

Câu 1:

a) Username : 07cm

Password: 654321

1	0.000000	10.0.0.1	10.0.0.123	TCP	66 49728 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=1 SACK_PERM=1
2	0.005068	10.0.0.123	10.0.0.1	TCP	66 21 → 49728 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
3	0.005723	10.0.0.1	10.0.0.123	TCP	60 49728 → 21 [ACK] Seq=1 Ack=1 Win=8192 Len=0
4	0.024081	10.0.0.123	10.0.0.1	FTP	103 Response: 220 Serv-U FTP Server v6.3 for WinSock ready...
5	0.215259	10.0.0.1	10.0.0.123	TCP	60 49728 → 21 [ACK] Seq=1 Ack=50 Win=8143 Len=0
6	4.932741	10.0.0.1	10.0.0.123	FTP	65 Request: USER 07cm
7	4.938077	10.0.0.123	10.0.0.1	FTP	90 Response: 331 User name okay, need password.
8	5.130926	10.0.0.1	10.0.0.123	TCP	60 49728 → 21 [ACK] Seq=12 Ack=86 Win=8107 Len=0
9	8.403728	10.0.0.1	10.0.0.123	FTP	67 Request: PASS 654321
10	8.404645	10.0.0.123	10.0.0.1	FTP	84 Response: 230 User logged in, proceed.
11	8.598152	10.0.0.1	10.0.0.123	TCP	60 49728 → 21 [ACK] Seq=25 Ack=116 Win=8077 Len=0
12	8.763882	10.0.0.1	10.0.0.255	NBNS	92 Name query NB 172.29.64.158<20>
13	8.934621	10.0.0.123	10.0.0.1	TCP	62 1049 → 139 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1

b) Địa chỉ IP của client: 10.0.0.1

Địa chỉ IP của server: 10.0.0.123

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	10.0.0.1	10.0.0.123	TCP	66	49728 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=1 SACK_PERM=1
2	0.005068	10.0.0.123	10.0.0.1	TCP	66	21 → 49728 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
3	0.005723	10.0.0.1	10.0.0.123	TCP	60	49728 → 21 [ACK] Seq=1 Ack=1 Win=8192 Len=0
4	0.024081	10.0.0.123	10.0.0.1	FTP	103	Response: 220 Serv-U FTP Server v6.3 for WinSock ready...
5	0.215259	10.0.0.1	10.0.0.123	TCP	60	49728 → 21 [ACK] Seq=1 Ack=50 Win=8143 Len=0
6	4.932741	10.0.0.1	10.0.0.123	FTP	65	Request: USER 07cm
7	4.938077	10.0.0.123	10.0.0.1	FTP	90	Response: 331 User name okay, need password.
8	5.130926	10.0.0.1	10.0.0.123	TCP	60	49728 → 21 [ACK] Seq=12 Ack=86 Win=8107 Len=0
9	8.403728	10.0.0.1	10.0.0.123	FTP	67	Request: PASS 654321
10	8.404645	10.0.0.123	10.0.0.1	FTP	84	Response: 230 User logged in, proceed.
11	8.598152	10.0.0.1	10.0.0.123	TCP	60	49728 → 21 [ACK] Seq=25 Ack=116 Win=8077 Len=0
12	8.763882	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.64.158<20>
13	8.934621	10.0.0.123	10.0.0.1	TCP	62	1049 → 139 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1

Client gửi gói SYN tới server.

c) Client truy xuất lên server theo mode active vì server truyền dữ liệu cho client bằng port 20.

No.	Time	Source	Destination	Protocol	Length	Info
67	25.260044	10.0.0.123	10.0.0.1	TCP	62	20 → 49733 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1
68	25.260306	10.0.0.1	10.0.0.123	TCP	62	49733 → 20 [SYN, ACK] Seq=0 Ack=1 Win=8192 Len=0 MSS=1460 SACK_PERM=1
69	25.260488	10.0.0.123	10.0.0.1	TCP	54	20 → 49733 [ACK] Seq=1 Ack=1 Win=65535 Len=0
70	25.261565	10.0.0.123	10.0.0.1	FTP-DAL	1514	FTP Data: 1460 bytes (PORT) (LIST)
71	25.261830	10.0.0.123	10.0.0.1	FTP-DAL	264	FTP Data: 210 bytes (PORT) (LIST)
72	25.261941	10.0.0.1	10.0.0.123	TCP	60	49733 → 20 [ACK] Seq=1 Ack=1671 Win=64240 Len=0
73	25.262079	10.0.0.123	10.0.0.1	TCP	54	20 → 49733 [FIN, ACK] Seq=1671 Ack=1 Win=65535 Len=0
74	25.262183	10.0.0.1	10.0.0.123	TCP	60	49733 → 20 [ACK] Seq=1 Ack=1672 Win=64240 Len=0
75	25.262435	10.0.0.123	10.0.0.1	FTP	107	Response: 150 Opening ASCII mode data connection for /bin/ls.
76	25.272864	10.0.0.1	10.0.0.123	TCP	60	49733 → 20 [FIN, ACK] Seq=1 Ack=1672 Win=64240 Len=0
77	25.272939	10.0.0.123	10.0.0.1	TCP	54	20 → 49733 [ACK] Seq=1672 Ack=2 Win=65535 Len=0
78	25.446114	10.0.0.1	10.0.0.123	TCP	60	49728 → 21 [ACK] Seq=53 Ack=199 Win=7994 Len=0
79	25.446310	10.0.0.123	10.0.0.1	FTP	78	Response: 226 Transfer complete.

d) Port truyền dữ liệu của FTP sever: 20

Port nhận dữ liệu của client: 49733

No.	Time	Source	Destination	Protocol	Length	Info
67	25.260044	10.0.0.123	10.0.0.1	TCP	62	20 → 49733 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1
68	25.260306	10.0.0.1	10.0.0.123	TCP	62	49733 → 20 [SYN, ACK] Seq=0 Ack=1 Win=8192 Len=0 MSS=1460 SACK_PERM=1
69	25.260488	10.0.0.123	10.0.0.1	TCP	54	20 → 49733 [ACK] Seq=1 Ack=1 Win=65535 Len=0
70	25.261565	10.0.0.123	10.0.0.1	FTP-DAL	1514	FTP Data: 1460 bytes (PORT) (LIST)
71	25.261830	10.0.0.123	10.0.0.1	FTP-DAL	264	FTP Data: 210 bytes (PORT) (LIST)
72	25.261941	10.0.0.1	10.0.0.123	TCP	60	49733 → 20 [ACK] Seq=1 Ack=1671 Win=64240 Len=0
73	25.262079	10.0.0.123	10.0.0.1	TCP	54	20 → 49733 [FIN, ACK] Seq=1671 Ack=1 Win=65535 Len=0
74	25.262183	10.0.0.1	10.0.0.123	TCP	60	49733 → 20 [ACK] Seq=1 Ack=1672 Win=64240 Len=0
75	25.262435	10.0.0.123	10.0.0.1	FTP	107	Response: 150 Opening ASCII mode data connection for /bin/ls.
76	25.272864	10.0.0.1	10.0.0.123	TCP	60	49733 → 20 [FIN, ACK] Seq=1 Ack=1672 Win=64240 Len=0
77	25.272939	10.0.0.123	10.0.0.1	TCP	54	20 → 49733 [ACK] Seq=1672 Ack=2 Win=65535 Len=0
78	25.446114	10.0.0.1	10.0.0.123	TCP	60	49728 → 21 [ACK] Seq=53 Ack=199 Win=7994 Len=0
79	25.446310	10.0.0.123	10.0.0.1	FTP	78	Response: 226 Transfer complete.

Câu 2:

a) FTP sử dụng giao thức TCP.

No.	Time	Source	Destination	Protocol	Length	Info
6	11.428823	10.0.0.1	10.0.0.224	TCP	66	49788 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1
7	11.428985	10.0.0.224	10.0.0.1	TCP	66	21 → 49788 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
8	11.429211	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=1 Win=65700 Len=0
9	11.431999	10.0.0.224	10.0.0.1	FTP	103	Response: 220 Serv-U FTP Server v6.3 for WinSock ready...
10	11.615330	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=50 Win=65648 Len=0
11	12.192785	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
12	12.730270	10.0.0.1	10.0.0.224	FTP	70	Request: USER anonymous
13	12.731818	10.0.0.224	10.0.0.1	FTP	124	Response: 331 User name okay, please send complete E-mail address as password.
14	12.848222	10.0.0.1	10.0.0.224	FTP	80	Request: PASS mozilla@example.com
15	12.849323	10.0.0.224	10.0.0.1	FTP	95	Response: 530 Sorry, no ANONYMOUS access allowed.
16	13.077727	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=43 Ack=161 Win=65540 Len=0
17	21.836141	10.0.0.1	10.0.0.224	FTP	65	Request: USER cm07
18	21.837661	10.0.0.224	10.0.0.1	FTP	90	Response: 331 User name okay, need password.

b) Port mặc định của FTP sever để nhận kết nối là port 21.

No.	Time	Source	Destination	Protocol	Length	Info
6	11.428823	10.0.0.1	10.0.0.224	TCP	66	49788 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1
7	11.428985	10.0.0.224	10.0.0.1	TCP	66	21 → 49788 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
8	11.429211	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=1 Win=65700 Len=0
9	11.431999	10.0.0.224	10.0.0.1	FTP	103	Response: 220 Serv-U FTP Server v6.3 for WinSock ready...
10	11.615330	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=50 Win=65648 Len=0
11	12.192785	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
12	12.730270	10.0.0.1	10.0.0.224	FTP	70	Request: USER anonymous
13	12.731818	10.0.0.224	10.0.0.1	FTP	124	Response: 331 User name okay, please send complete E-mail address as password.
14	12.848222	10.0.0.1	10.0.0.224	FTP	80	Request: PASS mozilla@example.com
15	12.849323	10.0.0.224	10.0.0.1	FTP	95	Response: 530 Sorry, no ANONYMOUS access allowed.
16	13.077727	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=43 Ack=161 Win=65540 Len=0
17	21.836141	10.0.0.1	10.0.0.224	FTP	65	Request: USER cm07
18	21.837661	10.0.0.224	10.0.0.1	FTP	90	Response: 331 User name okay, need password.

c) Username: cm07

Password: 123654

No.	Time	Source	Destination	Protocol	Length	Info
9	11.431999	10.0.0.224	10.0.0.1	FTP	103	Response: 220 Serv-U FTP Server v6.3 for WinSock ready...
10	11.615330	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=50 Win=65648 Len=0
11	12.192785	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
12	12.730270	10.0.0.1	10.0.0.224	FTP	70	Request: USER anonymous
13	12.731818	10.0.0.224	10.0.0.1	FTP	124	Response: 331 User name okay, please send complete E-mail address as password.
14	12.848222	10.0.0.1	10.0.0.224	FTP	80	Request: PASS mozilla@example.com
15	12.849323	10.0.0.224	10.0.0.1	FTP	95	Response: 530 Sorry, no ANONYMOUS access allowed.
16	13.077727	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=43 Ack=161 Win=65540 Len=0
17	21.836141	10.0.0.1	10.0.0.224	FTP	65	Request: USER cm07
18	21.837661	10.0.0.224	10.0.0.1	FTP	90	Response: 331 User name okay, need password.
19	21.985232	10.0.0.1	10.0.0.224	FTP	67	Request: PASS 123654
20	21.986163	10.0.0.224	10.0.0.1	FTP	84	Response: 230 User logged in, proceed.
21	21.935646	10.0.0.1	10.0.0.224	FTP	60	Request: SYST

d) Port truyền lệnh của client là : 49788

No.	Time	Source	Destination	Protocol	Length	Info
6	11.428823	10.0.0.1	10.0.0.224	TCP	66	49788 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1
7	11.428985	10.0.0.224	10.0.0.1	TCP	66	21 → 49788 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
8	11.429211	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=1 Win=65700 Len=0
9	11.431999	10.0.0.224	10.0.0.1	FTP	103	Response: 220 Serv-U FTP Server v6.3 for WinSock ready...
10	11.615330	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=50 Win=65648 Len=0
11	12.192785	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
12	12.730270	10.0.0.1	10.0.0.224	FTP	70	Request: USER anonymous
13	12.731818	10.0.0.224	10.0.0.1	FTP	124	Response: 331 User name okay, please send complete E-mail address as password.
14	12.848222	10.0.0.1	10.0.0.224	FTP	80	Request: PASS mozilla@example.com
15	12.849323	10.0.0.224	10.0.0.1	FTP	95	Response: 530 Sorry, no ANONYMOUS access allowed.
16	13.077727	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=43 Ack=161 Win=65540 Len=0
17	21.836141	10.0.0.1	10.0.0.224	FTP	65	Request: USER cm07
18	21.837661	10.0.0.224	10.0.0.1	FTP	90	Response: 331 User name okay, need password.

e) Client truy xuất lên sever theo mode passive.

