

INSTALLATION OF CLI OS SERVER AND PING TO DC SERVER

Purpose

This document provides a step-by-step guide for installing a Command Line Interface (CLI) Operating System (OS) on a server and testing connectivity with a Domain Controller (DC) server.

Prerequisites

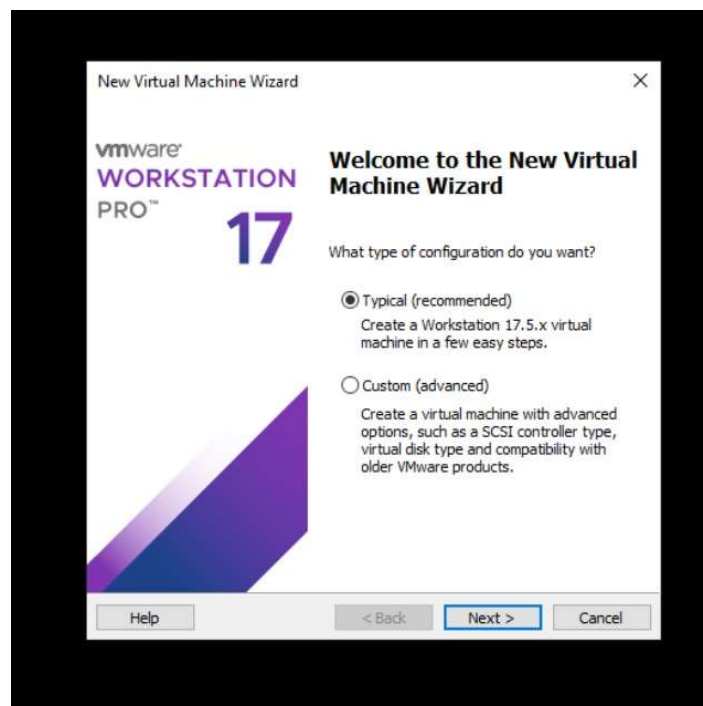
- Virtualization software (e.g., VMware, VirtualBox)
- Windows Server 2016 Datacenter Evaluation ISO file
- Network connectivity

Installation Steps

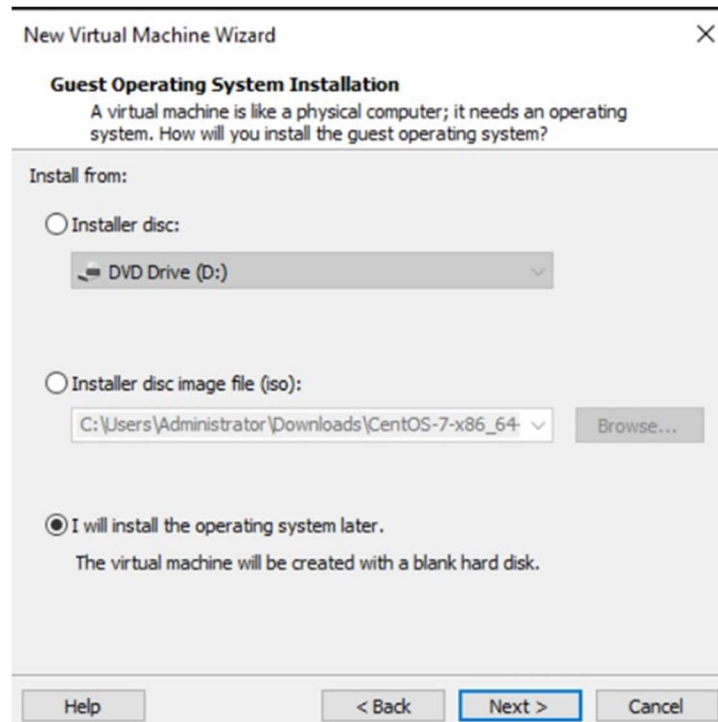
Step 1: Create a New Virtual Machine (VM)

1. Open your virtualization software and create a new VM.

Begin by creating a new VM with the desired specifications



2. Select "I will install the OS later" and choose Microsoft Windows and Windows Server 2016 as the operating system and version.



