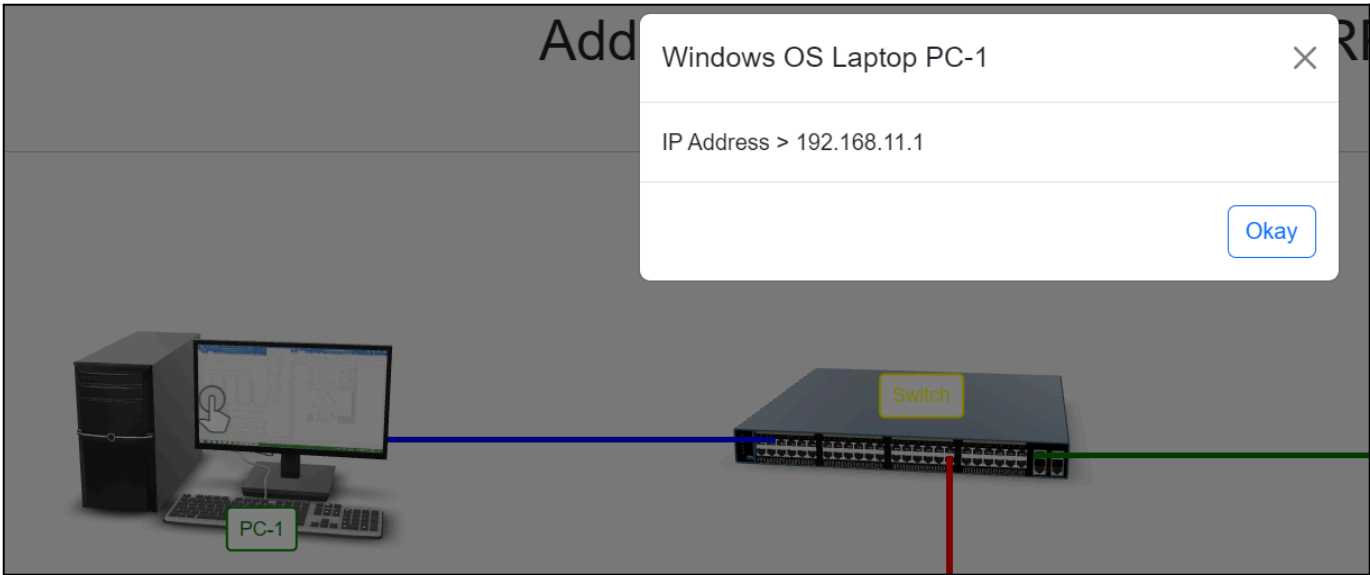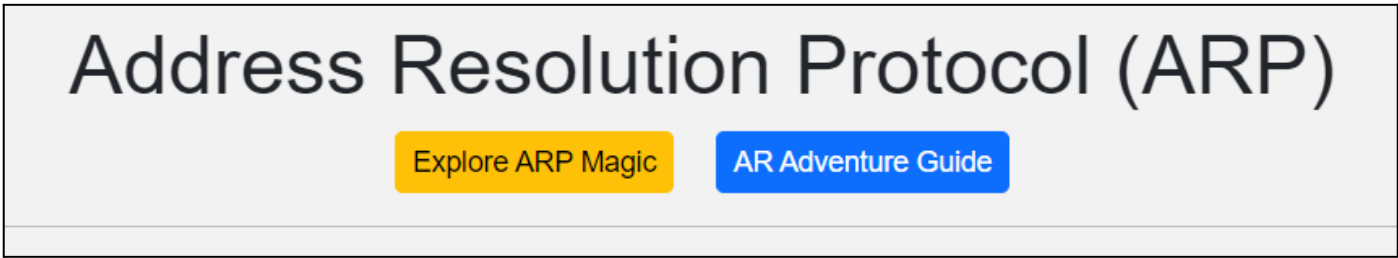# Understanding ARP (Address Resolution Protocol)
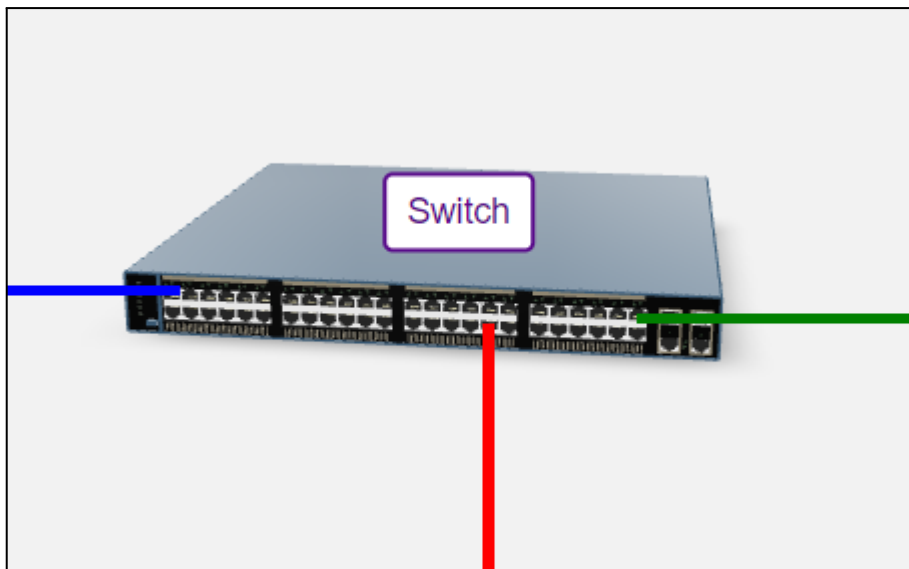
