**Computer Networks**

LAB Manual 04

**Objectives:**

**4.1 Dynamic Host Configuration Protocol (DHCP) Configuration by using a Server and a Cisco Switch through Packet Tracer**

**4.2 Setting up FTP Server in Windows 10 and Packet Capturing**

**4.1 Dynamic Host Configuration Protocol (DHCP) Configuration by using a Server and a Cisco Switch through Packet Tracer**

**PREREQUISITES:** Laptop / PC, Cisco Packet Tracer Simulation Software.

**Procedure / Steps**

**Through Cisco Packet Tracer:**

**Step 1:** Open Cisco Packet Tracer Application and login with your netacad credentials. If you don’t have netacad account, then you must create it first.

**Step 2:**  Go to network devices option at the left bottom of packet tracer screen and choose Hub as a network device.

Diagram

Description automatically generated with low confidence

**Step 3:**  Go to end devices option at the left bottom of packet tracer screen and choose Five Devices (PCs) from there.

Graphical user interface, application, Word

Description automatically generated

**Step 4:**  Choose the right cable connection (Straight Through) as you are connecting two different devices this time and appropriate port in PC and network hub as well.

Chart

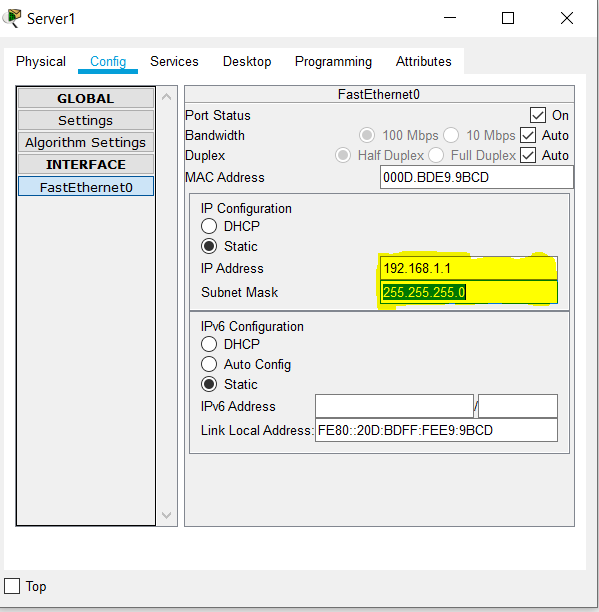
Description automatically generated

**Step 5:**  Add a server device from **“End Devices”** option where you have selected the PC and connect it with the hub like you connected the PCs with it.

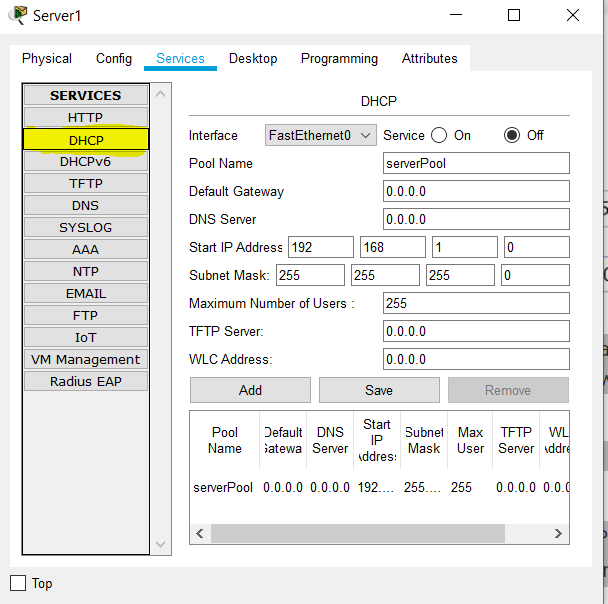
Diagram

Description automatically generated

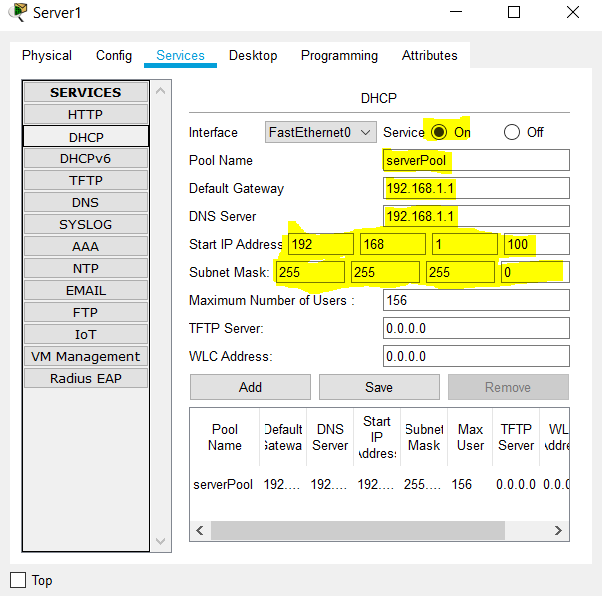
**Step 6:**  Double click on the Server and go to interface setting and assign the following IP address to the server.



