# Networks

122-02-21

Networks In Class Exercise

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February 21, 2022

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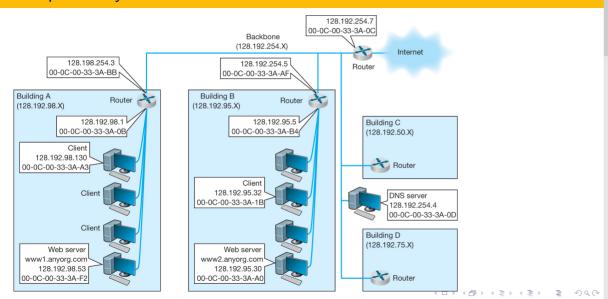


Irfan Kanat (CBS) Networks February 21, 2022 1/6

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## Group Activity: Exercise

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Group Activity: Exercise

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Exercise Case 1

CASE: Client (128.192.98.130) requests a web page from server (www.l.anvorg.com)

Exercise Case 1

CASE: Client (128.192.98.130) requests a web page from server (www1.anyorg.com)

Client knows the server's IP and Ethernet Addresses

List out the steps in getting the request to the server starting from client.

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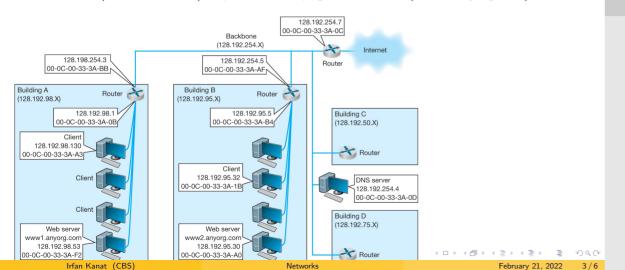
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Case 1

Exercise Case 1

CASE: Client (128.192.98.130) requests a web page from server (www1.anyorg.com)

Client knows the server's IP and Ethernet Addresses

List out the steps in getting the request to the server starting from client.

- Oreate a package with all layers (HTTP, TCP, IP, MAC)
- Destination IP address is set as 128.192.98.53
- Client realizes it is on the same network
- Adds the server's MAC address as the destination address (00-0C-00-33-3A-F2)
- **5** Switch (router) sees the MAC address and forwards it to server
- Server receives the package



List out the steps in getting the request to the server starting from client. A Create a parkage with all lawers (HTTP, TCP, IP, MAC) Destination IP address is set as 128.192.98.53 Client realizes it is on the same network —Exercise Case 1 Adds the server's MAC address as the destination address (00-0C-00-33-3A-F2) A Switch (motor) sees the MAC address and forwards it to server Comme excellent the exchange

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Exercise Case 1 CASE: Client (128.192.98.130) requests a web page from server (www1.anvorx.com)

This one is for demonstration purposes. It is ok if the students miss a few steps here and there. Understanding the level of detail requested is not easy. We want them to learn so they can solve the subsequent cases.

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CASE: Server (www1.anyorg.com) responds to client (128.192.98.130)

Exercise Case 2

Exercise Case 2

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CASE: Server (www1.anyorg.com) responds to client (128.192.98.130)

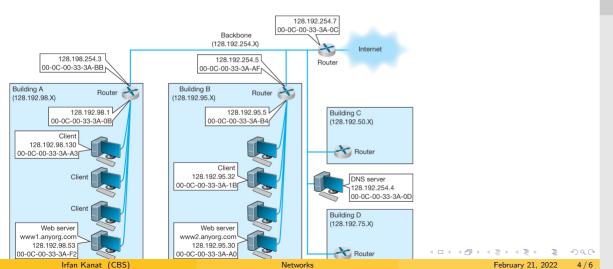
List out the steps in getting the response to the client starting from server.

Exercise Case 2 Networks CASE: Server (www1.anvorg.com) responds to client (128.192.98.130)

Exercise Case 2

List out the steps in getting the response to the client starting from server.

CASE: Server (www1.anyorg.com) responds to client (128.192.98.130)



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Exercise Case 2 Networks Exercise Case 2

CASE: Server (www1.anyorg.com) responds to client (128.192.98.130)

List out the steps in getting the response to the client starting from server.

- package received, goes up through the stack (MAC, IP, TCP, HTTP)
- Prepare HTTP response with proper HTML web page (HTTP, TCP, IP, MAC)

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- Destination IP address is set as 128.192.98.130
- Server realizes it is the same network.
- Adds the client's MAC address as the destination (00-0C-00-33-3A-A3)
- Switch (router) sees the MAC address and forwards it to client
- Client receives the package

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ASE: Server (served, surge cone) respects to client (121112/03113)
List out the steps in patient plan respects to the client stating from surve.

property received, goes up through the states (IMAC, IP, TCP, HTTP)

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Prigare HTTP responses with proper HTMC, with page (HTTP, TCP, PP, MAC)

States and an analysis of the states of the st

Essentially the same as before

Exercise Case 2

◆ Server realizes it is the same network.

♦ Adds the client's MAC address at the destination (00-0C-00-33-3A-A3)

♦ Switch (rooter) sees the MAC address and forwards it to client

Client receives the package

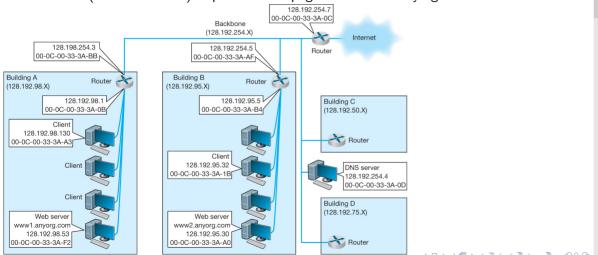
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Exercise Case 3

CASE: Client (128.192.98.130) requests a web page from www2.amvore.com.

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February 21, 2022

Exercise Case 3



CASE: Client (128.192.98.130) requests a web page from www2.anyorg.com.

- Create a package with all lavers (HTTP, TCP, IP, MAC)
- Destination IP address is set as 128.192.95.30
- Client realizes it is not on the same network
- Destination MAC address is set for the Gateway router (00-0C-00-33-3A-0B)
- Souter receives the package (it is the L2 destination)
- Router removes L2 header
- Router determines next node (Router Table)
- © Creates a new L2 header with next router MAC address (00-0C-00-33-3A-B4)

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- Second router receives
- Determines destination for local delivery (IP)
- Replaces L2 header (MAC set to server's 00-0C-00-33-3A-A0)
- Server receives the package.

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CASE Claim (128 129 130) requests a sub-page from wend 2-propt conn.

Case a package with all layers (PLTP). TOP. (PL MAC)

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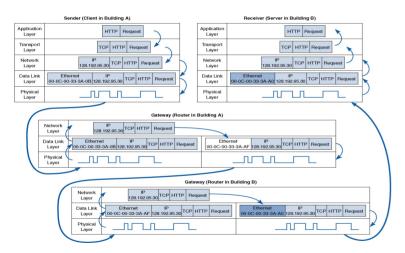
Case a package with all layers (PLTP). TOP. (PL MAC)

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## Case 3: A picture is worth a thousand words





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