

# Lesson 02 Demo 01

## Configuring Firewall in Windows

**Objective:** To install and configure IIS on Windows Server, create a custom website on a specified port, and implement Windows Firewall rules to control and secure network access

**Tools required:** Windows VM, Kali Linux

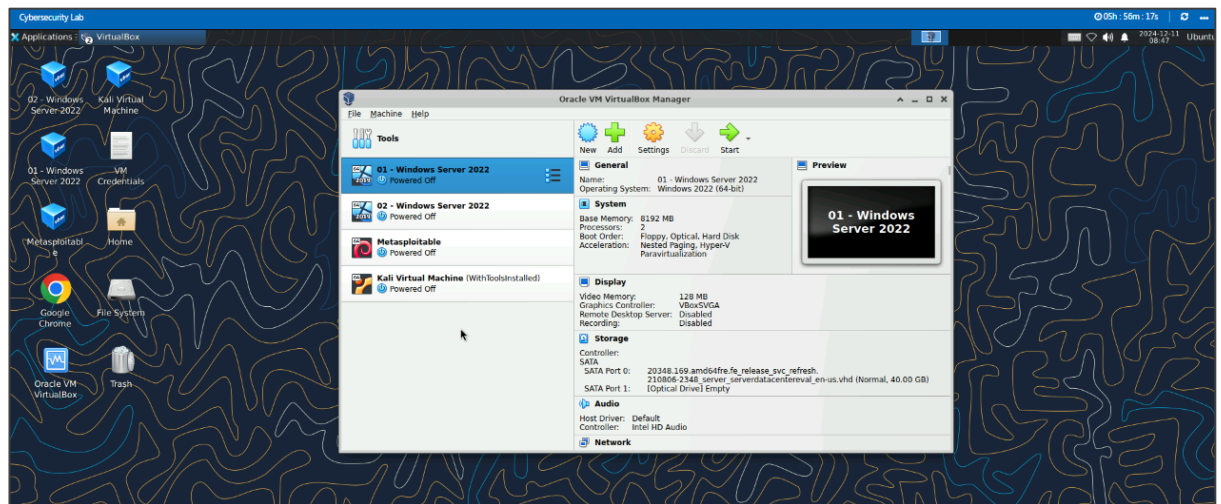
**Prerequisites:** None

Steps to be followed:

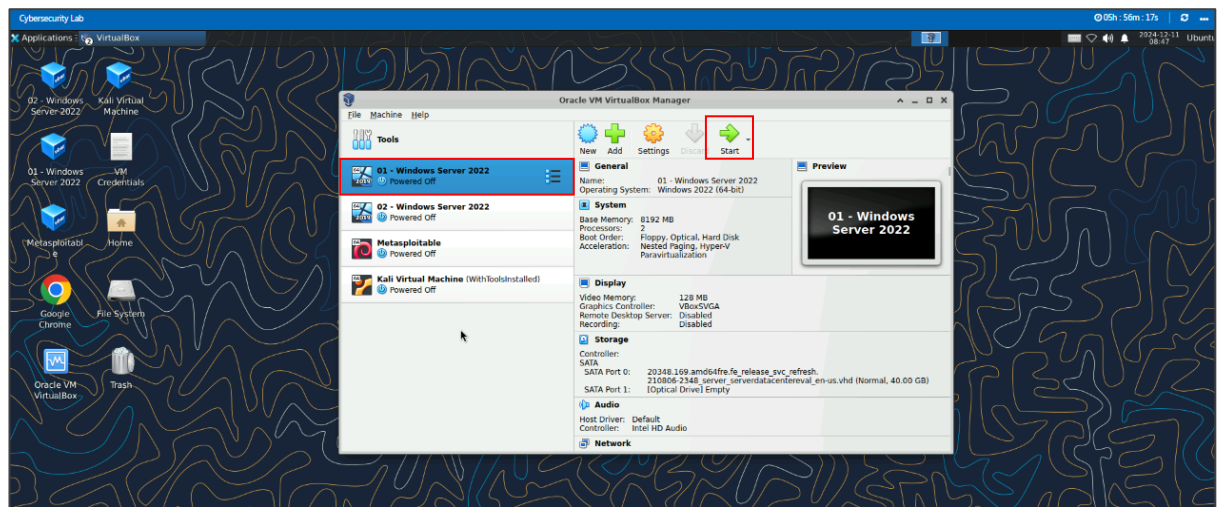
1. Install the IIS (Internet Information Services)
2. Create the website and change the port
3. Configure the firewall to access the web server on a custom port

### Step 1: Install the IIS (Internet Information Services)

#### 1.1 Navigate to Oracle VM VirtualBox Manager

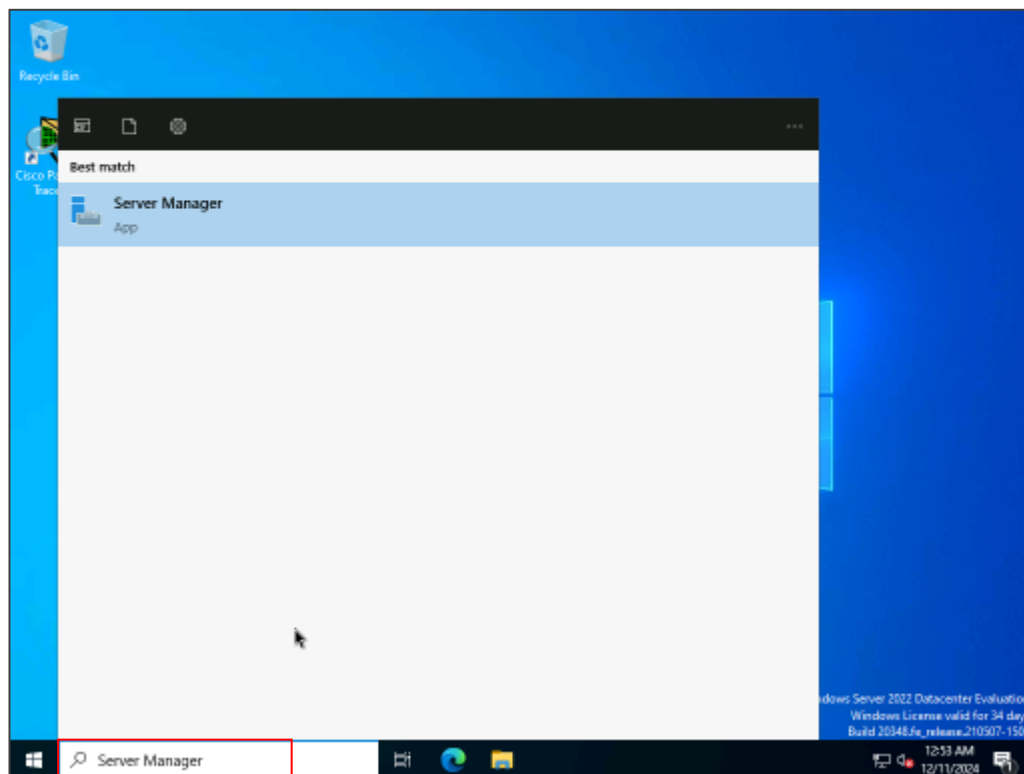


### 1.2 Select **01 – Windows Server 2022** and click on **Start**

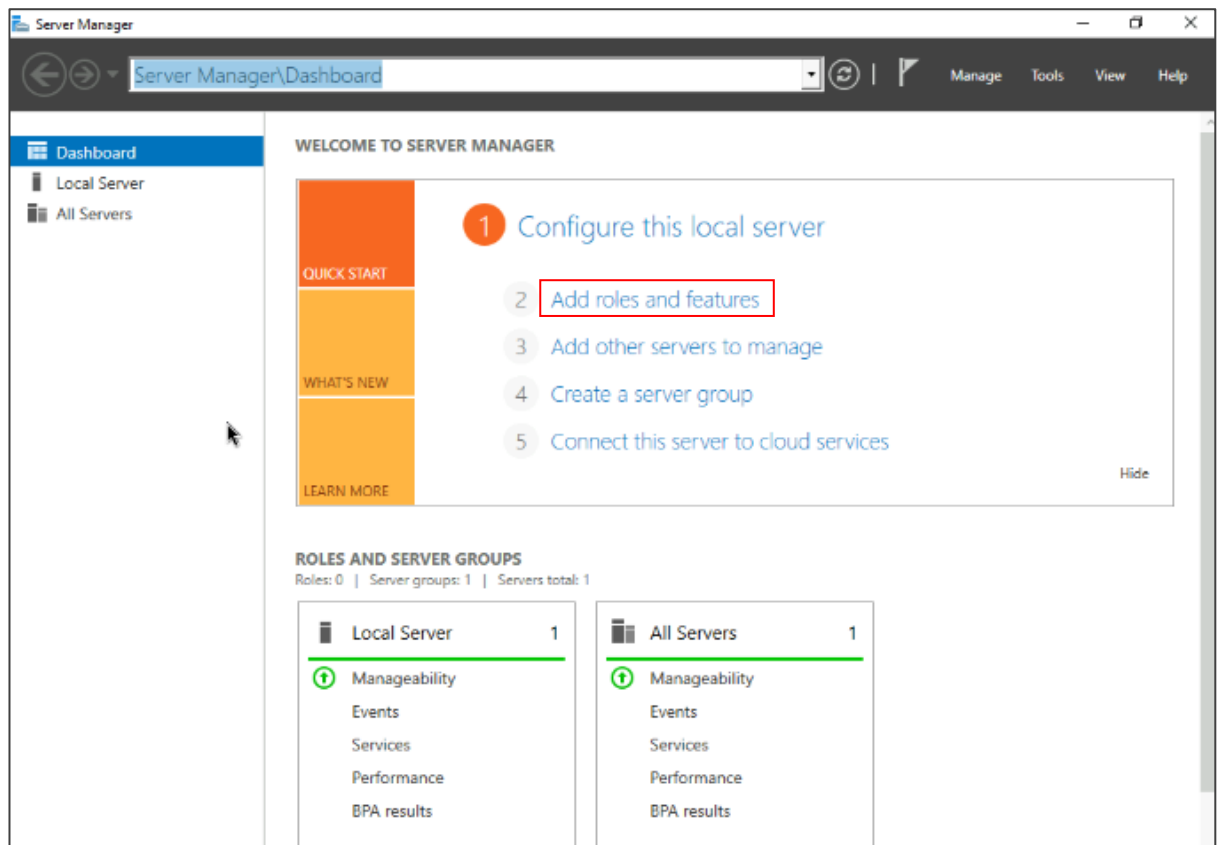


Now, you will be redirected to the Windows VM.

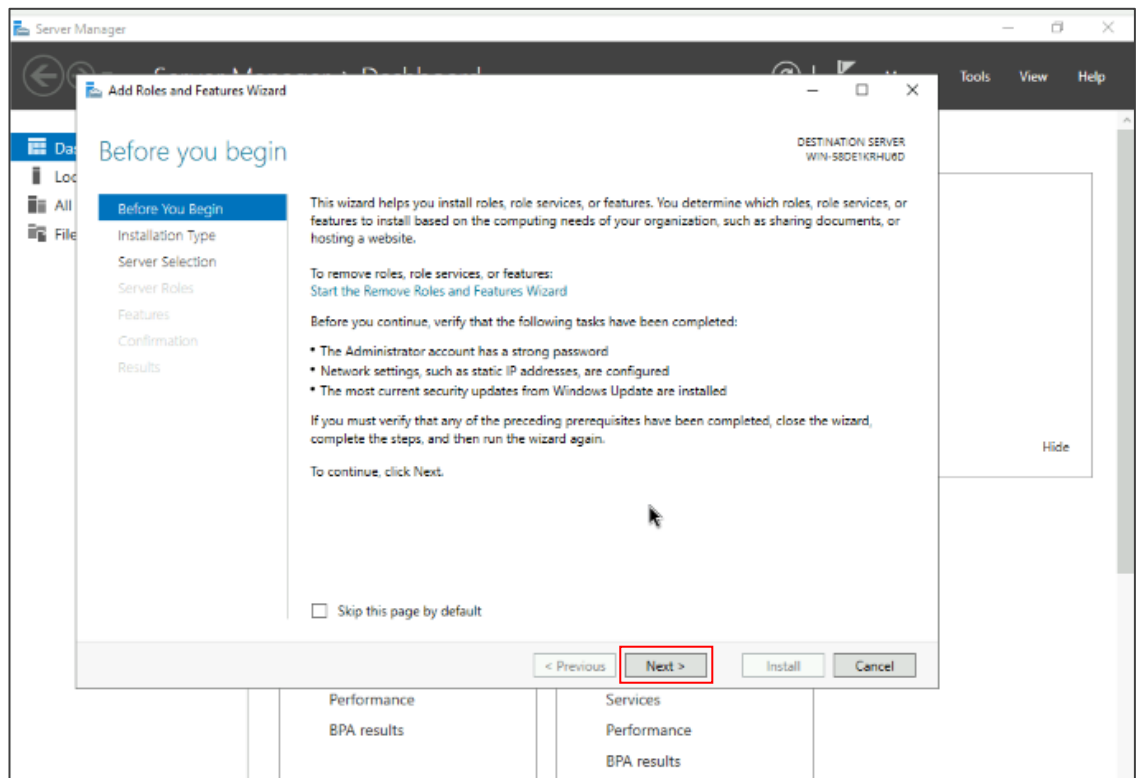
### 1.3 Enter **Server Manager** in the search box and press enter



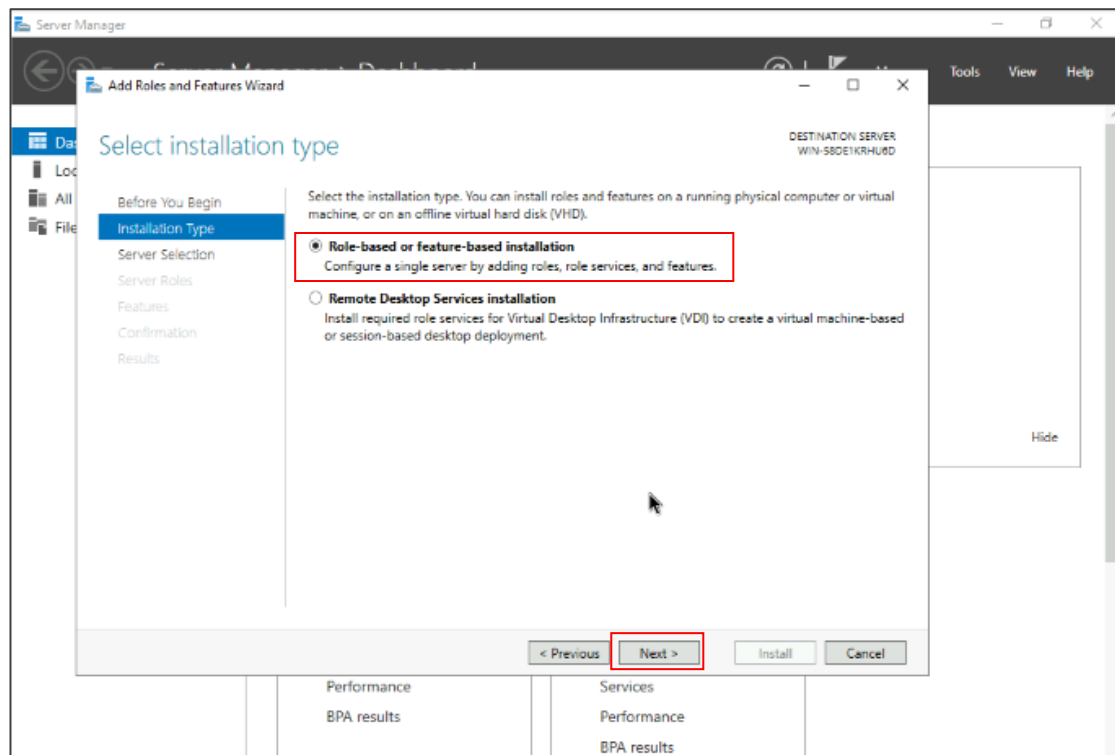
#### 1.4 Click on **Add roles and features**