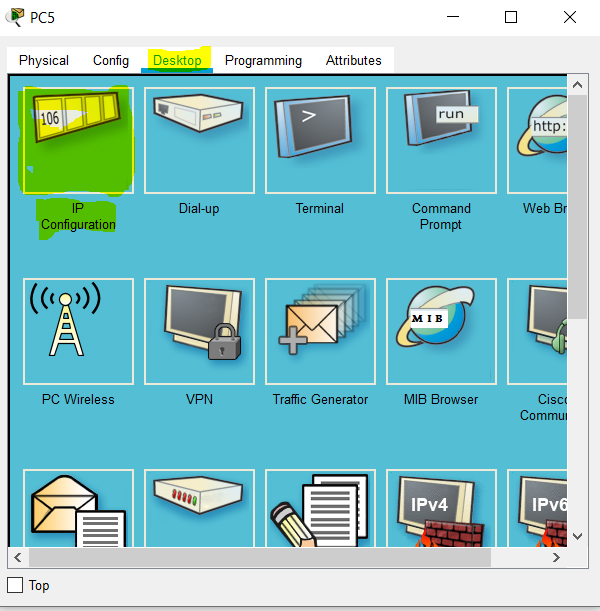
**Step 7:**  Go to the services and then click on the “**DHCP”** option at left.



**Step 8:**  Configure the following DHCP setting and then click on the **“Save”** button.



**Step 9:**  Double click on PC and then go Desktop and click on IP configuration.



**Step 10:**  Click on **“DHCP”,** wait for some moment, the DHCP server will assign the IP address automatically to the PC from the pool that configured in Step 8.

Graphical user interface, text, application, email

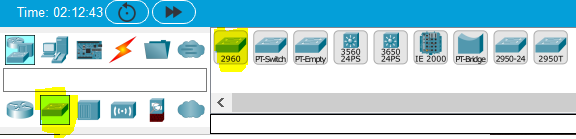
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**Note: Repeat the Step 10 for other PCs as well.**

**Through Cisco Switch:**

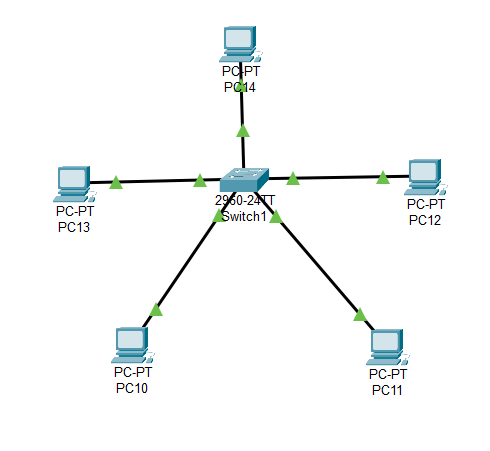
**Step 1:** Open Cisco Packet Tracer Application and login with your netacad credentials. If you don’t have netacad account, then you must create it first.

**Step 2:**  Go to network devices option at the left bottom of packet tracer screen and choose Switch as a network device.

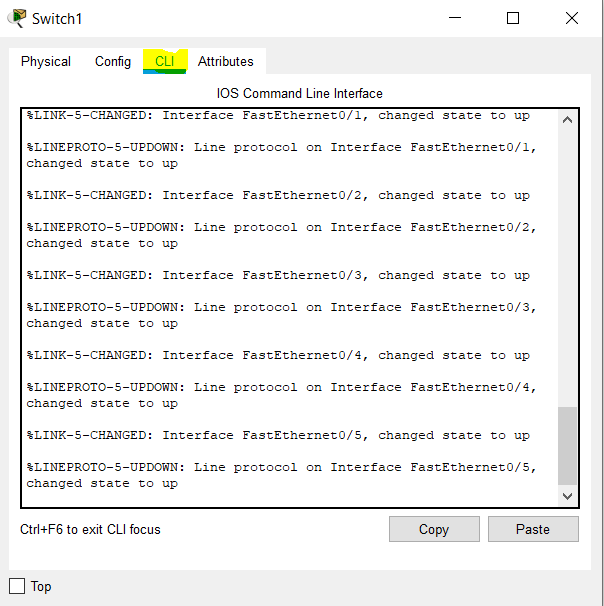


**Step 3:**  Go to end devices option at the left bottom of packet tracer screen and choose Five Devices (PCs) from there.

**Step 4:**  Choose the right cable connection (Straight Through) as you are connecting two different devices this time and appropriate port in PC and network hub as well.



