**Introduction**  
In a network that has a DC and integrated DNSyou will:  
Install DHCP Sever role on a Windows Server 2008 server virtual machine  
Configure a scope   
Configure scope options  
Test your configuration using Widows 7 DHCP clients  
Configure DHCP Relay Agent  
  
Once you have completed the steps in LabGOne, you are ready to do the ones below.

**Install DHCP and Configure DHCP Scope for Subnet 172.16.150.0**  
From Server Manager install DHCP Server Role on w2k8a01. Click the checkbox next to DHCP Server, Next five times, on the Add or Edit DHCP Scopes, click Add, In Add Scope popup, enter the following the textboxes  
Scope Name: net17216150  
Starting IP Address: 172.16.150.1  
Ending IP Address: 172.16.150.100  
Subnet Mask: 255.255.255.0  
Default Gateway (optional): 172.16.150.10  
OK, Next three time, Install  
When Install is finished, close Server Manager  
  
**Configure Exclusions**In this step, you will configure the DHCP server so it will not allocate the addresses for the router interface that is on net17216150network, 172.16.150.10, and the DHCP server, 172.16.150.20.

On w2k8a01,   
go to Administrative Tools, DHCP and click the plus next to the server, w2k8a01  
click the plus next to Scope[172…] and right click Address Pool and click New Exclusion Range…  
in the Start IP address textbox, type 172.16.150.10 and click Add  
again, in the Start IP address textbox, type 172.16.150.20 and click Add, Close  
you will see a red x next to both addresses to let you know DHCP will not allocate them  
Close the DHCP console

**Test your DHCP Configuration**  
On w7a and w7b,   
be sure both adapters are configured to obtain IP configuration  
go to Control Panel, Network and Sharing Center and reconfigure the NICs to Obtain an IP address automatically  
Execute ipconfig on both clients; you will see a valid 172.16.150.x address  
Otherwise, execute ipconfig/release followed by ipconfig/renew  
Execute ipconfig again to check for the valid addresses  
Otherwise, check all your settings  
When you have a valid address, ping all interfaces on the 172.16.150.0 network, and be sure they all work

**Move a Client to Different Network**Remove w7bas member of your domain,   
goto Control Panel, System  
move it to the net10  
configure the adapter with 10.10.150.25 IP address  
ping r10, if not successful, check your configuration and try again  
after a successful ping, configure the adapter to Obtain an IP address automatically  
execute ipconfig/release and renew  
what is your result? Why?

**Configure DHCP Relay Agent**On w2k8r10,  
Administrative Tools, click Routing and Remote Access, click the plus next to w2k8r10(Local), click the plus next to IPv4, right click General, and Click New Routing Protocol  
on the New Routing Protocol popup, select DHCP Relay Agent, OK  
on the left, click DHCP Relay Agent, which should be empty  
right click DHCP Relay Agent, click New Interface  
in the New Interface for DHCP Relay Agent , select net10, OK, OK  
  
You selected net10 because the DHCP client, w7b, does not have an address, and it is on network 10.10.150.0; as a result, when the DHCP client issues a DHCP Request, the relay agent will see the request and forwards it to the DHCP server on network 172.16.150.0.

While still in Routing and Remote Access console, on the left,   
right click DHCP Relay Agent, click Properties  
in DHCP Relay Agent Properties, a textbox is labeled Server address; this is where you type the IP address of the DHCP server, w2k8a01  
enter the address for w2k8a01, Add, OK  
  
**Test the DHCP Relay Agent Configuration**  
On both w7a and w7b  
verify that the IP configuration for the NICs are set to Obtain an IP address automatically  
execute ipconfig release and renew; what is the IP configuration on w7b?  
Is this a problem? Why?  
  
**Configure DHCP Scope for Subnet 10.10.150.0**  
On w2k8a01,   
go to Administrative Tool, DHCP  
click the plus next to w2k8a01, click the plus next to IPv4  
right IPv4, click New Scope  
on Welcome to the New Scope Wizard page, click Next  
on Scope Name page, type net1010150 in the Name textbox, Next  
on the IP Address Range page, type the following the textboxes  
Start IP address: 10.10.150.1  
End IP address: 10.10.150.100  
Length: 24  
Next  
on the Add Exclusions page  
From Figure 2, notice that there is only one address on network 10.10.150.0, the address of w2kr10, that you do not want the DHCP server to lease, but let us assume other servers will be added later; as a result, you will configure a range of addresses. Enter the following in,  
Start IP address: 10.10.150.1  
End IP address: 10.10.150.30  
Add, Next, Next  
on the Configure DHCP Options, leave the Yes, I want to configure these options now  
on the Router(Default Gateway) page, IP address: textbox, type 10.10.150.10, Add, Next, Next, Next, Next, Finish

**Test the net1010150 Scope**  
On both w7a and w7b  
verify that the IP configuration for the NICs are set to Obtain an IP address automatically  
execute ipconfig/release followed by ipconfig/renew on both  
what is the IP configuration on both?