Configure DHCP

Dynamic Host Configuration Protocol

DHCP

- You can use DHCP to simplify administration of Active Directory domains.
- You use DHCP to dynamically assign TCP/IP configuration information to network clients.
- This not only saves time during system configuration information, but also provides a centralized mechanism for updating the configuration.
- To enable DHCP, you need to install and configure DHCP server.

DHCP

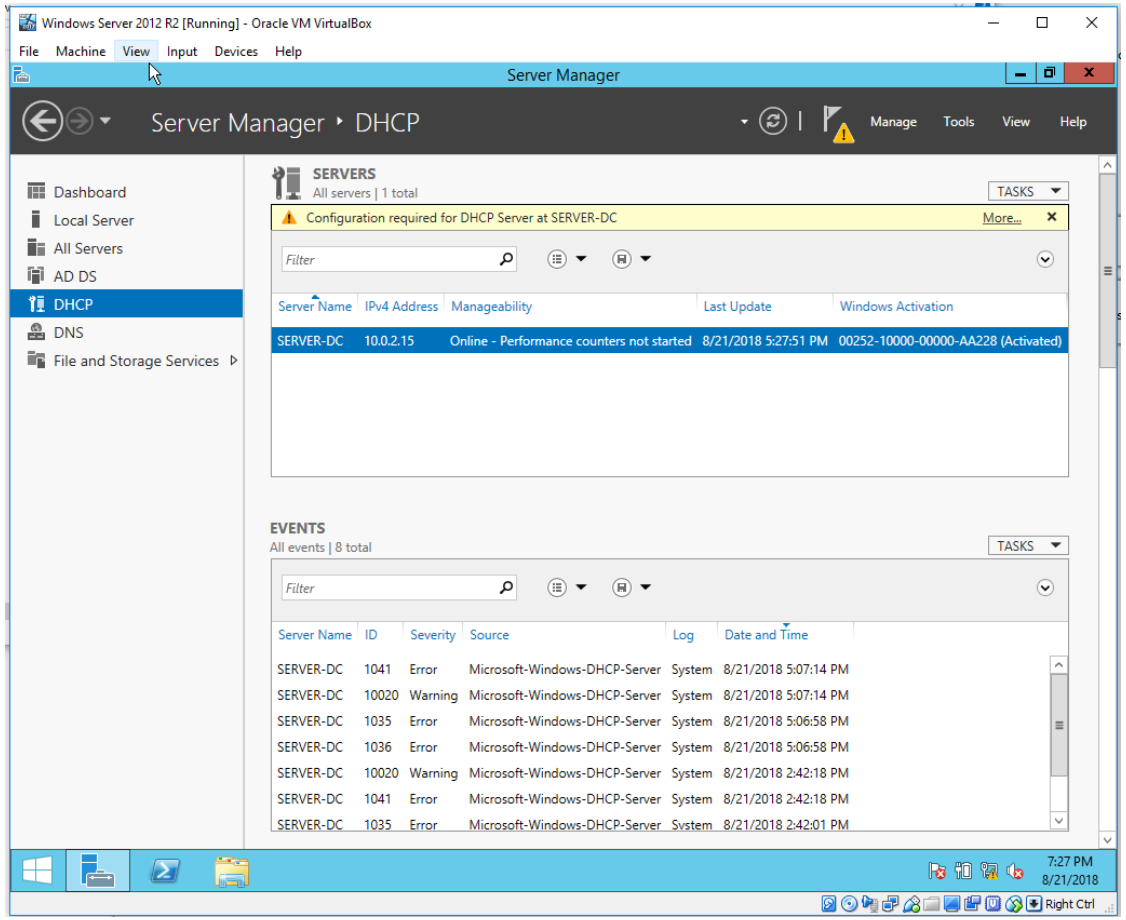
- DHCP gives you centralized control over IP addressing
- Once DHCP is installed, you rely on the Dhcp server to supply the basic information necessary for TCP/IP networking:
  1. IP address
  2. Subnet mask
  3. Default gateway
  4. Primary and secondary Domain Name System (DNS) servers
  5. Primary and secondary Windows Internet Name Service (WINS) servers
  6. The DNS domain name

DHCP

- DHCP can assigned the following to any of the network interface cards (NICs) on a computer:
  - a dynamic IP version 4(IPv4) address
  - And an IP version 6 (IPv6) address,
  - Or both addresses

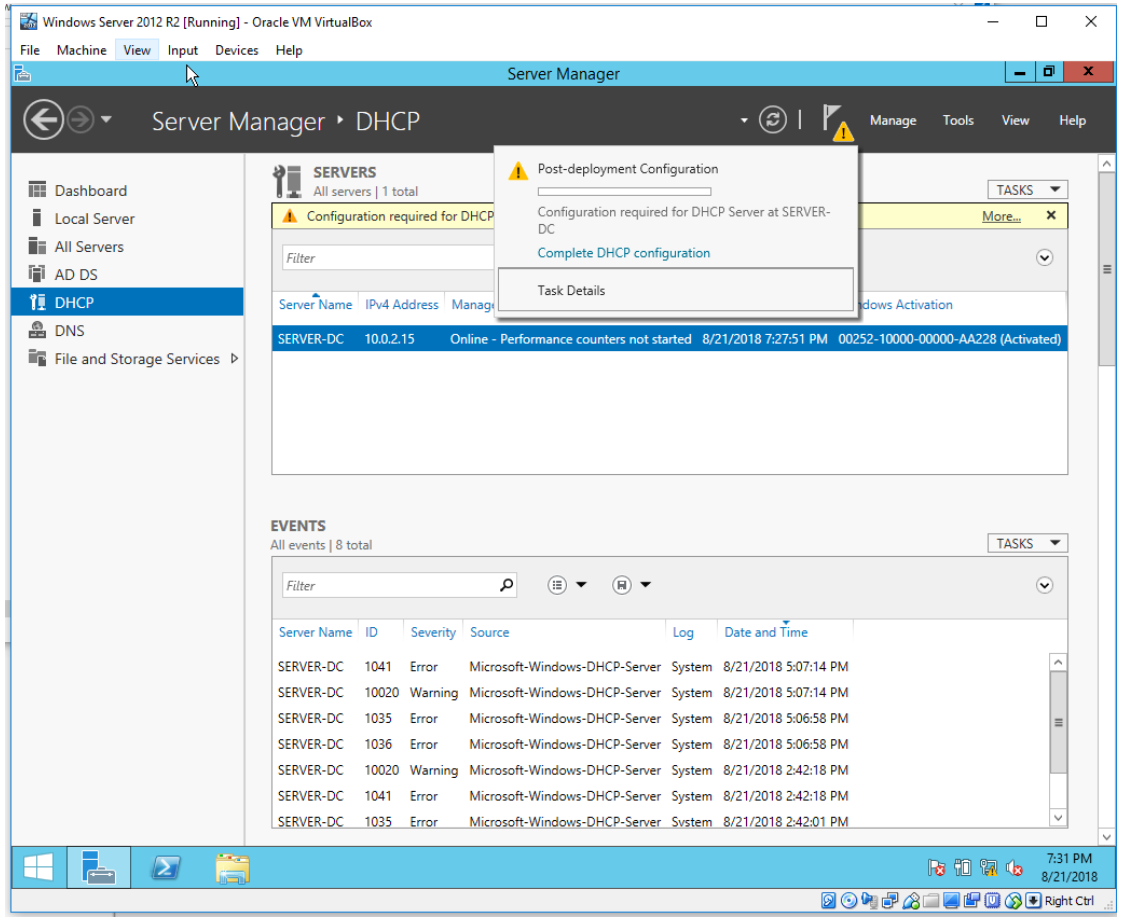
Step: DHCP requires configuration

IP SERVER-DC: 10.0.2.15



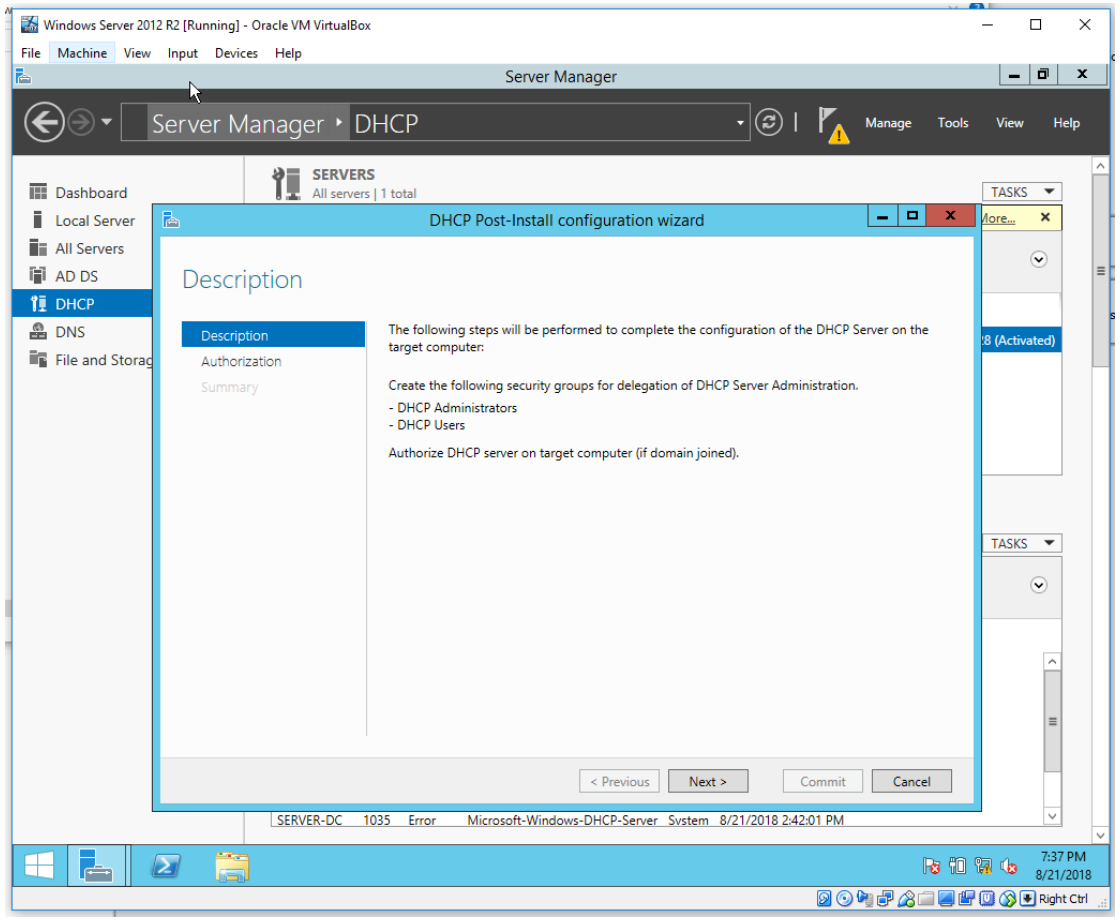
Step: DHCP requires configuration (Flag)

Click on Complete DHCP Configuration



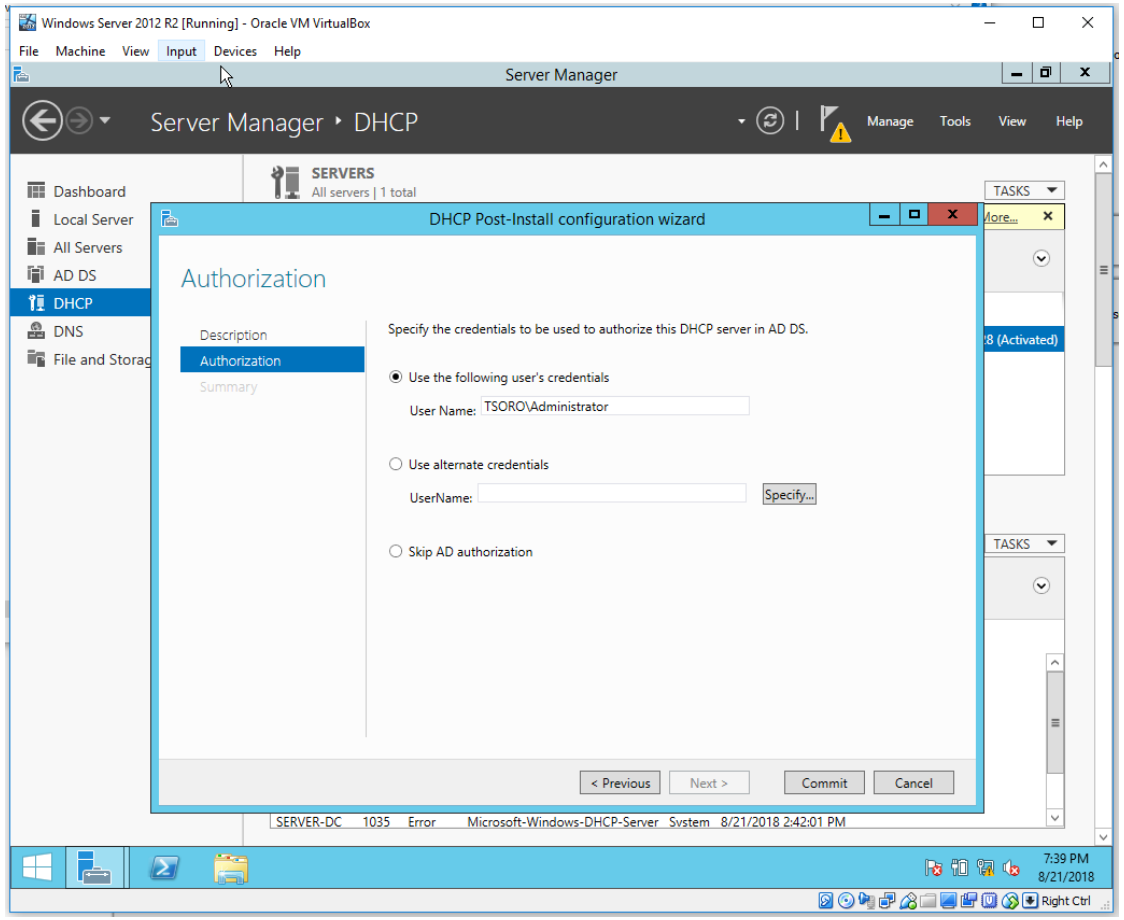
DHCP config.