**Step 5:**  Double click on the Switch and go to **CLI** tab and click on it.



**Step 5:**  Double click and press “Enter” in the “IOS Command Line Interface area and do the following configuration.

Switch>enable

Switch#configure terminal

Switch(config)#interface vlan 1

Switch(config-if)#ip address 192.168.1.1 255.255.255.0

Switch(config-if)#no shutdown

Switch(config-if)#exit

Switch(config)#ip dhcp pool CN-LAB

Switch(dhcp-config)#network 192.168.1.100 255.255.255.0

Switch(dhcp-config)#default-router 192.168.1.1

Switch(dhcp-config)#dns-server 192.168.1.1

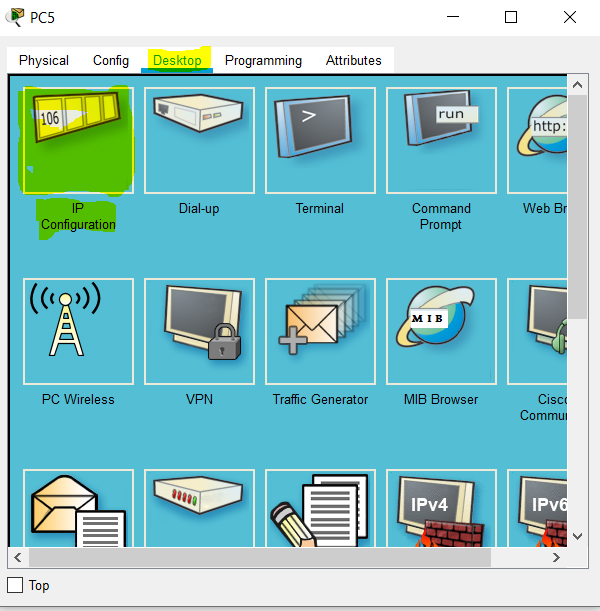
Switch(dhcp-config)#exit

Switch(config)#ip dhcp excluded-address 192.168.1.1

Switch(config)#exit

Switch#copy running-config startup-config

**Step 6:**  Double click on PC and then go Desktop and click on IP configuration.



**Step 7:**  Click on **“DHCP”,** wait for some moment, the DHCP server will assign the IP address automatically to the PC from the pool that configured in Step 7.

Graphical user interface, text, application, email

Description automatically generated

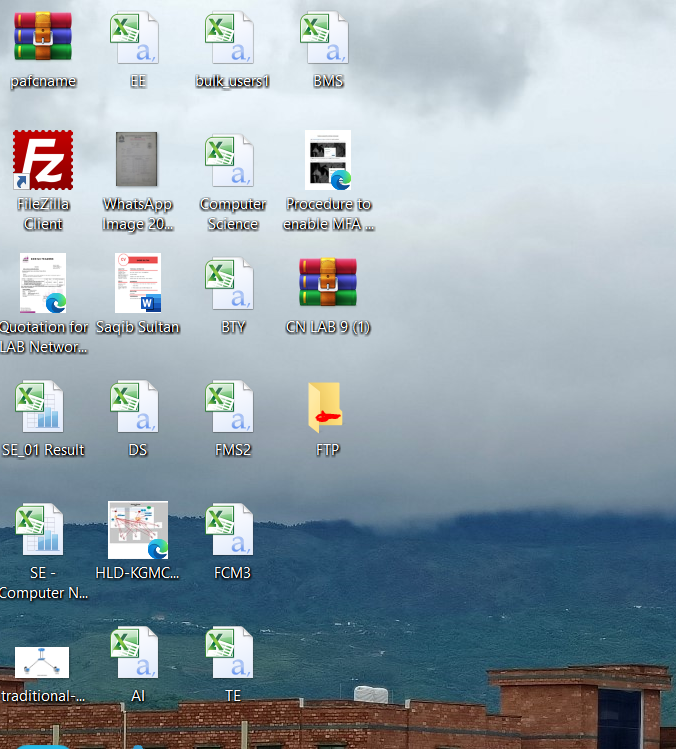
**Note: Repeat the Step 7 for other PCs as well.**

