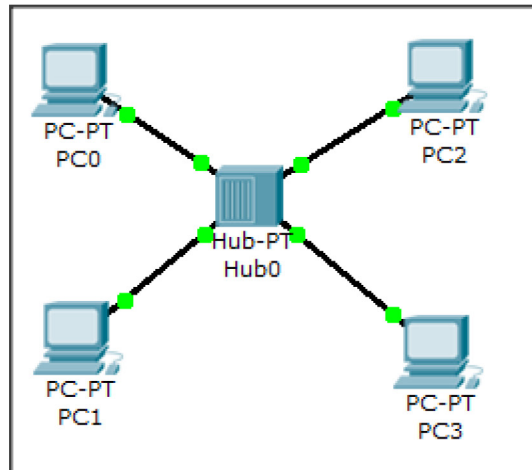


Network I Lab 08

Building a simple Client Server Network I

Part 1 : DHCP/DNS servers implementation

Part1: Build simple star network



PC name	PC0
IP	192.168.1.100
Subnet mask	255.255.255.0
Gateway	-
DNS	-

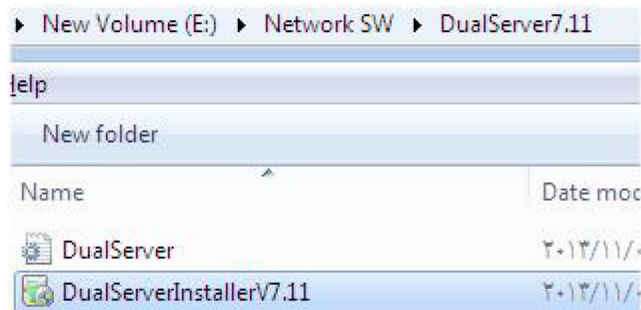
PC name	PC1
IP	auto
Subnet mask	
Gateway	
DNS	

PC name	PC2
IP	auto
Subnet mask	
Gateway	
DNS	

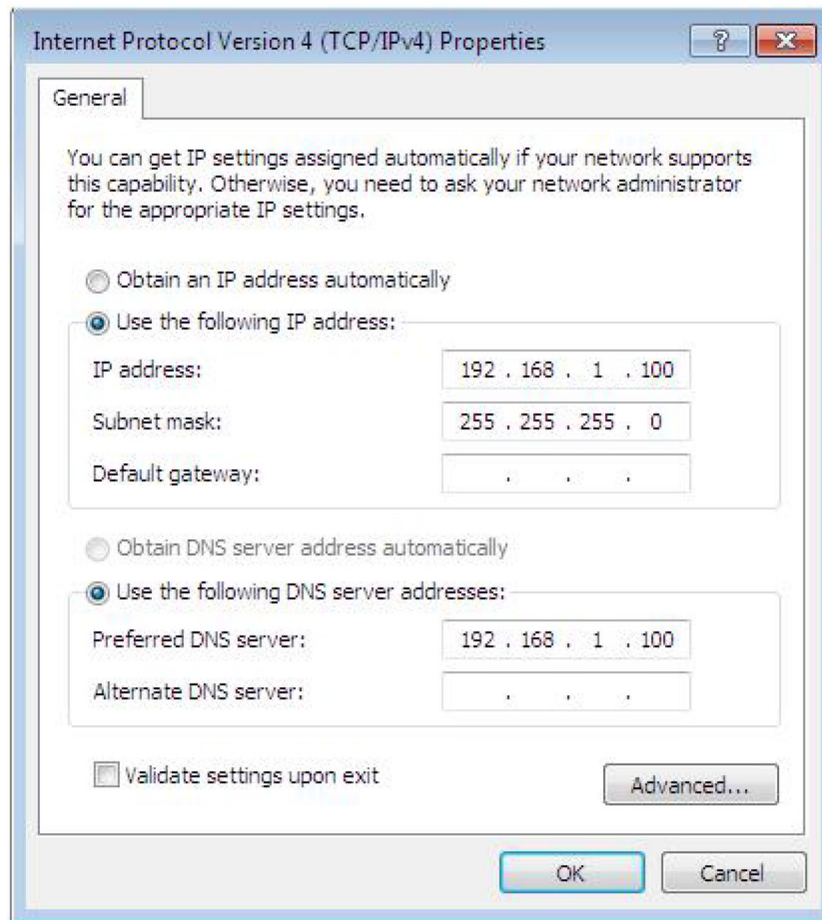
PC name	PC3
IP	auto
Subnet mask	
Gateway	
DNS	

