

Lab #3
Setting up A SOHO network
Week #4/5

NACT-262 Fundamentals of System Administration
2025-2026 Fall Semester

Submitted by Jibreal Id-deen
Due by September 28, 2025
Professor Mark Jeremy

Table Of Contents

Objective 7

Network DIAGRAM 8

Procedure 11

Questions and Answers..... 103

Observations 104

Table of Figures

Figure 1 - Type the router's login website	11
Figure 2 - Click here to proceed	11
Figure 3 - Click "next"	12
Figure 4 - Set the new password	12
Figure 5 - Firmware Updating	13
Figure 6 - Log in the router Account	14
Figure 7 - The Overview of the router dashboard.....	14
Figure 8 - Click "Basic" then "Internet"	15
Figure 9 - Check the router's WAN IP Address.....	16
Figure 10 - Click "LAN Setup"	17
Figure 11 - Check the Router's LAN IP to change	18
Figure 12 - Done changing the LAN IP Address.....	19
Figure 13 - Disable the DHCP Server.....	19
Figure 14 - Apply it.....	20
Figure 15 - Click "Wireless"	21
Figure 16 - Disable Wi-Fi (2.4GHz).....	22
Figure 17 - Disable Wi-Fi (5GHZ)	22
Figure 18 - Apply it.....	22
Figure 19 - Type "Control Panel" to enter	23
Figure 20 - Follow the process to Network Connections	23
Figure 21 - Click this "Ethernet"	23
Figure 22 - Click "Properties"	24
Figure 23 - Put the manually IP address and the required stuffs on it	25
Figure 24 - Type "ipconfig" on Desktop PC and see the rest of the ethernet adapter	26
Figure 25 - Click "Router Status" then click "Set Password"	27
Figure 26 - Set new password and confirm it	28
Figure 27 - Connect to iDRAC and NIC 1 with ethernet from the router	29
Figure 28 - Make sure to remember the bench number for IP Address.....	30
Figure 29 - in iDRAC setting, click "System BIOS"	30

Figure 30 - Click "Network"	31
Figure 31 - Put the manually IP address and the required stuff on it.....	31
Figure 32 - Open the VMware Workstation pro.....	32
Figure 33 – Proceed	33
Figure 34 - Make sure to select the Windows Server 2019 to be detected.....	34
Figure 35 - Select WS 2019 Standard for VM.....	35
Figure 36 - Click "Edit"	36
Figure 37 - Click "Virtual Network Editor"	37
Figure 38 - Click "Change Settings"	38
Figure 39 - Change the VMnet information to bridge to the ethernet controller.....	39
Figure 40 - Reboot into Windows Server 2019	40
Figure 41 - Open the control panel	41
Figure 42 - Click the "Network and Internet"	41
Figure 43 - Click "Ethernet0"	42
Figure 44 - Click "Properties"	43
Figure 45 - Click this IPv4.....	44
Figure 46 - put the manually IP address and the required stuff on it.....	45
Figure 47 - Open the Server Manager then click "Local Server"	46
Figure 48 - Change the computer name.....	46
Figure 49 - Done changing computer name.....	47
Figure 50 - Click Manage	47
Figure 51 - Click " Add Roles and Features"	48
Figure 52 - Proceed!.....	48
Figure 53 - Click "Web Server (IIS)"	49
Figure 54 - Click "Add Features"	50
Figure 55 - Install the Web Server Role	51
Figure 56 - Installation started	52
Figure 57 - Installation successfully	52
Figure 58 - Open Notepad.....	53
Figure 59 - Make an html coding on notepad	53
Figure 60 - Click "Save As"	54

Figure 61 - Type the required file name to put in	54
Figure 62 - Type "Rufus" and click this link	54
Figure 63 - Download rufus.exe	55
Figure 64 - Copying ISO files.....	55
Figure 65 - Ready to go!	55
Figure 66 - Install windows Server 2019 in PC-B.....	56
Figure 67 - click this WS 2019 Standard.....	56
Figure 68 - Installing Windows	57
Figure 69 - Loading files.....	57
Figure 70 - Change the computer name by pressing two number	58
Figure 71 - Done changing the computer name.....	58
Figure 72 - Type "sconfig"	58
Figure 73 - Change the IP Address and put the required stuffs on it.....	59
Figure 74 - Set the new DNS Server.....	59
Figure 75 - Use PowerShell as command then type the required command	60
Figure 76 - Type the HTML language as coding to create a website and start the web service ..	60
Figure 77 - Install WS 2019 in the Dell Server	61
Figure 78 - Installing Windows	62
Figure 79 - The overview of the WS 2019 in Dell Server.....	63
Figure 80 - Click "Add roles and features"	64
Figure 81 - Select DHCP and DNS Server	65
Figure 82 - Add Features for DHCP and DNS	67
Figure 83 - Install both of it	68
Figure 84 - Installation Completed	69
Figure 85 - Click "Tools"	69
Figure 86 - Click "DNS"	70
Figure 87 - See the overview of the DNS Manager.....	70
Figure 88 - Add a New Zone	71
Figure 89 - Proceed the Zone Wizard	72
Figure 90 - Type the required text on Zone name	73
Figure 91 - Create a new file with this file name.....	74

Figure 92 - Proceed to complete the new Zone Wizard.....	76
Figure 93 - Click "Reverse Lookup Zones" to create another zone	77
Figure 94 - Proceed until click "IPv4 Reverse Lookup Zone"	78
Figure 95 - Type the required network ID to proceed	79
Figure 96 - Proceed to do the same thing as for forward zone	81
Figure 97 - Click "finish"	82
Figure 98 - Click "New Host (A or AAAA)"	83
Figure 99 - Assign DNS A record for all of the devices.....	88
Figure 100 - Go back to the dashboard, and click "Tools"	88
Figure 101 - Click "DHCP"	89
Figure 102 - See the overview of the DHCP menu	90
Figure 103 - Click "new Scope"	92
Figure 104 - "Click Next"	92
Figure 105 - Proceed	93
Figure 106 - Put the starting IP Address and the end to click "Next".....	93
Figure 107 - set the Lease duration.....	94
Figure 108 - Configure DHCP Options	95
Figure 109 - Add the router Default Gateway	96
Figure 110 - Set the parent domain and edit the stuff, then click "next"	97
Figure 111 - See the Scope being Active!	97
Figure 112 - See the laptop getting IP Address from DHCP Server	98
Figure 113 - Type the IIS website on laptop.....	98
Figure 114 - See your own IIS website from the PCA	99
Figure 115 - Type another IIS website on the laptop.....	99
Figure 116 - See your own IIS Website from the PCB Core!	100
Figure 117- nslookup on DNS A and reverse IP records for router	100
Figure 118 - nslookup on DNS A and reverse IP records for PCA VM.....	101
Figure 119 - nslookup on DNS A and reverse IP records for PCB Core.....	101
Figure 120 - nslookup on DNS A and Reverse IP records for Dell Server	102

Lab #2- IPMI and Microsoft Window Server

OBJECTIVE

As independent working on this, I set up a SOHO LAN with a router and a Windows Server 2019 providing DNS/DHCP on 192.168.2XX.0/24 and deploy IIS on PC1 and PC2, then verify site access and A/PTR DNS lookups from a wired laptop.

NETWORK DIAGRAM



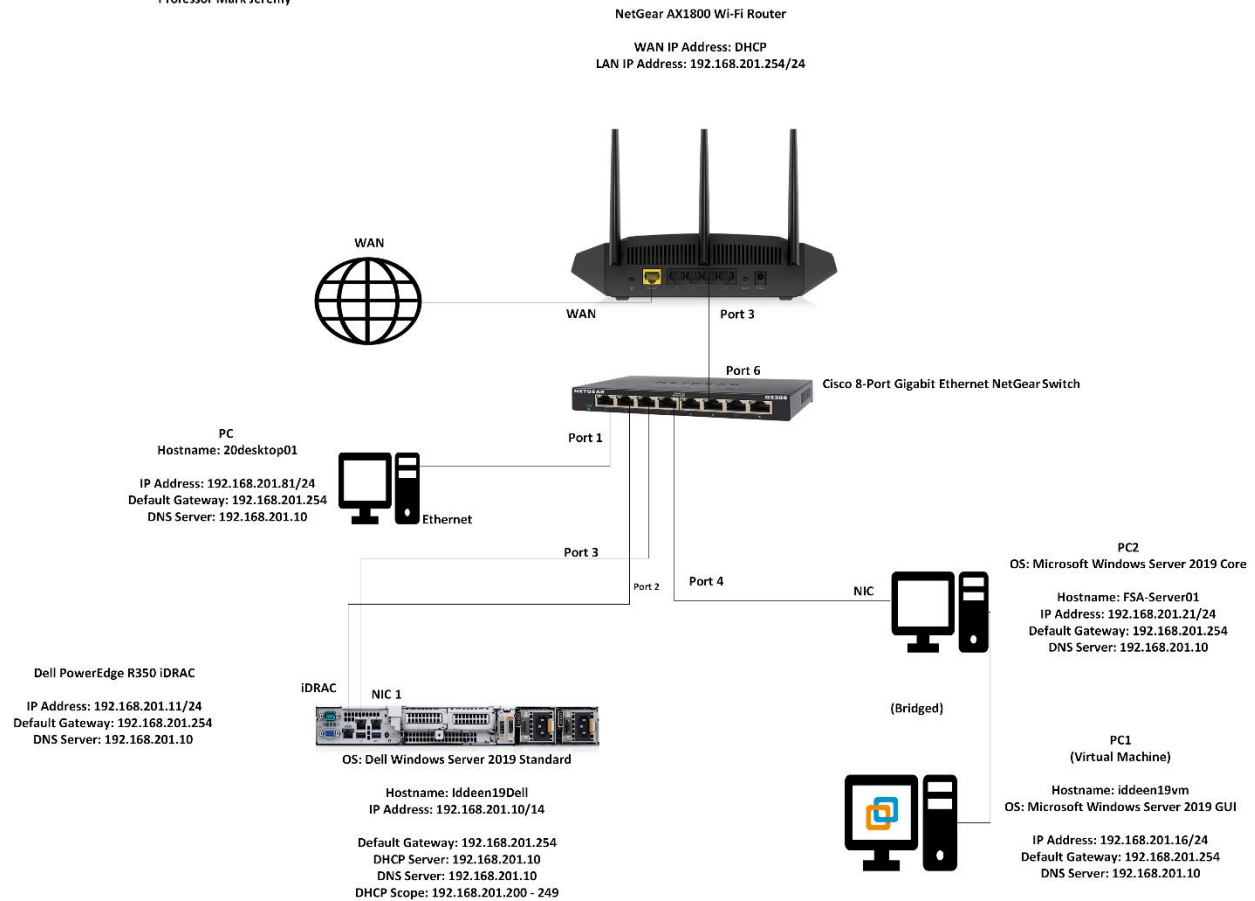
Setting up a SOHO Network

NACT-262 Fundamentals of Systems
Administration

September 14, 2025

Jibreal Id-deen

Professor Mark Jeremy



Hostname	Iddeen19Dell
Virtual Machine or Physical?	Physical
Operating System	Windows Server 2019 Standard (GUI)
RAM size	128GB
HD size	4TB
IPMI IP Address (if none – remove line)	192.168.201.11
IPMI Gateway IP address (if none – remove line)	192.168.201.254
Ethernet #1 IP Address (if none – remove line)	192.168.201.10
Ethernet Gateway IP Address (if none – remove line)	192.168.201.254
Primary DNS IP Address (if none – remove line)	192.168.201.10
Network Services (if none – remove line)	DHCP Server, DNS Server

Hostname	iDRAC
Virtual Machine or Physical?	Physical
Operating System	iDRAC9 firmware
RAM size	128GB
HD size	4TB
IPMI IP Address (if none – remove line)	192.168.201.11
IPMI Gateway IP address (if none – remove line)	192.168.201.254
Primary DNS IP Address (if none – remove line)	192.168.201.10
Network Services (if none – remove line)	Remote Management

Hostname	Iddeen19vm
Virtual Machine or Physical?	Virtual Machine (VMware Workstation, Bridged)
Operating System	Windows Server 2019 Standard (GUI)
RAM size	32GB
Ethernet #1 IP Address (if none – remove line)	192.168.201.16
Ethernet Gateway IP Address (if none – remove line)	192.168.201.10
Primary DNS IP Address (if none – remove line)	192.168.201.10
Network Services (if none – remove line)	IIS (custom homepage)

Hostname	FSA-Server01
Virtual Machine or Physical?	Physical
Operating System	Windows Server 2019 Standard Core
RAM size	32GB
HD size	950GB
Ethernet #1 IP Address (if none – remove line)	192.168.201.21
Ethernet Gateway IP Address (if none – remove line)	192.168.201.254
Primary DNS IP Address (if none – remove line)	192.168.201.10
Network Services (if none – remove line)	IIS (custom homepage)

PROCEDURE



FIGURE 1 - TYPE THE ROUTER'S LOGIN WEBSITE

For the fastest set up, download the Nighthawk app from Nighthawk-App.com

Go to Nighthawk-App.com and download the Nighthawk app on your mobile phone or tablet device using a mobile data connection to complete your Wi-Fi network set up.

[If you don't have a compatible smartphone, click here >](#)

FIGURE 2 - CLICK HERE TO PROCEED

NETGEAR® AX1800 WiFi Router R6700AX



Welcome

Let's set up your router.

Make sure that your router is connected to Internet with an Ethernet cable to continue.

NEXT

FIGURE 3 - CLICK "NEXT"

Admin Account Settings

The admin password is used to log in to your router's web interface. Secure your Network by changing the admin password.

Username	New Password
admin
	Confirm New Password




FIGURE 4 - SET THE NEW PASSWORD

NETGEAR® AX1800 WiFi
Router R6700AX

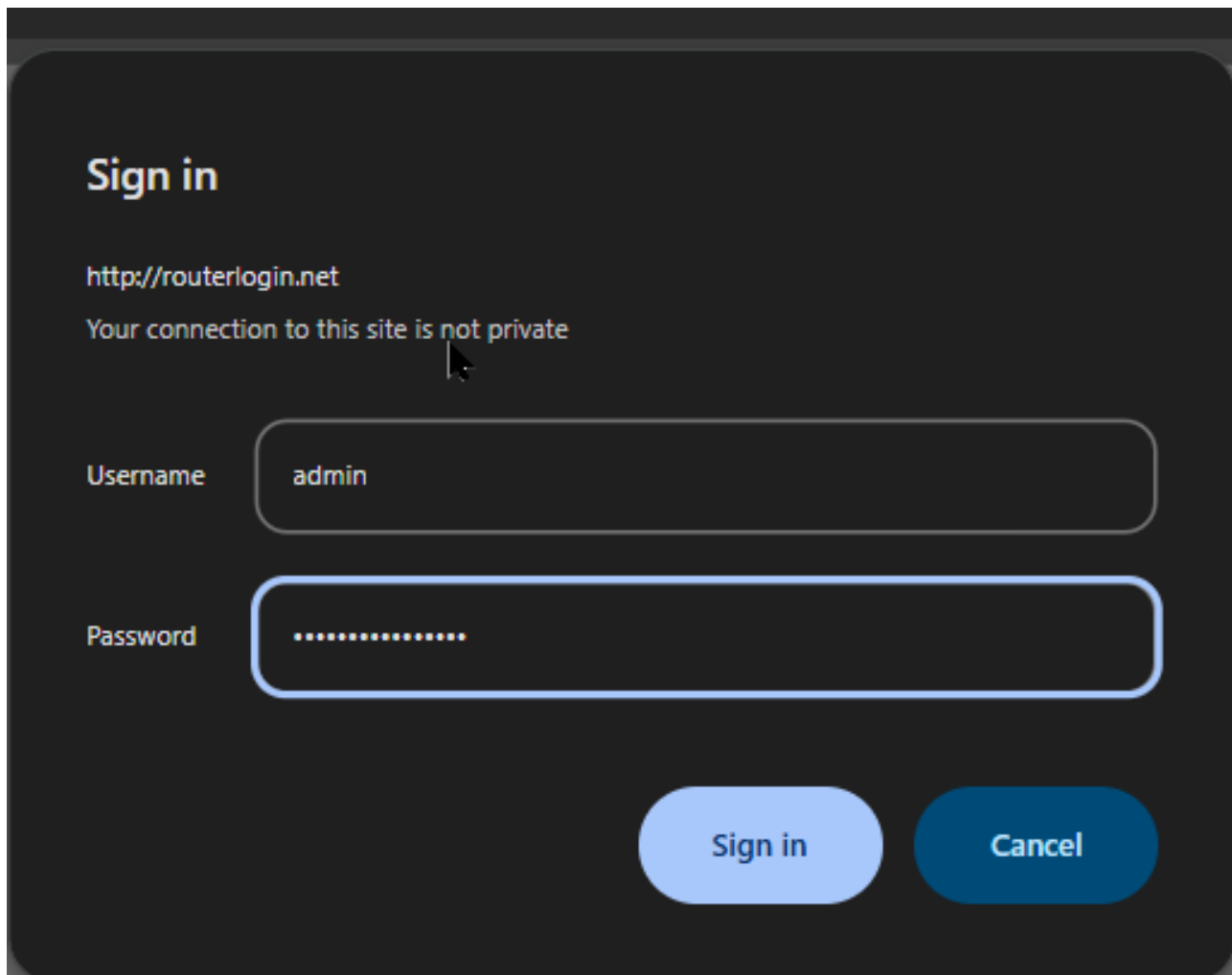


Firmware Updating



Please Wait

FIGURE 5 - FIRMWARE UPDATING

The image shows a dark-themed login interface for a router. At the top, it says "Sign in" in a large, bold, white font. Below this, the URL "http://routerlogin.net" is displayed in a smaller white font. A warning message, "Your connection to this site is not private", is shown in a yellow font with a small cursor icon pointing to it. There are two input fields: "Username" with the text "admin" and "Password" with a series of dots. At the bottom right, there are two buttons: a light blue "Sign in" button and a dark blue "Cancel" button.

Sign in

http://routerlogin.net

Your connection to this site is not private

Username admin

Password

Sign in Cancel

FIGURE 6 - LOG IN THE ROUTER ACCOUNT

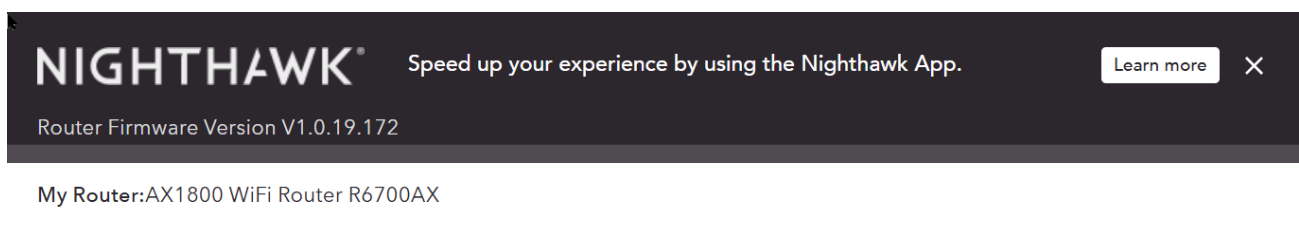


FIGURE 7 - THE OVERVIEW OF THE ROUTER DASHBOARD

BASIC

ADVANCED

Home

Internet

Wireless

Attached Devices

Quality of Service

Guest Network

FIGURE 8 - CLICK "BASIC" THEN "INTERNET"

☒ Get Dynamically from ISP

☐ Use Static IP Address

IP Address:

10 . 1 . 20 . 174

FIGURE 9 - CHECK THE ROUTER'S WAN IP ADDRESS

Setup



Internet Setup

Wireless Setup

Guest Network

WAN Setup

LAN Setup

QoS Setup

Device Name

FIGURE 10 - CLICK "LAN SETUP"

LAN TCP/IP Setup



IP Address:

192 . 168 . 1 . 1

IP Subnet Mask:

255 . 255 . 255 . 0

FIGURE 11 - CHECK THE ROUTER'S LAN IP TO CHANGE

LAN TCP/IP Setup

IP Address:

192 . 168 . 201 . 254

IP Subnet Mask:

255 . 255 . 255 . 0

FIGURE 12 - DONE CHANGING THE LAN IP ADDRESS

☐

Use Router as DHCP Server

FIGURE 13 - DISABLE THE DHCP SERVER

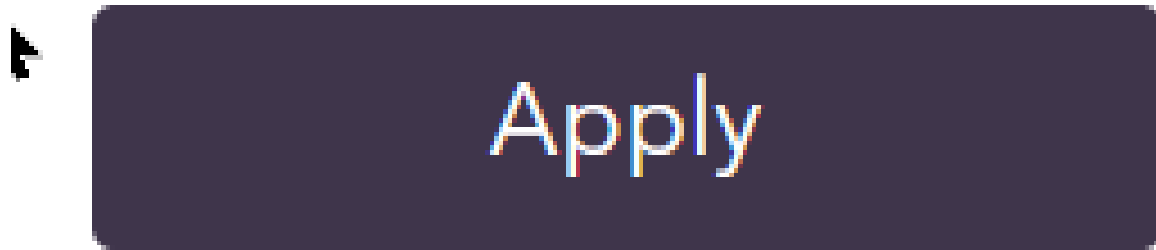


FIGURE 14 - APPLY IT

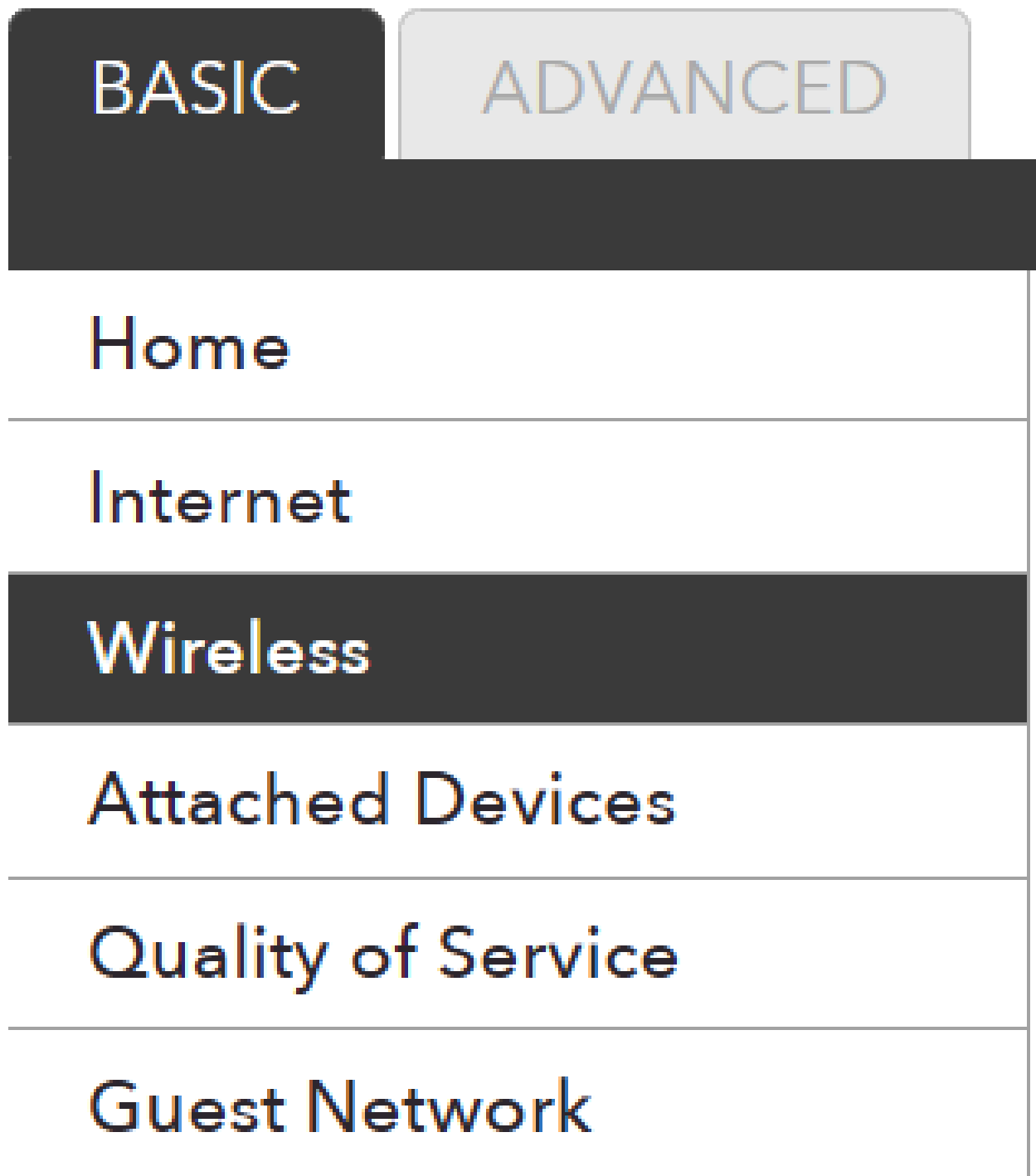


FIGURE 15 - CLICK "WIRELESS"

Wireless Network (2.4GHz b/g/n/ax)

- ☐ Enable SSID Broadcast
- ☐ Enable 20/40 MHz Coexistence

FIGURE 16 - DISABLE WI-FI (2.4GHZ)

Wireless Network (5GHz 802.11a/n/ac/ax)

- ☐ Enable SSID Broadcast

Name (SSID):

NETGEAR17-5G

FIGURE 17 - DISABLE WI-FI (5GHZ)

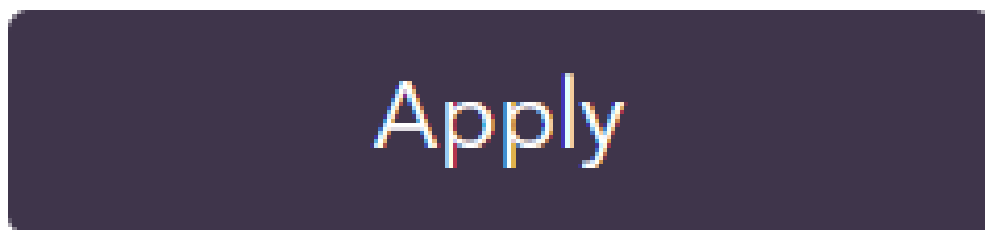


FIGURE 18 - APPLY IT

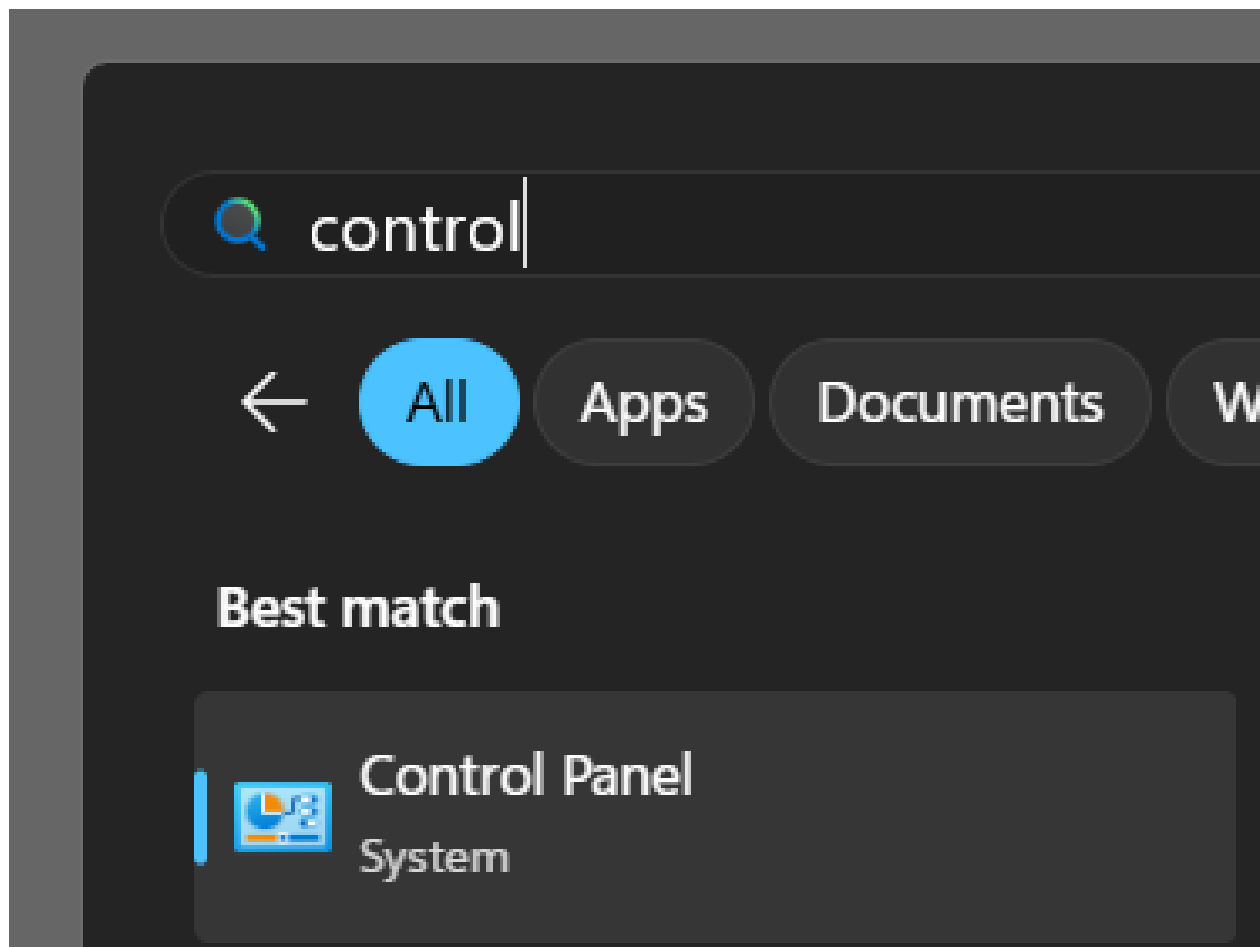


FIGURE 19 - TYPE "CONTROL PANEL" TO ENTER

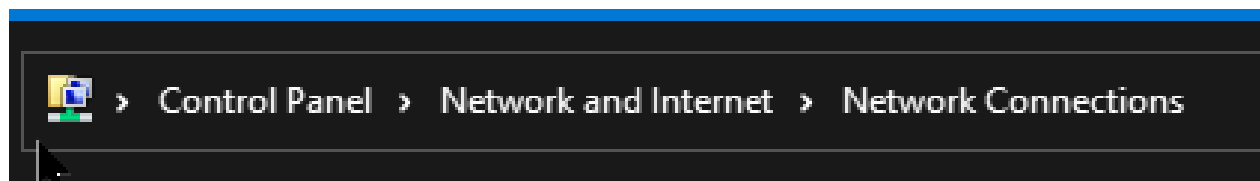


FIGURE 20 - FOLLOW THE PROCESS TO NETWORK CONNECTIONS

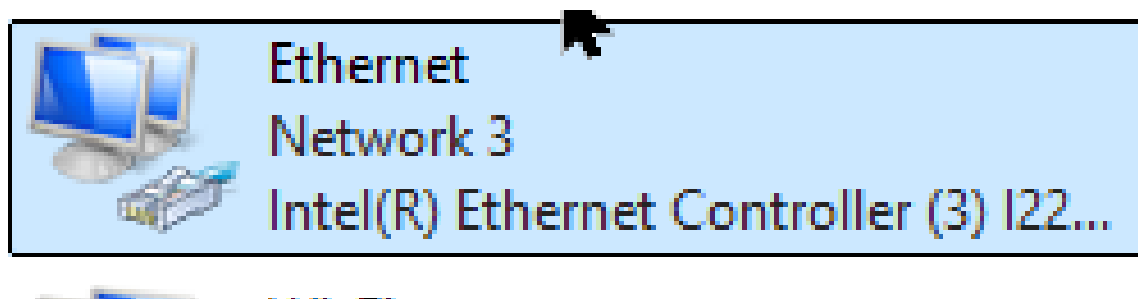


FIGURE 21 - CLICK THIS "ETHERNET"