**4.2 Setting up FTP Server in Windows 10 and Packet Capturing**

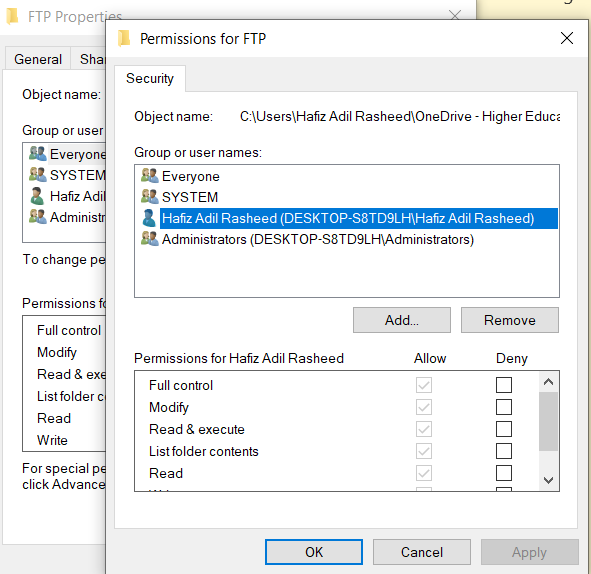
**Procedure / Steps**

**5.1.1 Setting Up FTP Server in Windows 10:**

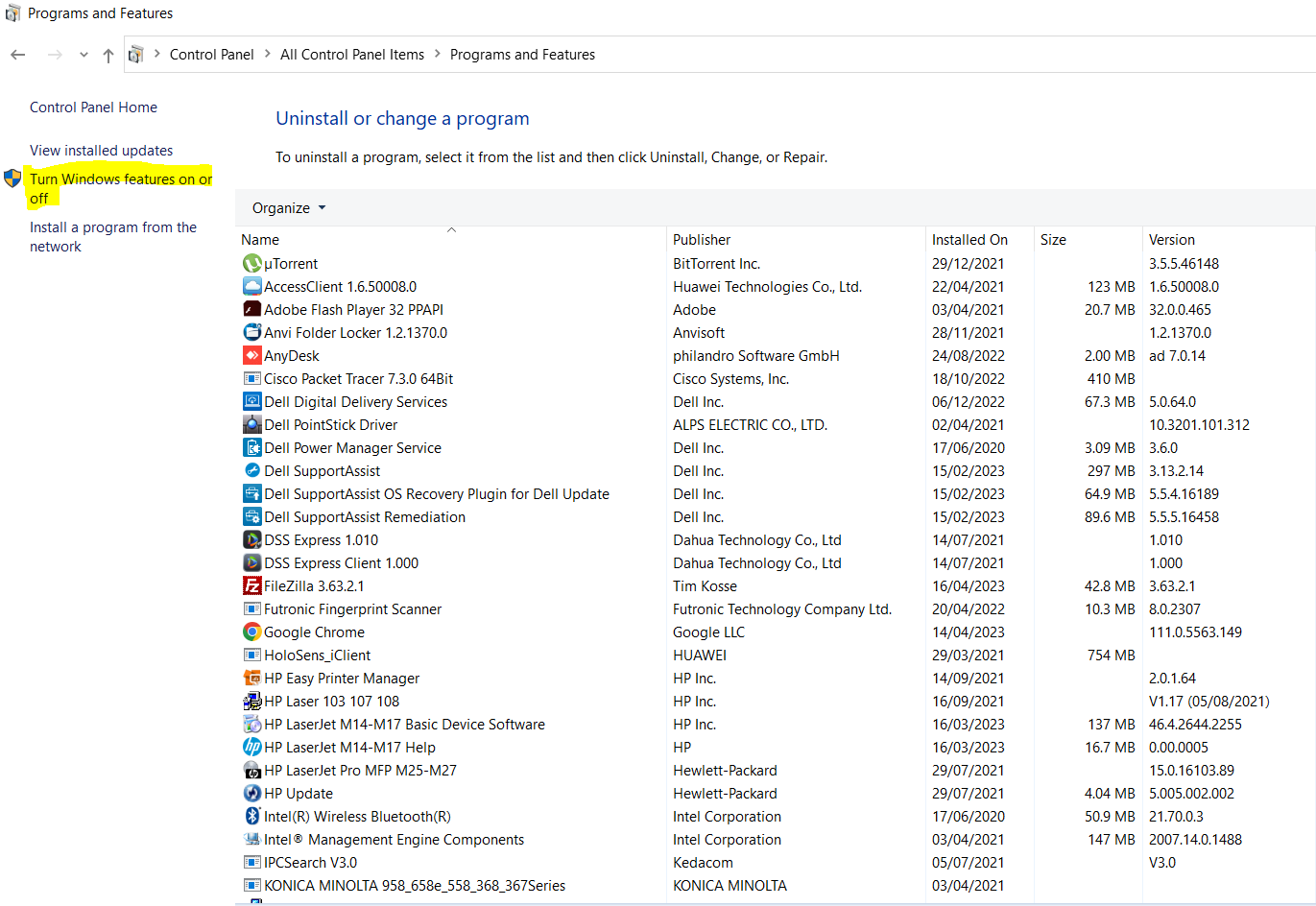
**Step 1:**  Create a new folder with “FTP” name on the desktop.



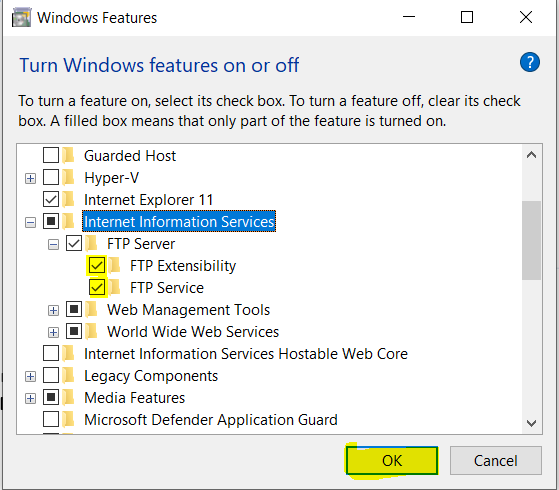
**Step 2:**  Go to the folder properties, then security tab and set the permission for FTP folder. In below snapshot I have given full control to a user “Hafiz Adil Rasheed”. You need to set it accordingly.



