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Group B

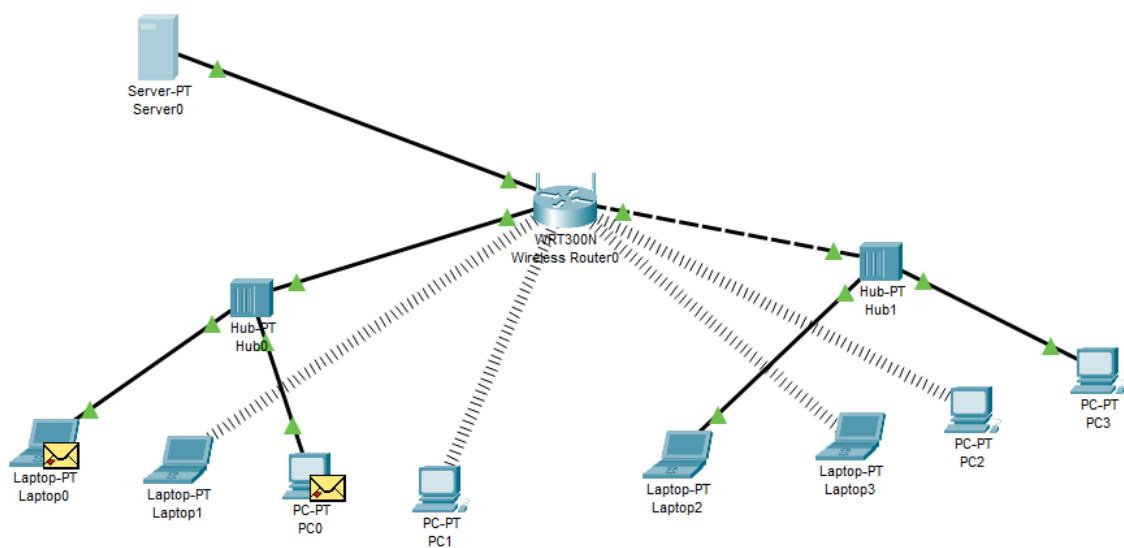
Internet Technology 2

Lab 4

Addressing table for the network.

Dept.	Host Name	IP address	Mask
Engineering	Laptop0	192.168.0.2	255.255.255.0
Engineering	Laptop1	192.168.0.3	255.255.255.0
Engineering	PC0	192.168.0.4	255.255.255.0
Engineering	PC1	192.168.0.5	255.255.255.0
Sales	Laptop2	192.168.0.6	255.255.255.0
Sales	Laptop3	192.168.0.7	255.255.255.0
Sales	PC2	192.168.0.8	255.255.255.0
Sales	PC3	192.168.0.9	255.255.255.0

Image of the network created.



When the packets travel through the network, they consist of two parts: the IP header which contains information of the source and destination IP addresses. The second part of a packet is the IP payload which contains the data to be transferred. With the help of the IP header, the packet can find its destination. Each device on the network has its own IP address. It's the location ID for each device. The router is the gateway of the network. It connects the PCs to the internet and handles the incoming traffic. The router is the one that allocates the IP addresses to each device in the LAN network.

When you're using a ping message, you are checking the connectivity between two devices. When a message is sent to the unique IP address of the server. If the IP address exists, the ping message will reach the server and the server will reply to the sending device confirming the connection.

PDU Information at Device: PC4

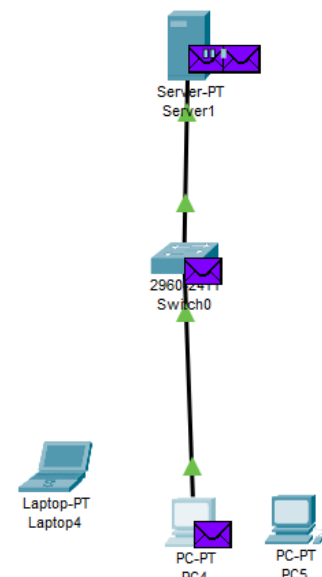
OSI Model Outbound PDU Details

At Device: PC4
Source: PC4
Destination: HTTP CLIENT

In Layers	Out Layers
Layer7	Layer 7: HTTP
Layer6	Layer6
Layer5	Layer5
Layer4	Layer 4: TCP Src Port: 1042, Dst Port: 80
Layer3	Layer 3: IP Header Src. IP: 192.168.0.72, Dst. IP: 192.168.0.73
Layer2	Layer 2: Ethernet II Header 00E0.F733.6D88 >> 0001.4369.A400
Layer1	Layer 1: Port(s):

1. The HTTP client sends a HTTP request to the server.

Challenge Me << Previous Layer Next Layer >>



When you want to exchange data between server and a client, we use HTTP messages. The client sends requests to the server, and this will trigger an action on the server and the server will respond to the client.