Click Next



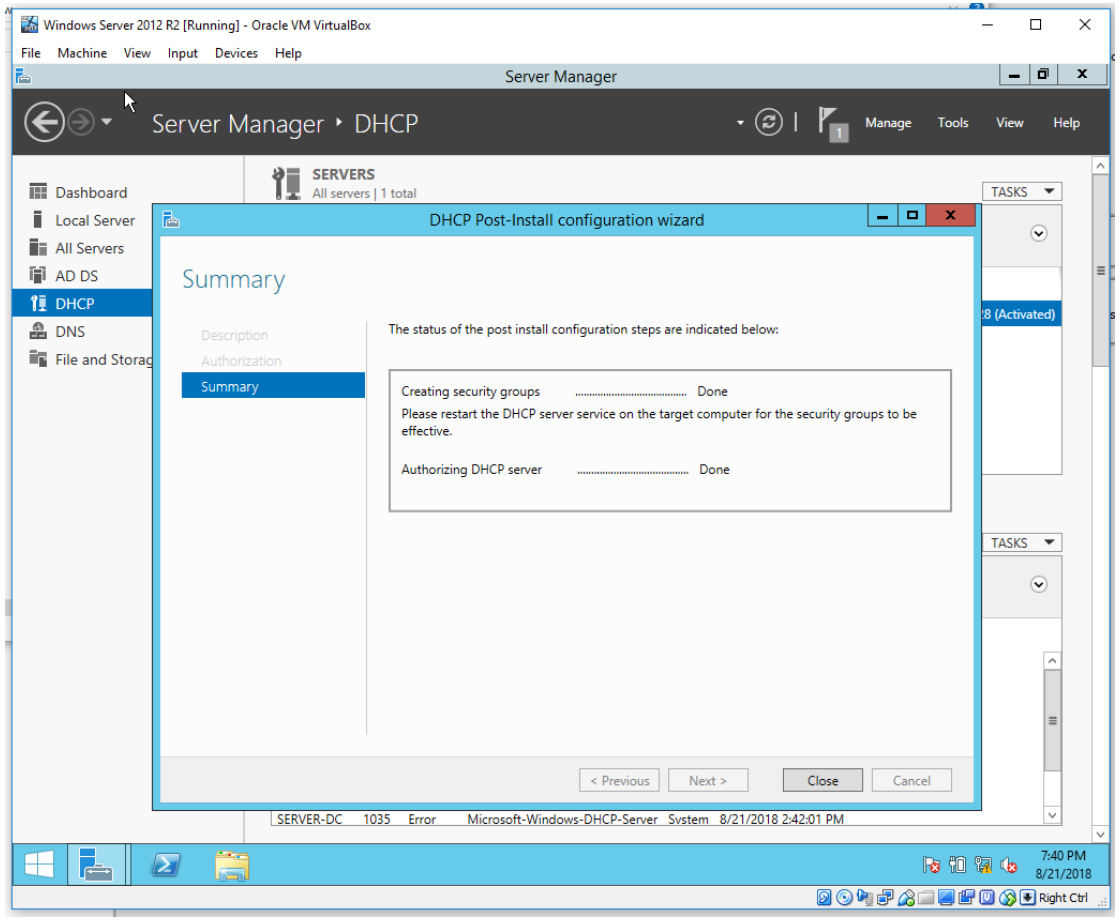
DHCP config.

I will use my administrative credentials
Click: Commit

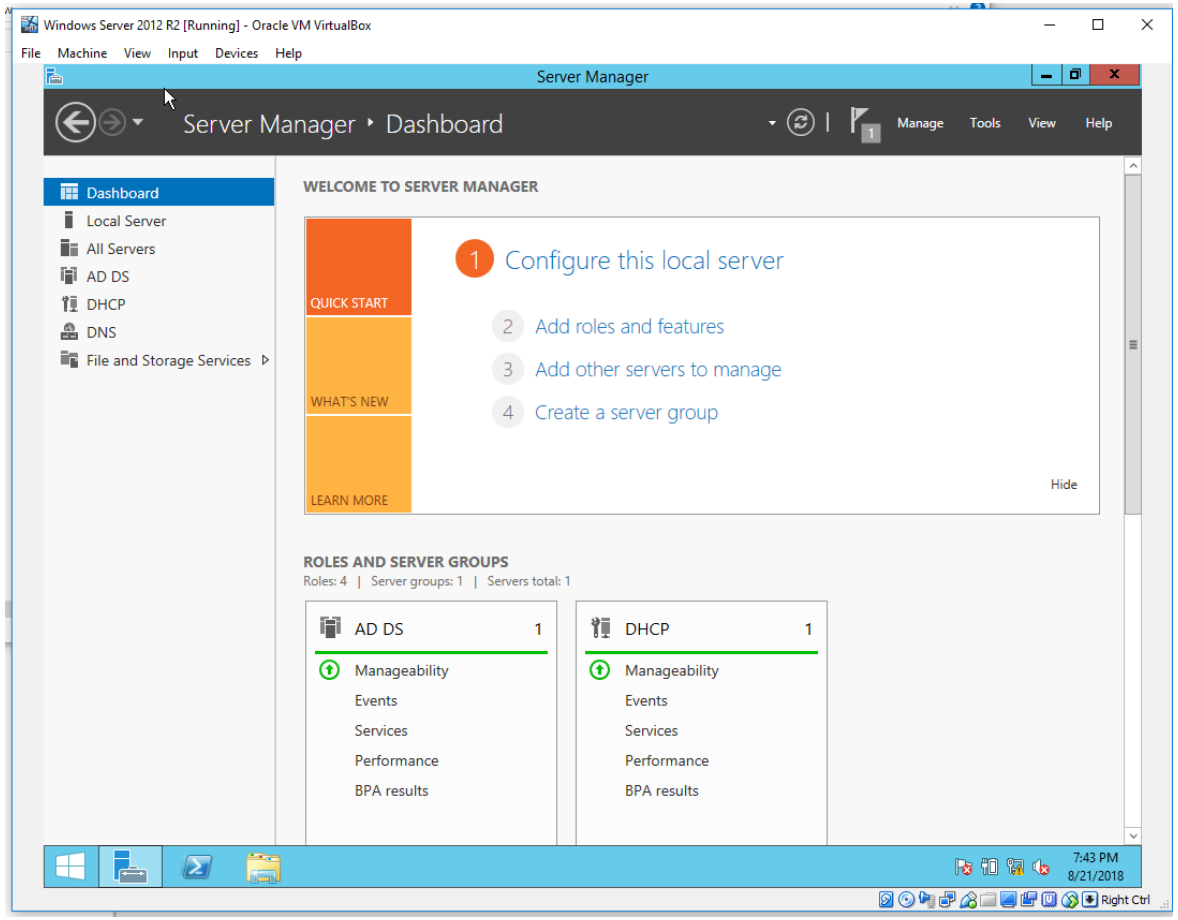


DHCP config.

Then Close

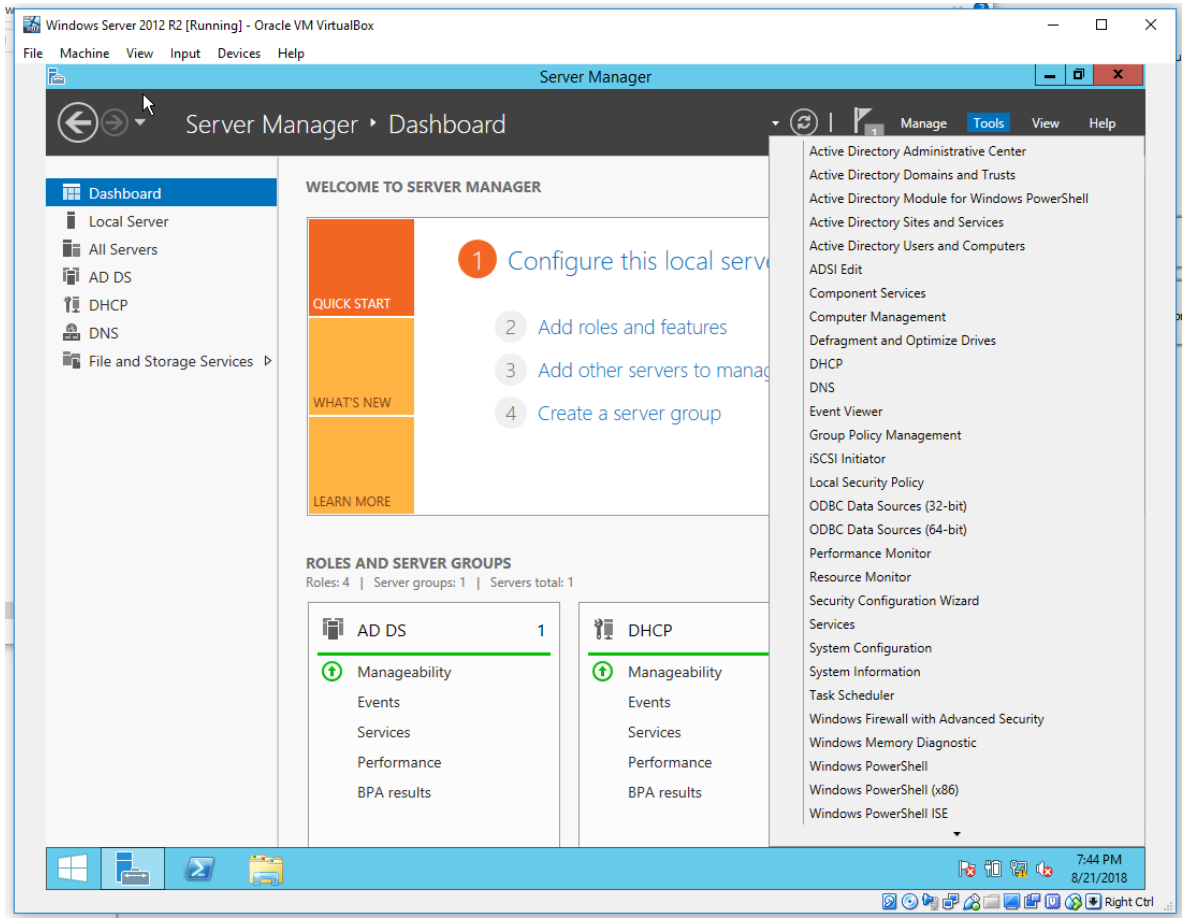


DHCP config.

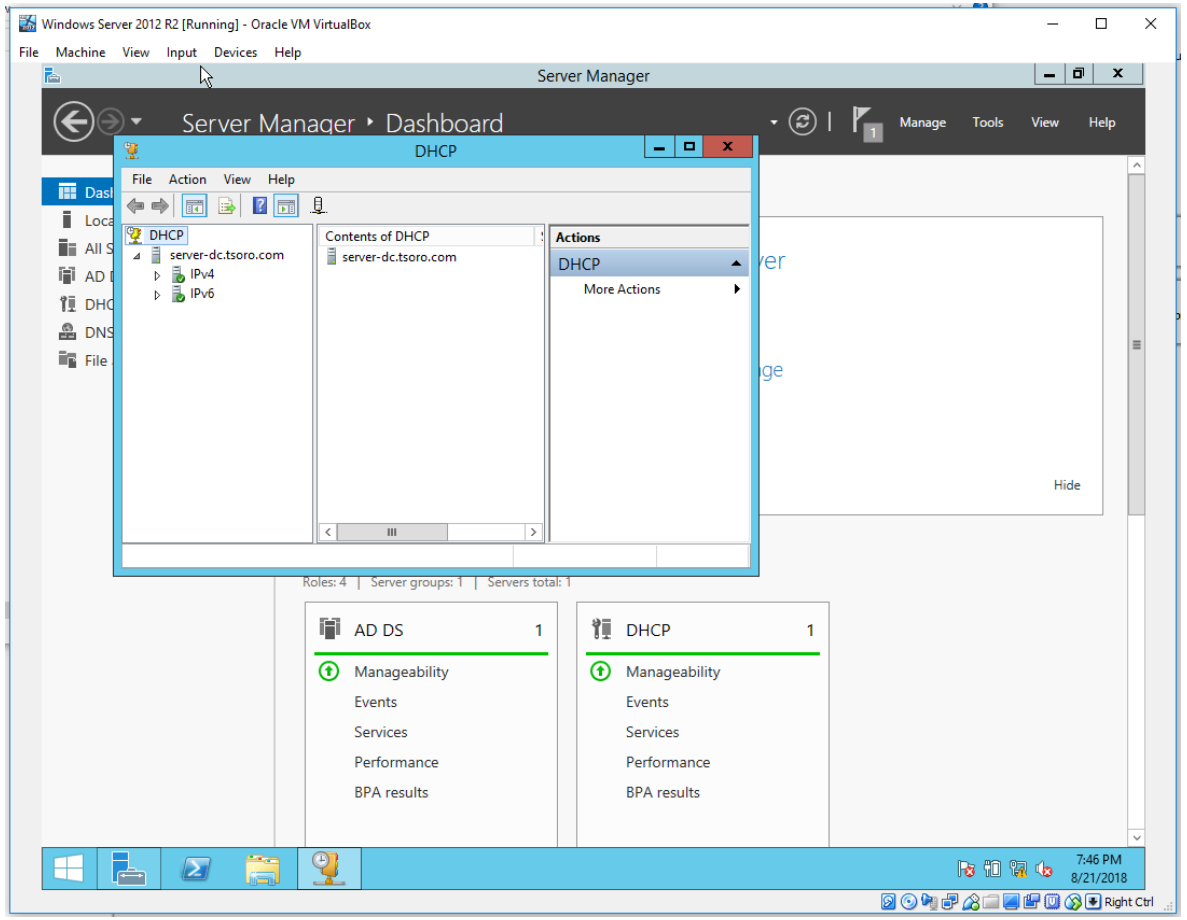

Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Server Manager
Server Manager ▸ Dashboard
Manage Tools View Help
Dashboard
Local Server
All Servers
AD DS
DHCP
DNS
File and Storage Services
WELCOME TO SERVER MANAGER
QUICK START
WHAT'S NEW
LEARN MORE
1 Configure this local server
2 Add roles and features
3 Add other servers to manage
4 Create a server group
Hide
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Servers total: 1
AD DS 1
Manageability
Events
Services
Performance
BPA results
DHCP 1
Manageability
Events
Services
Performance
BPA results
7:43 PM
8/21/2018
Right Ctrl

DHCP config.