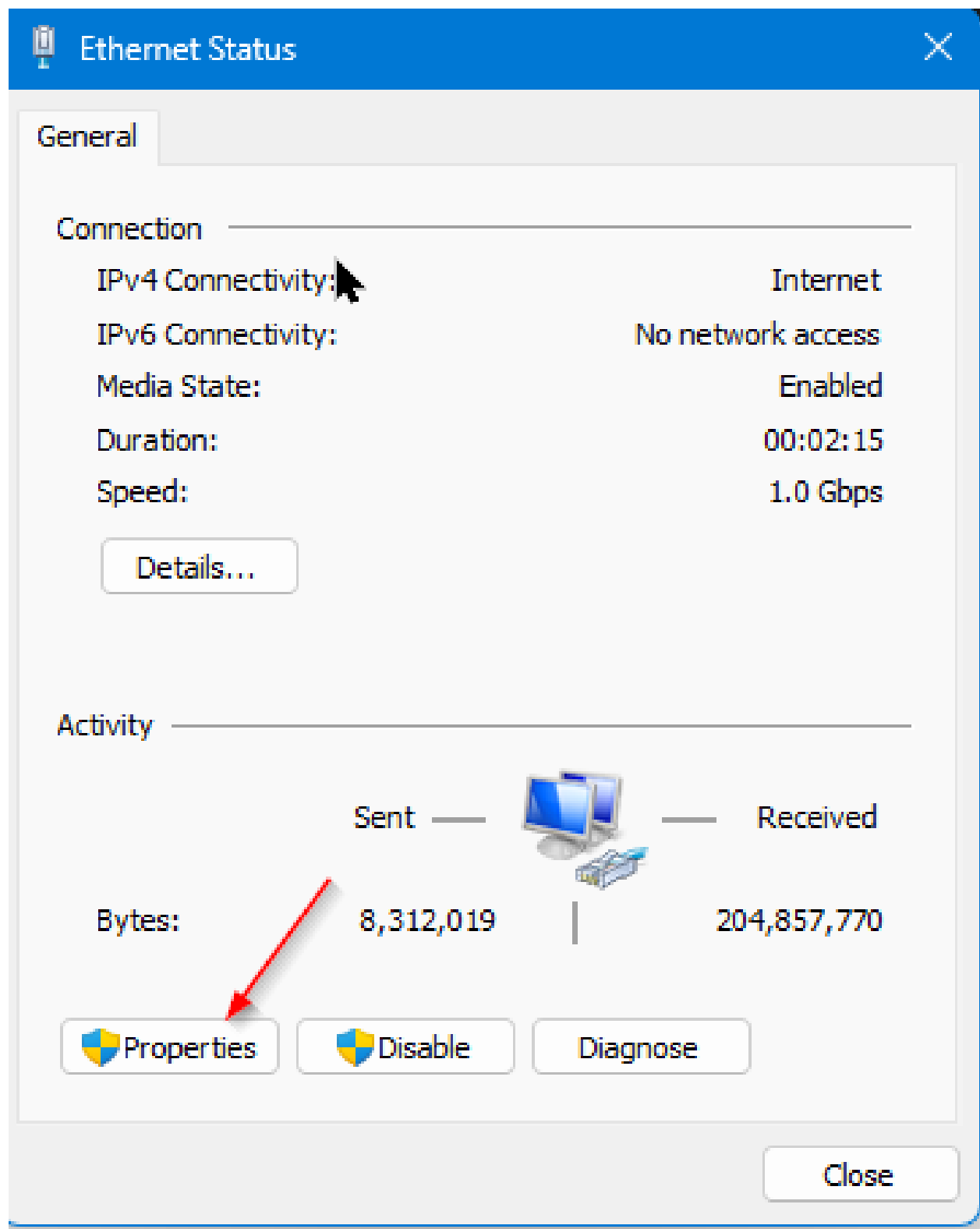


FIGURE 22 - CLICK "PROPERTIES"

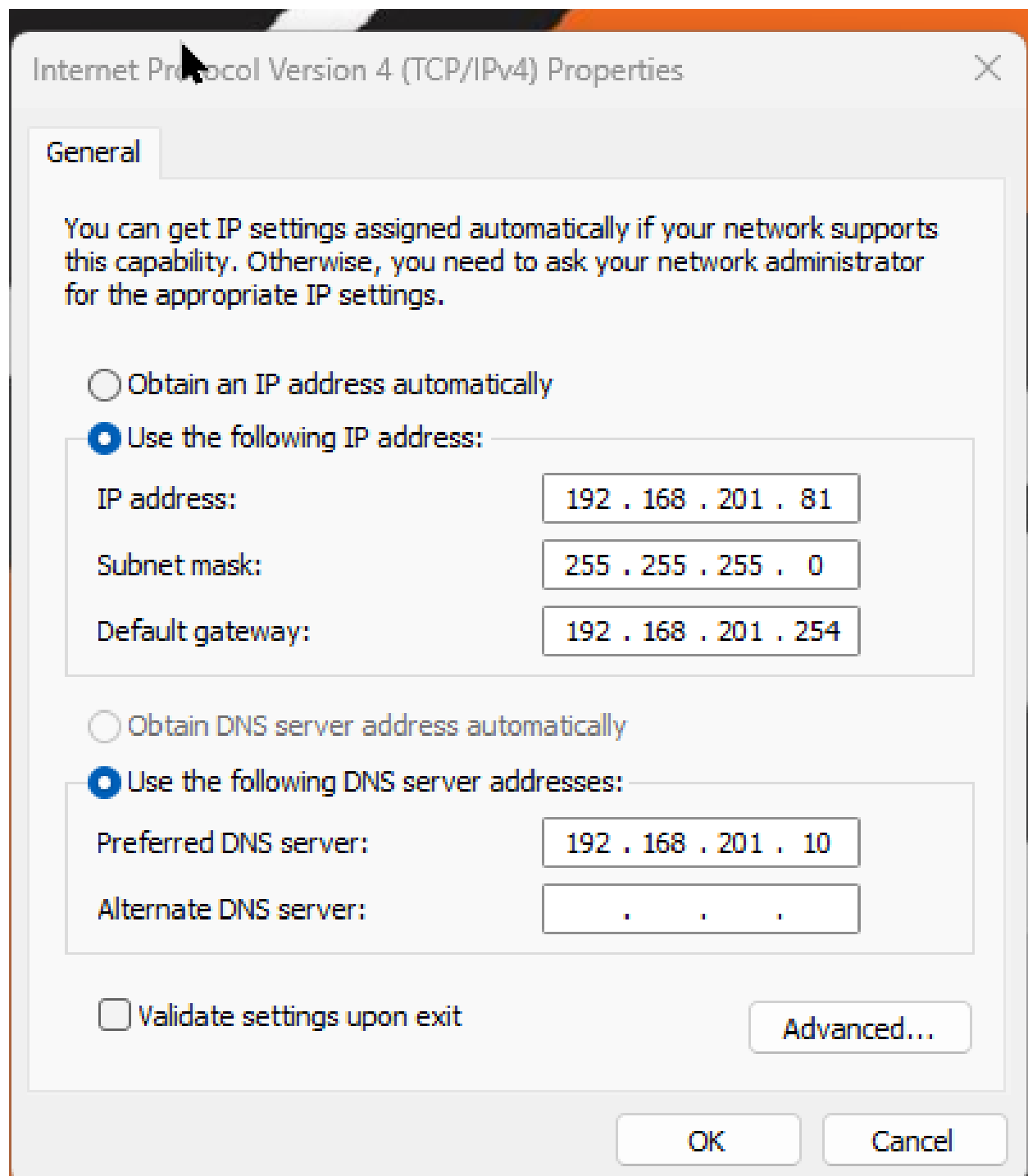


FIGURE 23 - PUT THE MANUALLY IP ADDRESS AND THE REQUIRED STUFFS ON IT

Ethernet adapter Ethernet:

```
Connection-specific DNS Suffix . :  
Description . . . . . : Intel(R) Ethernet Controller (3) I225-V  
Physical Address. . . . . : D8-5E-D3-88-B2-16  
DHCP Enabled. . . . . : No  
Autoconfiguration Enabled . . . . : Yes  
Link-local IPv6 Address . . . . . : fe80::a5a3:81ed:36e2:af0a%3(Preferred)  
IPv4 Address. . . . . : 192.168.201.81(Preferred)  
Subnet Mask . . . . . : 255.255.255.0  
Default Gateway . . . . . : 192.168.201.254  
DHCPv6 IAID . . . . . : 198729427  
DHCPv6 Client DUID. . . . . : 00-01-00-01-30-0B-15-AA-D8-5E-D3-88-B2-16  
DNS Servers . . . . . : 192.168.201.10  
NetBIOS over Tcpip. . . . . : Enabled
```

FIGURE 24 - TYPE "IPCONFIG" ON DESKTOP PC AND SEE THE REST OF THE ETHERNET ADAPTER

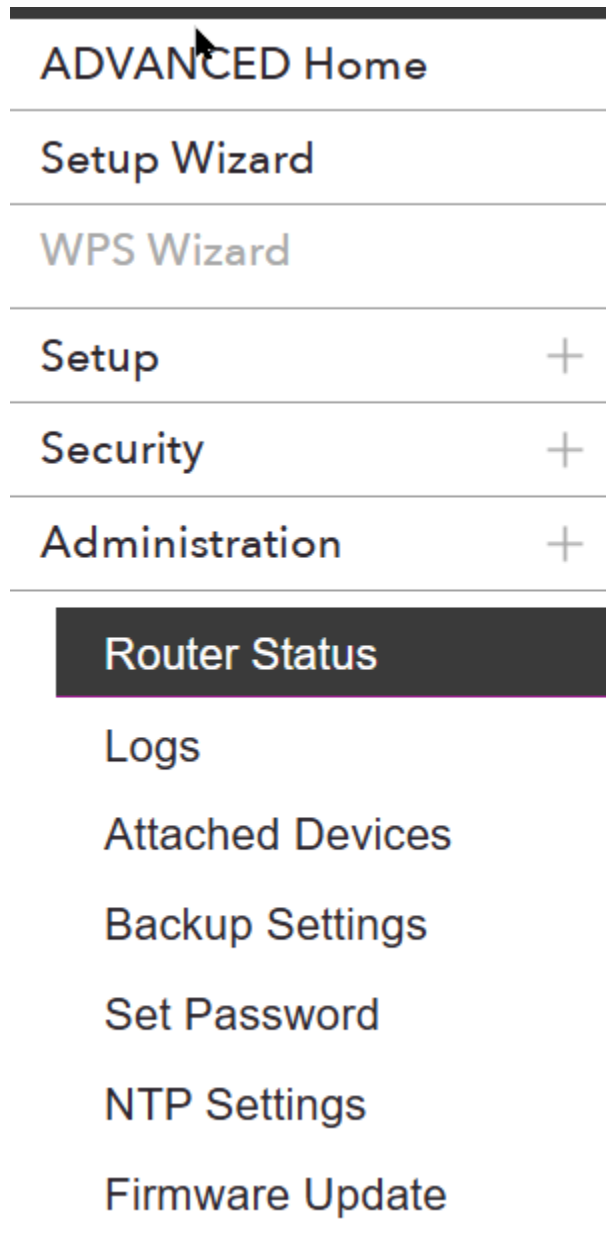


FIGURE 25 - CLICK "ROUTER STATUS" THEN CLICK "SET PASSWORD"

Change Password

Change the router's local management password.

Old Password:

New Password:

Confirm New Password:

FIGURE 26 - SET NEW PASSWORD AND CONFIRM IT

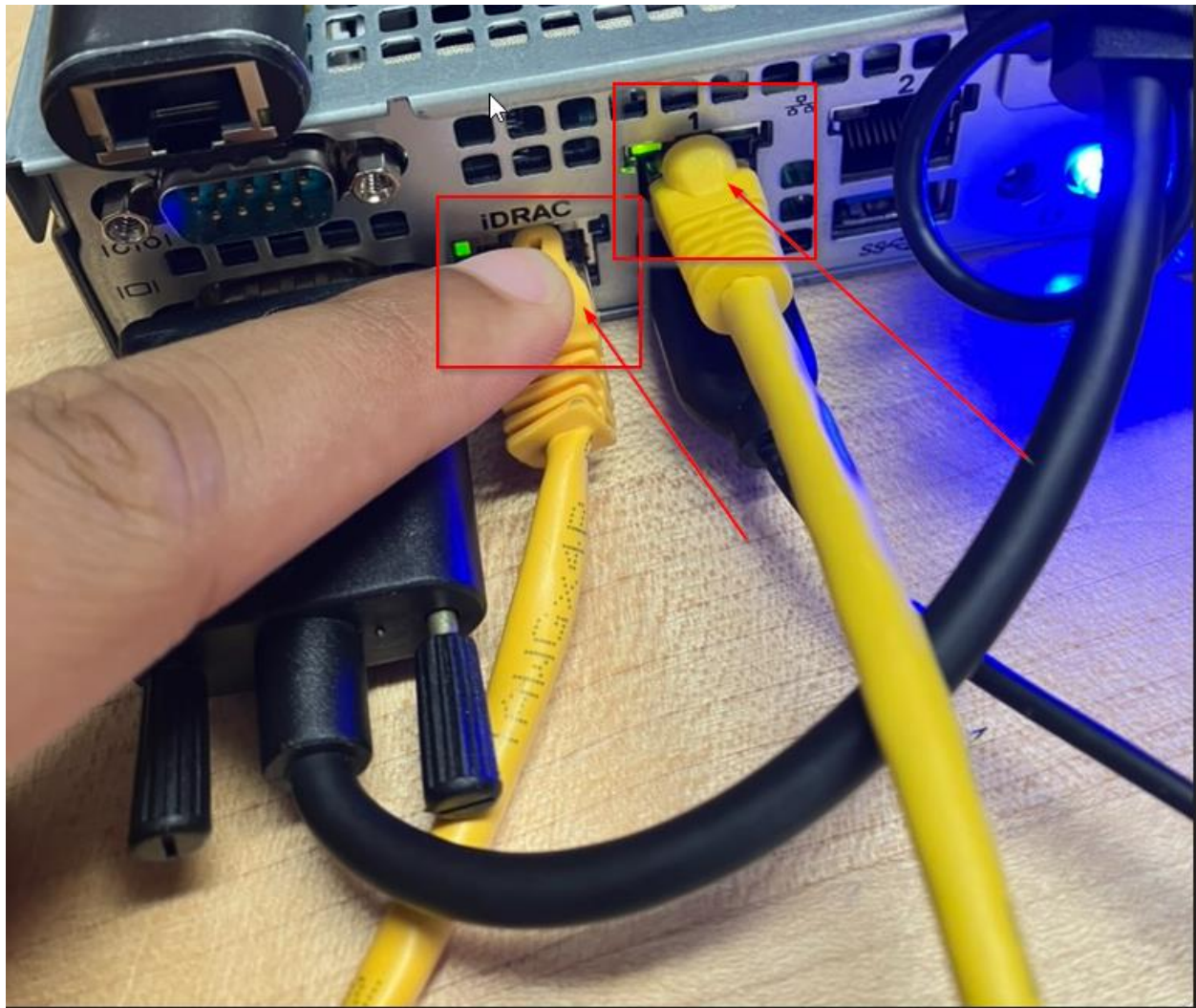


FIGURE 27 - CONNECT TO iDRAC AND NIC 1 WITH ETHERNET FROM THE ROUTER



FIGURE 28 - MAKE SURE TO REMEMBER THE BENCH NUMBER FOR IP ADDRESS

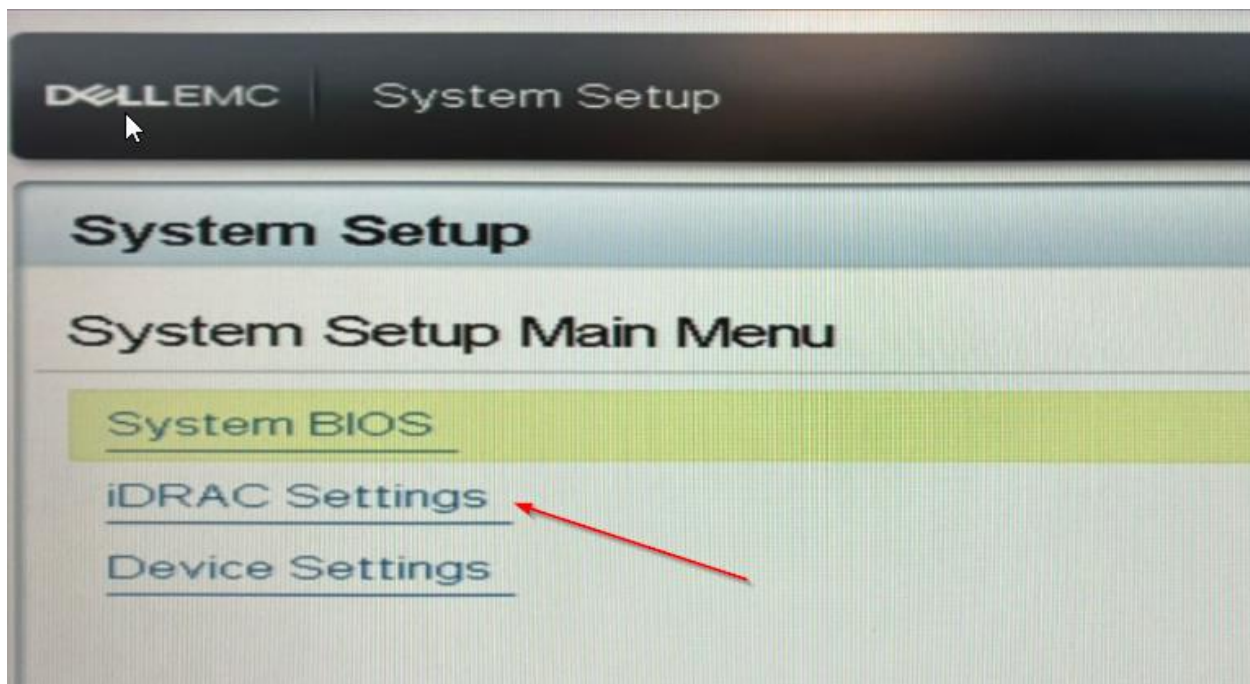


FIGURE 29 - IN IDRAC SETTING, CLICK "SYSTEM BIOS"

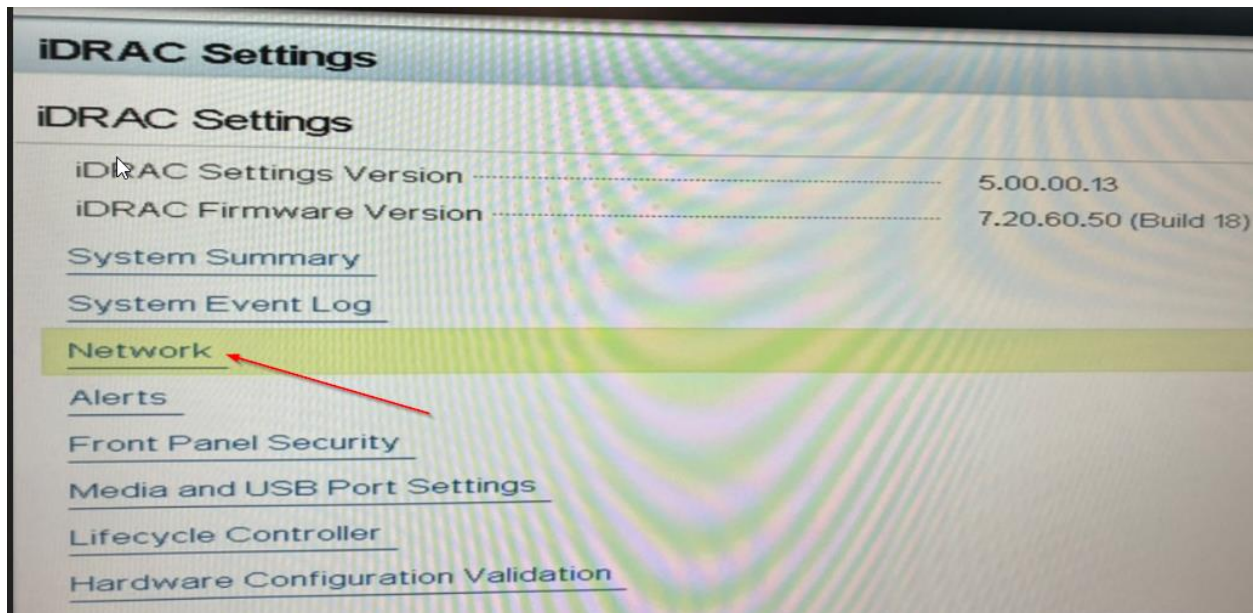


FIGURE 30 - CLICK "NETWORK"

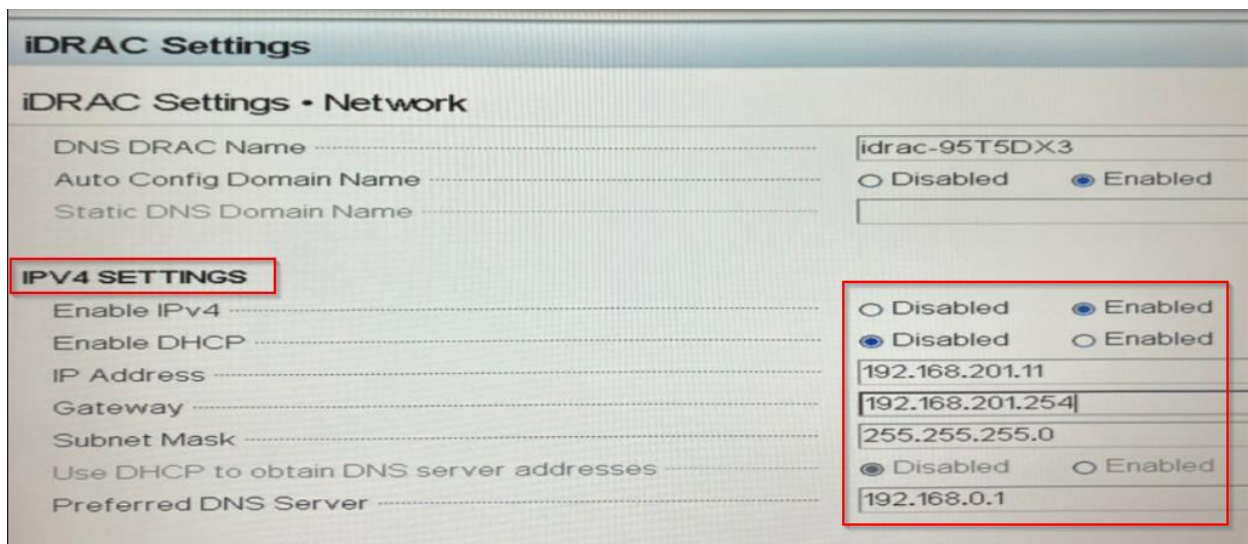


FIGURE 31 - PUT THE MANUALLY IP ADDRESS AND THE REQUIRED STUFF ON IT

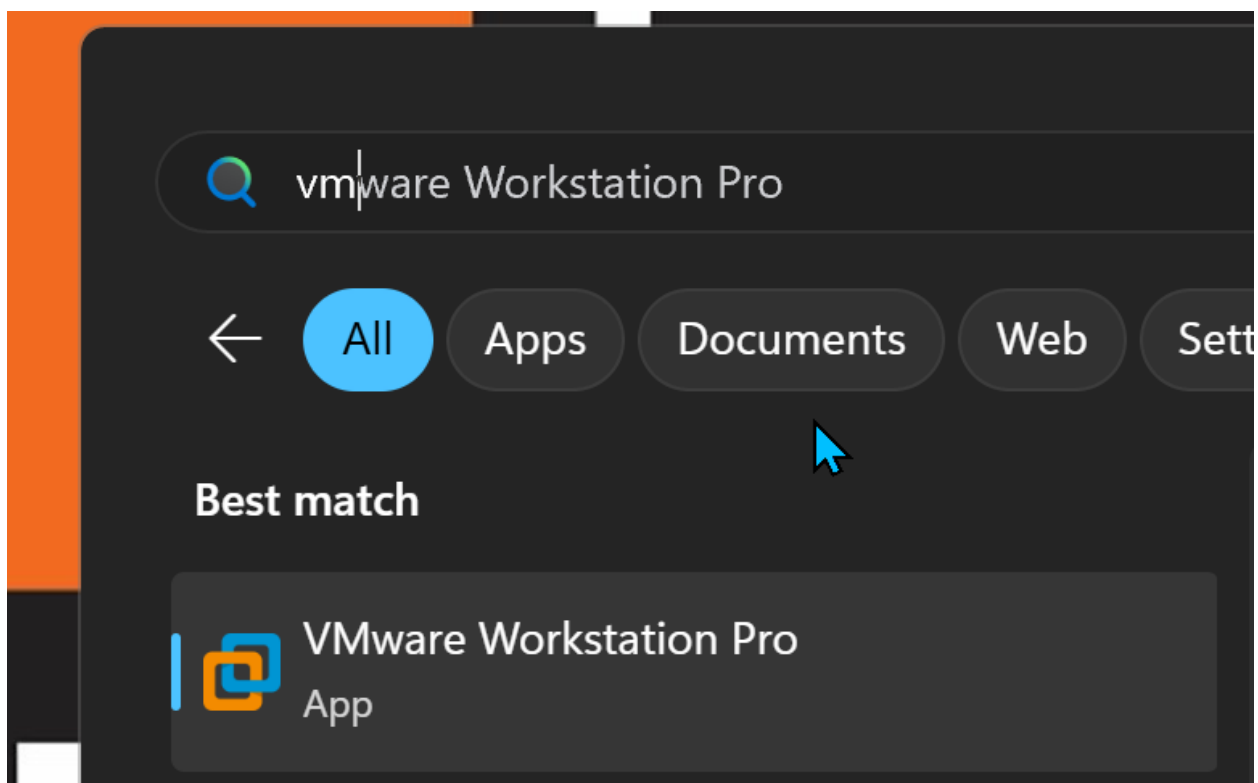


FIGURE 32 - OPEN THE VMWARE WORKSTATION PRO

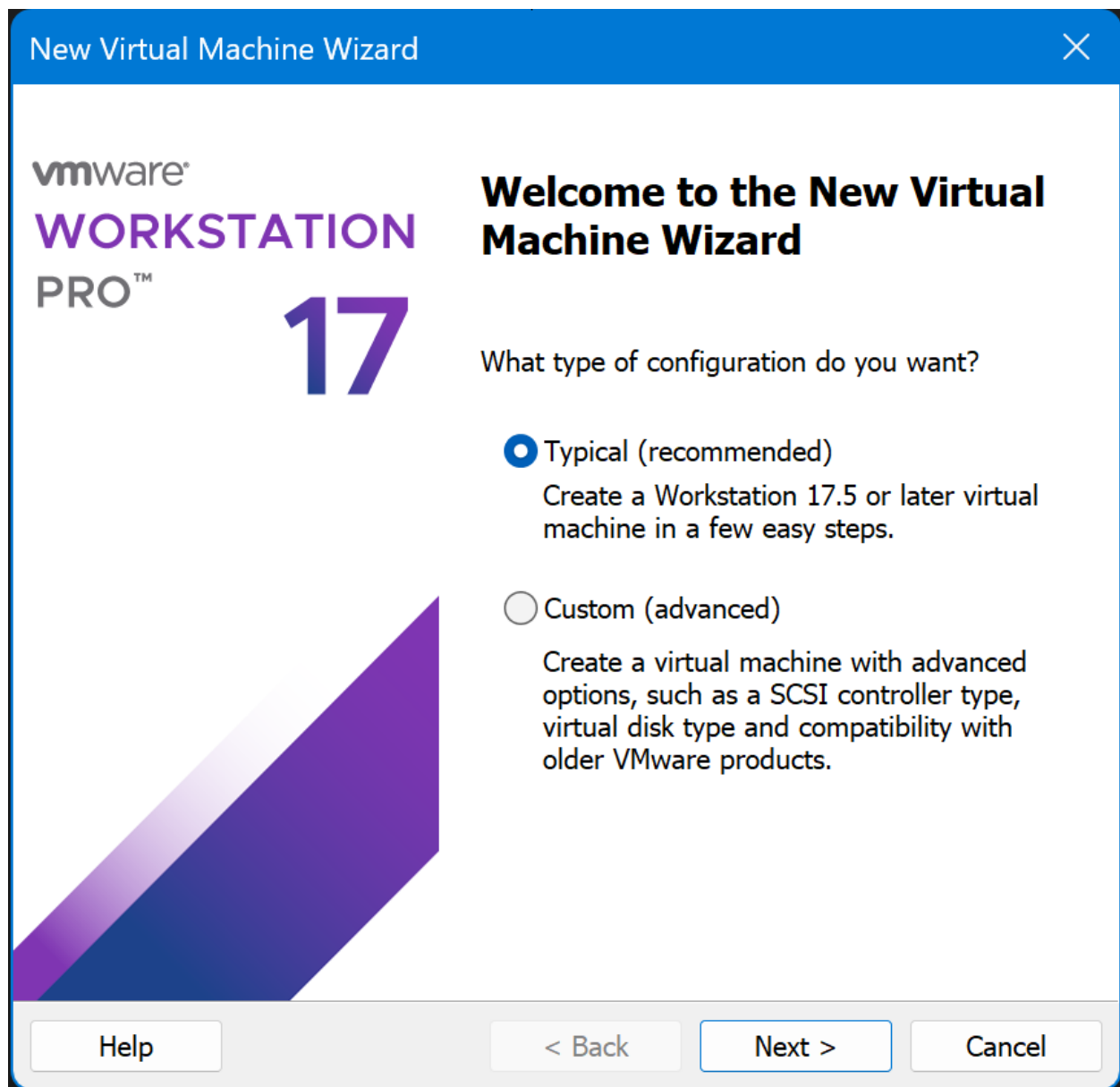


FIGURE 33 – PROCCED

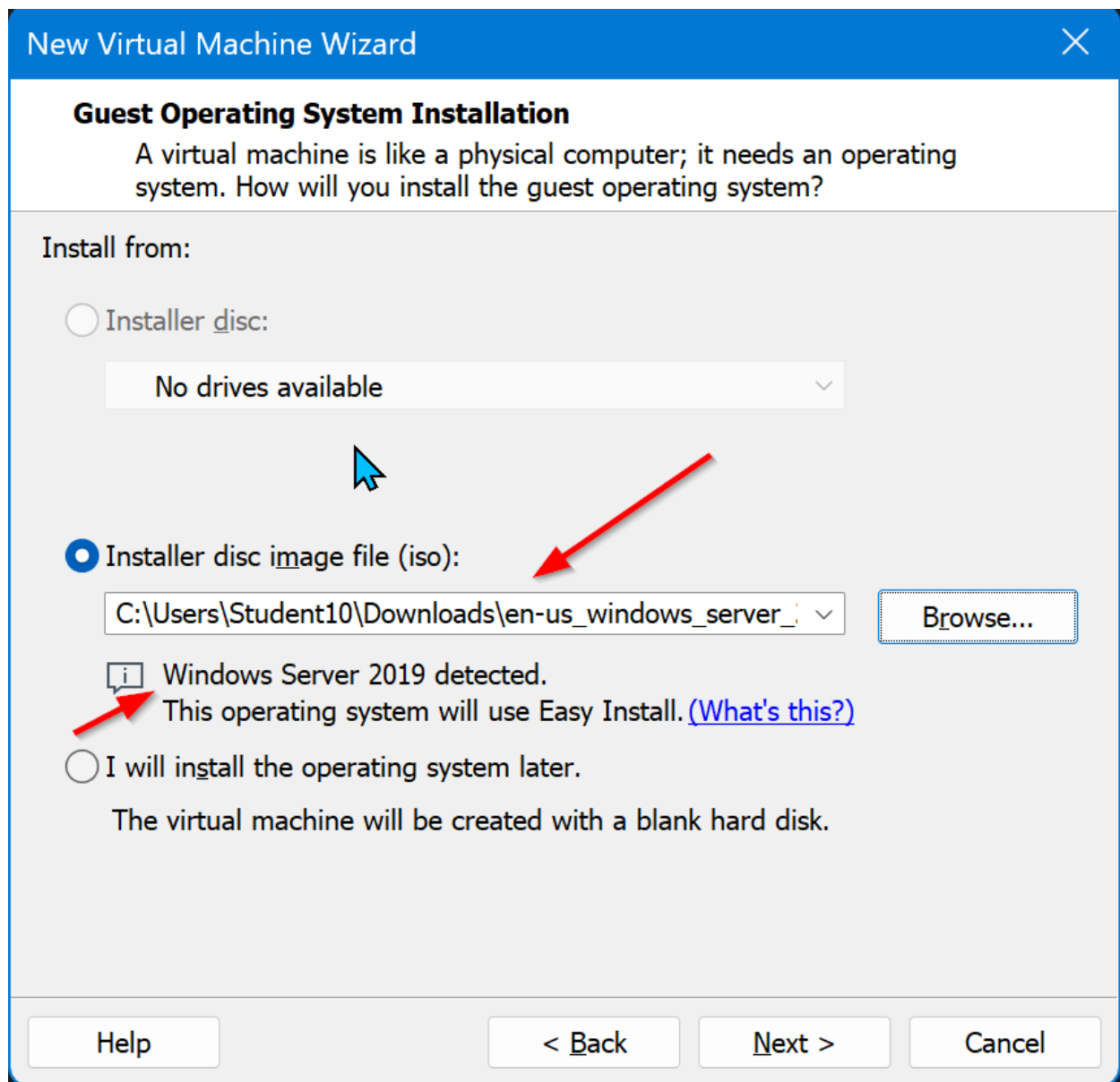


FIGURE 34 - MAKE SURE TO SELECT THE WINDOWS SERVER 2019 TO BE DETECTED

Version of Windows to install

Personalize Windows

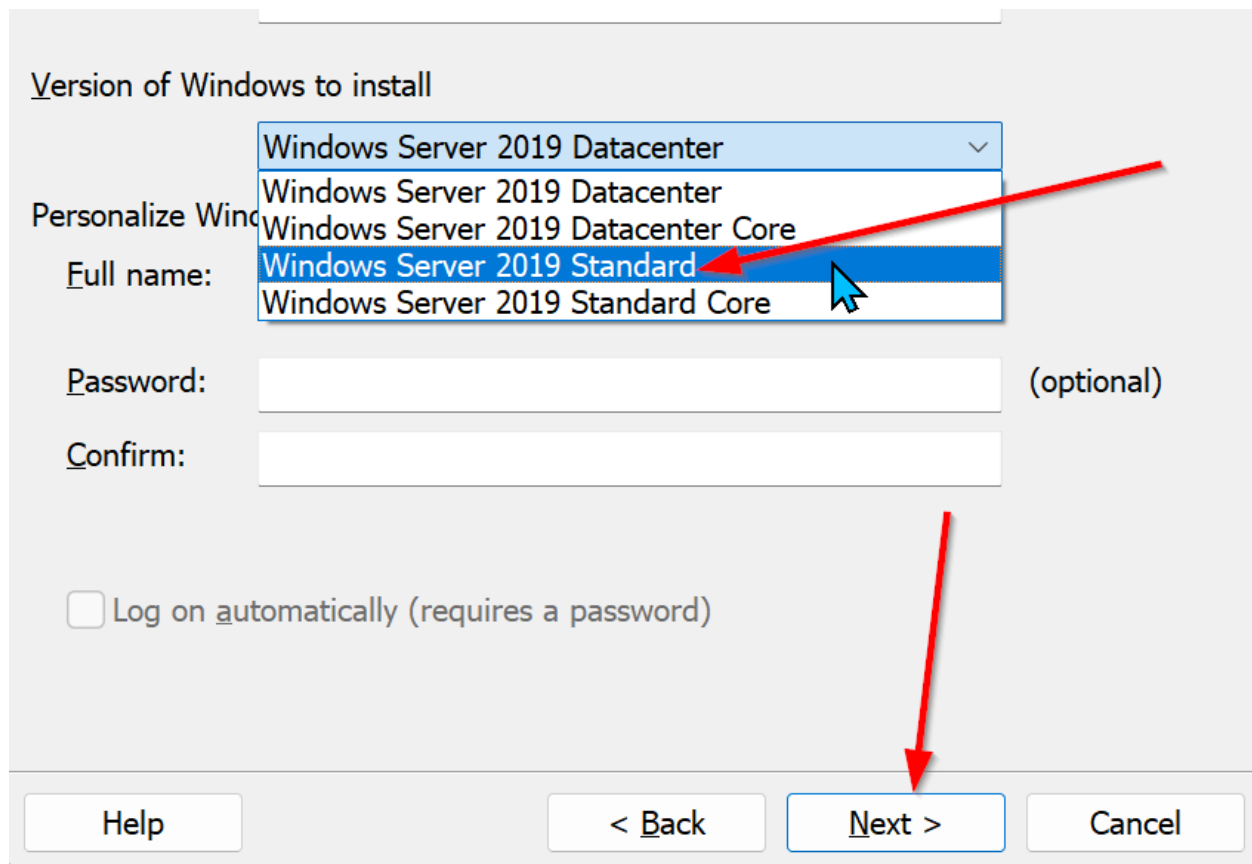
Full name:

Password: (optional)

Confirm:

☐ Log on automatically (requires a password)

Help < Back Next > Cancel



The screenshot shows the 'Version of Windows to install' step in the Windows Server 2019 installation process. A dropdown menu is open, displaying four options: 'Windows Server 2019 Datacenter', 'Windows Server 2019 Datacenter Core', 'Windows Server 2019 Standard', and 'Windows Server 2019 Standard Core'. The 'Windows Server 2019 Standard' option is highlighted in blue, and a red arrow points to it. Another red arrow points to the 'Next >' button at the bottom of the window. The 'Log on automatically' checkbox is unchecked. The 'Password' and 'Confirm' fields are empty. The 'Help', '< Back', 'Next >', and 'Cancel' buttons are visible at the bottom.