New Virtual Machine Wizard

Guest Operating System Installation
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

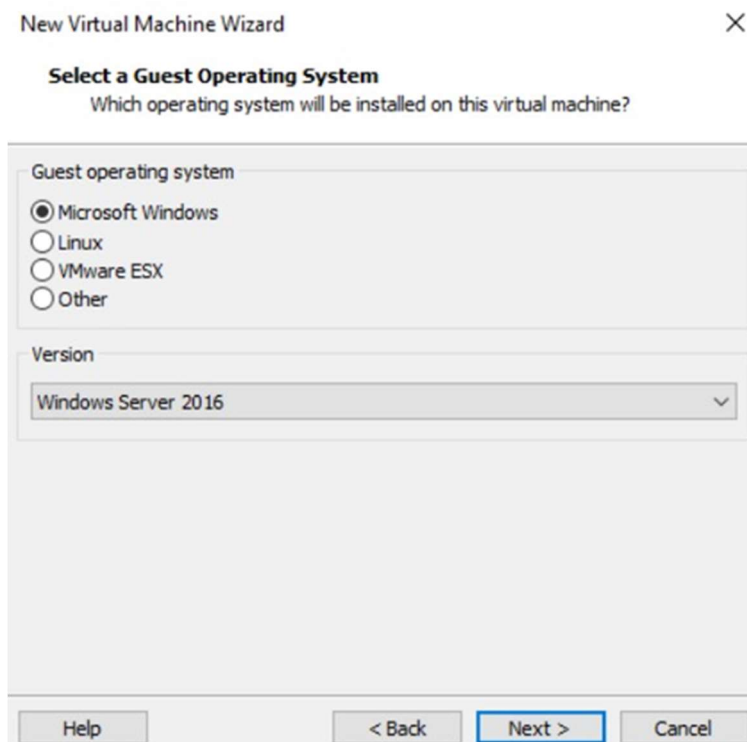
Install from:

☐ Installer disc:
DVD Drive (D:)

☐ Installer disc image file (iso):
C:\Users\Administrator\Downloads\CentOS-7-x86_64- Browse...

☒ I will install the operating system later.
The virtual machine will be created with a blank hard disk.

Help < Back Next > Cancel



New Virtual Machine Wizard

Select a Guest Operating System
Which operating system will be installed on this virtual machine?

Guest operating system

☒ Microsoft Windows
☐ Linux
☐ VMware ESX
☐ Other

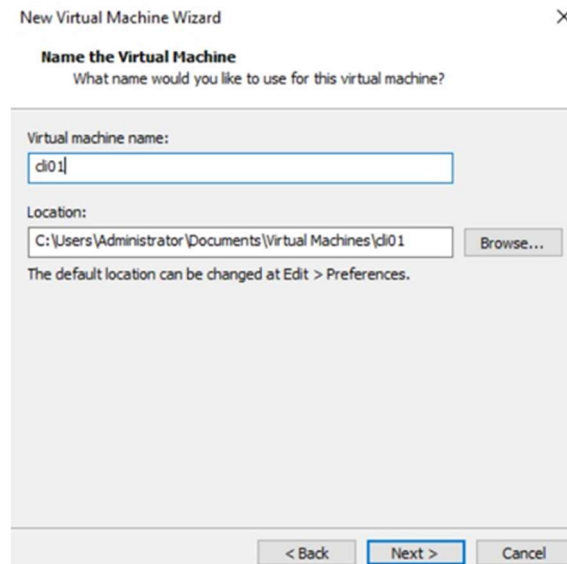
Version

Windows Server 2016

Help < Back Next > Cancel

Step 2: Configure VM Settings

1. Name the VM “cli01”.



New Virtual Machine Wizard

Name the Virtual Machine
What name would you like to use for this virtual machine?