Click Tool → DHCP

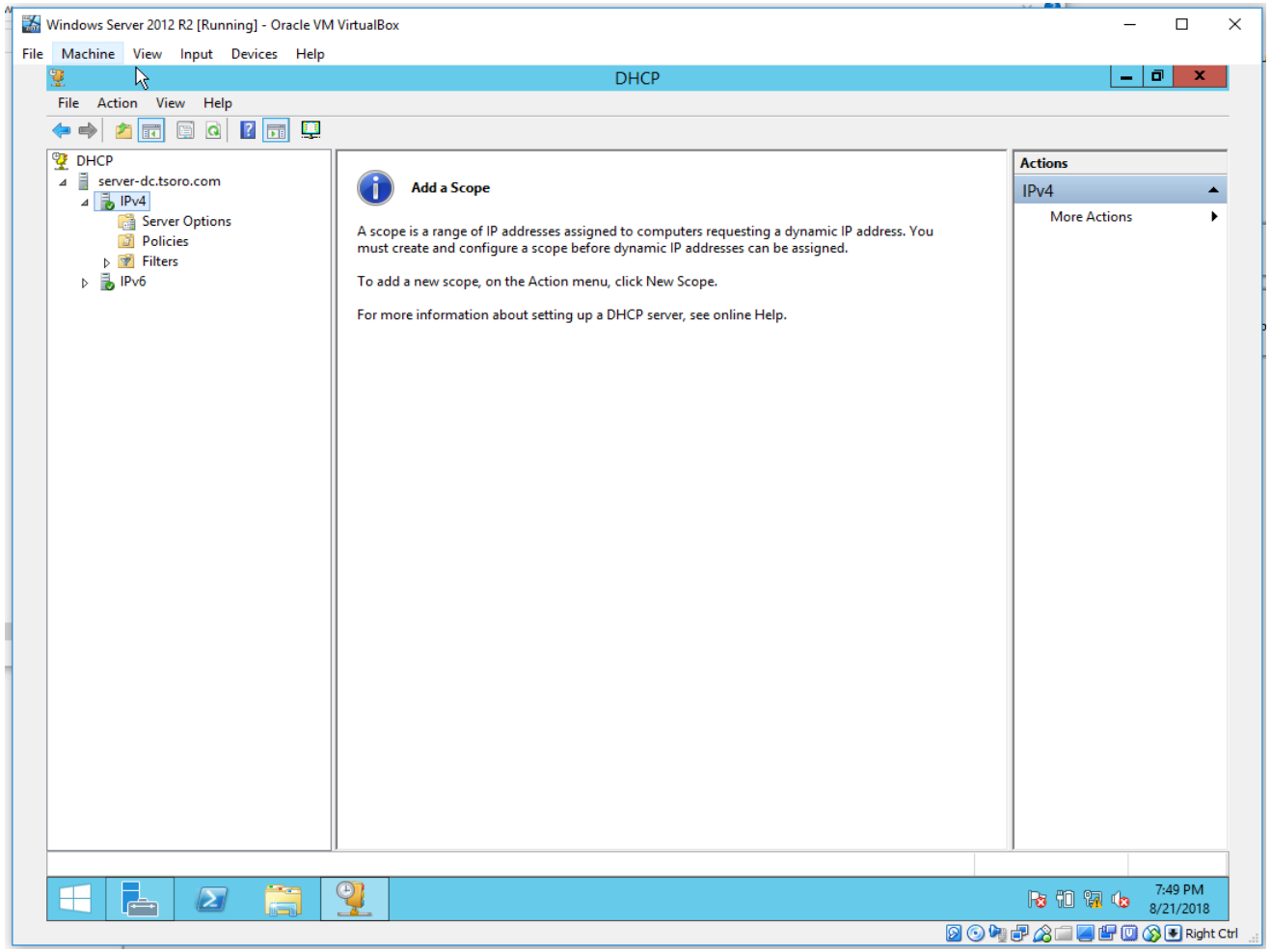


DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Server Manager
Server Manager ▸ Dashboard
Manage Tools View Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
IPv6
Contents of DHCP
server-dc.tsoro.com
Actions
DHCP
More Actions
Hide
Roles: 4 | Server groups: 1 | Servers total: 1
AD DS 1
Manageability
Events
Services
Performance
BPA results
DHCP 1
Manageability
Events
Services
Performance
BPA results
7:46 PM
8/21/2018
Right Ctrl

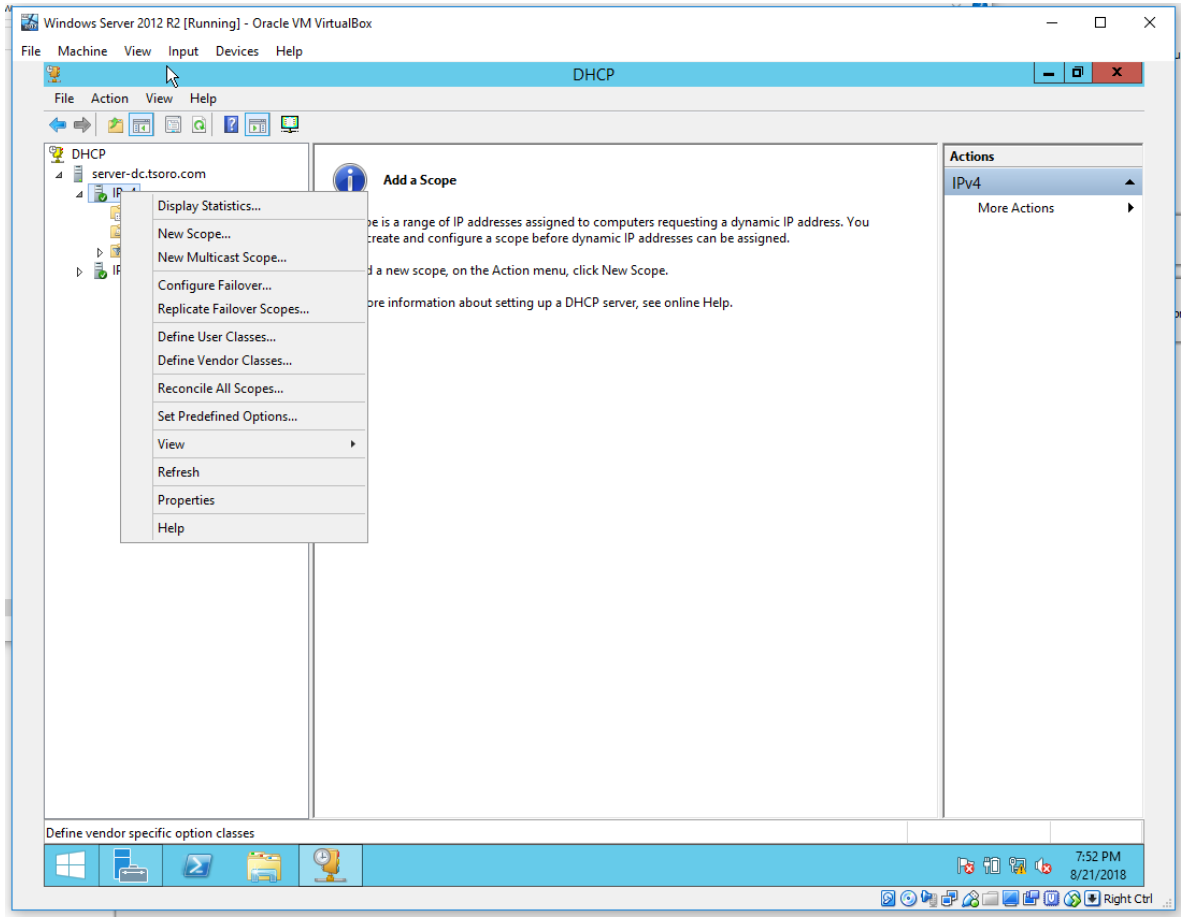
DHCP config.

I have my domain tsoro.com
Server-dc: my computer on this domain

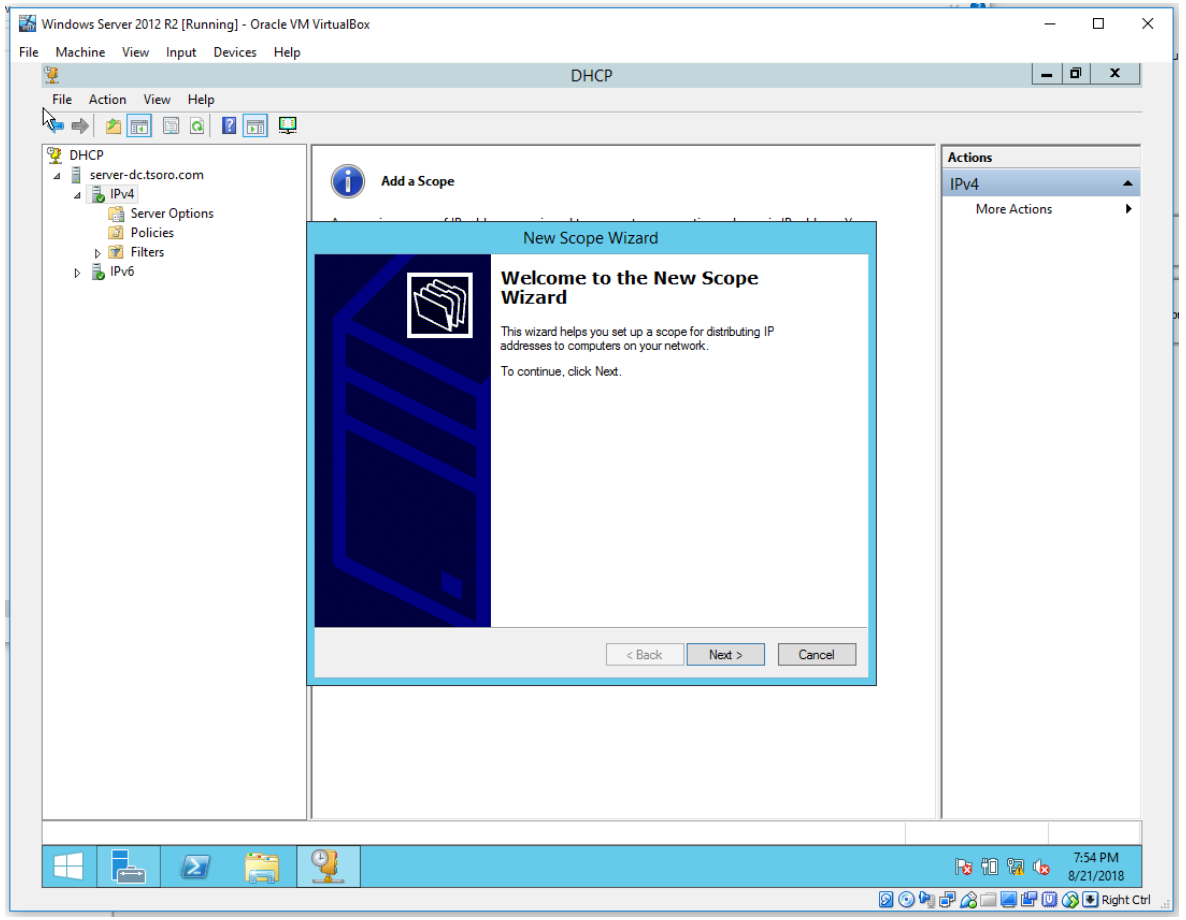


DHCP config.

Right click on IPv4
Select new scope

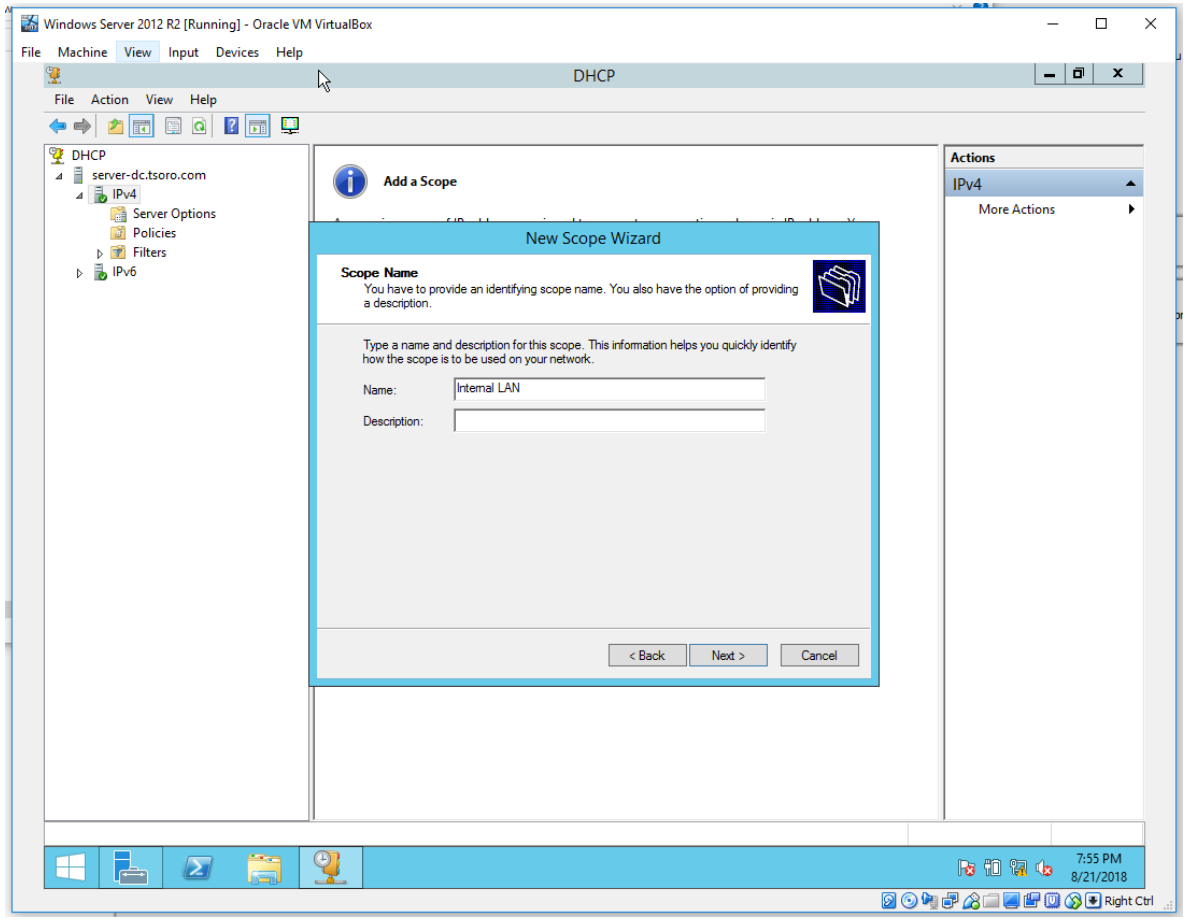


DHCP config.

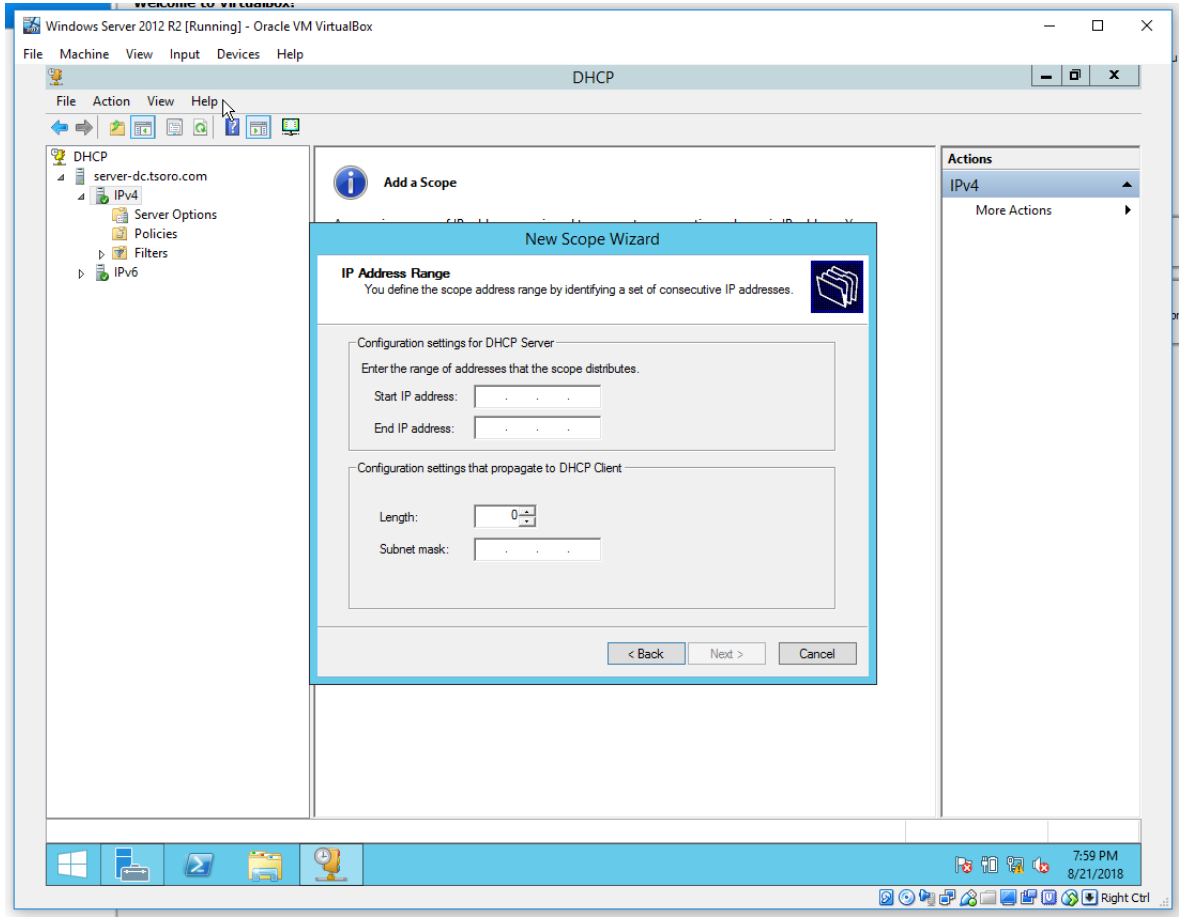

Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
Actions
IPv4
More Actions
New Scope Wizard
Welcome to the New Scope Wizard
This wizard helps you set up a scope for distributing IP addresses to computers on your network.
To continue, click Next.
< Back
Next >
Cancel
7:54 PM
8/21/2018
Right Ctrl

DHCP config.

