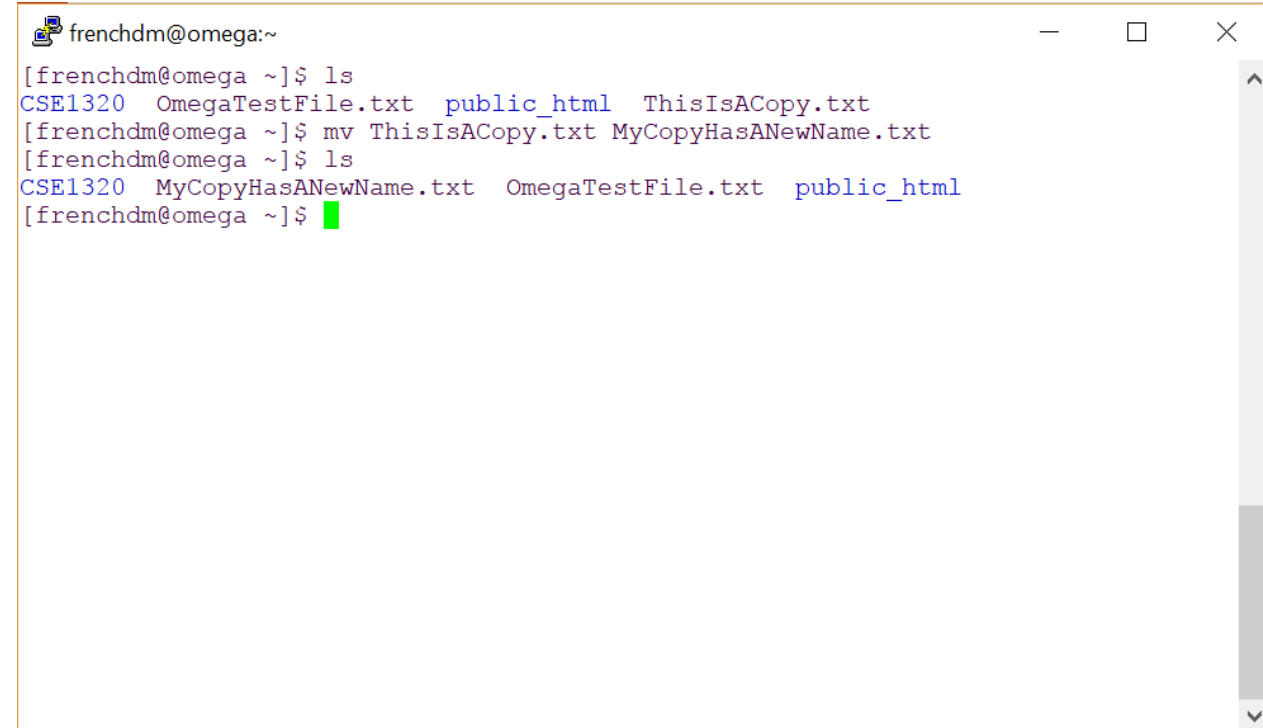
```
frenchdm@omega:~  
[frenchdm@omega ~]$ ls  
CSE1320  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ cp OmegaTestFile.txt ThisIsACopy.txt  
[frenchdm@omega ~]$ ls  
CSE1320  OmegaTestFile.txt  public_html  ThisIsACopy.txt  
[frenchdm@omega ~]$
```

UNIX and Omega

mv file1 file2

is the command which **m**oves or
renames a file

I renamed ThisIsACopy.txt to
MyCopyHasANewName.txt

A terminal window titled 'frenchdm@omega:~' with standard window controls (minimize, maximize, close). The terminal shows a sequence of commands and their outputs. First, 'ls' is run, showing 'CSE1320 OmegaTestFile.txt public_html ThisIsACopy.txt'. Then, 'mv ThisIsACopy.txt MyCopyHasANewName.txt' is run. Finally, 'ls' is run again, showing 'CSE1320 MyCopyHasANewName.txt OmegaTestFile.txt public_html'. A green cursor is visible at the end of the last prompt.

```
frenchdm@omega:~  
[frenchdm@omega ~]$ ls  
CSE1320  OmegaTestFile.txt  public_html  ThisIsACopy.txt  
[frenchdm@omega ~]$ mv ThisIsACopy.txt MyCopyHasANewName.txt  
[frenchdm@omega ~]$ ls  
CSE1320  MyCopyHasANewName.txt  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$
```

