ASSIGNMENT 4

1)Complement ARP protocol using cisco packet tracer.

Address Resolution Protocol (ARP): The Address Resolution protocol is a communication protocol used for obtaining the data link layer address, MAC address with the help of IP address. It is a network protocol used to find out the hardware (MAC address) of a device from an IP address. It is used when a device wants to communicate with some other device on a local network (for example on as Ethernet network that requires physical addresses to be known before sending packets).
ARP has the IP address of the destination device but doesn't have the MAC address of it. It will send the ARP request packets to the broadcast addresses(FF:FF:FF:FF:FF:FF) for the Ethernet broadcasts and 255.255.255.255 for the IP broadcast).For EX: Assume A wants to send B a message but A only knows the IP address of B but not the MAC address. Then A will send ARP request to B since it knows the IP of it. B will acknowledge and send the request back to A. Now, A will get the MAC address of B and can send the required message.

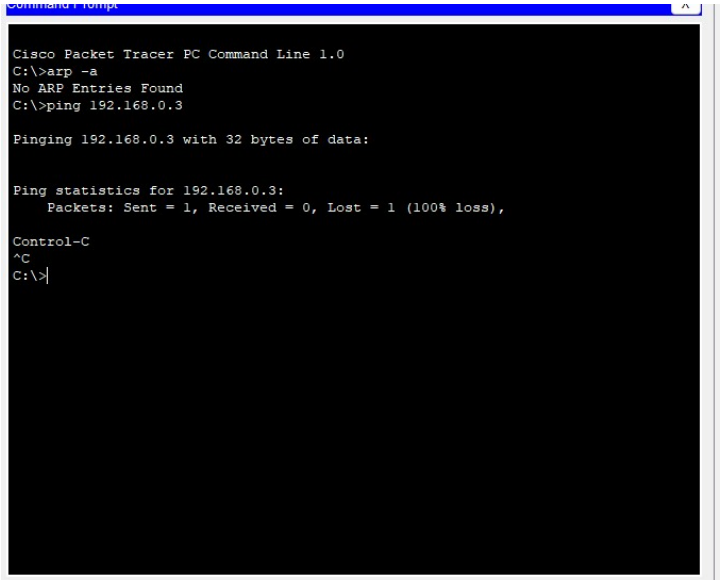
Process:

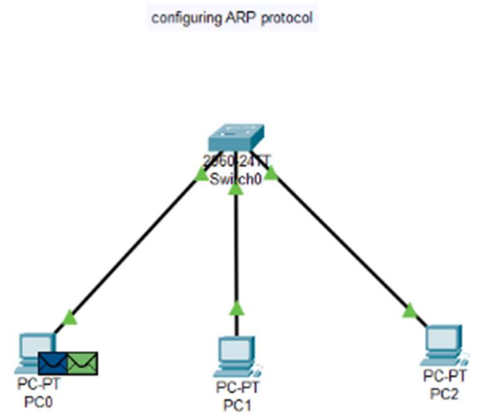
1)Take one 2960 switch and 4 PCs (End devices) and connect them using copper straight through cable.
2)Assign IP address for each PC(End device).

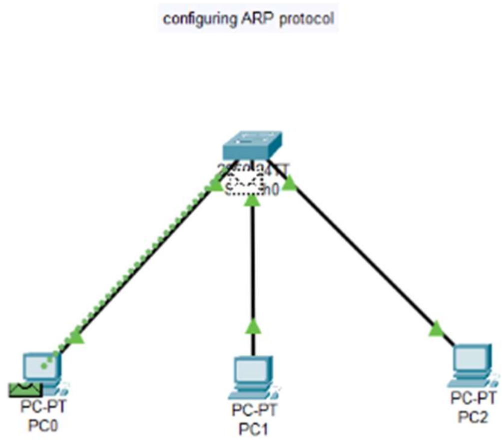
Commands:

i) arp-a : This command helps to check the ARP table, whether there is the entries or not. Before sending the ARP requests, each host needs to send a packet to another host on the LAN, it first checks its ARP cache for the correct IP address and matching MAC address. It can display ARP entries in windows by using the arp-a command.\
ii) arp-d : This command is used to clear the ARP cache stored to the ARP table. It deletes the earlier ARP entries done.
3)Then type following commands in command prompt of any PC .
arp -a
ping 10.10.10.3
then press ctrl + C

OUTPUT SS:




configuring ARP protocol
2960-24TT
Switch0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2