You can give any name you want: I choose Internal LAN: Local Area Network

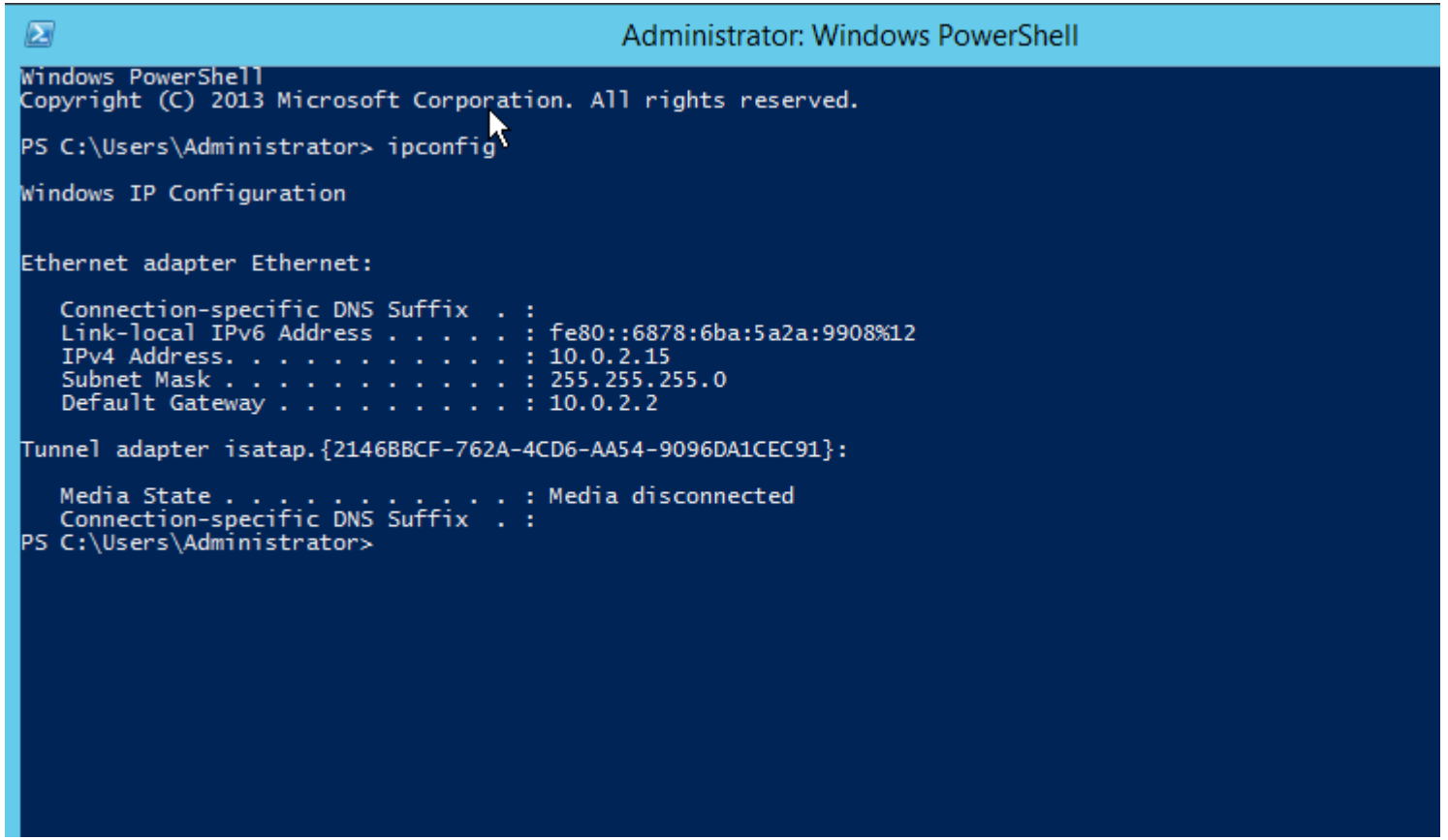


DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
New Scope Wizard
IP Address Range
You define the scope address range by identifying a set of consecutive IP addresses.
Configuration settings for DHCP Server
Enter the range of addresses that the scope distributes.
Start IP address:
End IP address:
Configuration settings that propagate to DHCP Client
Length:
Subnet mask:
< Back
Next >
Cancel
Actions
IPv4
More Actions
7:59 PM
8/21/2018
Right Ctrl

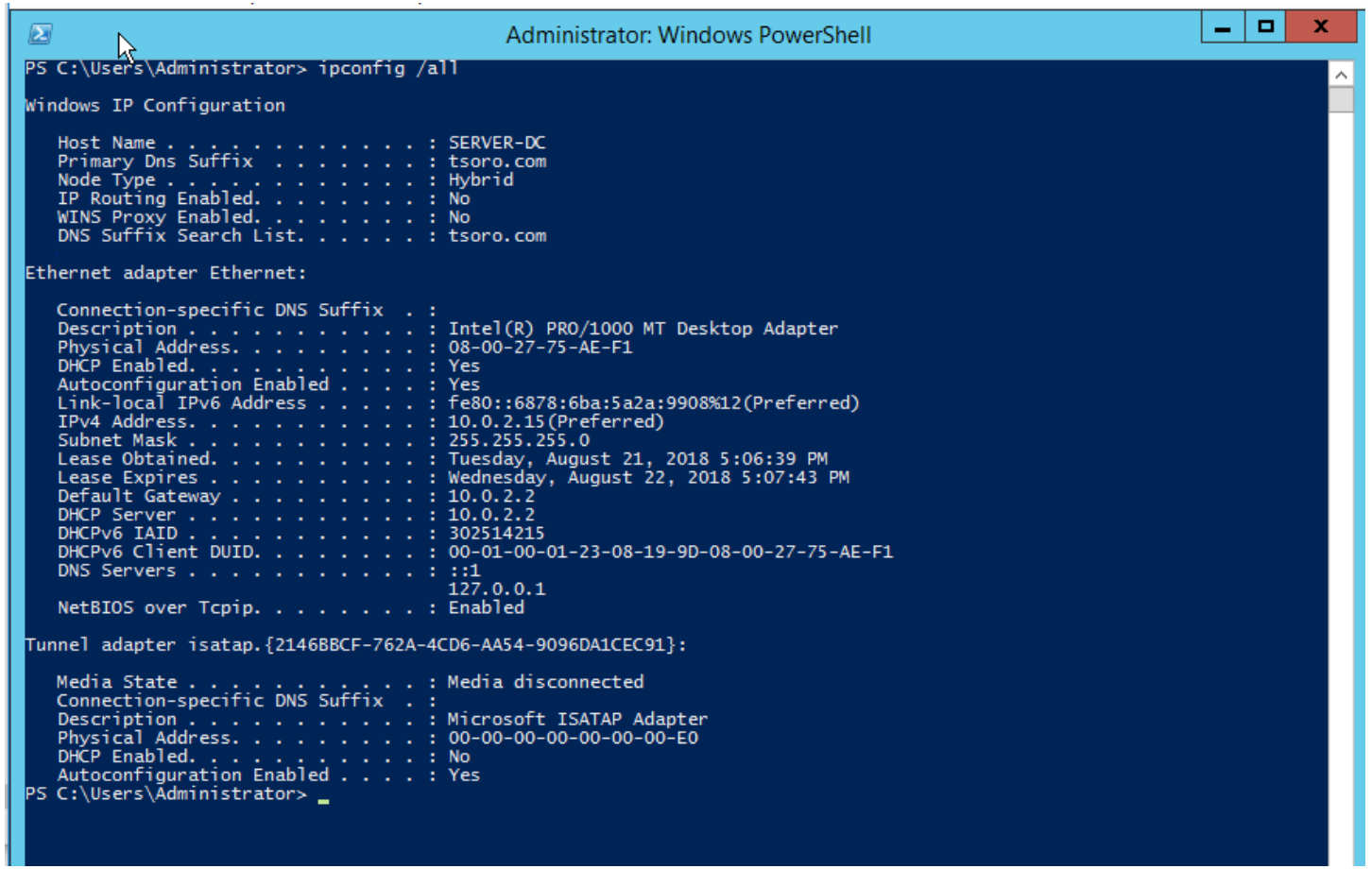
Use PowerShell to get IP information

Ipconfig
I only have 1 to 254 addresses
Class C



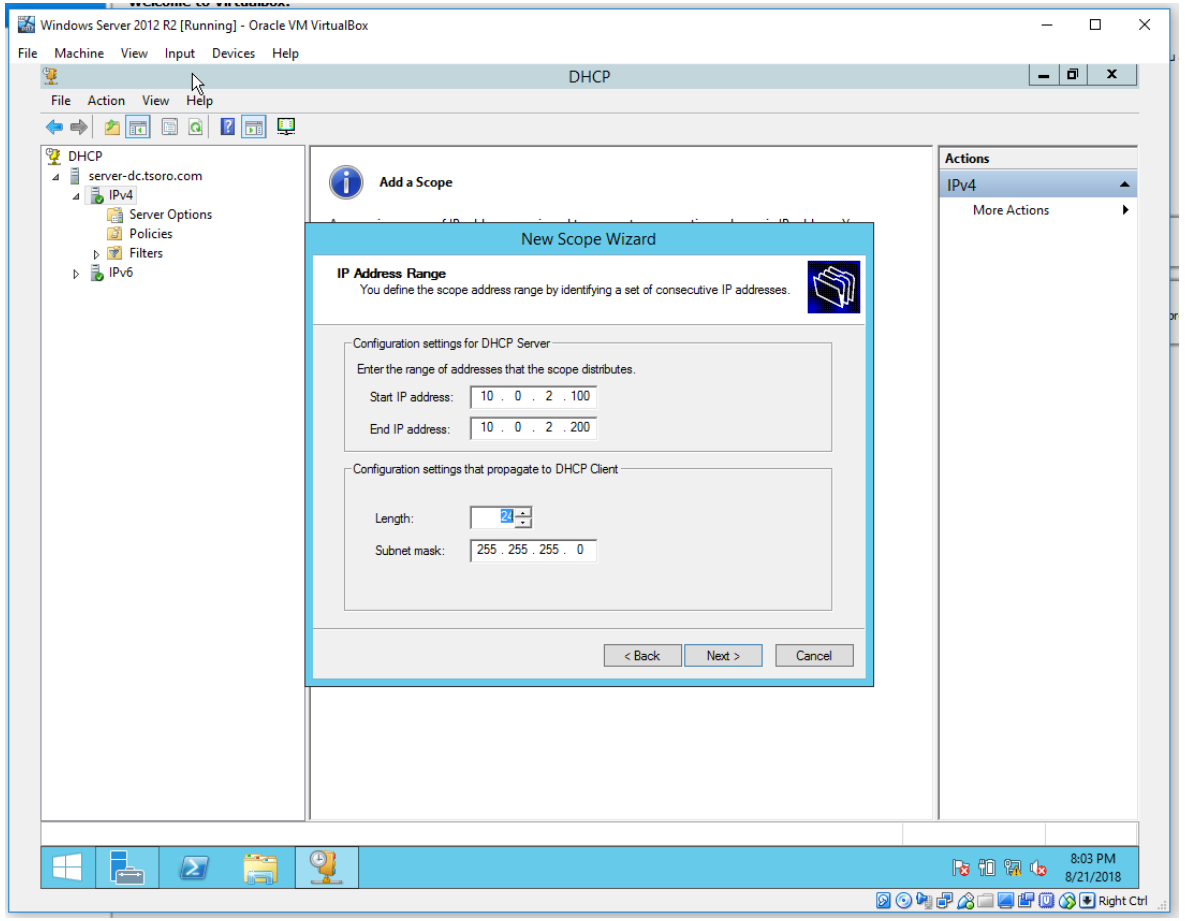
DHCP config.