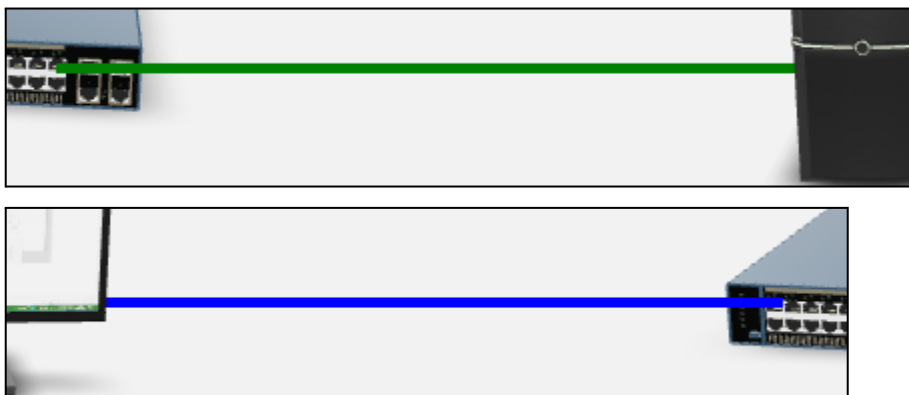1. If you want know IP & MAC Address of any PC you can click on blue square as shown below:

2. Click on "Explore ARP Magic" to view Presentation on ARP topic:

3. Click on "Switch" to view Switch Details:

Switch 2950-24   ✕

WS-C2950-24

10/100 ports

24 port, 10/100 auto-sensing and auto-negotiating.

Har   rface

nand

able

Okay

4. Click on wire colors "Red"/"Blue"/"Green" to view wire details:

Fast Ethernet 0/1 RS-232 Wire

1 - DCD
2 - RxD
3 - TxD
4 - DTR
5 - GND
6 - DSR
7 - RTS
8 - CTS
9 - RI

Okay

---
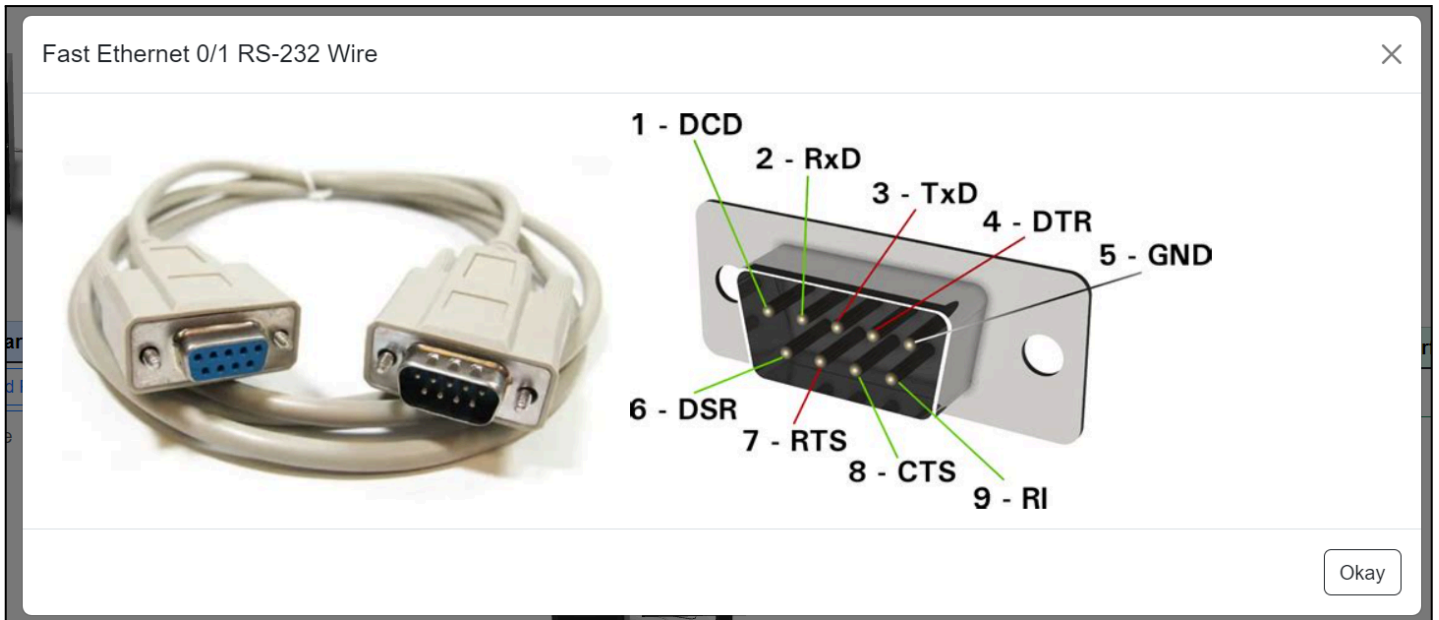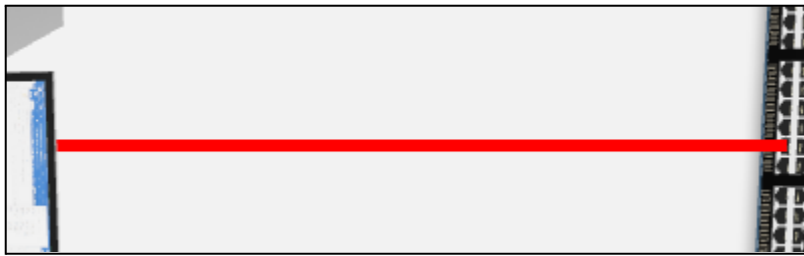
5. Let's start performing ARP in AR World!!! Click on "Open Command Prompt" button of any PC:

IP Address	Hardware Address	Interface
Open Command Prompt		

PC-1 ARP Table

127.0.0.1:5500 says

PC-1 Command Prompt
Some ARP Commands are 'arp -a', 'ping ip_address'
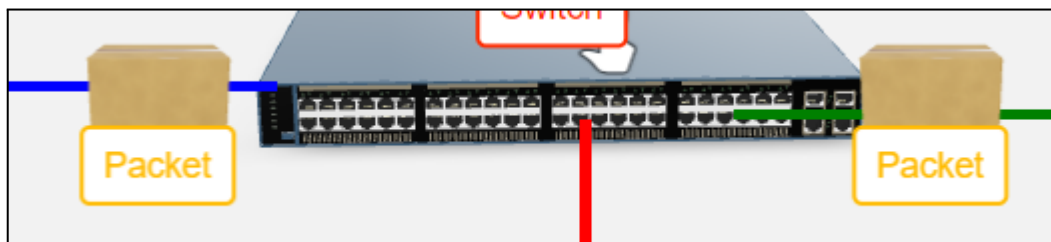Enter something:

OK   Cancel
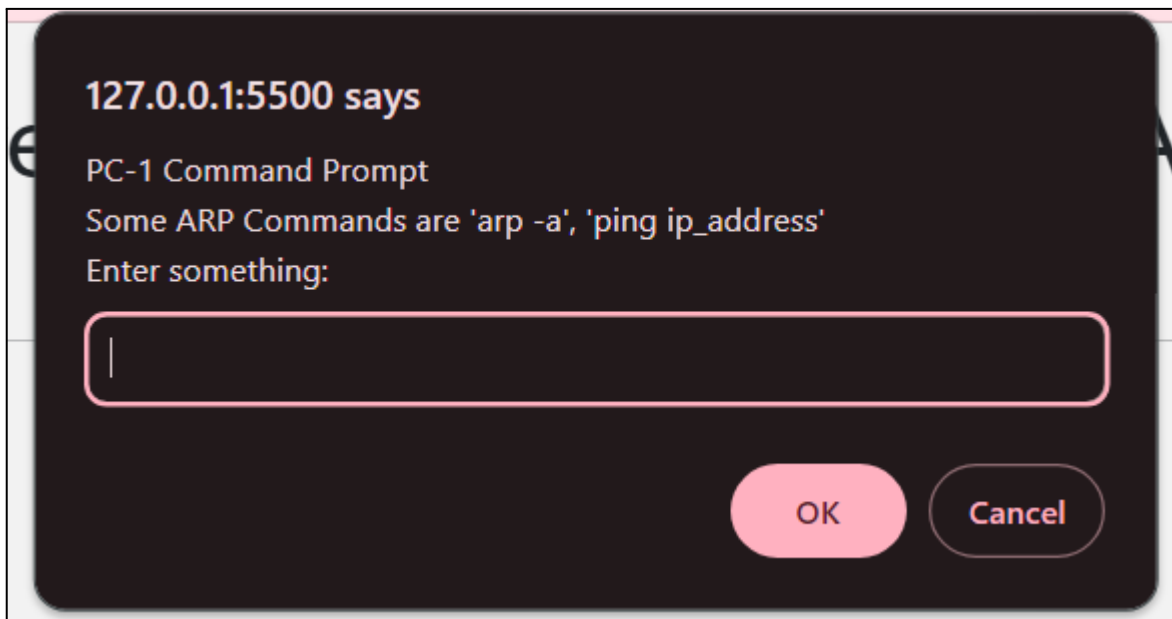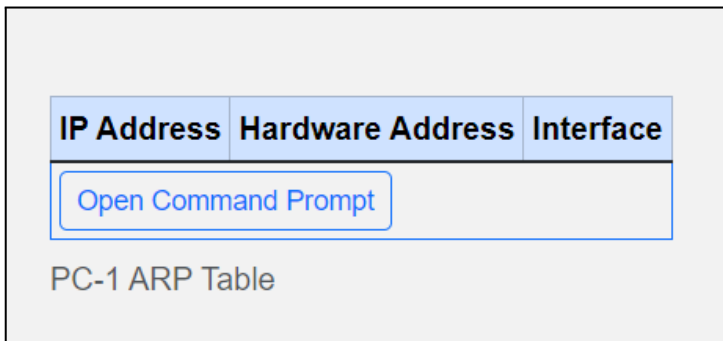
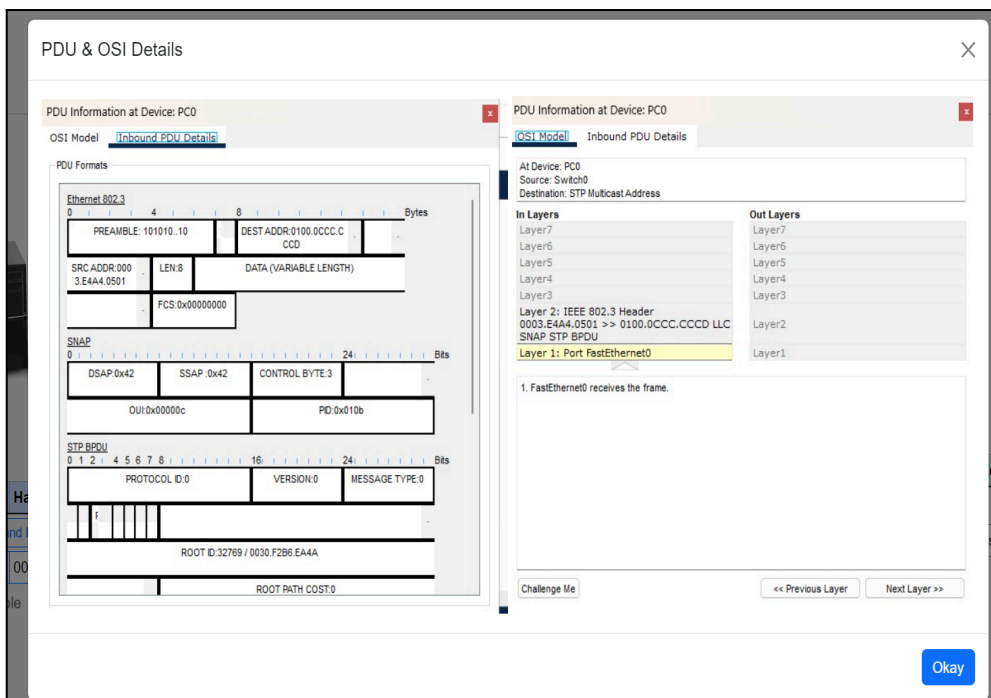6. Enter "ping