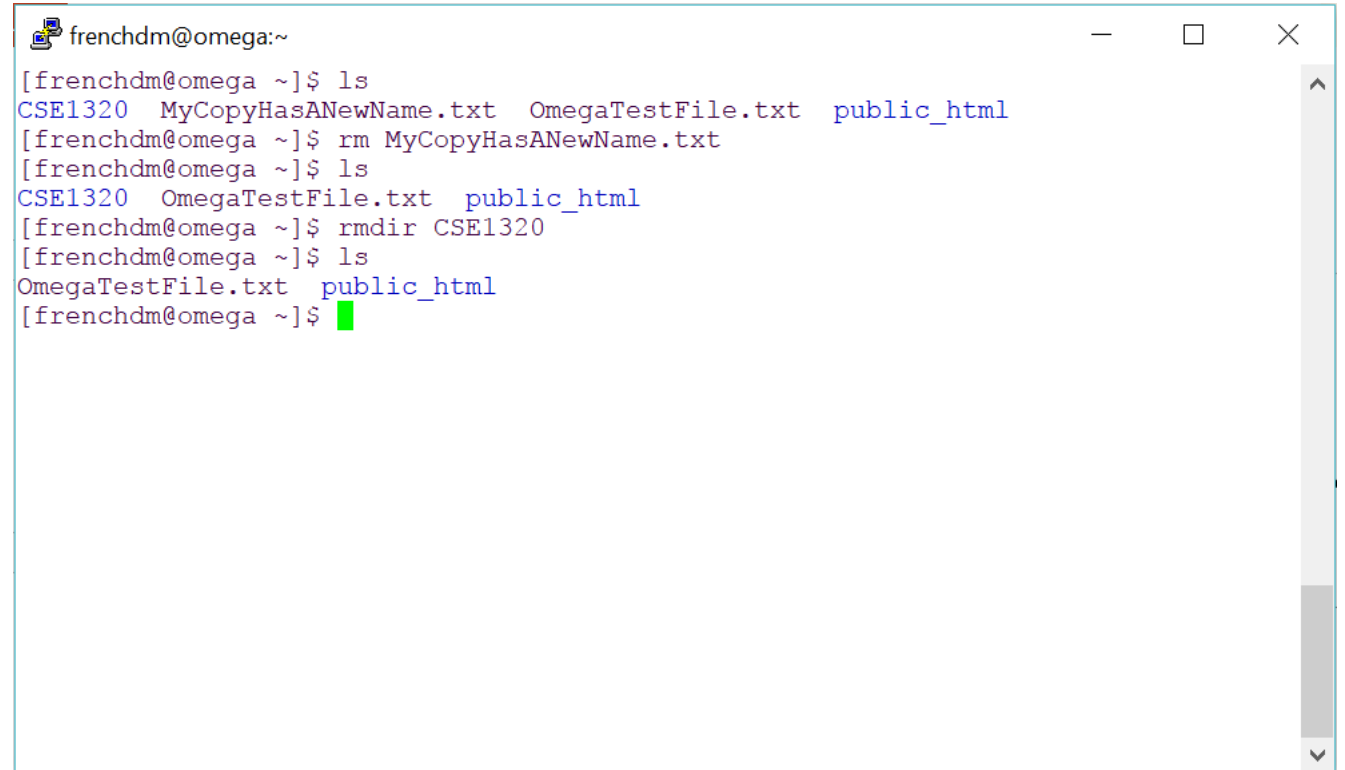
UNIX and Omega

rm file

removes/deletes a file

rmdir directory

removes/deletes a **directory**

A terminal window titled 'frenchdm@omega:~' with standard window controls (minimize, maximize, close). The terminal shows a sequence of commands and their outputs. First, 'ls' is run, showing 'CSE1320', 'MyCopyHasANewName.txt', 'OmegaTestFile.txt', and 'public_html'. Then, 'rm MyCopyHasANewName.txt' is run. Another 'ls' shows 'CSE1320', 'OmegaTestFile.txt', and 'public_html'. Finally, 'rmdir CSE1320' is run, and a subsequent 'ls' shows only 'OmegaTestFile.txt' and 'public_html'.

```
frenchdm@omega:~  
[frenchdm@omega ~]$ ls  
CSE1320  MyCopyHasANewName.txt  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ rm MyCopyHasANewName.txt  
[frenchdm@omega ~]$ ls  
CSE1320  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ rmdir CSE1320  
[frenchdm@omega ~]$ ls  
OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$
```