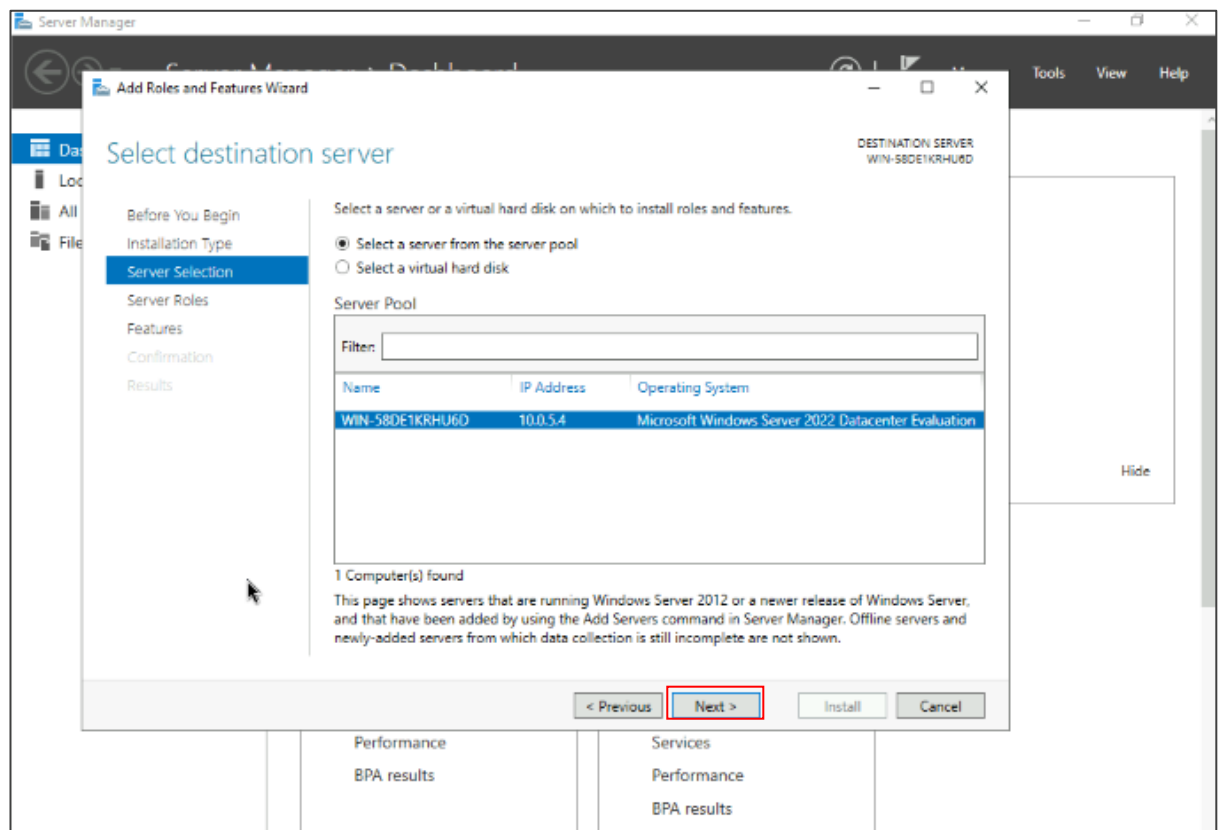
#### 1.5 Click on **Next**



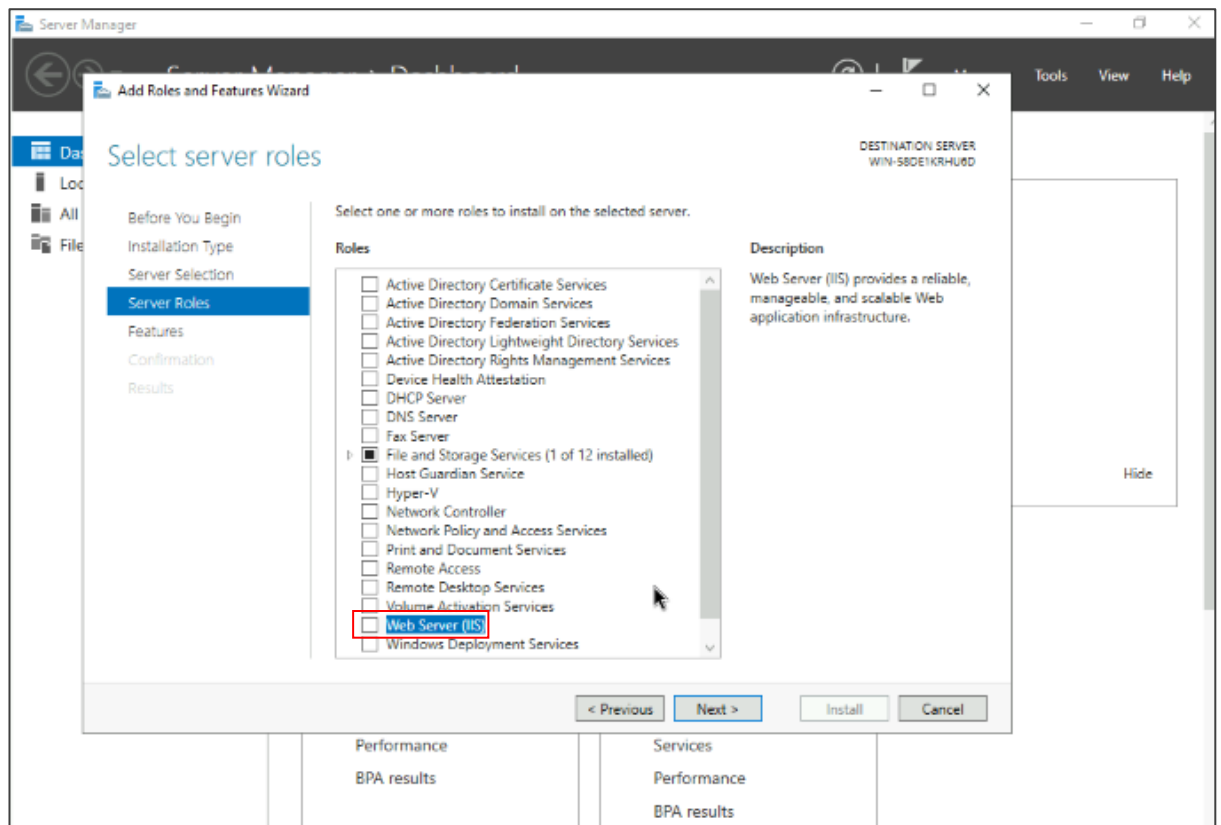
## 1.6 Select **Role-based or feature-based installation** and click on **Next**