Part2: setup DHCP DNS Server

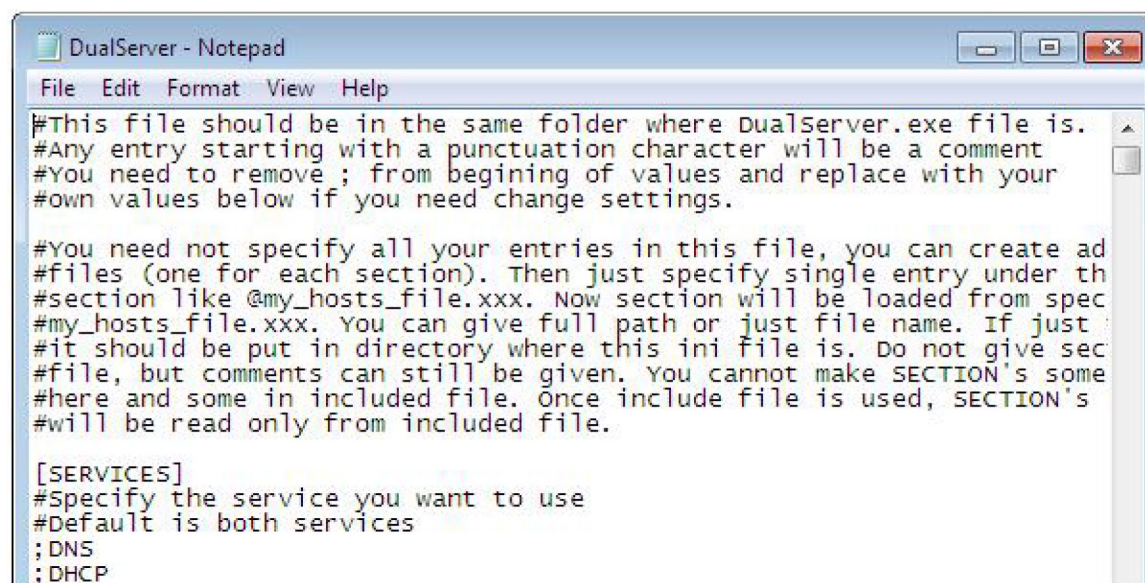
2.1 install dual server SW



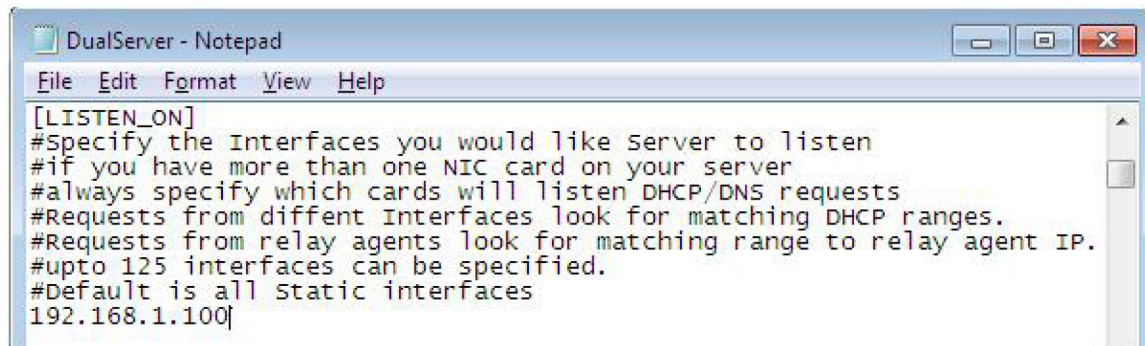
2. IP configuration of server PC



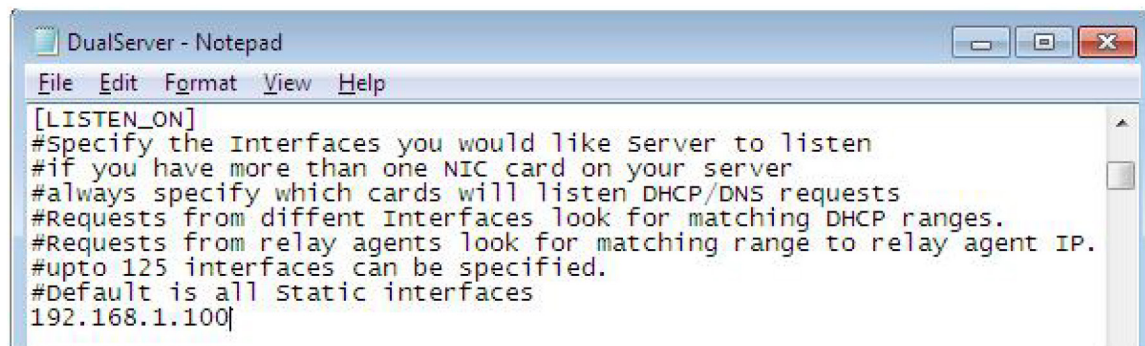
3. open dual server configuration file



4. Edit [Listen_on] section

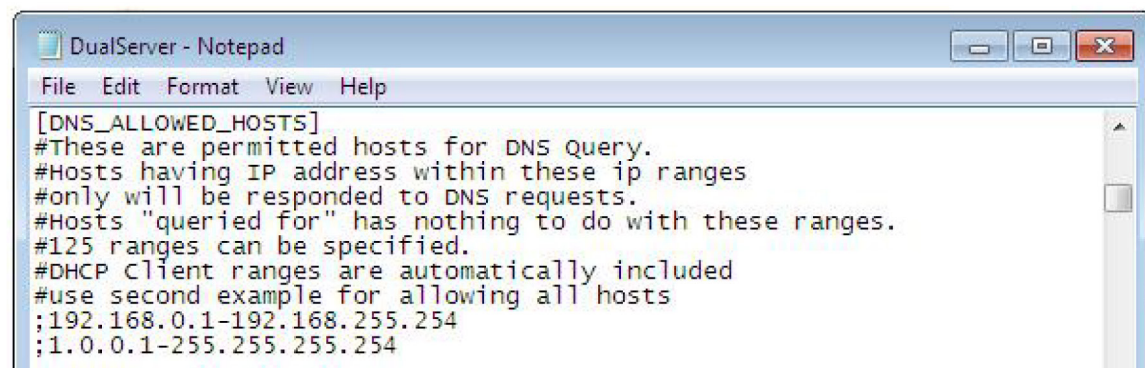


```
[LISTEN_ON]
#Specify the Interfaces you would like Server to listen
#if you have more than one NIC card on your server
#always specify which cards will listen DHCP/DNS requests
#Requests from diffent Interfaces look for matching DHCP ranges.
#Requests from relay agents look for matching range to relay agent IP.
#upto 125 interfaces can be specified.
#Default is all Static interfaces
192.168.1.100
```

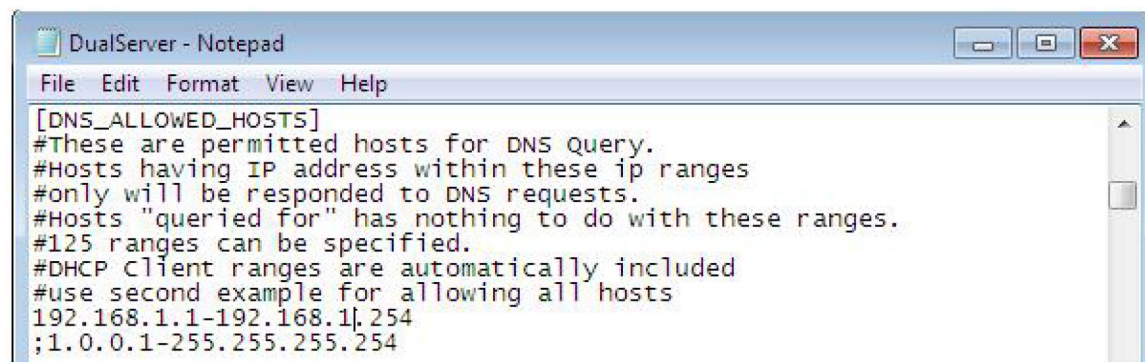


```
[LISTEN_ON]
#Specify the Interfaces you would like Server to listen
#if you have more than one NIC card on your server
#always specify which cards will listen DHCP/DNS requests
#Requests from diffent Interfaces look for matching DHCP ranges.
#Requests from relay agents look for matching range to relay agent IP.
#upto 125 interfaces can be specified.
#Default is all Static interfaces
192.168.1.100
```

5. edit [DNS Allowed hosts] section

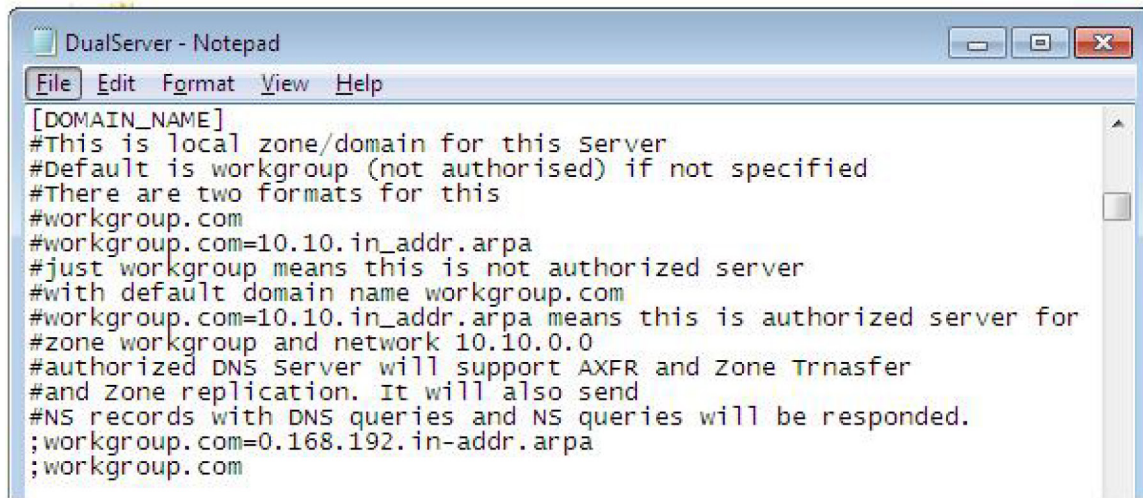


```
[DNS_ALLOWED_HOSTS]
#These are permitted hosts for DNS Query.
#Hosts having IP address within these ip ranges
#only will be responded to DNS requests.
#Hosts "queried for" has nothing to do with these ranges.
#125 ranges can be specified.
#DHCP Client ranges are automatically included
#use second example for allowing all hosts
;192.168.0.1-192.168.255.254
;1.0.0.1-255.255.255.254
```