FIGURE 35 - SELECT WS 2019 STANDARD FOR VM

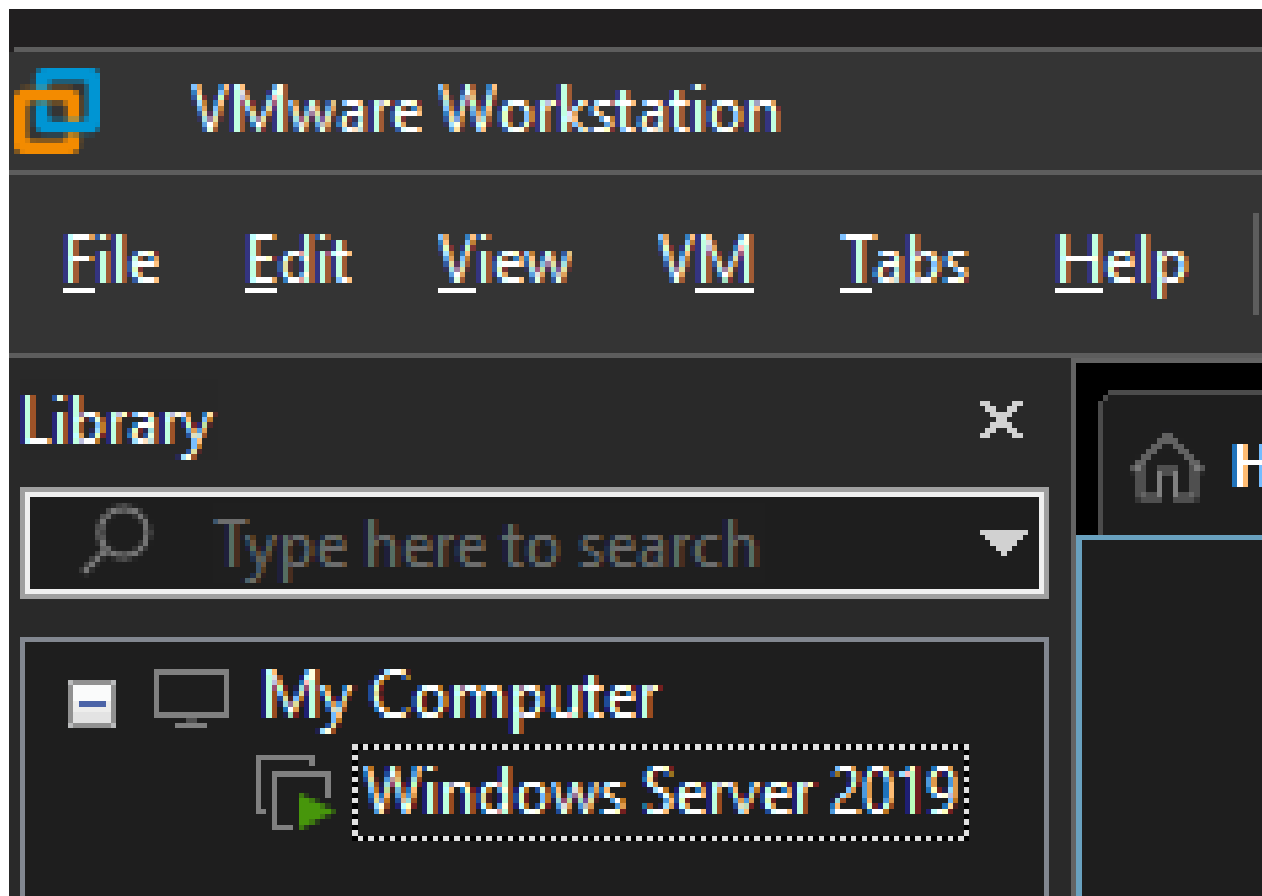


FIGURE 36 - CLICK "EDIT"

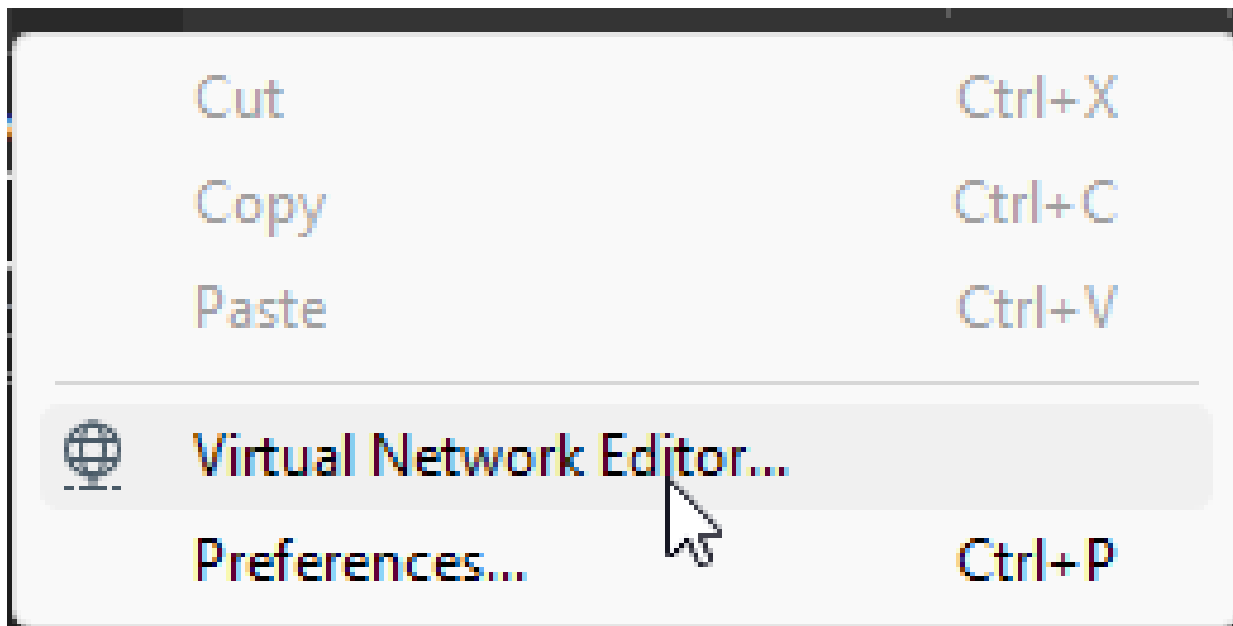


FIGURE 37 - CLICK "VIRTUAL NETWORK EDITOR"

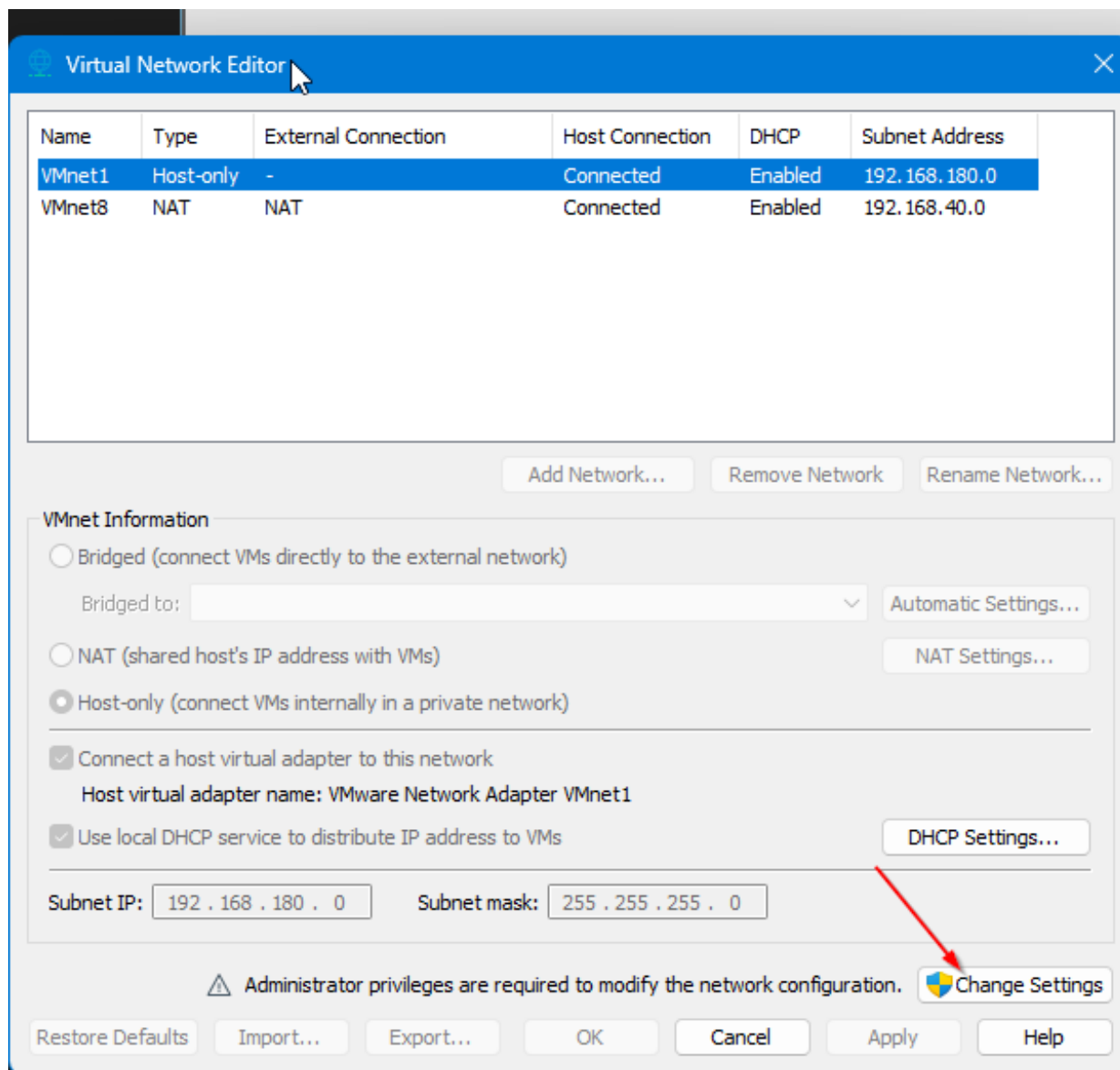


FIGURE 38 - CLICK "CHANGE SETTINGS"

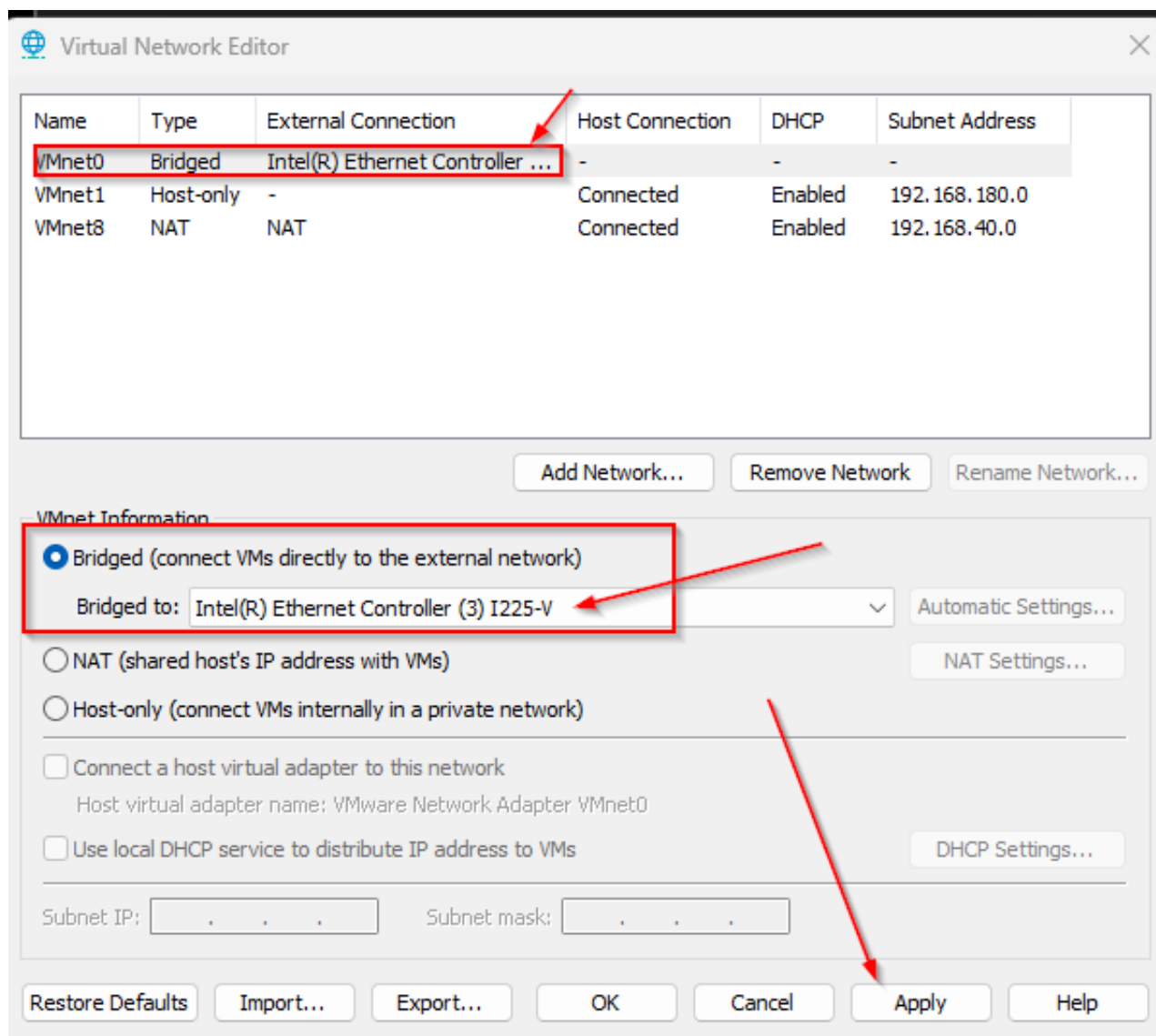


FIGURE 39 - CHANGE THE VMNET INFORMATION TO BRIDGE TO THE ETHERNET CONTROLLER

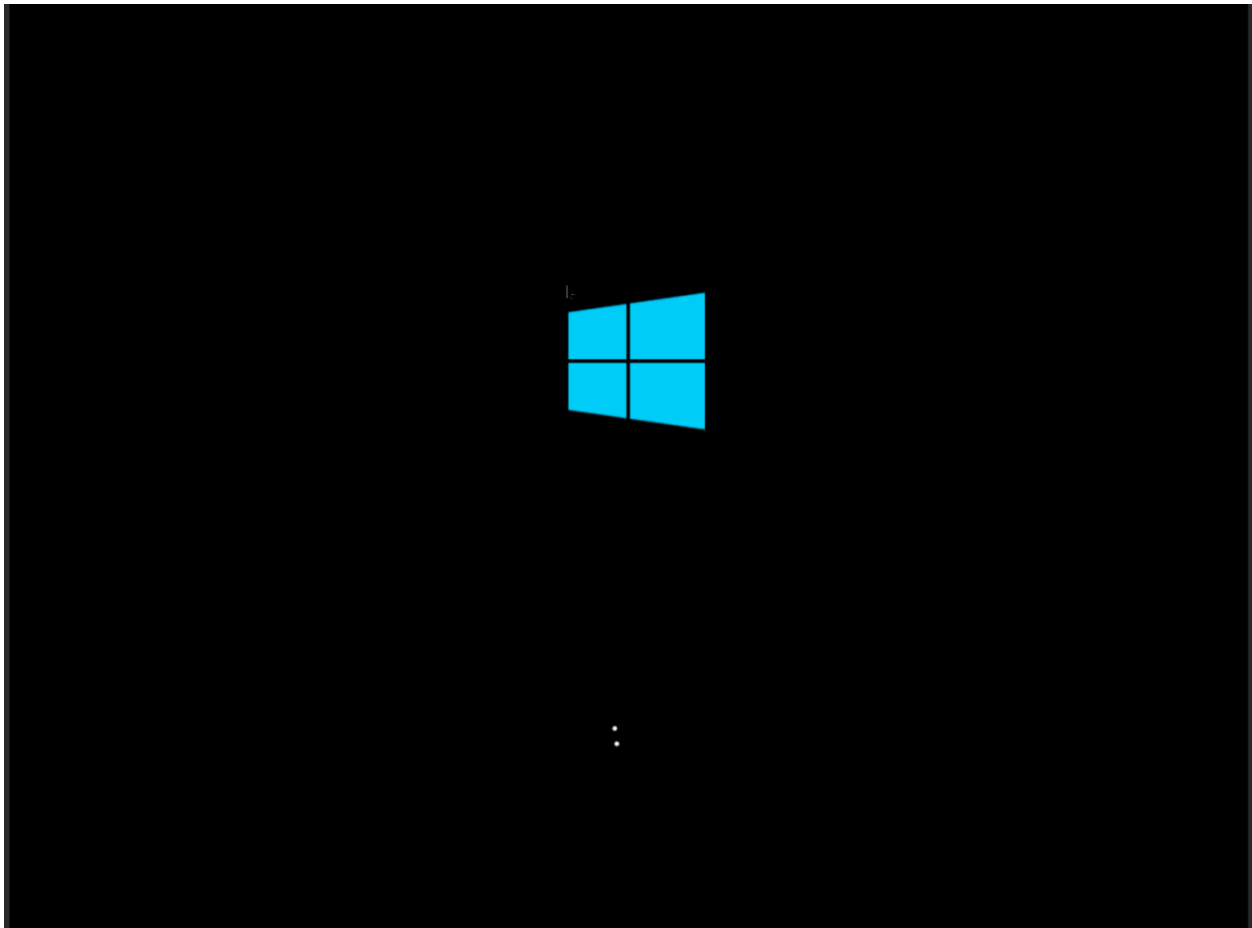


FIGURE 40 - REBOOT INTO WINDOWS SERVER 2019

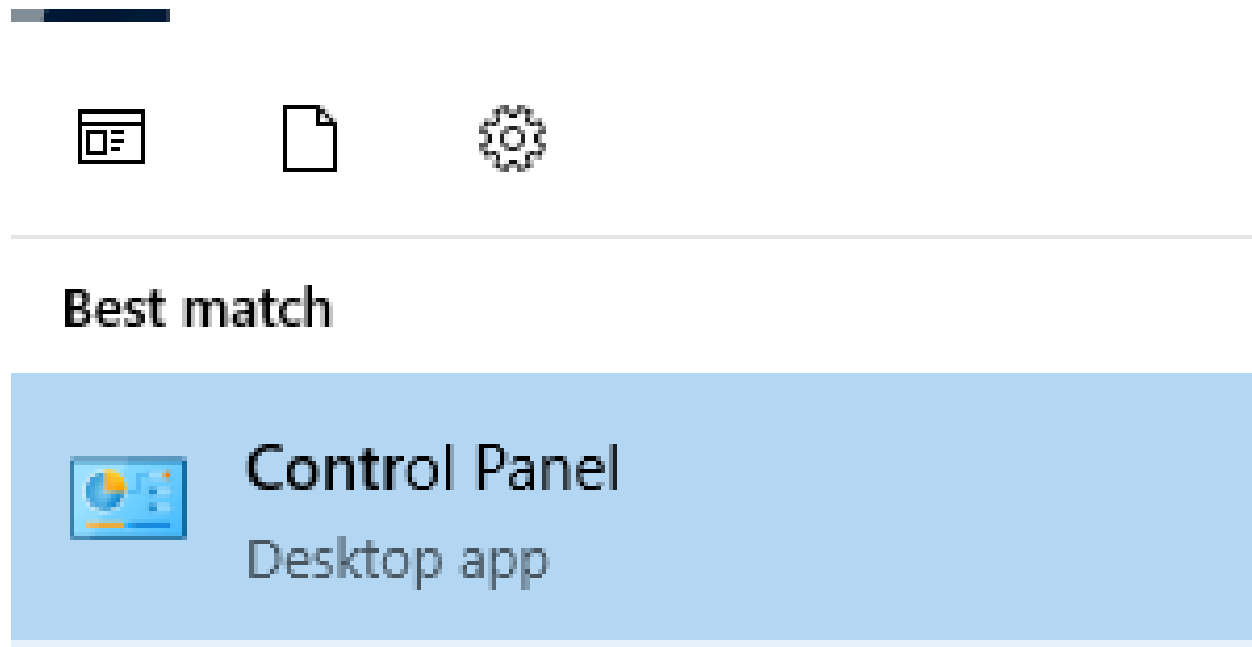


FIGURE 41 - OPEN THE CONTROL PANEL

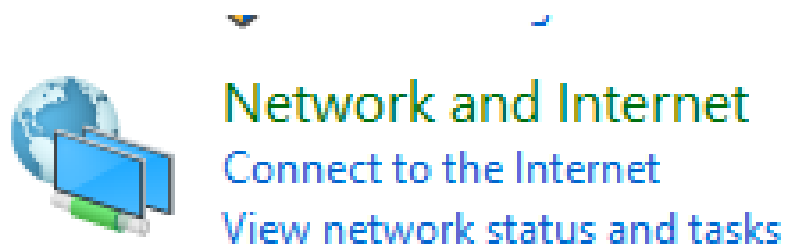


FIGURE 42 - CLICK THE "NETWORK AND INTERNET"

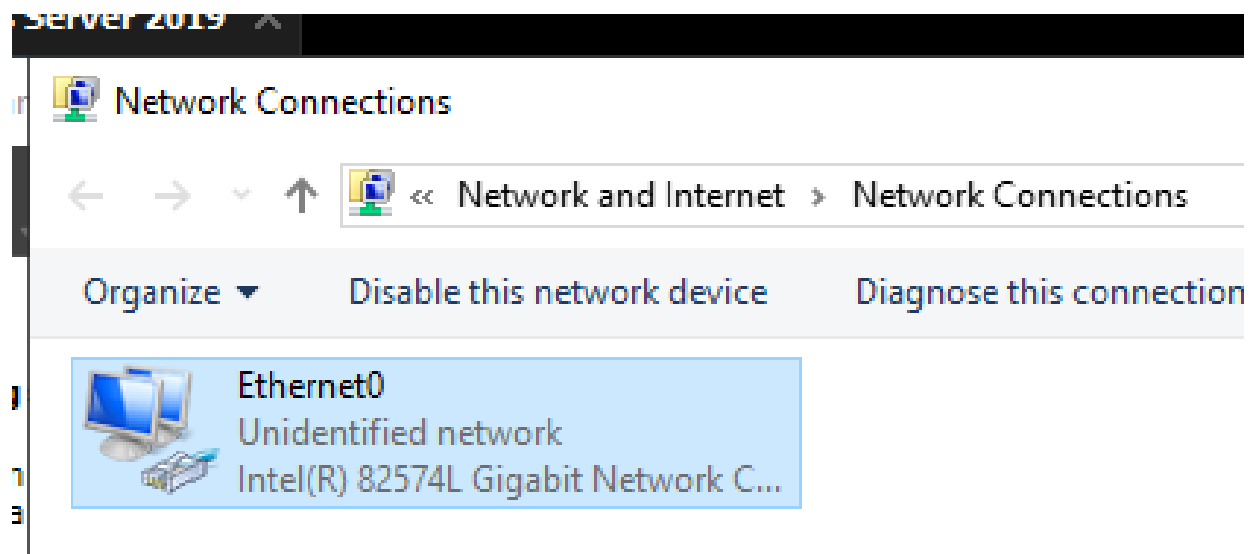


FIGURE 43 - CLICK "ETHERNET0"

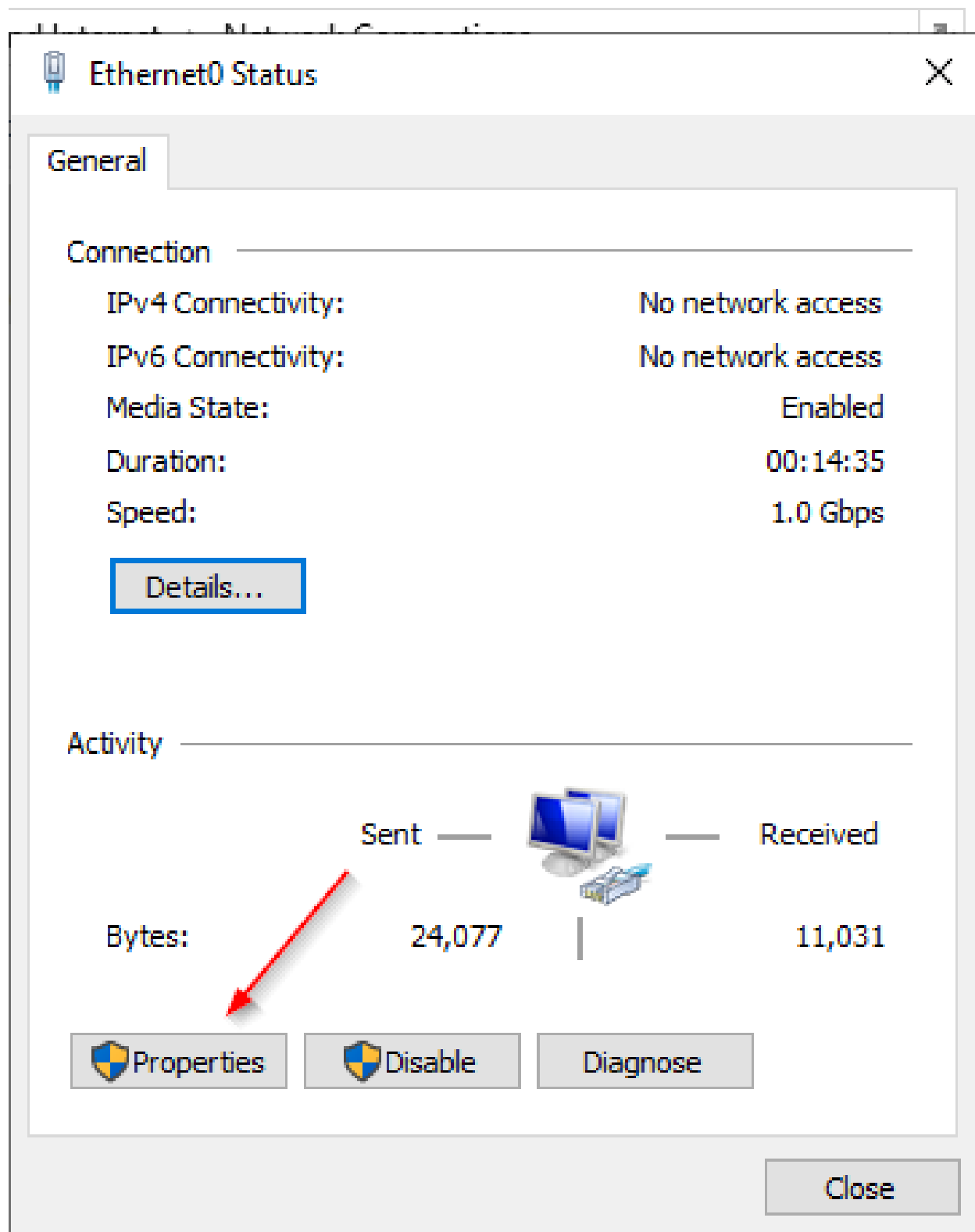


FIGURE 44 - CLICK "PROPERTIES"

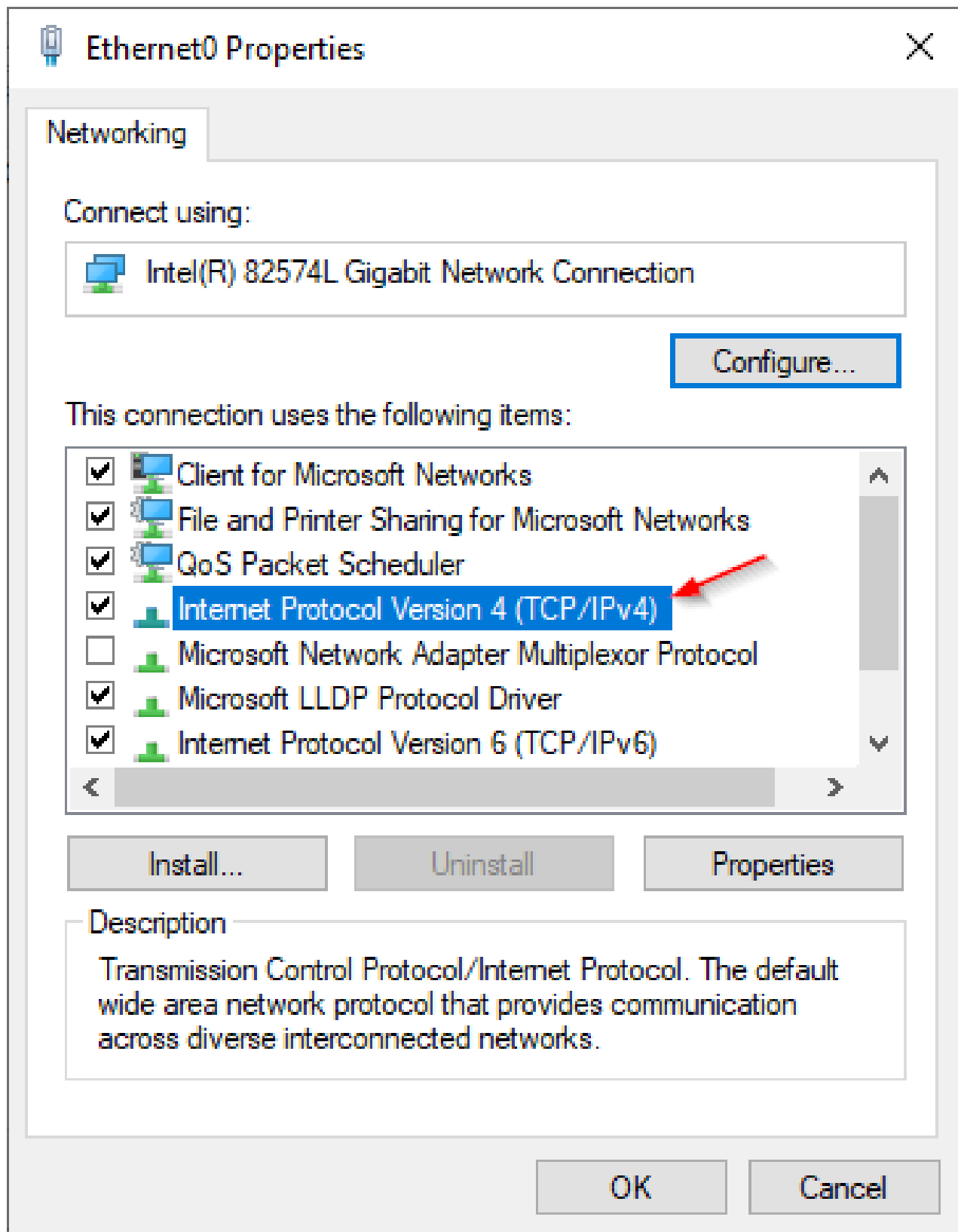


FIGURE 45 - CLICK THIS IPV4

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address:

192 . 168 . 201 . 16

Subnet mask:

255 . 255 . 255 . 0

Default gateway:

192 . 168 . 201 . 254

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server:

192 . 168 . 201 . 10

Alternate DNS server:

. . .