No.	Time	Source	Destination	Protocol	Length	Info
33	21.986491	10.0.0.1	10.0.0.224	FTP	62	Request: MDTM /
34	21.986571	10.0.0.1	10.0.0.224	TCP	60	49791 → 5001 [ACK] Seq=1 Ack=1 Win=65700 Len=0
35	21.987586	10.0.0.224	10.0.0.1	FTP	74	Response: 213 20090903103505
36	21.988569	10.0.0.1	10.0.0.224	FTP	62	Request: RETR /
37	21.989338	10.0.0.224	10.0.0.1	FTP	89	Response: 550 /: No such file or directory.
38	21.990088	10.0.0.1	10.0.0.224	FTP	60	Request: PASV
39	21.994321	10.0.0.224	10.0.0.1	TCP	54	5001 → 49791 [FIN, ACK] Seq=1 Ack=1 Win=65535 Len=0
40	22.000601	10.0.0.1	10.0.0.224	TCP	60	49791 → 5001 [ACK] Seq=1 Ack=2 Win=65700 Len=0
41	22.000622	10.0.0.1	10.0.0.224	TCP	60	49791 → 5001 [FIN, ACK] Seq=1 Ack=2 Win=65700 Len=0
42	22.000683	10.0.0.224	10.0.0.1	TCP	54	5001 → 49791 [ACK] Seq=2 Ack=2 Win=65535 Len=0
43	22.004074	10.0.0.224	10.0.0.1	FTP	101	Response: 227 Entering Passive Mode (10,0,0,224,19,138)
44	22.006056	10.0.0.1	10.0.0.224	FTP	61	Request: QUIT /
45	22.006724	10.0.0.1	10.0.0.224	TCP	66	49792 → 5002 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1

f) Quá trình bắt tay 3 bước của Client và Server để tạo kết nối ban đầu khi thực hiện truyền username và password

No.	Time	Source	Destination	Protocol	Length	Info
10	11.615330	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=50 Win=65648 Len=0
11	12.192785	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
12	12.730270	10.0.0.1	10.0.0.224	FTP	70	Request: USER anonymous
13	12.731818	10.0.0.224	10.0.0.1	FTP	124	Response: 331 User name okay, please send complete E-mail address as password.
14	12.848222	10.0.0.1	10.0.0.224	FTP	80	Request: PASS mozilla@example.com
15	12.849323	10.0.0.224	10.0.0.1	FTP	95	Response: 530 Sorry, no ANONYMOUS access allowed.
16	13.077227	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=43 Ack=161 Win=65540 Len=0
17	21.836141	10.0.0.1	10.0.0.224	FTP	65	Request: USER cm07
18	21.837661	10.0.0.224	10.0.0.1	FTP	90	Response: 331 User name okay, need password.
19	21.905232	10.0.0.1	10.0.0.224	FTP	67	Request: PASS 123654
20	21.906163	10.0.0.224	10.0.0.1	FTP	84	Response: 230 User logged in, proceed.
21	21.935445	10.0.0.1	10.0.0.224	FTP	60	Request: SYS
22	21.936236	10.0.0.224	10.0.0.1	FTP	73	Response: 215 UNIX Type: L8

Đầu tiên client gửi username -> server.

Server response "Username okay, need password" tức là đã nhận được username và username có nằm trong tập Username của server -> Client

Client gửi password -> server

Server response "User logged in, proceed" tức là đã nhận được mật khẩu và mật khẩu chính xác với username đã nhập nên tiến hành xử lý -> Client

g) Quá trình bắt tay 3 bước của Client và Server để tạo kết nối truyền dữ liệu:

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.64.158<20>
2	0.717986	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.64.158<20>
3	1.499686	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.64.158<20>
4	10.665285	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
5	11.415085	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
6	11.428823	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1
7	11.428985	10.0.0.224	10.0.0.1	TCP	66	21 → 49788 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
8	11.429211	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=1 Win=65700 Len=0
9	11.431999	10.0.0.224	10.0.0.1	FTP	101	Response: 220 Serv-U FTP Server v0.3 for WinSock ready...
10	11.615330	10.0.0.1	10.0.0.224	TCP	60	49788 → 21 [ACK] Seq=1 Ack=50 Win=65648 Len=0
11	12.192785	10.0.0.1	10.0.0.255	NBNS	92	Name query NB 172.29.70.4<20>
12	12.730270	10.0.0.1	10.0.0.224	FTP	70	Request: USER anonymous
13	12.731818	10.0.0.224	10.0.0.1	FTP	124	Response: 331 User name okay, please send complete E-mail address as password.

Client gửi 1 gói SYN → Server

Server gửi lại gói SYN,ACK → Client (báo cho client biết là server đã nhận được gói SYN và gửi lại gói SYN)

Client gửi lại gói ACK → Server (Thông báo đã nhận được cho Server)

h) Port truyền dữ liệu của FTP sever : 5002

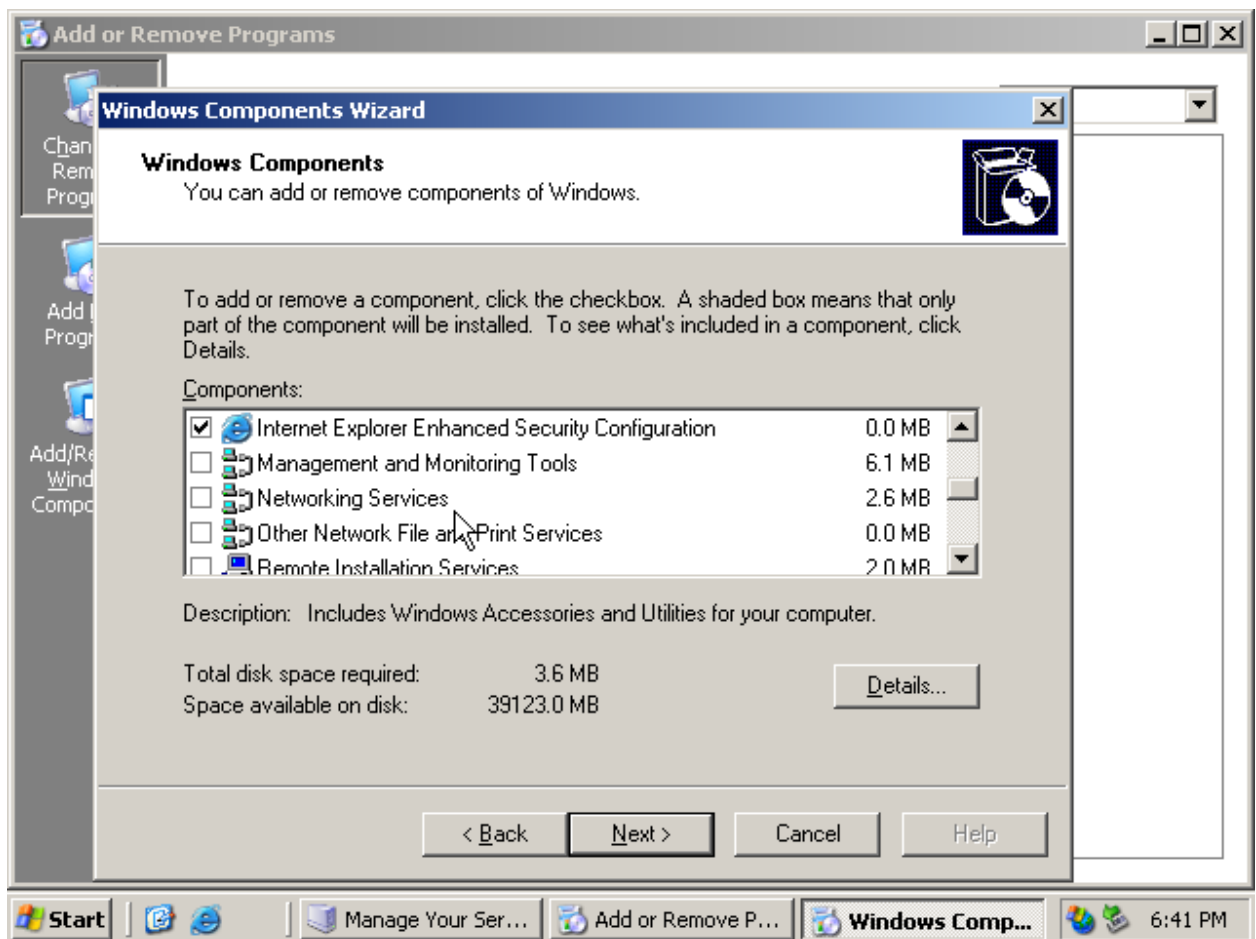
Port truyền dữ liệu của client: 49792

No.	Time	Source	Destination	Protocol	Length	Info
40	22.000601	10.0.0.1	10.0.0.224	TCP	60	49791 → 5001 [ACK] Seq=1 Ack=2 Win=65700 Len=0
41	22.000622	10.0.0.1	10.0.0.224	TCP	60	49791 → 5001 [FIN, ACK] Seq=1 Ack=2 Win=65700 Len=0
42	22.000683	10.0.0.224	10.0.0.1	TCP	54	5001 → 49791 [ACK] Seq=2 Ack=2 Win=65535 Len=0
43	22.004874	10.0.0.224	10.0.0.1	FTP	101	Response: 227 Entering Passive Mode (10,0,0,224,19,138)
44	22.006056	10.0.0.1	10.0.0.224	FTP	61	Request: CWD /
45	22.006724	10.0.0.1	10.0.0.224	TCP	66	49792 → 5002 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=4 SACK_PERM=1
46	22.006758	10.0.0.224	10.0.0.1	TCP	66	5002 → 49792 [SYN, ACK] Seq=0 Ack=1 Win=16384 Len=0 MSS=1460 WS=1 SACK_PERM=1
47	22.006960	10.0.0.1	10.0.0.224	TCP	60	49792 → 5002 [ACK] Seq=1 Ack=1 Win=65700 Len=0
48	22.007298	10.0.0.224	10.0.0.1	FTP	82	Response: 250 Directory changed to /
49	22.007714	10.0.0.1	10.0.0.224	FTP	60	Request: LIST
50	22.011258	10.0.0.224	10.0.0.1	FTP-DATA	1514	FTP Data: 1460 bytes (PASV) (CMD /)
51	22.011398	10.0.0.224	10.0.0.1	FTP-DATA	264	FTP Data: 210 bytes (PASV) (CMD /)
52	22.011496	10.0.0.1	10.0.0.224	TCP	60	49792 → 5002 [ACK] Seq=1 Ack=1671 Win=65700 Len=0

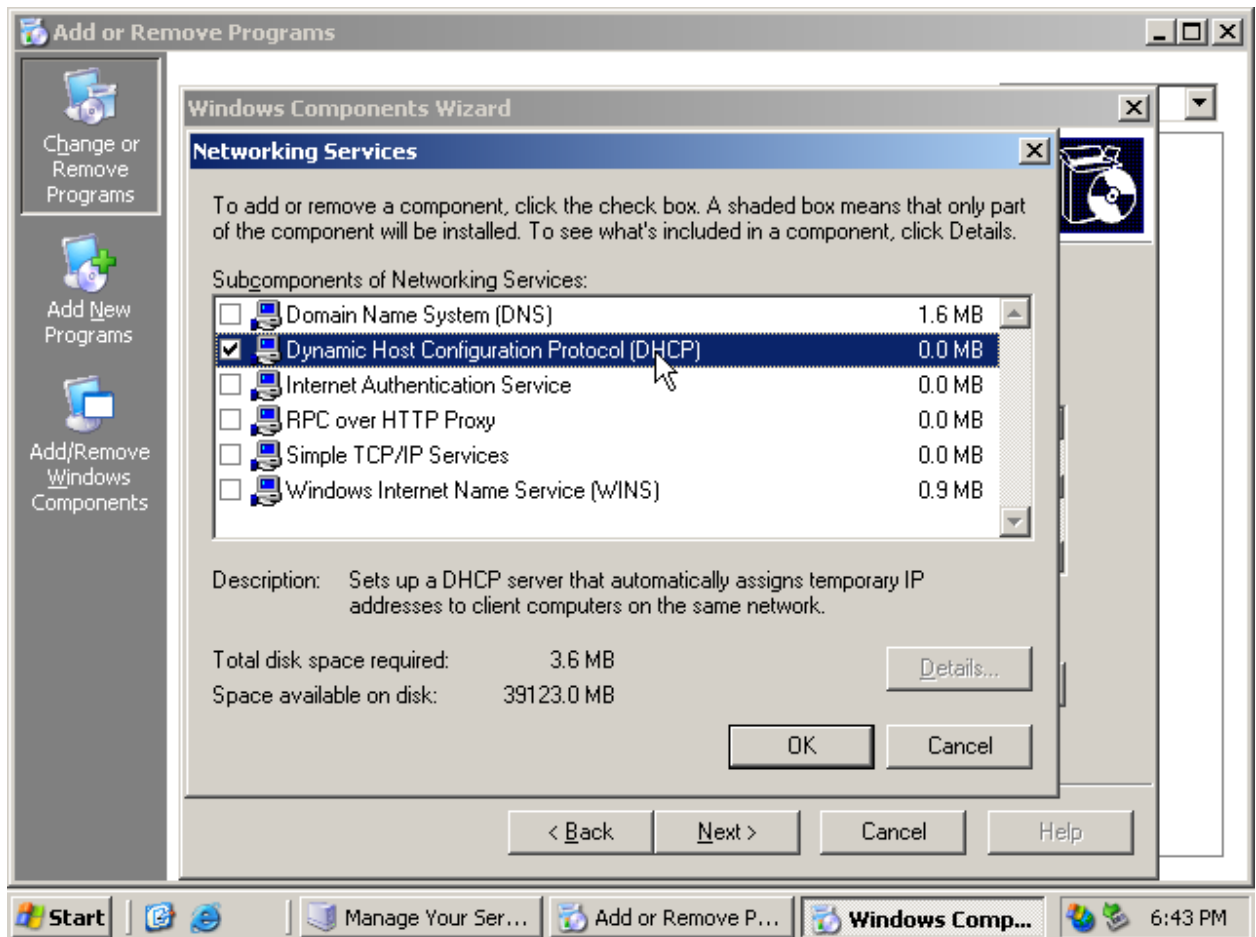
Câu 3:

a)