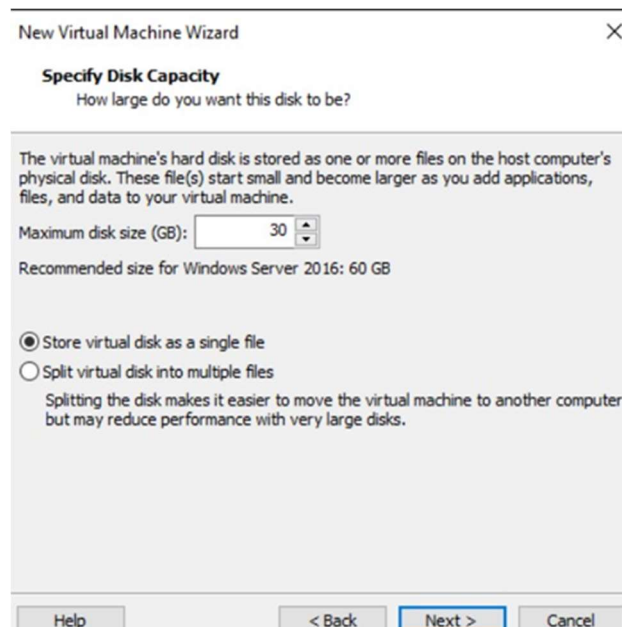
Virtual machine name:

Location:

The default location can be changed at Edit > Preferences.

< Back Next > Cancel

2. Set the maximum disk size to 30GB and ensure the virtual disk is stored as a single file.



New Virtual Machine Wizard

Specify Disk Capacity
How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):

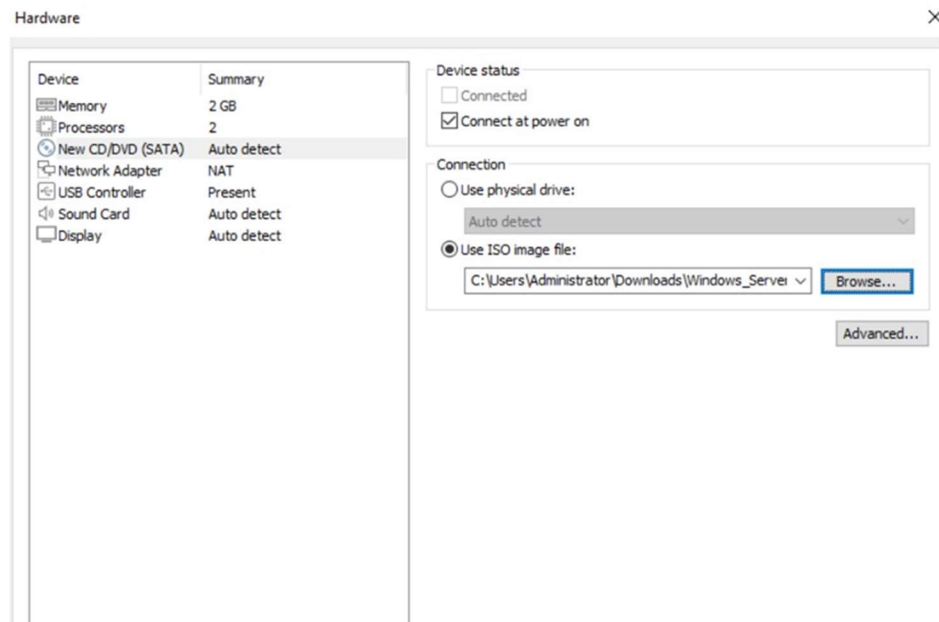
Recommended size for Windows Server 2016: 60 GB

☒ Store virtual disk as a single file
☐ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

Help < Back Next > Cancel

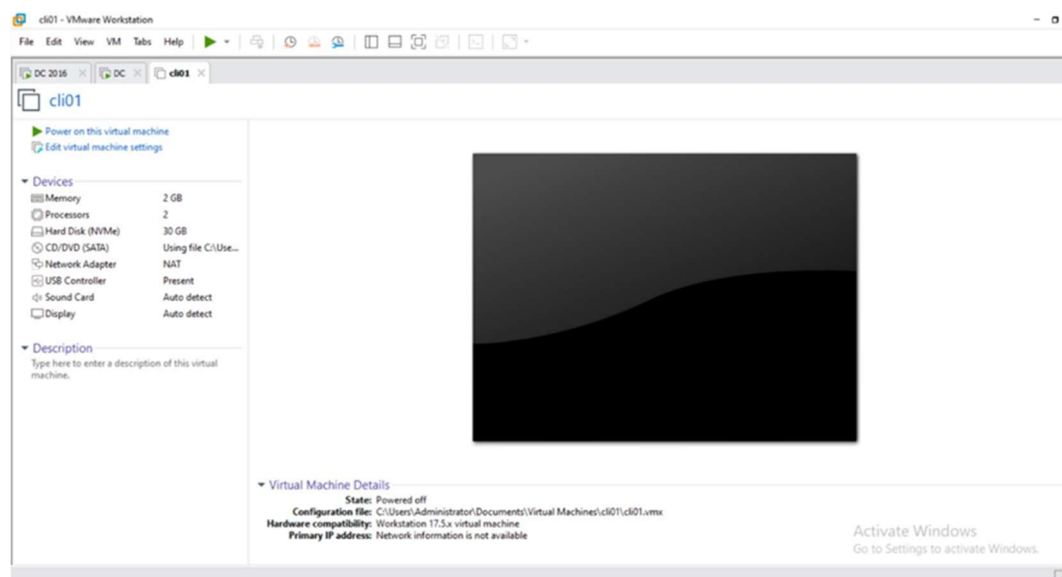
3. Allocate 2GB of memory and 2 processor cores to the VM.