☐ Validate settings upon exit

Advanced...

OK Cancel

FIGURE 46 - PUT THE MANUALLY IP ADDRESS AND THE REQUIRED STUFF ON IT

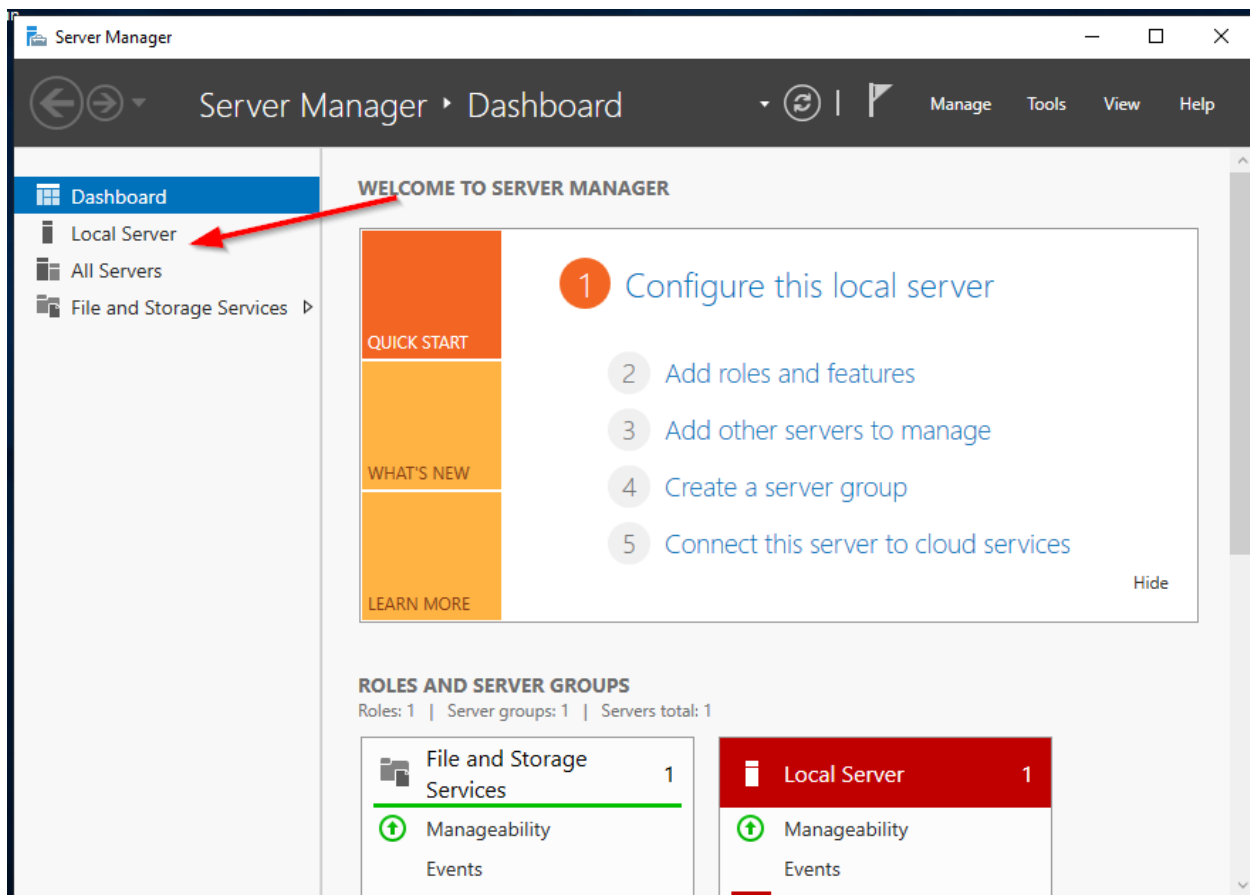


FIGURE 47 - OPEN THE SERVER MANAGER THEN CLICK "LOCAL SERVER"

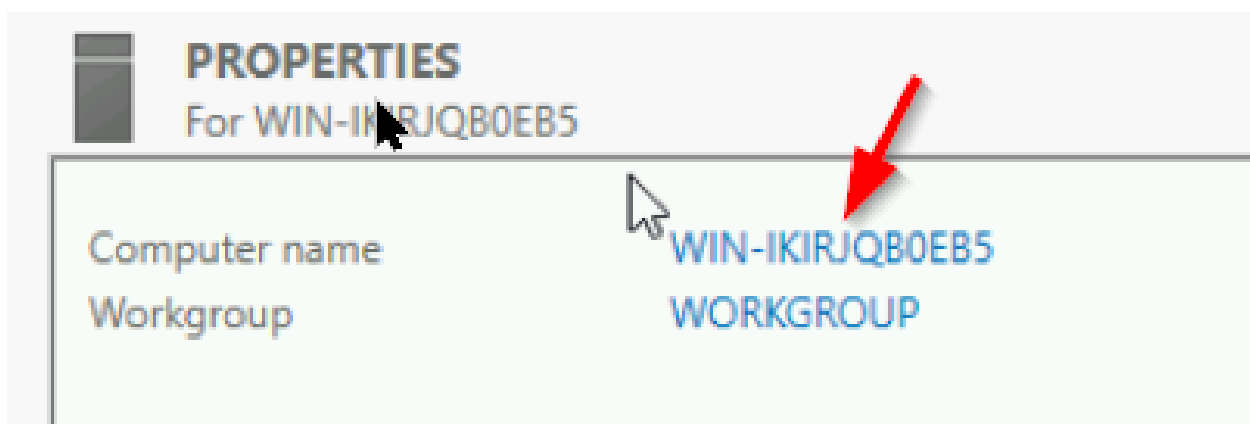


FIGURE 48 - CHANGE THE COMPUTER NAME

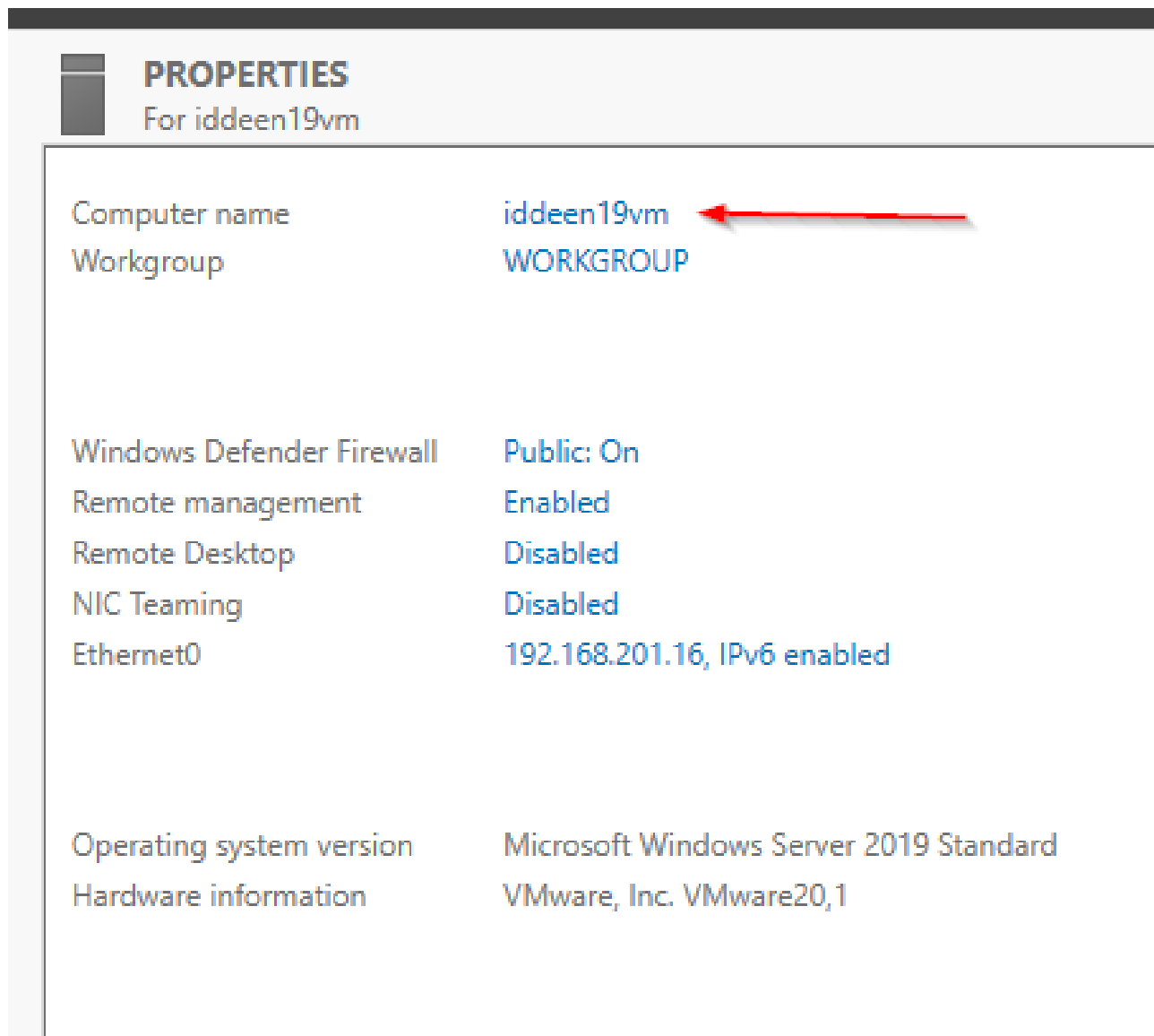


FIGURE 49 - DONE CHANGING COMPUTER NAME

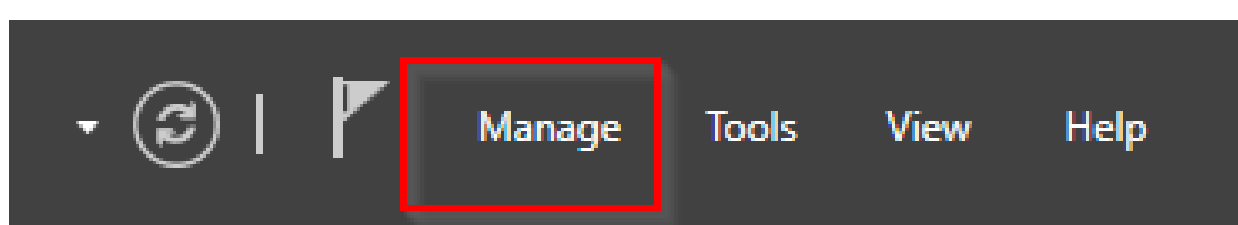


FIGURE 50 - CLICK MANAGE

Add Roles and Features

FIGURE 51 - CLICK " ADD ROLES AND FEATURES"

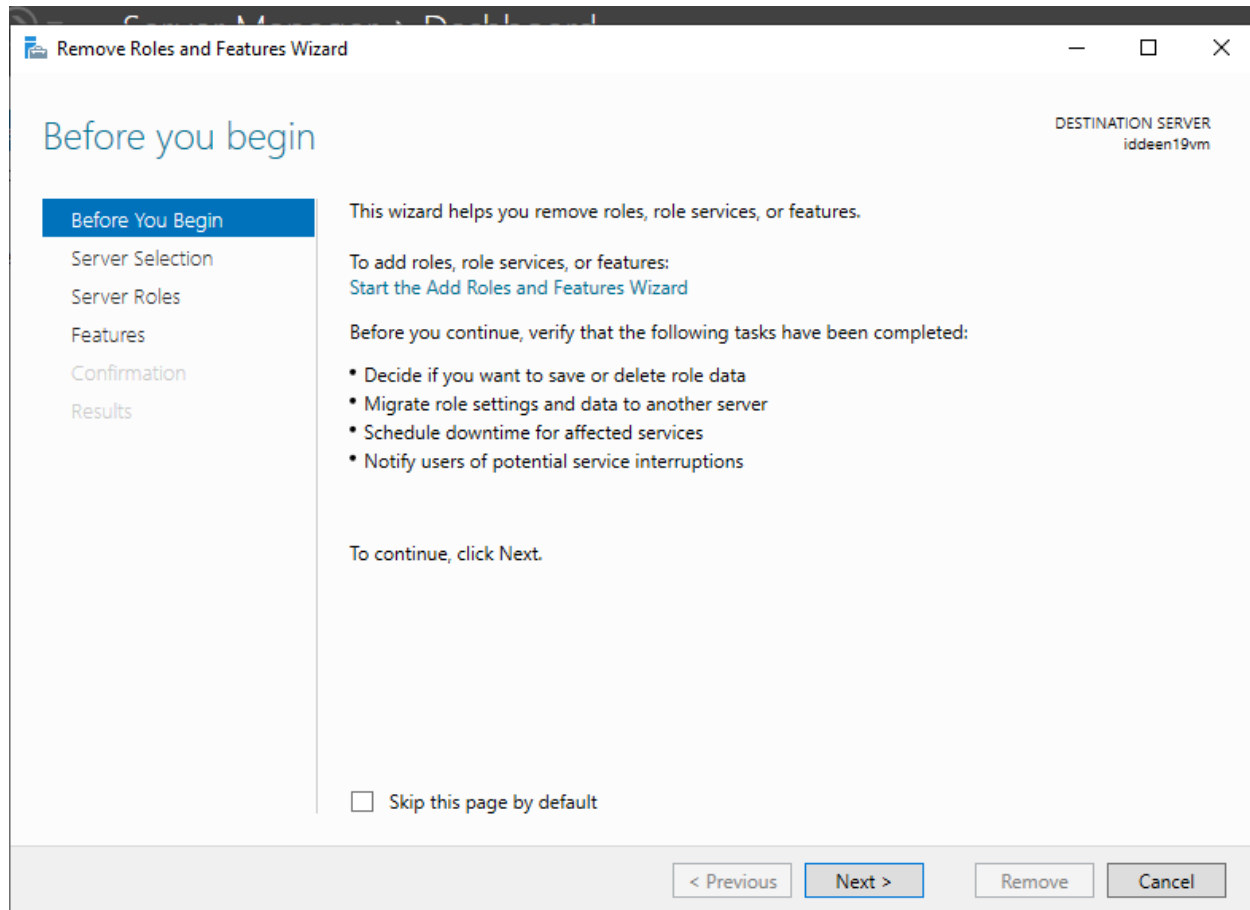
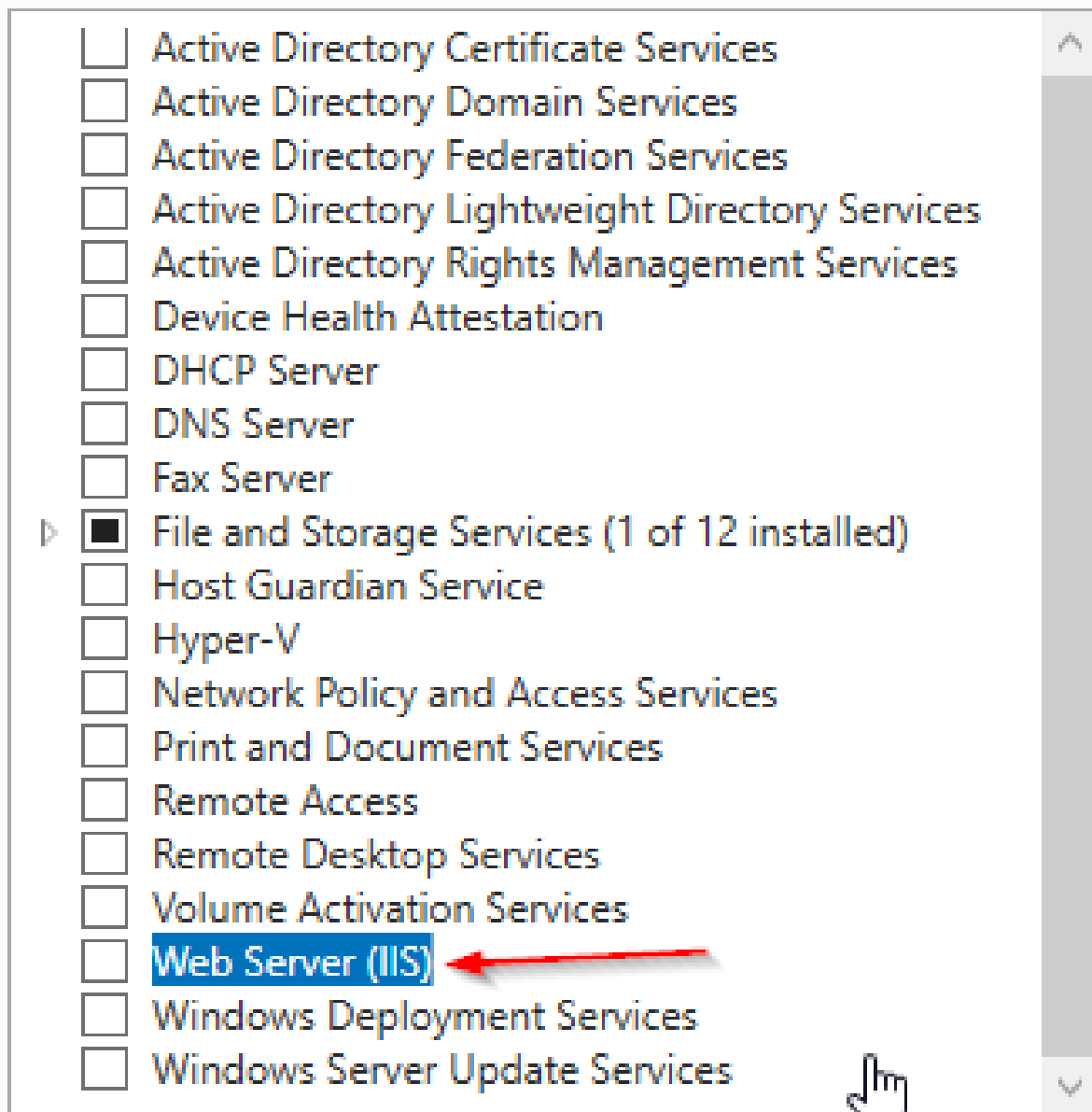


FIGURE 52 - PROCEED!

Select one or more roles to install on the selected server.

Roles



☐ Active Directory Certificate Services

☐ Active Directory Domain Services

☐ Active Directory Federation Services

☐ Active Directory Lightweight Directory Services

☐ Active Directory Rights Management Services

☐ Device Health Attestation

☐ DHCP Server

☐ DNS Server

☐ Fax Server

▶ ☒ File and Storage Services (1 of 12 installed)

☐ Host Guardian Service

☐ Hyper-V

☐ Network Policy and Access Services

☐ Print and Document Services

☐ Remote Access

☐ Remote Desktop Services

☐ Volume Activation Services

☐ **Web Server (IIS)**

☐ Windows Deployment Services

☐ Windows Server Update Services

FIGURE 53 - CLICK "WEB SERVER (IIS)"

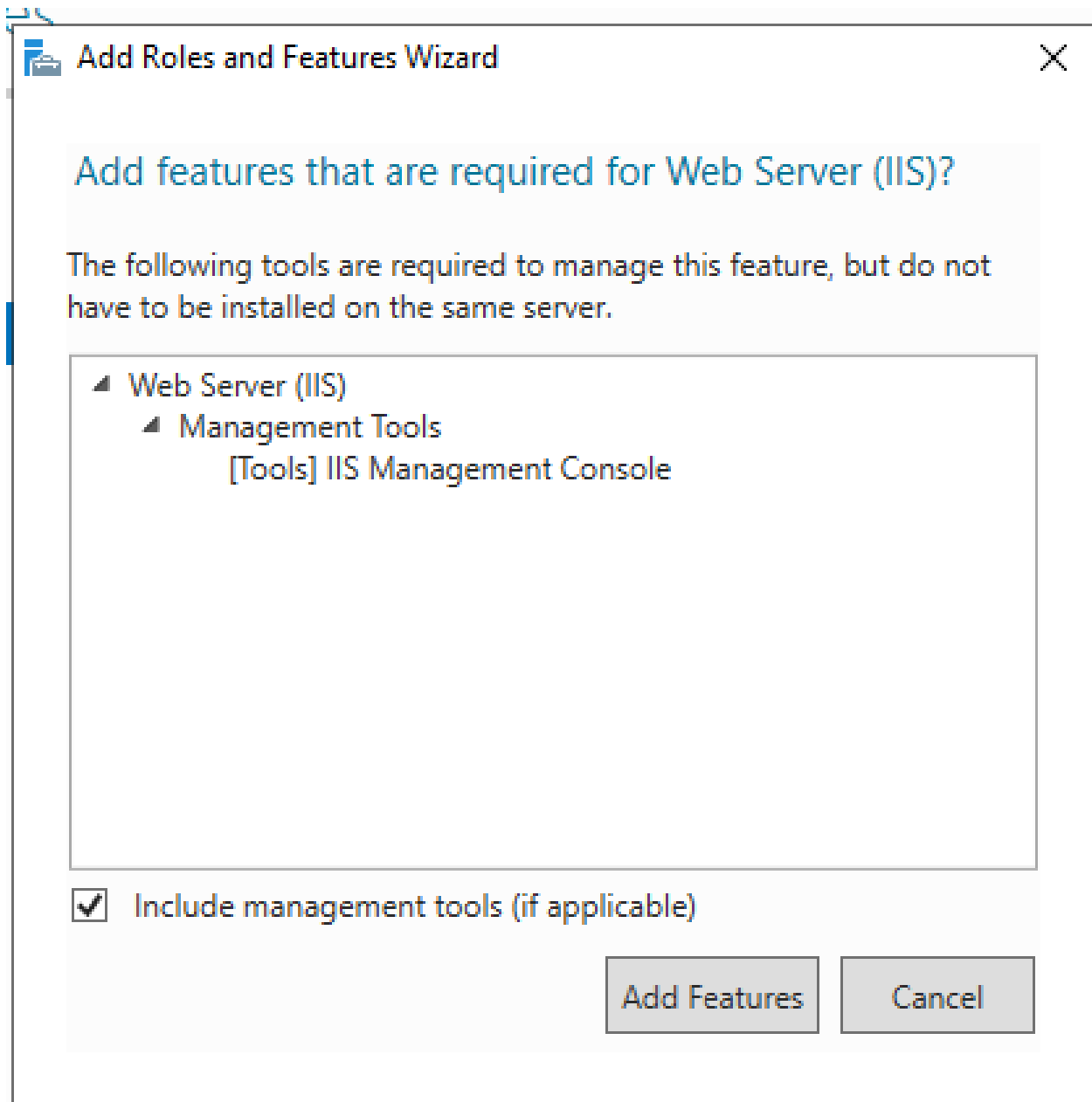


FIGURE 54 - CLICK "ADD FEATURES"