Number of packets transferred for the HTML page with just text is not going to be very large because you're just transferring text. When you send a JPEG image, the number of packets is going to be much larger because pictures contain much more information.

PDU Information at Device: PC4

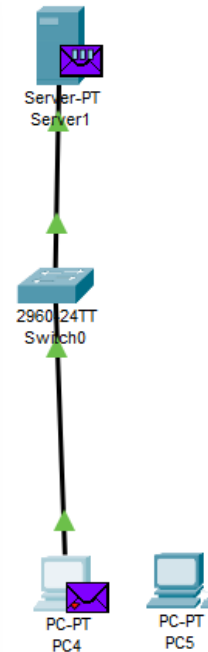
OSI Model Inbound PDU Details

At Device: PC4
Source: PC4
Destination: HTTP CLIENT

In Layers	Out Layers
Layer7	Layer7
Layer6	Layer6
Layer5	Layer5
Layer 4: TCP Src Port: 80, Dst Port: 1043	Layer4
Layer 3: IP Header Src. IP: 192.168.0.73, Dst. IP: 192.168.0.72	Layer3
Layer 2: Ethernet II Header 0001.4369.A400 >> 00E0.F733.6D88	Layer2
Layer 1: Port FastEthernet0	Layer1

1. FastEthernet0 receives the frame.

Challenge Me << Previous Layer Next Layer >>



PDU Information at Device: Server1

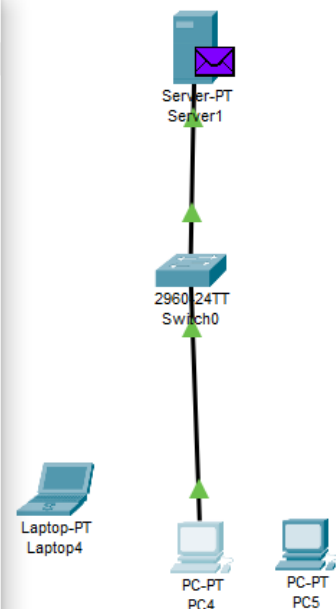
OSI Model Inbound PDU Details Outbound PDU Details

At Device: Server1
Source: PC4
Destination: HTTP CLIENT

In Layers	Out Layers
Layer 7: HTTP	Layer 7: HTTP
Layer6	Layer6
Layer5	Layer5
Layer 4: TCP Src Port: 1060, Dst Port: 80	Layer 4: TCP Src Port: 80, Dst Port: 1060
Layer 3: IP Header Src. IP: 192.168.0.72, Dst. IP: 192.168.0.73	Layer 3: IP Header Src. IP: 192.168.0.73, Dst. IP: 192.168.0.72
Layer 2: Ethernet II Header 00E0.F733.6D88 >> 0001.4369.A400	Layer 2: Ethernet II Header 0001.4369.A400 >> 00E0.F733.6D88
Layer 1: Port FastEthernet0	Layer 1: Port(s): FastEthernet0

1. FastEthernet0 receives the frame.

Challenge Me << Previous Layer Next Layer >>



HTML page with just text.

PDU Information at Device: PC4

OSI Model Outbound PDU Details

At Device: PC4
Source: PC4
Destination: HTTP CLIENT

In Layers	Out Layers
Layer7	Layer7
Layer6	Layer6
Layer5	Layer5
Layer4	Layer4
Layer3	Layer3
Layer2	Layer2
Layer1	Layer 1: Port(s): FastEthernet0

1. The device takes out this frame from the buffer and sends it.
2. FastEthernet0 sends out the frame.

Challenge Me << Previous Layer Next Layer >>