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Question Set 1

1. What is the total number of ICMP simulation events?

There are 6 ICMP messages in one request and there are 4 request during one ping command. So the total number of ICMP simulation events is 24.

Event List				
Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	PC0 192.168.1.1	ICMP
	0.001	PC0 192.168.1.1	Hub0	ICMP
	0.002	Hub0	PC1 192.168.1.2	ICMP
	0.002	Hub0	Laptop0 192.168.1.3	ICMP
	0.003	PC1 192.168.1.2	Hub0	ICMP
	0.004	Hub0	PC0 192.168.1.1	ICMP
	0.004	Hub0	Laptop0 192.168.1.3	ICMP
	1.006	--	PC0 192.168.1.1	ICMP
	1.007	PC0 192.168.1.1	Hub0	ICMP
	1.008	Hub0	PC1 192.168.1.2	ICMP
	1.008	Hub0	Laptop0 192.168.1.3	ICMP
	1.009	PC1 192.168.1.2	Hub0	ICMP
	1.010	Hub0	PC0 192.168.1.1	ICMP
	1.010	Hub0	Laptop0 192.168.1.3	ICMP
	2.011	--	PC0 192.168.1.1	ICMP
	2.012	PC0 192.168.1.1	Hub0	ICMP
	2.013	Hub0	PC1 192.168.1.2	ICMP
	2.013	Hub0	Laptop0 192.168.1.3	ICMP
	2.014	PC1 192.168.1.2	Hub0	ICMP

2. What does the hub do with ICMP messages that it receives?

When the hub receives ICMP messages, it will broadcast the messages to all devices connected to the it.

3. Does the hub have a MAC address?

No, the hub doesn't has a MAC address.

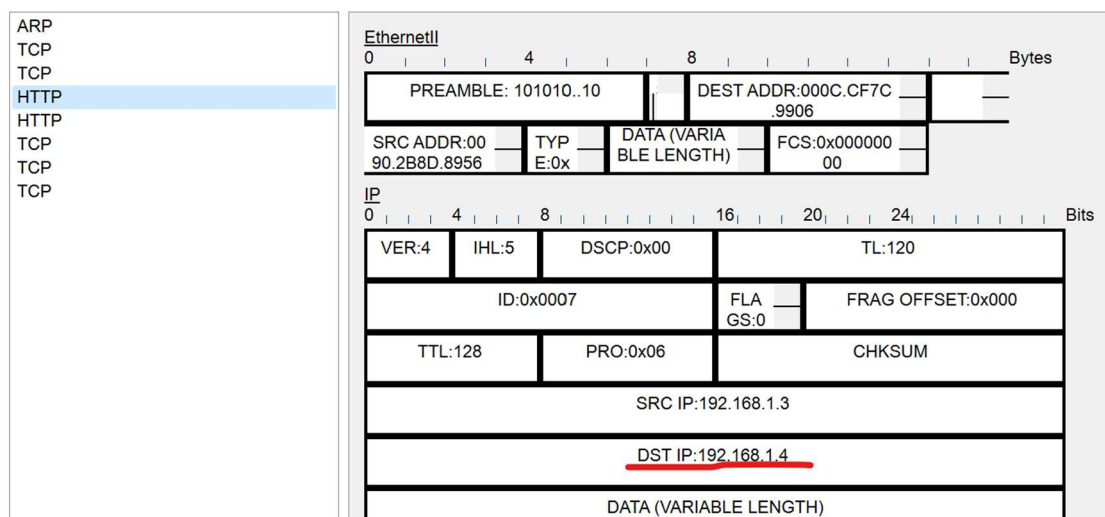
4. Does the hub use the MAC addresses on the messages that it receives?

No, it doesn't use the MAC addresses. Because when it receives the messages, it will broadcast to all devices which connected to it. So it does not need to use MAC addresses.

Question Set 2

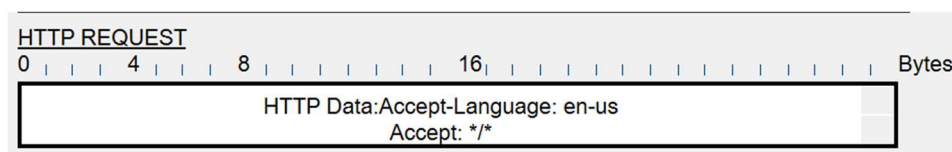
1. Can the sniffer see what websites/servers the laptop is visiting?

Yes, it can see the ip address of servers.



2. What about the content of the websites?


Yes, it can see the content of the websites.



Question Set 3

1. How many ICMP simulation events are there this time?

There are 4 ICMP messages in one request and there are 4 request during one ping command. So the total number of ICMP simulation events is 16.