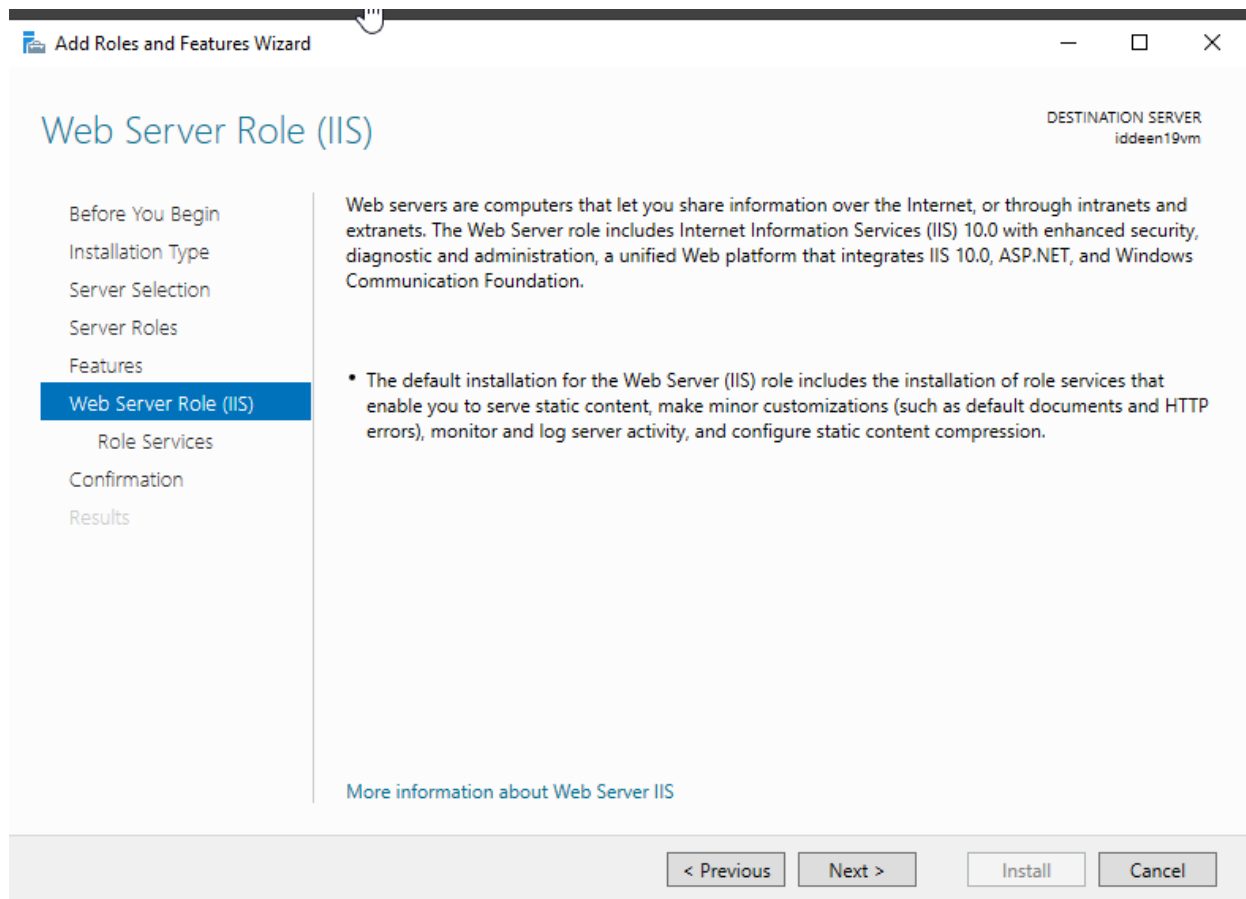


FIGURE 55 - INSTALL THE WEB SERVER ROLE

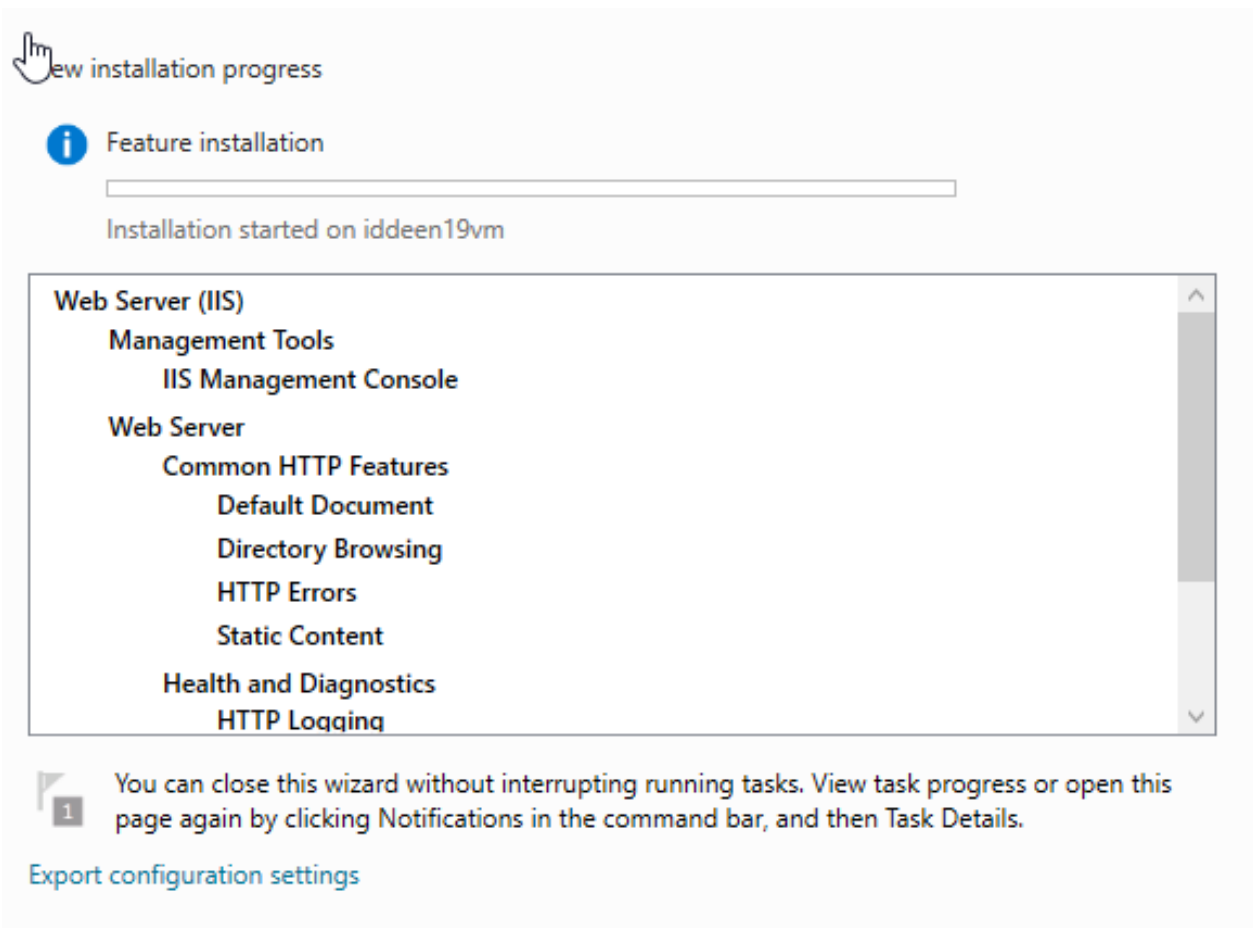


FIGURE 56 - INSTALLATION STARTED

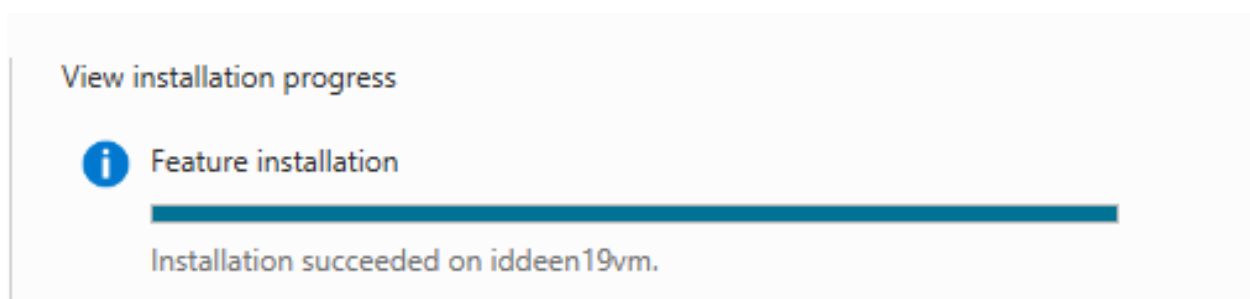


FIGURE 57 - INSTALLATION SUCCESSFULLY

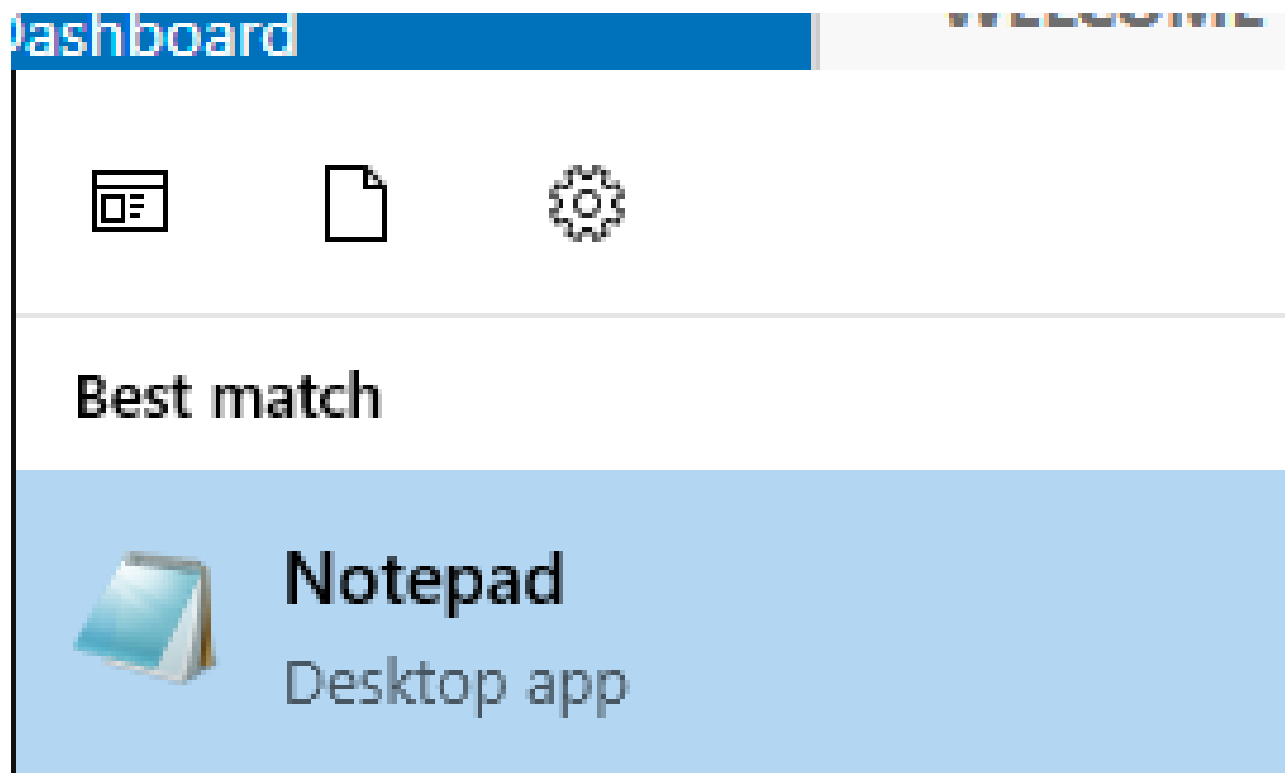


FIGURE 58 - OPEN NOTEPAD

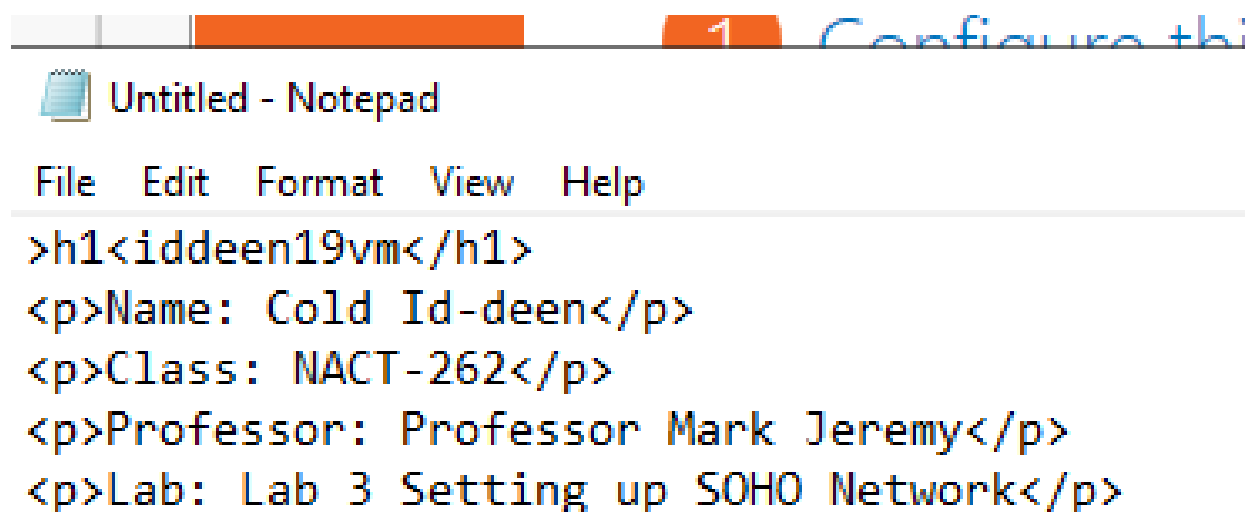


FIGURE 59 - MAKE AN HTML CODING ON NOTEPAD

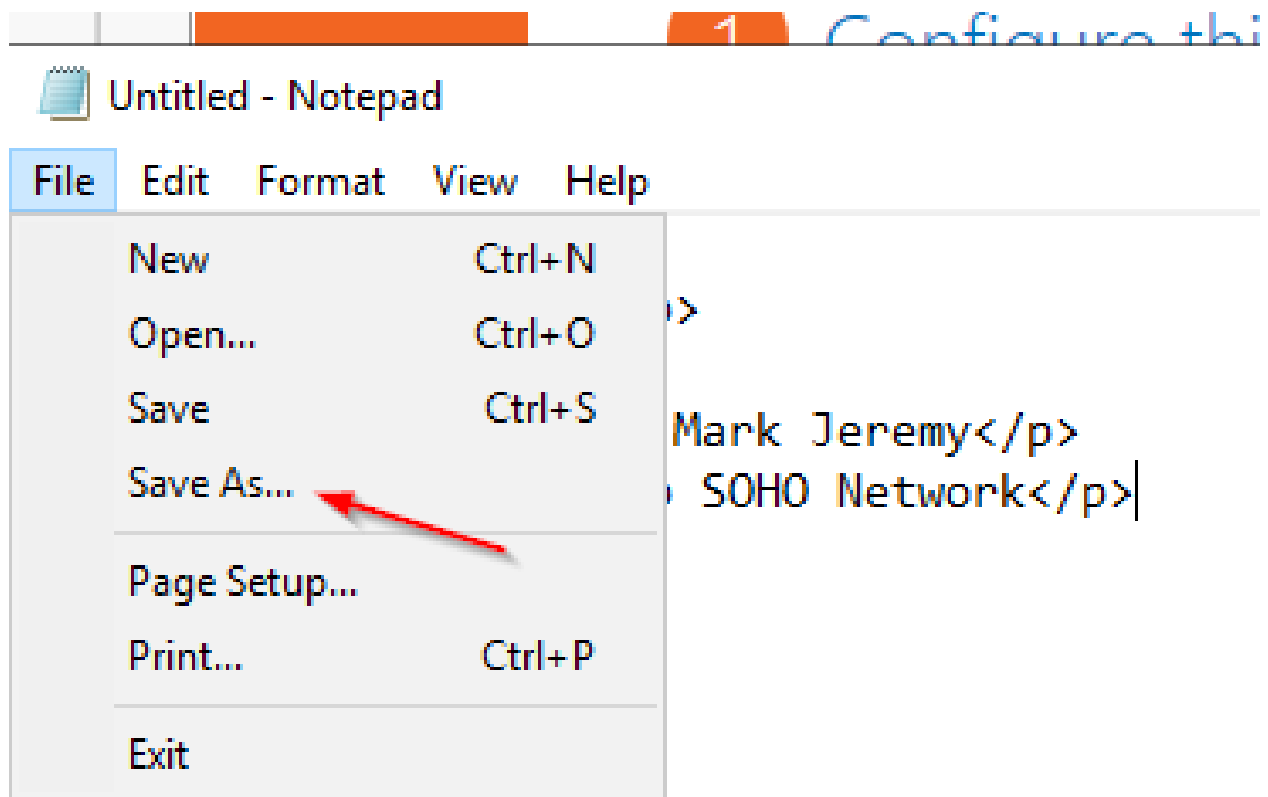


FIGURE 60 - CLICK "SAVE AS"

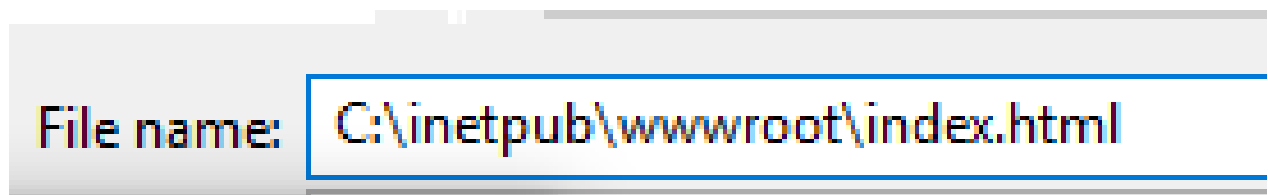


FIGURE 61 - TYPE THE REQUIRED FILE NAME TO PUT IN

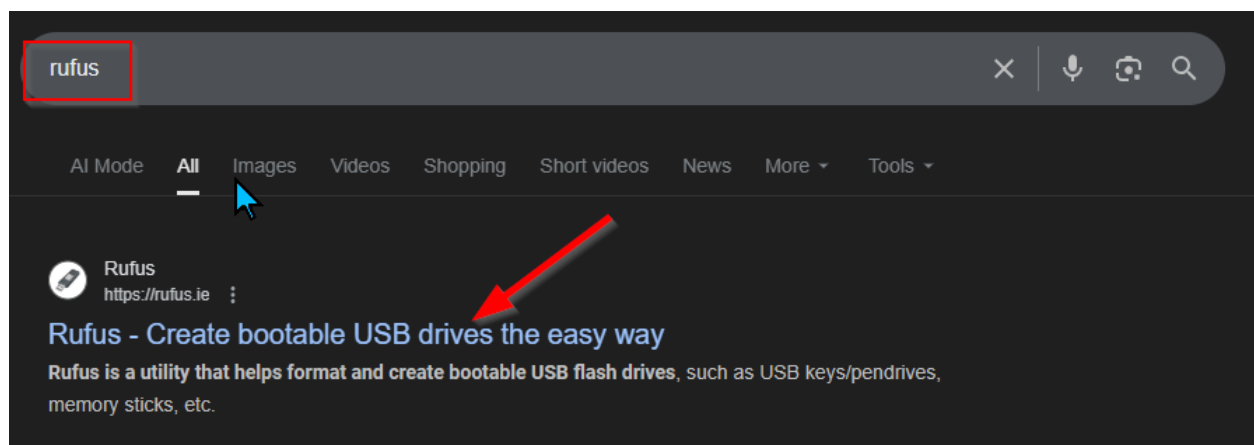


FIGURE 62 - TYPE "RUFUS" AND CLICK THIS LINK

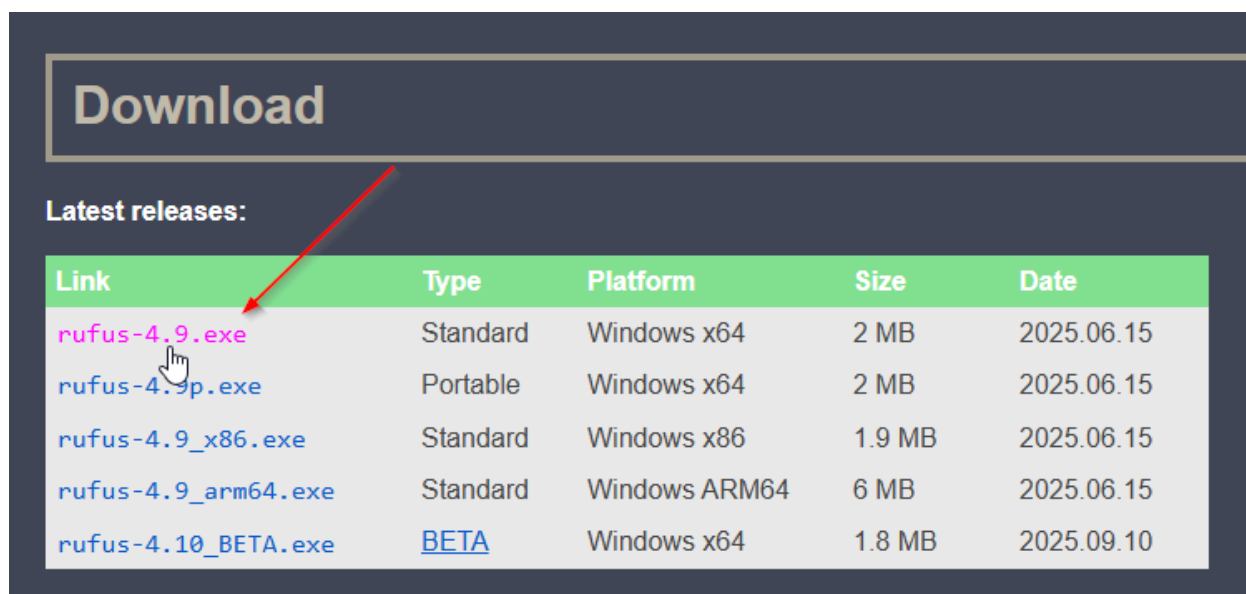


FIGURE 63 - DOWNLOAD RUFUS.EXE

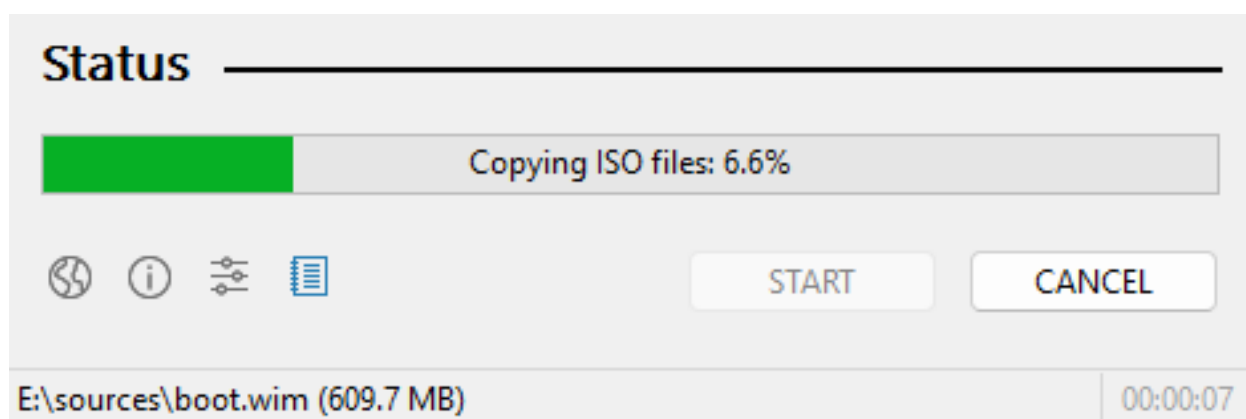


FIGURE 64 - COPYING ISO FILES

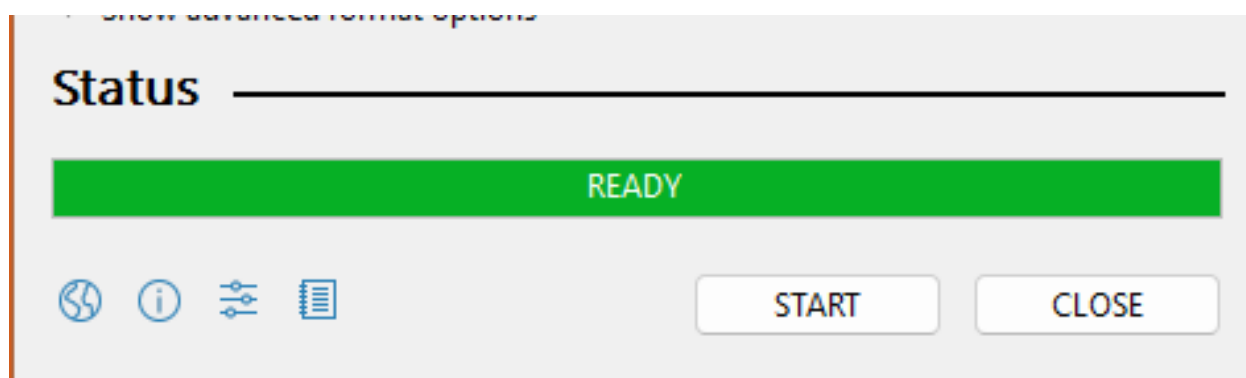


FIGURE 65 - READY TO GO!

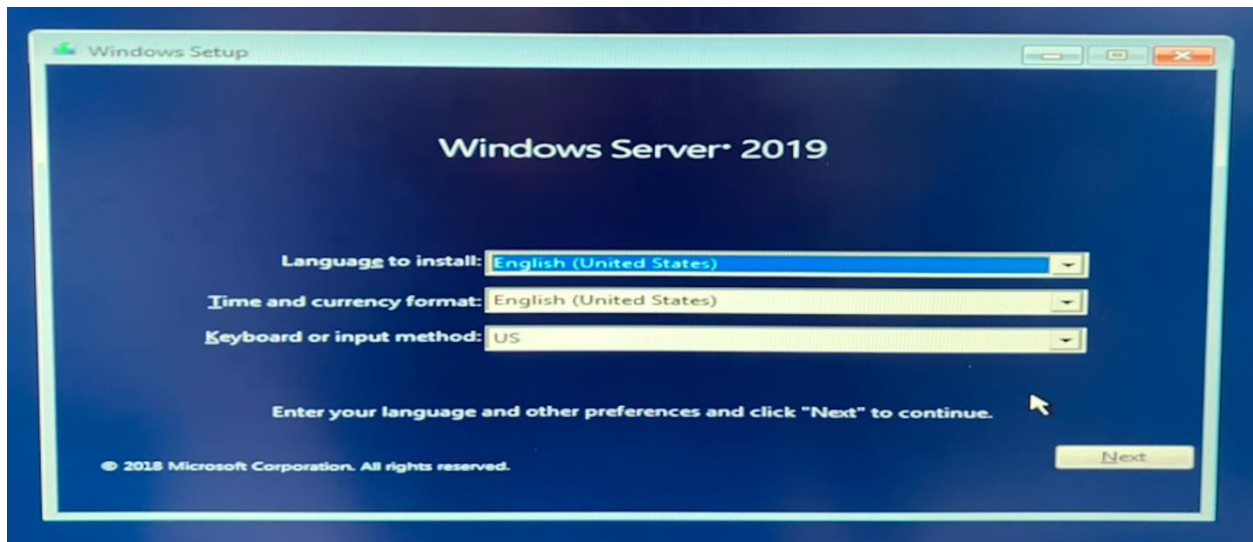


FIGURE 66 - INSTALL WINDOWS SERVER 2019 IN PC-B

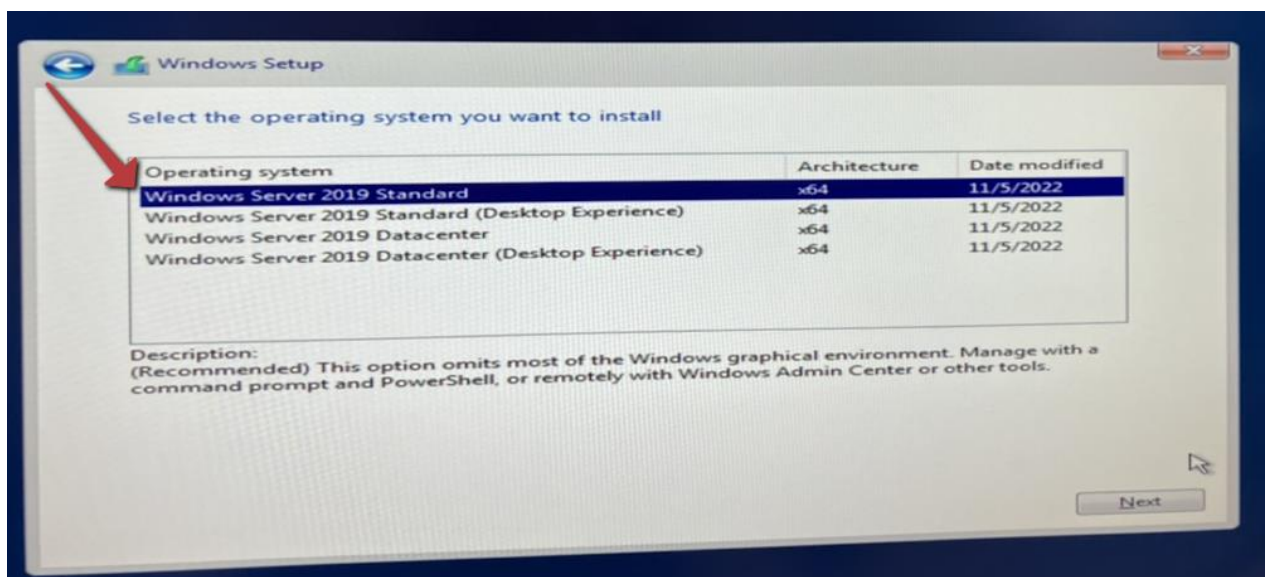


FIGURE 67 - CLICK THIS WS 2019 STANDARD

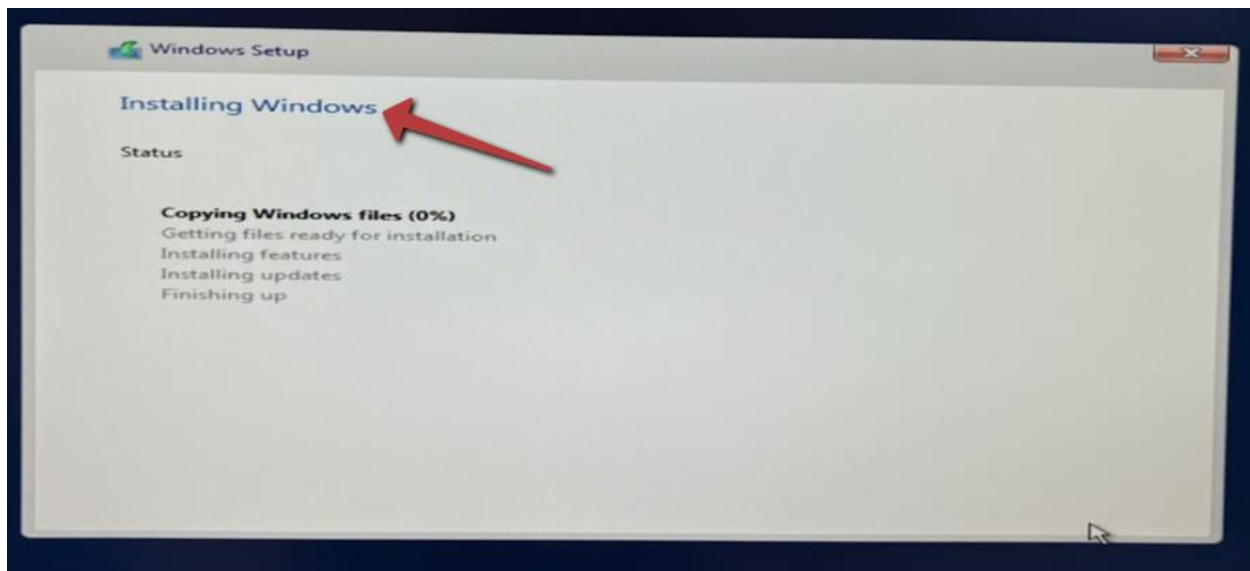


FIGURE 68 - INSTALLING WINDOWS

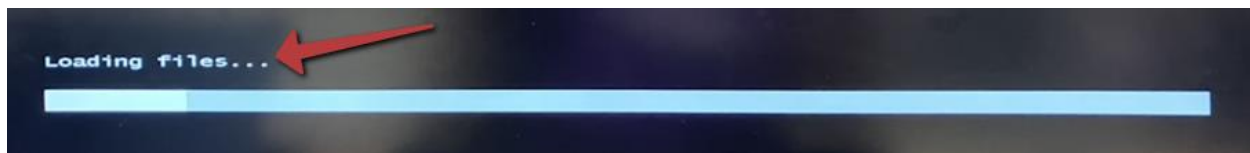


FIGURE 69 - LOADING FILES

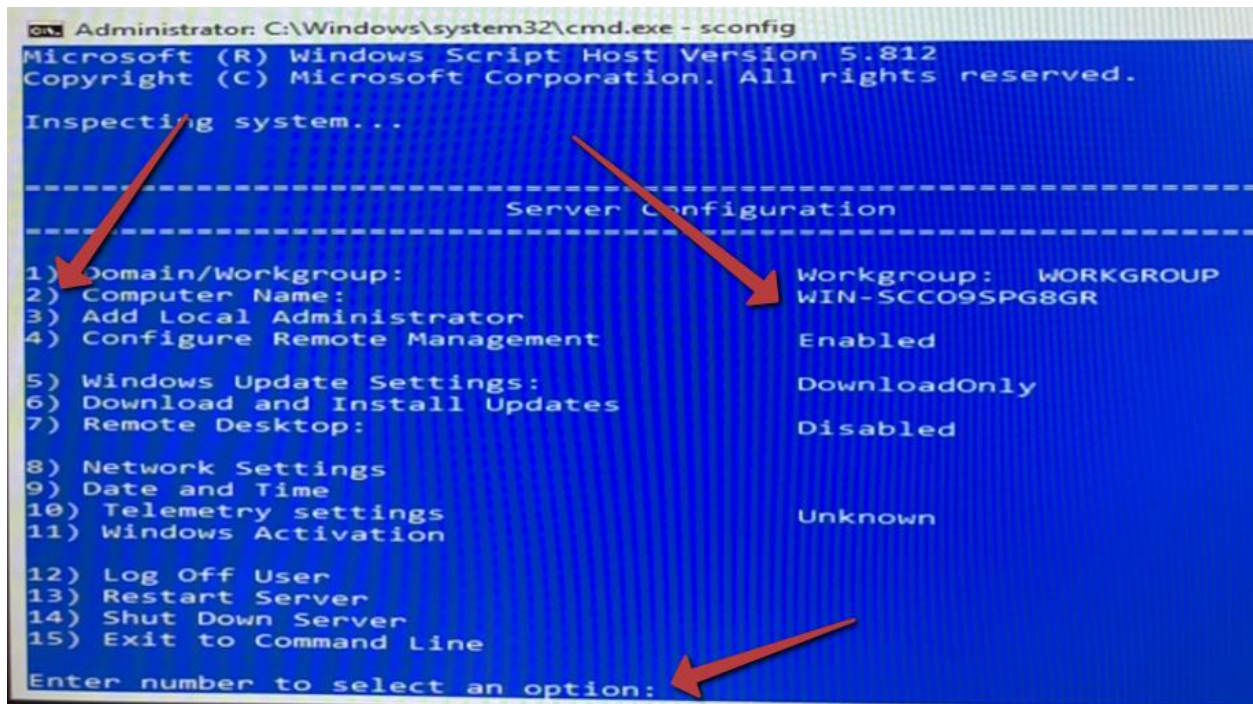


FIGURE 70 - CHANGE THE COMPUTER NAME BY PRESSING TWO NUMBER

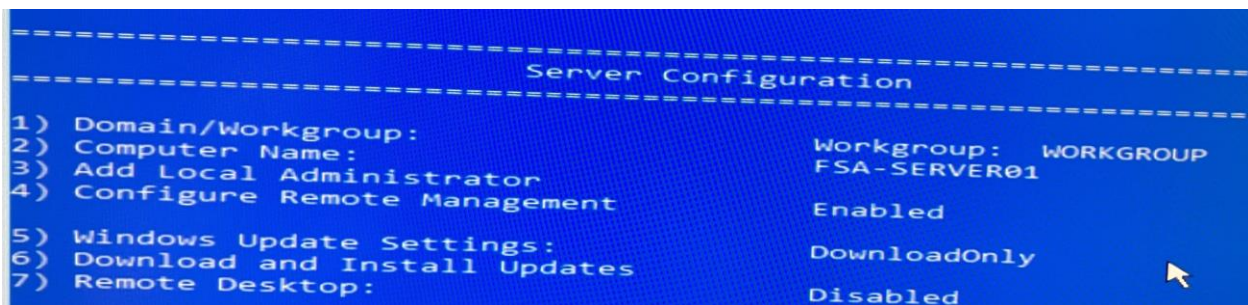


FIGURE 71 - DONE CHANGING THE COMPUTER NAME

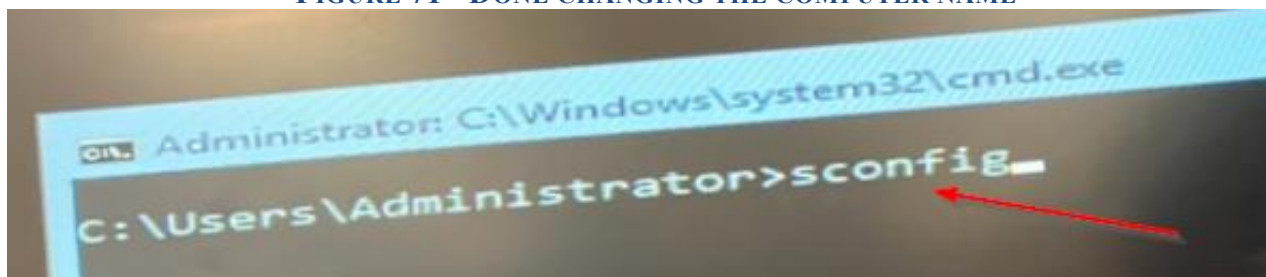


FIGURE 72 - TYPE "SCONFIG"