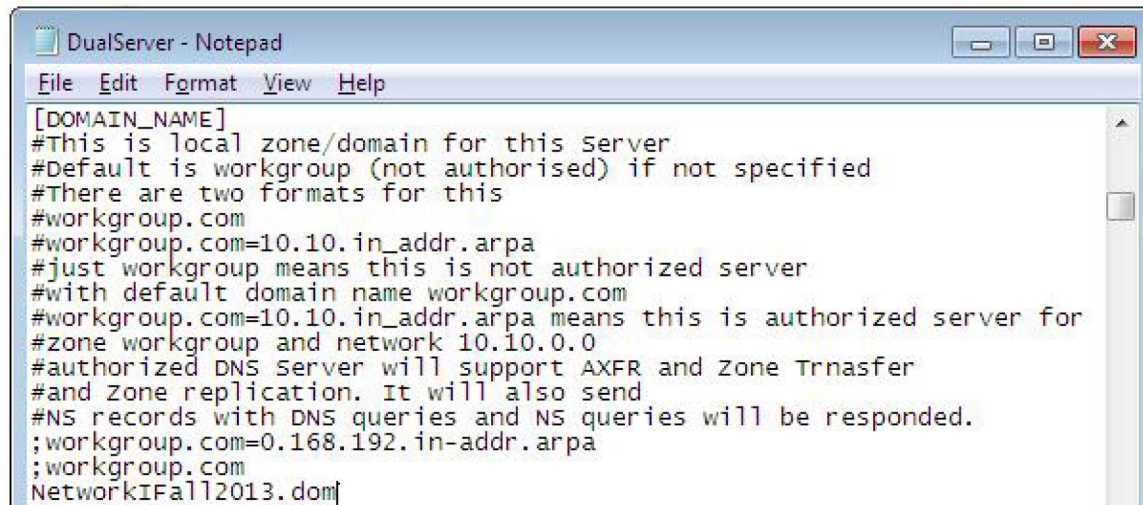


```
[DNS_ALLOWED_HOSTS]
#These are permitted hosts for DNS Query.
#Hosts having IP address within these ip ranges
#only will be responded to DNS requests.
#Hosts "queried for" has nothing to do with these ranges.
#125 ranges can be specified.
#DHCP Client ranges are automatically included
#use second example for allowing all hosts
192.168.1.1-192.168.1.254
;1.0.0.1-255.255.255.254
```

6. Edit [Domain name] section

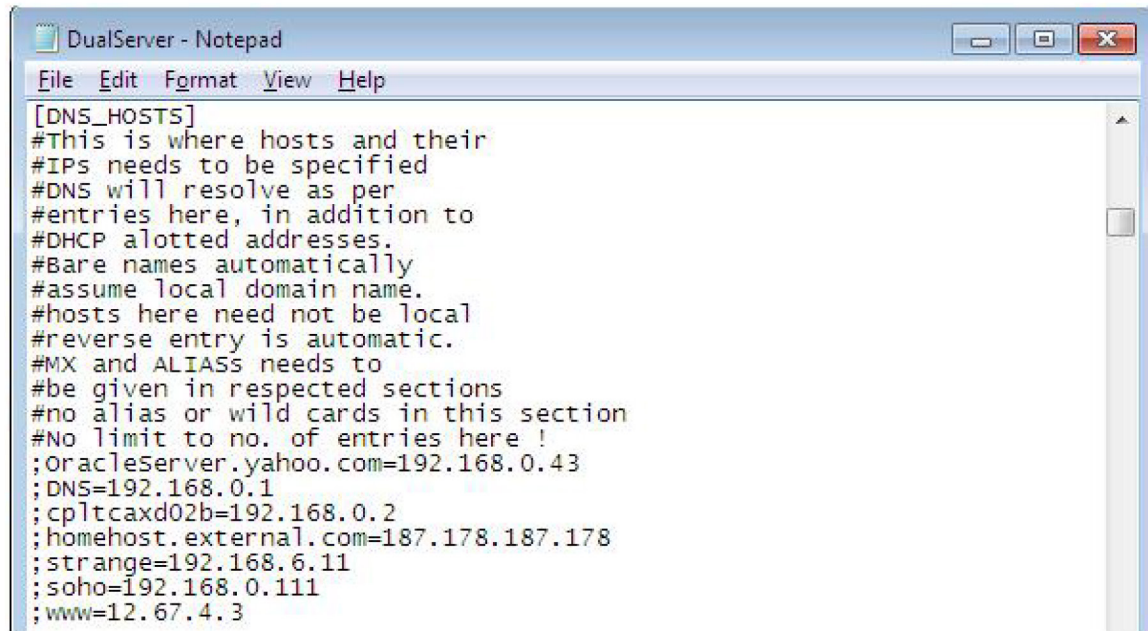


```
DualServer - Notepad
File Edit Format View Help
[DOMAIN_NAME]
#This is local zone/domain for this server
#Default is workgroup (not authorised) if not specified
#There are two formats for this
#workgroup.com
#workgroup.com=10.10.in_addr.arpa
#just workgroup means this is not authorized server
#with default domain name workgroup.com
#workgroup.com=10.10.in_addr.arpa means this is authorized server for
#zone workgroup and network 10.10.0.0
#authorized DNS Server will support AXFR and Zone Transfer
#and Zone replication. It will also send
#NS records with DNS queries and NS queries will be responded.
;workgroup.com=0.168.192.in-addr.arpa
;workgroup.com
```