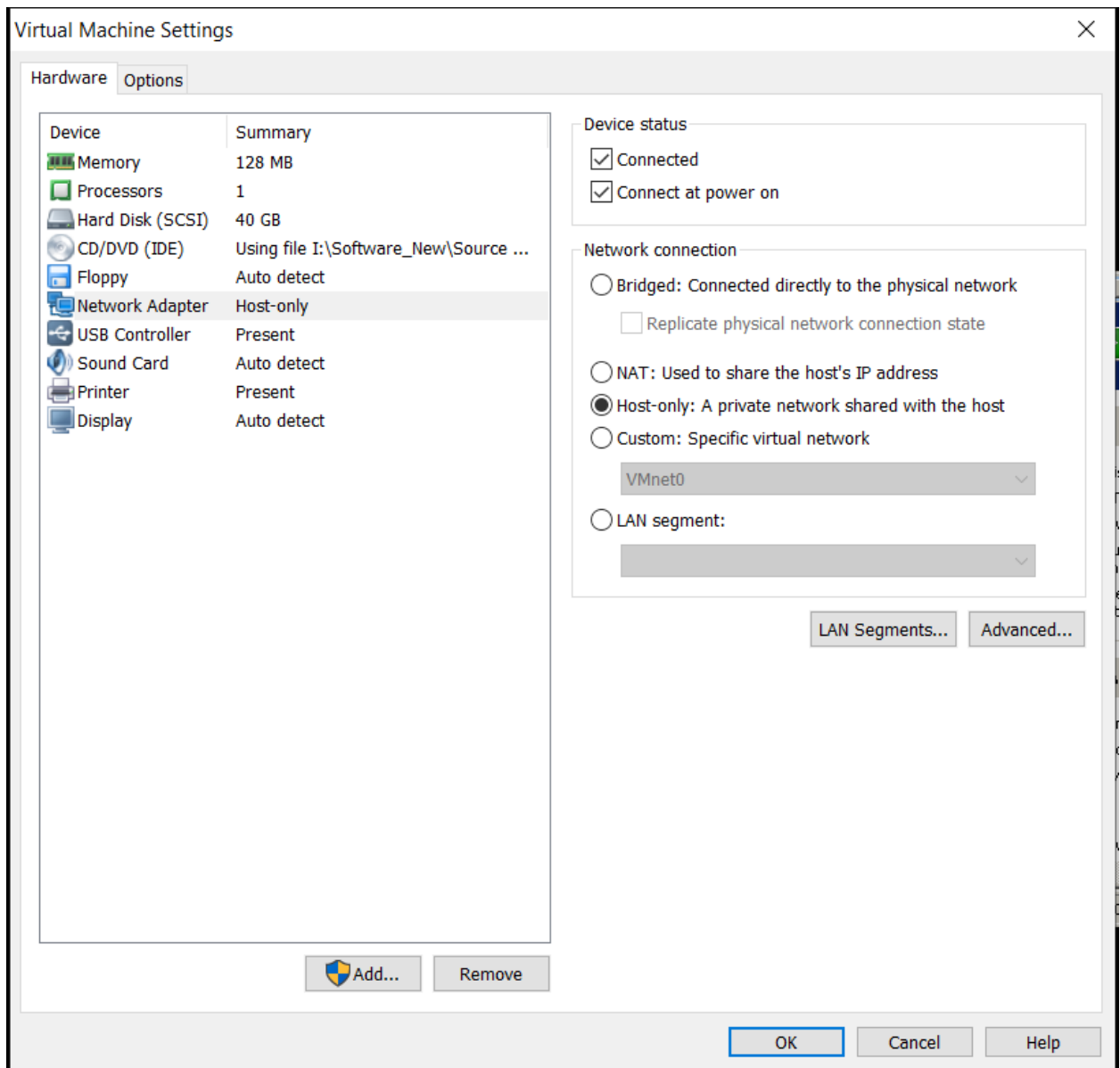
Chọn control panel-> chọn add or remove program -> chọn add/remove windows componet -> chọn networking severvice



Trong networking services chọn dynamic host configuration protocol -> chọn Ok-
> bấm next ở ở Windows Componets Wizard để cài



Trên máy thiết lập network adapter là host only.



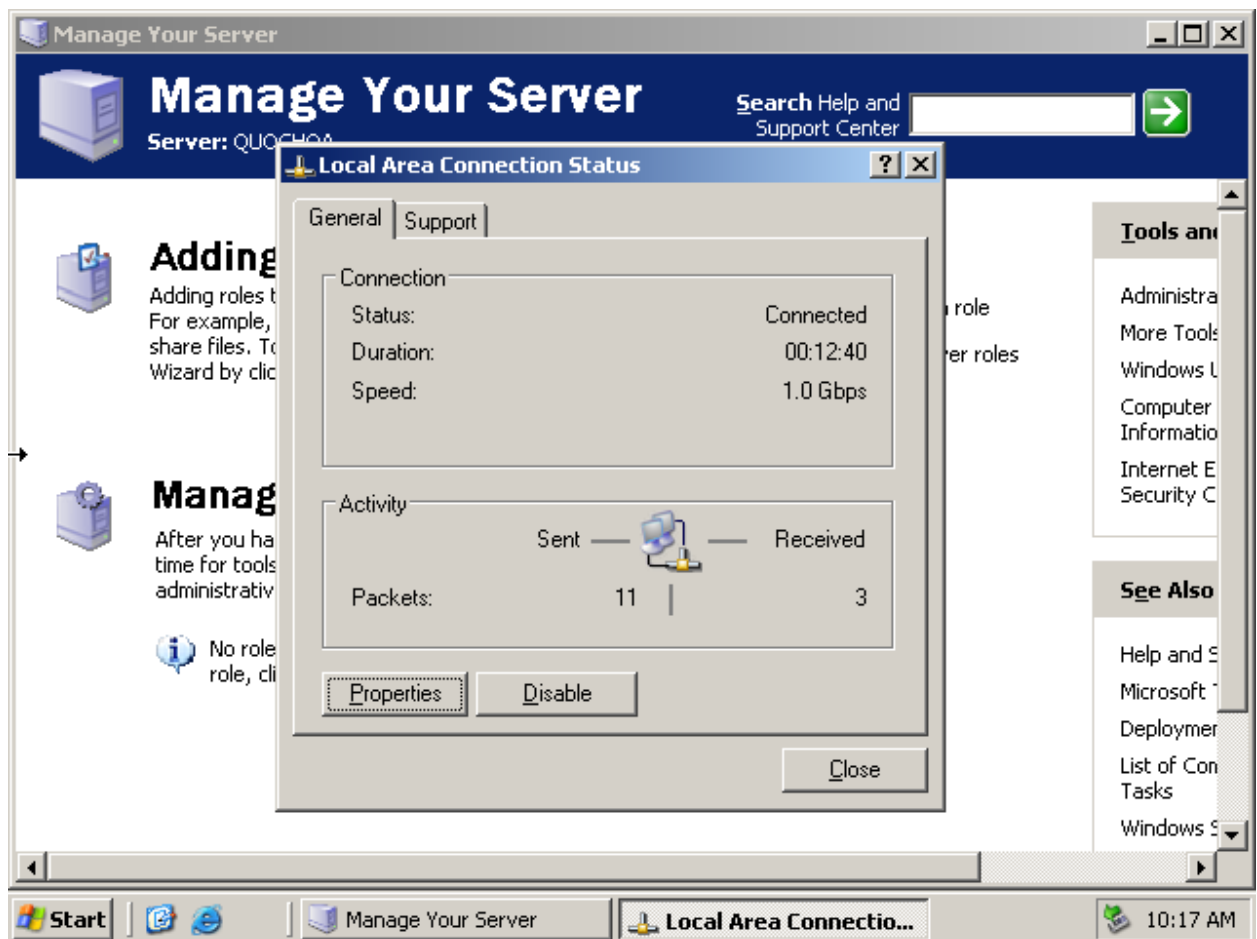
Thiết lập Host-only ở phần network adapter.

b,e,f) Cấu hình địa chỉ IP tĩnh cho máy làm DHCP sever : 192.168.58.2/24 (58 là mã số sinh viên của sinh viên)

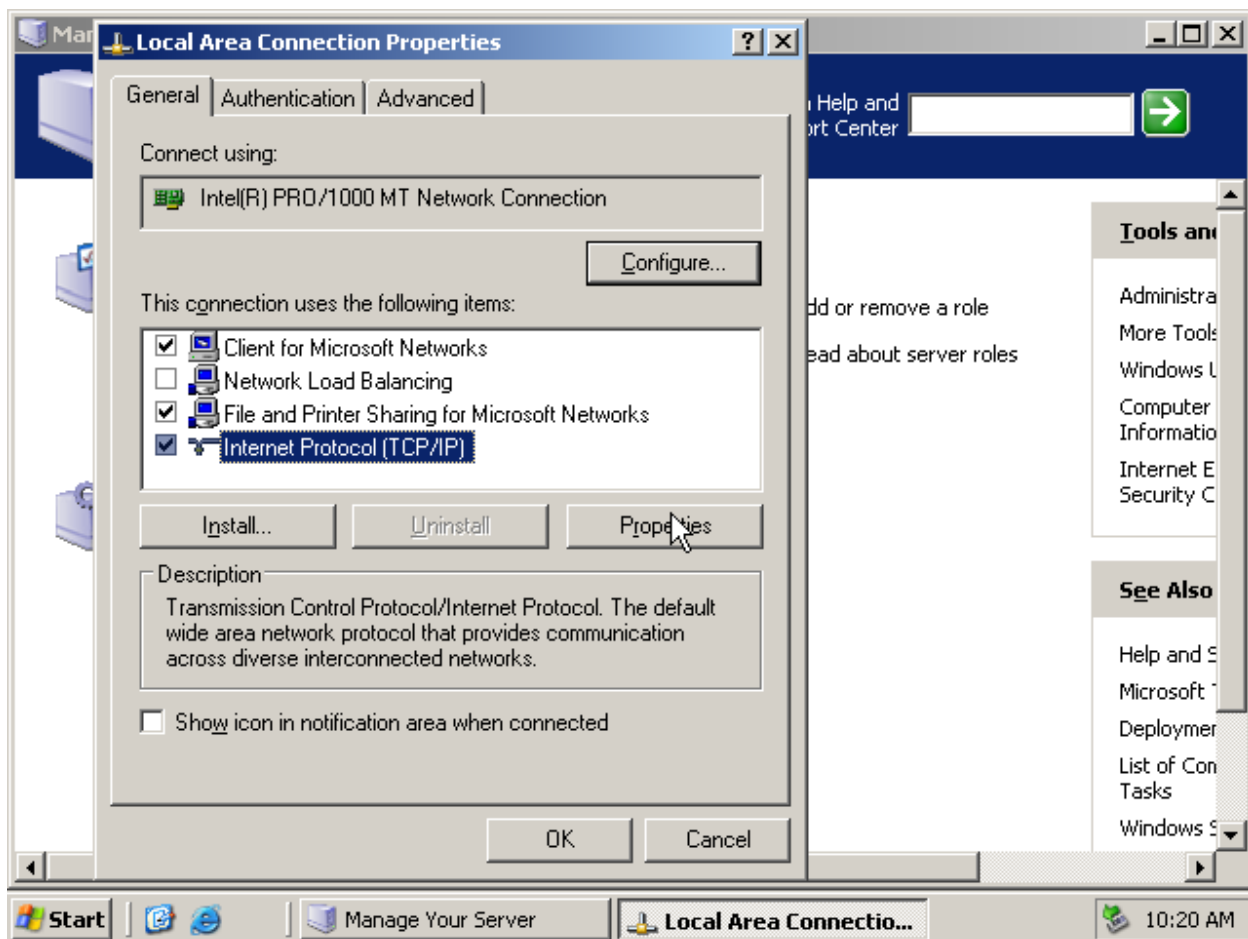
B1: Vào control panel -> chọn network connection -> chọn local area network connection



