Setup and Questions

Figure 1 shows the setup screen for exercise 1

eneral						
	automatically if your network supports eed to ask your network administrator					
Obtain an IP address autom	Obtain an IP address automatically					
 Use the following IP address 	\$					
IP address:	128 . 236 . 55 . 1					
Subnet mask:	255 . 255 . 255 . 0					
Default gateway:						
Obtain DNS server address	automatically					
 Use the following DNS serve 	er addresses:					
Preferred DNS server:						
Alternate DNS server:						
Validate settings upon exit	Advanced					

Figure 1

For Exercise 2 this report is in respect to using computer A1, Host1.

Figure 3 shows Exercise 2.1 part 2, showing the IP config command in command prompt.

```
Microsoft Windows [Version 10.0.16299.125]
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C:\Users\Authorized User>ipconfig
Windows IP Configuration

Ethernet adapter Ethernet:

Connection-specific DNS Suffix :
Link-local IPv6 Address . . : fe80::ecbd:43cd:2a6:ce6e%15
IPv4 Address . . . : 128.238.66.101
Subnet Mask . . . . : 255.255.255.0
Default Gateway . . . :

C:\Users\Authorized User>
```

Figure 3

Figure 4 and 5 show Exercise 2.1 part 3, pinging the other hosts IP address.

```
C:\Users\Authorized User>ping 128.238.66.102

Pinging 128.238.66.102 with 32 bytes of data:
Reply from 128.238.66.102: bytes=32 time<1ms TTL=128

Ping statistics for 128.238.66.102:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Authorized User>
```

Figure 4

31 59.999570	Cisco_12:5b:8†	Spanning-tree-(for-bridges)_00		60 Cont. Root = 32768/0/2c:5a:0t:12:5b:8c
32 61.389234	128.238.66.101	128.238.66.102	ICMP	74 Echo (ping) request id=0x0001, seq=499/62209, ttl=128 (reply in 33)
33 61.389884	128.238.66.102	128.238.66.101	ICMP	74 Echo (ping) reply id=0x0001, seq=499/62209, ttl=128 (request in 32)
34 61.999415	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
35 62.397075	128.238.66.101	128.238.66.102	ICMP	74 Echo (ping) request id=0x0001, seq=500/62465, ttl=128 (no response found!)
36 62.397929	128.238.66.102	128.238.66.101	ICMP	74 Echo (ping) reply id=0x0001, seq=500/62465, ttl=128 (request in 35)
37 63.412502	128.238.66.101	128.238.66.102	ICMP	74 Echo (ping) request id=0x0001, seq=501/62721, ttl=128 (reply in 38)
38 63.413368	128.238.66.102	128.238.66.101	ICMP	74 Echo (ping) reply id=0x0001, seq=501/62721, ttl=128 (request in 37)
39 63.999266	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
40 64.417921	128.238.66.101	128.238.66.102	ICMP	74 Echo (ping) request id=0x0001, seq=502/62977, ttl=128 (reply in 41)
41 64.418787	128.238.66.102	128.238.66.101	ICMP	74 Echo (ping) reply id=0x0001, seq=502/62977, ttl=128 (request in 40)
42 66.000197	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
43 66.208567	WistronI_57:51:06	WistronI_57:52:98	ARP	60 Who has 128.238.66.101? Tell 128.238.66.102
44 66.208581	WistronI 57:52:98	WistronI 57:51:06	ARP	42 128.238.66.101 is at 98:ee:cb:57:52:98
45 66.284212	WistronI 57:52:98	WistronI 57:51:06	ARP	42 Who has 128.238.66.102? Tell 128.238.66.101
46 66.285093	WistronI_57:51:06	WistronI_57:52:98	ARP	60 128.238.66.102 is at 98:ee:cb:57:51:06
47 67.998700	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
48 69,998811	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004

Figure 5

Q1: Are the two "ping" packets successful?

Yes both ways ping is successful

Q2: In the ping request packet, what is the source IP address? What is the destination IP address?