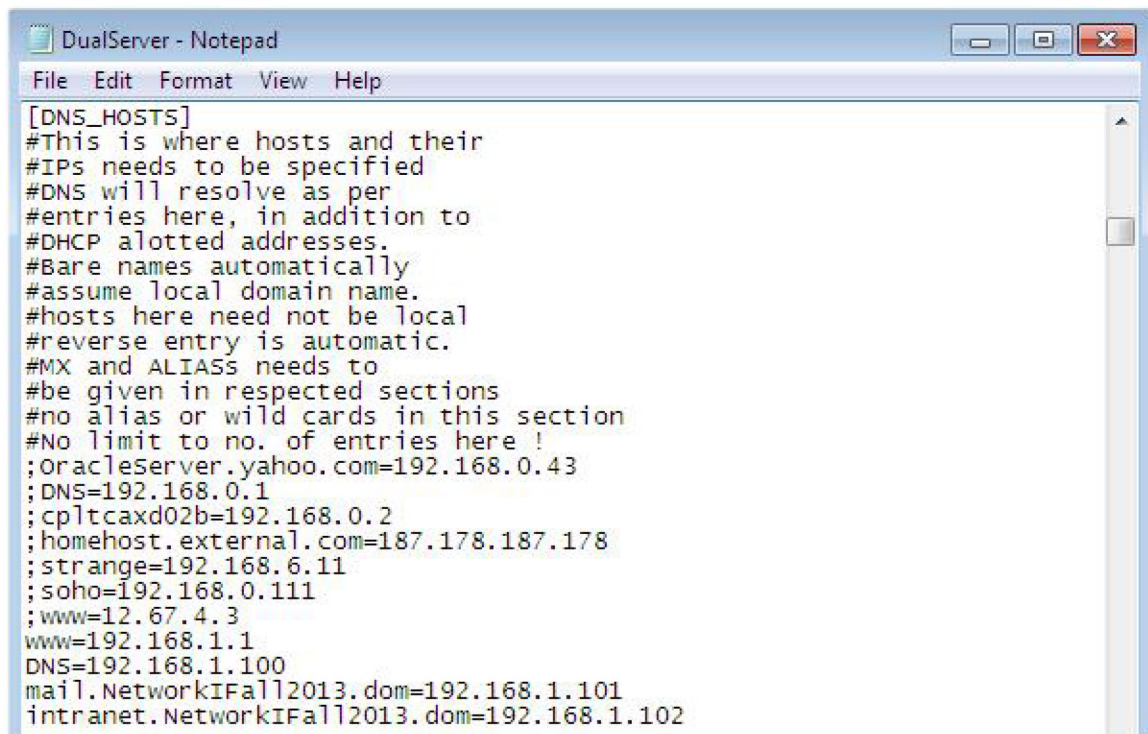


```
DualServer - Notepad
File Edit Format View Help
[DOMAIN_NAME]
#This is local zone/domain for this server
#Default is workgroup (not authorised) if not specified
#There are two formats for this
#workgroup.com
#workgroup.com=10.10.in_addr.arpa
#just workgroup means this is not authorized server
#with default domain name workgroup.com
#workgroup.com=10.10.in_addr.arpa means this is authorized server for
#zone workgroup and network 10.10.0.0
#authorized DNS Server will support AXFR and Zone Transfer
#and Zone replication. It will also send
#NS records with DNS queries and NS queries will be responded.
;workgroup.com=0.168.192.in-addr.arpa
;workgroup.com
NetworkIFall2013.dom\
```

7. Edit [DNS Hosts] section

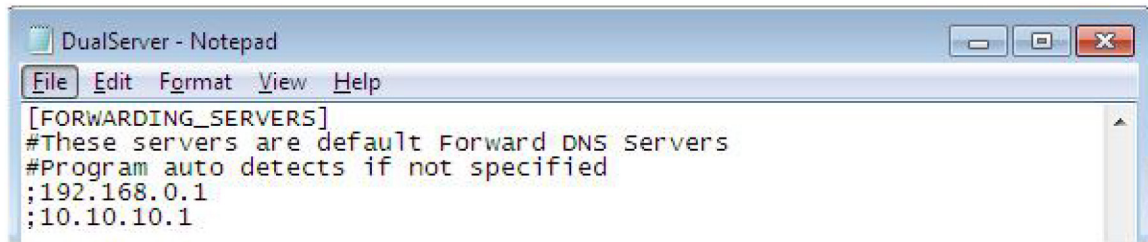


```
[DNS_HOSTS]
#This is where hosts and their
#IPs needs to be specified
#DNS will resolve as per
#entries here, in addition to
#DHCP allotted addresses.
#Bare names automatically
#assume local domain name.
#hosts here need not be local
#reverse entry is automatic.
#MX and ALIASS needs to
#be given in respected sections
#no alias or wild cards in this section
#No limit to no. of entries here !
;OracleServer.yahoo.com=192.168.0.43
;DNS=192.168.0.1
;cpltcaxd02b=192.168.0.2
;homehost.external.com=187.178.187.178
;strange=192.168.6.11
;soho=192.168.0.111
;www=12.67.4.3
```

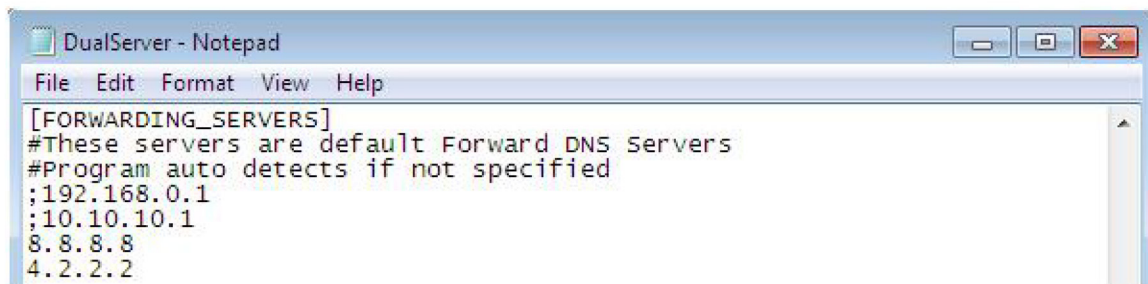


```
[DNS_HOSTS]
#This is where hosts and their
#IPs needs to be specified
#DNS will resolve as per
#entries here, in addition to
#DHCP allotted addresses.
#Bare names automatically
#assume local domain name.
#hosts here need not be local
#reverse entry is automatic.
#MX and ALIASS needs to
#be given in respected sections
#no alias or wild cards in this section
#No limit to no. of entries here !
;OracleServer.yahoo.com=192.168.0.43
;DNS=192.168.0.1
;cpltcaxd02b=192.168.0.2
;homehost.external.com=187.178.187.178
;strange=192.168.6.11
;soho=192.168.0.111
;www=12.67.4.3
www=192.168.1.1
DNS=192.168.1.100
mail.NetworkIFall2013.dom=192.168.1.101
intranet.NetworkIFall2013.dom=192.168.1.102
```

