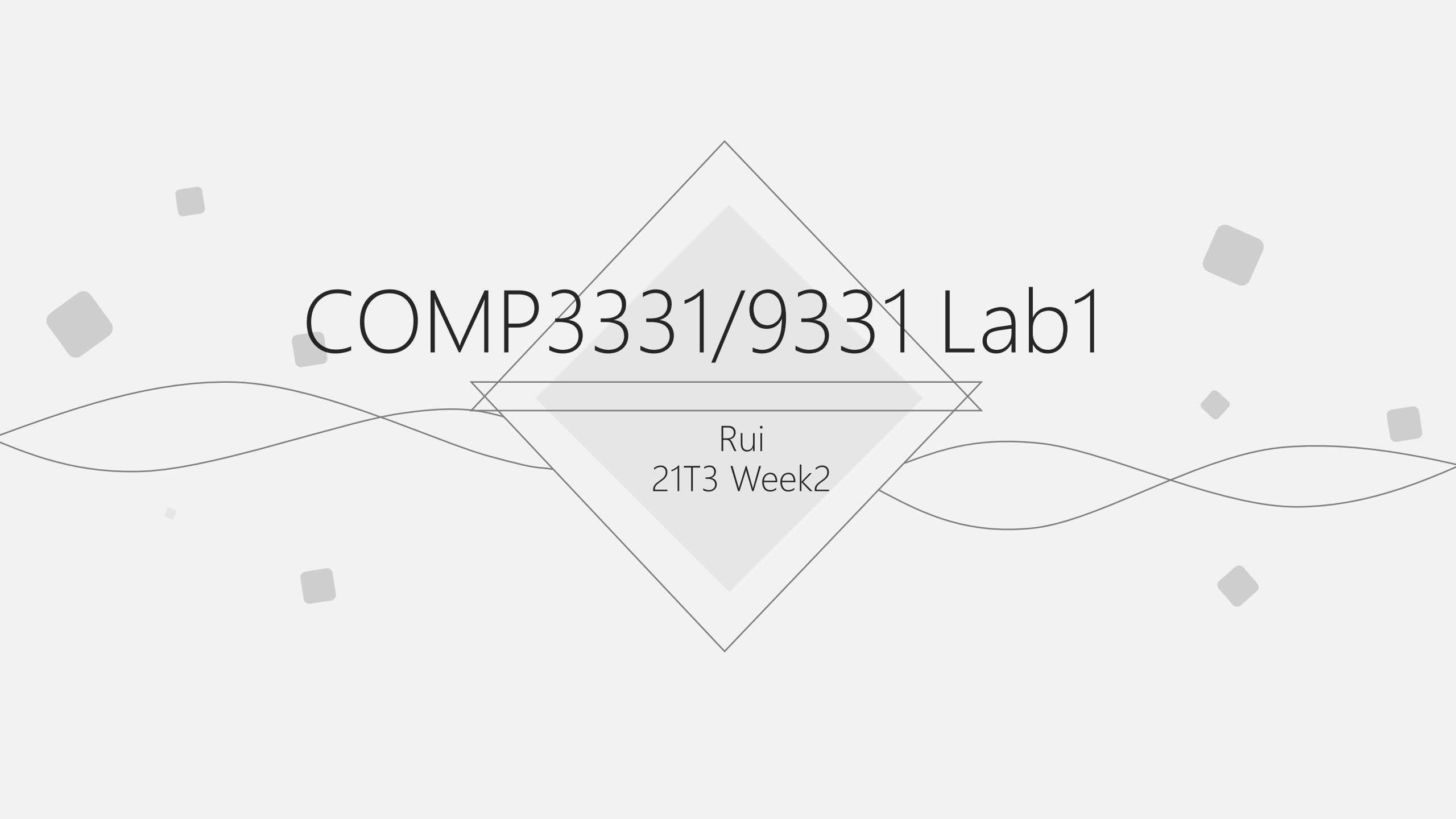


COMP3331/9331 Lab1

The background features a large, light-gray diamond shape centered on the page. Two thin, dark gray wavy lines, resembling sine waves, cross the diamond horizontally. Scattered around the diamond and wavy lines are several small, light-gray squares of varying sizes and orientations.

Rui
21T3 Week2



ABOUT ME

Rui

MIT UNSW

Used to be a Scripting Engineer at China Unicom

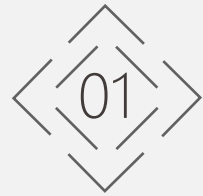
Currently doing research program with Prof. Mahbub

Useful links:

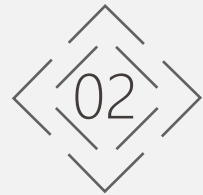
- Lab slides
- General lab questions
- Mid-term exam material
- Final exam material

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

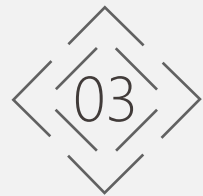
D I R



Lab1 – Demo



Report format



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>

Lab1 – Relevant knowledge

Linux basics:

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

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

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
-?

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](#)



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
- $T = \text{Physical_distance} / \text{speed_of_light}$
- min_RTT: in the pdf file.
- $\text{Ratio} = T / \text{min_RTT}$

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



Submission

Deadline: 10:00 am Tuesday 28/09/2021

- 1 day after deadline: 20% reduction
- 2 days after deadline: 40% reduction
- 3 or more days late: NOT accepted

Submission Key CMD:

1. `tar -cvf Lab1.tar lab1`
2. `give cs3331 Lab1 Lab1.tar`



Report

—Simple—

Keep your words
Short!

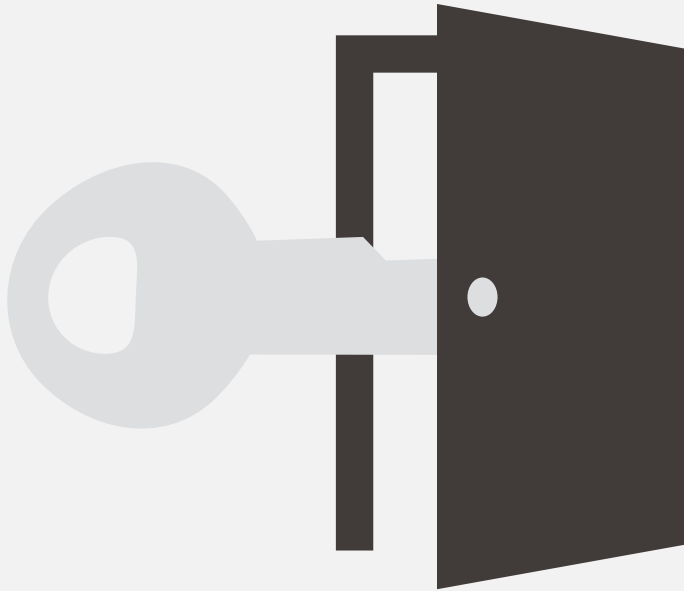
—Clear—

Format is the
Key

—Effort—

Show your
efforts

If any questions...



Post it into our forum



Come to the Lab



Send an email



THANKS