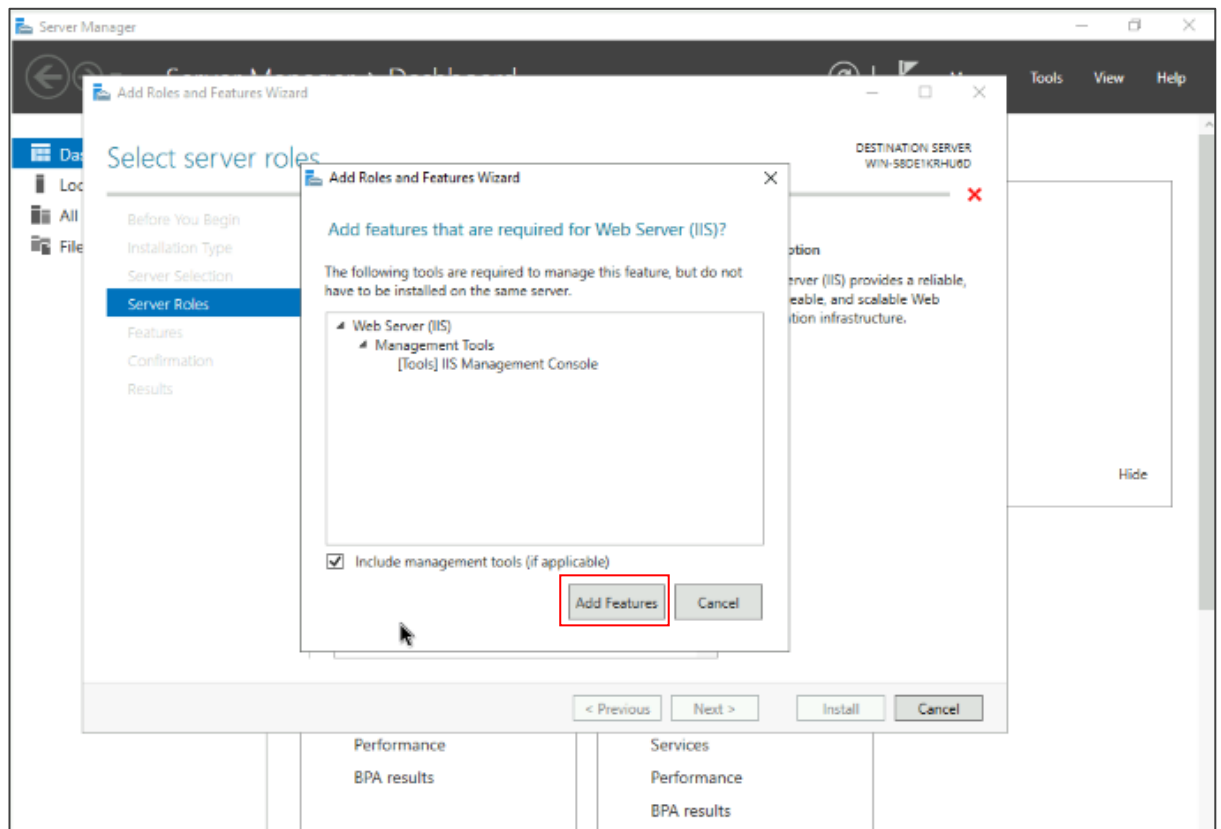
## 1.7 Click on **Next**



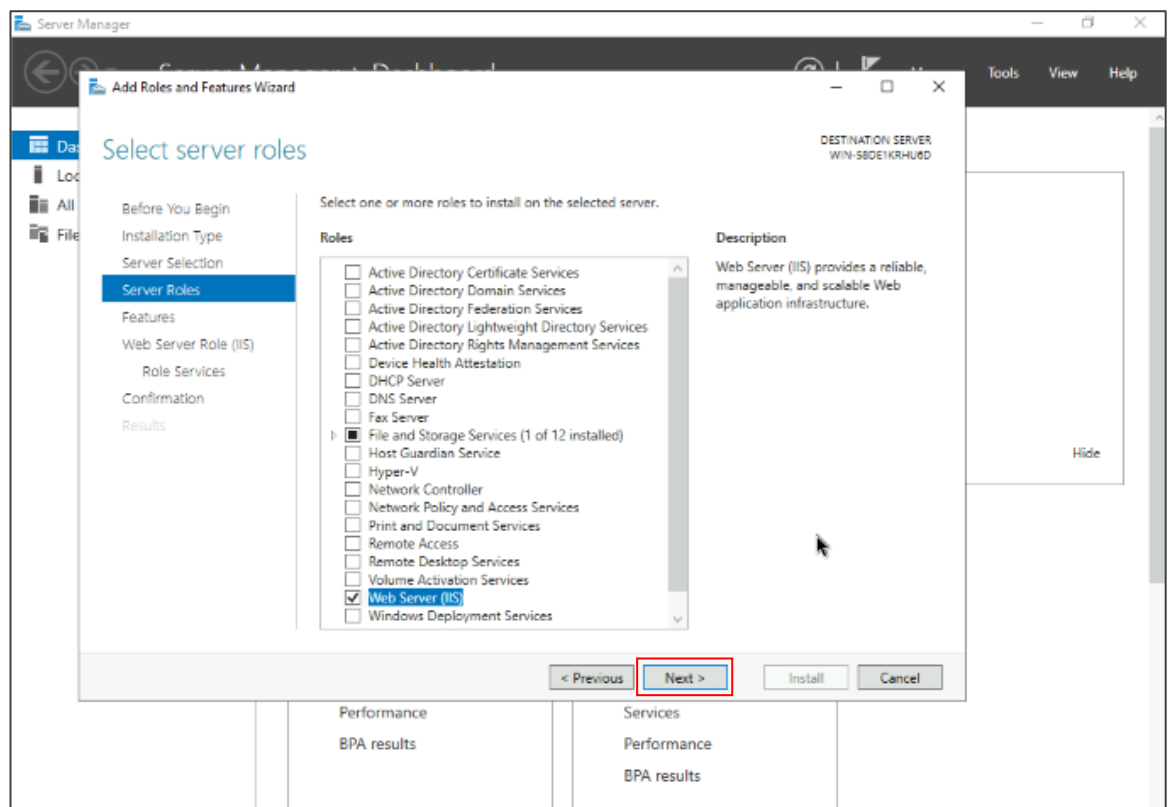
## 1.8 Select **Web Server (IIS)**



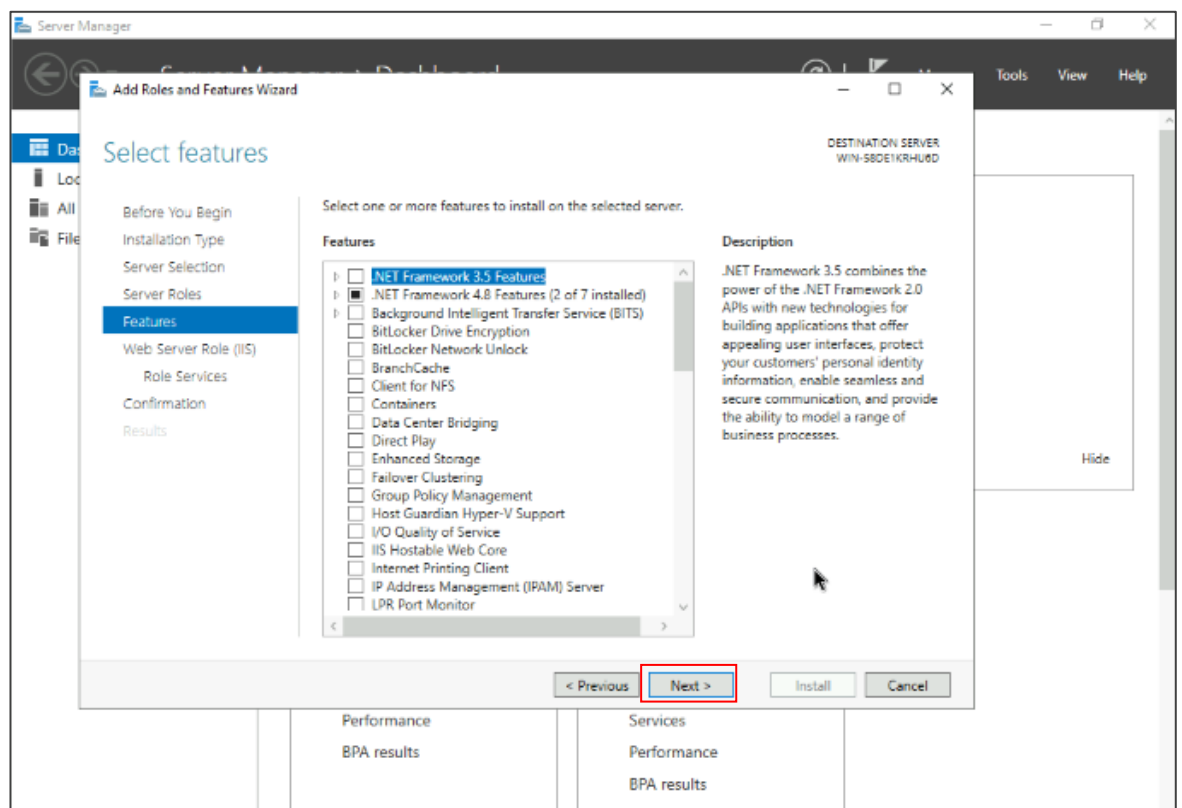
## 1.9 Click on **Add Features**



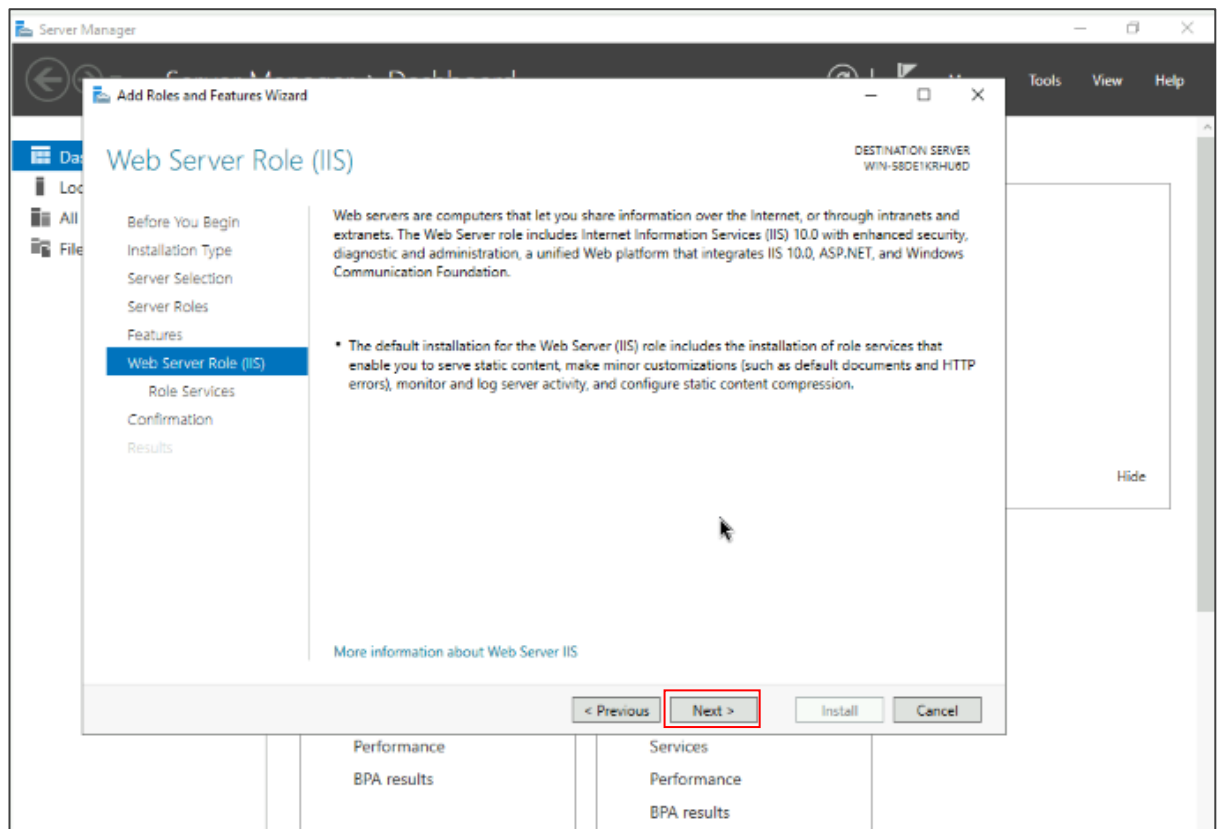
### 1.10 Click on **Next**



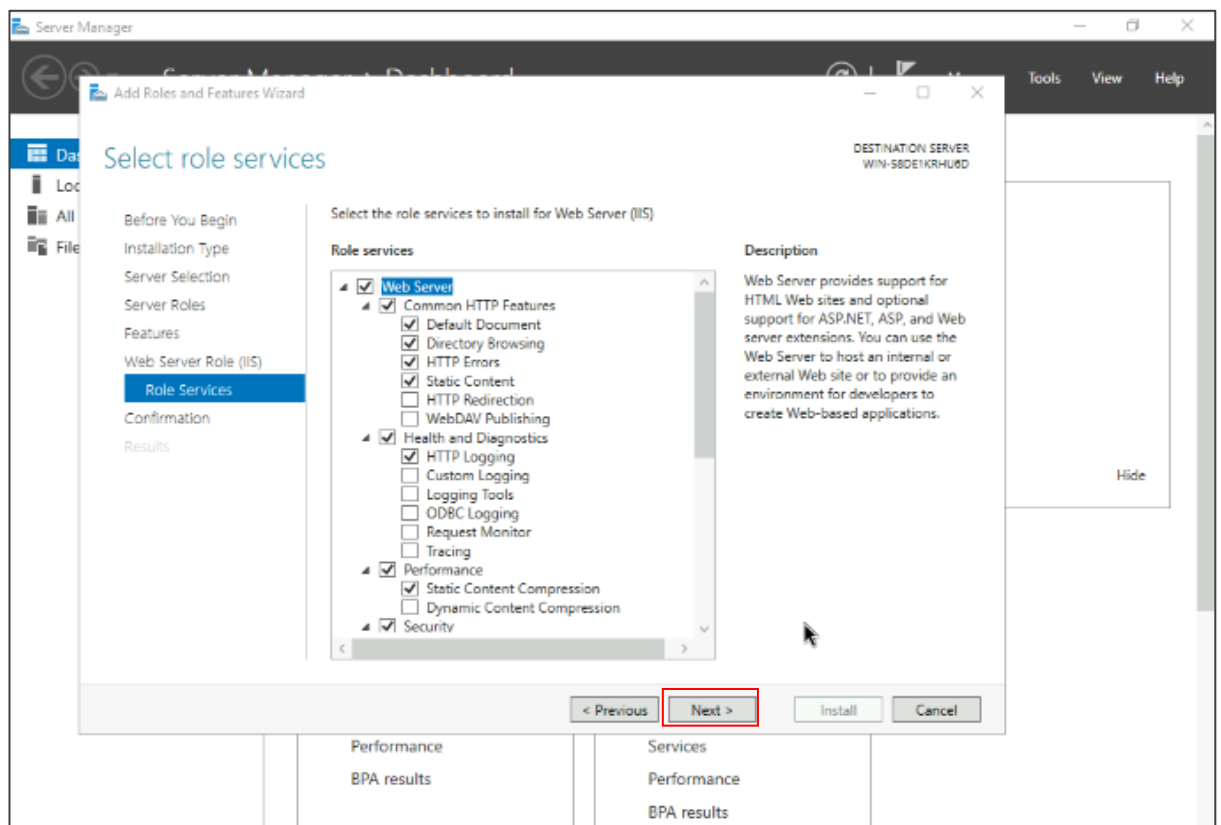
### 1.11 Click on **Next**



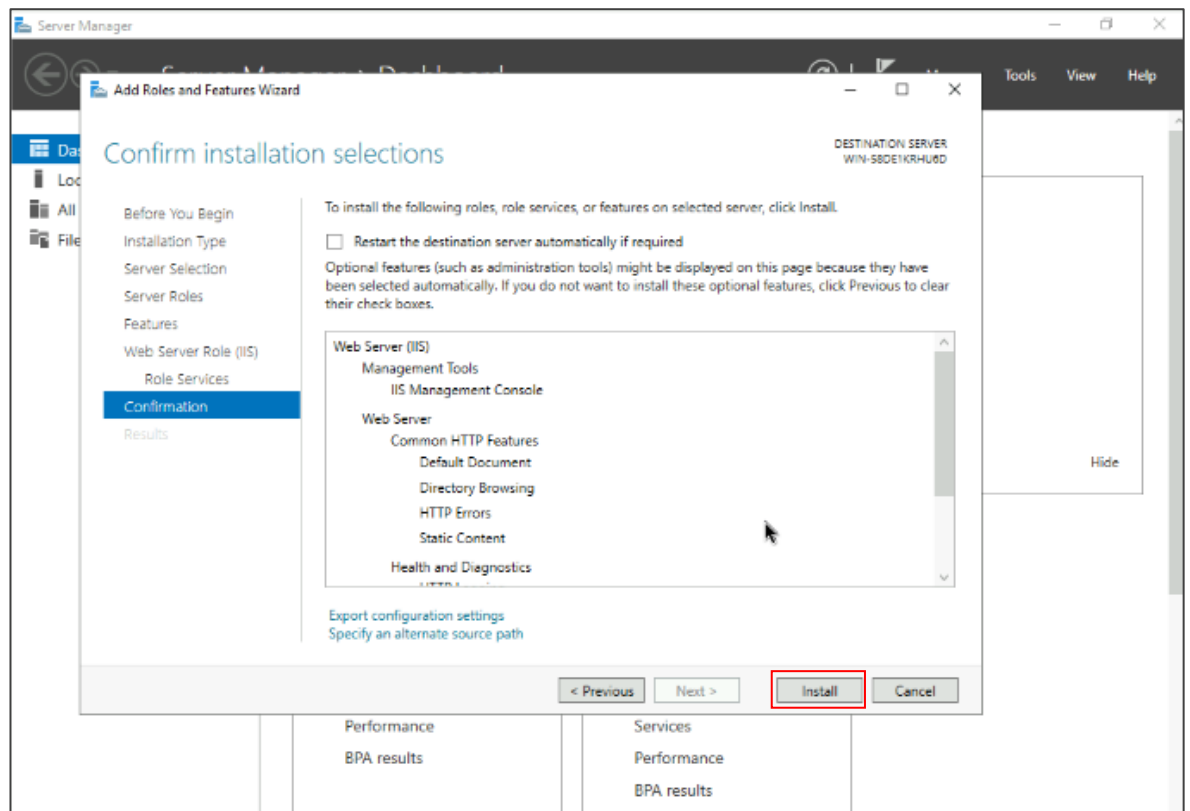
### 1.12 Again, click on **Next**



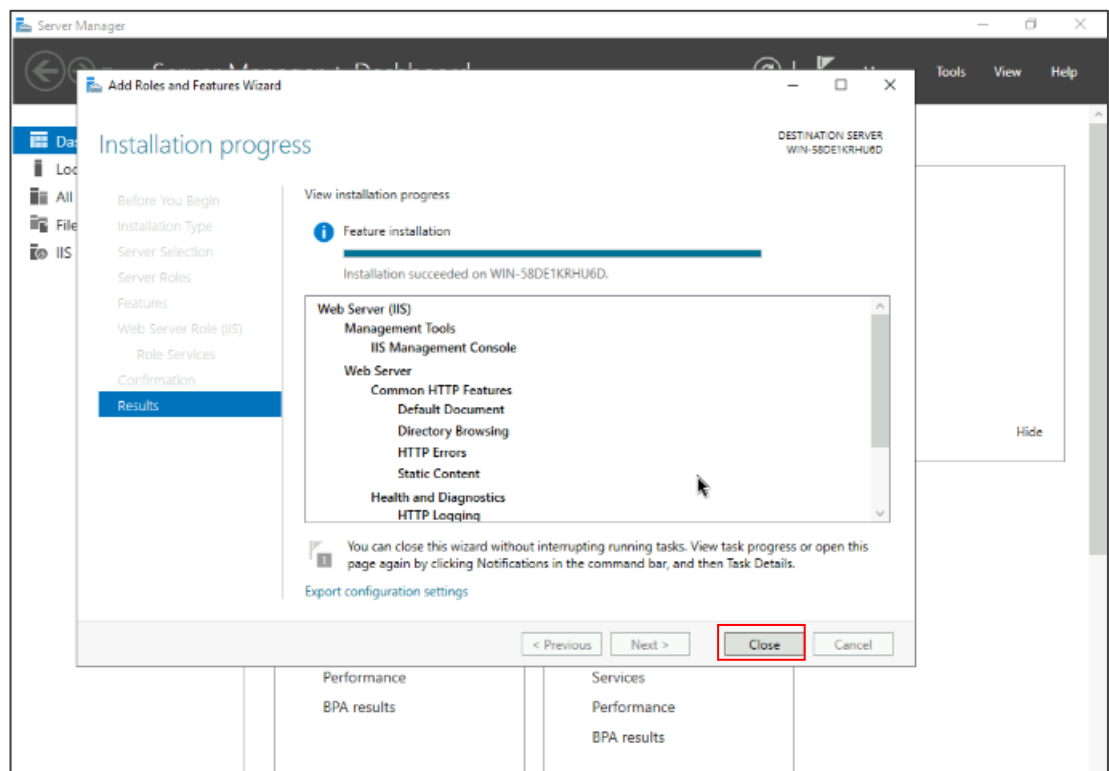
### 1.13 Click on **Next**



#### 1.14 At the end, click on **Install**



#### 1.15 Then, click on **Close**

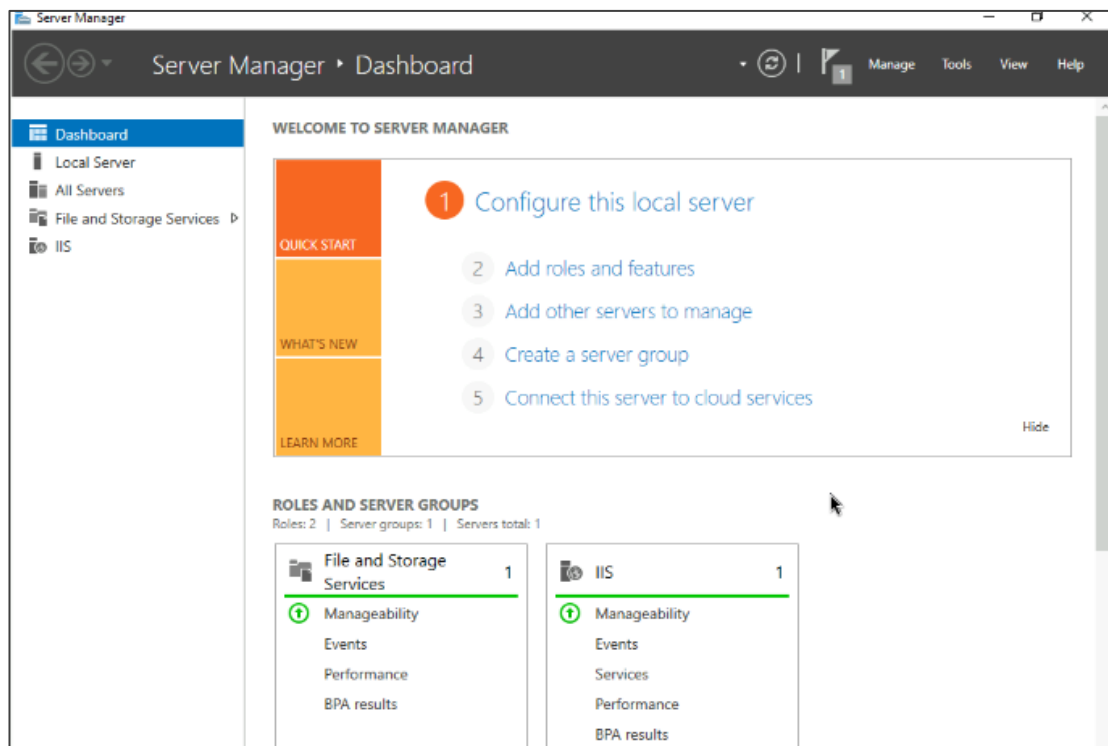


Now, the new feature is installed.