Ipconfig /all



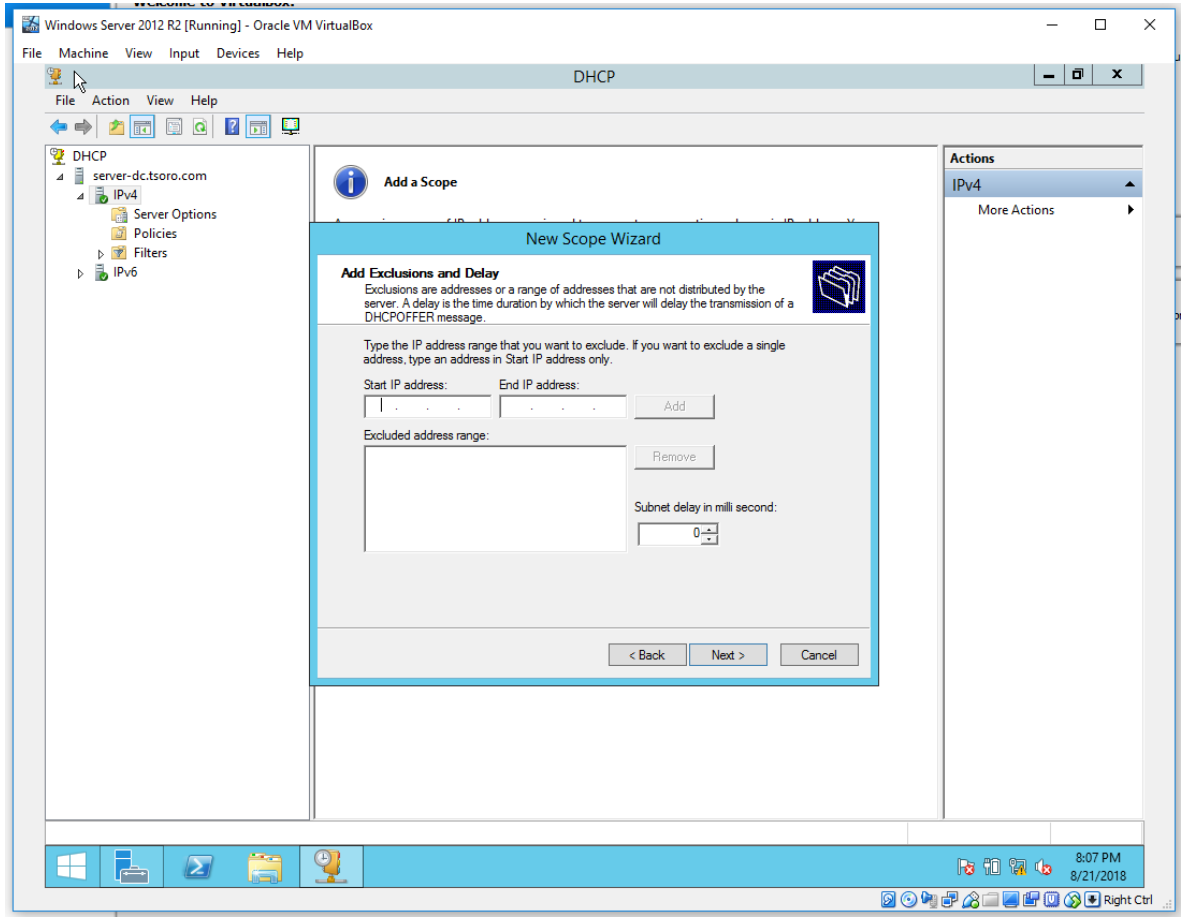
DHCP config.

- I will be giving up address to my clients from 100 to 200
- Good for a small business
- For a big business the subnet mask will have to be changed

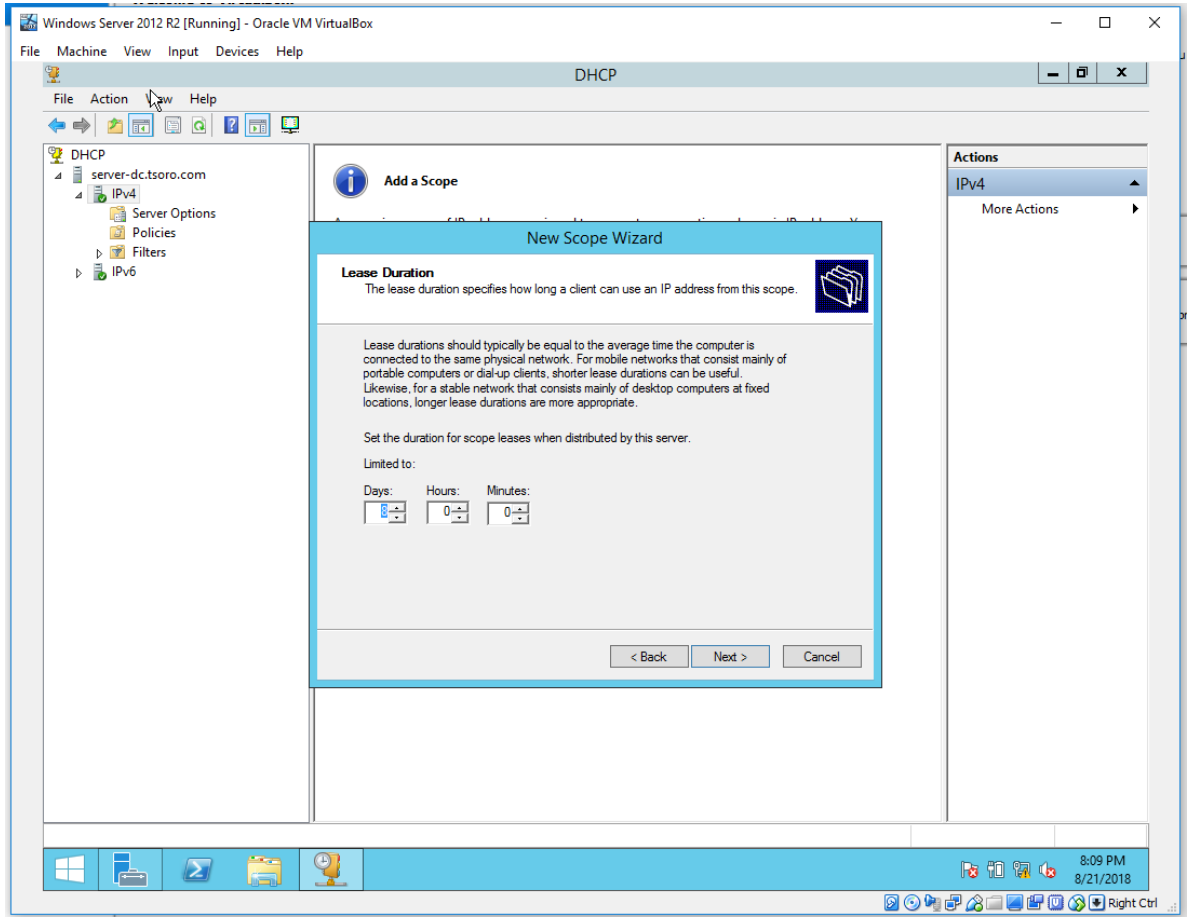


DHCP config.

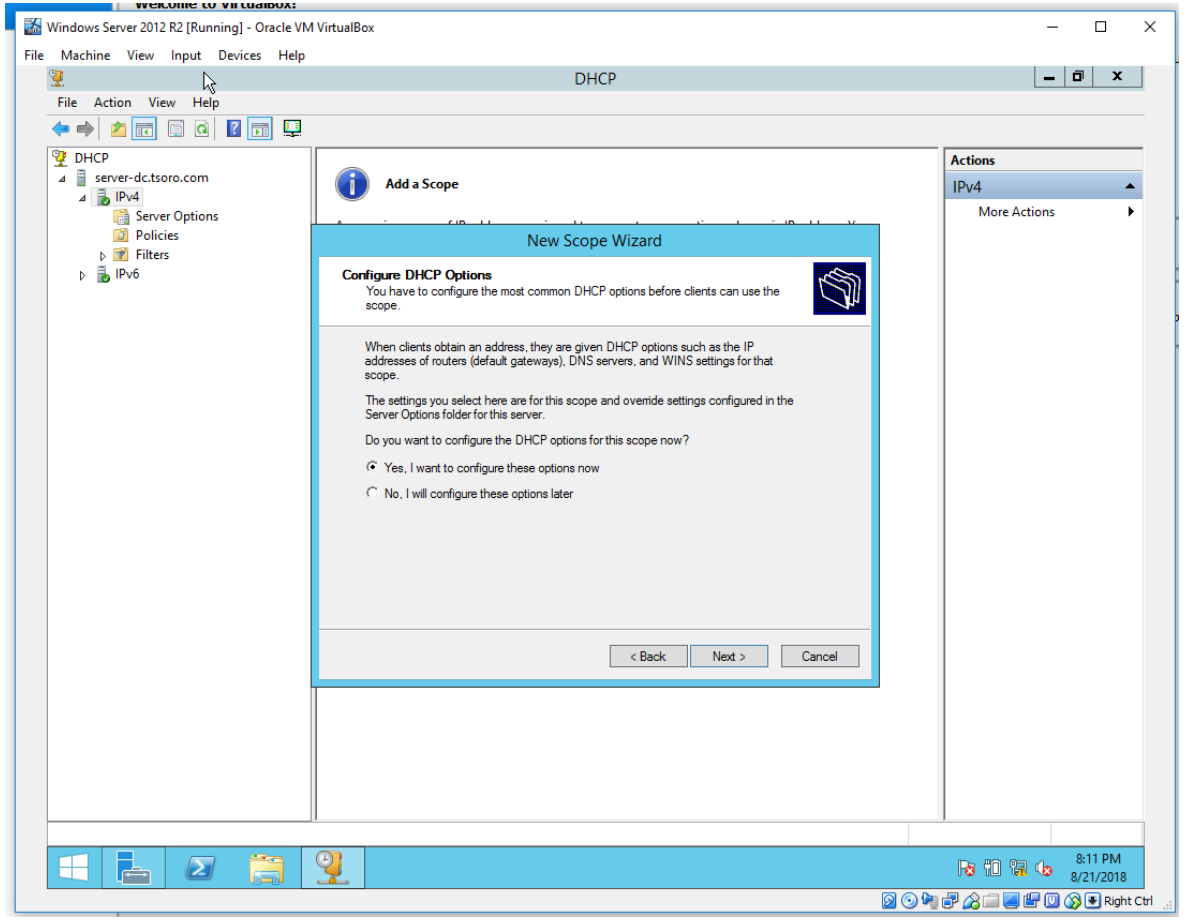
I don’t have an exclusion: click next



DHCP config.

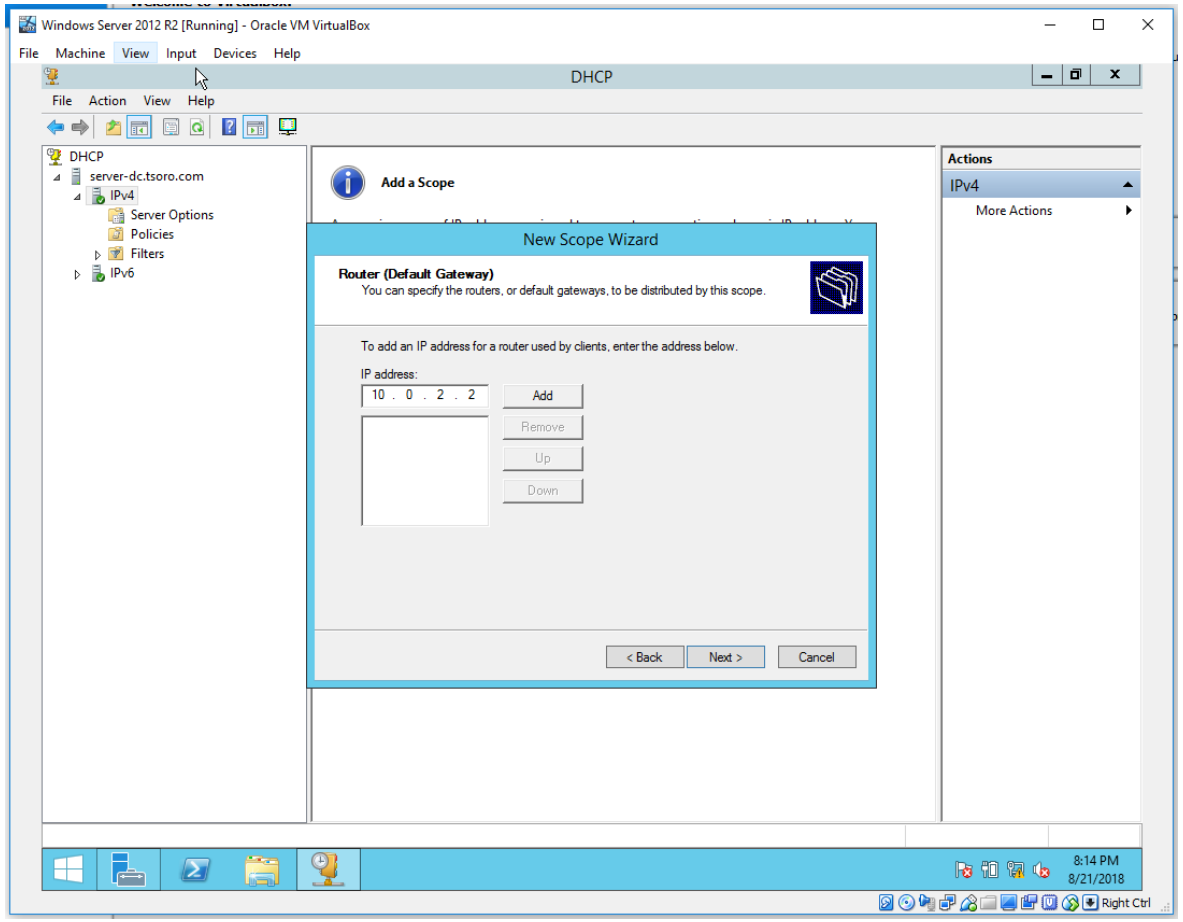

Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
New Scope Wizard
Lease Duration
The lease duration specifies how long a client can use an IP address from this scope.
Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful. Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.
Set the duration for scope leases when distributed by this server.
Limited to:
Days:
Hours:
Minutes:
< Back
Next >
Cancel
Actions
IPv4
More Actions
8:09 PM
8/21/2018
Right Ctrl

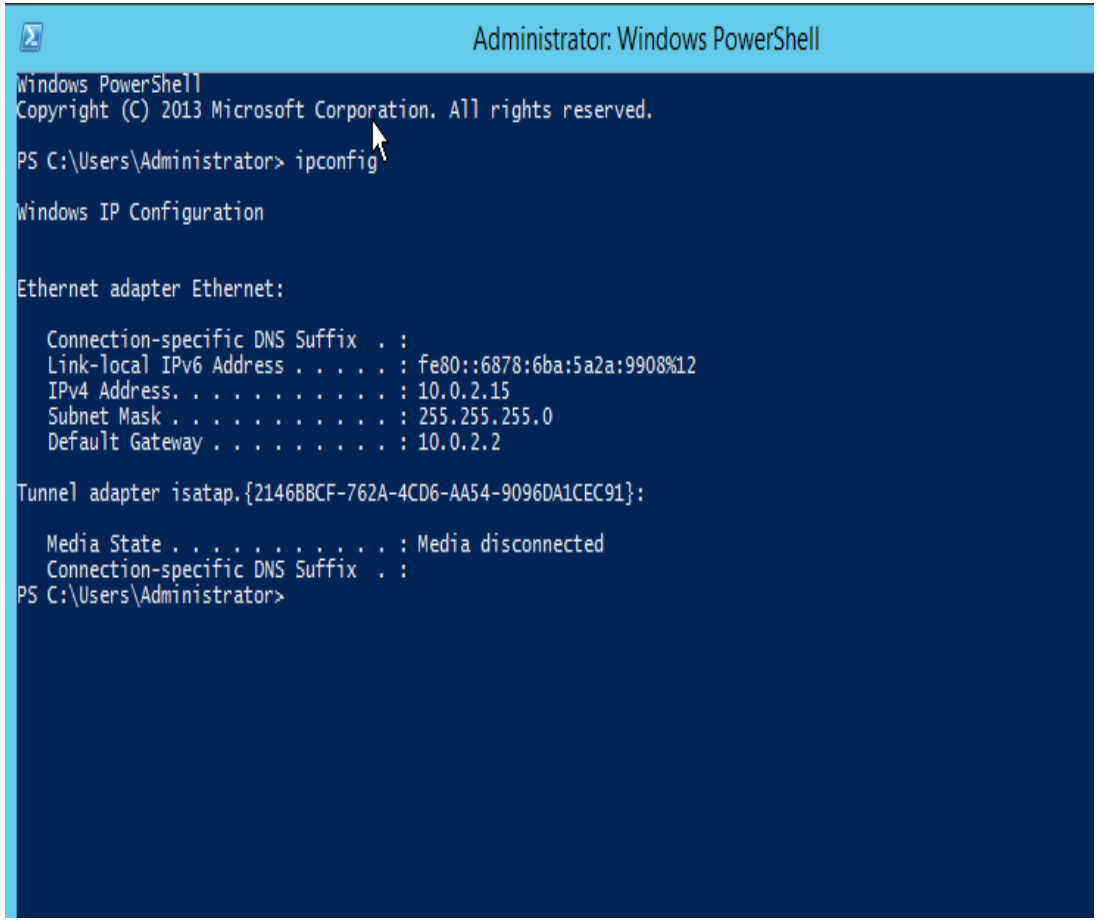
DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
New Scope Wizard
Configure DHCP Options
You have to configure the most common DHCP options before clients can use the scope.
When clients obtain an address, they are given DHCP options such as the IP addresses of routers (default gateways), DNS servers, and WINS settings for that scope.
The settings you select here are for this scope and override settings configured in the Server Options folder for this server.
Do you want to configure the DHCP options for this scope now?
Yes, I want to configure these options now
No, I will configure these options later
< Back
Next >
Cancel
Actions
IPv4
More Actions
8:11 PM
8/21/2018
Right Ctrl