UNIX and Omega

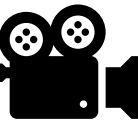
clear

This will clear all text and leave you with the prompt at the top of the window.

```
frenchdm@omega:~  
[frenchdm@omega ~]$ ls  
CSE1320  MyCopyHasANewName.txt  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ rm MyCopyHasANewName.txt  
[frenchdm@omega ~]$ ls  
CSE1320  OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ rmdir CSE1320  
[frenchdm@omega ~]$ ls  
OmegaTestFile.txt  public_html  
[frenchdm@omega ~]$ clear
```

```
frenchdm@omega:~  
[frenchdm@omega ~]$
```





UNIX and Omega

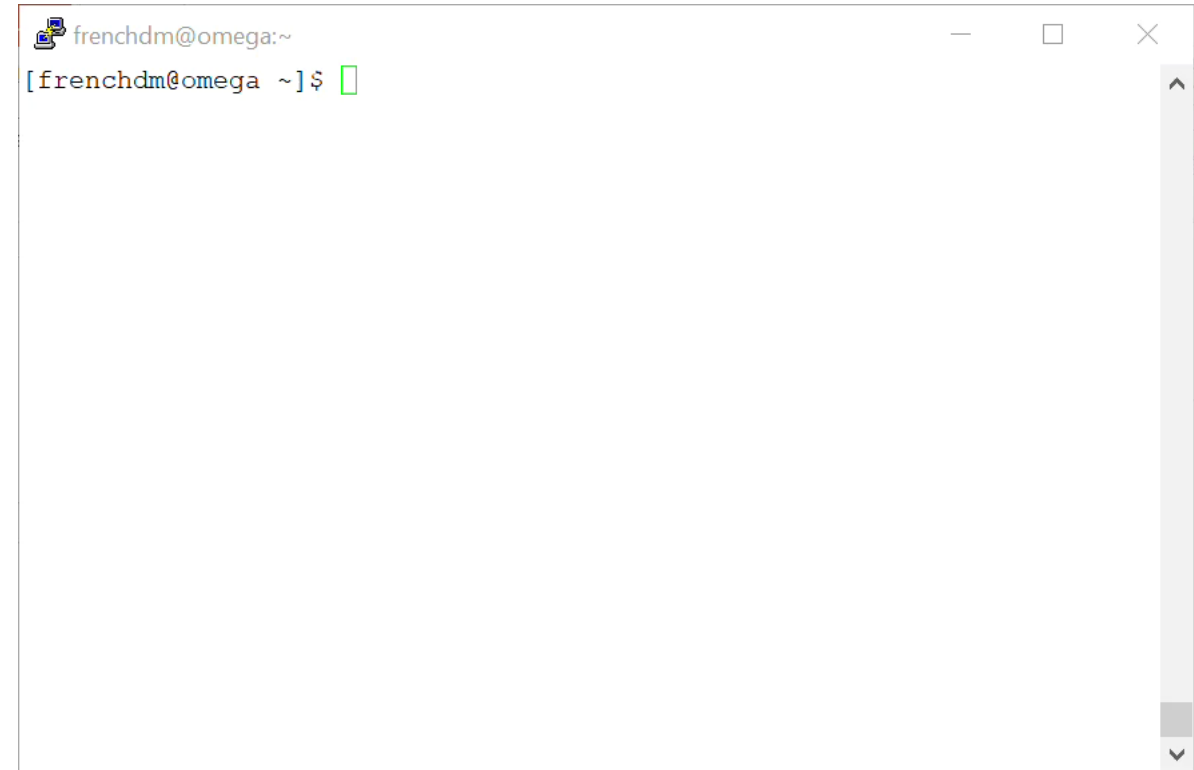
cat filename

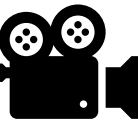
The command **cat** can be used to display the contents of a file on the screen.

more filename

The command **more** can be used to display the contents of a file on the screen.

Press the **SPACEBAR** if you want to see another page, press **ENTER** to see the next line and type **q** if you want to quit reading.

A terminal window with a title bar containing a small icon and the text 'frenchdm@omega:~'. The window has standard minimize, maximize, and close buttons. The terminal content shows the prompt '[frenchdm@omega ~]\$' followed by a green cursor. A vertical scrollbar is visible on the right side of the terminal area.