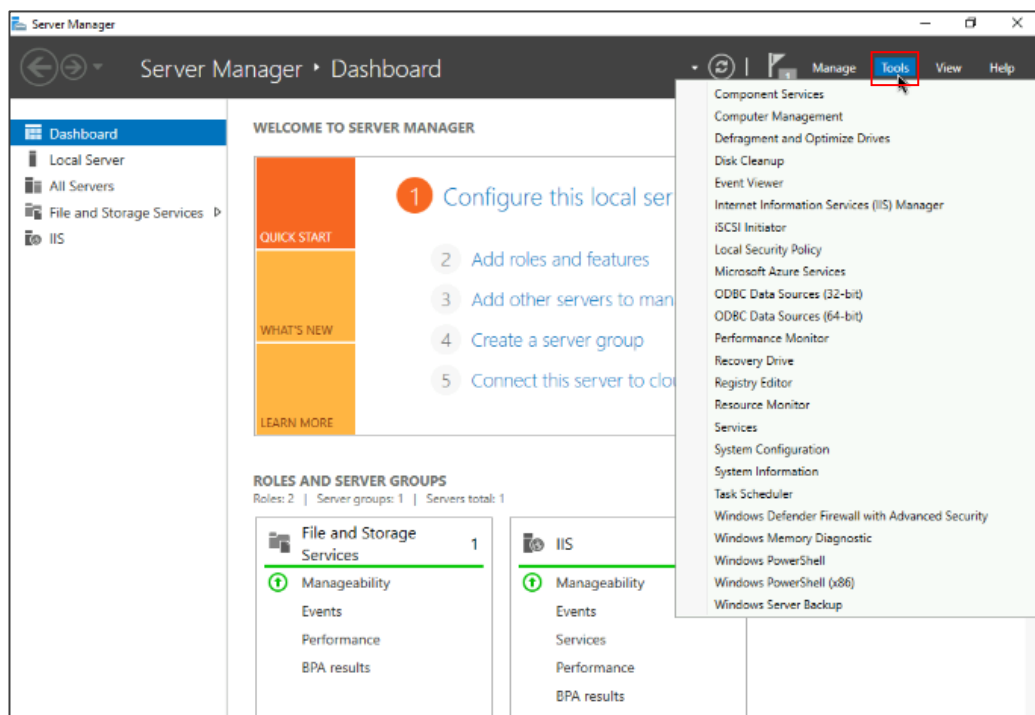


## Step 2: Create the website and change the port

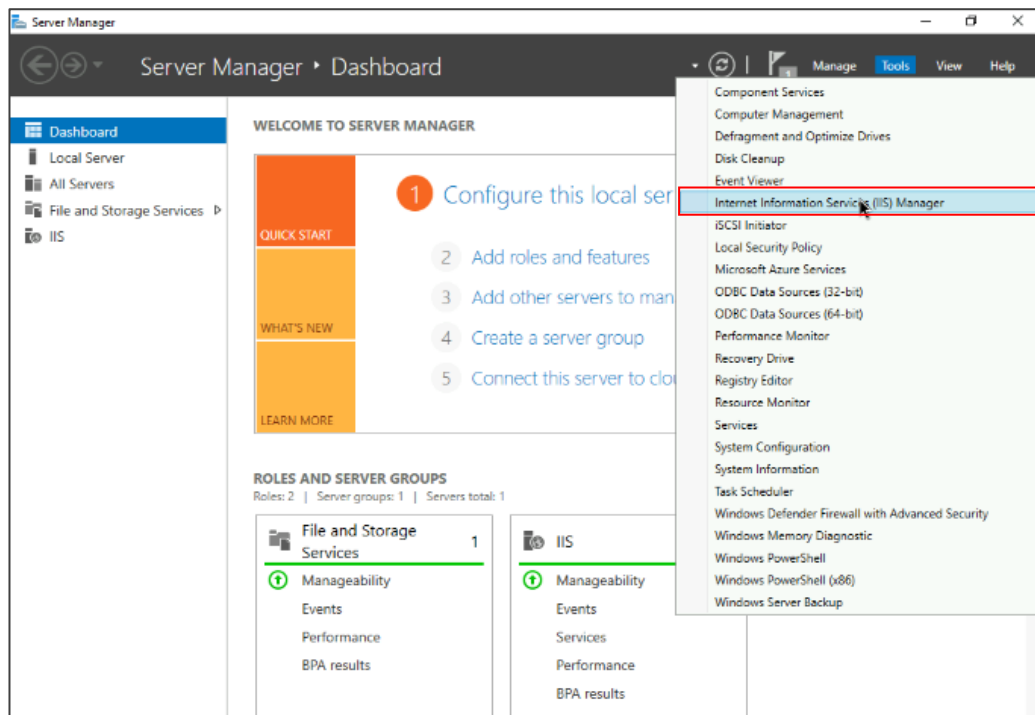
### 2.1 Navigate to Server Manager Dashboard



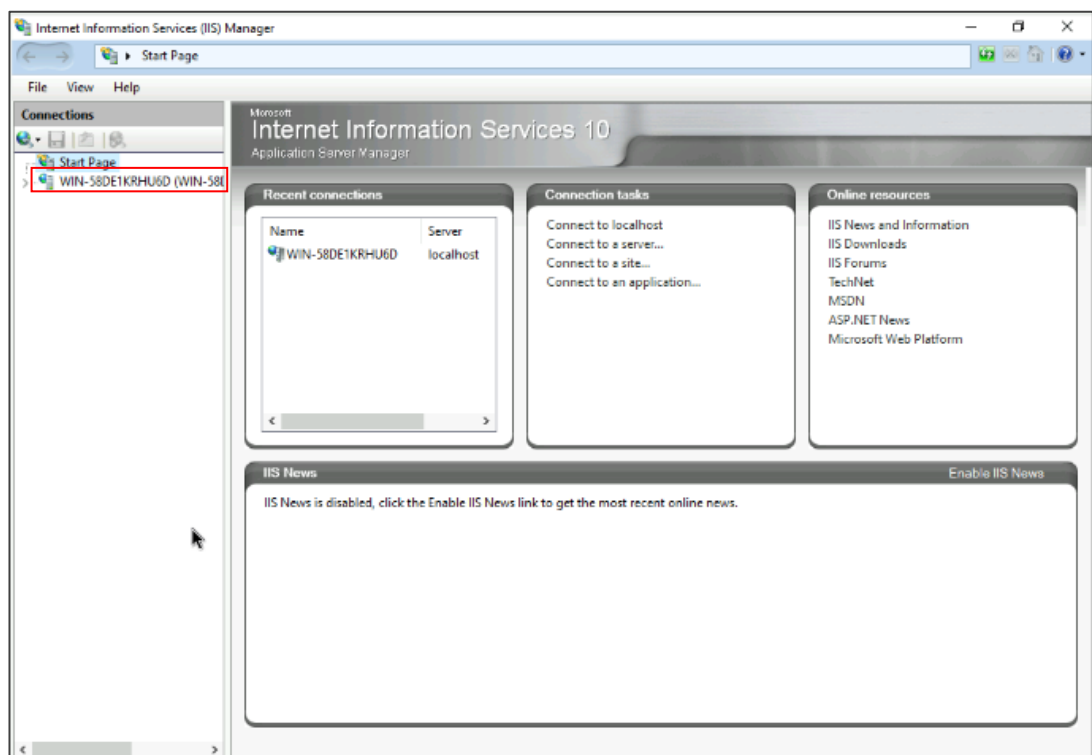
### 2.2 Click on Tools



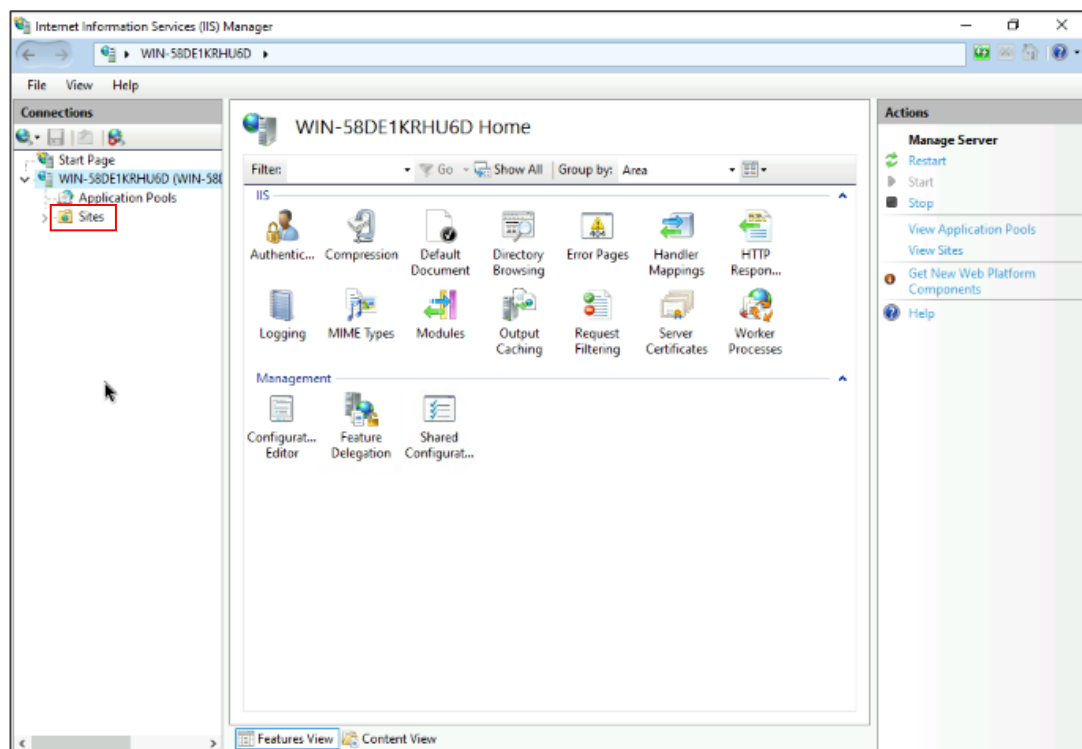
## 2.3 Click on **Internet Information Service (IIS) Manager**