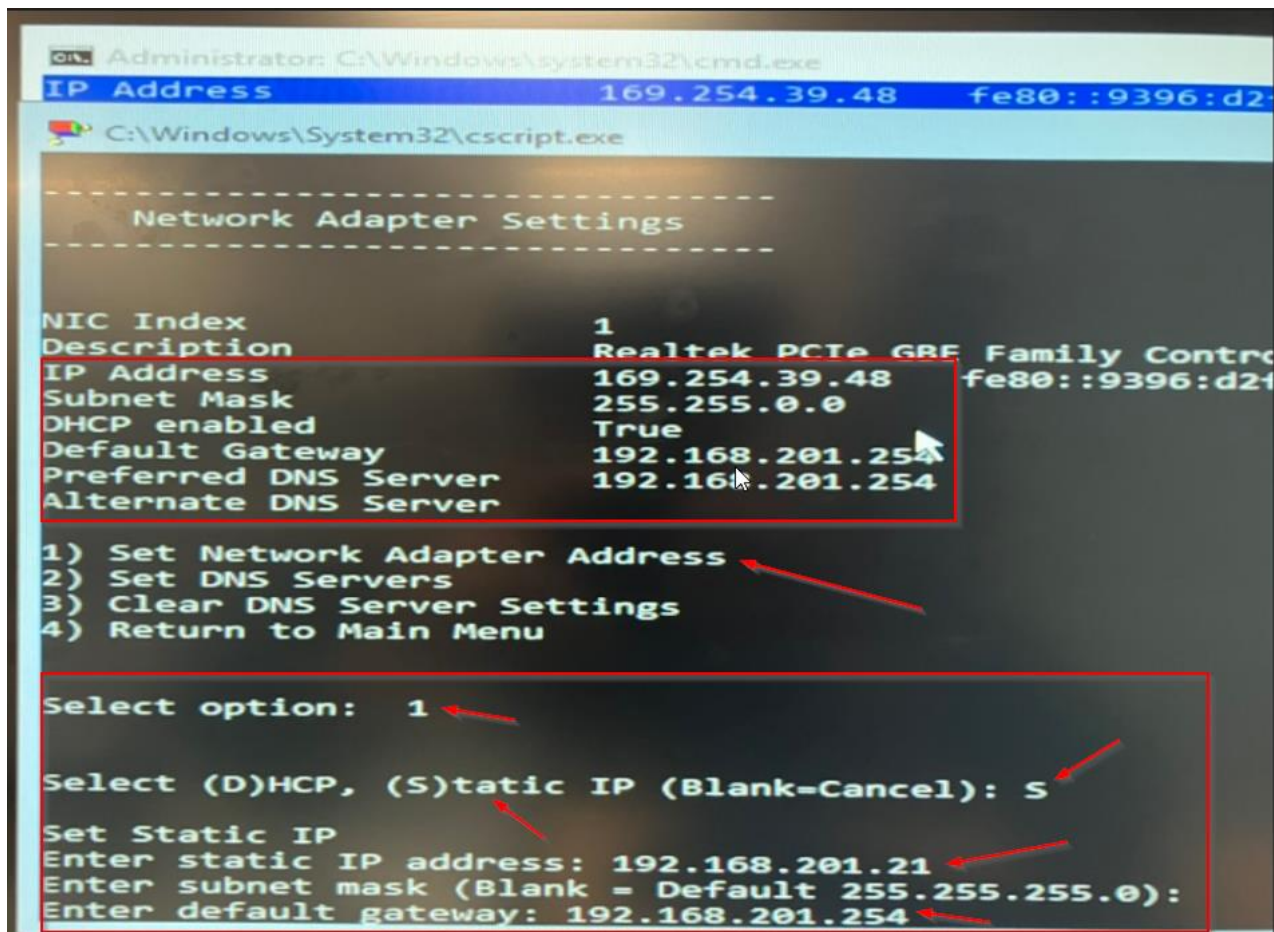


FIGURE 73 - CHANGE THE IP ADDRESS AND PUT THE REQUIRED STUFFS ON IT

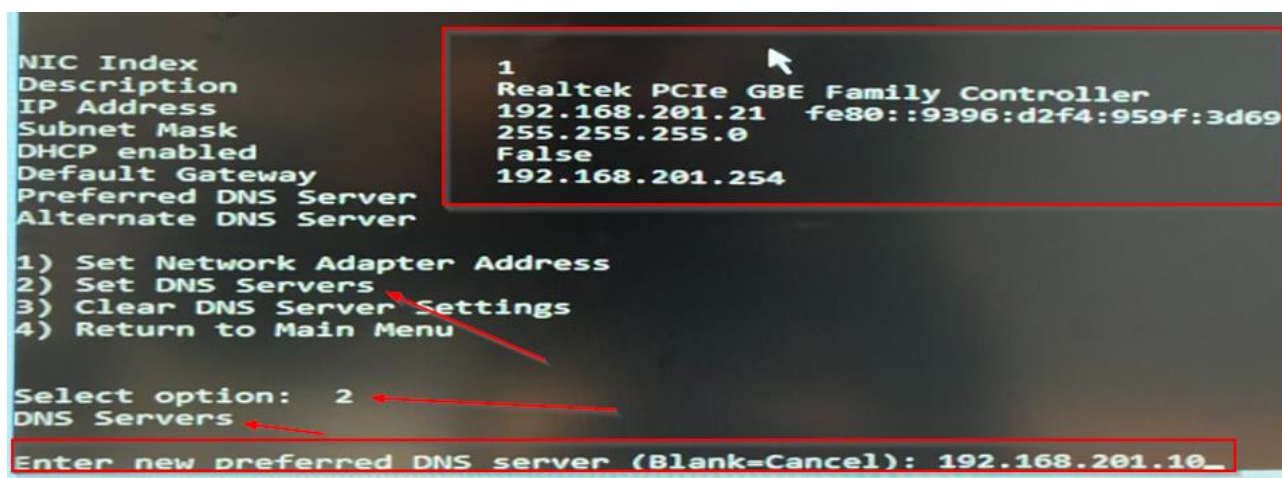


FIGURE 74 - SET THE NEW DNS SERVER


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

PS C:\Users\Administrator> Install-WindowsFeature Web-Server

Success Restart Needed Exit Code      Feature Result
-----
True      No              Success      {Common HTTP Features, Default Document, D...
```

FIGURE 75 - USE POWERSHELL AS COMMAND THEN TYPE THE REQUIRED COMMAND

