

## Two network tools: TraceRoute and WireShark

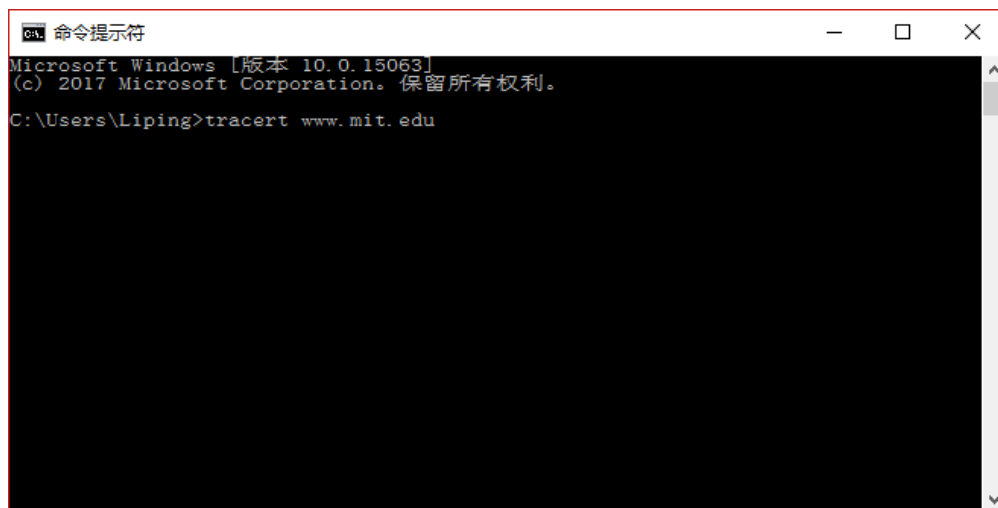
Note: Don't submit, but will show results next class.

Goal: The goal of this first lab was primarily to introduce you to two network tools: TraceRoute and Wireshark.

### TraceRoute – a packet tracer

Steps:

1. Open command console
2. Run “tracert” on Unix or “tracert” on Windows.
3. Try to trace to different destinations and figure out a small network map where each IP is a node, and draw an edge between nodes if they are neighbours with the length of the edge proportional to the delay between the two nodes.



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命令提示符
Microsoft Windows [版本 10.0.15063]
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C:\Users\Liping>tracert www.mit.edu
```

### WireShark – a packet sniffer

Steps:

1. Download and install the Wireshark software:  
Go to <http://www.wireshark.org/download.html> and download and install the Wireshark binary for your computer.
2. Download the Wireshark user guide. Try it out. Refer to Wireshark Lab: Getting Started (Wireshark\_INTRO\_Sept\_15\_2009.pdf)
3. Answer the following questions, based on your Wireshark experimentation:
  - List the different protocols that appear in the protocol column in the unfiltered packet-listing window in step 7 of the Getting Started document.

- How long did it take from when the HTTP GET message was sent until the HTTP OK reply was received? (By default, the value of the Time column in the packet- listing window is the amount of time, in seconds, since Wireshark tracing began. To display the Time field in time-of-day format, select the Wireshark View pull down menu, then select Time Display Format, then select Time-of-day.)
- What is the Internet address of the [www.sjtu.edu.cn](http://www.sjtu.edu.cn)? What is the Internet address of your computer?
- From step 9 of the Getting Started document, how many bytes is each of the http header, TCP header, IP header and Ethernet header?
- Try to find out what protocols are used for WeChat app when sending text and when video/audio chatting?