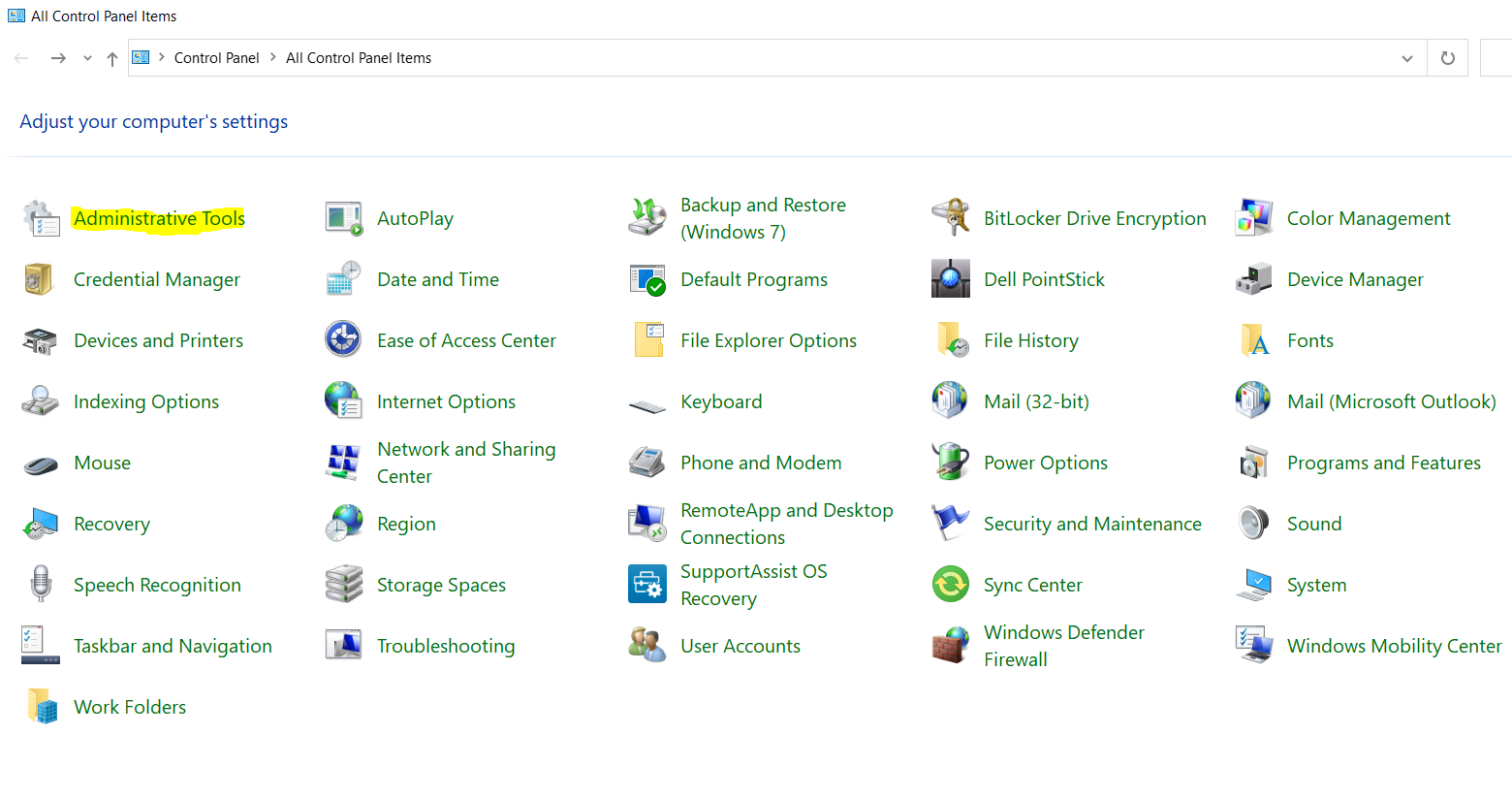
**Step 3:**  The third step is open **control panel** of windows 10 and then “**Programs and Features.”** And then click on **“Turn windows features on or off.”**



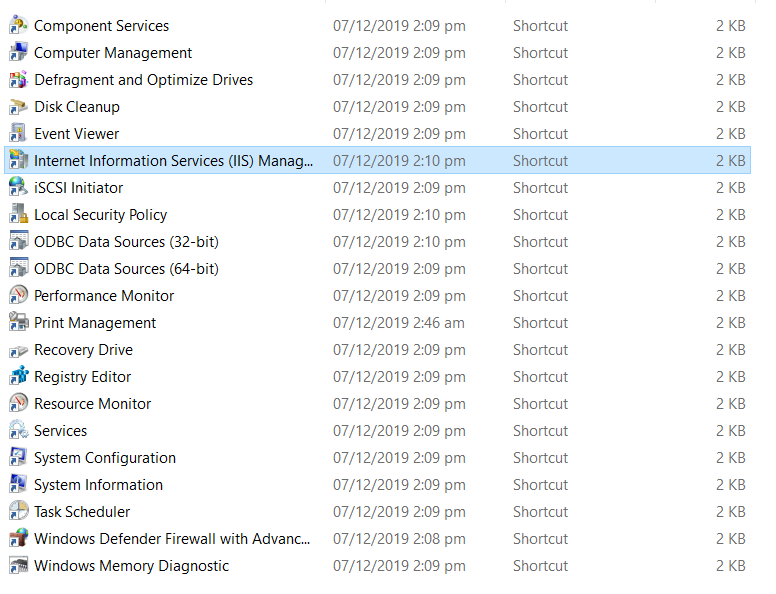
**Step 4:**  In **“Windows Features”** windows select and expand “**Internet Information Services**”. Check the **“FTP Extensibility”** and **“FTP Services”** and then click on **OK** button.