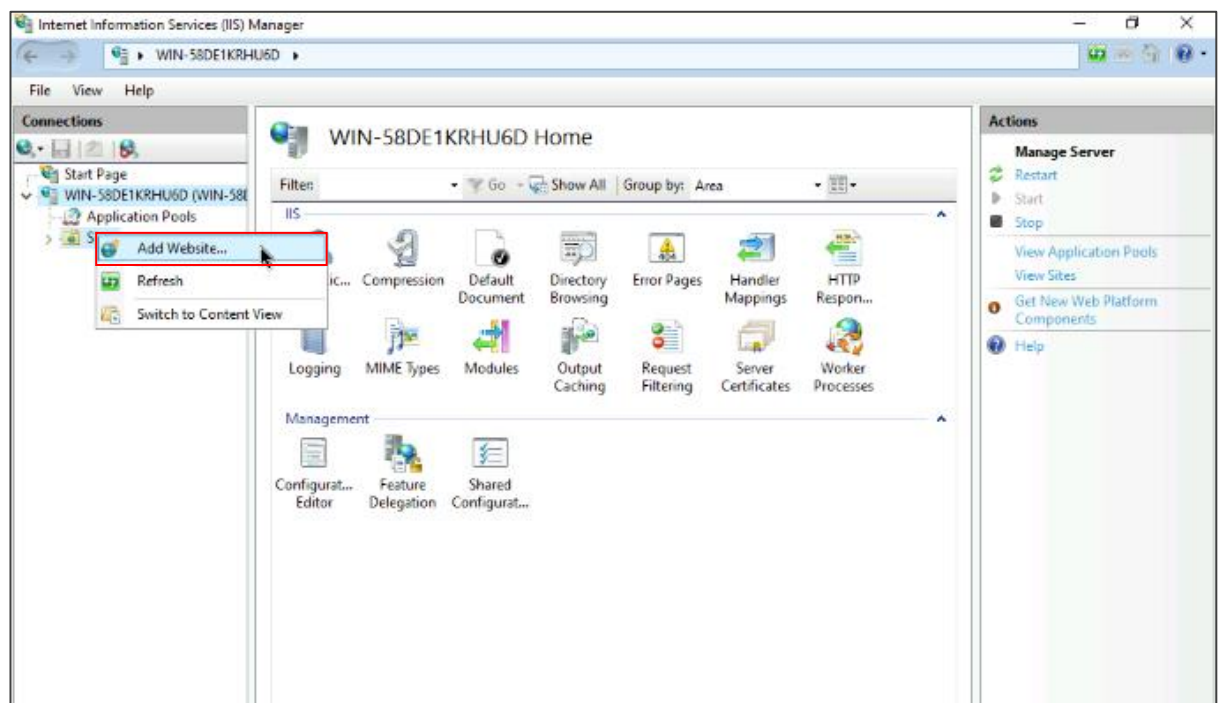
## 2.4 Click on **WIN-58DE1KRHU6D**



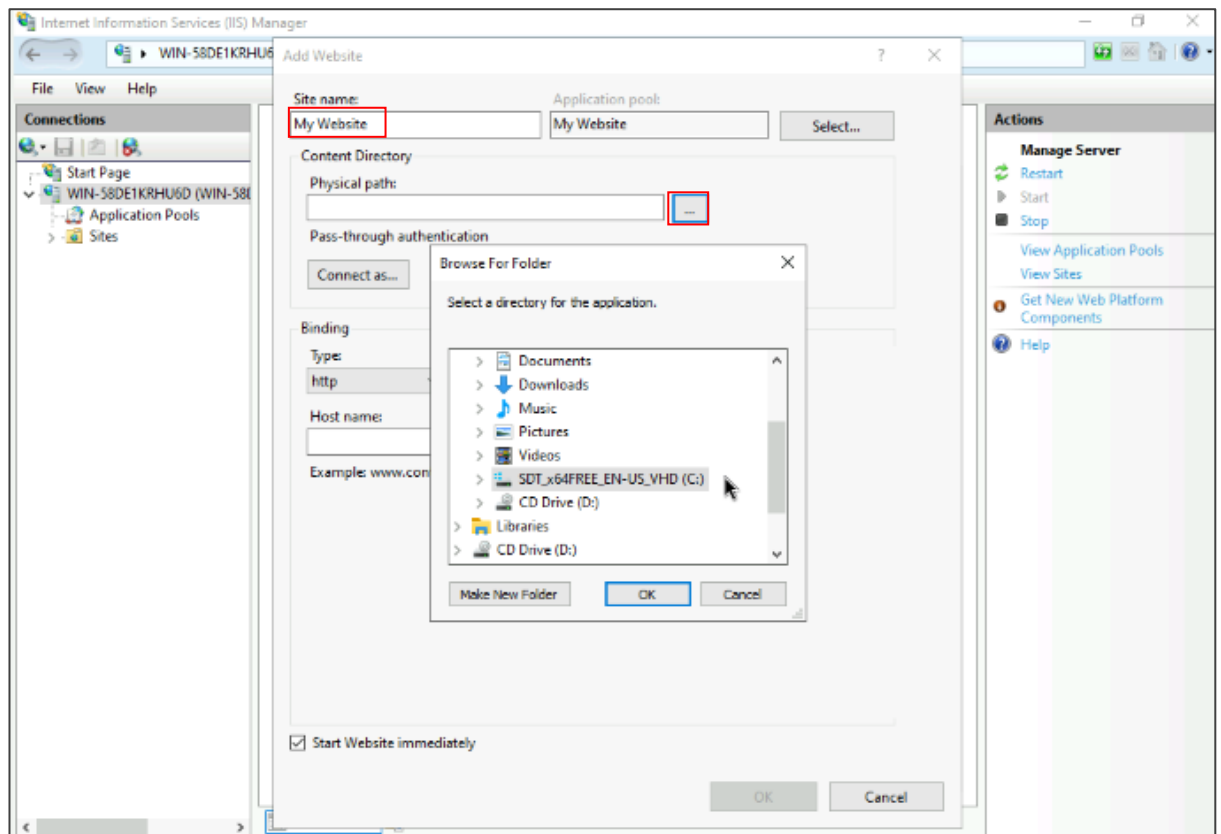
## 2.5 Here, right-click on **Sites**



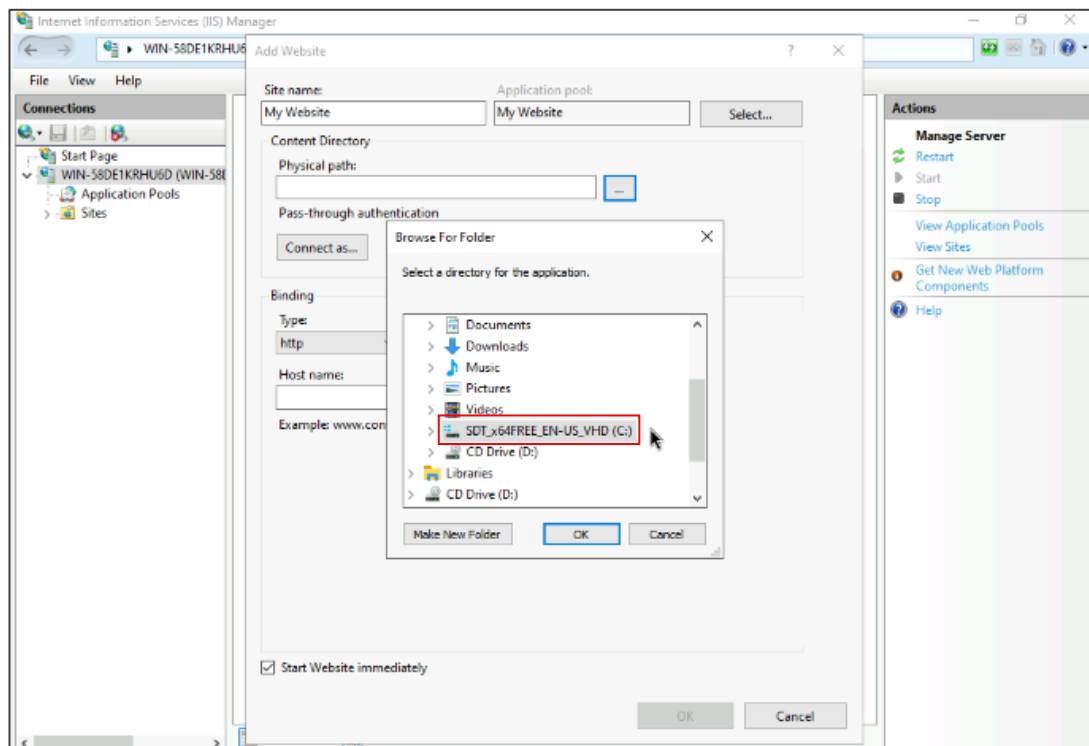
## 2.6 Click on **Add Website...**



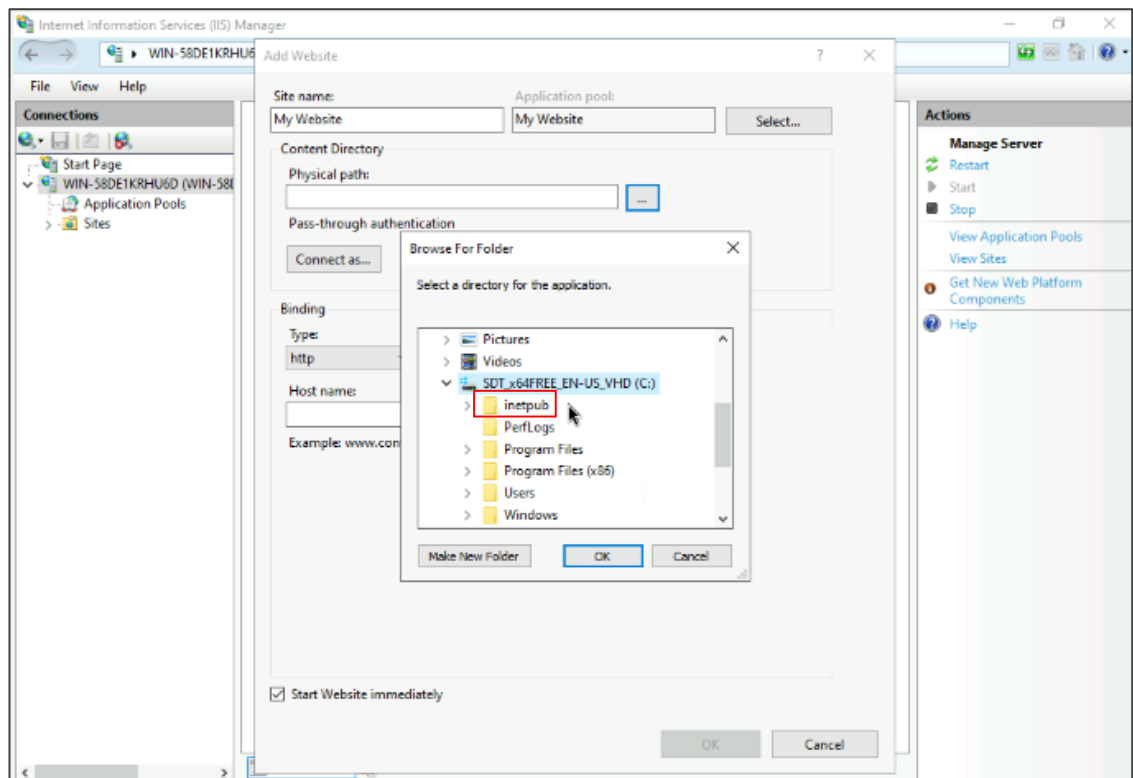
2.7 Enter the **Site name** and click on the physical path icon



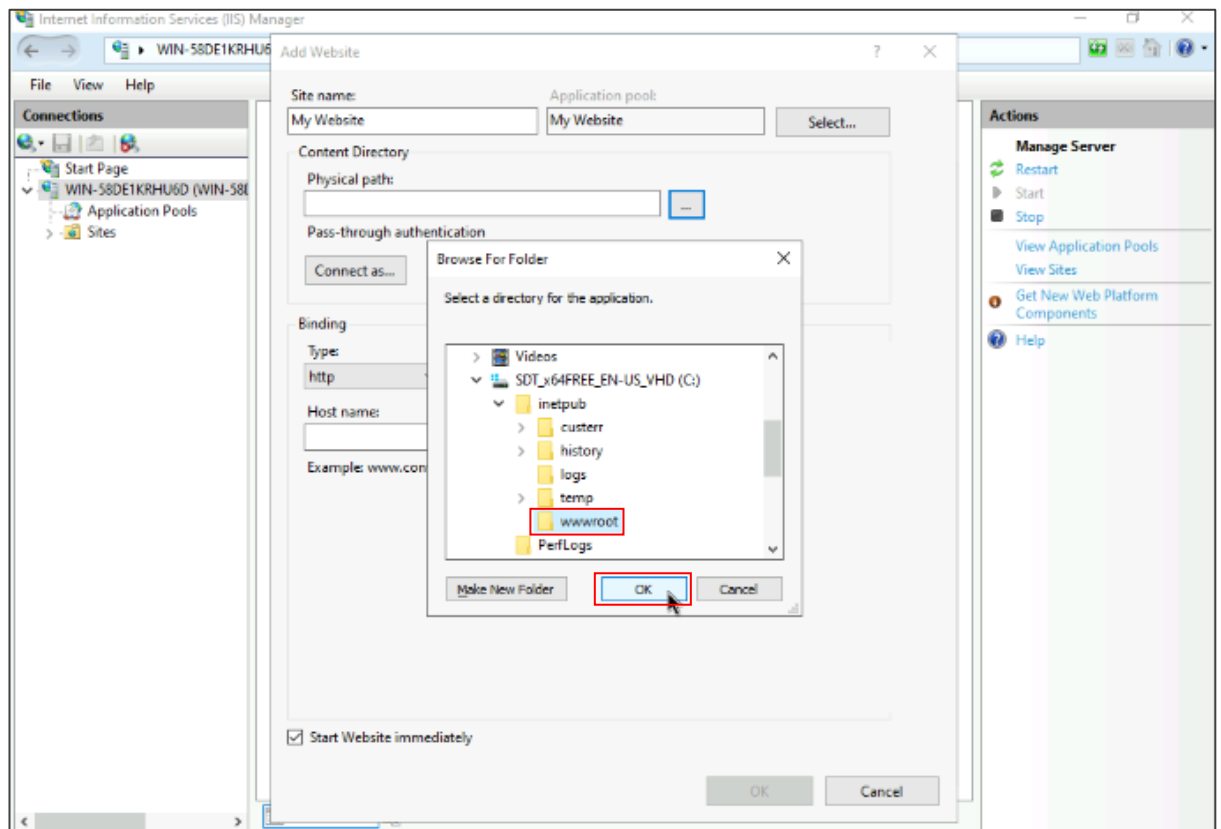
2.8 Click on the **(C:)** drive



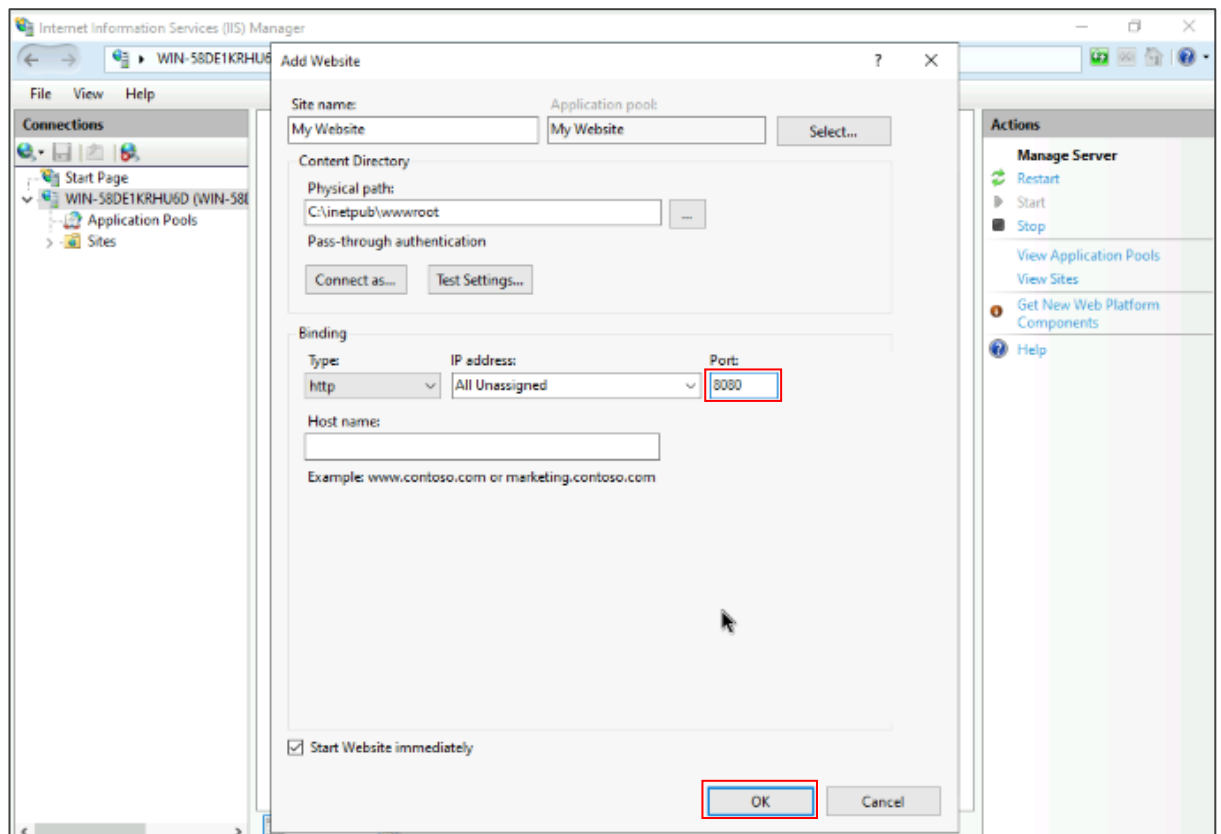
## 2.9 Click on **inetpub**



## 2.10 Here, select **wwwroot** and click on **OK**

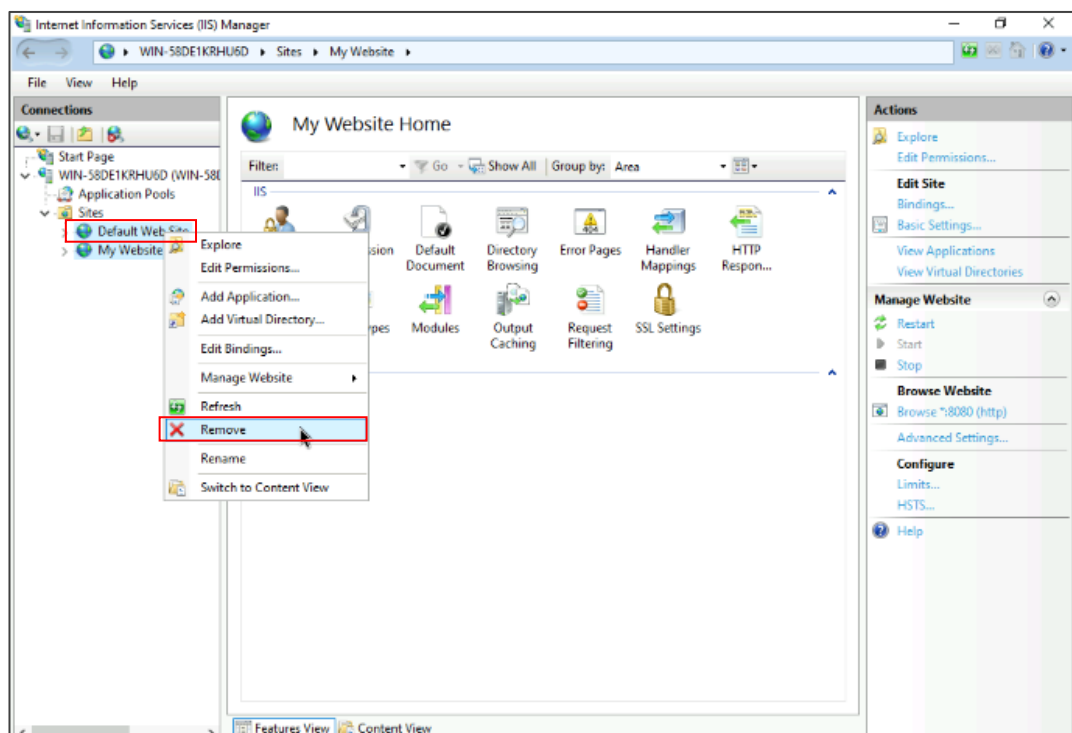


## 2.11 Enter **8080** in **Port** section and click on **OK**

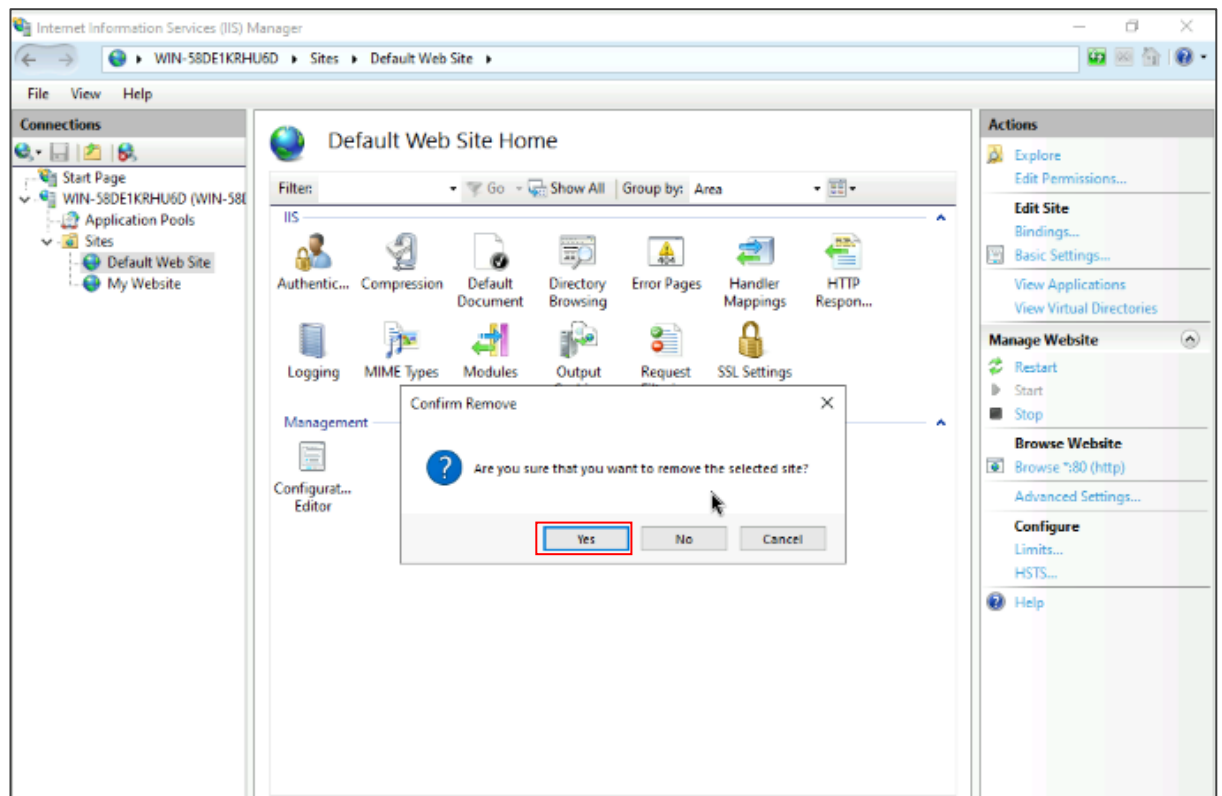


Now, the website is created successfully.

