

Practical-4

AIM: Understand and identify Layer-2 functionality.

Tools required:

1. Desktop Computer
2. Cisco Packet Tracer

Simulate different scenarios given below in Cisco packet tracker and fill up table.

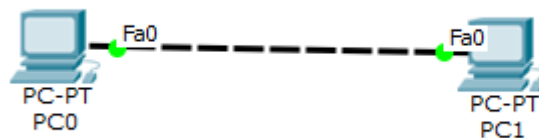
Note: While applying IP address, student need to allocate IP address as per his/her student ID. For Example, if student ID is 20ce005 then IP address allocation for first network should start with 5.0.0.0. For subsequent network, it should start with ID+1 i.e. 6.0.0.0, 7.0.0.0. and so on.

Submission: After writing answer into this word document, Student need to change name to his ID followed by practical number. Ex 20ce005_Pr1.docx. Upload on assignment segment.

Rubrics: Nicely drafted document with clarity in answers leads to full marks. Otherwise, submission carries proportional mark.

Recommended to type, avoid copy-past to increase your typing skill.

Exercise-1



Redraw above diagram which includes IP address and MAC address. Take IP address and MAC address as per your knowledge.

Write down ARP table of PC0 and PC1.

Fill ARP table entry of PC0

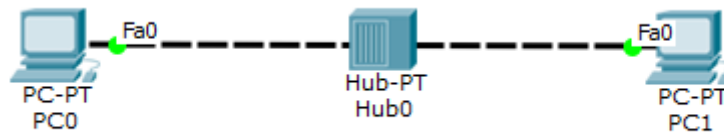
IP address	MAC Address

Fill ARP table entry of PC1

IP address	MAC Address

Questions:

1. What does ARP table contain?
2. Why there is need of ARP table?
3. What is topology name of exercise-1?
4. What is relation of IP address with MAC address?
5. Can we change MAC Address of machine?
6. Can we change IP address of machine?

Exercise-2 :

Redraw above diagram which includes IP address and MAC address. Take IP address and MAC address as per your knowledge.

Write down ARP table of PC0 and PC1. Write down switch table of Hub0.

Fill ARP table entry of PC0

IP address	MAC Address

Fill ARP table entry of PC1

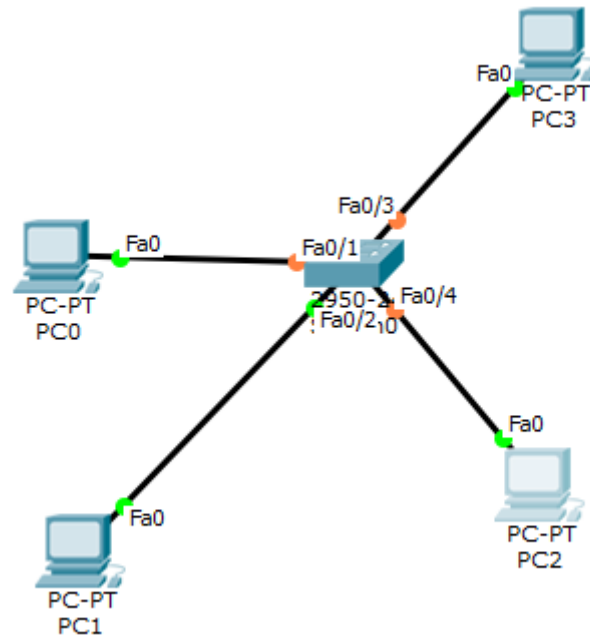
IP address	MAC Address

Fill Switch table entry of Hub0

MAC Address	Ethernet port no

Questions:

1. What is functionality of Hub?
2. Does hub have IP address?
3. Does hub have switch (ARP) table?
4. What is topology of exercise-2?

Exercise-3

Redraw above diagram which includes IP address and MAC address. Take IP address and MAC address as per your knowledge.

Write down ARP table of PC0 and PC1. Write down switch table of Hub0.

Fill ARP table entry of PC0

IP address	MAC Address

Fill ARP table entry of PC1

IP address	MAC Address

Fill ARP table entry of PC2

IP address	MAC Address

Fill ARP table entry of PC3

IP address	MAC Address

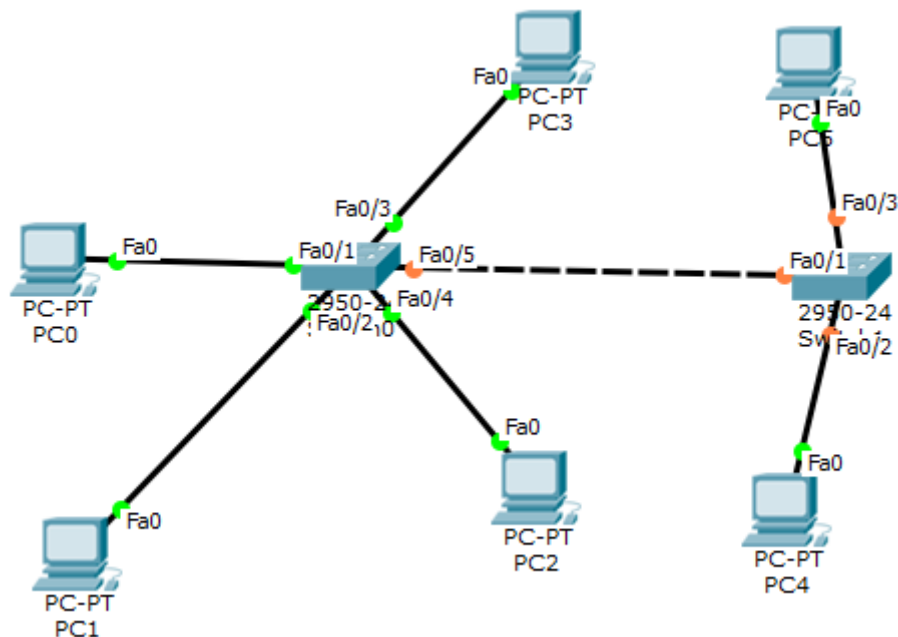
Fill Switch table entry of Switch0

MAC Address	Ethernet port no

Questions:

1. What is the functionality of switch?
2. Does the switch have an IP address?
3. Does the switch have a switch (ARP) table?
4. What is the topology name of exercise-3?

Exercise-4



Redraw above diagram which includes IP address and MAC address. Take IP address and MAC address as per your knowledge.

Write down ARP table of PC0 and PC1. Write down switch table of Hub0.

ARP table entry of PC0

IP address	MAC Address

ARP table entry of PC1

IP address	MAC Address

ARP table entry of PC2

IP address	MAC Address

ARP table entry of PC3

IP address	MAC Address

ARP table entry of PC4

IP address	MAC Address

ARP table entry of PC5

IP address	MAC Address

Switch table entry of Switch0

MAC Address	Ethernet port no

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Switch table entry of Switch1

MAC Address	Ethernet port no

Questions

1. Do both switches have identical switching tables?
2. In Exercise-4, why does PC0 contain the IP MAC address of PC4?
3. What is the topology of exercise-4?