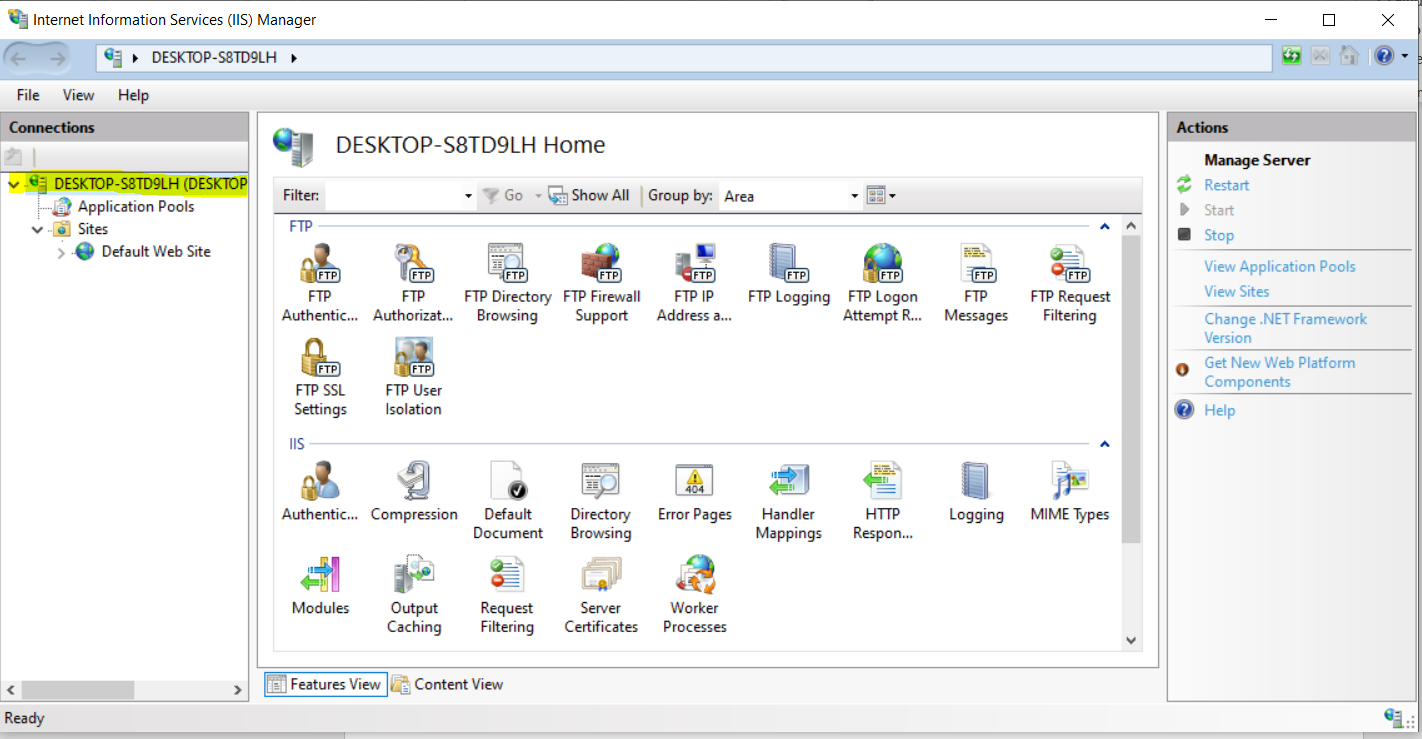
**Step 5:**  Go to **control panel** of windows 10 and then click on **“Administrative Tools”.**