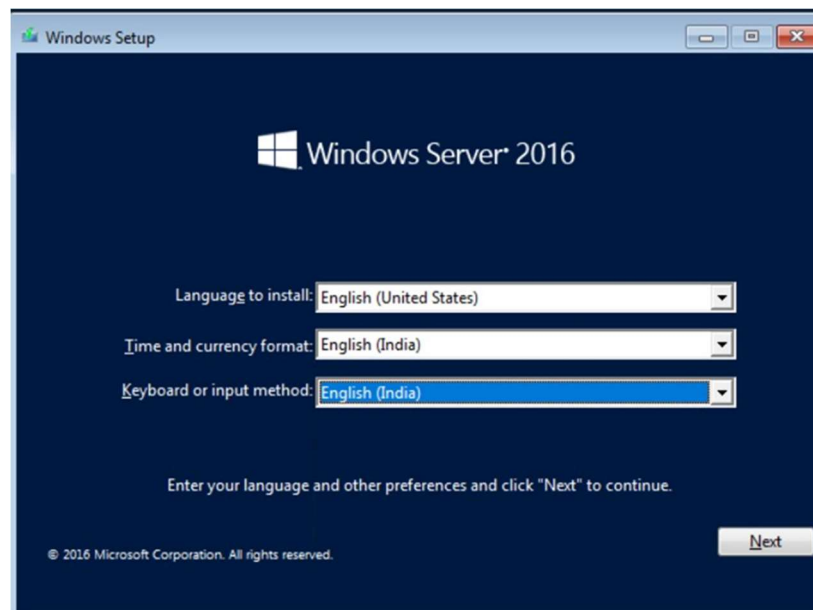
These resources determine the VM's computing power and ability to handle concurrent tasks. In this scenario, 2GB of memory and 2 processor cores were allocated, which is a reasonable configuration for a basic Windows Server setup.

Step 3: Install Windows Server 2016

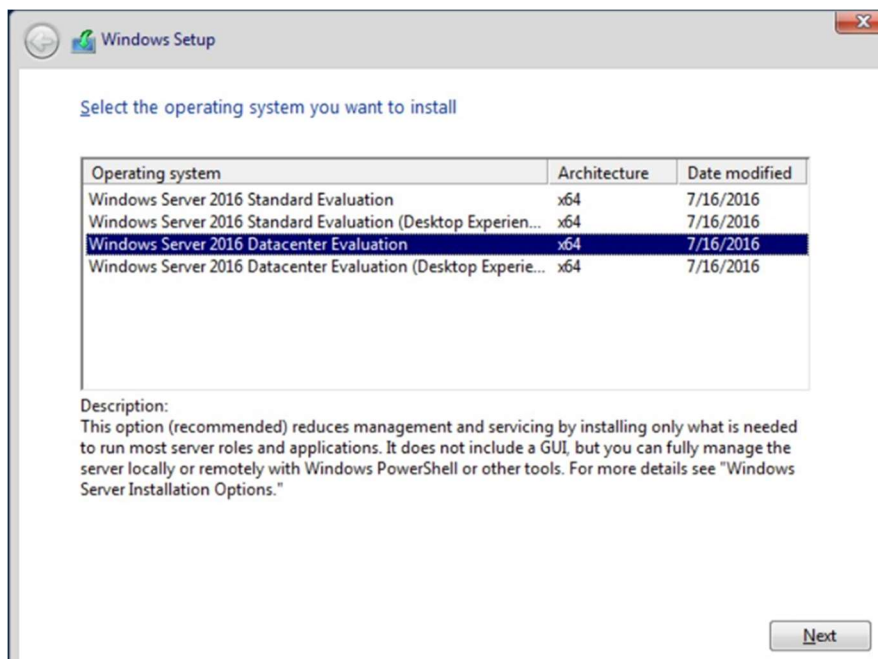
1. Power on the VM and insert the Windows Server 2016 Datacenter Evaluation ISO.