Source: 128.238.66.101 Destination: 128.238.66.102

Q3: In the reply packet, what is the source IP address? What is the destination IP address?

Source: 128.238.66.102 Destination: 128.238.66.101

Q4: List all IP header fields in the request and reply packets (or take a screenshot of them).

Figure 6 shows the screenshot for request and Figure 7 shows reply

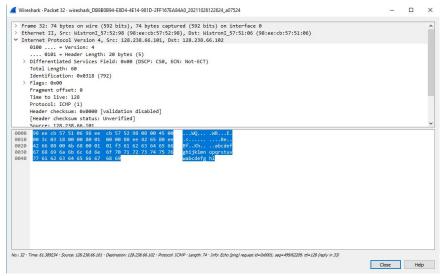


Figure 6

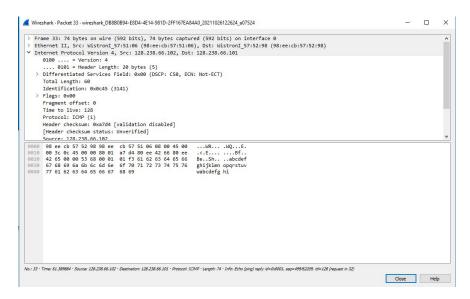


Figure 7

Q5: What is the subnet ID for host 1?

Network ID: 128.238.66.0

Q6: What is the subnet ID for host 2?

Network ID: 128.238.66.0

Figure 8 and 9 show Exercise 2.2 part 2, pinging the host (after change in Sub Mask)

```
19 18.082708 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 22 24.092381 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 22 24.092381 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 22 8.09299 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 22 8.09299 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 23 26.09287 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 23 26.09287 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 23 26.09287 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 23 26.092815 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 23 26.092816 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 23 26.092816 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 24 26.090798 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 24 26.090798 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 24 26.090798 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 24 26.090798 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Port = 0x8004 24 26.090798 Cisco [12:5b:8f Spanning-tree-(for-bridges)_08 STP 60 Conf. Root = $2758/9/2cisar6f112:5b:8c Cost = 0 Por
```

Figure 8

Figure 9

Q7: What is the subnet ID for each computer?

Host 1: 128.238.66.96 Host 2: 128.238.66.112

Q8: Are the two ping processes successful?

Both are unsuccessful due to the change in Network ID (see Figure 8 above)

Figure 10 shows the pinging of Host 2 from Host 1 in Exercise 2.3.

```
C:\Users\Authorized User>ping 128.238.66.120

Pinging 128.238.66.120 with 32 bytes of data:
Request timed out.
Ping statistics for 128.238.66.120:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\Authorized User>
```

Figure 10

Figure 11 shows Exercise 2.3, ping Host 2 with timeout

28 34.001479	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
27 32.001623	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
26 30.001744	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
25 28.001919	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
24 26.002830	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
23 24.806426	128.238.66.101	128.238.66.120	ICMP	74 Echo (ping) request id=0x0001, seq=518/1538, ttl=128 (no response found!)
22 24.559241	Cisco_12:5b:8c	Broadcast	ARP	60 Who has 128.238.66.127? Tell 128.238.66.1
21 24.558397	128.238.66.120	128.238.66.127	BROWSER	243 Local Master Announcement BRN312-02, Workstation, Server, NT Workstation, Potential Browser, Master Bro
20 24.002204	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
19 22.002383	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
18 20.002260	Cisco_12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
17 19.814650	128.238.66.101	128.238.66.120	ICMP	74 Echo (ping) request id=0x0001, seq=517/1282, ttl=128 (no response found!)
16 18.002539	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
15 16.004833	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c
14 14.814137	128.238.66.101	128.238.66.120	ICMP	74 Echo (ping) request id=0x0001, seq=516/1026, ttl=128 (no response found!)
13 14.799301	WistronI 57:51:06	WistronI 57:52:98	ARP	60 128.238.66.120 is at 98:ee:cb:57:51:06
12 14.798431	WistronI 57:52:98	WistronI 57:51:06	ARP	42 Who has 128.238.66.120? Tell 128.238.66.101
11 13.998695	Cisco_12:5b:8f	Spanning-tree-(for-bridges)_00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
10 12.393251	Cisco 12:5b:8c	Broadcast	ARP	60 Who has 128.238.66.127? Tell 128.238.66.1
9 12.382459	128.238.66.120	128.238.66.127	BROWSER	252 Domain/Workgroup Announcement WORKGROUP, NT Workstation, Domain Enum
8 11.999086	Cisco_12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
7 10.185391	128.238.66.101	128.238.66.120	ICMP	74 Echo (ping) request id=0x0001, seq=515/770, ttl=128 (no response found!)
6 9.999272	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c;5a:0f:12:5b:8c
5 7.999180	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
4 6.000335	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
3 3,999696	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004
2 1.999855	Cisco 12:5b:8f	Spanning-tree-(for-bridges) 00	STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8004