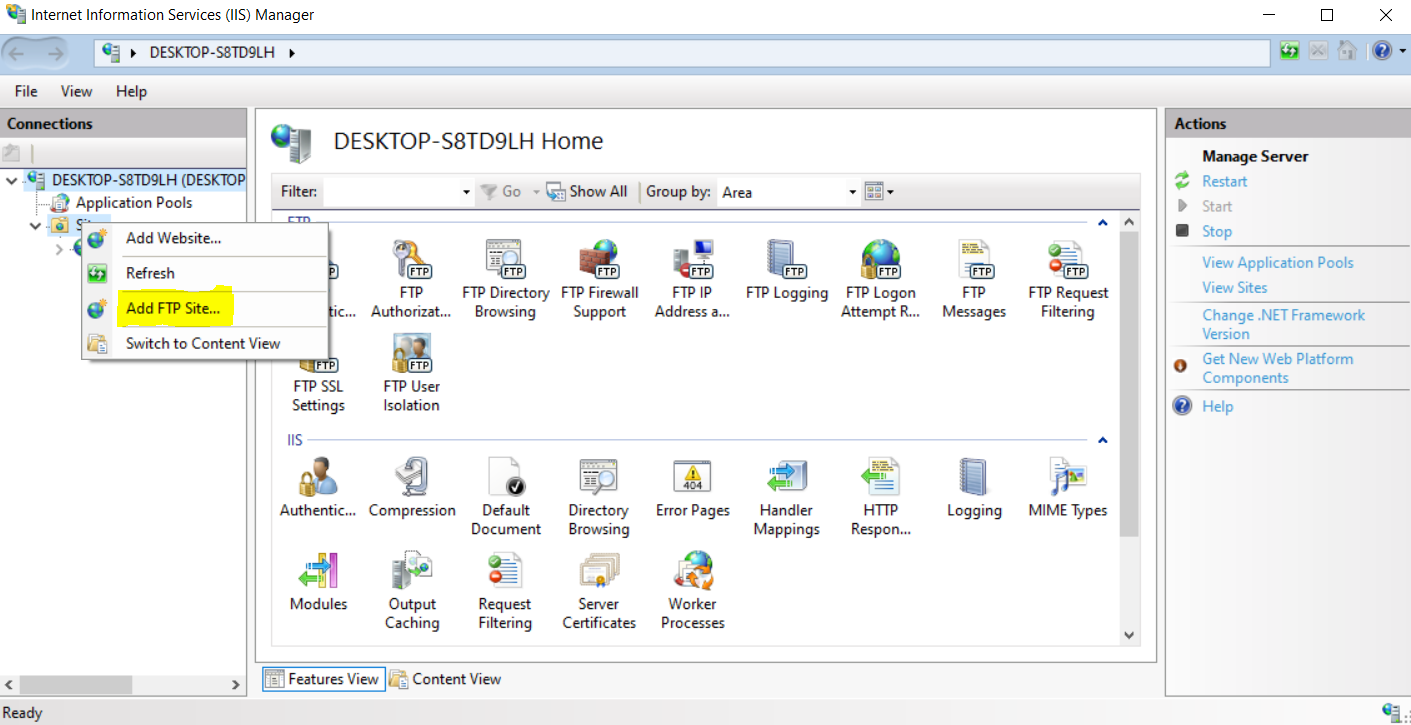
**Step 6:**  In **Administrative Tools”** doble click on **Internet Information Services (IIS) Manager.**



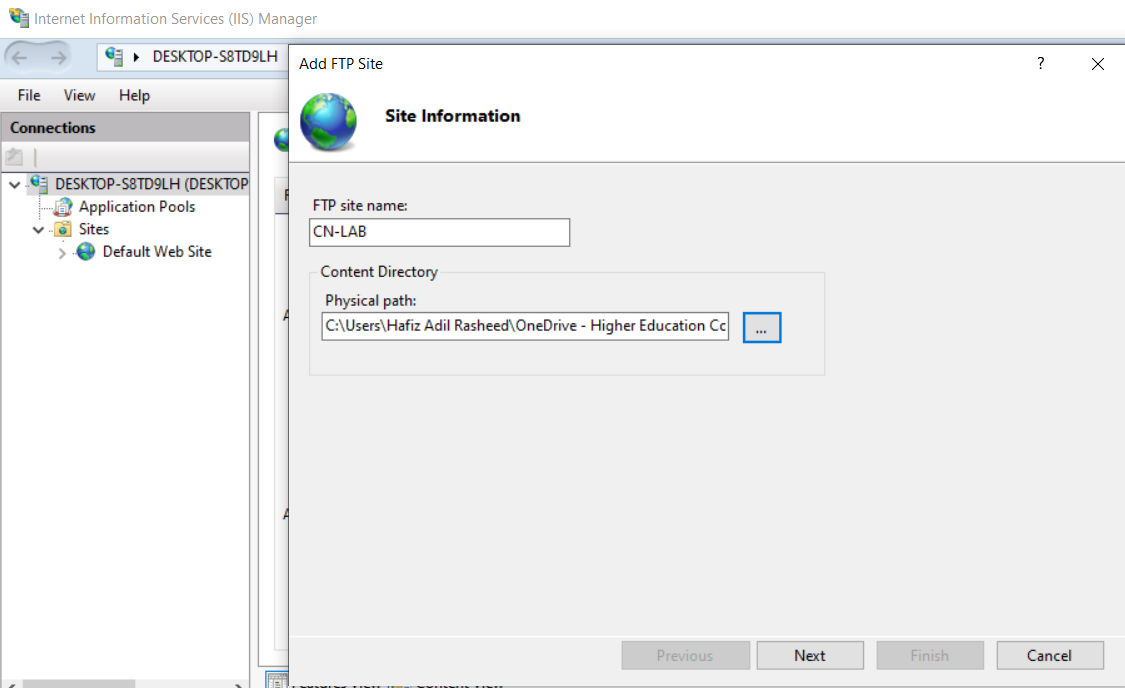
**Step 6:**  On the left under **“Connections”,** expand your PC name.