```
Administrator: C:\Windows\system32\cmd.exe - powershell
PS C:\Users\Administrator> @"
>> <h1>FSA-Server01</h1>
>> <p>Name: Cold Id-deen</p>
>> <p>Class: NACT-262</p>
>> <p>Professor: Professor Mark Jeremy</p>
>> <p>Lab: Lab 3 S&HO Network</p>
>> "@ | Out-File -Encoding utf8 C:\inetpub\wwwroot\index.html
PS C:\Users\Administrator> Get-Service W3SVC | Start-Service
```

FIGURE 76 - TYPE THE HTML LANGUAGE AS CODING TO CREATE A WEBSITE AND START THE WEB SERVICE

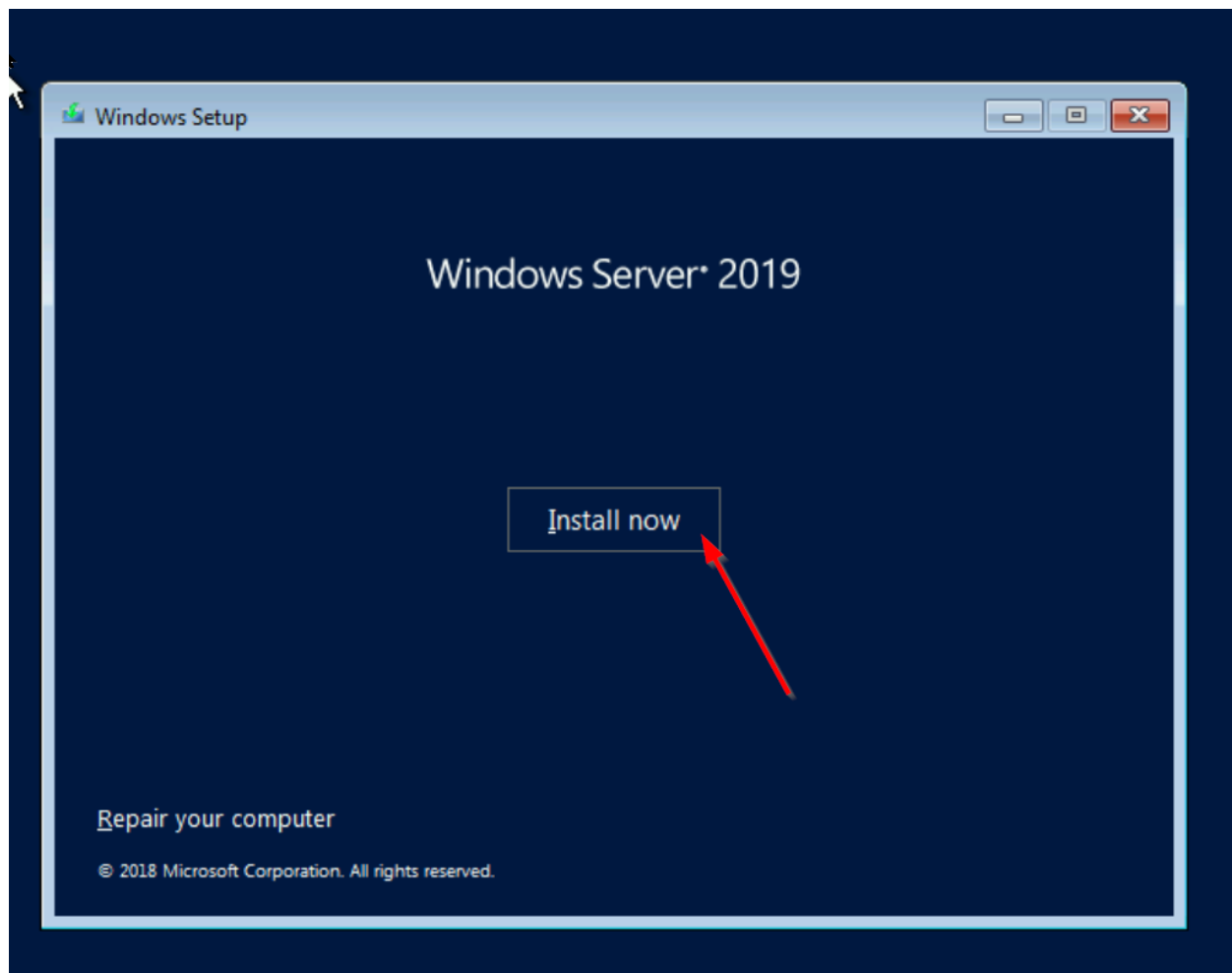


FIGURE 77 - INSTALL WS 2019 IN THE DELL SERVER

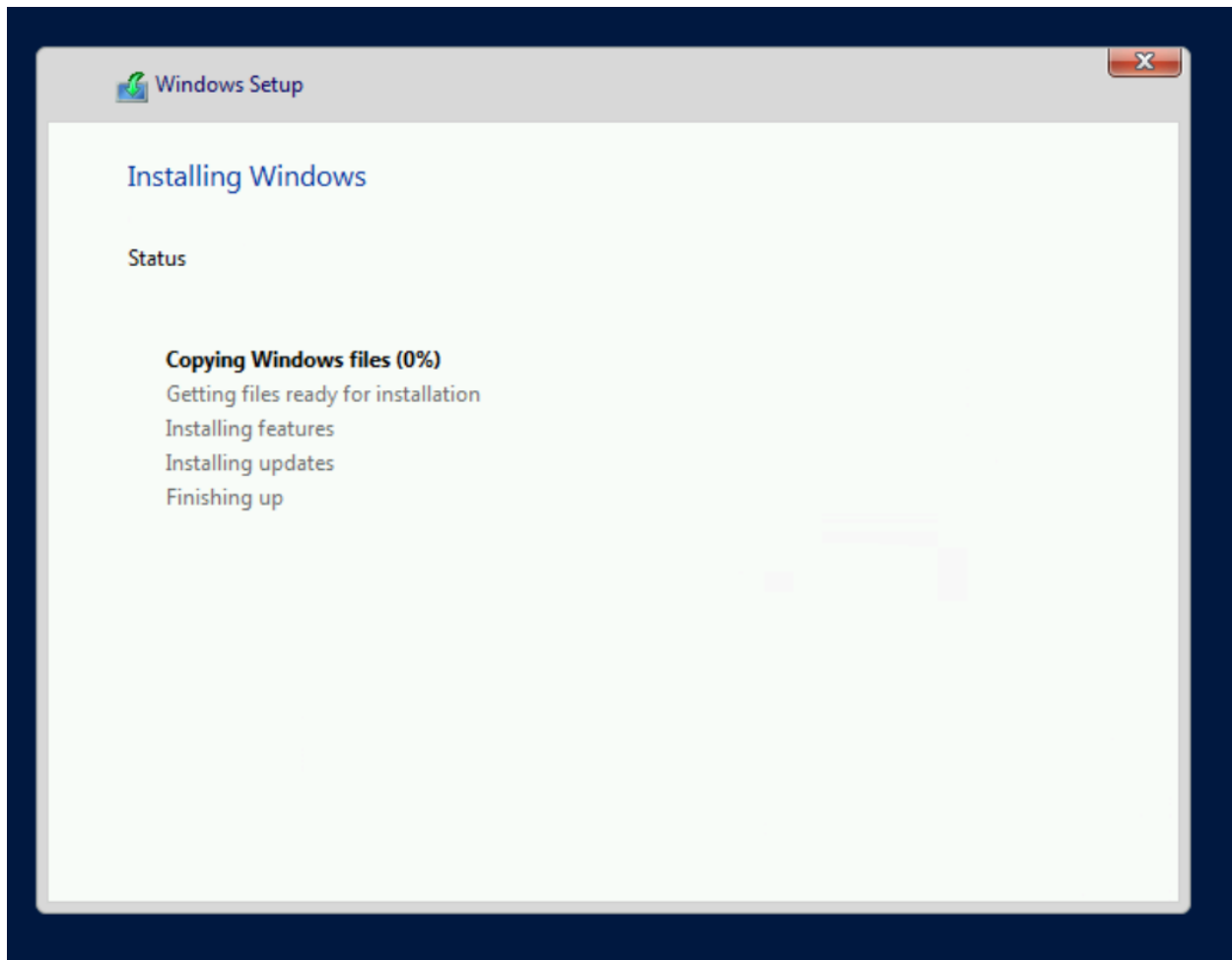


FIGURE 78 - INSTALLING WINDOWS

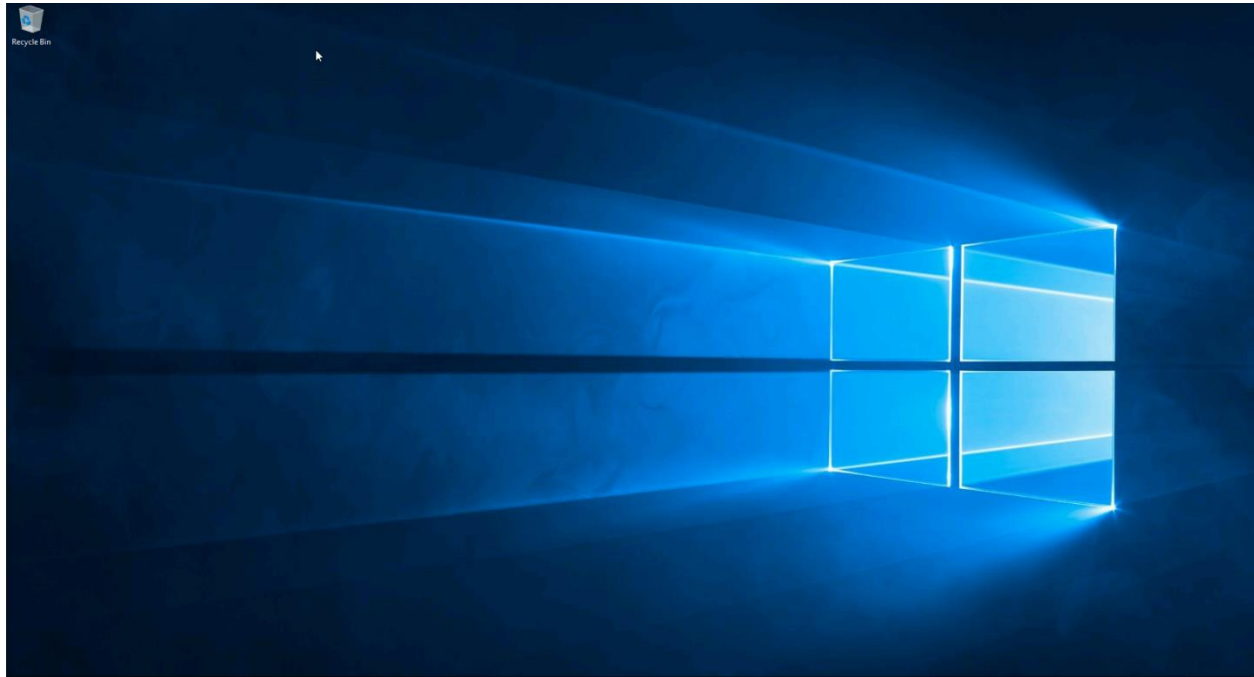


FIGURE 79 - THE OVERVIEW OF THE WS 2019 IN DELL SERVER

WELCOME TO SERVER MANAGER

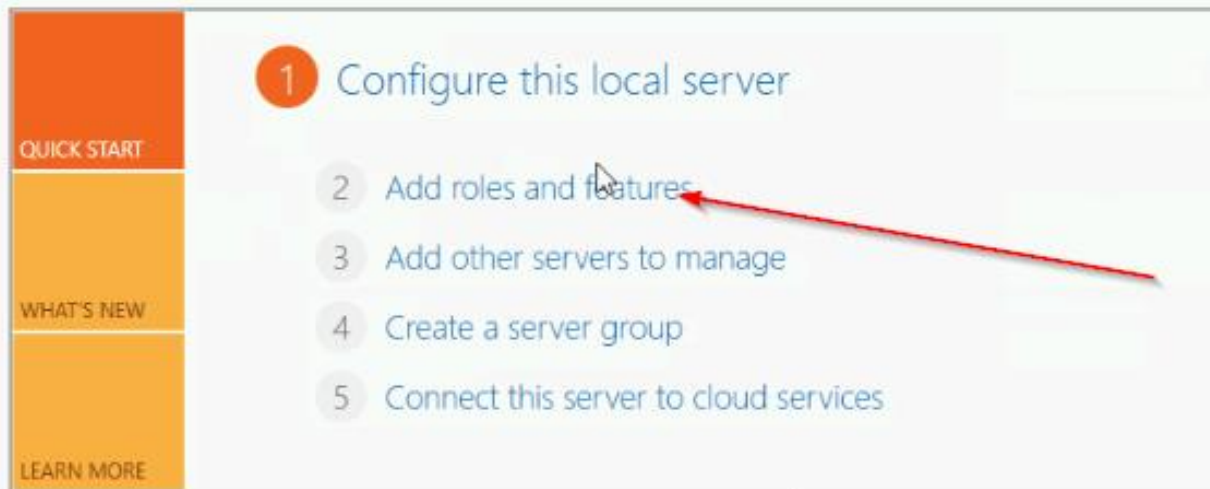


FIGURE 80 - CLICK "ADD ROLES AND FEATURES"

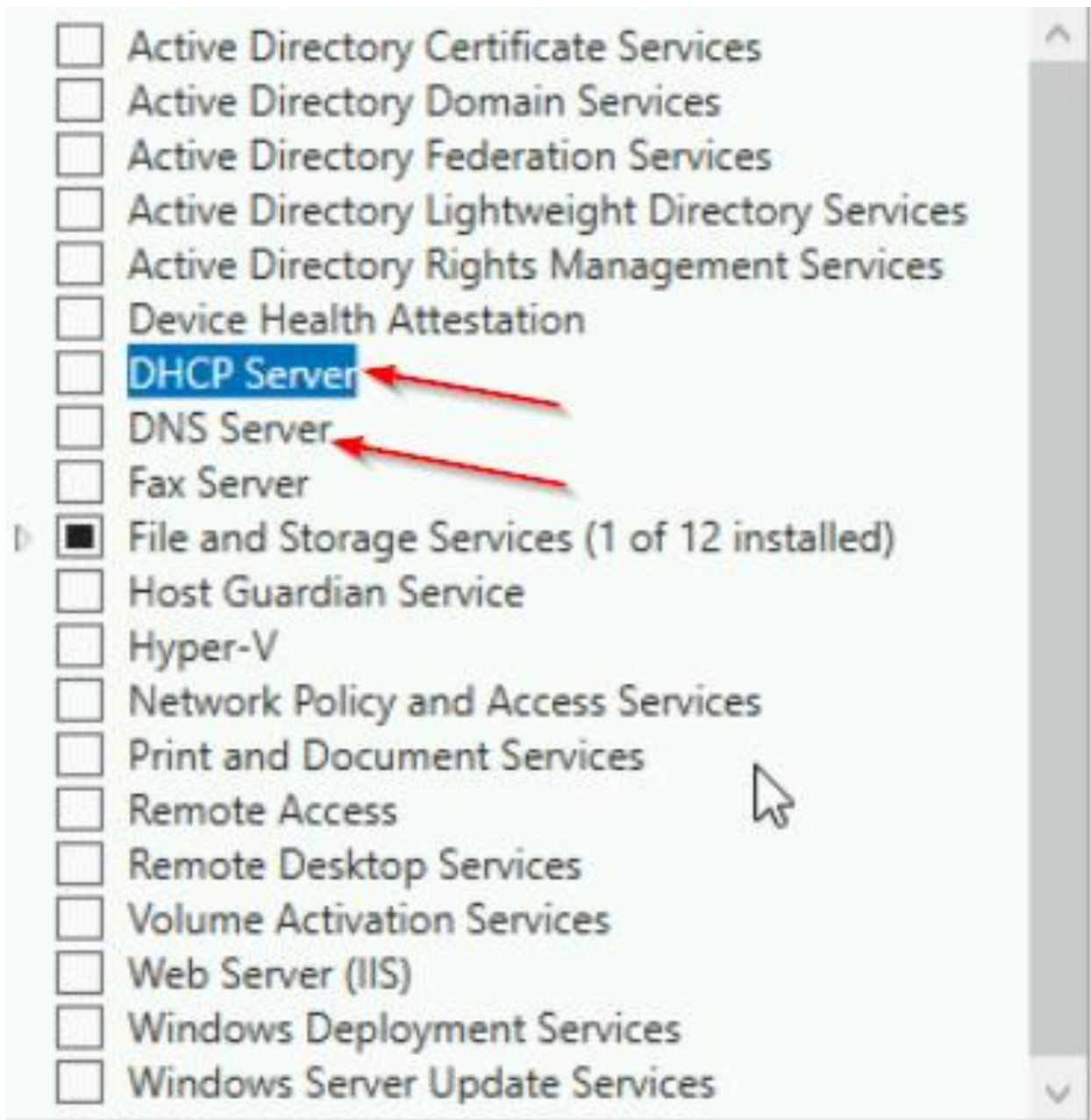


FIGURE 81 - SELECT DHCP AND DNS SERVER

Add features that are required for DHCP Server?

The following tools are required to manage this feature, but do not have to be installed on the same server.

- ▾ Remote Server Administration Tools
 - ▾ Role Administration Tools
 - [Tools] DHCP Server Tools



☒ Include management tools (if applicable)

Add Features

Cancel

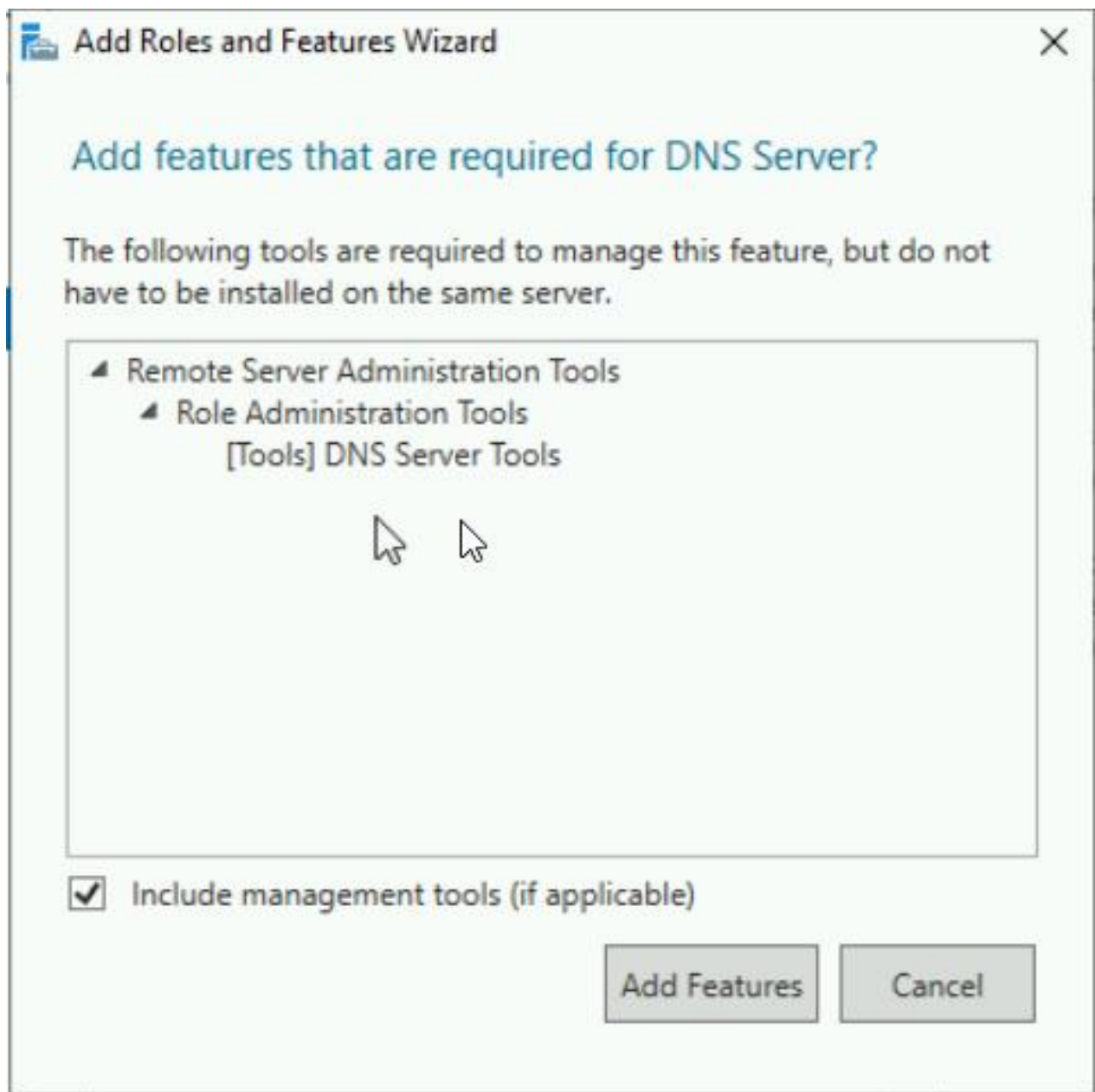


FIGURE 82 - ADD FEATURES FOR DHCP AND DNS

To install the following roles, role services, or features on selected server, click Install.

☐ Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

DHCP Server
DNS Server
Remote Server Administration Tools
 Role Administration Tools
 DHCP Server Tools
 DNS Server Tools

[Export configuration settings](#)
[Specify an alternate source path](#)

< Previous

Next >

Install

Cancel

FIGURE 83 - INSTALL BOTH OF IT

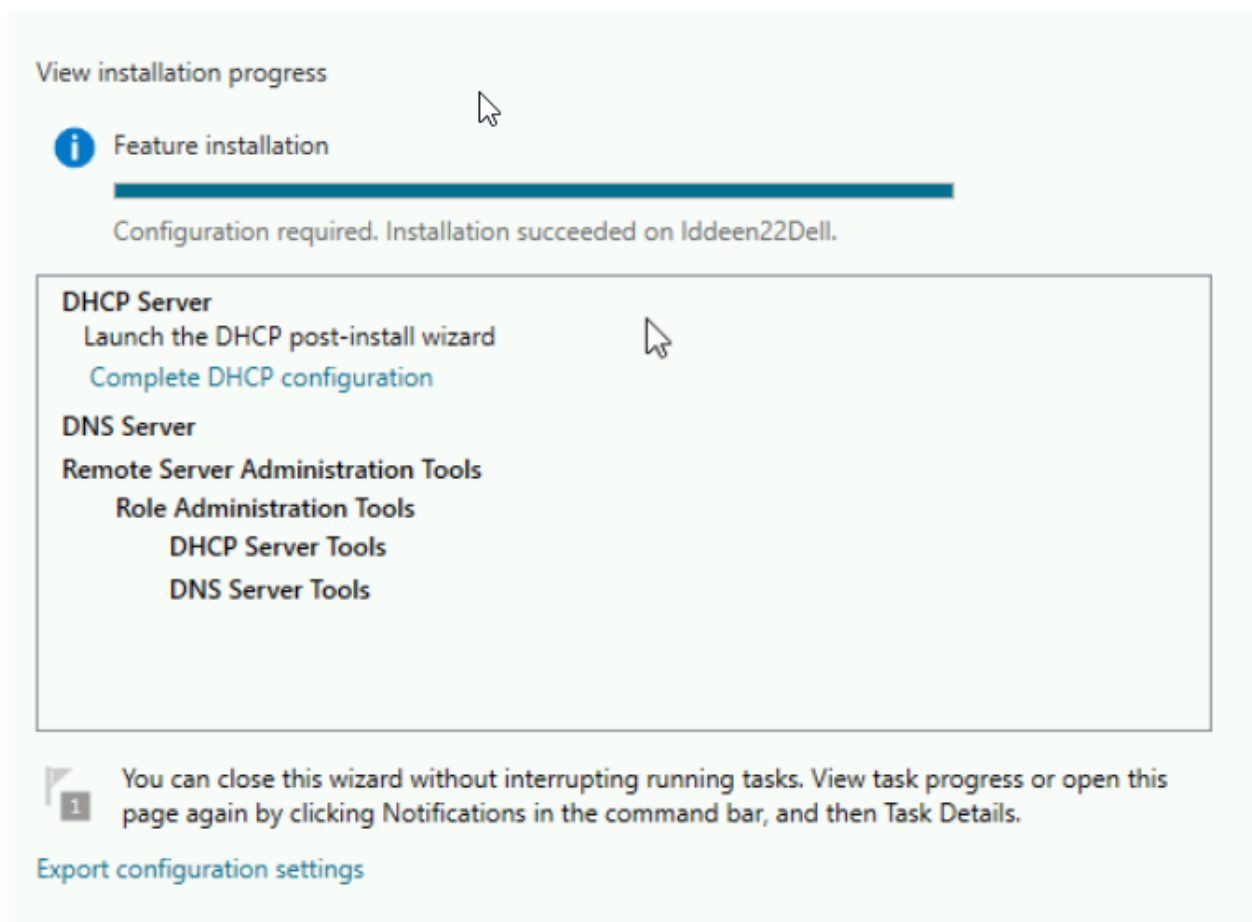


FIGURE 84 - INSTALLATION COMPLETED

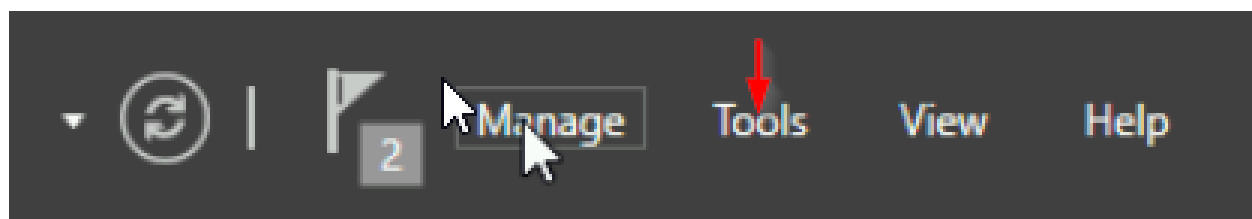


FIGURE 85 - CLICK "TOOLS"

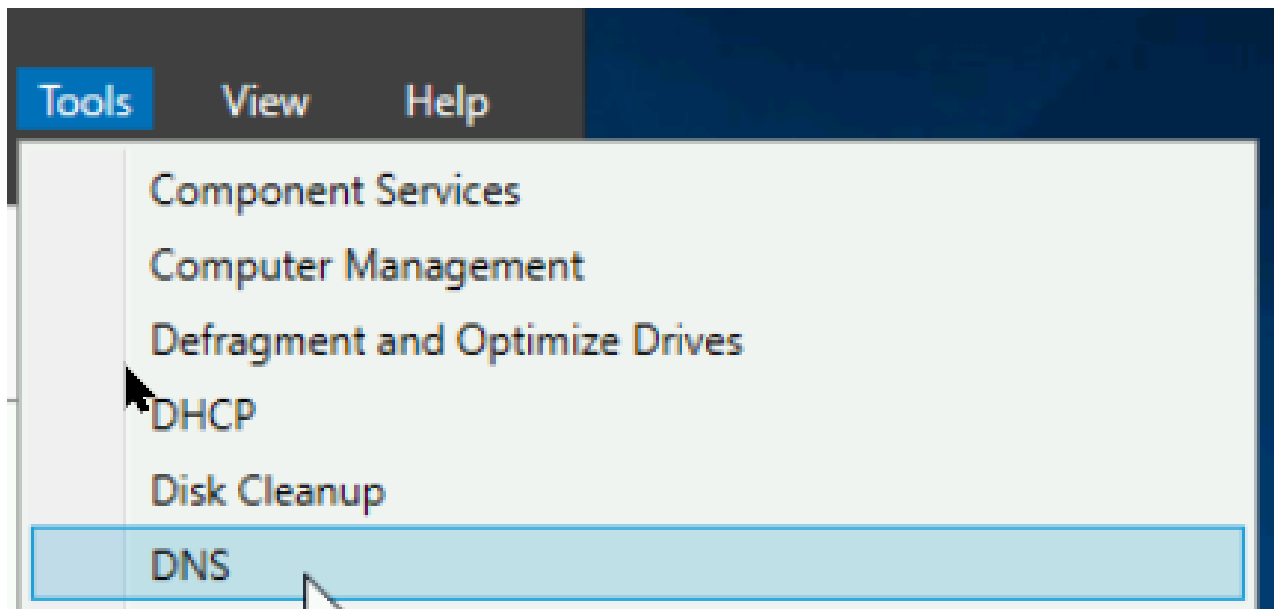


FIGURE 86 - CLICK "DNS"



FIGURE 87 - SEE THE OVERVIEW OF THE DNS MANAGER

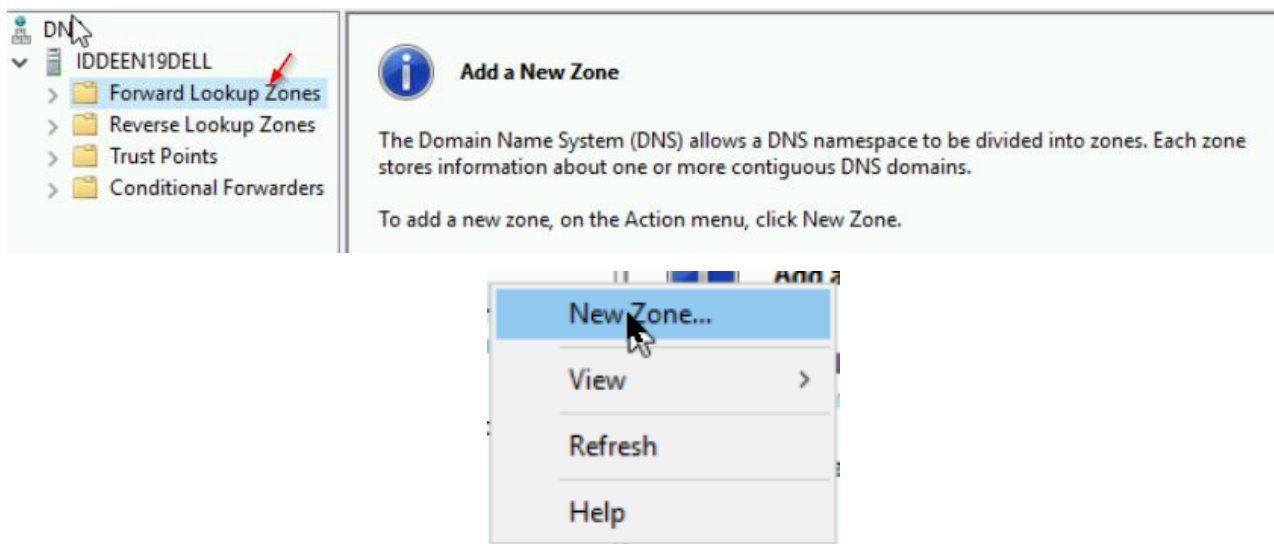


FIGURE 88 - ADD A NEW ZONE



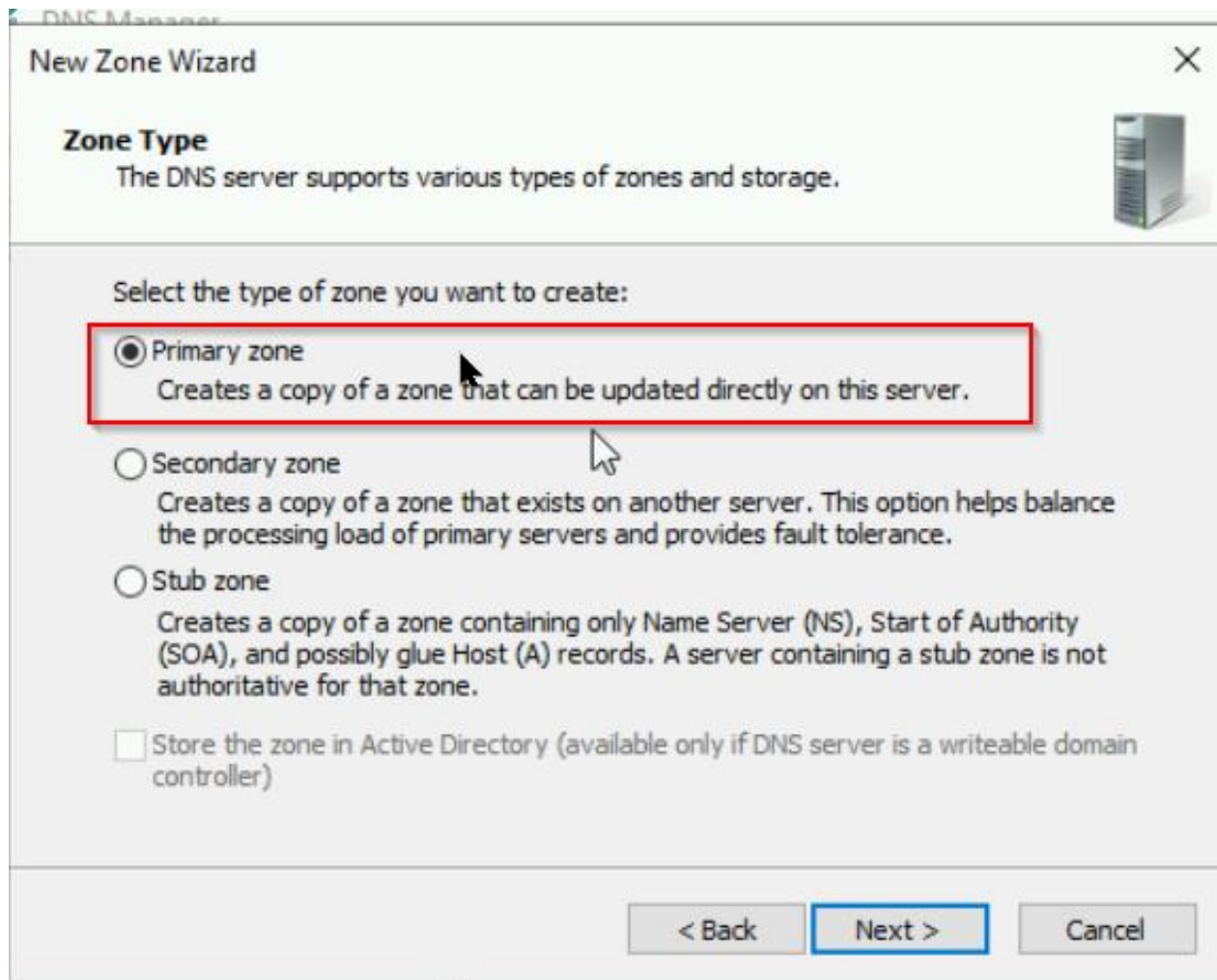


FIGURE 89 - PROCEED THE ZONE WIZARD

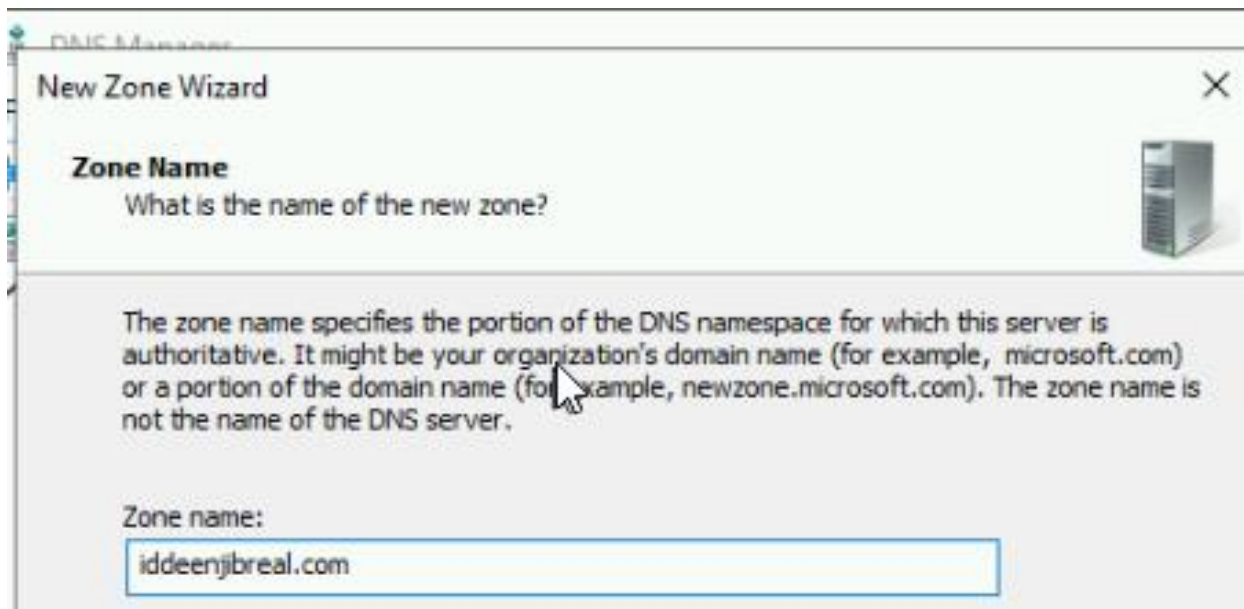


FIGURE 90 - TYPE THE REQUIRED TEXT ON ZONE NAME

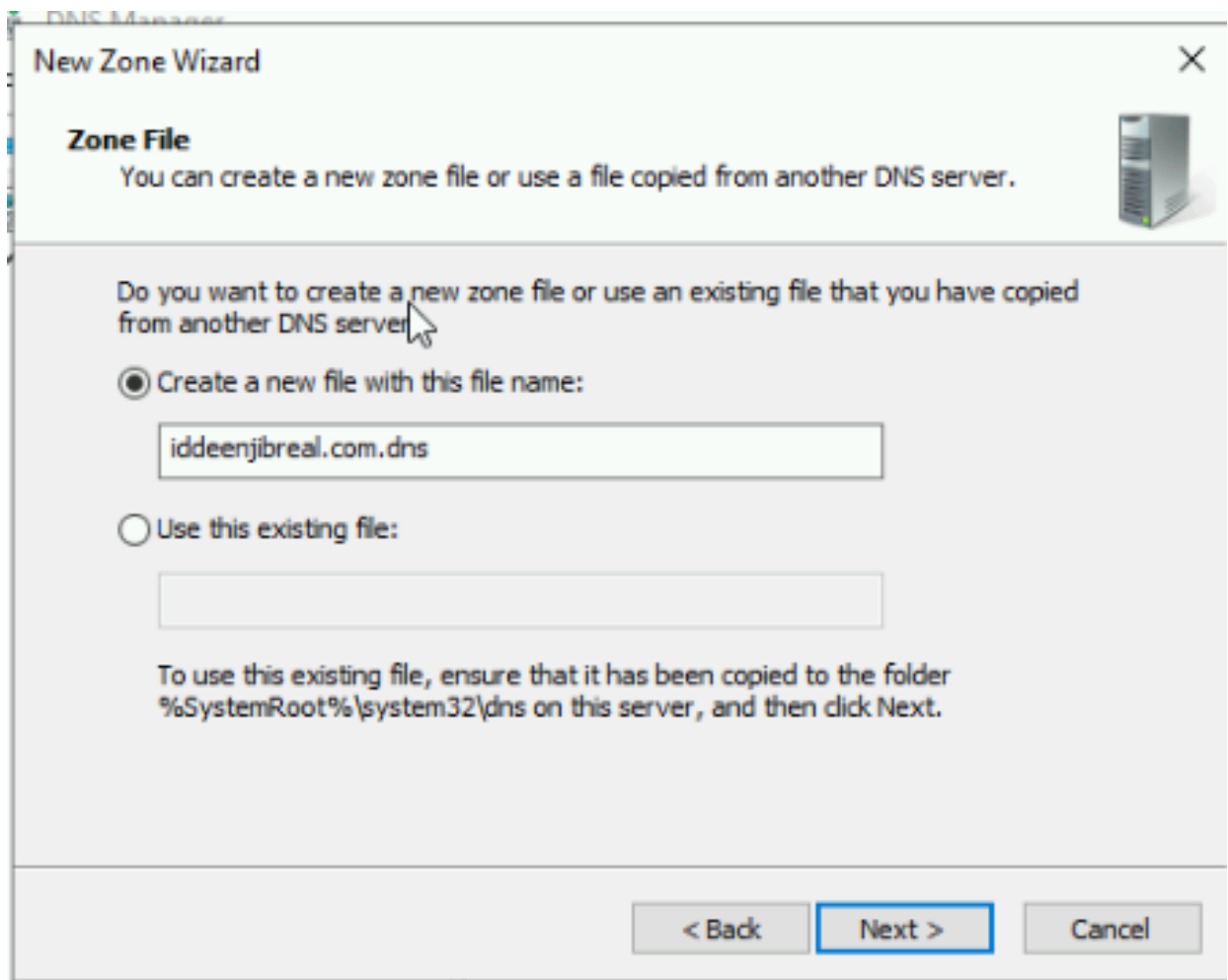



FIGURE 91 - CREATE A NEW FILE WITH THIS FILE NAME

DNS Manager

New Zone Wizard


Dynamic Update

You can specify that this DNS zone accepts secure, nonsecure, or no dynamic updates.



Dynamic updates enable DNS client computers to register and dynamically update their resource records with a DNS server whenever changes occur.

Select the type of dynamic updates you want to allow:

- ☐ Allow only secure dynamic updates (recommended for Active Directory)
This option is available only for Active Directory-integrated zones.
- ☒ Allow both nonsecure and secure dynamic updates
Dynamic updates of resource records are accepted from any client.
 This option is a significant security vulnerability because updates can be accepted from untrusted sources.
- ☐ Do not allow dynamic updates
Dynamic updates of resource records are not accepted by this zone. You must update these records manually.

< Back **Next >** Cancel



FIGURE 92 - PROCCED TO COMPLETE THE NEW ZONE WIZARD

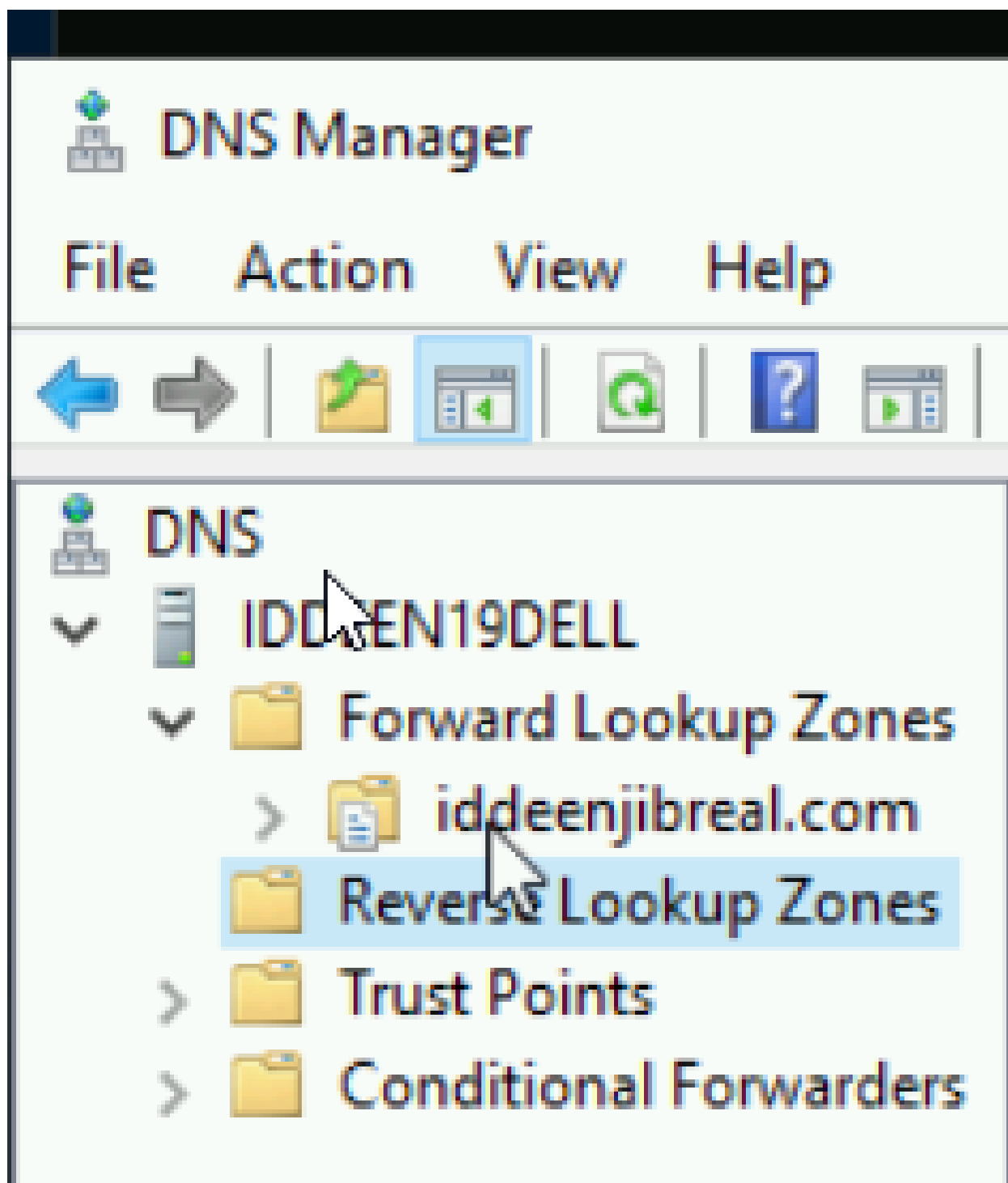


FIGURE 93 - CLICK "REVERSE LOOKUP ZONES" TO CREATE ANOTHER ZONE

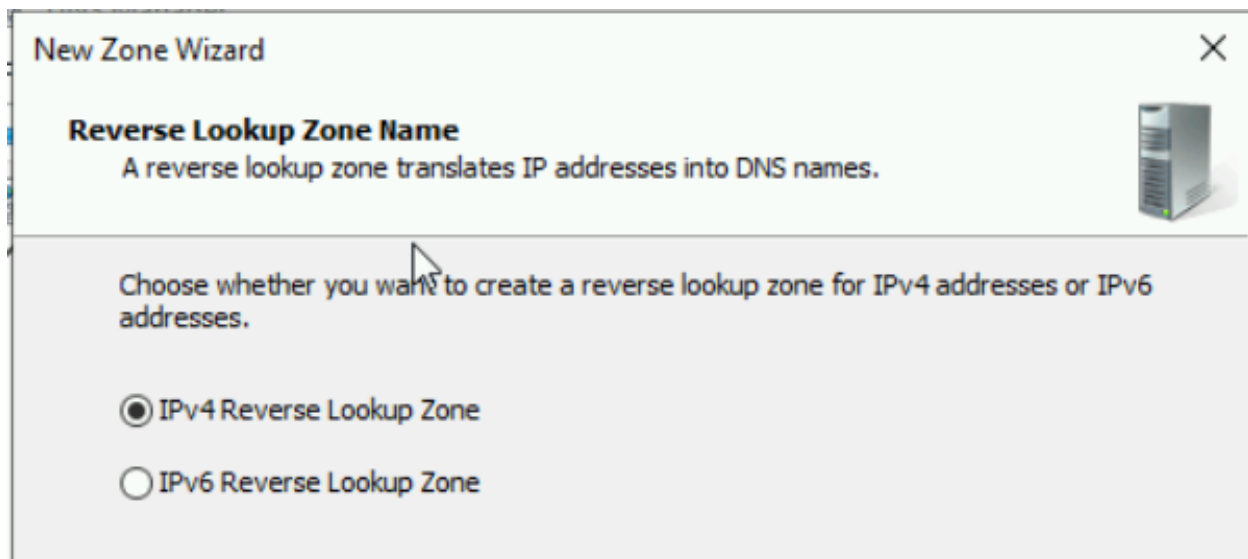


FIGURE 94 - PROCCED UNTIL CLICK "IPv4 REVERSE LOOKUP ZONE"

New Zone Wizard

Reverse Lookup Zone Name
A reverse lookup zone translates IP addresses into DNS names.

To identify the reverse lookup zone, type the network ID or the name of the zone.

☒ Network ID:
192 .168 .201 .

The network ID is the portion of the IP addresses that belongs to this zone. Enter the network ID in its normal (not reversed) order.

If you use a zero in the network ID, it will appear in the zone name. For example, network ID 10 would create zone 10.in-addr.arpa, and network ID 10.0 would create zone 0.10.in-addr.arpa.

☐ Reverse lookup zone name:
201.168.192.in-addr.arpa

< Back Next > Cancel

FIGURE 95 - TYPE THE REQUIRED NETWORK ID TO PROCEED

DNS Manager

New Zone Wizard

Zone File

You can create a new zone file or use a file copied from another DNS server.

Do you want to create a new zone file or use an existing file that you have copied from another DNS server?

☒ Create a new file with this file name:

201.168.192.in-addr.arpa.dns

☐ Use this existing file:

To use this existing file, ensure that it has been copied to the folder %SystemRoot%\system32\dns on this server, and then click Next.

< Back Next > Cancel

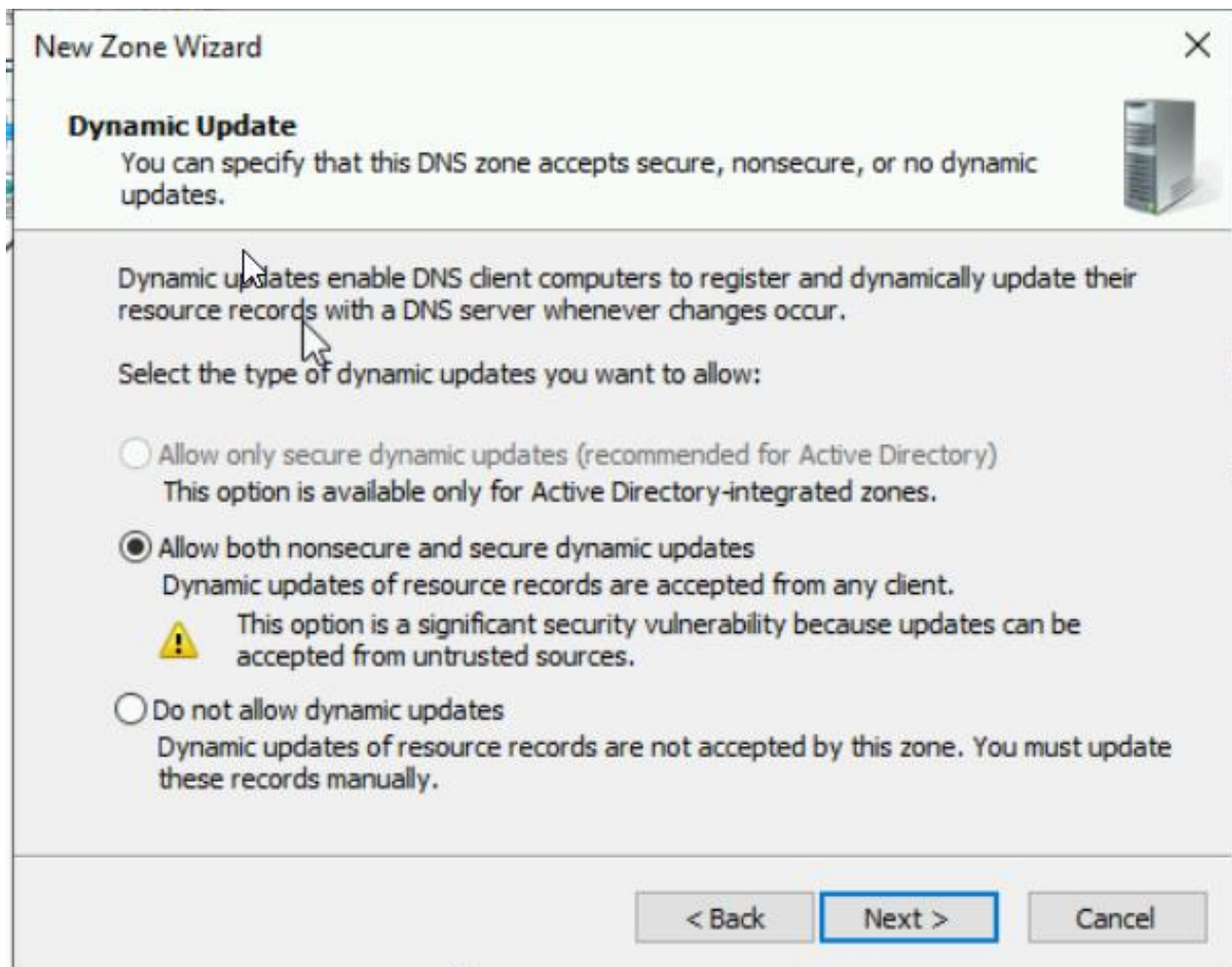


FIGURE 96 - PROCCED TO DO THE SAME THING AS FOR FORWARD ZONE

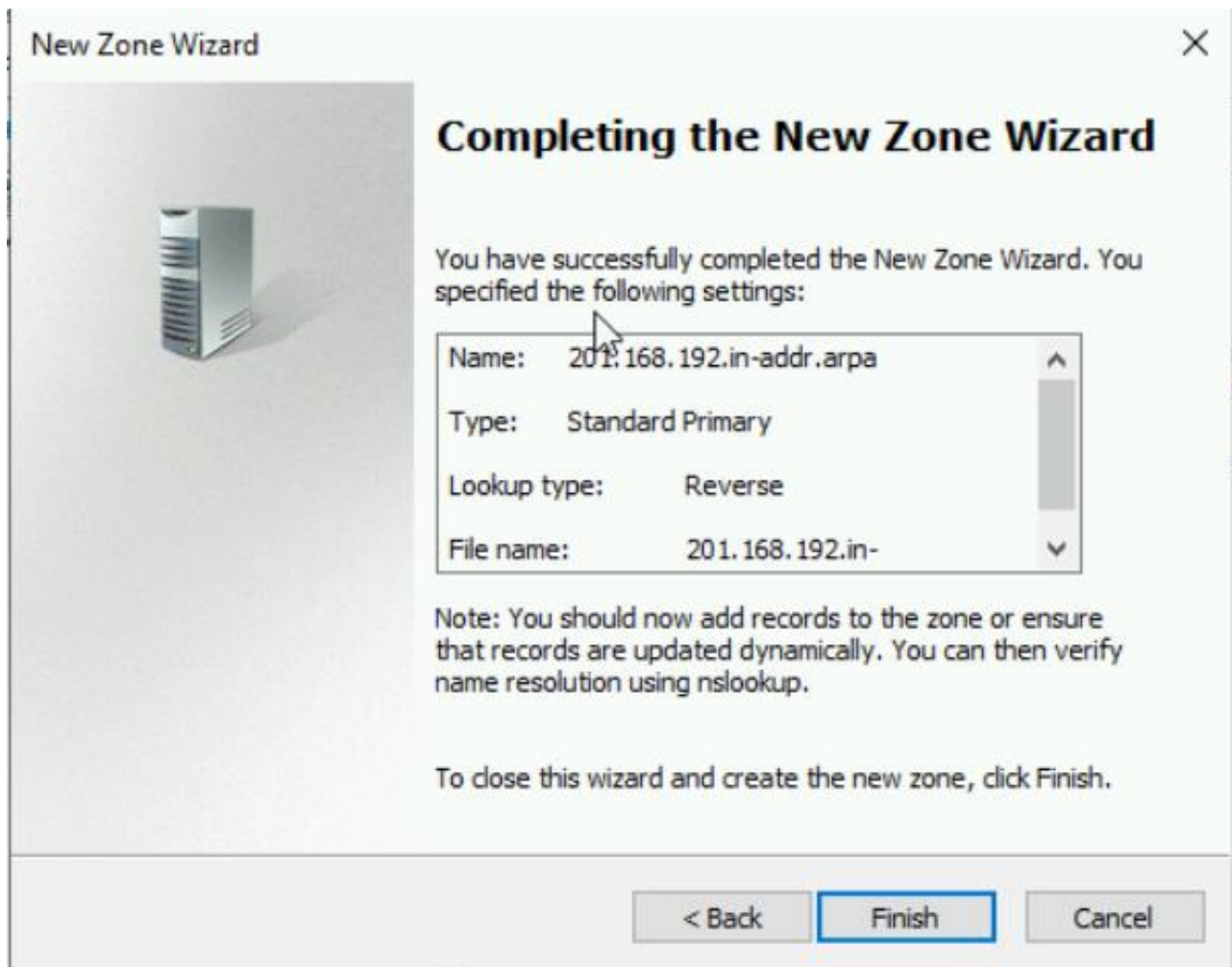


FIGURE 97 - CLICK "FINISH"

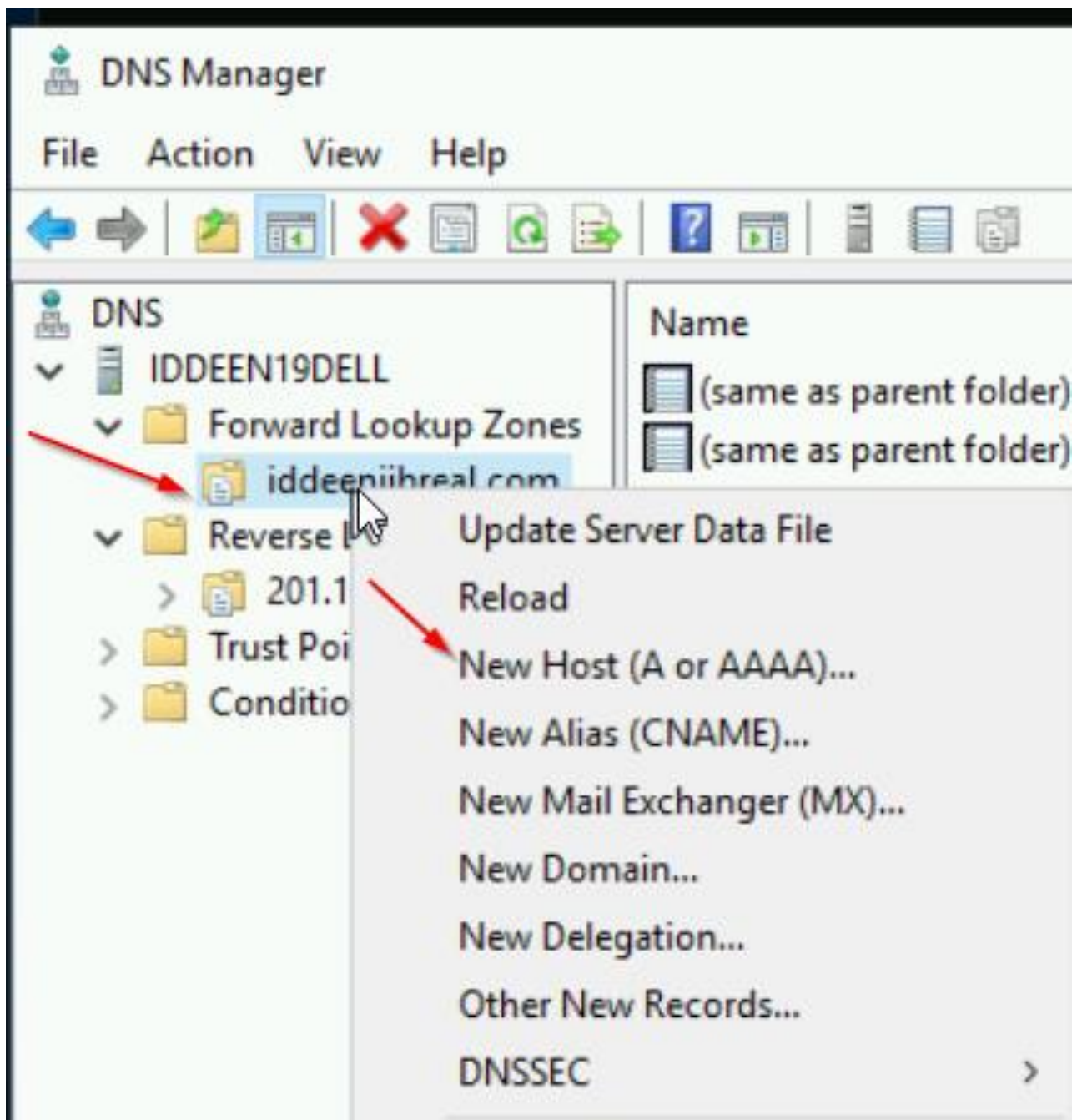


FIGURE 98 - CLICK "NEW HOST (A OR AAAA)"

New Host

Name (uses parent domain name if blank):

router01

Fully qualified domain name (FQDN):

router01.iddeenjibreal.com.

IP address:

192.168.201.254

☒ Create associated pointer (PTR) record

Add Host

Cancel

New Host

Name (uses parent domain name if blank):

dell01

Fully qualified domain name (FQDN):

dell01.iddecnjibreal.com.

IP address:

192.168.201.10

☒ Create associated pointer (PTR) record

Add Host

Done

New Host

Name (uses parent domain name if blank):

idrac01

Fully qualified domain name (FQDN):

idrac01.iddeenjibreal.com.

IP address:

192.168.201.11

☒ Create associated pointer (PTR) record

Add Host

Done

New Host

Name (uses parent domain name if blank):

iddeen19vm

Fully qualified domain name (FQDN):

iddeen19vm.iddeenjibreal.com.

IP address:

192.168.201.16

☒ Create associated pointer (PTR) record

Add Host

Done

New Host

Name (uses parent domain name if blank):

fsa-server01

Fully qualified domain name (FQDN):

fsa-server01.iddeenjibreal.com.

IP address:

192.168.201.22

☒ Create associated pointer (PTR) record

Add Host Done

FIGURE 99 - ASSIGN DNS A RECORD FOR ALL OF THE DEVICES



FIGURE 100 - GO BACK TO THE DASHBOARD, AND CLICK "TOOLS"

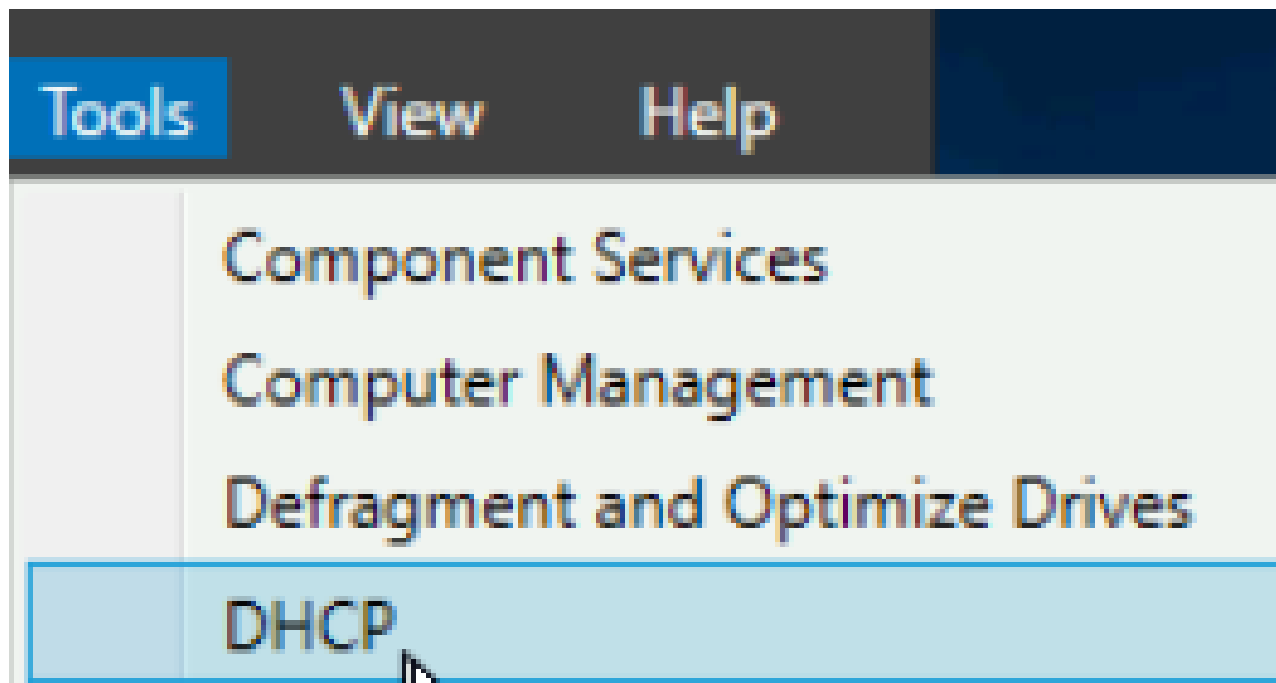


FIGURE 101 - CLICK "DHCP"

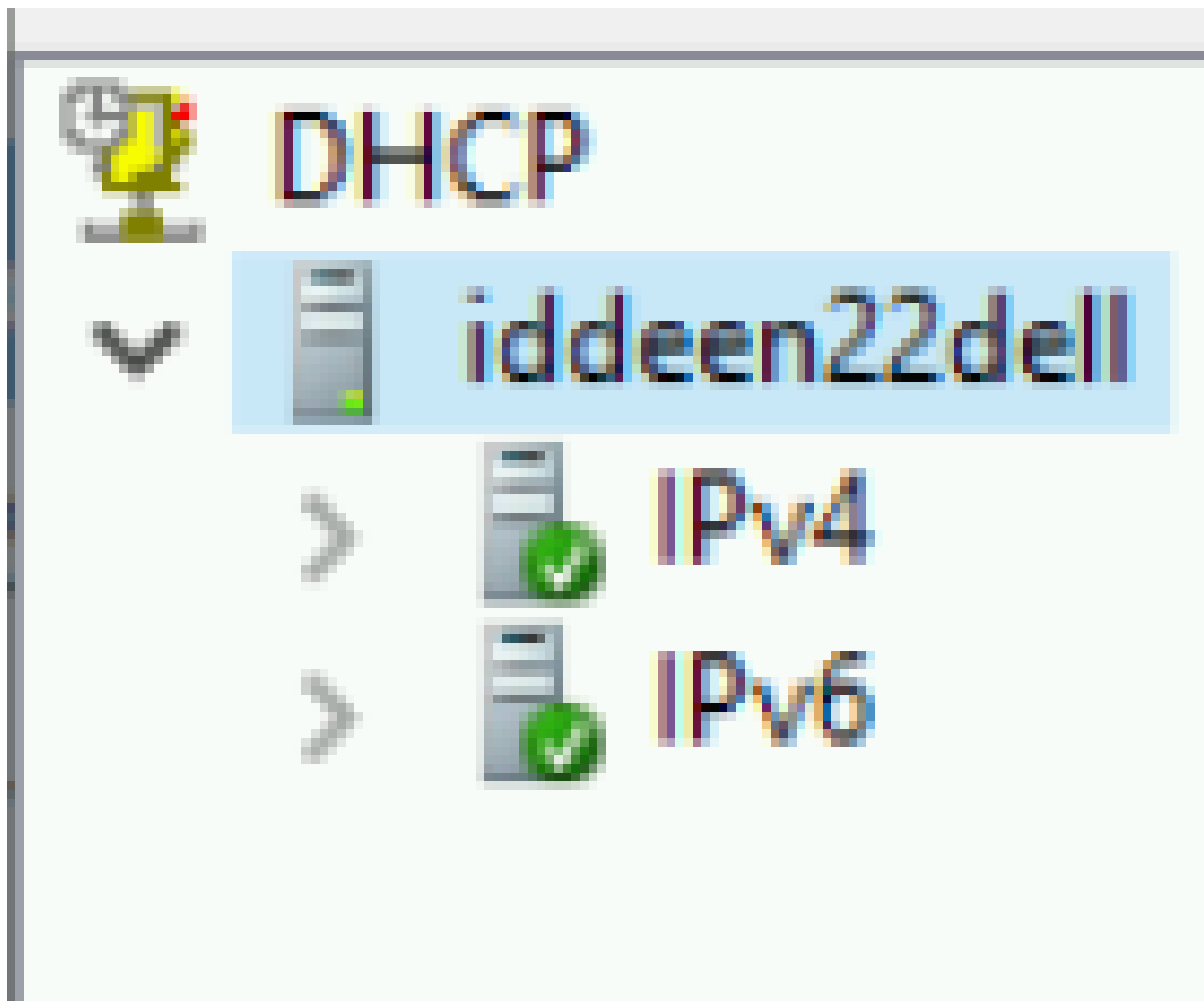


FIGURE 102 - SEE THE OVERVIEW OF THE DHCP MENU

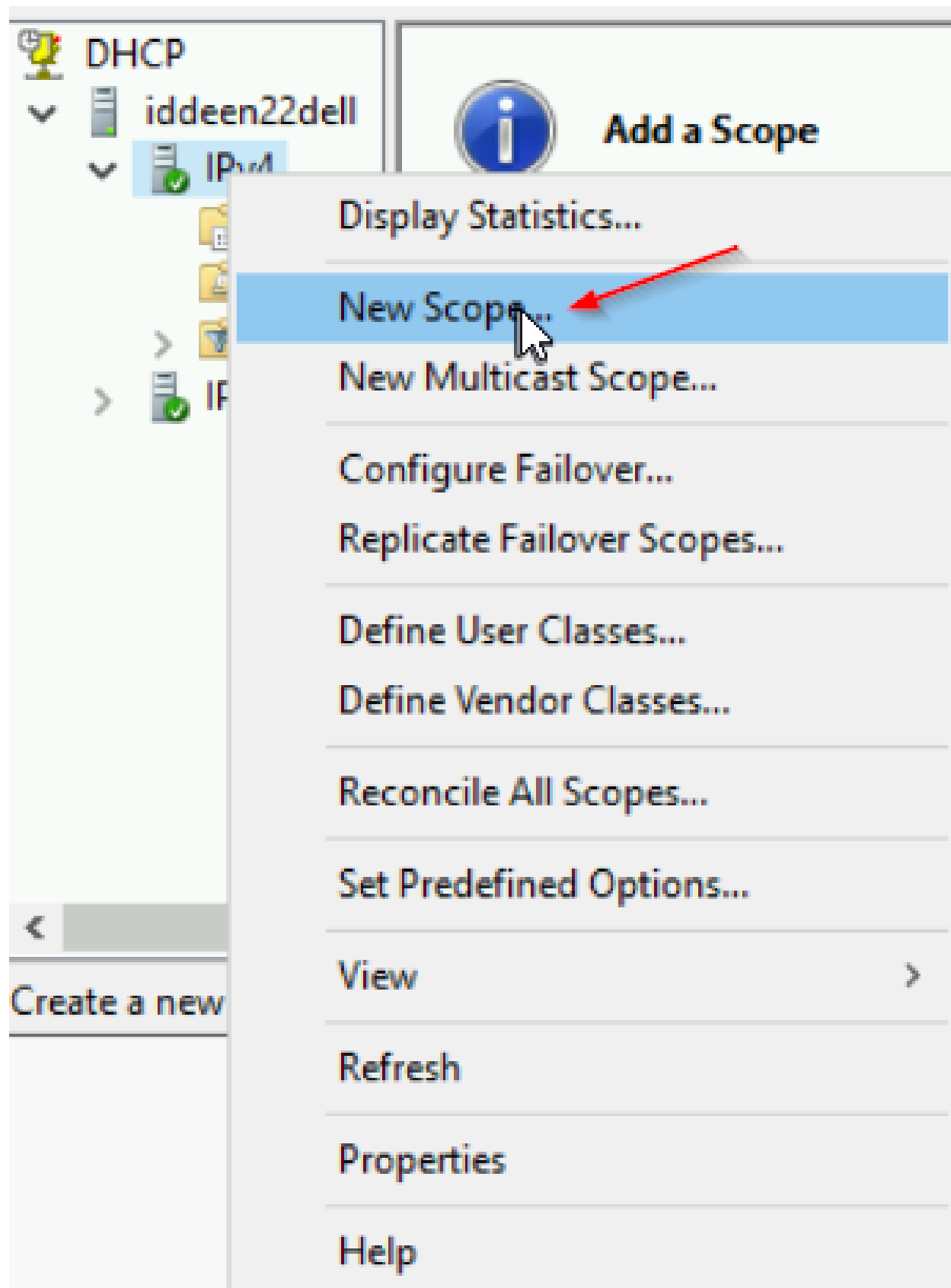


FIGURE 103 - CLICK "NEW SCOPE"

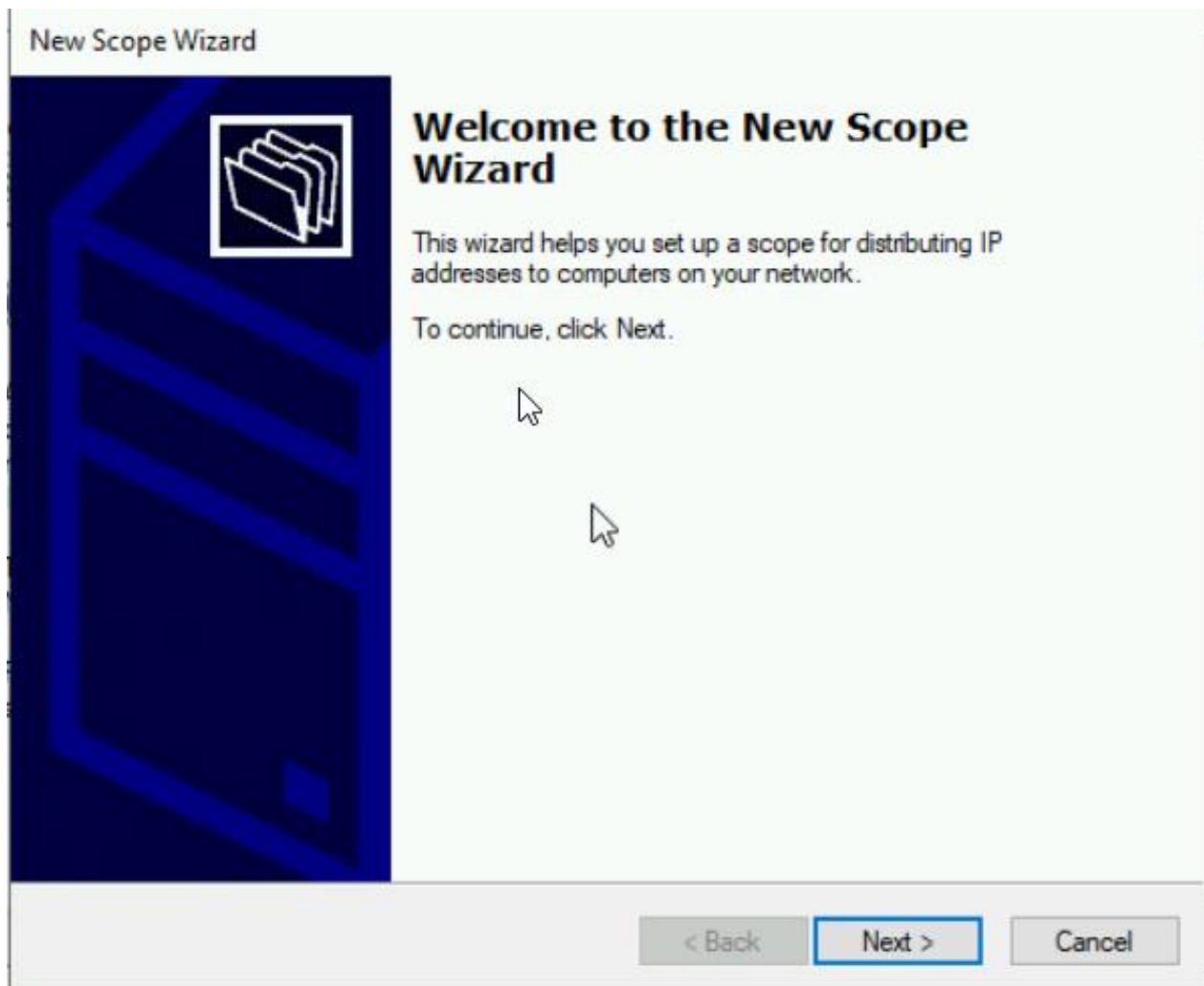


FIGURE 104 - "CLICK NEXT"

New Scope Wizard

Scope Name
You have to provide an identifying scope name. You also have the option of providing a description.

Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.

Name:

Description:

FIGURE 105 – PROCEED

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

FIGURE 106 - PUT THE STARTING IP ADDRESS AND THE END TO CLICK "NEXT"

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:
2	0	0

FIGURE 107 - SET THE LEASE DURATION

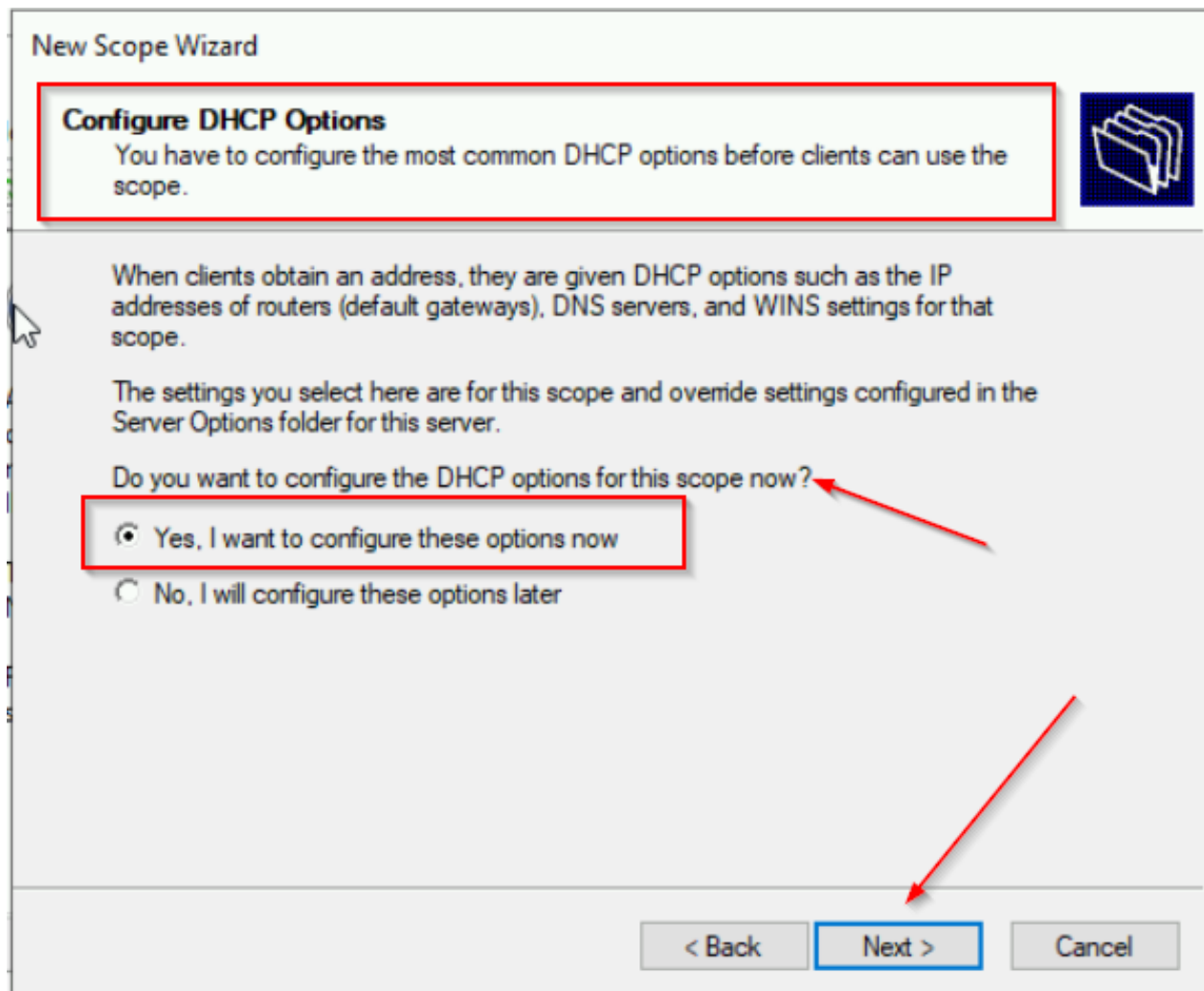


FIGURE 108 - CONFIGURE DHCP OPTIONS

New Scope Wizard

Router (Default Gateway)

You can specify the routers, or default gateways, to be distributed by this scope.

1 To add an IP address for a router used by clients, enter the address below.

IP address:

192 . 168 . 201 . 254

Add

Remove

Up

Down

3

< Back

Next >

Cancel

FIGURE 109 - ADD THE ROUTER DEFAULT GATEWAY

New Scope Wizard

Domain Name and DNS Servers

The Domain Name System (DNS) maps and translates domain names used by clients on your network.

You can specify the parent domain you want the client computers on your network to use for DNS name resolution.

Parent domain:

To configure scope clients to use DNS servers on your network, enter the IP addresses for those servers.

Server name:	IP address:	
<input type="text" value="fsalab03"/>	<input type="text" value="192.168.201.10"/>	<input type="button" value="Add"/> <input type="button" value="Remove"/> <input type="button" value="Up"/> <input type="button" value="Down"/>

< Back **Next >** Cancel

FIGURE 110 - SET THE PARENT DOMAIN AND EDIT THE STUFF, THEN CLICK "NEXT"

Contents of DHCP Server		
	Status	Description
Scope [192.168.201.0] iddeenjibreal.com	** Active **	dns
Server Options		
Policies		
Filters		

FIGURE 111 - SEE THE SCOPE BEING ACTIVE!