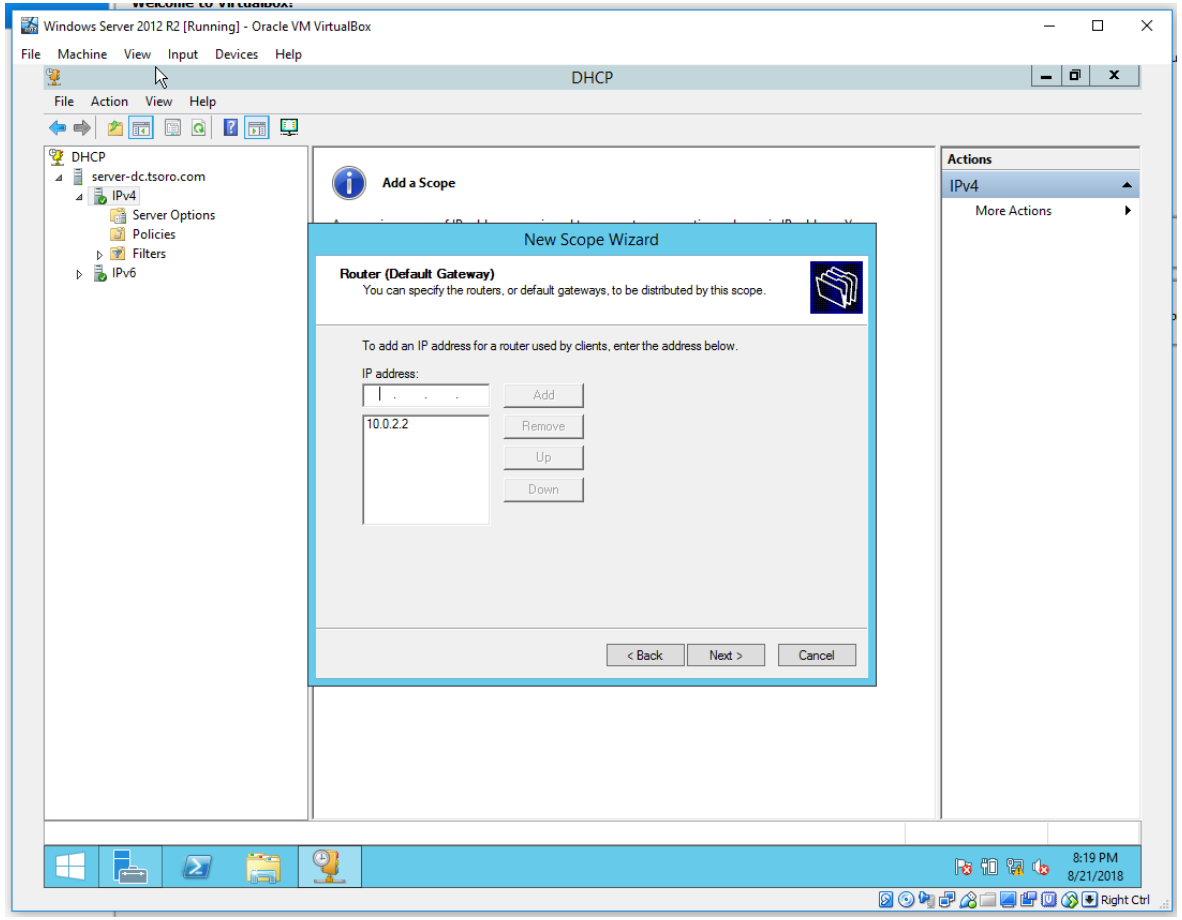
DHCP config.

Default Gateway or router: 10.0.2.2
Click add and next



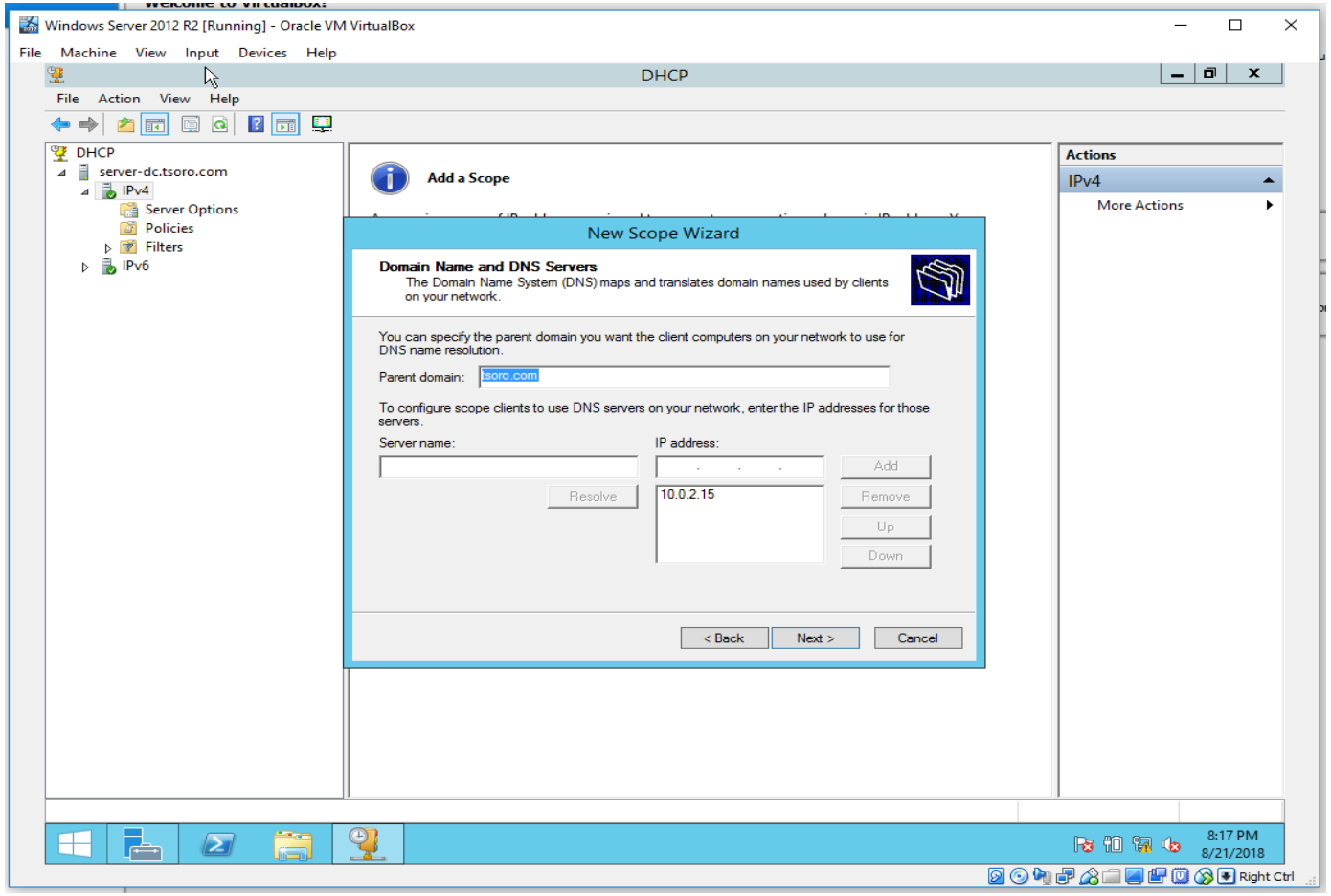


DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
New Scope Wizard
Router (Default Gateway)
You can specify the routers, or default gateways, to be distributed by this scope.
To add an IP address for a router used by clients, enter the address below.
IP address:
10.0.2.2
Add
Remove
Up
Down
< Back
Next >
Cancel
Actions
IPv4
More Actions
8:19 PM
8/21/2018
Right Ctrl

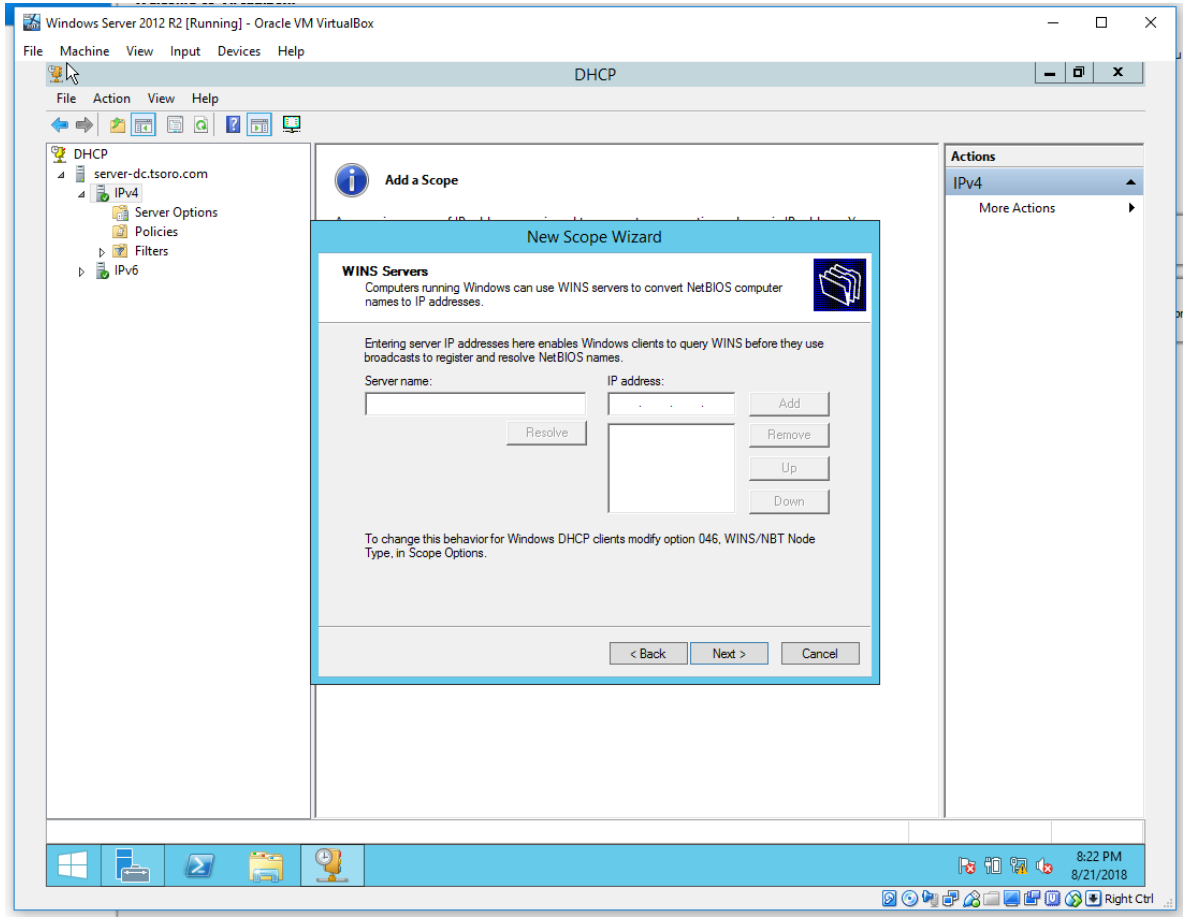
DHCP config.

10.0.2.15 is the DNS server

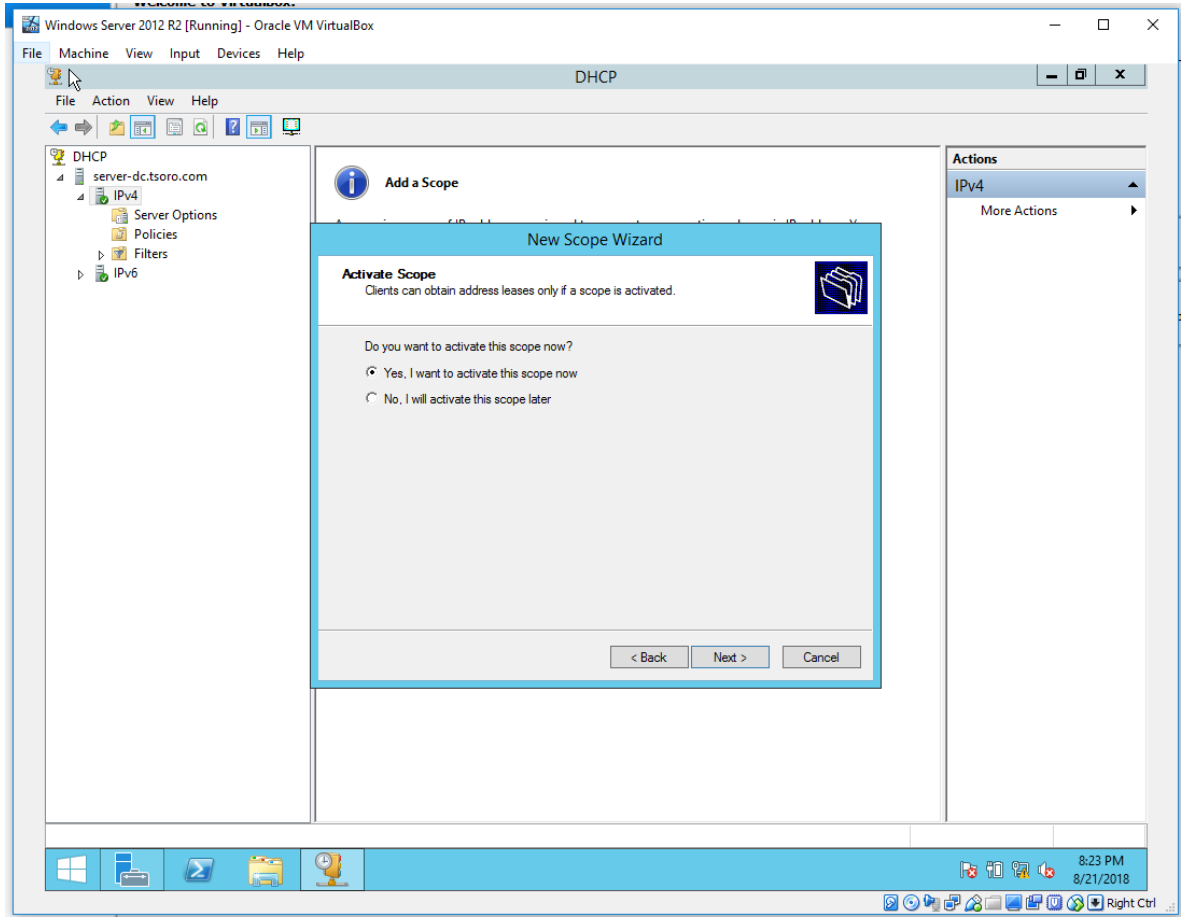


DHCP config.