Figure 11

Figure 12 shows ping Host 1 from Host 2

```
Command Prompt
'ping128.238.66.101' is not recognized as an internal or external command, operable program or batch file.
C:\Users\Authorized User>ping128.238.66.101
 'ping128.238.66.101' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Authorized User>ping 128.238.66.101
Pinging 128.238.66.101 with 32 bytes of data:
PING: transmit failed. General failure.
Ping statistics for 128.238.66.101:
     Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\Users\Authorized User>ping 128.238.66.101
Pinging 128.238.66.101 with 32 bytes of data:
PING: transmit failed. General failure.
Ping statistics for 128.238.66.101:
     Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\Users\Authorized User>
```

Figure 12

	Figure 13	re 13 shows Exercise 2.3, ping Host 1 with failure					
1 0.000000	Cisco 12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
2 1.999810	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
3 4.000489	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
4 5.999500	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
5 7.999380	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
6 9.999078	Cisco 12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
7 11.999075	Cisco 12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c				
8 13.999634	Cisco 12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
9 15.998586	Cisco 12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
10 17.998413	Cisco 12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
11 19.582294	128.238.66.120	128.238.66.127 NBNS	92 Name query NB BRN312-02<1c>				
12 19.583071	Cisco_12:5b:8c	Broadcast ARP	60 Who has 128.238.66.127? Tell 128.238.66.1				
13 19.998266	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c				
14 20.326337	128.238.66.120	128.238.66.127 NBNS	92 Name query NB BRN312-02<1c>				
15 21.092031	128.238.66.120	128.238.66.127 NBNS	92 Name query NB BRN312-02<1c>				
16 21.998323	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
17 24.004224	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
18 26.002047	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
19 28.001917	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
20 30.001795	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
21 32.001538	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
22 34.002255	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
23 36.001305	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
24 38.001092	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
25 40.000972	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
26 42.000681	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
27 44.001341	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
28 46.000622	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
29 48.000506	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
30 50.000324	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
31 52.000169	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
32 54.001145	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
33 55.999895	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
34 57.999719	Cisco_12:5b:8d	Spanning-tree-(for STP	60 Conf. Root = 32768/0/2c:5a:0f:12:5b:8c Cost = 0 Port = 0x8002				
35 59 999631	Cisco 12:5h:8d	Spanning-tree-(for- STP	60 Conf Root = 32768/0/2c.5a.0f.12.5h.8c Cost = 0 Port = 0x8002				

Figure 13

Q9: What is the subnet ID for each computer?

Host 1: 128.238.66.0 Host 2: 128.238.66.112

Q10: Can Host 1 send the ping request? Is the "ping" process successful? Why?

Yes the request can be sent, however, it is not successful and there is a timeout.

Q11: Can Host 2 send the ping request? Is the "ping" process successful? Why?

No. The request in not sent at all, hence, the ping process is unsuccessful.