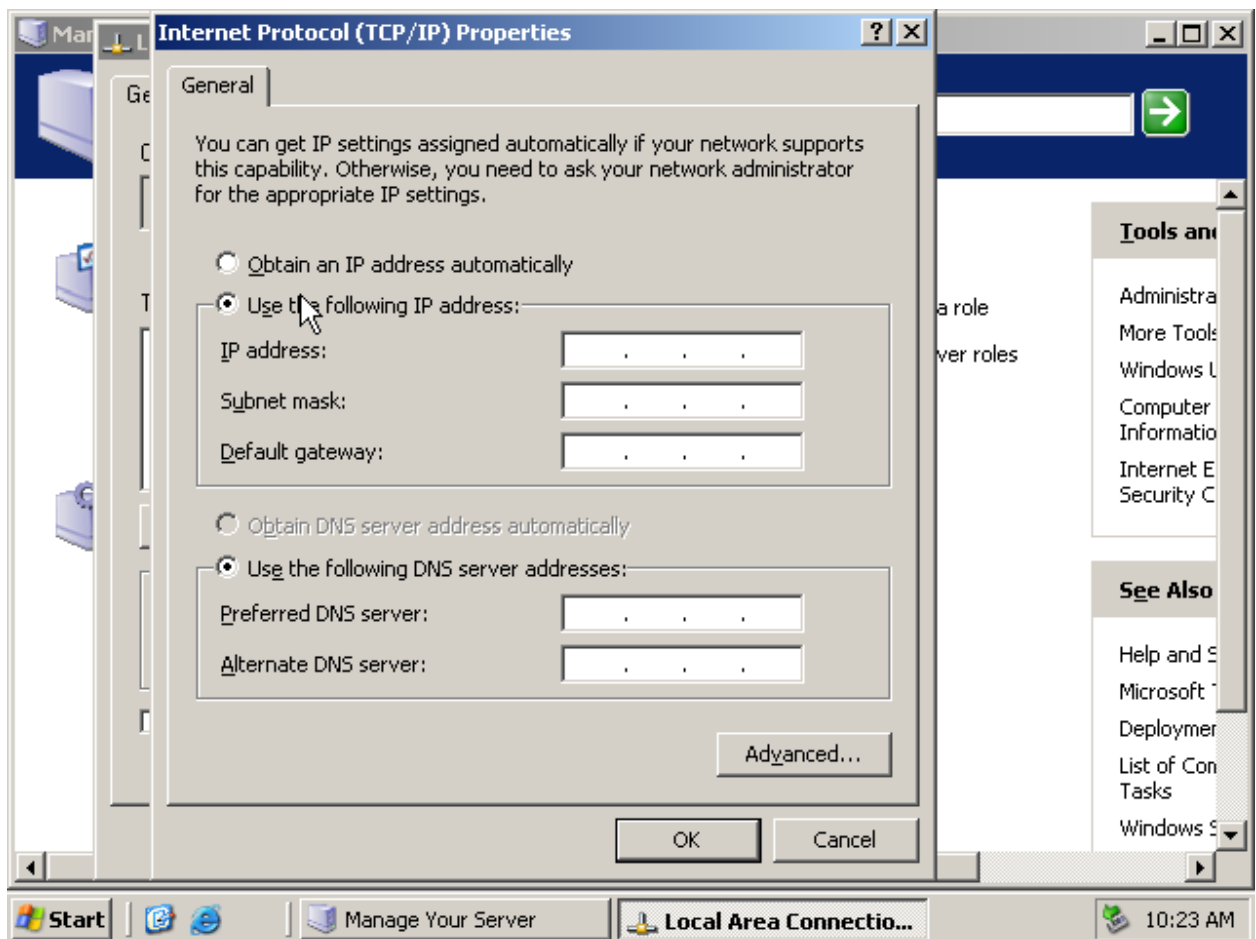
B2: Trong local area connection chọn properties



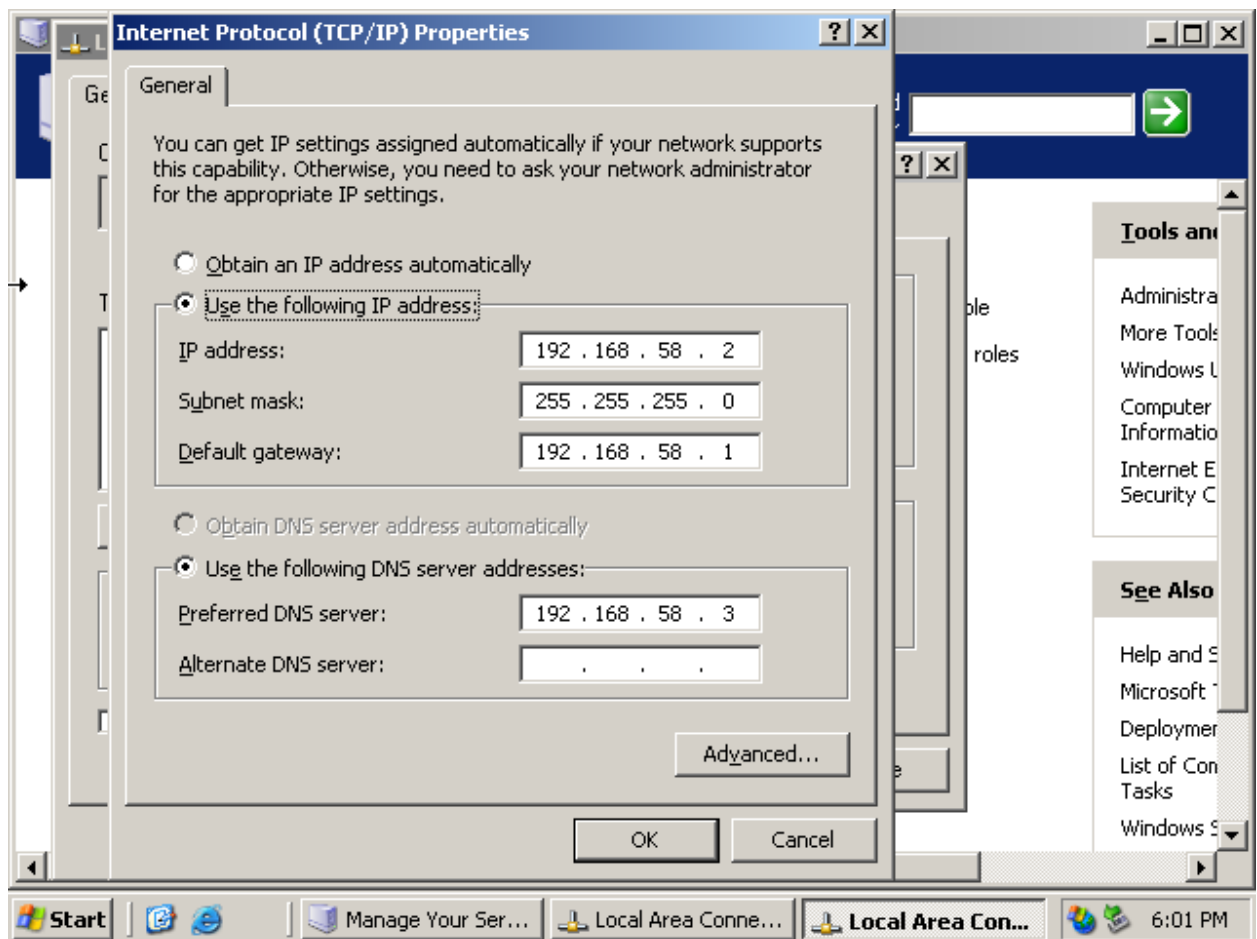
B3: Trong local area connection properties chọn internet protocol rồi chọn properties



B4: Chọn use the following IP address rồi điền địa chỉ IP theo yêu cầu.