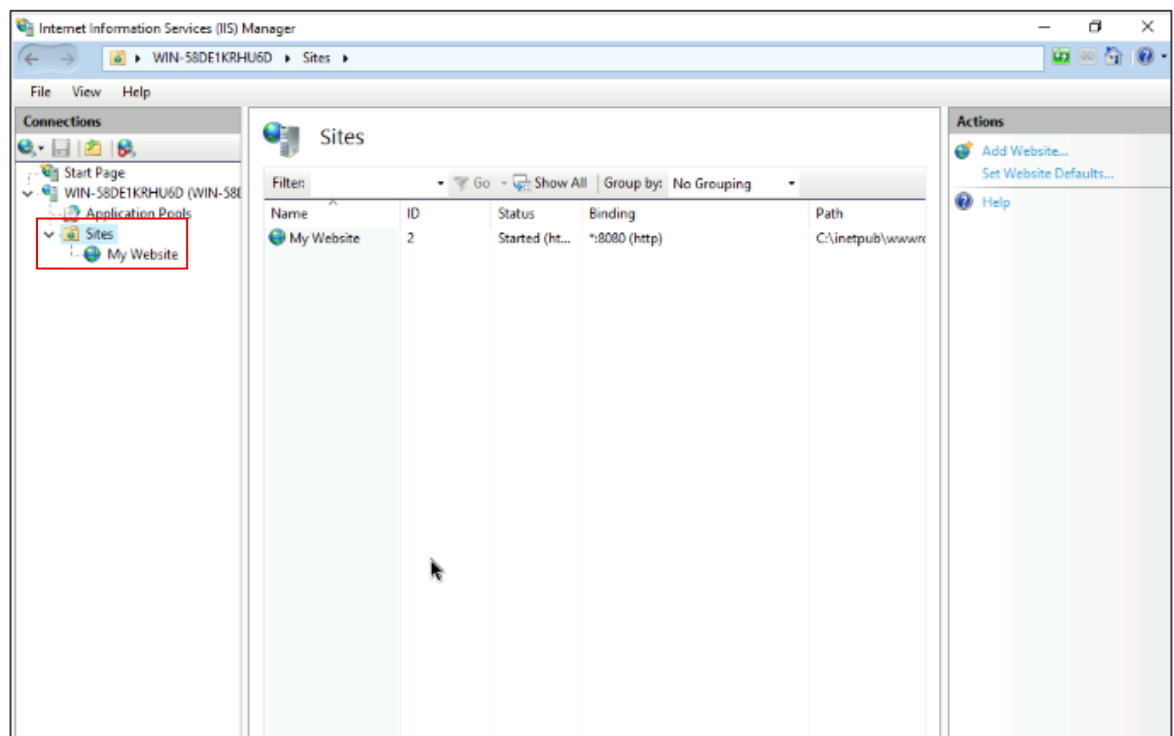
## 2.12 Right-click on **Default Web Site** and click on **Remove**



## 2.13 Click on **Yes**

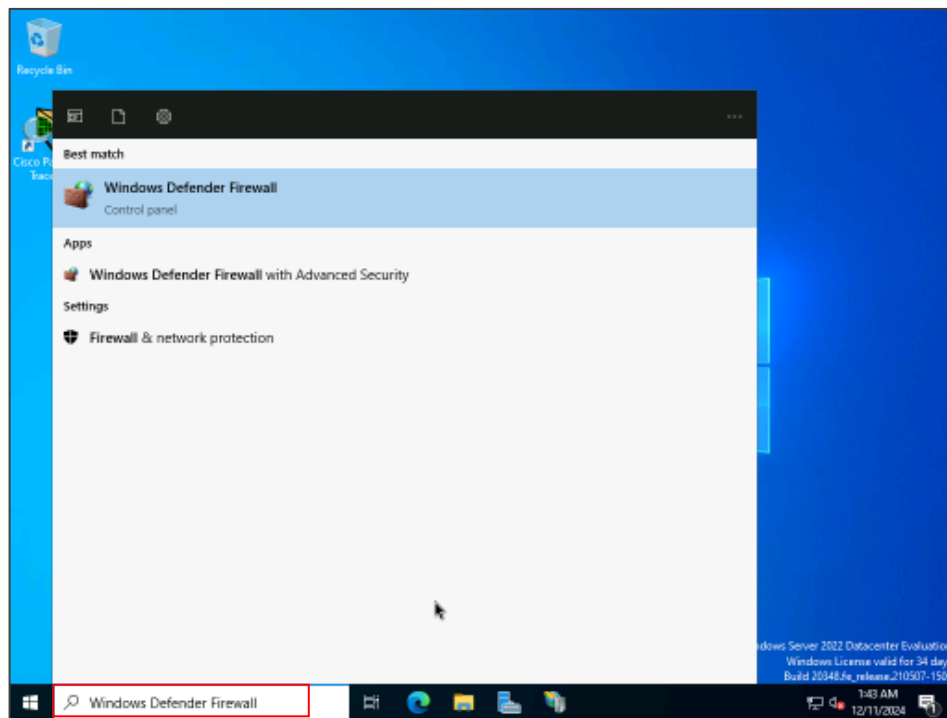


## 2.14 Verify the **Default Web Site** is removed

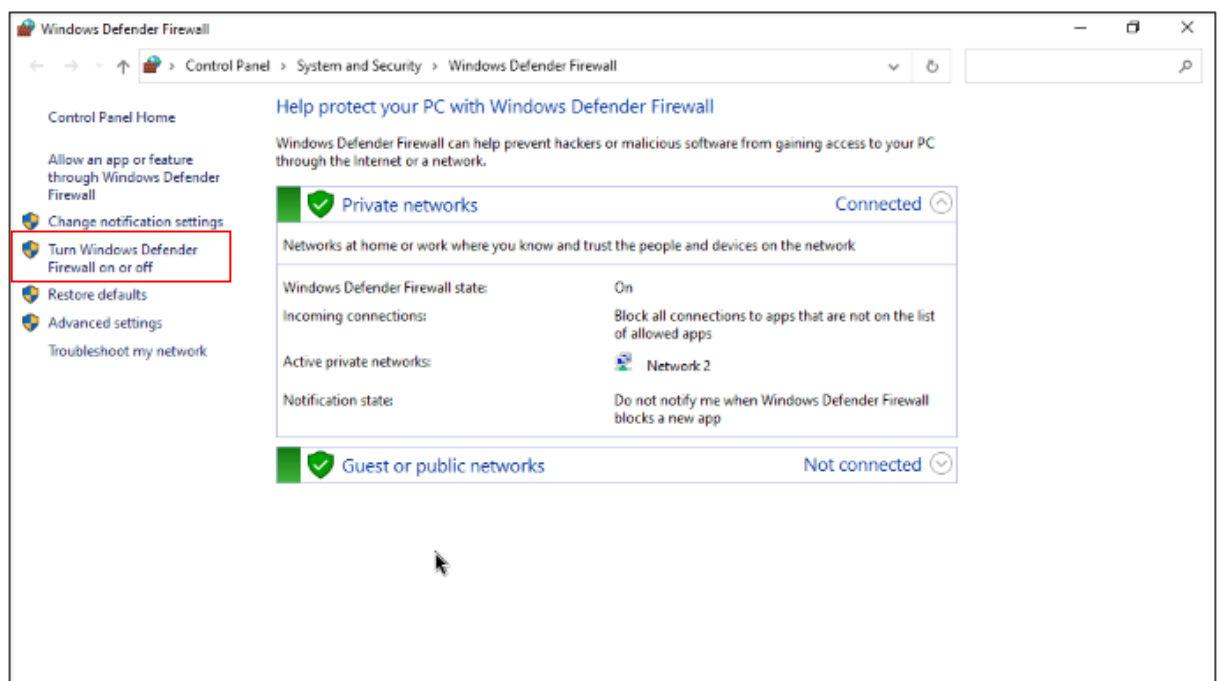


## Step 3: Configure the firewall to access the web server on a custom port

### 3.1 Enter **Windows Defender Firewall** in the search box and press enter

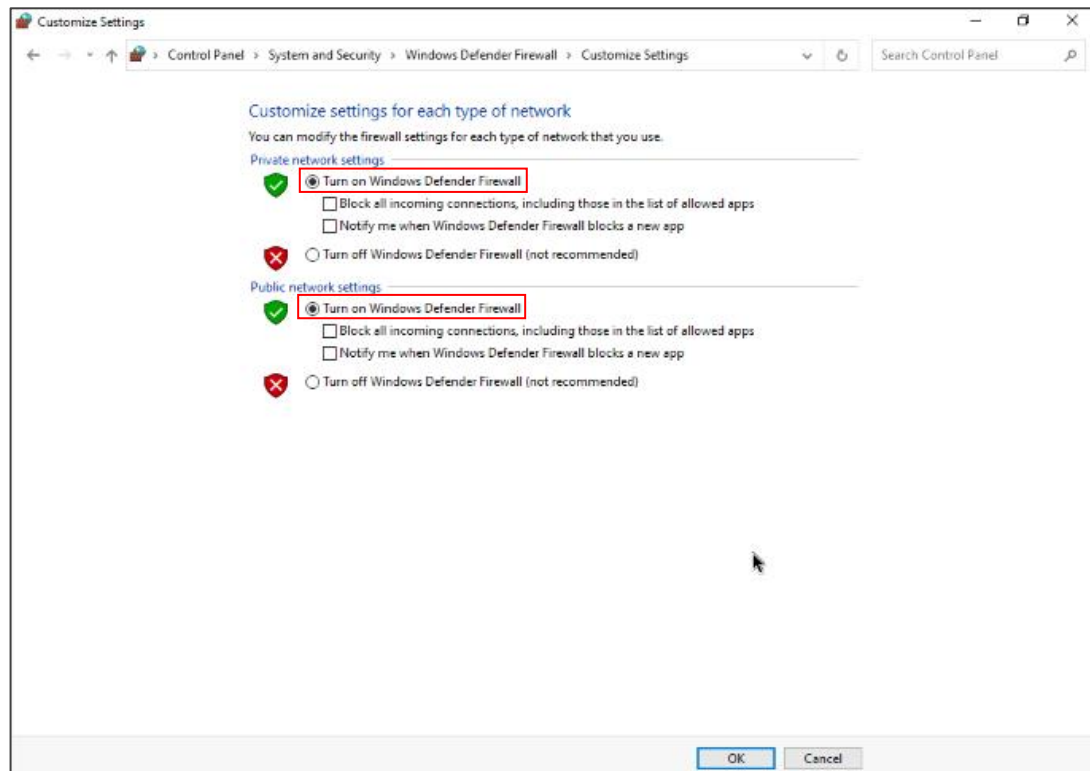


### 3.2 Click on **Turn Windows Defender Firewall on or off**

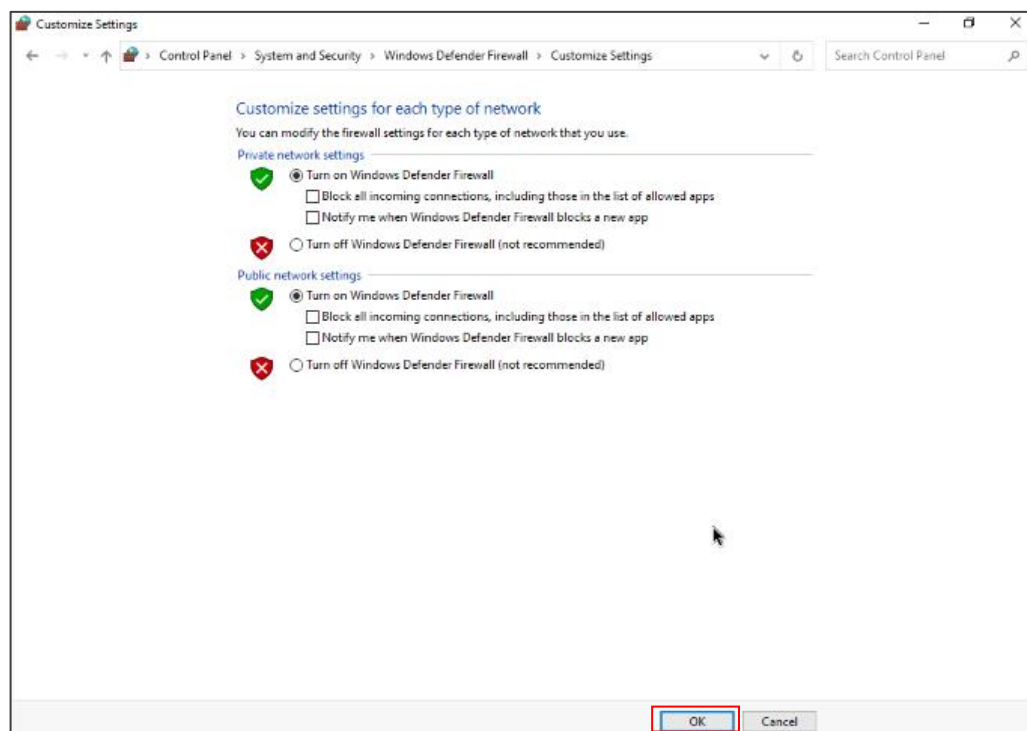




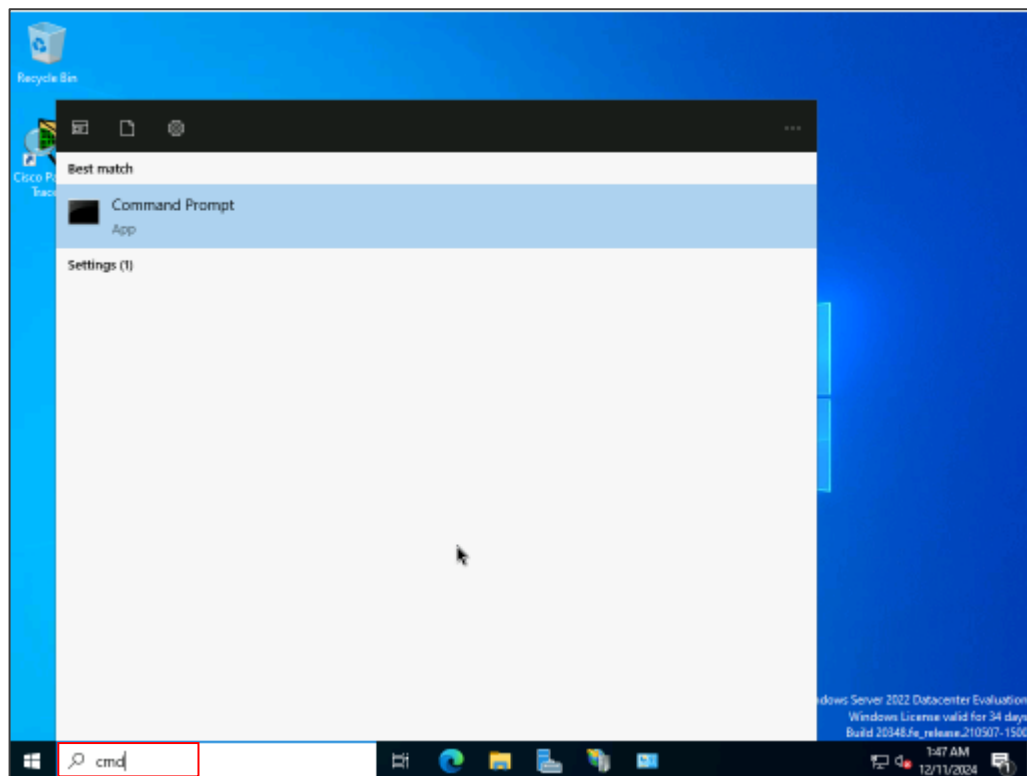
### 3.3 Verify **Turn on Windows Defender Firewall** is selected for both Private and Public network settings



