

SEPTEMBER 28, 2019



TWC - W3 TECH/ENG WEEK - 2

Network diagnostic tools and Python Intro

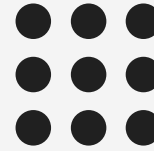
Log in

Username - walpha

Password - Pxpj2786



Open Command Line - CMD



Command Line is a non-graphical text interface which passes your operating system commands to complete.

- cd is used to traverse directories
- cd .. will bring you up one directory
- cd Downloads will bring you to downloads folder if that folder is present in current directory.
- ls will display current directory contents.

```
Command Prompt
12/29/2017 01:40 PM <DIR> -
12/29/2017 01:40 PM <DIR> ..
12/29/2017 01:42 PM <DIR> CameraRaw
0 File(s) 0 bytes

Directory of C:\adobeTemp\ETRS51A.tmp\4\SharedApplicationData\Adobe\CameraRaw
12/29/2017 01:42 PM <DIR> -
12/29/2017 01:42 PM <DIR> ..
12/29/2017 01:42 PM <DIR> CameraProfiles
12/29/2017 01:43 PM <DIR> LensProfiles
0 File(s) 0 bytes

Directory of C:\adobeTemp\ETRS51A.tmp\4\SharedApplicationData\Adobe\CameraRaw\CameraProfiles
12/29/2017 01:42 PM <DIR> -
12/29/2017 01:42 PM <DIR> ..
12/29/2017 01:40 PM <DIR> Adobe Standard
12/29/2017 01:42 PM <DIR> Camera
11/23/2017 09:03 AM 376,929 Index.dat
1 File(s) 376,929 bytes

Directory of C:\adobeTemp\ETRS51A.tmp\4\SharedApplicationData\Adobe\CameraRaw\CameraProfiles\Adobe Standard
12/29/2017 01:40 PM <DIR> -
12/29/2017 01:40 PM <DIR> ..
11/23/2017 09:03 AM 120,406 Apple iPad6,3 back camera Adobe Standard.dcp
11/23/2017 09:03 AM 121,128 Apple iPad6,3 back camera Camera Default.dcp
11/23/2017 09:03 AM 120,406 Apple iPad6,4 back camera Adobe Standard.dcp
11/23/2017 09:03 AM 121,128 Apple iPad6,4 back camera Camera Default.dcp
11/23/2017 09:03 AM 120,700 Apple iPhone10,1 back camera Adobe Standard.dcp
11/23/2017 09:03 AM 121,132 Apple iPhone10,1 back camera Camera Default.dcp
11/23/2017 09:03 AM 120,700 Apple iPhone10,2 back camera Adobe Standard.dcp
11/23/2017 09:03 AM 121,132 Apple iPhone10,2 back camera Camera Default.dcp
11/23/2017 09:03 AM 120,718 Apple iPhone10,2 back telephoto camera Adobe Standard.dcp
11/23/2017 09:03 AM 121,142 Apple iPhone10,2 back telephoto camera Camera Default.dcp
11/23/2017 09:03 AM 120,700 Apple iPhone10,3 back camera Adobe Standard.dcp
11/23/2017 09:03 AM 121,132 Apple iPhone10,3 back camera Camera Default.dcp
```



Whats my IP?

type "curl ifconfig.co" or just ifconfig

Alternatively google whatsmypip

PING

Unfortunately Trinity's Network is very restrictive, so we cannot ping external site from these machines. (Although you can ping other machines in the lab or on campus)

Ping sends a short message to another machine and waits for a response, the time delay can then be measured showing us latency.

PING CONT.

Try Ping your own IP (localhost), or a neighbours.

What is latency and why should we be concerned with it?

What is TTL or Time To Live?

```
SG350X#traceroute ip software.cisco.com ttl 20
Tracing the route to software.cisco.com (184.26.111.212) from , 20 hops
max, 18 byte packets
Type Esc to abort.
 1 192.168.100.1 (192.168.100.1) <10 ms <10 ms <10 ms
 2 124.6.177.113 (124.6.177.113) <20 ms <10 ms <20 ms
 3 124.6.149.117 (124.6.149.117) <20 ms <30 ms <30 ms
 4 120.28.0.61 (120.28.0.61) <20 ms <20 ms <30 ms
 5 120.28.10.101 (120.28.10.101) <40 ms <30 ms <30 ms
 6 120.28.9.158 (120.28.9.158) <40 ms <40 ms <40 ms
 7 * * *
 8 * * *
 9 63.218.2.189 (63.218.2.189) <50 ms <50 ms <50 ms
10 63.223.17.162 (63.223.17.162) <60 ms <50 ms <50 ms
11 63.223.17.162 (63.223.17.162) <50 ms <50 ms <50 ms
12 213.254.227.77 (213.254.227.77) <50 ms <60 ms <50 ms
13 * * *
14 184.26.111.212 (184.26.111.212) <190 ms <200 ms <200 ms

Trace complete.
SG350X#
```