8. Edit [Forwarding servers] section

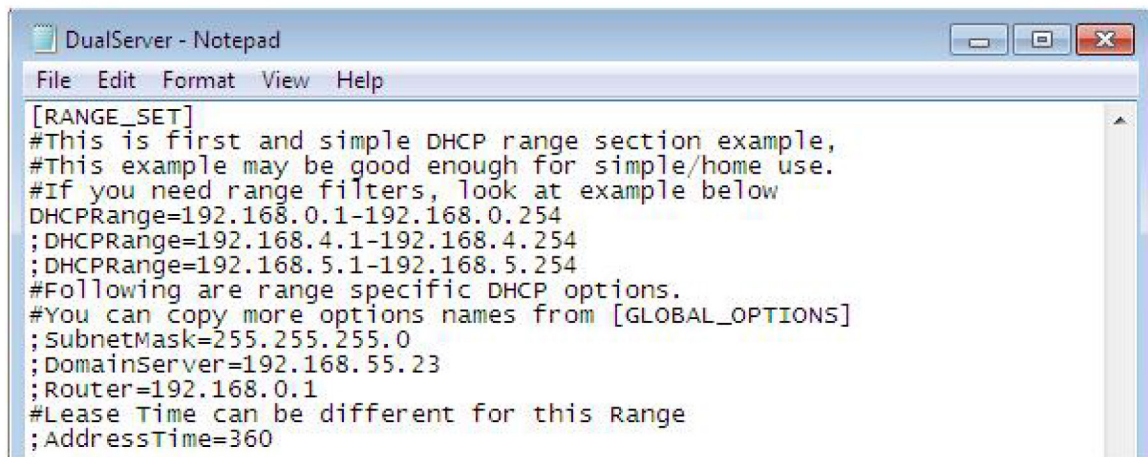


```
DualServer - Notepad
File Edit Format View Help
[FORWARDING_SERVERS]
#These servers are default Forward DNS Servers
#Program auto detects if not specified
;192.168.0.1
;10.10.10.1
```

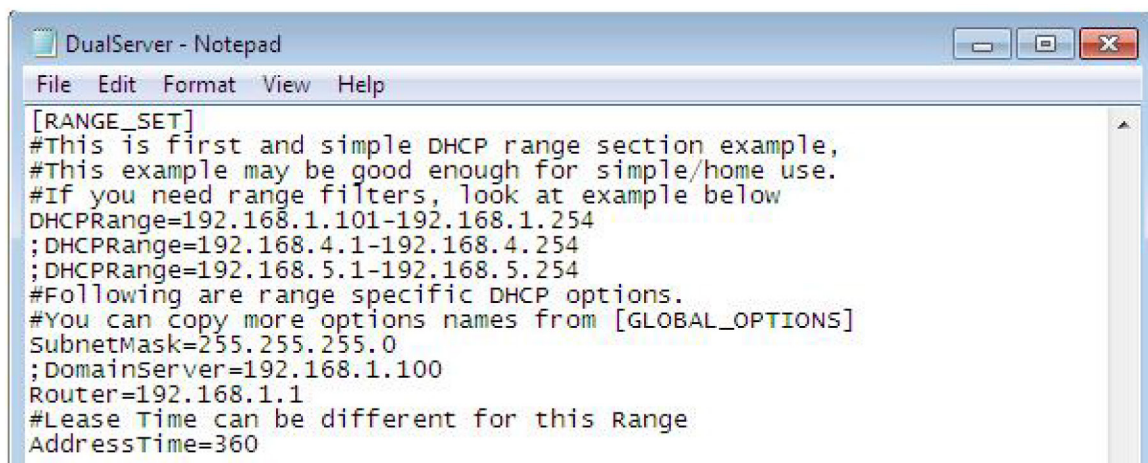


```
DualServer - Notepad
File Edit Format View Help
[FORWARDING_SERVERS]
#These servers are default Forward DNS Servers
#Program auto detects if not specified
;192.168.0.1
;10.10.10.1
8.8.8.8
4.2.2.2
```

9. Edit [Range Set] section

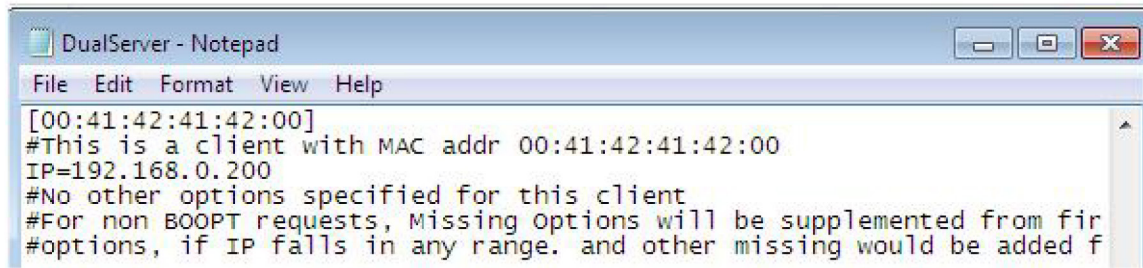


```
DualServer - Notepad
File Edit Format View Help
[RANGE_SET]
#This is first and simple DHCP range section example,
#This example may be good enough for simple/home use.
#If you need range filters, look at example below
DHCPRange=192.168.0.1-192.168.0.254
;DHCPRange=192.168.4.1-192.168.4.254
;DHCPRange=192.168.5.1-192.168.5.254
#Following are range specific DHCP options.
#You can copy more options names from [GLOBAL_OPTIONS]
;SubnetMask=255.255.255.0
;DomainServer=192.168.55.23
;Router=192.168.0.1
#Lease Time can be different for this Range
;AddressTime=360
```

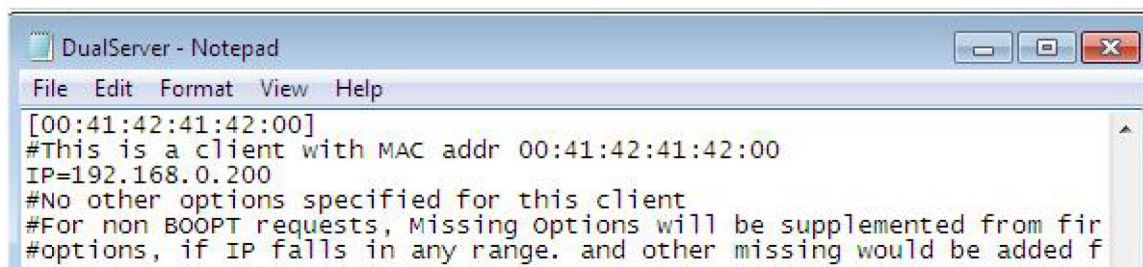


```
DualServer - Notepad
File Edit Format View Help
[RANGE_SET]
#This is first and simple DHCP range section example,
#This example may be good enough for simple/home use.
#If you need range filters, look at example below
DHCPRange=192.168.1.101-192.168.1.254
;DHCPRange=192.168.4.1-192.168.4.254
;DHCPRange=192.168.5.1-192.168.5.254
#Following are range specific DHCP options.
#You can copy more options names from [GLOBAL_OPTIONS]
SubnetMask=255.255.255.0
;DomainServer=192.168.1.100
Router=192.168.1.1
#Lease Time can be different for this Range
AddressTime=360
```