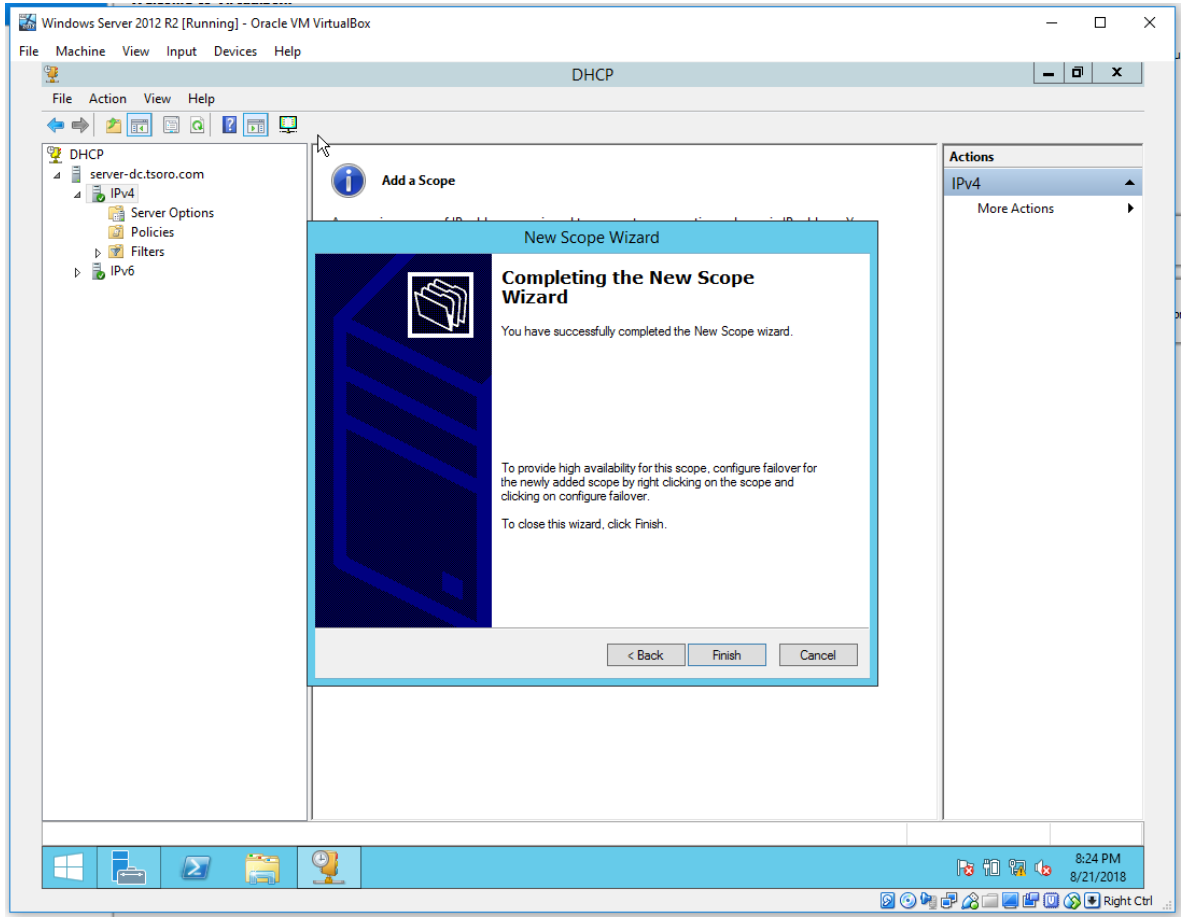
I am not running any WINS Server



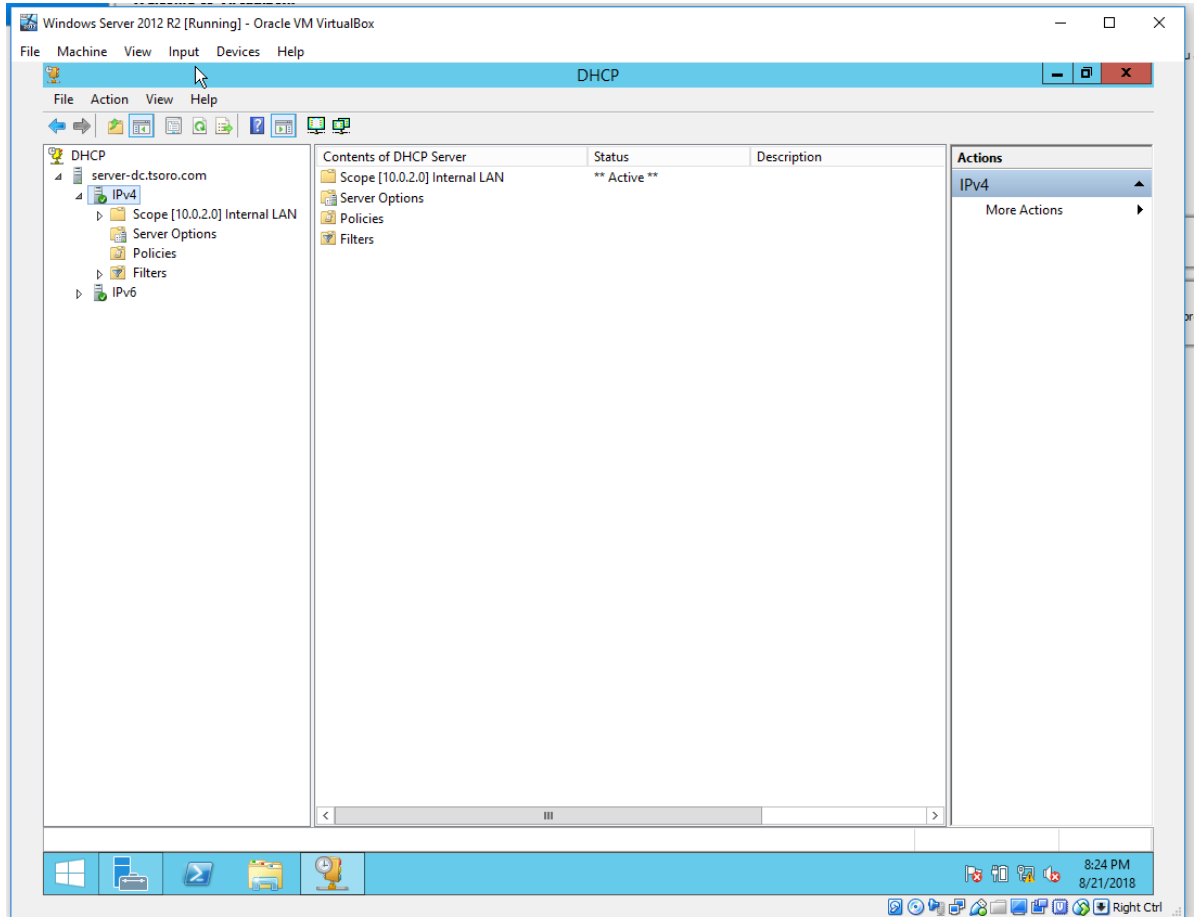
DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
New Scope Wizard
Activate Scope
Clients can obtain address leases only if a scope is activated.
Do you want to activate this scope now?
Yes, I want to activate this scope now
No, I will activate this scope later
< Back
Next >
Cancel
Actions
IPv4
More Actions
8:23 PM
8/21/2018
Right Ctrl

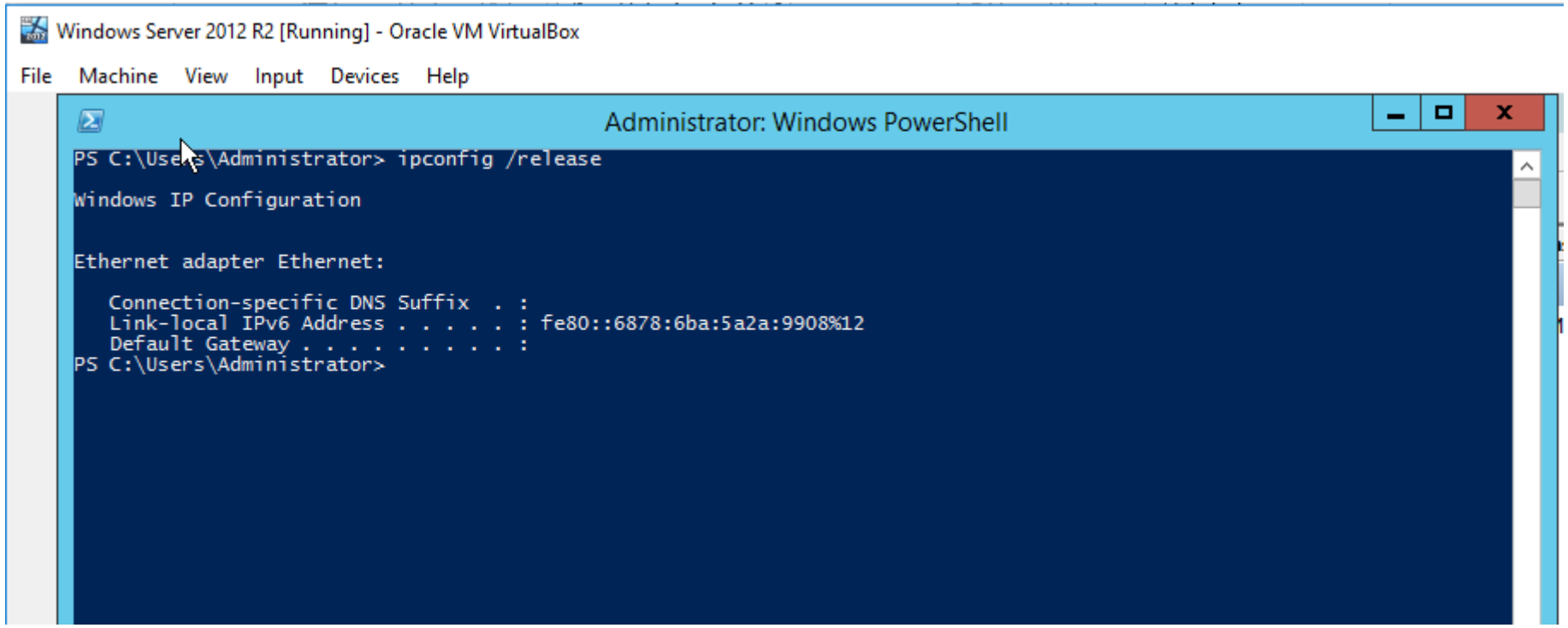
DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Server Options
Policies
Filters
IPv6
Add a Scope
Actions
IPv4
More Actions
New Scope Wizard
Completing the New Scope Wizard
You have successfully completed the New Scope wizard.
To provide high availability for this scope, configure failover for the newly added scope by right clicking on the scope and clicking on configure failover.
To close this wizard, click Finish.
< Back
Finish
Cancel
8:24 PM
8/21/2018
Right Ctrl

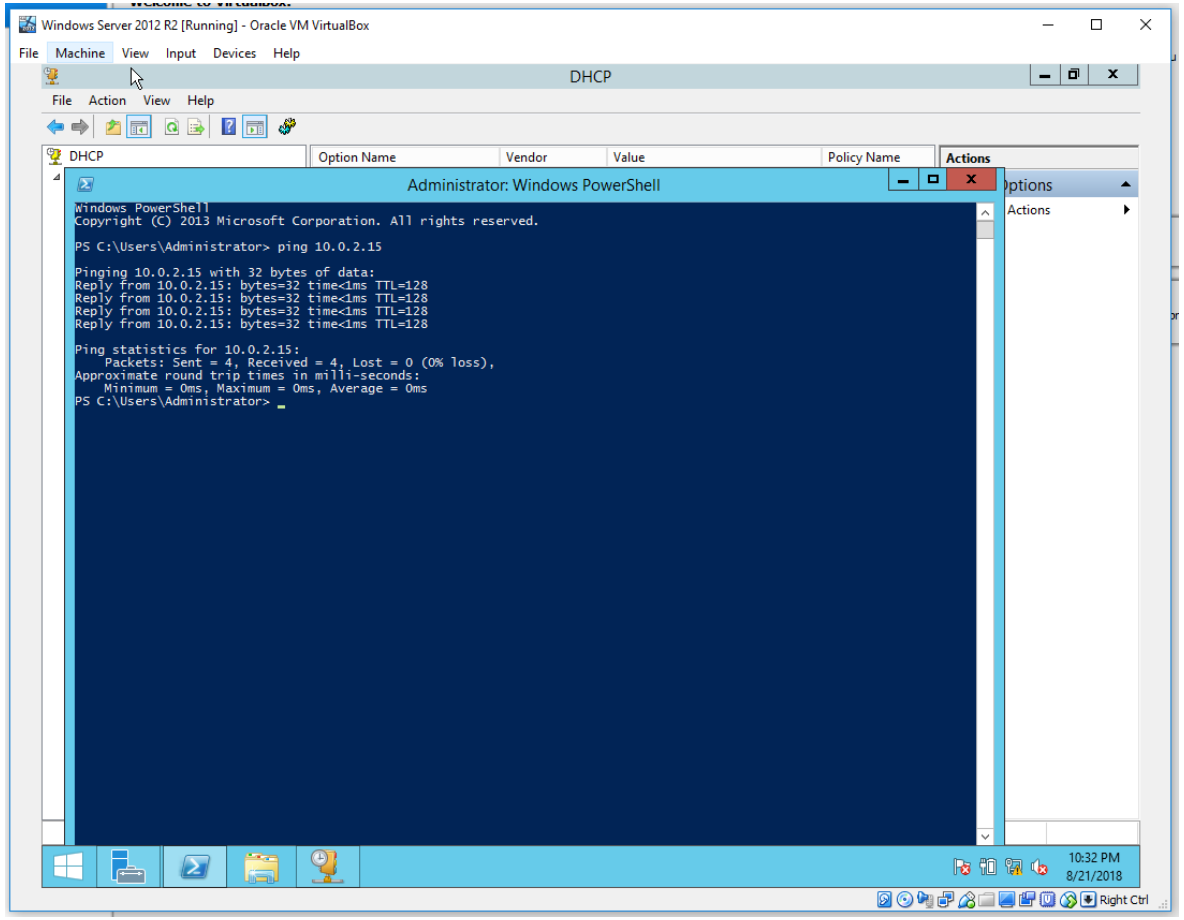
DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
DHCP
File Action View Help
DHCP
server-dc.tsoro.com
IPv4
Scope [10.0.2.0] Internal LAN
Server Options
Policies
Filters
IPv6
Contents of DHCP Server
Status
Description
Scope [10.0.2.0] Internal LAN
** Active **
Server Options
Policies
Filters
Actions
IPv4
More Actions
8:24 PM
8/21/2018
Right Ctrl

