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1) Source IP: Web Server's IP

Destination IP: PC1's IP

Source ~~MAC~~ MAC (at R3): R3's MAC on the R3→R1 Interface.

Destination MAC (at R3): R1's MAC on the R1←R3 Interface

* ports are Transport layer address
* IP's - Network layer
* MAC are Datalink layer and change hop to hop.

2) i) Upload new assignment → POST

ii) Update previous submitted one → PUT / PATCH

iii) HEAD - Its name as GET. But no body, only Headers to confirm the existence.

3) As we know, Cookie can do Authorization and use for the recommendation. They can use cookie.

But it can leakage data via third party cookies.

To prevent this, They can block Third party Cookies, clear cookies regularly.

4) Because it's using HTTP, not HTTPS.

5) Two TCP header fields that will be used here,

① PSH flag: It doesn't wait to fill buffers.

② URG flag: Receiver prioritize if it is on.

6) TCP slowdown when the utilization is close to capacity. And its 91% there. And no proxy server for same Request.

7) i) ~~Single RTT=~~

~~Wrong~~ $850 - 50 = (1+24)\ RTT$

$RTT = 32\ ms$ (Ans)

ii) $FTT = \frac{5 \times 6 \times 8}{200} + \frac{19 \times 2 \times 8}{200}$

$= 2.72\ s = 2720\ ms$

Ans

8) i) Seq number: client ISN+1 = 5679

Ack n : 2961

ii) Advertised window = 10000 bytes

After receiving S1 (786 bytes),

Unacknowledged data = 786

So remaining window = 10000 - 786

= 9214 bytes

Ack-1 RWND = 9214 bytes.

iii) After retransmitting S2

S1, S2, S3 are now acknowledged.

So, Sf = 0 (all acknowledged)