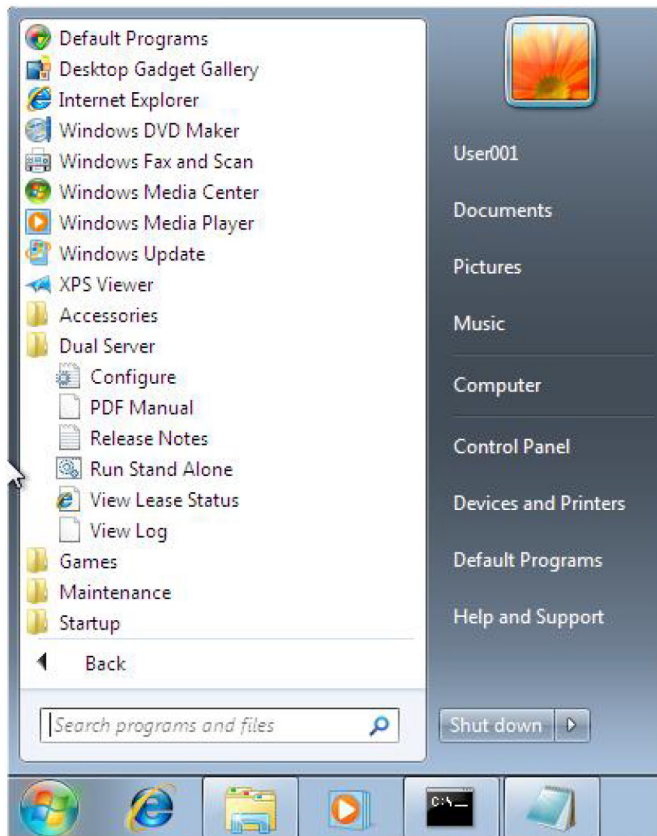
10. Edit [static IP/MAC] section

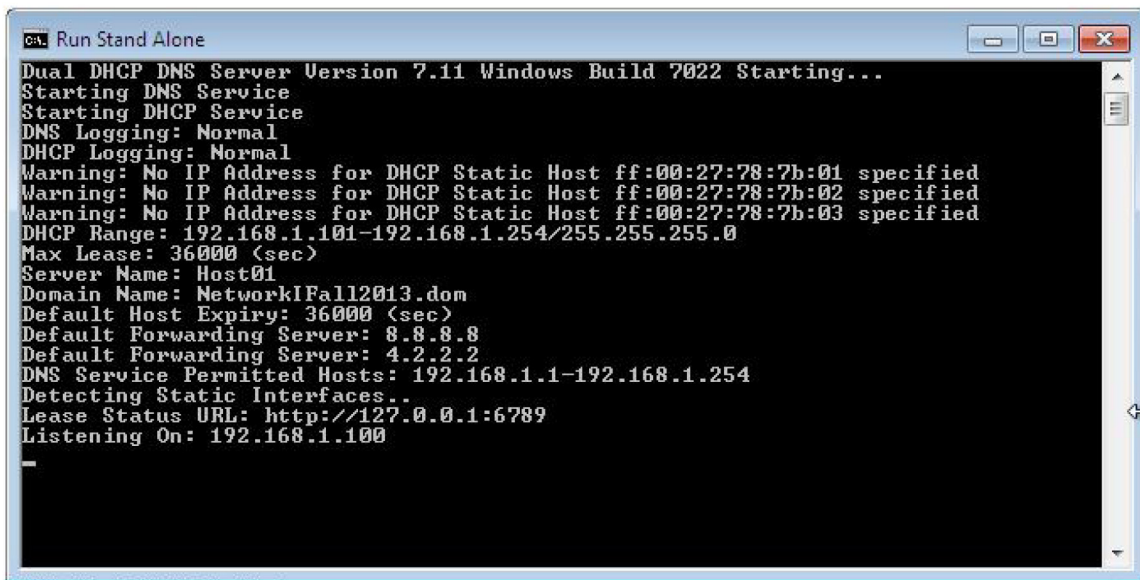
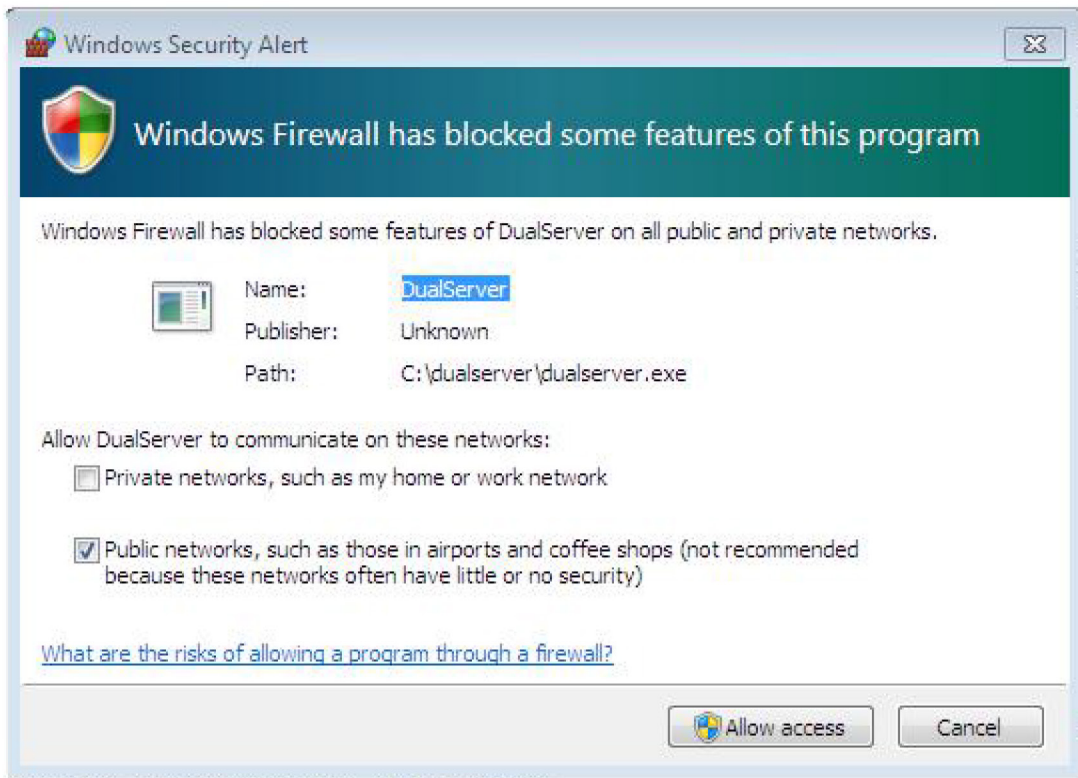