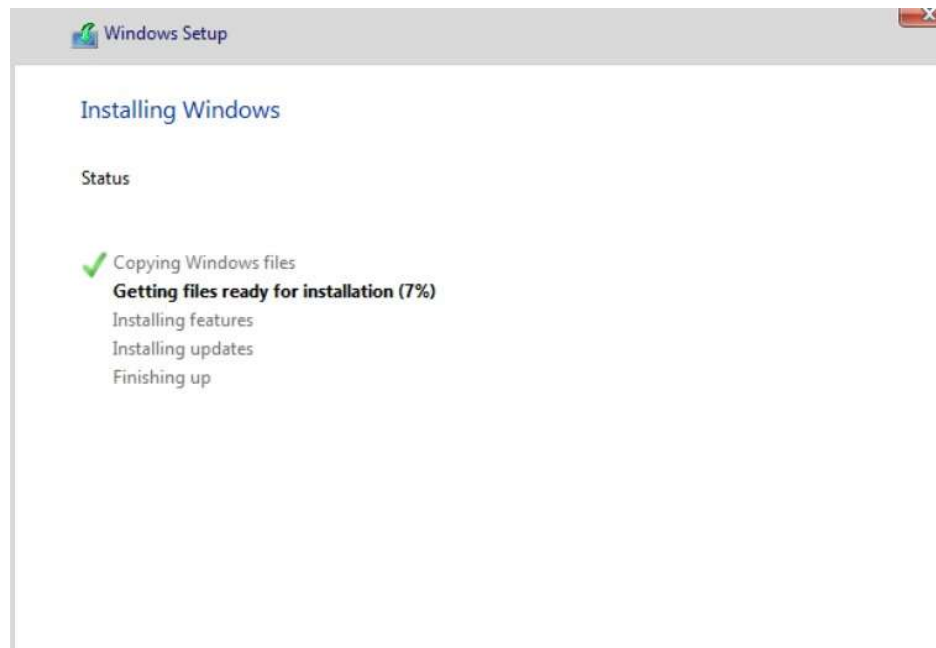
2. Follow the installation prompts, and set the desired language.



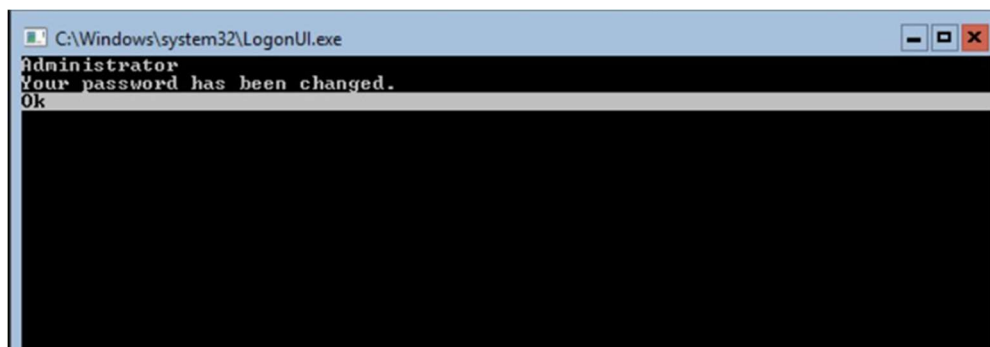
3. Choosing Windows Server 2016 Datacenter Evaluation for the "cli01" VM offers a strong foundation for testing and trying out different server applications and services.