IP_Address" of PC of which you want to know MAC Address
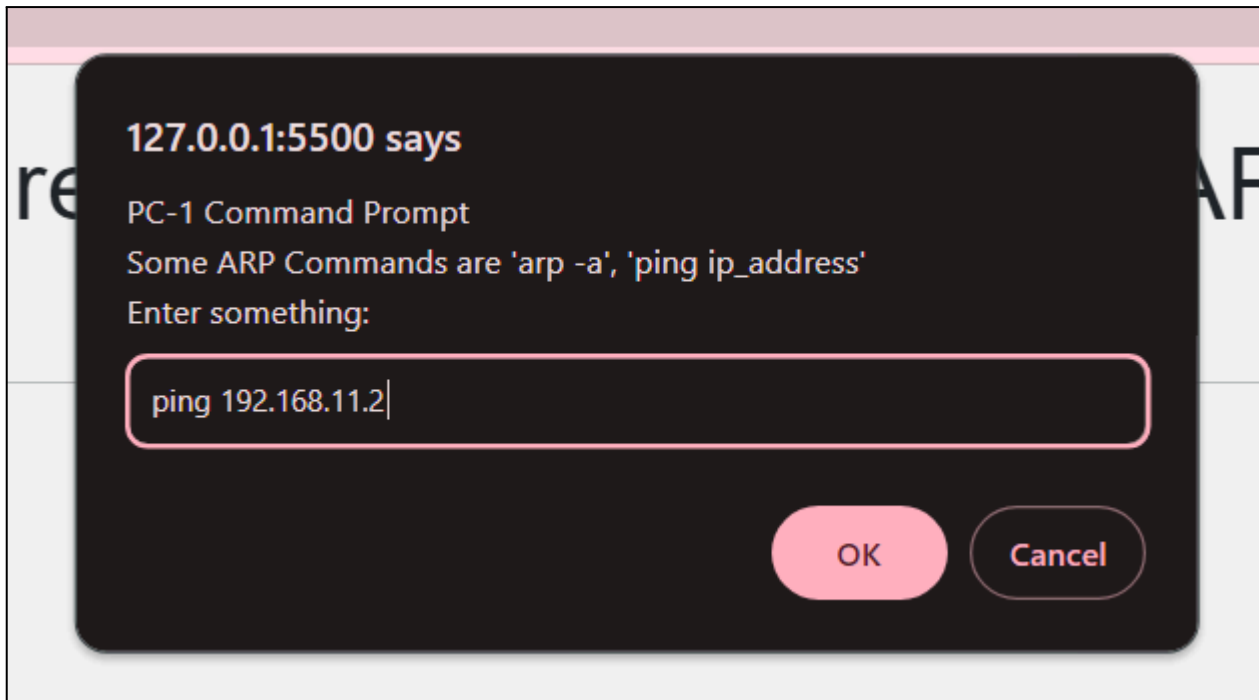
For now let's enter IP Address of PC-2 which is 192.168.11.2