11. Edit [MAC that doesn't belong to the network] section



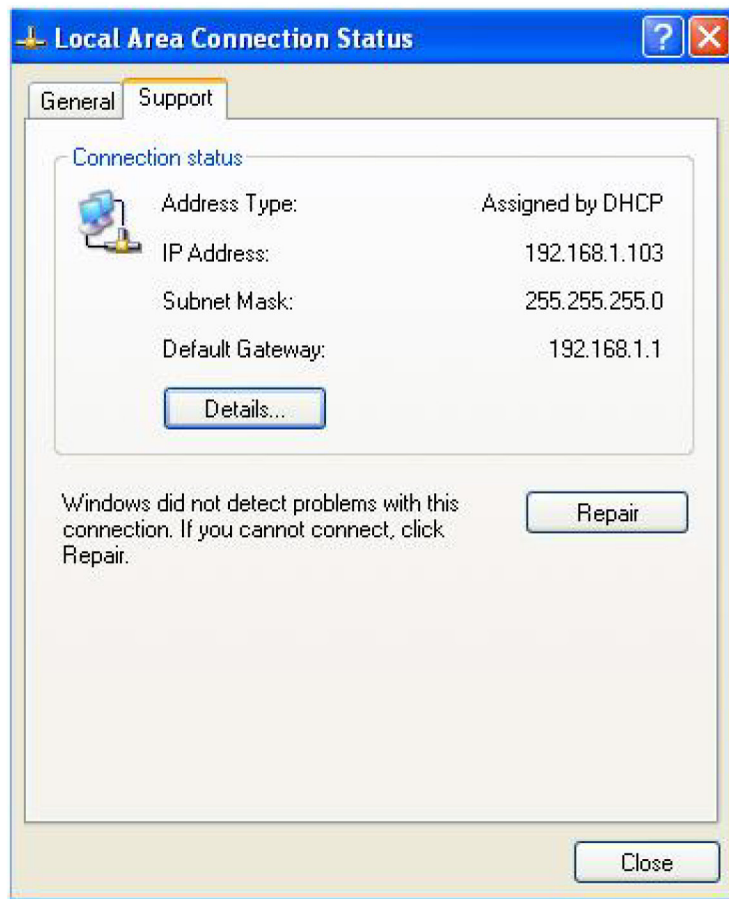
12. run Dual server

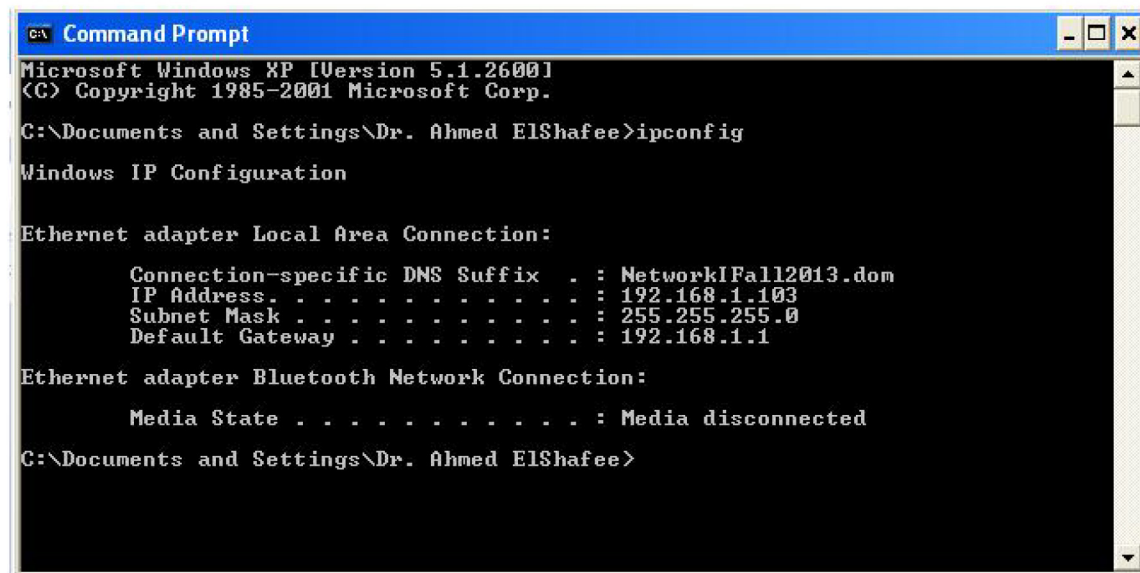
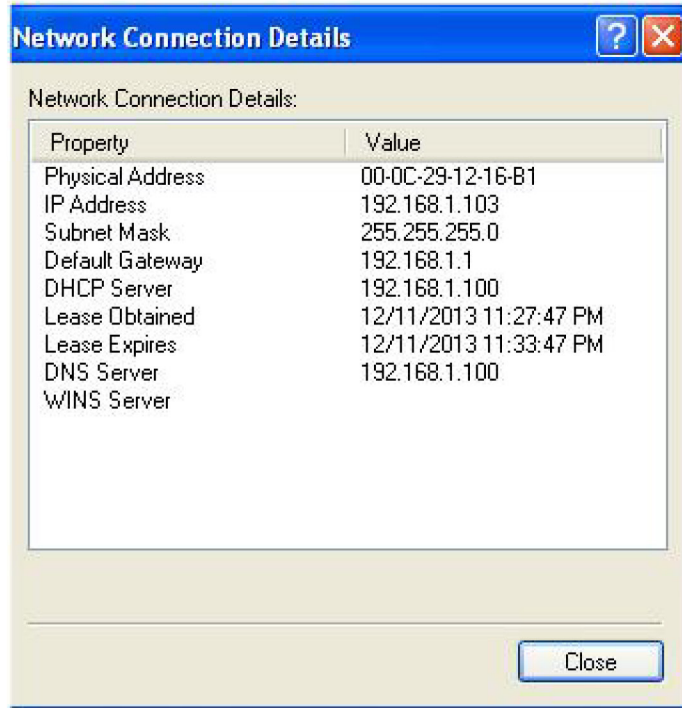




13. connect first host

```
Run Stand Alone
Max Lease: 36000 <sec>
Server Name: Host01
Domain Name: NetworkIFall2013.dom
Default Host Expiry: 36000 <sec>
Default Forwarding Server: 8.8.8.8
Default Forwarding Server: 4.2.2.2
DNS Service Permitted Hosts: 192.168.1.1-192.168.1.254
Detecting Static Interfaces..
Lease Status URL: http://127.0.0.1:6789
Listening On: 192.168.1.100
DHCPDISCOVER for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> offered 192.168.1.103
DHCPREQUEST for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> allotted 192.168.1.103 for 360 seconds
time.windows.com A forwarded to Forwarding Server 8.8.8.8
time.windows.com A forwarded to Forwarding Server 4.2.2.2
time.windows.com A forwarded to Forwarding Server 8.8.8.8
time.windows.com A forwarded to Forwarding Server 4.2.2.2
DHCPREQUEST for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> renewed 192.168.1.103 for 360 seconds
time.windows.com A forwarded to Forwarding Server 8.8.8.8
```