### 3.4 Click on **OK**



3.5 Search **cmd** in the search box and press enter



3.6 Run the following command:  
**ipconfig**

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.20348.169]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ipconfig

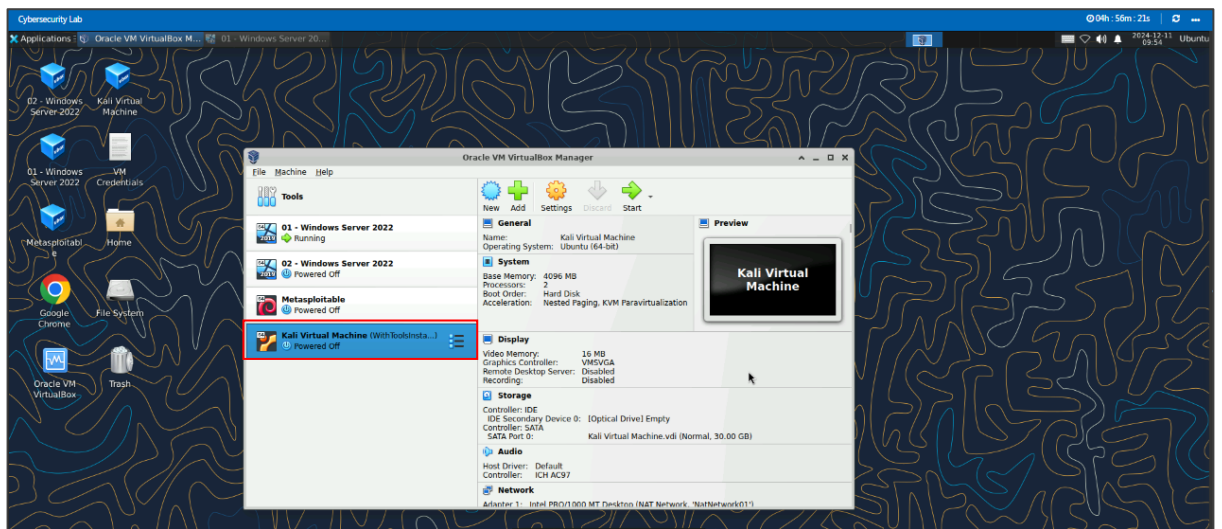
Windows IP Configuration

Ethernet adapter Ethernet:

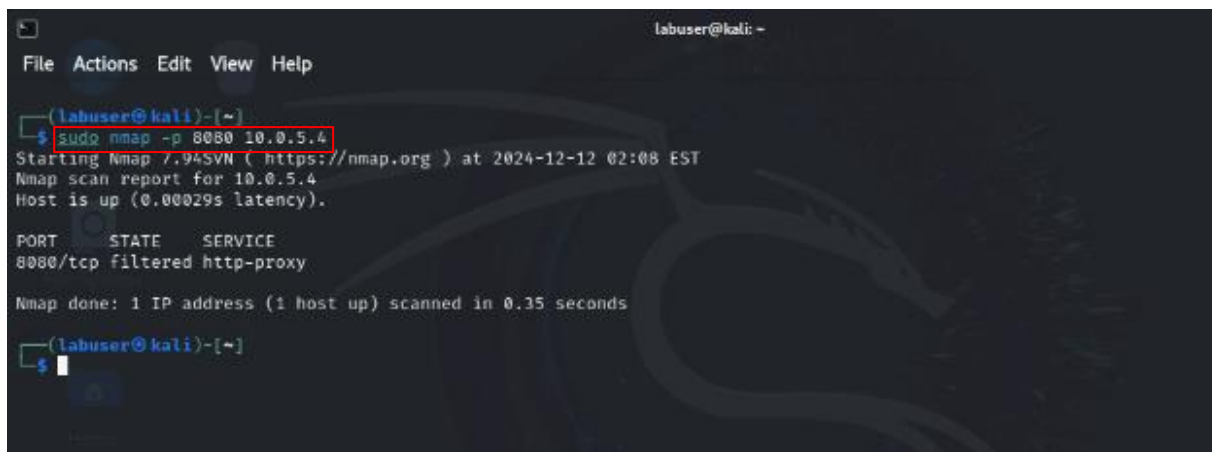
    Connection-specific DNS Suffix  . : qbhxb1sdx5u3hep4ag2hq35bc.rx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::d43c:57fc:e370:33b3%6
    IPv4 Address. . . . . : 10.0.5.4
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.5.1