4. Start the installation.

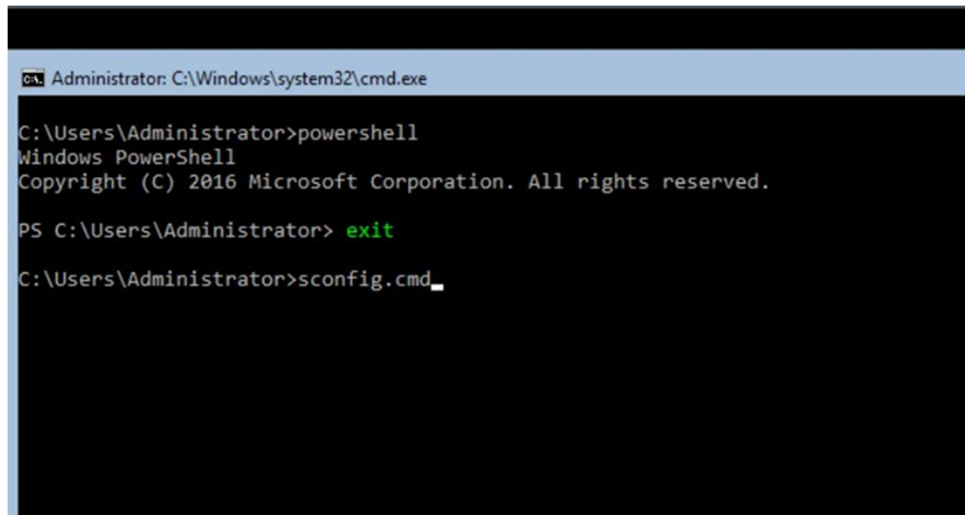


5. Set the administrator password upon prompt.



Step 4: Configure Network Settings

1. After installation, open the command prompt and type `sconfig.cmd`.

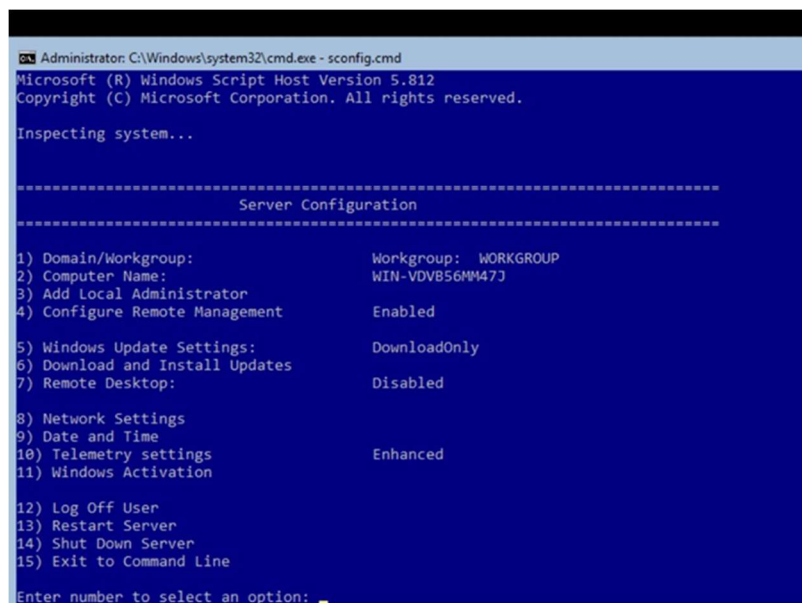


```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>powershell
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> exit

C:\Users\Administrator>sconfig.cmd
```



```
Administrator: C:\Windows\system32\cmd.exe - sconfig.cmd
Microsoft (R) Windows Script Host Version 5.812
Copyright (C) Microsoft Corporation. All rights reserved.

Inspecting system...

=====
Server Configuration
=====

1) Domain/Workgroup:           Workgroup: WORKGROUP
2) Computer Name:              WIN-VDVB56MM47J
3) Add Local Administrator
4) Configure Remote Management Enabled
5) Windows Update Settings:    DownloadOnly
6) Download and Install Updates
7) Remote Desktop:             Disabled
8) Network Settings
9) Date and Time
10) Telemetry settings         Enhanced
11) Windows Activation

12) Log Off User
13) Restart Server
14) Shut Down Server
15) Exit to Command Line

Enter number to select an option: 
```

The command “`sconfig.cmd`” launches the Server Configuration Tool, a command-line utility that provides a simplified interface for configuring various aspects of the server.