UNIX and Omega

apropos xxx

The command **apropos** can be used to display any command that references **xxx**.

ap·ro·pos

/ˌaprəˈpō/ 

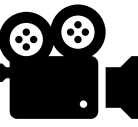
preposition

1. with reference to; concerning.



```
frenchdm@omega:~  
[frenchdm@omega ~]$ a
```



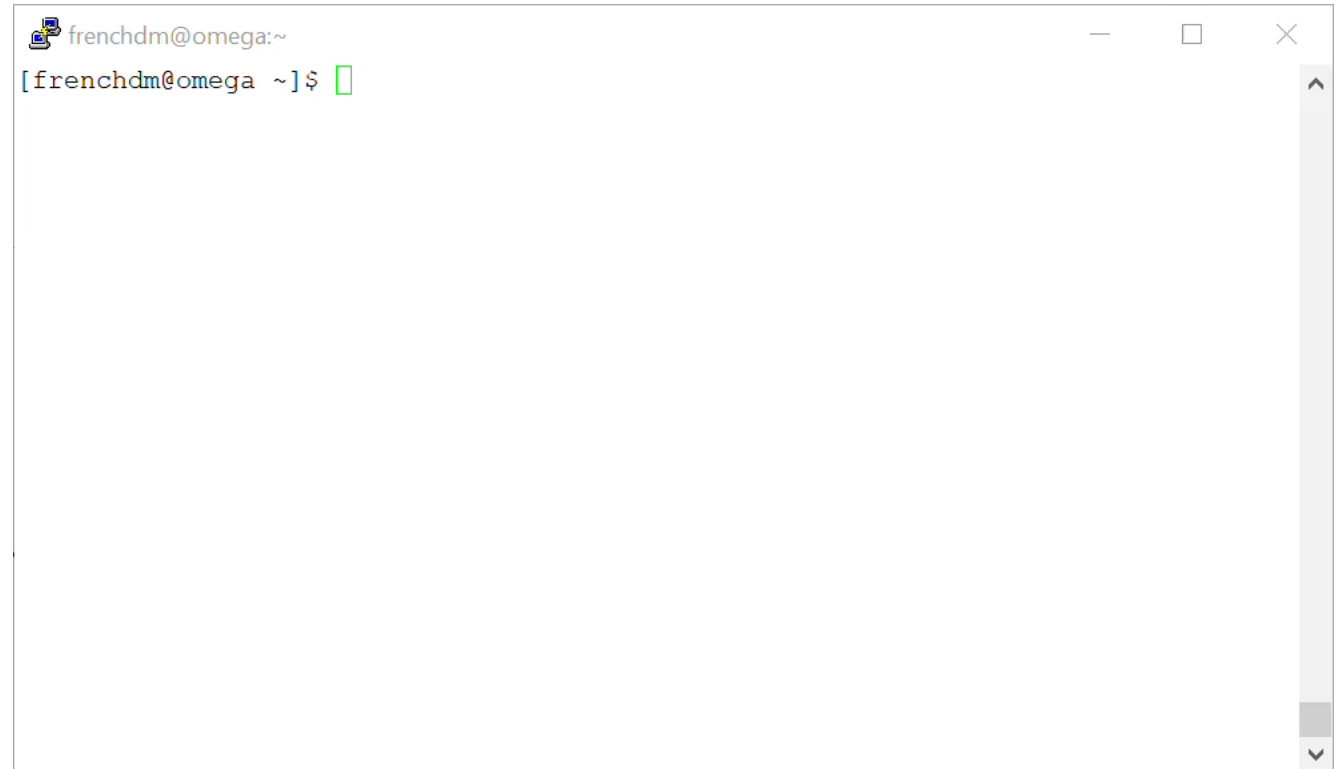


UNIX and Omega

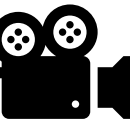
man xxx

The command **man** can be used to display the manual built into UNIX for that command

- use **q** to quit/exit man
- use **ENTER** to scroll line by line
- use **SPACEBAR** to scroll page by page

A terminal window with a title bar containing a window icon, the text 'frenchdm@omega:~', and standard window controls (minimize, maximize, close). The terminal content shows a prompt '[frenchdm@omega ~]\$' followed by a green cursor. A vertical scrollbar is visible on the right side of the terminal area.

```
frenchdm@omega:~  
[frenchdm@omega ~]$
```

UNIX and Omega

Keyboard Shortcuts

- The arrow keys
- TAB completion
- Exclamation Point
- Ctrl-r (reverse search)
- history
- history | grep
- Ctrl-t

A screenshot of a terminal window titled 'frenchdm@omega:~'. The window shows a command prompt '[frenchdm@omega ~]\$' followed by the letter 'h' and a green cursor. The window has standard Linux window controls (minimize, maximize, close) in the top right corner and a vertical scrollbar on the right side.

```
frenchdm@omega:~  
[frenchdm@omega ~]$ h
```