C:\Users\Administrator>
```

### 3.7 Navigate to **Oracle VM VirtualBox Manager** and select **Kali Virtual Machine**

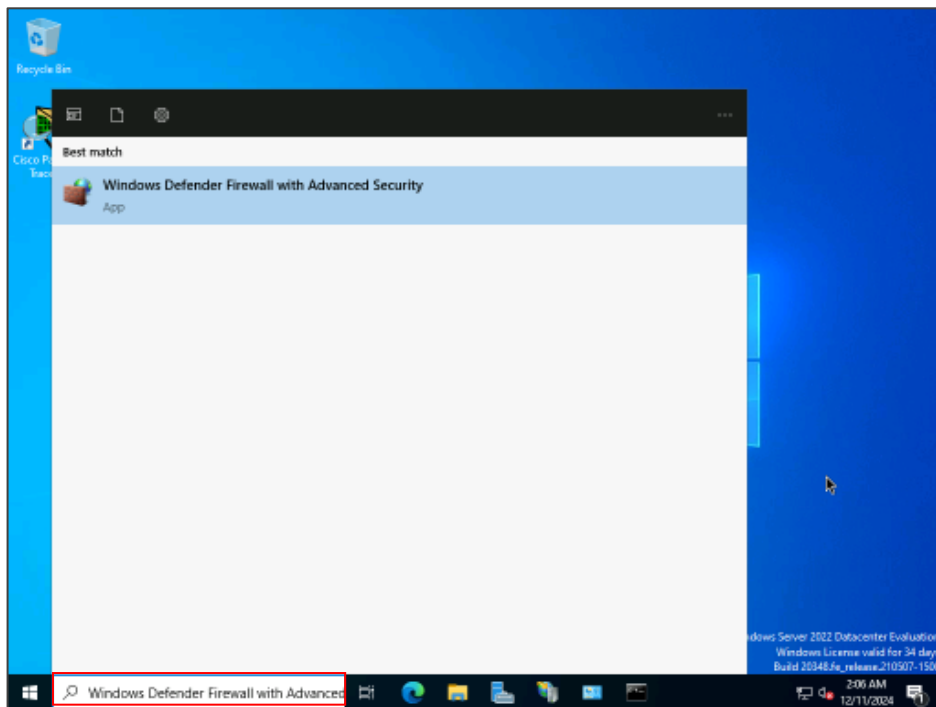


### 3.8 Navigate to the terminal and run the following command: **nmap -p 8080 10.0.5.4**

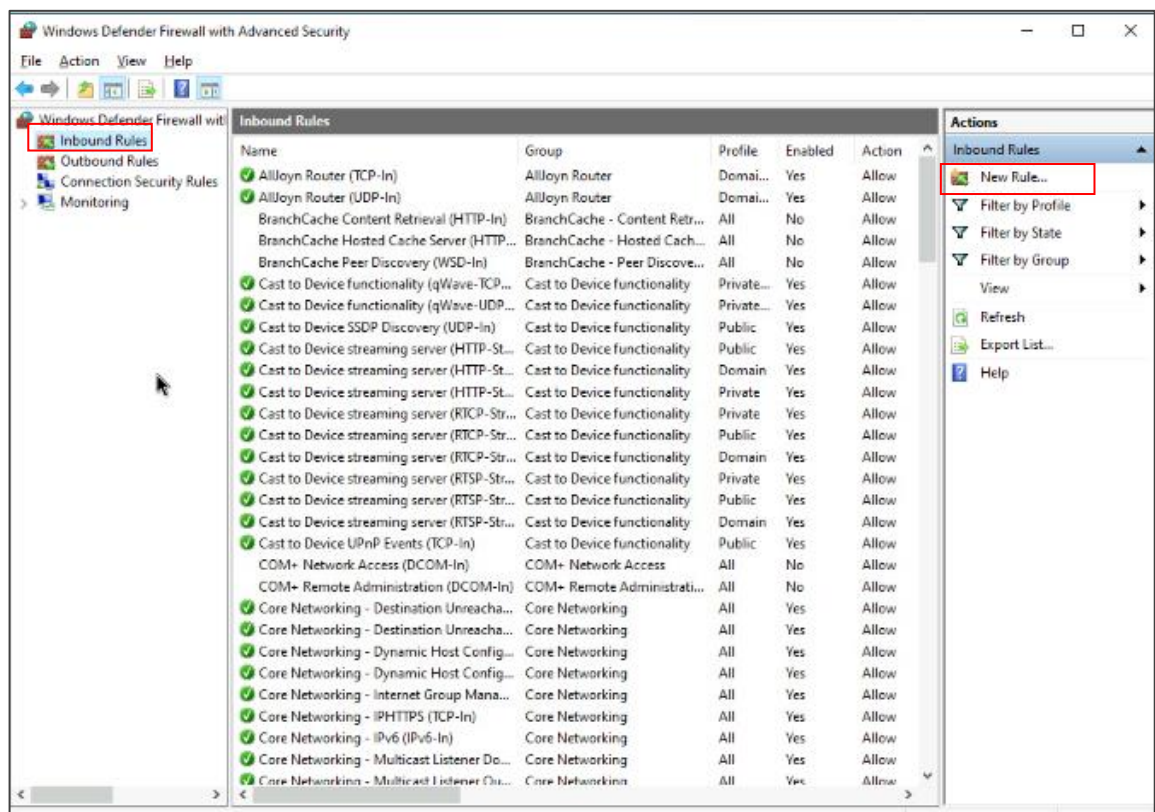


**Note:** You can see that the state is filtered as the port is protected by the firewall.

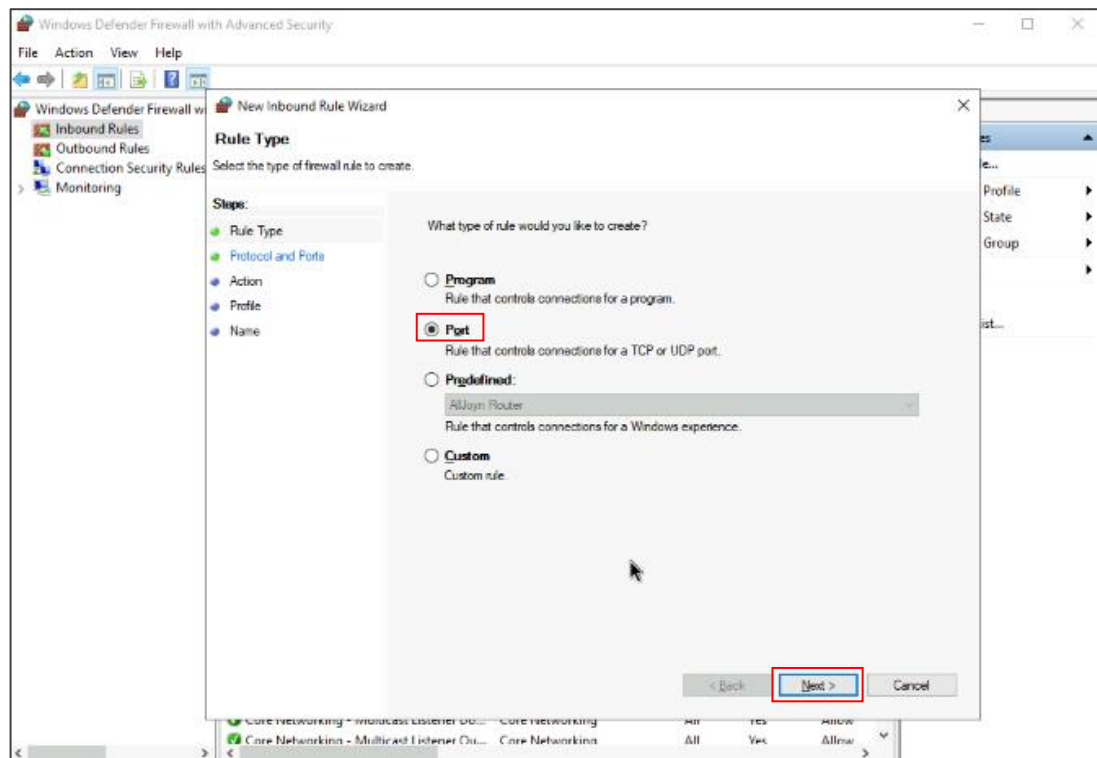
3.9 Enter **Windows Defender Firewall with Advanced Security** in the search box and press enter



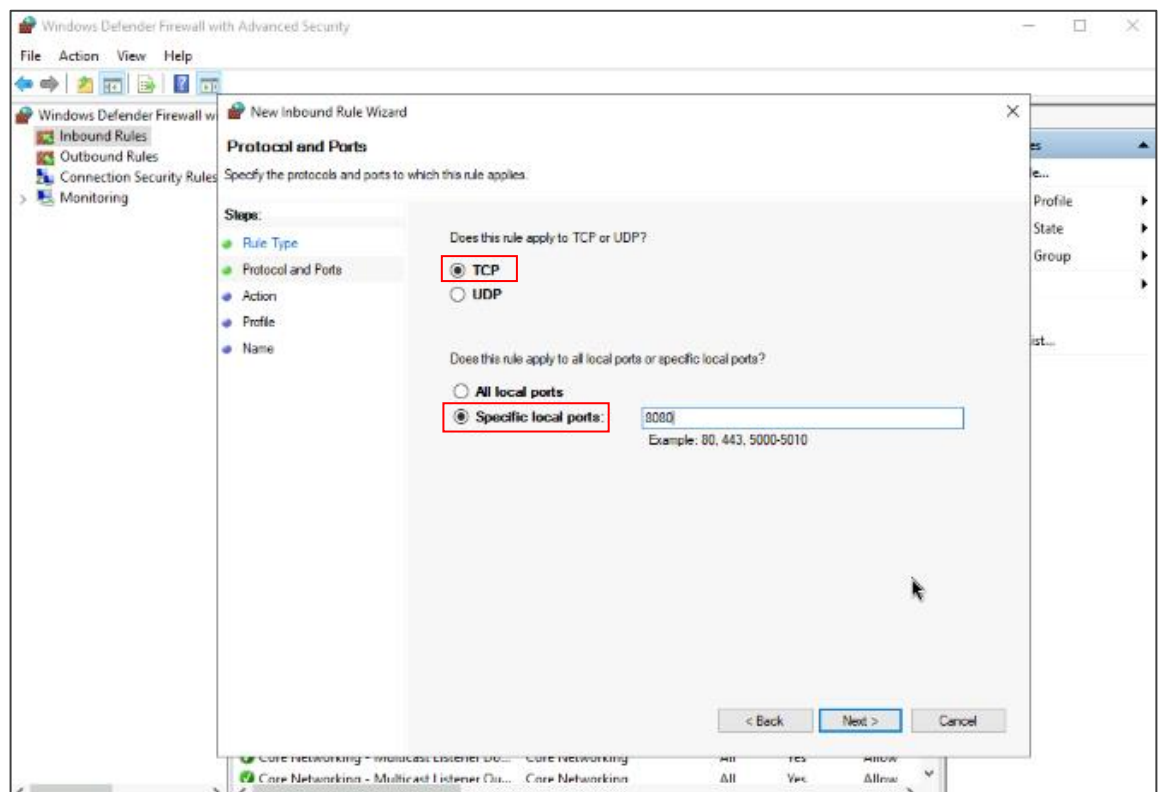
3.10 Select **Inbound Rules** and click on **New Rule...**



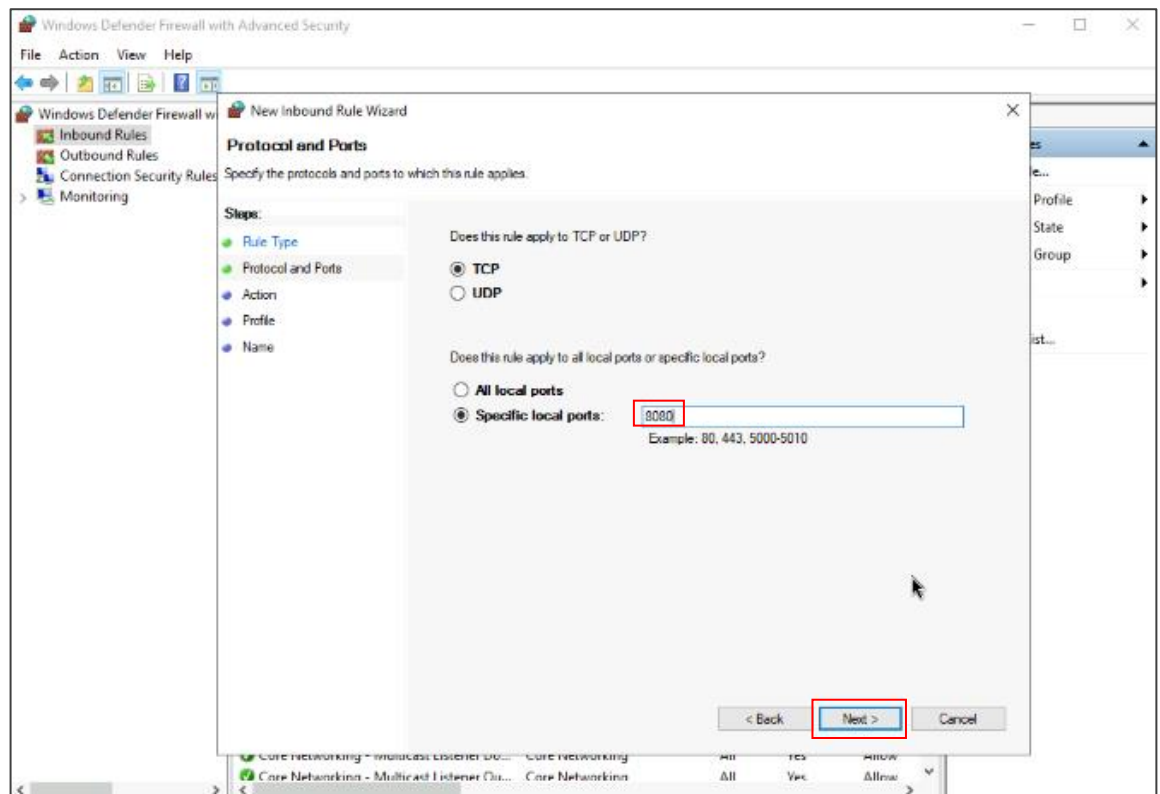
### 3.11 Select **Port** and click on **Next**



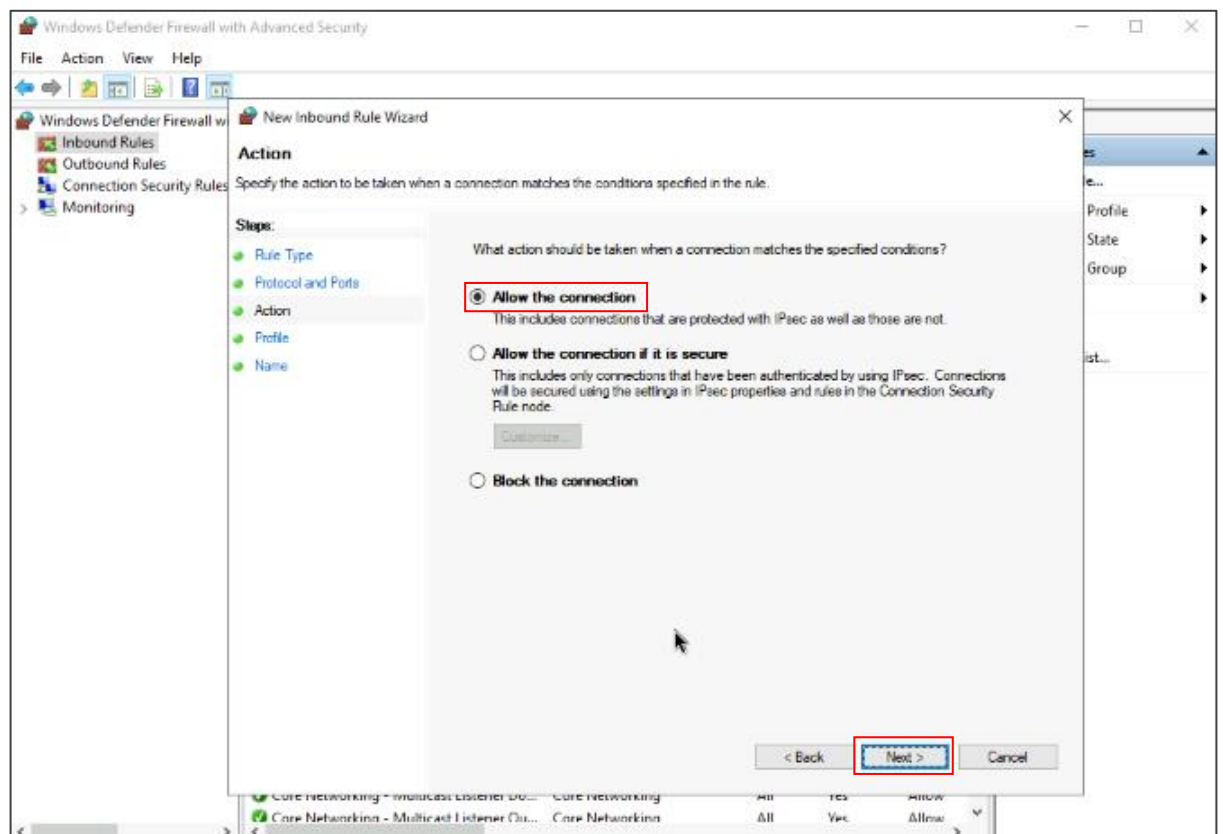
### 3.12 Select **TCP** and **Specific local ports**



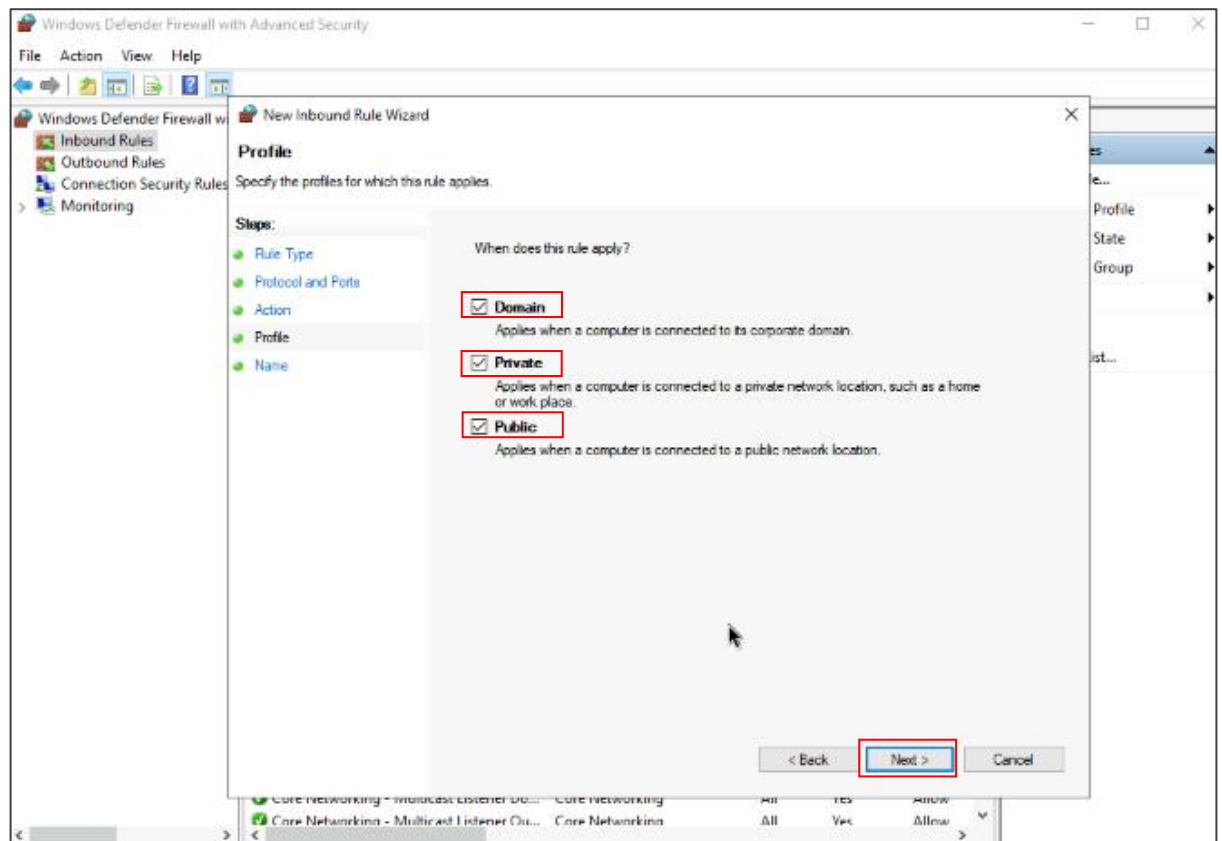
### 3.13 Enter **8080** in **Specific local ports** and click on **Next**



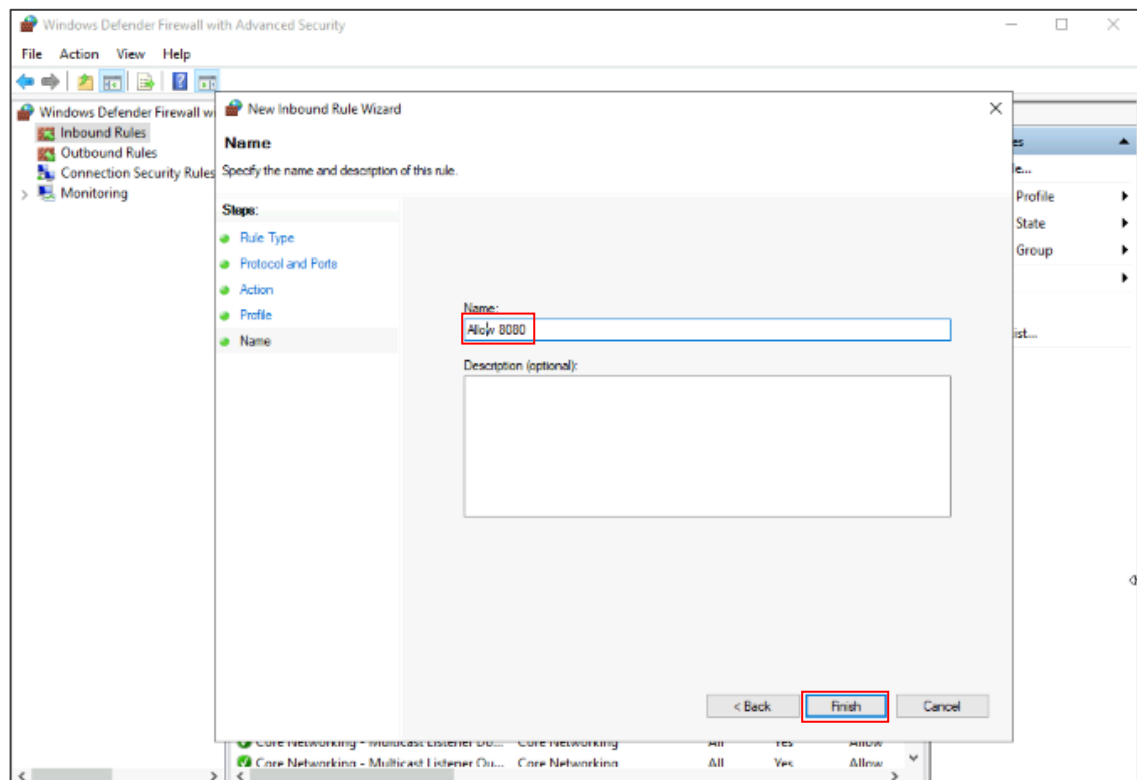
### 3.14 Select **Allow the connection** and click on **Next**



### 3.15 Select all the checkboxes and click on **Next**

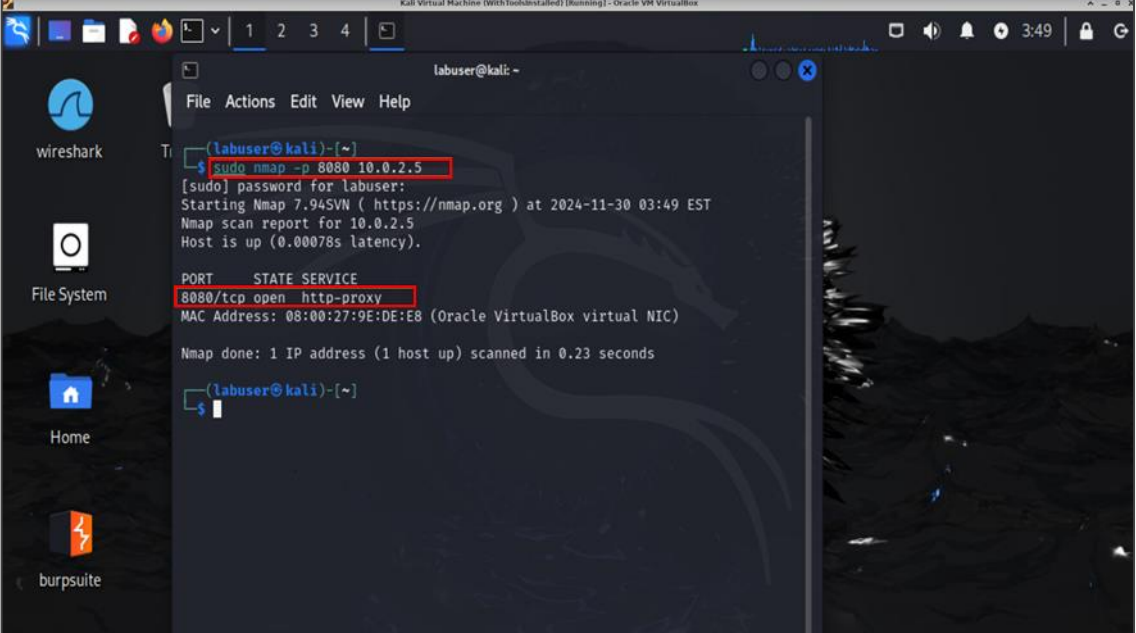


### 3.16 Enter the preferred rule **Name** and click on **Finish**





3.17 Navigate to the Kali Linux terminal and run the following command  
**nmap -p 8080 10.0.2.5**



The screenshot shows a Kali Linux terminal window titled 'Kali Virtual Machine (With Tools Installed) [Running] - Oracle VM VirtualBox'. The terminal prompt is 'labuser@kali: ~'. The user has entered the command 'nmap -p 8080 10.0.2.5', which is highlighted with a red box. The terminal output shows the nmap scan results for 10.0.2.5 on port 8080, indicating that the port is open and running an http-proxy service. The output is as follows:

```
(labuser@kali)-[~]  
└─$ sudo nmap -p 8080 10.0.2.5  
[sudo] password for labuser:  
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-11-30 03:49 EST  
Nmap scan report for 10.0.2.5  
Host is up (0.00078s latency).  
  
PORT      STATE SERVICE  
8080/tcp  open  http-proxy  
MAC Address: 08:00:27:9E:DE:E8 (Oracle VirtualBox virtual NIC)  
  
Nmap done: 1 IP address (1 host up) scanned in 0.23 seconds  
  
(labuser@kali)-[~]  
└─$
```

By following the above steps, you have successfully installed and configured Internet Information Services (IIS) on Windows Server 2022, created a custom website on port 8080, and set up the necessary firewall rules to allow external access to the web server.