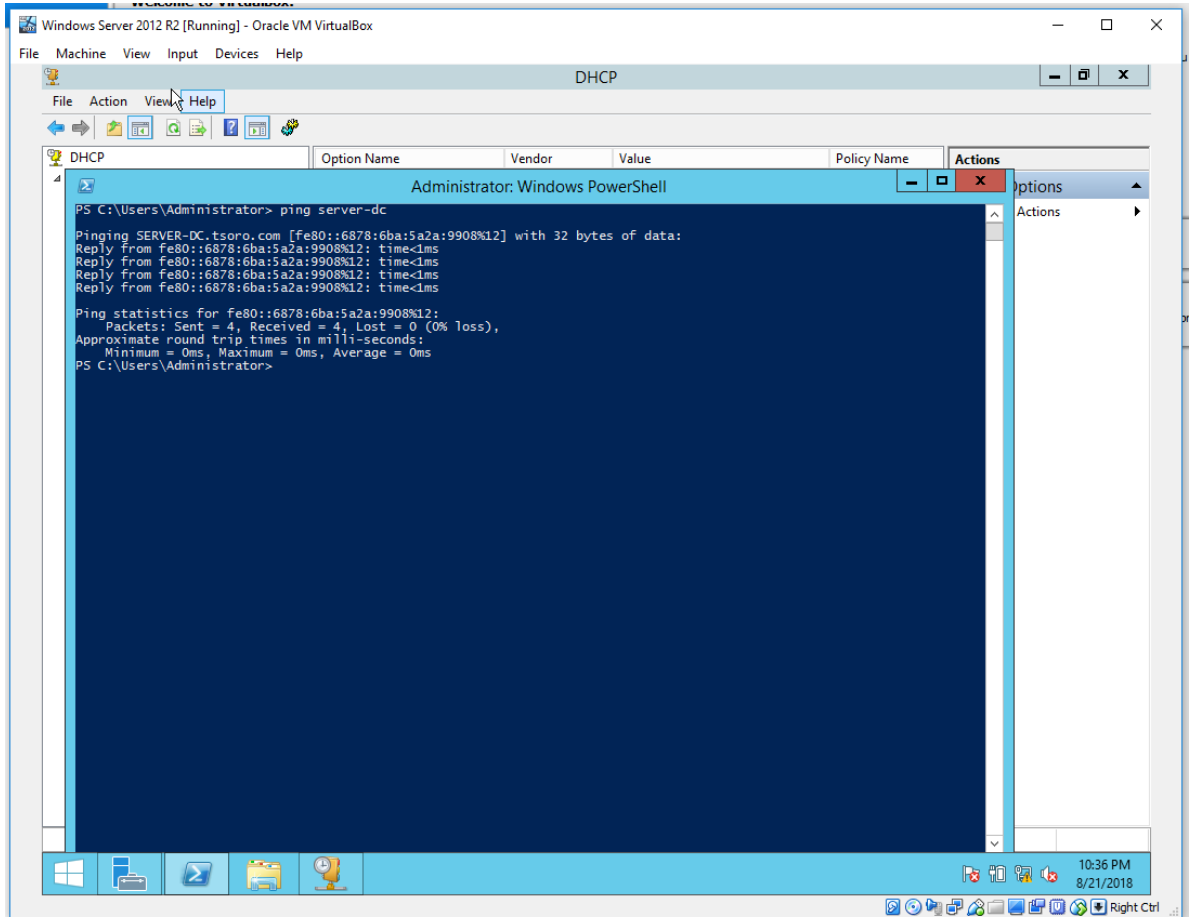
DHCP config.


Windows Server 2012 R2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Administrator: Windows PowerShell
PS C:\Users\Administrator> ipconfig /release
Windows IP Configuration
Ethernet adapter Ethernet:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::6878:6ba:5a2a:9908%12
Default Gateway . . . . . :
PS C:\Users\Administrator>

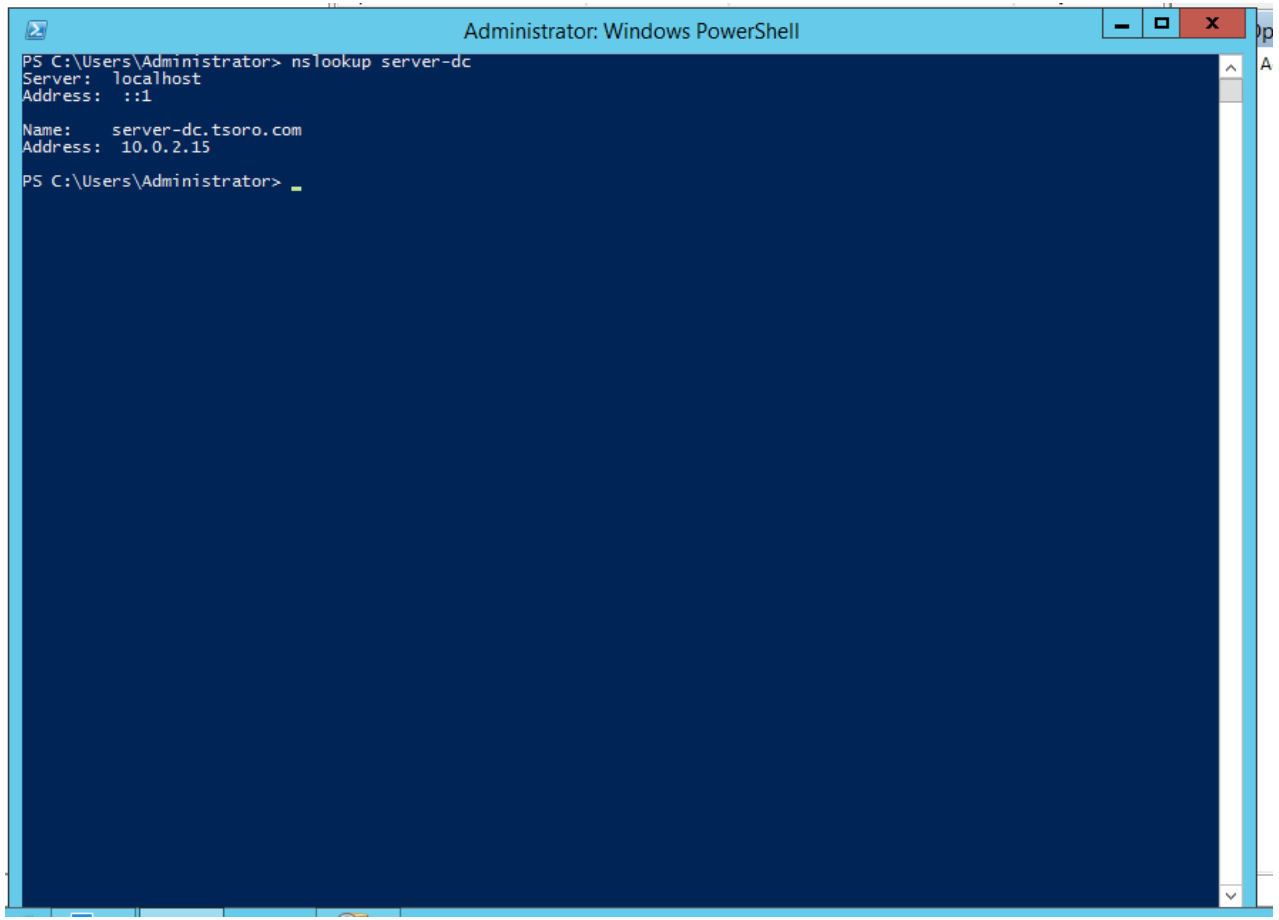
Ping DNS server



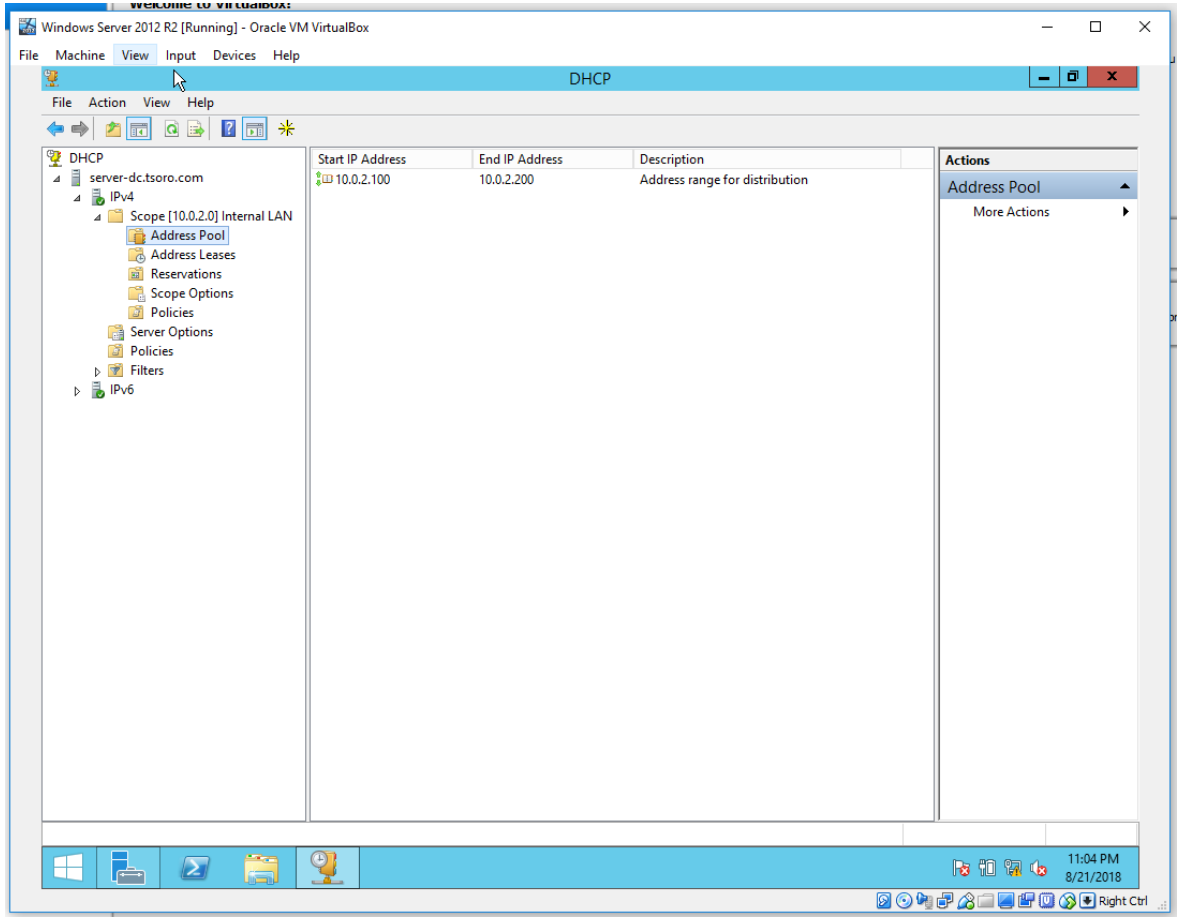
Ping my computer server-dc



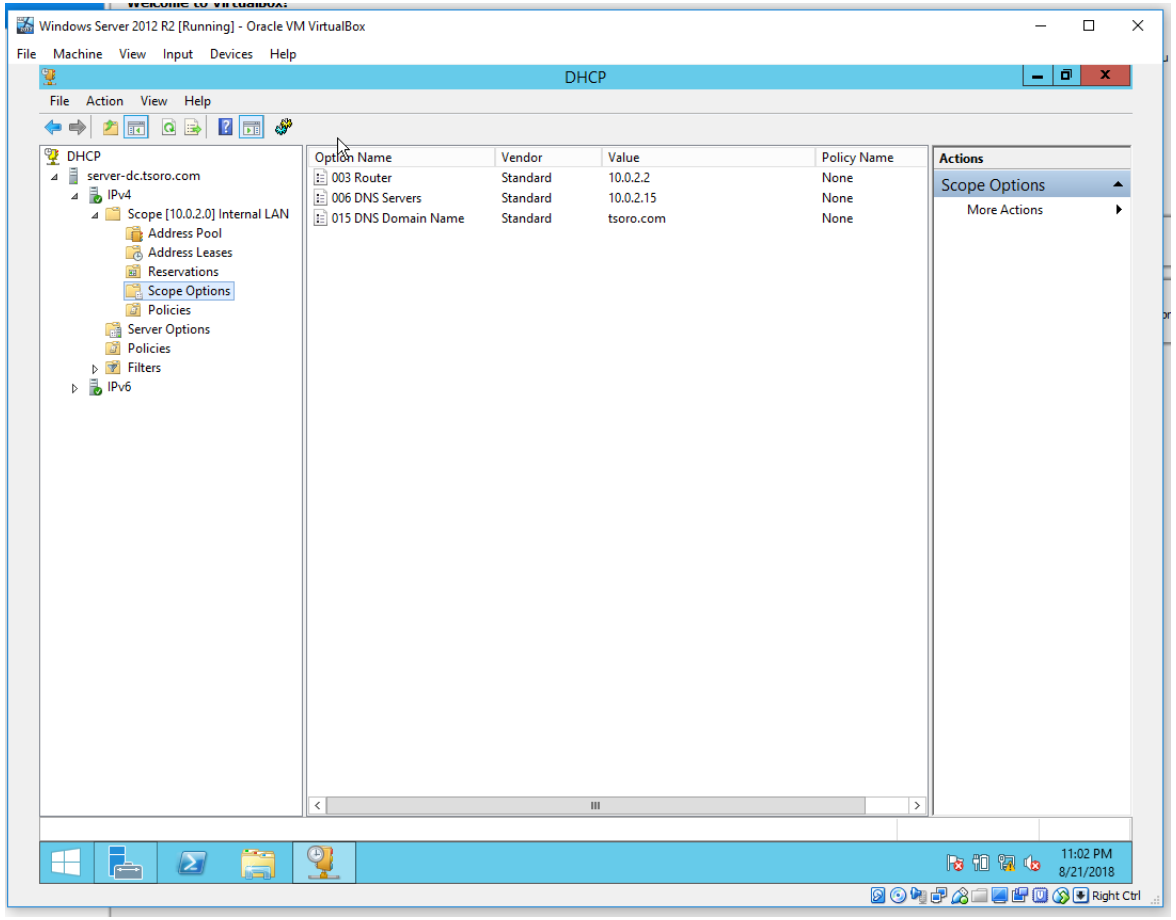
Nslookup server-dc



Address Pool



Scope Options



Step: Create Scope