2. Set the IP address, subnet mask, default gateway, and DNS server:
 - IP Address: 192.168.10.11
 - Subnet Mask: 255.255.255.0
 - Default Gateway: 192.168.10.10
 - DNS Server: 192.168.10.10

```
Select (D)HCP, (S)tatic IP (Blank=Cancel): s

Set Static IP
Enter static IP address: 192.168.10.11
Enter subnet mask (Blank = Default 255.255.255.0):
Enter default gateway: 192.168.10.10
Setting NIC to static IP...

-----
Network Adapter Settings
-----

NIC Index          0
Description         Intel(R) 82574L Gigabit Network Connection
IP Address          192.168.10.11   fe80::14f6:3539:ecb6:db7e
Subnet Mask         255.255.255.0
DHCP enabled        False
Default Gateway     192.168.10.10
Preferred DNS Server
Alternate DNS Server

1) Set Network Adapter Address
2) Set DNS Servers
3) Clear DNS Server Settings
4) Return to Main Menu

Select option:
```

Within the Server Configuration Tool, one of the initial options presented is to configure network settings. This option (Option 8) allows you to set up the server's IP address, subnet mask, default gateway, and DNS server. By selecting this option, you can specify the network configuration required for the server to communicate on the network. In the provided scenario, the server's IP address was set to "192.168.10.11", with the appropriate subnet mask, default gateway, and DNS server values.


```
Administrator: C:\Windows\system32\cmd.exe - sconfig.cmd
Enter static IP address: 192.168.10.11
Enter subnet mask (Blank = Default 255.255.255.0):
Enter default gateway: 192.168.10.10
Setting NIC to static IP...

-----
Network Adapter Settings
-----

NIC Index          0
Description         Intel(R) 82574L Gigabit Network Connection
IP Address          192.168.10.11   fe80::14f6:3539:ecb6:db7e
Subnet Mask         255.255.255.0
DHCP enabled        False
Default Gateway     192.168.10.10
Preferred DNS Server
Alternate DNS Server

1) Set Network Adapter Address
2) Set DNS Servers
3) Clear DNS Server Settings
4) Return to Main Menu

Select option: 2
DNS Servers
Enter new preferred DNS server (Blank=Cancel): 192.168.10.10
```

A small Windows-style dialog box titled "Network Settings" with a blue information icon on the left. The text inside reads "Preferred DNS server set." Below the text is an "OK" button.

Step 5: Ping Domain Controller

1. From the DC server, attempt to ping "cli01" using the ping command.

```
Enter number to select an option: 15

C:\Users\Administrator>ping 192.168.10.10

Pinging 192.168.10.10 with 32 bytes of data:
Reply from 192.168.10.10: bytes=32 time=1ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\Administrator>
```

when you ping "cli01" from the domain controller (DC) machine, it's essentially testing the connectivity from the server (DC) to the client (cli01). The ping command helps verify that the DC can successfully communicate with the client machine over the network. If the ping is successful, it indicates that there is a working network connection between the DC and the client, allowing them to exchange data and communicate effectively.

2. If the ping fails, proceed to the next step to adjust firewall settings.

```
Administrator: Windows PowerShell
Windows PowerShell
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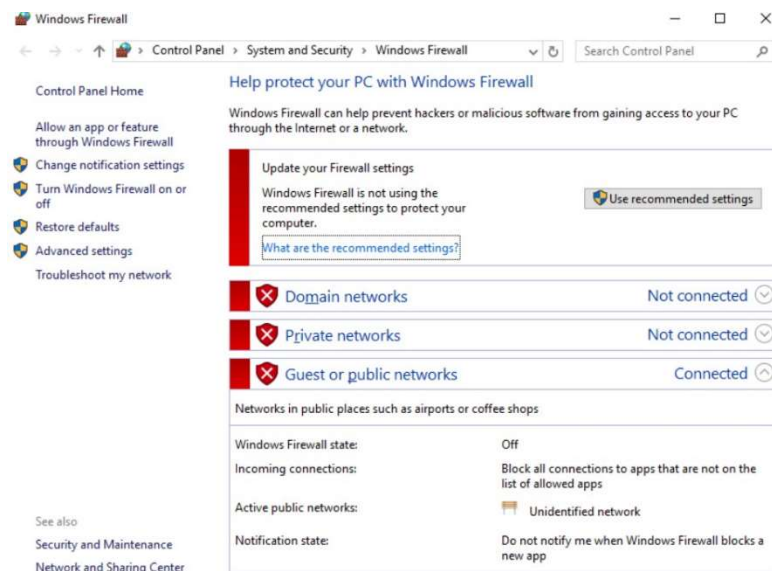
PS C:\Users\Administrator> ping 192.168.10.11

Pinging 192.168.10.11 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.10.11:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PS C:\Users\Administrator> firewall.cpl
```