14. test network using ping command

```
Command Prompt

C:\Documents and Settings\Dr. Ahmed ElShafee>ping -a www

Pinging www.NetworkIFall2013.dom [192.168.1.1] with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\Dr. Ahmed ElShafee>_
```

```
Run Stand Alone

Server Name: Host01
Domain Name: NetworkIFall2013.dom
Default Host Expiry: 36000 (sec)
Default Forwarding Server: 8.8.8.8
Default Forwarding Server: 4.2.2.2
DNS Service Permitted Hosts: 192.168.1.1-192.168.1.254
Detecting Static Interfaces..
Lease Status URL: http://127.0.0.1:6789
Listening On: 192.168.1.100
DHCPDISCOVER for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> offered 192.168.1.103
DHCPREQUEST for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> allotted 192.168.1.103 for 360 seconds
time.windows.com A forwarded to Forwarding Server 8.8.8.8
time.windows.com A forwarded to Forwarding Server 4.2.2.2
time.windows.com A forwarded to Forwarding Server 8.8.8.8
time.windows.com A forwarded to Forwarding Server 4.2.2.2
DHCPREQUEST for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> renewed 192.168.1.103 for 360 seconds
time.windows.com A forwarded to Forwarding Server 8.8.8.8
www.NetworkIFall2013.dom A resolved Locally to 192.168.1.1
```

```
Command Prompt

C:\Documents and Settings\Dr. Ahmed ElShafee>ping -a mail.NetworkIFall2013.dom

Pinging mail.NetworkIFall2013.dom [192.168.1.101] with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.101:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\Dr. Ahmed ElShafee>_
```

```
Host 00:0c:29:12:16:b1 <host02> renewed 192.168.1.103 for 360 seconds
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 4.2.2.2
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 8.8.8.8
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 4.2.2.2
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 8.8.8.8
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 4.2.2.2
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 4.2.2.2
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 8.8.8.8
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 4.2.2.2
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 8.8.8.8
mail.NetworkIFall2013.dom A forwarded to Forwarding Server 4.2.2.2
mail.NetworkIFall2013.dom A resolved Locally to 192.168.1.101
```

```
C:\ Command Prompt

C:\Documents and Settings\Dr. Ahmed ElShafee>ping -a dns

Pinging dns.NetworkIFall2013.dom [192.168.1.100] with 32 bytes of data:

Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128
Reply from 192.168.1.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Dr. Ahmed ElShafee>
```

```
mail.NetworkIFall2013.dom A resolved Locally to 192.168.1.100
DHCPREQUEST for 00:0c:29:12:16:b1 <host02> from interface 192.168.1.100 received
Host 00:0c:29:12:16:b1 <host02> renewed 192.168.1.103 for 360 seconds
```

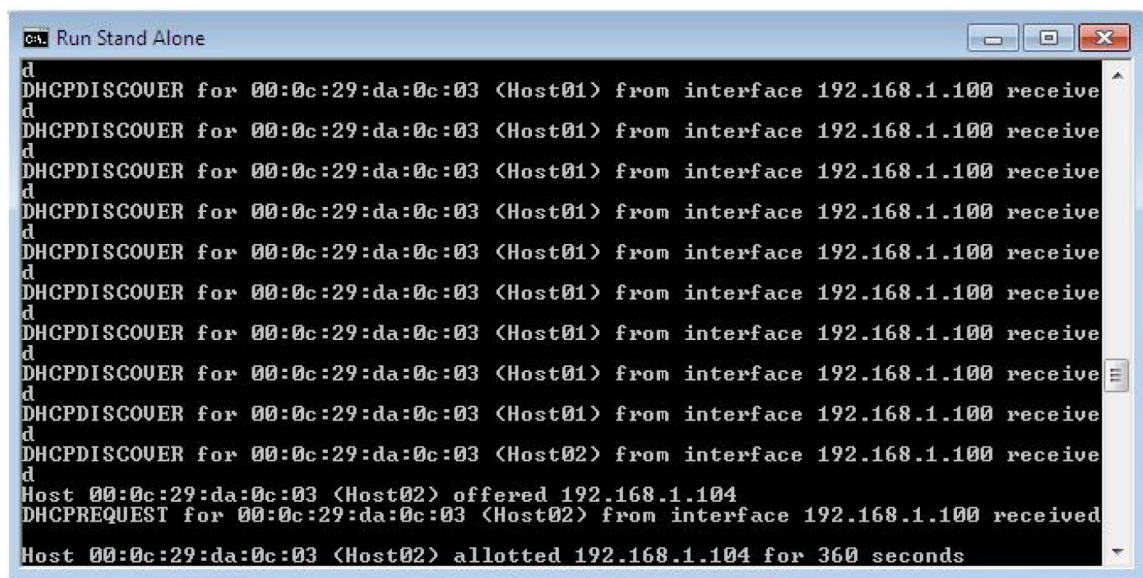
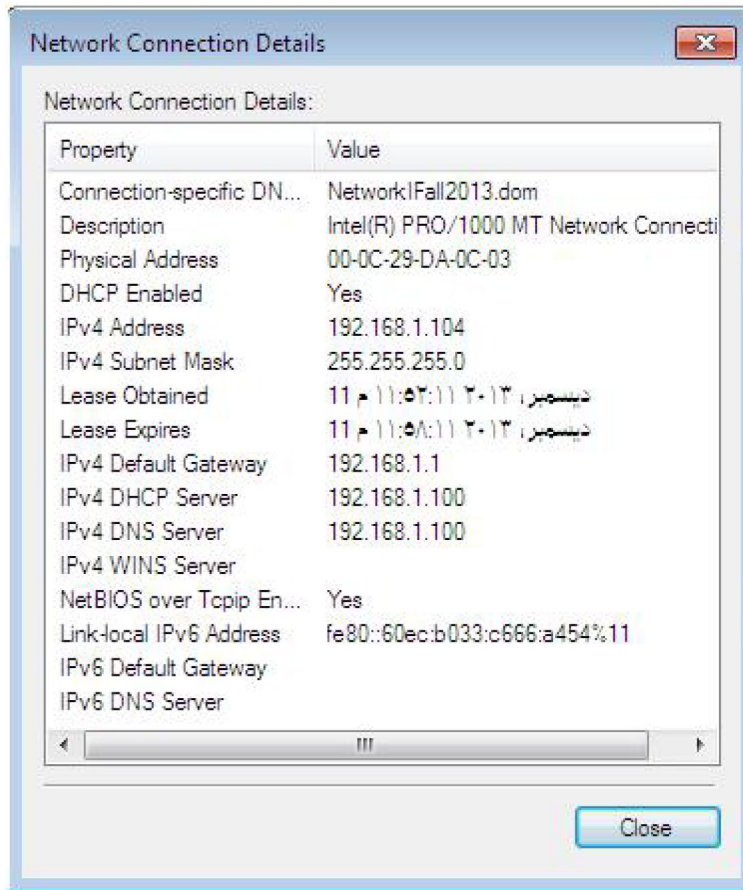
```
C:\ Command Prompt

C:\Documents and Settings\Dr. Ahmed ElShafee>ping -a google.com
Ping request could not find host google.com. Please check the name and try again.

C:\Documents and Settings\Dr. Ahmed ElShafee>
```

```
Host 00:0c:29:12:16:b1 <host02> renewed 192.168.1.103 for 360 seconds
google.com A forwarded to Forwarding Server 8.8.8.8
google.com A forwarded to Forwarding Server 4.2.2.2
google.com A forwarded to Forwarding Server 8.8.8.8
google.com A forwarded to Forwarding Server 4.2.2.2
google.com A forwarded to Forwarding Server 8.8.8.8
```

15. connecting 2nd host



16. connecting 3rd host