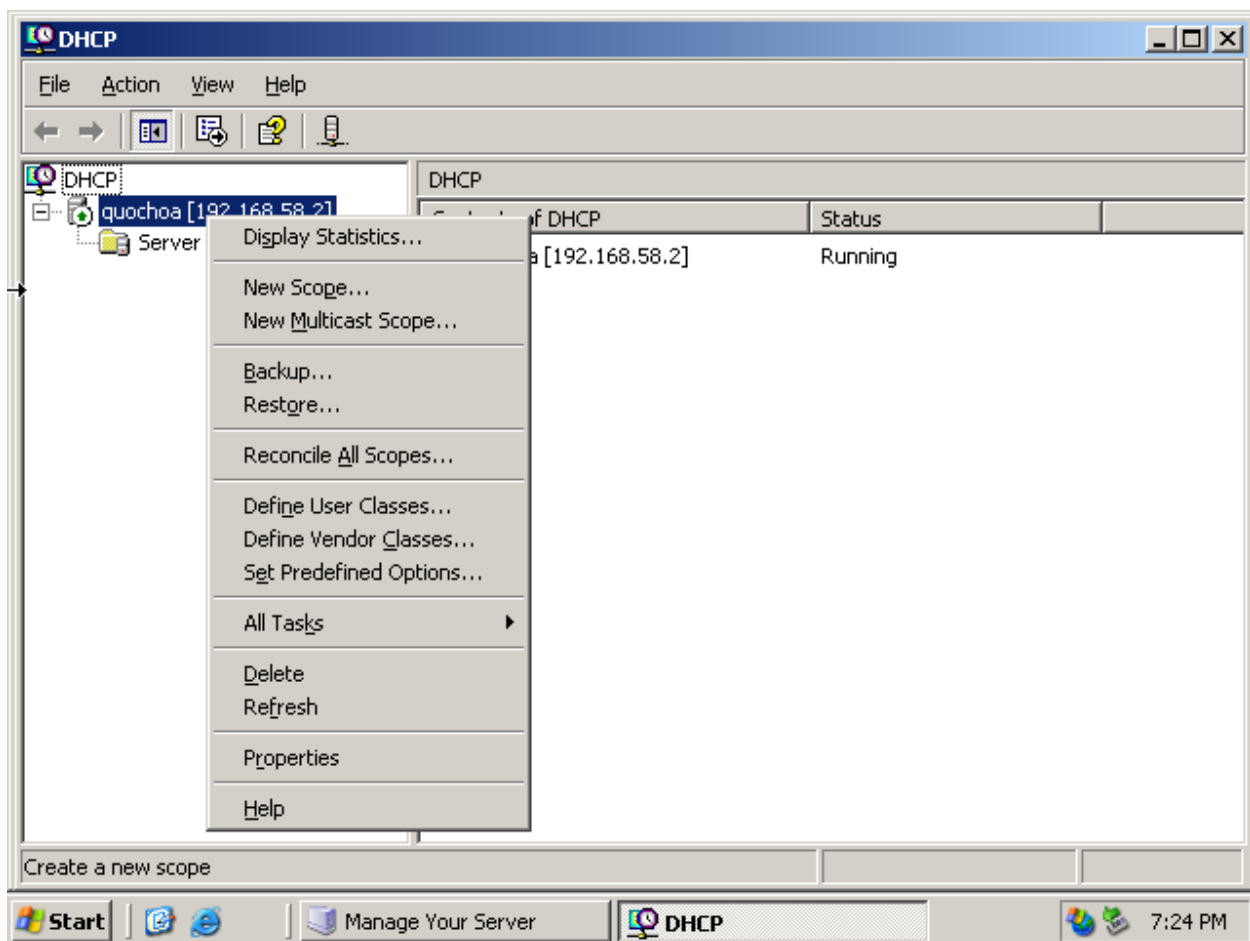
Chọn use the following IP address



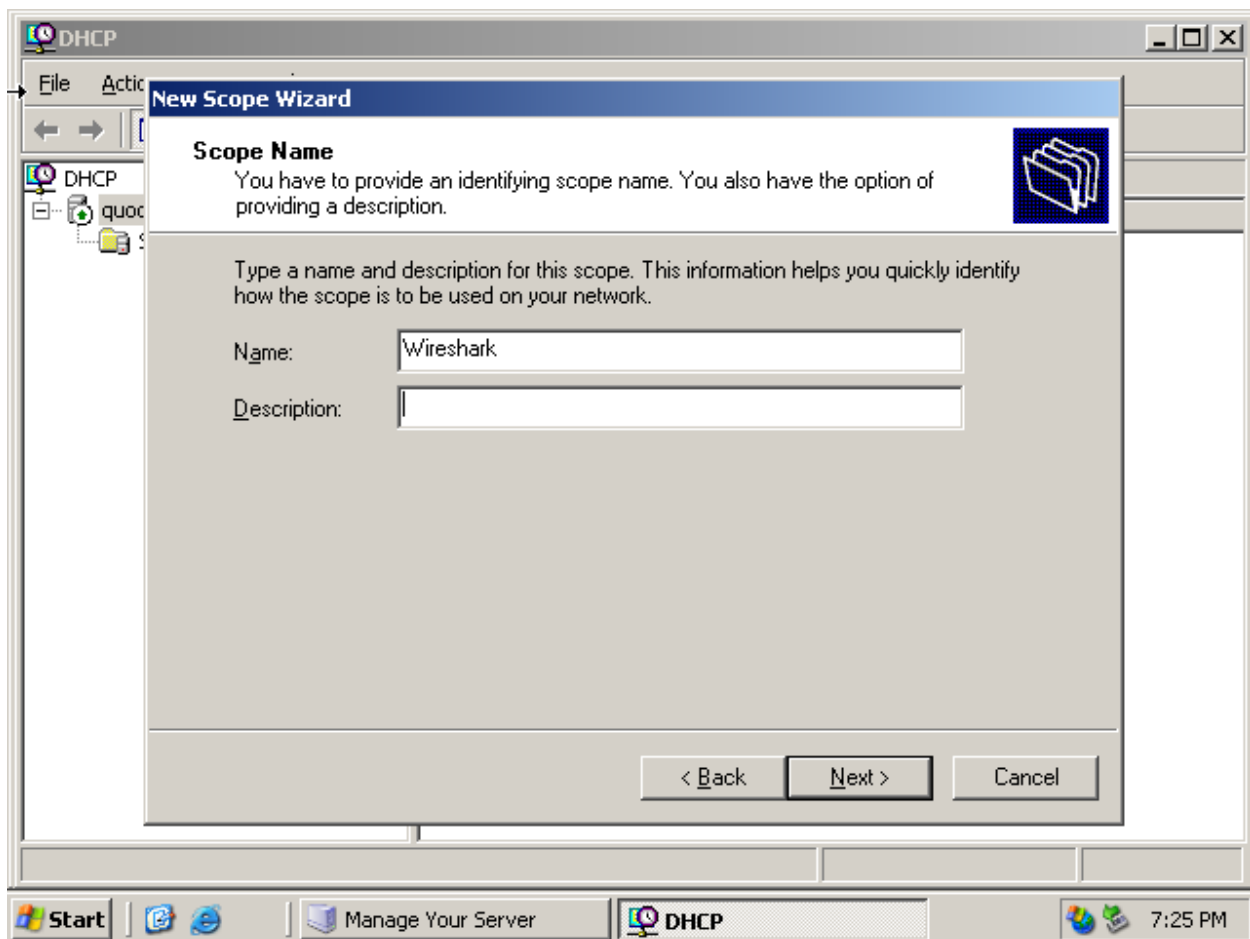
Điền địa chỉ IP theo yêu cầu của đề bài.

c)

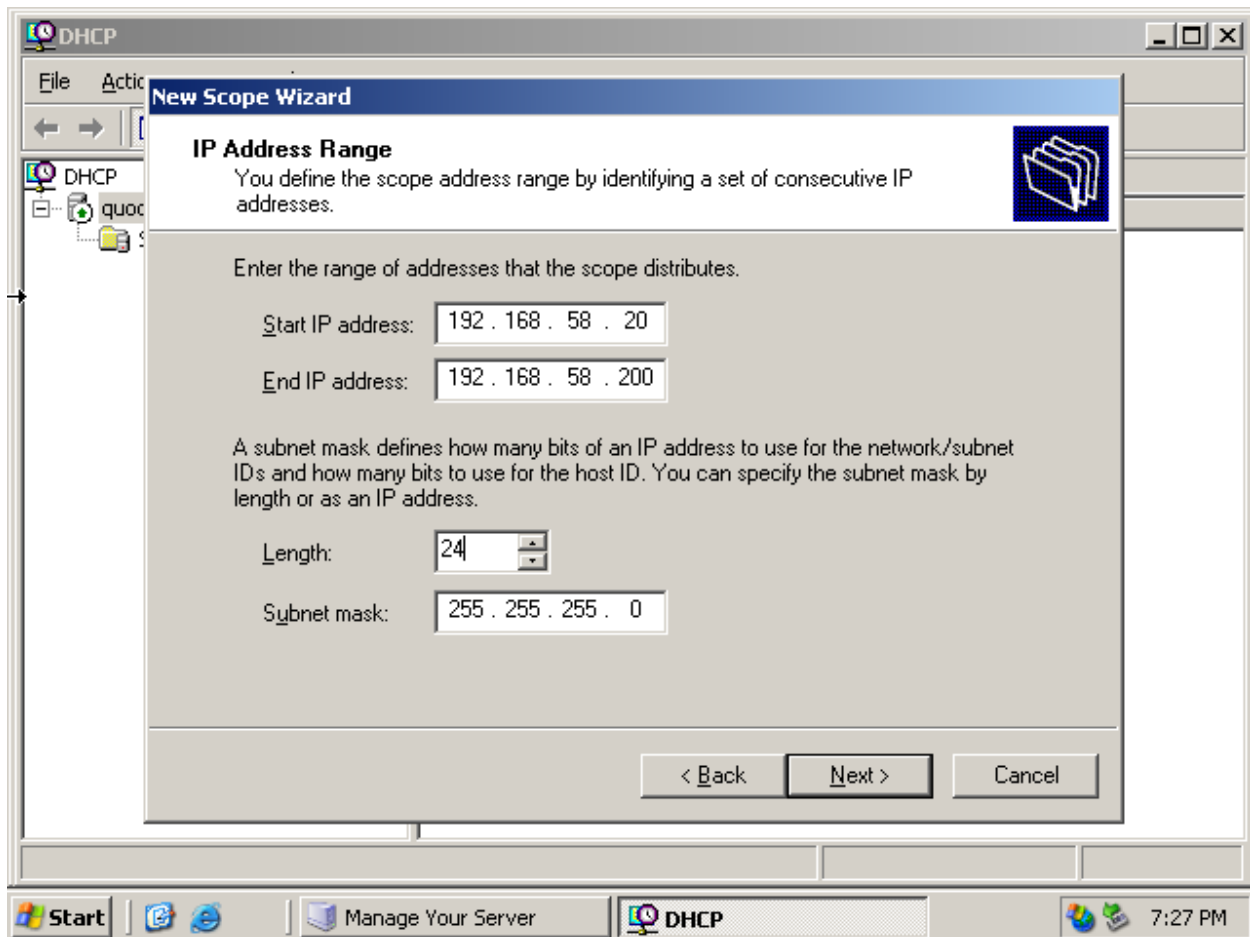
Mở DHCP -> Chuột phải vào quochoa chọn new scope