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7. Now Click on OK then the magic AR World will begin the packet will start simulating

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8. When you click on Packet Label you will get details of what is there inside the Packet when it goes from PC-1 to PC-2, PC-3 to search for that IP Address

9. PC-1 sends a ping to all PC's whichever PC matches that ping IP Address sends Acknowledgement and also stores PC-1 IP Address and MAC Address in their ARP table.
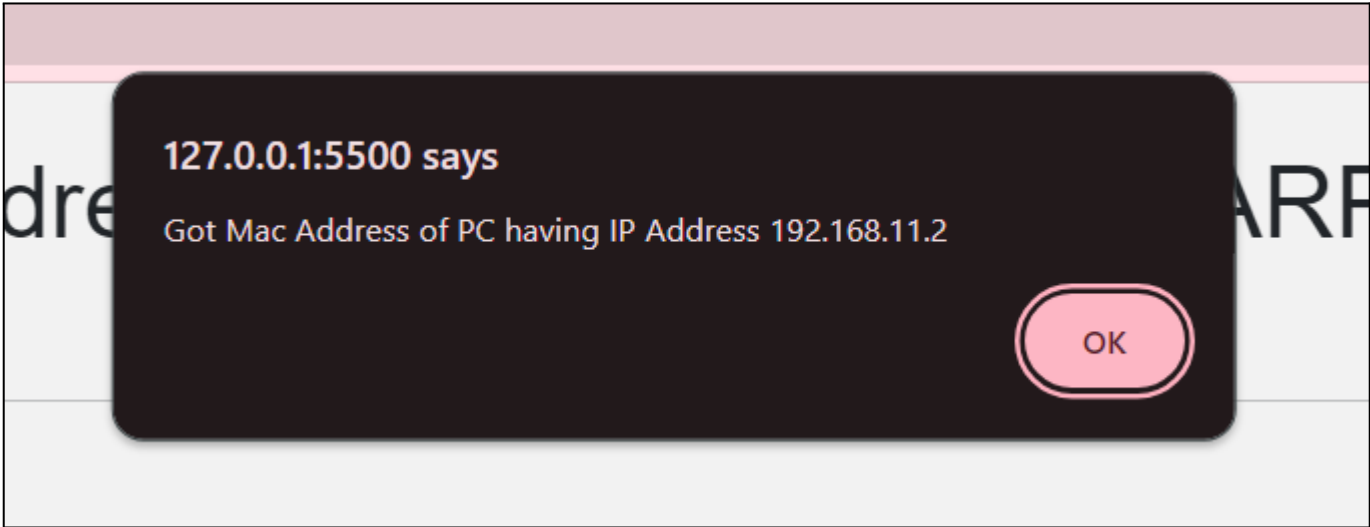

10. PC-2 store IP Address, MAC Address, Interface in their ARP Table of PC-1.

IP Address	Hardware Address	Interface
Open Command Prompt		
192.168.11.1	0001.613C.21A6	Fast Ethernet 0/1

PC-2 ARP Table

11. You will get an alert message like this: "Got MAC Address" means communication between PC-1 to respective PC with IP Address 192.168.11.2 is completed.

127.0.0.1:5500 says

Got Mac Address of PC having IP Address 192.168.11.2

OK

12. You will observe that after clicking on OK the PC-1 ARP table shows IP Address, MAC Address, Interface of PC-2.

PC-1

IP Address	Hardware Address	Interface
Open Command Prompt		
192.168.11.2	0030.A333.03CB	Fast Ethernet 0/1