```
C:\Users\Student24>ipconfig /all

Windows IP Configuration

Host Name . . . . . : 00LAPTOP24
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : iddeenjibreal.com

Ethernet adapter Ethernet:

Connection-specific DNS Suffix . : iddeenjibreal.com
Description . . . . . : Realtek USB GbE Family Controller
Physical Address. . . . . : 00-E0-4C-68-17-59
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IPv4 Address. . . . . : 192.168.201.200(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Friday, September 19, 2025 11:31:08 AM
Lease Expires . . . . . : Monday, September 29, 2025 11:31:07 AM
Default Gateway . . . . . : 192.168.201.254
DHCP Server . . . . . : 192.168.201.10
DNS Servers . . . . . : 192.168.201.10
```

FIGURE 112 - SEE THE LAPTOP GETTING IP ADDRESS FROM DHCP SERVER

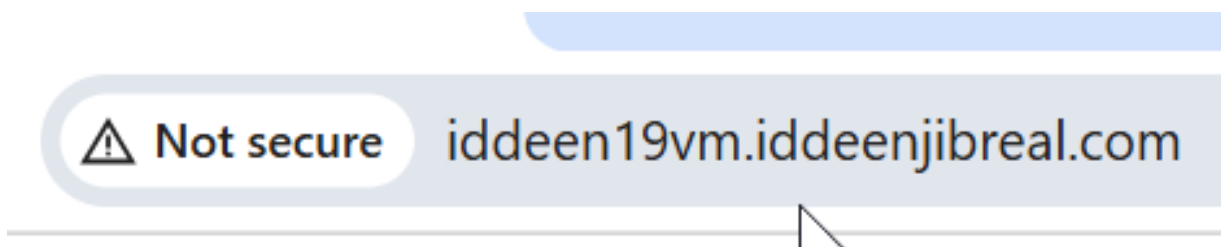


FIGURE 113 - TYPE THE IIS WEBSITE ON LAPTOP

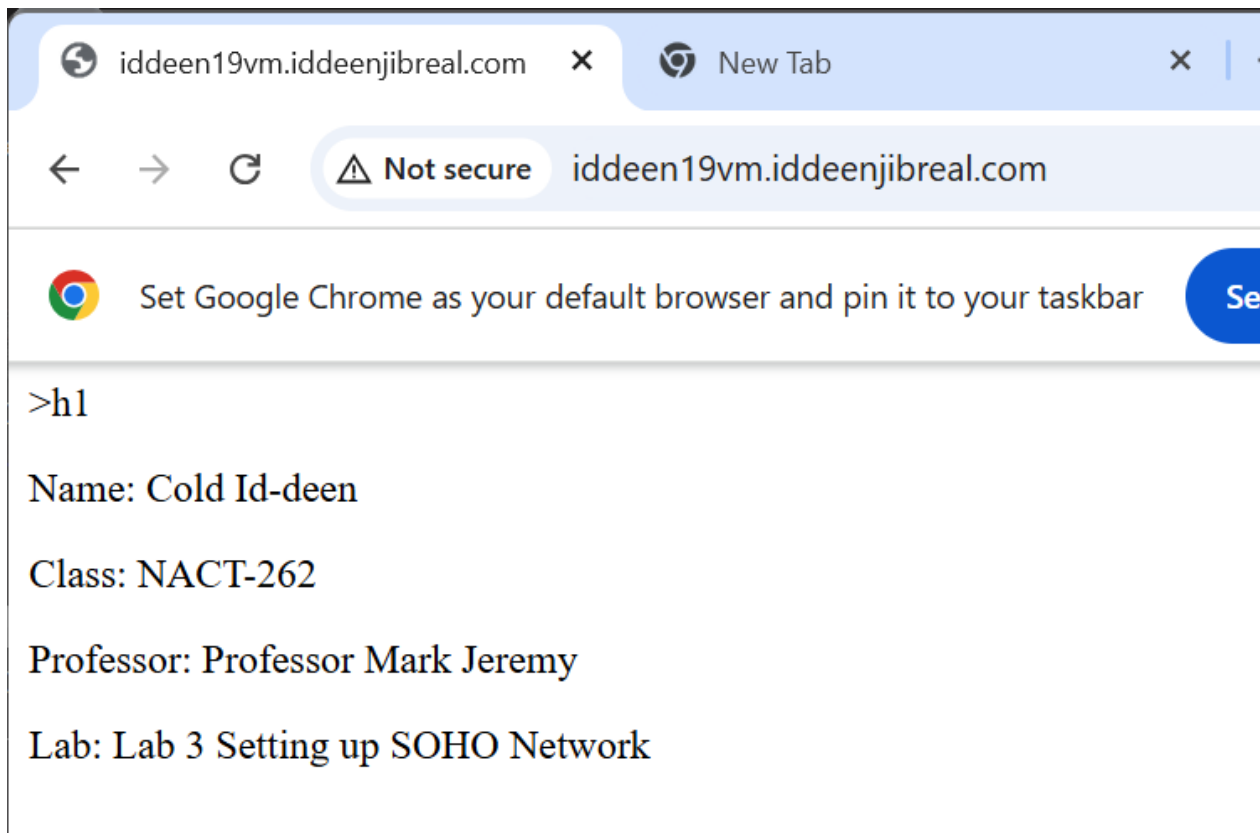


FIGURE 114 - SEE YOUR OWN IIS WEBSITE FROM THE PCA

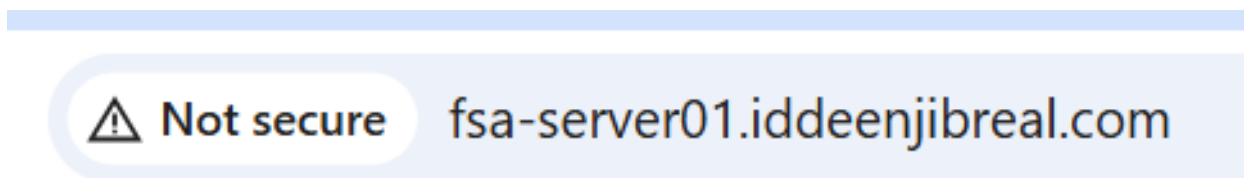


FIGURE 115 - TYPE ANOTHER IIS WEBSITE ON THE LAPTOP

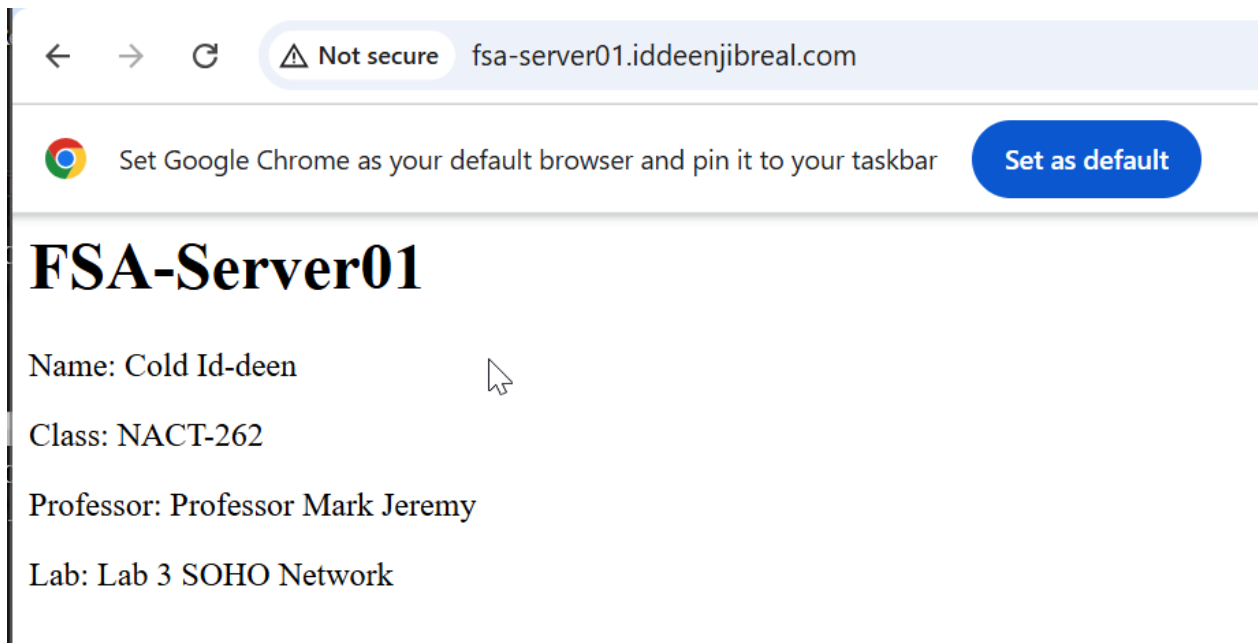


FIGURE 116 - SEE YOUR OWN IIS WEBSITE FROM THE PCB CORE!

```
C:\Users\Student24>nslookup router01.iddeenjibreal.com
Server:  dell01.iddeenjibreal.com
Address:  192.168.201.10

Name:     router01.iddeenjibreal.com
Address:  192.168.201.254

C:\Users\Student24>nslookup 192.168.201.254
Server:  dell01.iddeenjibreal.com
Address:  192.168.201.10

Name:     router01.iddeenjibreal.com
Address:  192.168.201.254
```

FIGURE 117- NSLOOKUP ON DNS A AND REVERSE IP RECORDS FOR ROUTER

```
C:\Users\Student24>nslookup iddeen19vm.iddeenjibreal.com
Server: dell01.iddeenjibreal.com
Address: 192.168.201.10

Name: iddeen19vm.iddeenjibreal.com
Address: 192.168.201.16
```

```
C:\Users\Student24>nslookup 192.168.201.16
Server: dell01.iddeenjibreal.com
Address: 192.168.201.10

Name: iddeen19vm.iddeenjibreal.com
Address: 192.168.201.16
```

FIGURE 118 - NSLOOKUP ON DNS A AND REVERSE IP RECORDS FOR PCA VM

```
C:\Users\Student24>nslookup fsa-server01.iddeenjibreal.com
Server: dell01.iddeenjibreal.com
Address: 192.168.201.10

Name: fsa-server01.iddeenjibreal.com
Address: 192.168.201.21
```

```
C:\Users\Student24>nslookup 192.168.201.21
Server: dell01.iddeenjibreal.com
Address: 192.168.201.10

Name: fsa-server01.iddeenjibreal.com
Address: 192.168.201.21
```

FIGURE 119 - NSLOOKUP ON DNS A AND REVERSE IP RECORDS FOR PCB CORE

```
C:\Users\Student24>nslookup dell01.iddeenjibreal.com
Server:  dell01.iddeenjibreal.com
Address: 192.168.201.10

Name:    dell01.iddeenjibreal.com
Address: 192.168.201.10
```

```
C:\Users\Student24>nslookup 192.168.201.10
Server:  dell01.iddeenjibreal.com
Address: 192.168.201.10

Name:    dell01.iddeenjibreal.com
Address: 192.168.201.10
```

FIGURE 120 - NSLOOKUP ON DNS A AND REVERSE IP RECORDS FOR DELL SERVER

QUESTIONS AND ANSWERS

- In which part of the lab activity did you find the most challenging?
 - Getting the VM truly bridged to the wired LAN while chasing the rogue router DHCP and fixing DNS/forwarders was the most painful part I struggled with.

OBSERVATIONS

Well, it was excellent learning for me to do this type of stuff, it was really cool. I made big mistake that I added the “Excluded and Delay” to block any incoming DHCP IP Address while it was not supposed to happen! Good experience.