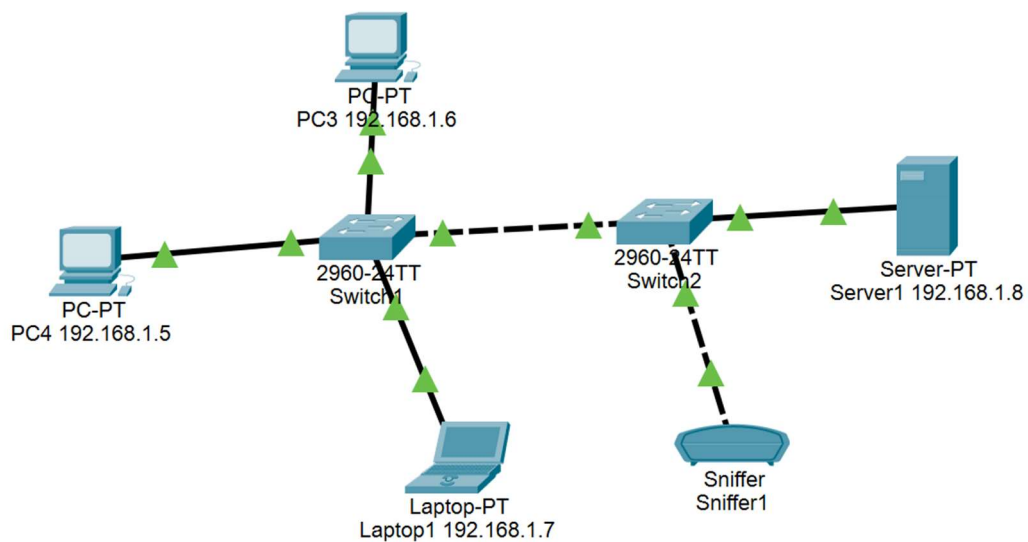
Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	PC4 192.168.1.5	ICMP
	0.001	PC4 192.168.1.5	Switch0	ICMP
	0.002	Switch0	PC3 192.168.1.6	ICMP
	0.003	PC3 192.168.1.6	Switch0	ICMP
	0.004	Switch0	PC4 192.168.1.5	ICMP
	1.005	--	PC4 192.168.1.5	ICMP
	1.006	PC4 192.168.1.5	Switch0	ICMP
	1.007	Switch0	PC3 192.168.1.6	ICMP
	1.008	PC3 192.168.1.6	Switch0	ICMP
	1.009	Switch0	PC4 192.168.1.5	ICMP
	2.010	--	PC4 192.168.1.5	ICMP
	2.011	PC4 192.168.1.5	Switch0	ICMP
	2.012	Switch0	PC3 192.168.1.6	ICMP
	2.013	PC3 192.168.1.6	Switch0	ICMP
	2.014	Switch0	PC4 192.168.1.5	ICMP
	3.016	--	PC4 192.168.1.5	ICMP
	3.017	PC4 192.168.1.5	Switch0	ICMP
	3.018	Switch0	PC3 192.168.1.6	ICMP
	3.019	PC3 192.168.1.6	Switch0	ICMP
	3.020	Switch0	PC4 192.168.1.5	ICMP

2. Contrast the behaviour in this topology with what you saw when a hub was used instead of a switch?_

When the message is delivered to hub, hub broadcasts it. But when the message is delivered to switch, switch sends it to the corresponding device based on its stored mac address and ip address.

Question Set 4

1. Does the sniffer know what web page was requested by PC3? Why
Because the switch has a mac address table that stores the Mac address of each device connected to it. When PC3 requests a web page, the switch sends the request directly to the server and not to the sniffer.
2. Perform pings from each device to every other device. Write down the contents of Switch0 and Switch1 Mac Address Tables.



```
Switch>show mac-address-table
      Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
1       000a.f340.7301    DYNAMIC   Fa0/4
1       0040.0bb6.7001    DYNAMIC   Fa0/4
1       0060.5c7e.e989    DYNAMIC   Fa0/3
1       0090.2b98.1562    DYNAMIC   Fa0/2
1       00d0.97b9.6e3c    DYNAMIC   Fa0/1
Switch>
```

```
Switch>show mac-address-table
      Mac Address Table
```

```
-----
Vlan    Mac Address      Type      Ports
----    -
1       000a.f340.7301    DYNAMIC   Fa0/2
1       000a.f3c5.8504    DYNAMIC   Fa0/1
1       0060.5c7e.e989    DYNAMIC   Fa0/1
1       0090.2b98.1562    DYNAMIC   Fa0/1
1       00d0.97b9.6e3c    DYNAMIC   Fa0/1
Switch>
```