configuring ARP protocol
PC-PT
PC0
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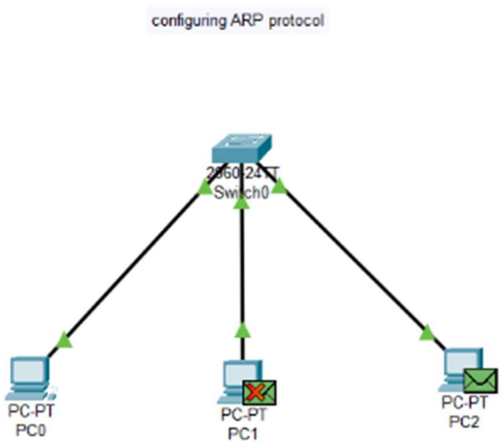
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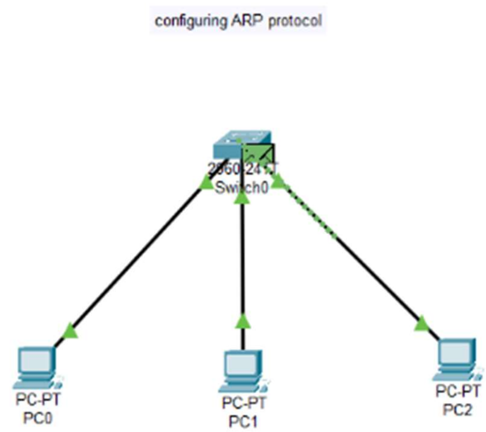
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PC0
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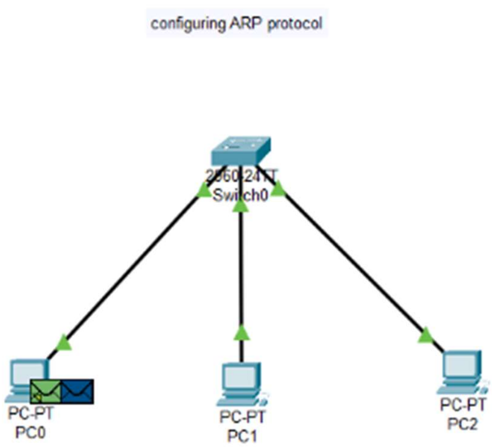
PC1
PC-PT
PC2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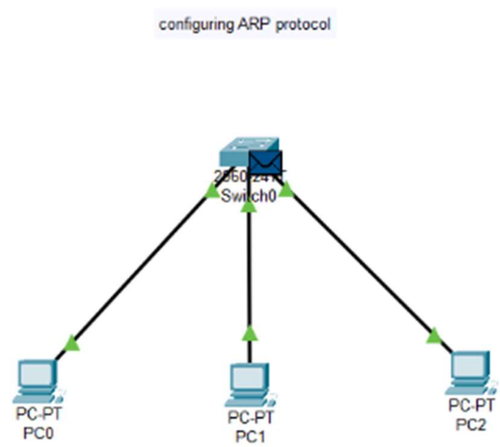
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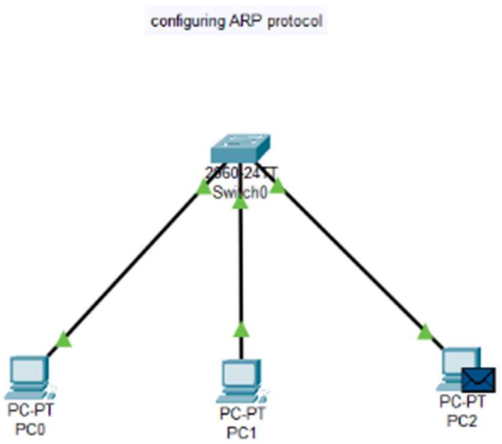

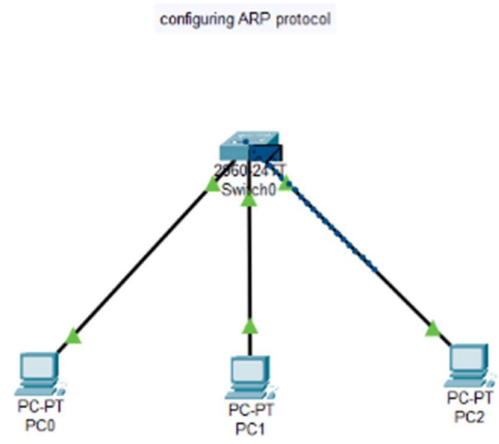

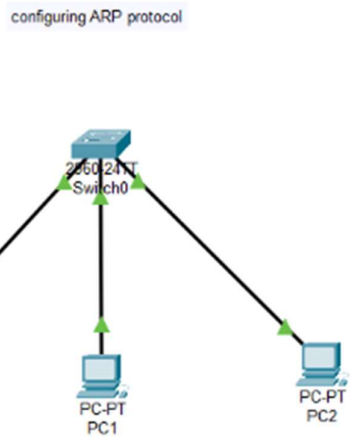

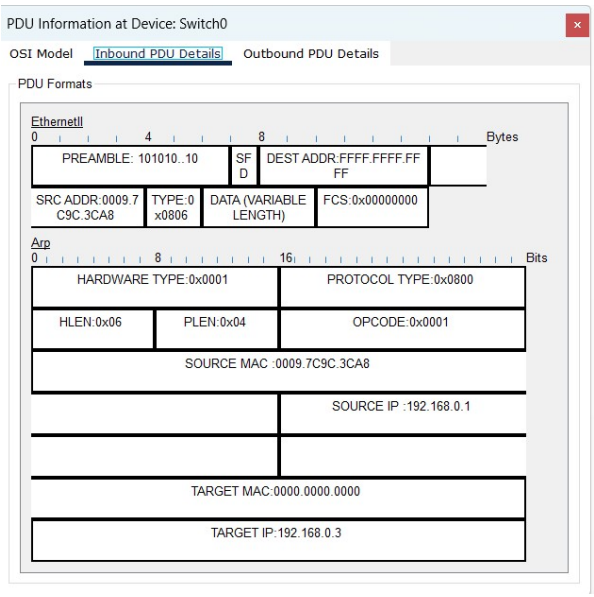

To know the IP address of the known MAC address,Reverse Address Resolution Protocol (RARP) is used.