Step 6: Disable Firewall

1. Turn off the firewall to allow communication between the client and domain controller.



When I access the "firewall. Cpl" command, it is actually opening the Windows Firewall control panel applet. This allows to manage the firewall settings on the machine. Here it is used to disable mainly the domain networks(also Private and Public networks) temporarily to allow network communication, such as ping, between the client ("cli01") and the domain controller (DC) during the domain join process. Disabling the firewall ensures that the necessary network traffic isn't blocked, allowing the machines to communicate effectively while joining the domain.

2. Disable the firewall using the command 'netsh advfirewall set allprofiles state off'.

```
C:\Users\Administrator>netsh advfirewall set allprofiles state off
Ok.
C:\Users\Administrator>
```

3. Now the DC machine ping to Cli01

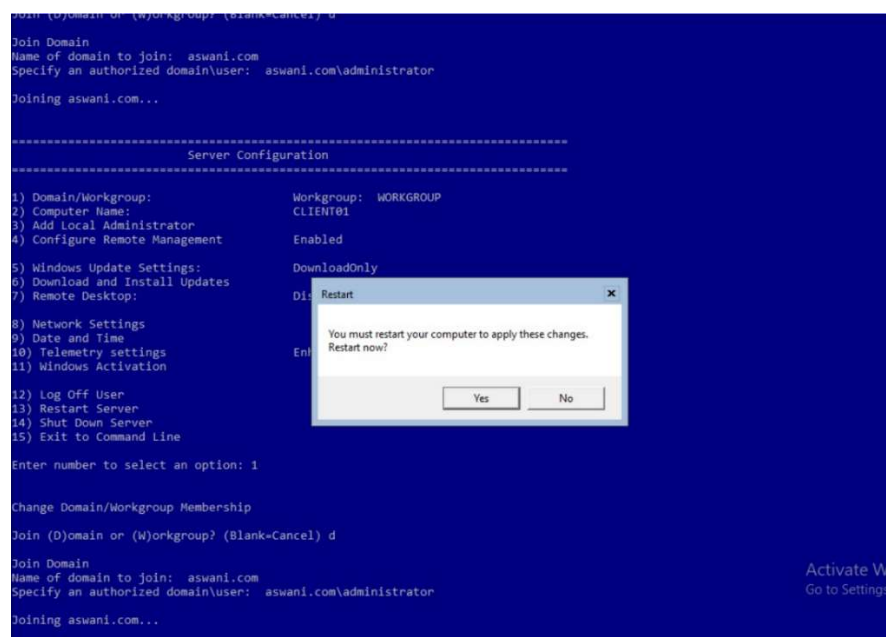
```
Ping statistics for 192.168.10.11:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PS C:\Users\Administrator> firewall.cpl
PS C:\Users\Administrator> ping 192.168.10.11

Pinging 192.168.10.11 with 32 bytes of data:
Reply from 192.168.10.11: bytes=32 time=1ms TTL=128
Reply from 192.168.10.11: bytes=32 time<1ms TTL=128
Reply from 192.168.10.11: bytes=32 time<1ms TTL=128
Reply from 192.168.10.11: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.10.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
PS C:\Users\Administrator>
```

Step 7: Join Domain

1. Return to the command prompt and type 'sconfig.cmd' again.
2. Select option 2 to change the computer name, setting it to 'client01'.
3. Then, choose option 1 again to change domain membership and join the domain.
4. Enter the domain name 'aswani.com' and provide authorized domain credentials (e.g., aswani.com\administrator) with the corresponding password.



Step 8: Verify Domain Join

1. Restart the computer to apply the changes.
2. Verify successful domain join by checking Active Directory Users and Computers on the domain controller, where the client computer ('client01') should now be listed under Computers.