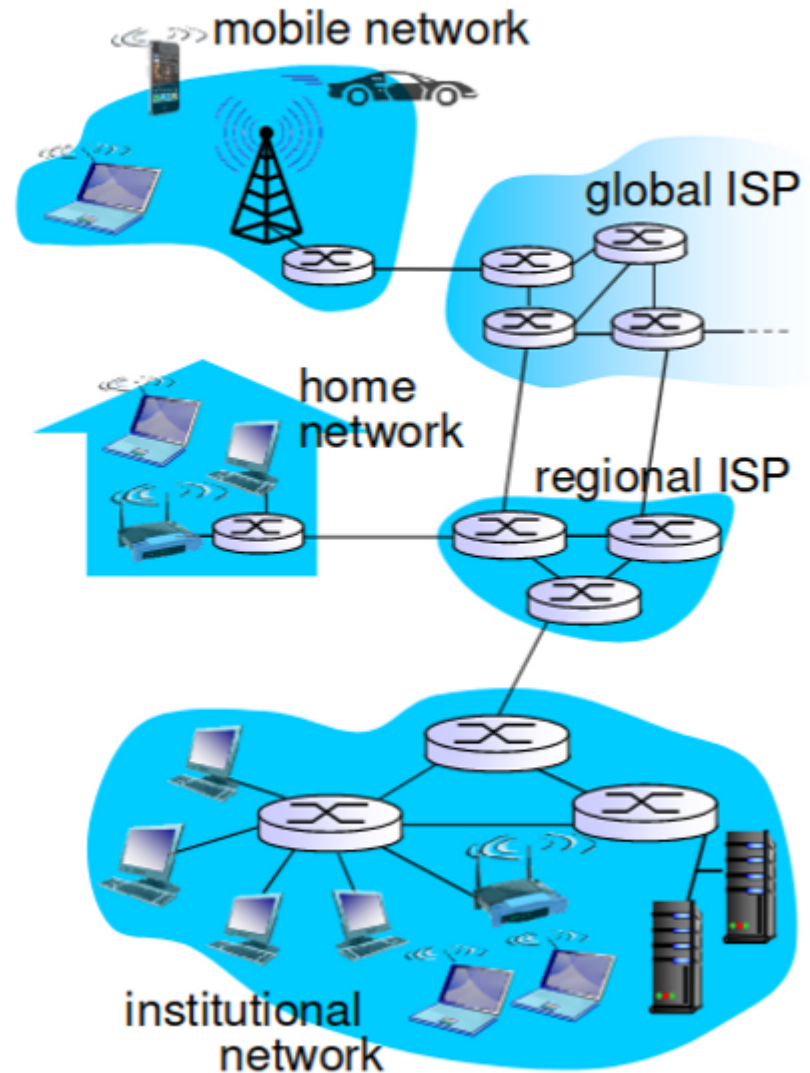
Traceroute

Once again this does not work with Trinity's Network. But try it at home!

- `tracert google.ie`
- `traceroute` for UNIX



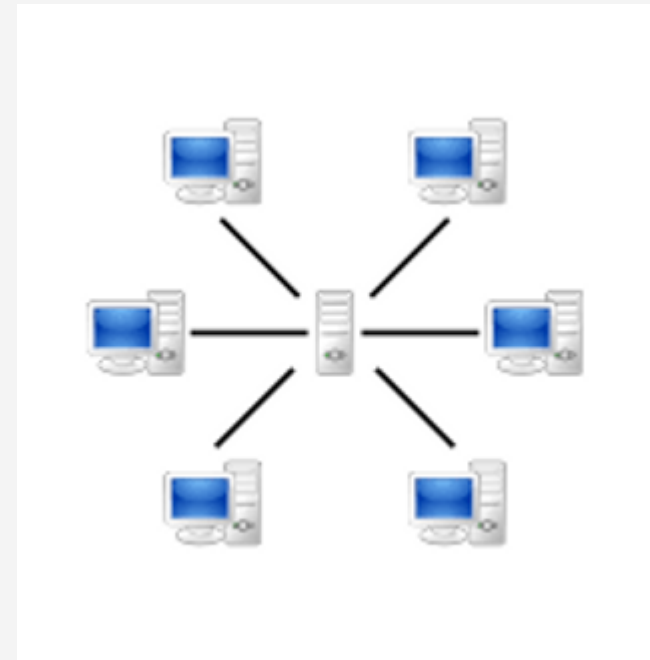
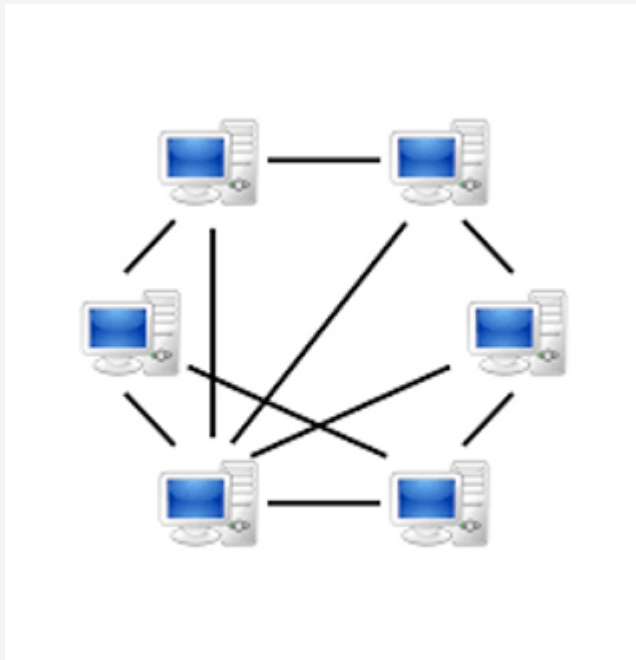
NETWORK HIERARCH





Peer to Peer (p2p) vs Server Client

Our project will use server client infrastructure





CODE!!

- Search for Python in search menu.
- Launch Spyder IDE.
- Warm up Exercise:
Fibonacci Sequence
- For extra difficulty, use recursive method...