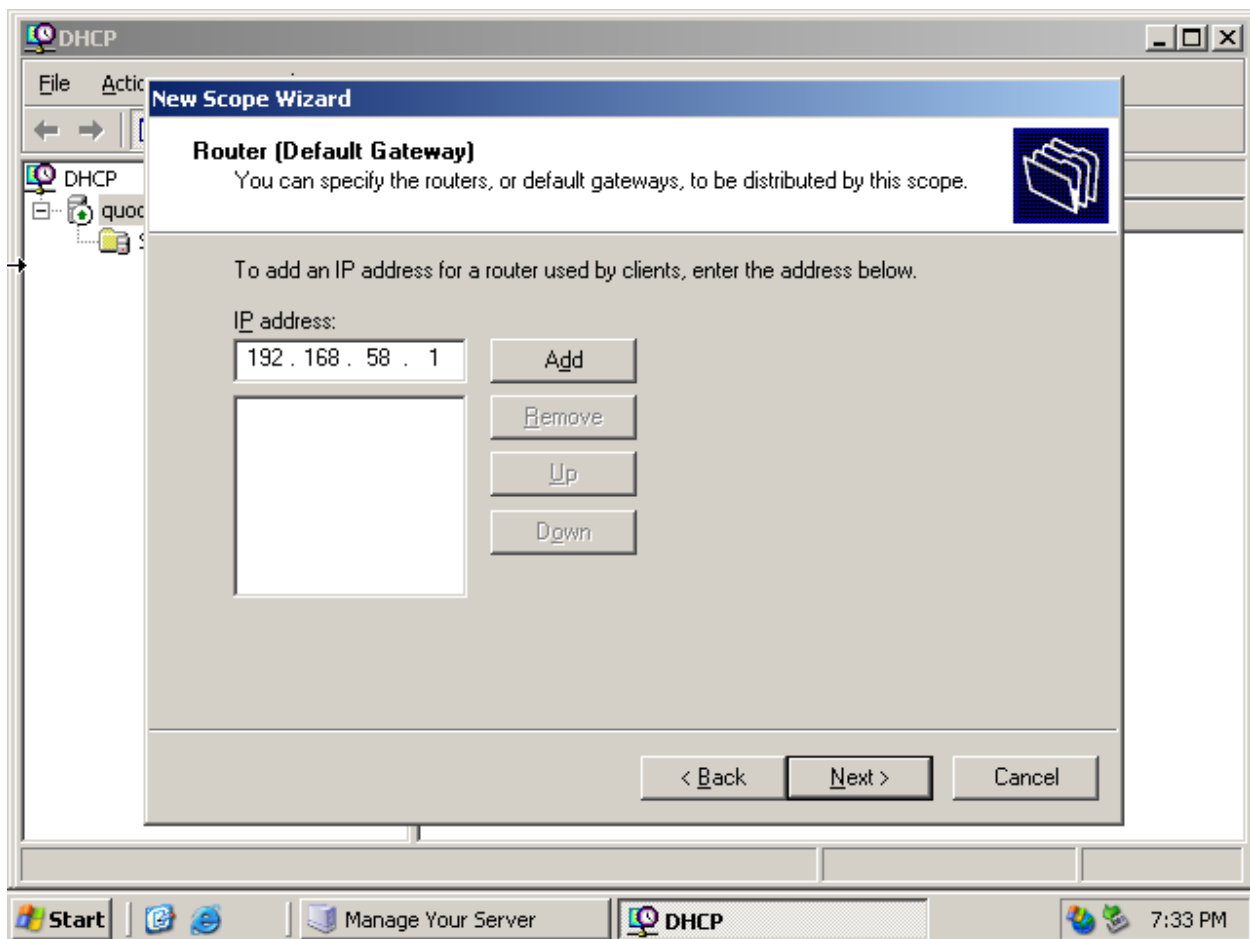
Điền tên -> bấm next



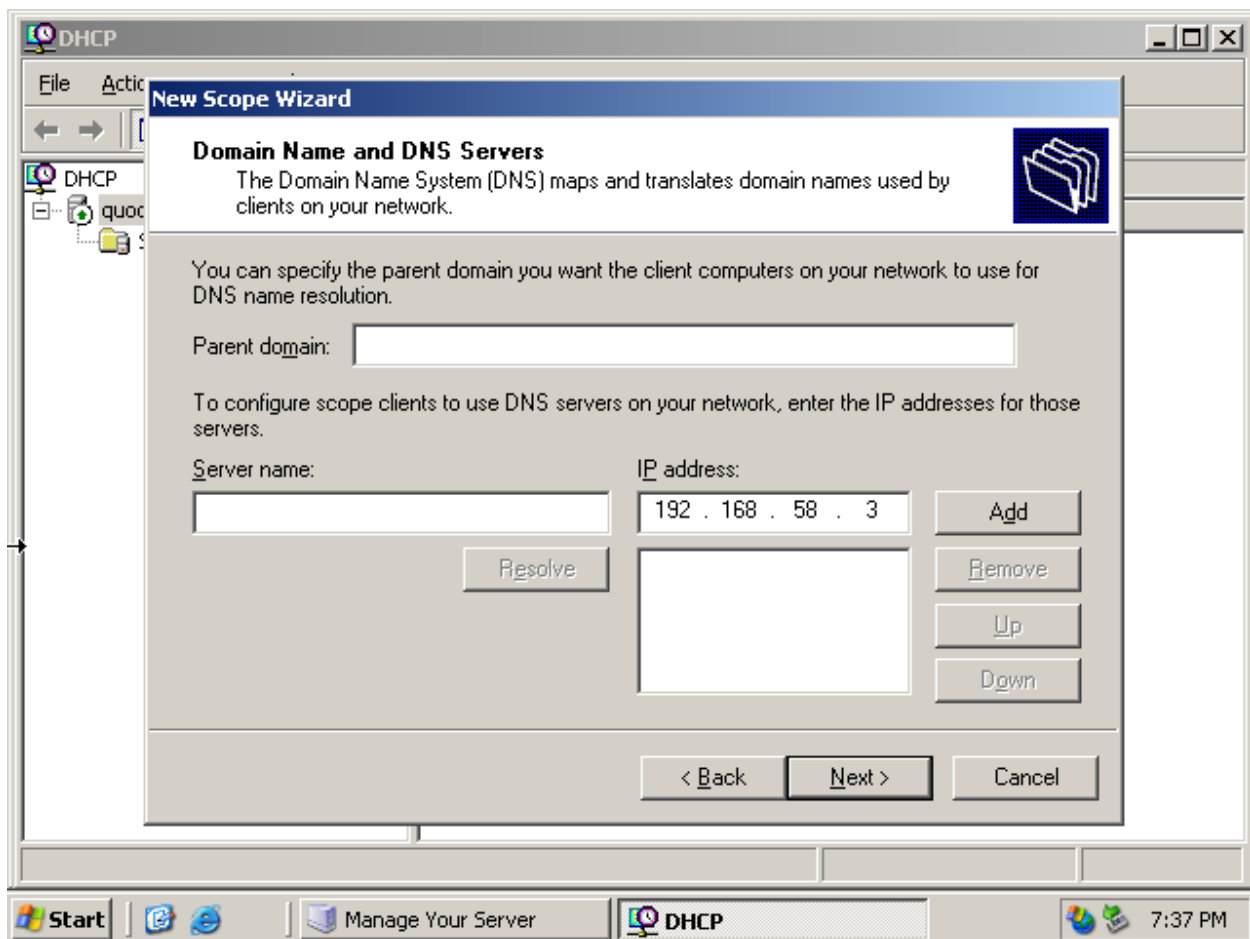
Điền thông số theo yêu cầu đề bài

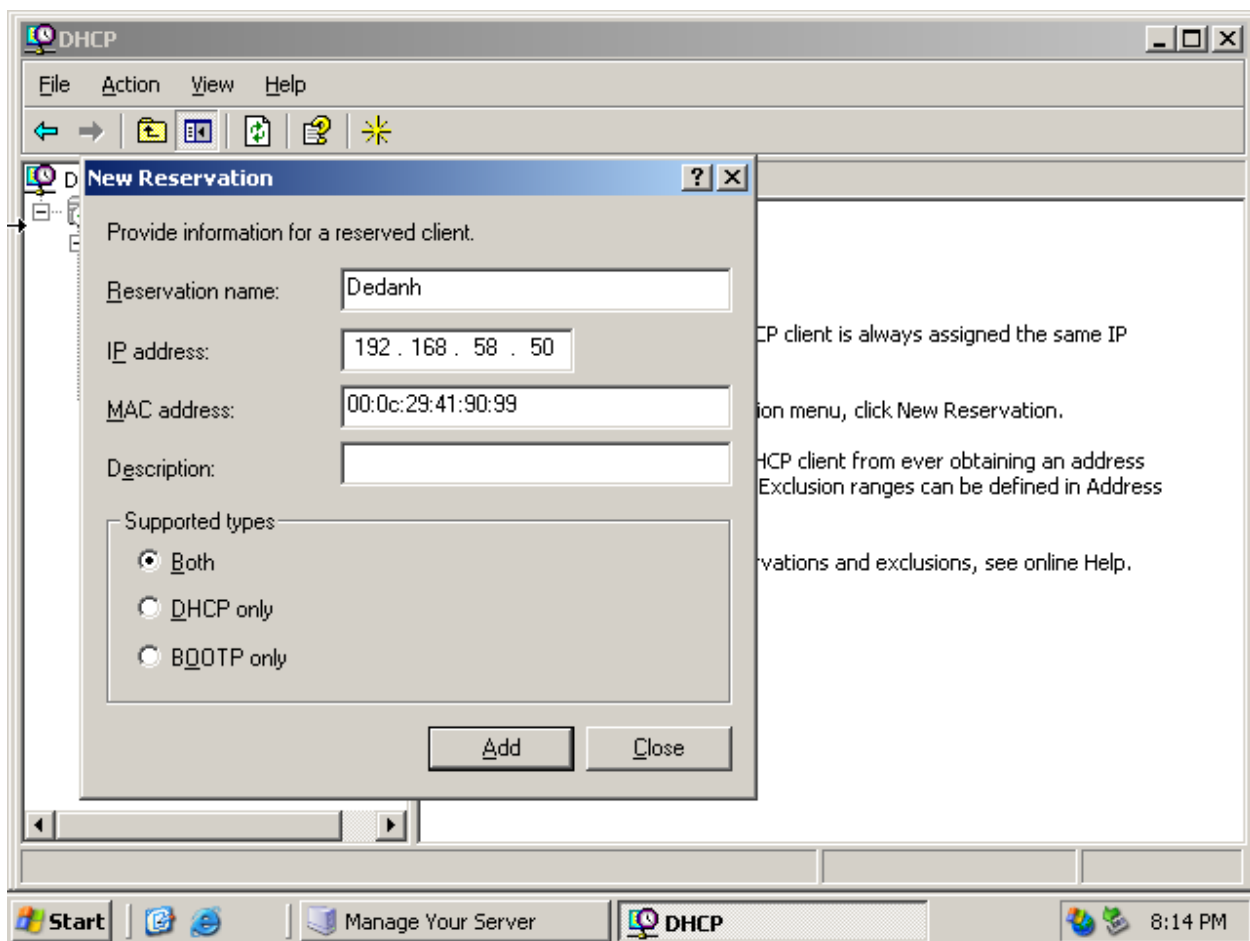


Tạo default gateway cung cấp cho các client:

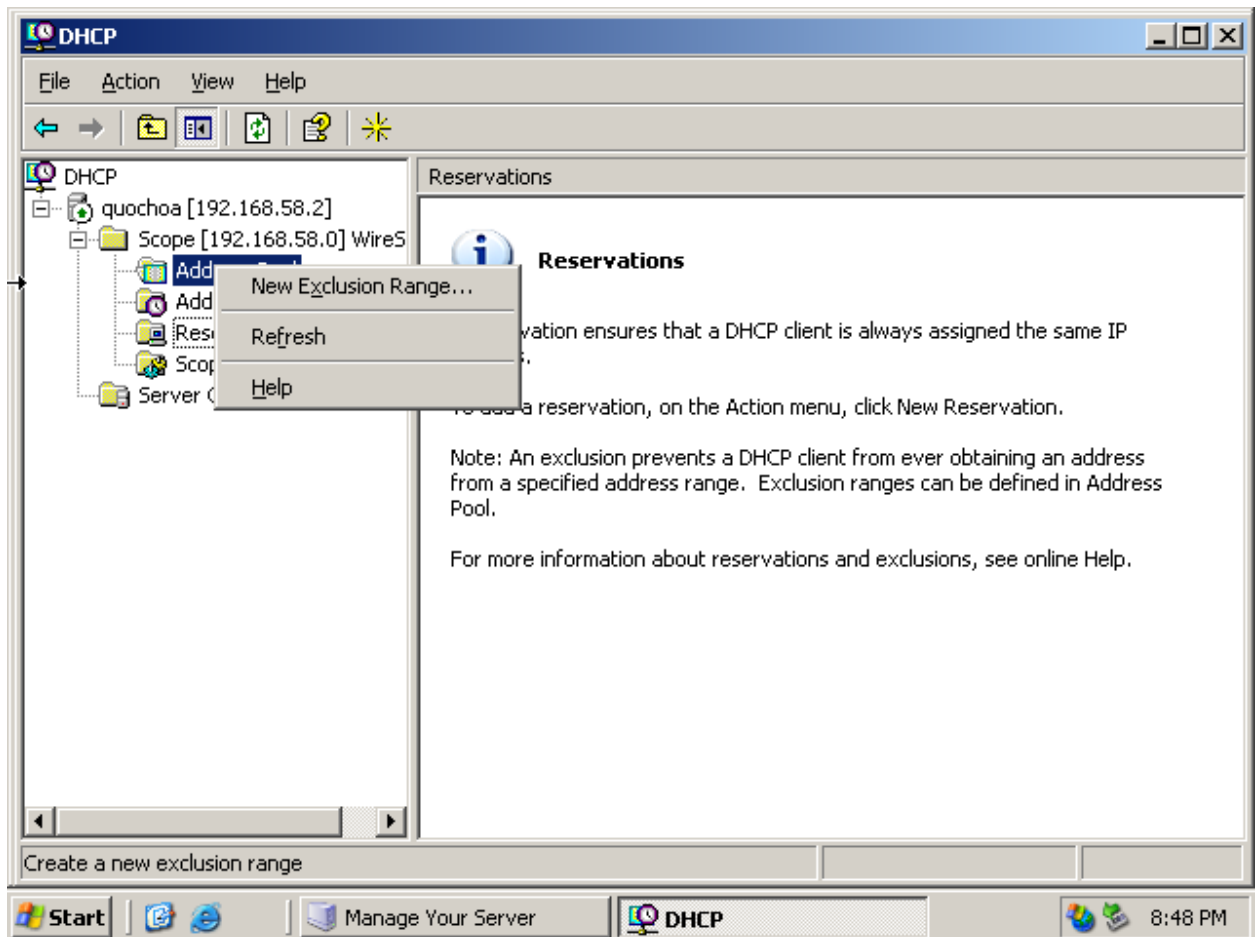


DNS server cung cấp cho các clients:

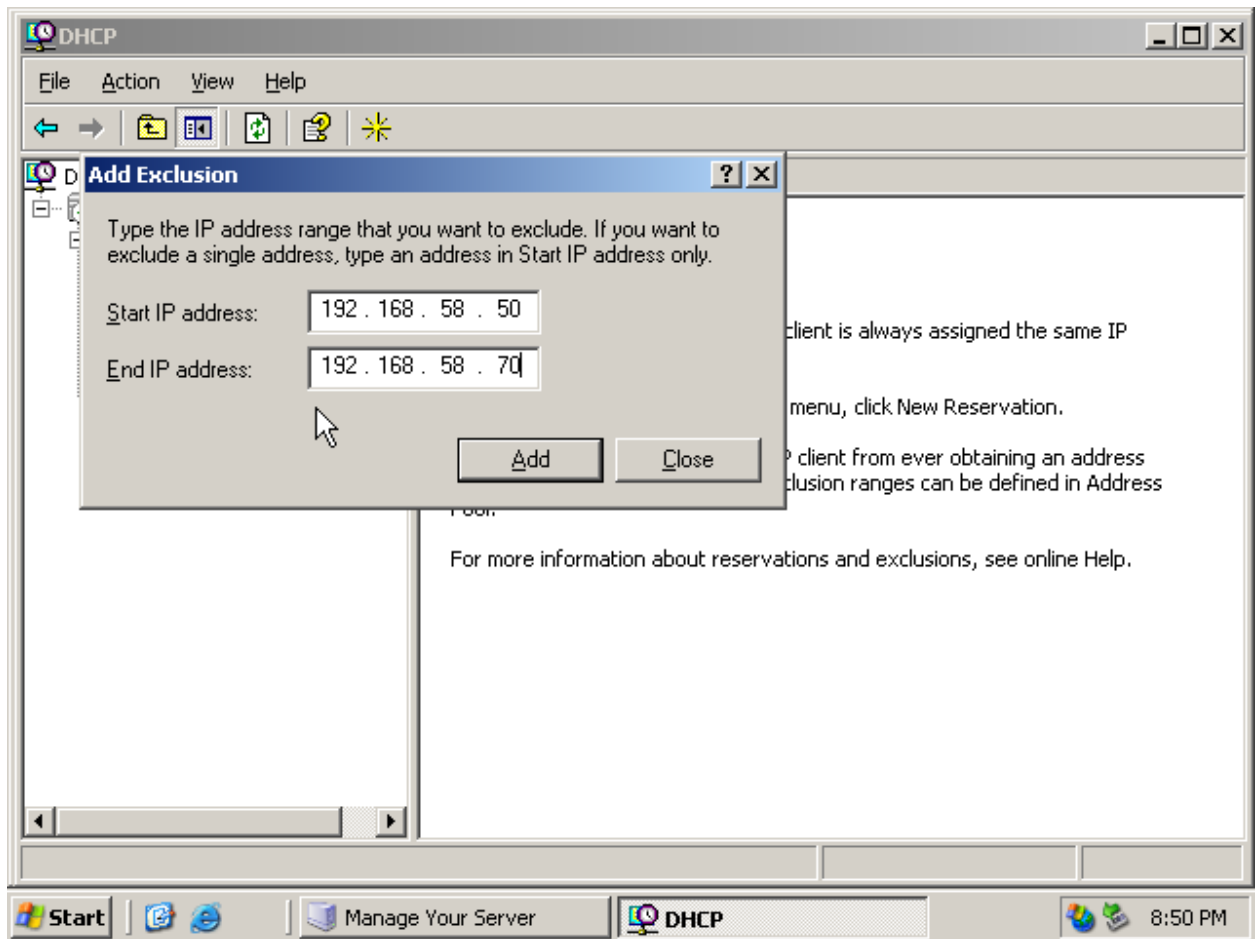




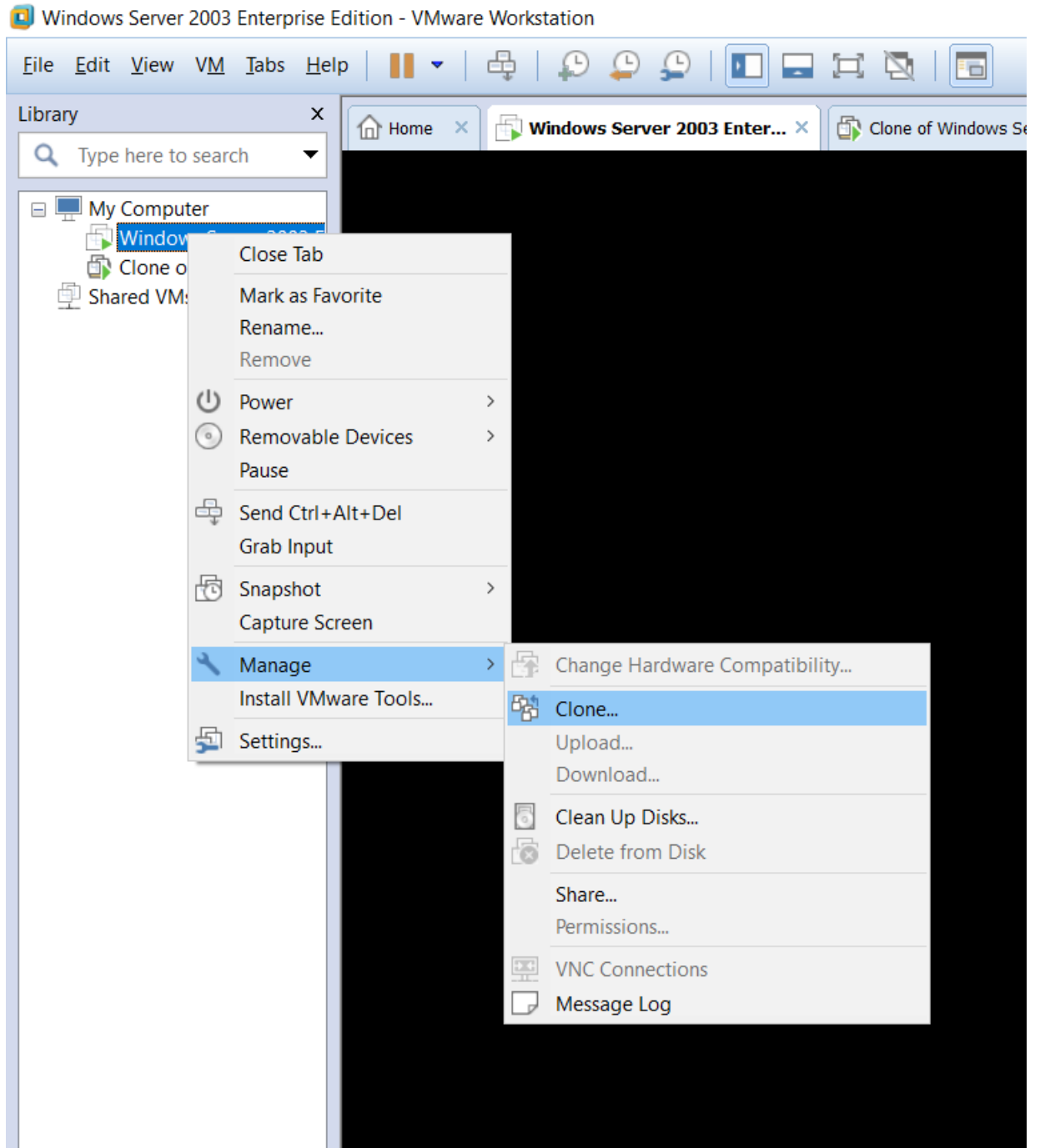
- d)
- Click chuột phải vào address pool, chọn new exclusion range



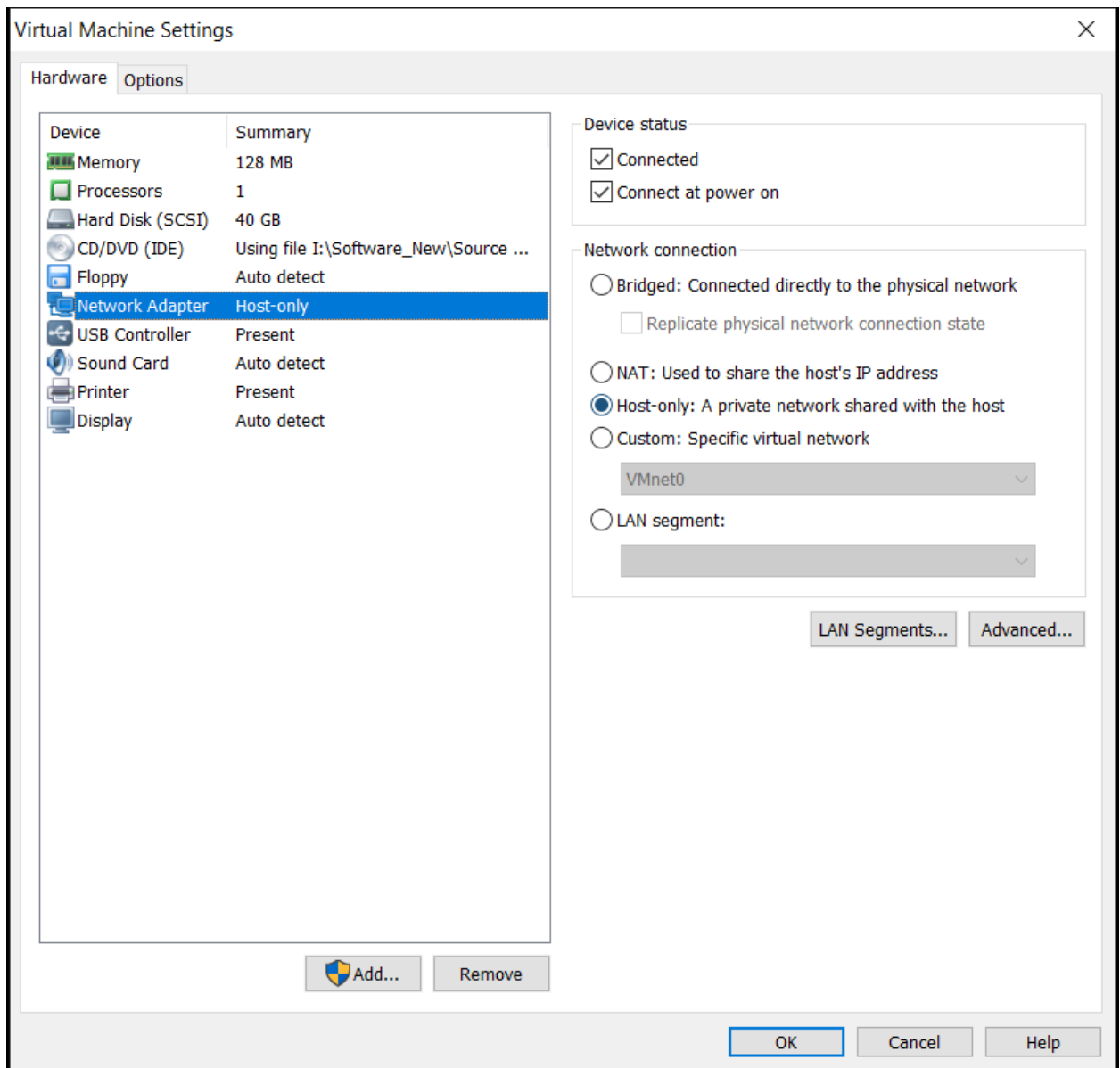
Nhập khoảng IP theo đề bài đã cho và add:



- g) Cấu hình một máy ảo khác (ví dụ: Windows 7, Windows Server 2003...) làm DHCP client



Click chuột phải vào Clone vừa tạo chọn setting -> chọn Network Adapter-> chọn Host-only



- h) Tắt tính năng DHCP của phần mềm VMWare (Trên VMWare Player/Workstation
> Chọn menu Edit > Virtual Network Editor > Chọn card mạng VMNet1 > Bỏ
chọn "Use local DHCP service to distribute IP addresses to VMs).

Virtual Network Editor

Name	Type	External Connection	Host Connection	DHCP	Subnet Address
VMnet0	Bridged	Auto-bridging	-	-	-
VMnet1	Host-only	-	Connected	-	192.168.58.0
VMnet8	NAT	NAT	Connected	Enabled	192.168.111.0

< >

Add Network... Remove Network

VMnet Information

☐ Bridged (connect VMs directly to the external network)

Bridged to: Automatic Automatic Settings...

☐ NAT (shared host's IP address with VMs) NAT Settings...

☒ Host-only (connect VMs internally in a private network)

☒ Connect a host virtual adapter to this network

Host virtual adapter name: VMware Network Adapter VMnet1

☐ Use local DHCP service to distribute IP address to VMs DHCP Settings...

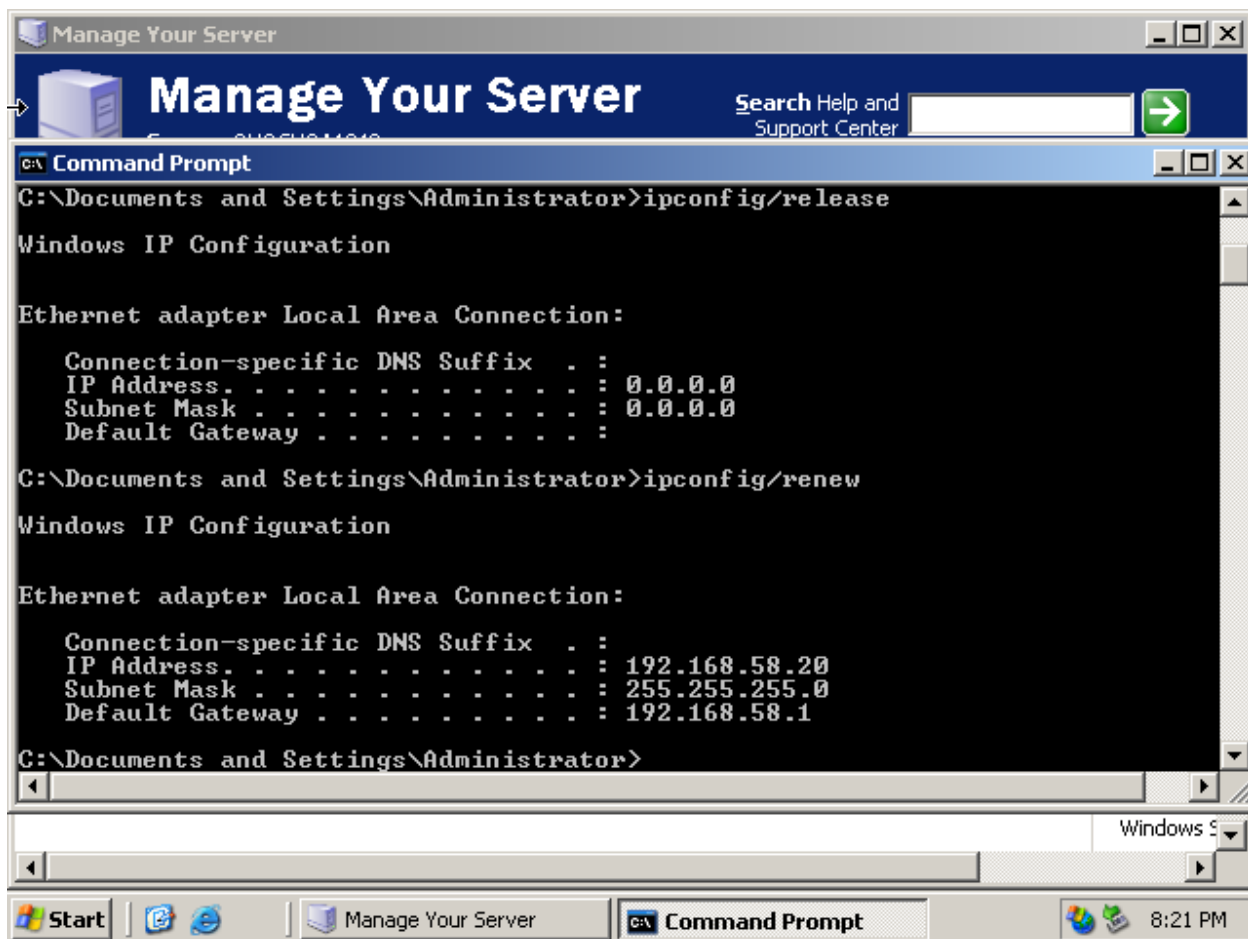
Subnet IP: 192 . 168 . 58 . 0 Subnet mask: 255 . 255 . 255 . 0