PC-1 ARP Table
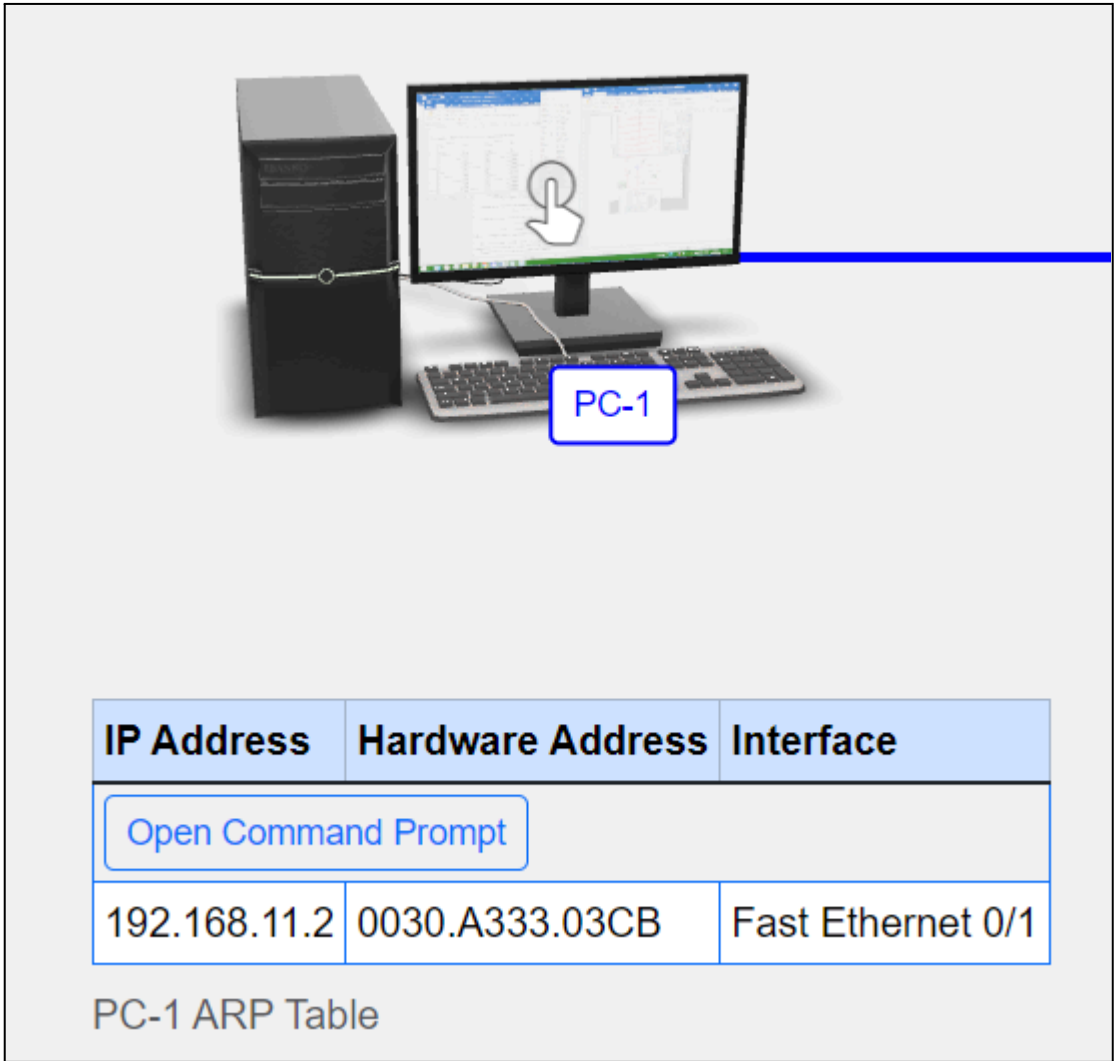
This way you can get the MAC Address of any PC when you know only one thing that is an IP Address and this is how it works in Real World also.

Bonus!!!
You can also zoom in network devices with mouse to look around to take a look

IP Address	Hardware Address	Interface
Open Command Prompt		
192.168.11.2	0030.A333.03CB	Fast Ethernet 0/1

PC-1 ARP Table

IP Address	Hardware Address	Interface
Open Command Prompt		
192.168.11.1	0001.613C.21A6	Fast Ethernet 0/1

PC-2 ARP Table

IP Address	Hardware Address	Interface
Open Command Prompt		

PC-3 ARP Table