ABOUT ME

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MIT UNSW
Used to be a Scripting Engineer at China Unicom
Currently doing research program with Prof. Mahbub

Useful links:

- Lab slides
- General lab questions
- Mid-term exam material
- Final exam material

→ https://github.com/lrlrlrlr/COMP3331_9331_21T3

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01 Lab1 – Demo

02 Report format

03 Submission demo

Lab1 – Vlab Setup

It is **important –** all the labs should be finished in your own vlab.

Installation - **TigerVNC**:

- Windows： download the .exe file
- Linux: sudo apt-get install tigervnc-viewer tigervnc-common

Simplest way:

- Visit http://vlabgateway.cse.unsw.edu.au

Ref Link: https://taggi.cse.unsw.edu.au/vlab/

Lab1 – Relevant knowledge

Linux basics:

1. **Ping**
2. **Traceroute**
3. **SSH**
4. **Ifconfig**
5. **Netstat**
6. **Nslookup**
7. **Dig**
8. **Grep**
9. **Wireshark**

Ref Link: https://webcms3.cse.unsw.edu.au/COMP3331/21T3/resources/65909

Lab1 – Q1

Ping/nslookup command

Key point:

- Reason for having several IP addresses:
    - load balancing/load distribution (explain how)

- What is localhost?
    - loopback addr
    - Testing – send packet to ourself

Ref Link: https://taggi.cse.unsw.edu.au/vlab/

Lab1 – Q2

Ping command

1. Ping each url
2. If it is unreachable, check if you can open it with browser.

Key point:

Reason for not reachable:

- does not exist
- security reason
- ….?

Ref Link: https://taggi.cse.unsw.edu.au/vlab/

Lab1 – Q3 (1) (2)

traceroute command
PS:Include all traceroute outputs in your report.

Key point:

- Router number = Hops – 1
- How could Diverge happened? What is ***whois*** command?
- Tools of Network location

Ref Link: https://taggi.cse.unsw.edu.au/vlab/

Lab1 – Q3 (3)

traceroute command
PS:Include all traceroute outputs in your report.

Steps:

1. visit these two websites
2. Traceroute from the website to our own ip address;
3. Traceroute from our machine to these websites, Compare the outputs;
4. Explain why.

Lab1 – Q4

The problem you may have:

1. How to download a file into your Vlab?
2. How to run the shell script? (permission problem?)

Steps:

1. **Run:**

```
./runping.sh www.uq.edu.au
./runping.sh www.upm.edu.my
./runping.sh www.tu-berlin.de
```

→ will generate lots of files during this process

2. Run:

```
./plot.sh www.uq.edu.au-p*
./plot.sh www.upm.edu.my-p*
./plot.sh www.tu-berlin.de-p*
```

-> will generate some plot during this process

3. Calculate…

Lab1 – Q4

How to calculate:

- Physical distance: Use Google map
- T = Physical_distance / speed_of_light
- min_RTT: in the pdf file.
- Ratio = T / min_RTT

Website	City	Physical distance(km)	T (ms)	Min_RTT(ms)	Ratio
www.uq.edu.au	Brisbane	740	=740/3*10^2	18	7
www.upm.edu.au	..	..	..	..	..

Report

—Simple—

Keep your words Short!

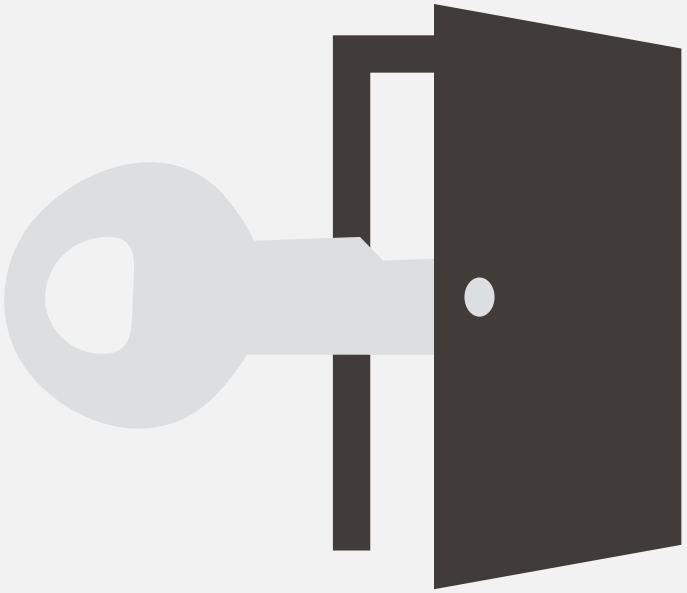
— Clear —

Format is the Key

—Effort—

Show your efforts

If any questions…



- Post it into our forum
- Come to the Lab
- Send an email


THANKS