Restore Defaults OK Cancel Apply Help

i)

Xin cấp phát địa chỉ IP từ client đến DHCP server:

Bên máy Client mở cmd nhập lần lượt các lệnh "ipconfig/release" sau đó nhập "ipconfig/renew"



- j)
Có tổng cộng 4 gói tin được truyền và nhận trong quá trình cấp phát địa chỉ IP

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xd6ea840a
2	0.001905	192.168.58.2	255.255.255.255	DHCP	342	DHCP Offer - Transaction ID 0xd6ea840a
3	0.00458	0.0.0.0	255.255.255.255	DHCP	360	DHCP Request - Transaction ID 0xd6ea840a
4	0.054702	192.168.58.2	255.255.255.255	DHCP	342	DHCP ACK - Transaction ID 0xd6ea840a
5	0.097391	Vhware_f0:6b:f7	Broadcast	ARP	42	ARP Announcement for 192.168.58.20
6	1.008796	Vhware_f0:6b:f7	Broadcast	ARP	42	ARP Announcement for 192.168.58.20
7	2.008866	Vhware_f0:6b:f7	Broadcast	ARP	42	ARP Announcement for 192.168.58.20
8	3.136609	192.168.58.20	192.168.58.255	NBNS	110	Registration NB QUOCHOA1243<00>
9	3.885239	192.168.58.20	192.168.58.255	NBNS	110	Registration NB QUOCHOA1243<00>
10	4.633523	192.168.58.20	192.168.58.255	NBNS	110	Registration NB QUOCHOA1243<00>
11	5.384299	192.168.58.20	192.168.58.255	NBNS	110	Registration NB QUOCHOA1243<00>
12	6.161326	192.168.58.20	192.168.58.255	NBNS	110	Registration NB WORKGROUP<00>
13	6.898974	192.168.58.20	192.168.58.255	NBNS	110	Registration NB WORKGROUP<00>
14	7.315326	192.168.58.1	239.255.255.250	SSDP	215	M-SEARCH * HTTP/1.1

- k)
Gói 1: DHCP discover
Mục đích: định vị tất cả các máy chủ DHCP có sẵn trên cùng một mạng con
IP nguồn: 0.0.0.0
IP đích: 255.255.255.255
MAC nguồn: 00:0c:29:f0:6b:f7

MAC đích: ff:ff:ff:ff:ff:ff

Port nguồn: 68

Port đích 67

Gói 2: DHCP offer

Mục đích: Thông báo là Server có sẵn đến khách hàng

IP nguồn: 192.168.58.2

IP đích: 255.255.255.255

MAC nguồn: 00:0c:29:41:90:99

MAC đích: ff:ff:ff:ff:ff:ff

Port nguồn: 67

Port đích: 68

Gói 3: DHCP request

Mục đích: yêu cầu cấu hình mạng bao gồm địa chỉ IP cho chính client

IP nguồn: 0.0.0.0

IP đích: 255.255.255.255

MAC nguồn: 00:0c:29:f0:6b:f7

MAC đích: ff:ff:ff:ff:ff:ff

Port nguồn: 68

Port đích: 67

Gói 4: DHCP ACK

Mục đích: Máy chủ DHCP nhận thông báo DHCP request từ máy khách sẽ kiểm tra xem địa chỉ IP được hiển thị DHCP Server Identifier có khớp với chính máy chủ không.

IP nguồn: 192.168.58.2

IP đích: 255.255.255.255

MAC nguồn: 00:0c:29:41:90:99

MAC đích: ff:ff:ff:ff:ff:ff

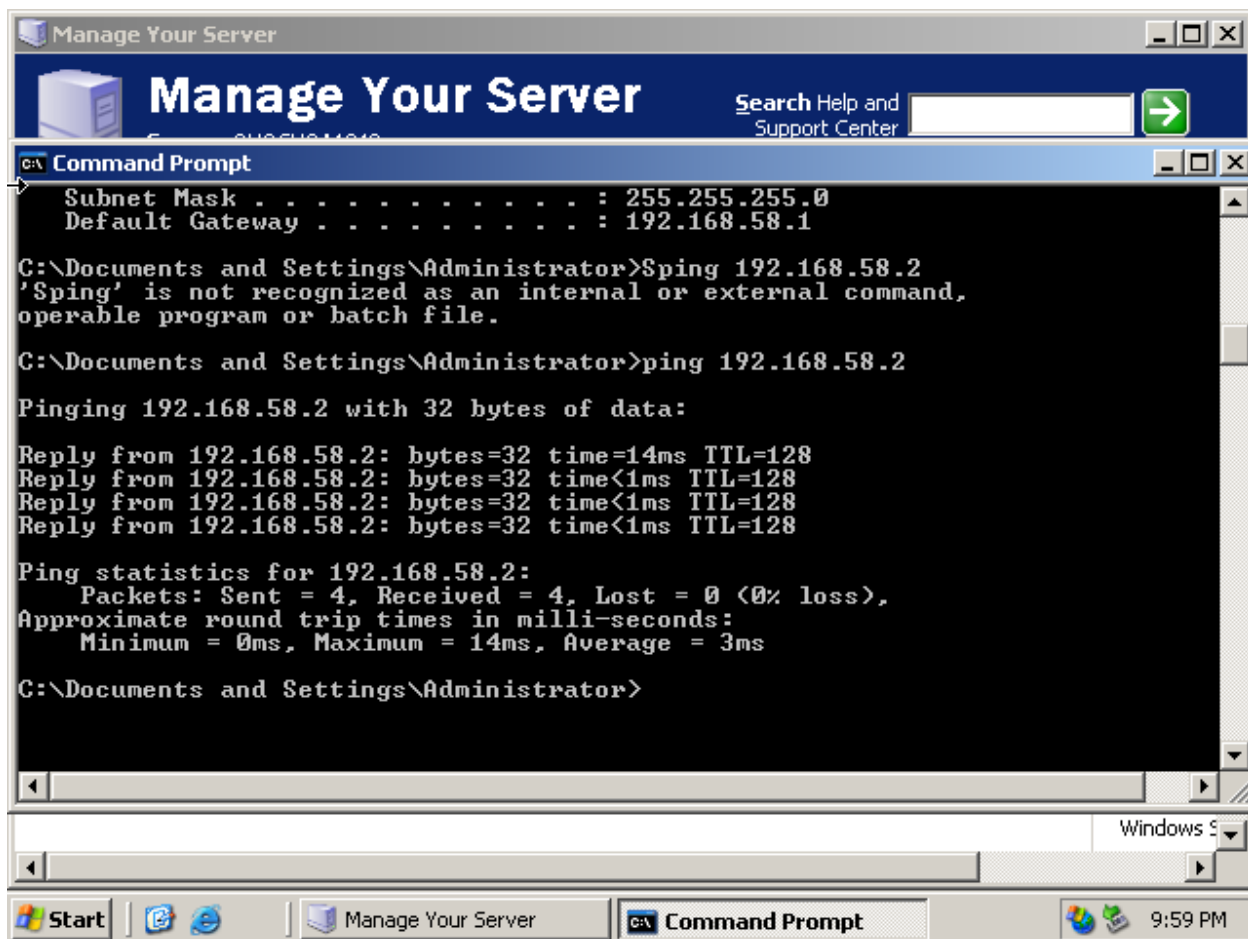
Port nguồn: 67

Port đích: 68

l) Thông tin default gateway và dns server nằm ở trong gói **DHCP offer**

Câu 4:

a) Mở CMD ở máy con gõ “ping 192.168.58.2”



b) Có 8 gói tin của quá trình thực hiện lệnh ping

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	Where: f0:6b:f7	Broadcast	ARP	42	Who has 192.168.58.2? Tell 192.168.58.20
2	0.000578	Where: 41:90:99	Where: f0:6b:f7	ARP	42	192.168.58.2 is at 00:0c:29:41:90:99
3	0.001258	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=256/1, ttl=128 (reply in 4)
4	0.005323	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=256/1, ttl=128 (request in 3)
5	1.007915	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=512/2, ttl=128 (reply in 6)
6	1.008204	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=512/2, ttl=128 (request in 5)
7	2.008267	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=768/3, ttl=128 (reply in 8)
8	2.008602	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=768/3, ttl=128 (request in 7)
9	3.007635	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=1024/4, ttl=128 (reply in 10)
10	3.007853	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=1024/4, ttl=128 (request in 9)

c) Gói **Echo (ping) request**

MAC nguồn: 00:0c:29:f0:6b:f7

MAC đích: 00:0c:29:41:90:99

Gói **Echo (ping) reply**

MAC nguồn: 00:0c:29:41:90:99

MAC đích: 00:0c:29:f0:6b:f7

d) Gói **Echo (ping) request**

IP nguồn: 192.168.58.20

IP đích: 192.168.58.2

Gói Echo (ping) reply

IP nguồn: 192.168.58.2

IP đích: 192.168.58.20

e) Nội dung phần data của gói tin ICMP là: abcdefghijklmnopqrstuvwxyzabcdefghijklmnop

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	Vmware_f0:6b:f7	Broadcast	ARP	42	Who has 192.168.58.2? Tell 192.168.58.20
2	0.000578	Vmware_41:90:99	Vmware_f0:6b:f7	ARP	42	192.168.58.2 is at 00:0c:29:41:90:99
3	0.001258	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=256/1, ttl=128 (request in 4)
4	0.005323	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=256/1, ttl=128 (request in 3)
5	1.007915	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=512/2, ttl=128 (reply in 6)
6	1.008204	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=512/2, ttl=128 (request in 5)
7	2.008267	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=768/3, ttl=128 (reply in 8)
8	2.008602	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=768/3, ttl=128 (request in 7)
9	3.007635	192.168.58.20	192.168.58.2	ICMP	74	Echo (ping) request id=0x0200, seq=1024/4, ttl=128 (reply in 10)
10	3.007853	192.168.58.2	192.168.58.20	ICMP	74	Echo (ping) reply id=0x0200, seq=1024/4, ttl=128 (request in 9)

> Ethernet II, Src: Vmware_41:90:99 (00:0c:29:41:90:99), Dst: Vmware_f0:6b:f7 (00:0c:29:f0:6b:f7)

> Internet Protocol Version 4, Src: 192.168.58.2, Dst: 192.168.58.20

Internet Control Message Protocol

- Type: 0 (Echo (ping) reply)
- Code: 0
- Checksum: 0x525c [correct]
- [Checksum Status: Good]
- Identifier (BE): 512 (0x0200)
- Identifier (LE): 2 (0x0002)
- Sequence number (BE): 256 (0x0100)
- Sequence number (LE): 1 (0x0001)
- [Request frame: 3]
- [Response time: 4.065 ms]
- Data (32 bytes)
 - Data: 6162636465666768696a6b6c6d6e6f707172737475767768...

0000 00 0c 29 f0 6b f7 00 0c 29 41 90 99 00 00 45 00 --)k---)A---E-

0010 00 3c 20 7e 00 00 80 01 24 dc c0 a8 3a 02 c0 a8 -<~---\$---:---

0020 3a 14 00 00 52 5c 02 00 01 00 61 62 63 64 65 66 :--R\---:abcdef

0030 67 68 69 6a 6b 6c 6d 6e 6f 70 71 72 73 74 75 76 ghijklmnopqrstu

0040 77 61 62 63 64 65 66 67 68 69 wabcdegh