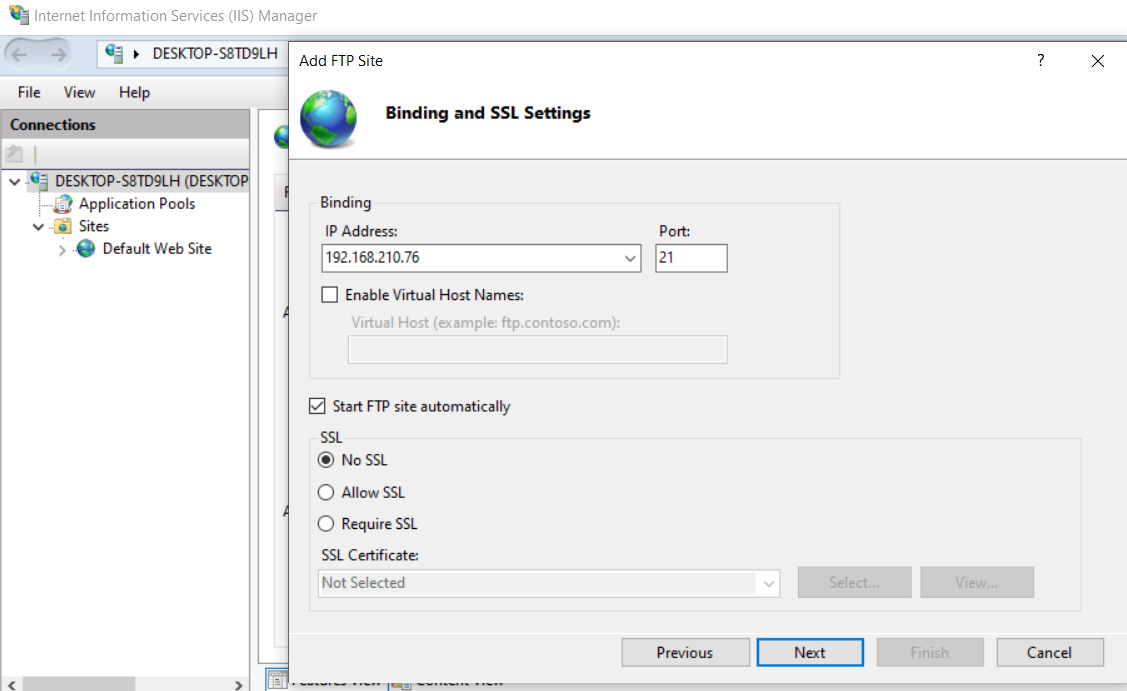
**Step 7:**  Right click on the “**Sites**” tab in Internet Information Services (IIS) Manager and then click on **“Add FTP Site..”**



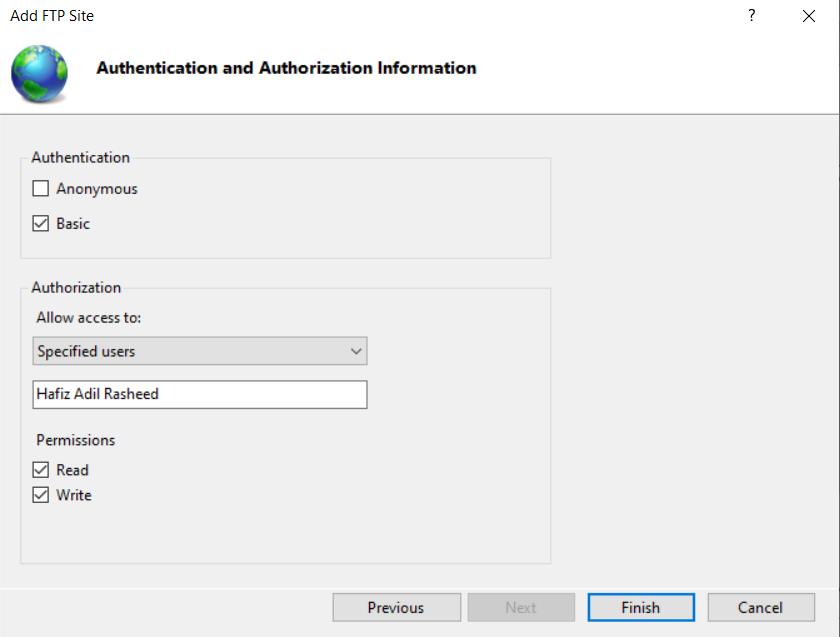
**Step 7:**  Enter FTP Site name as **“CN-LAB”** and give the physical path of **“FTP”** folder created earlier and then click on **Next**.



**Step 8:**  In Binding and SSL setting, do the following setting demonstrated below.



**Step 9:**  In “**Authentication and Authorization Information”** do the following setting demonstrated below and click on **Finish** button.



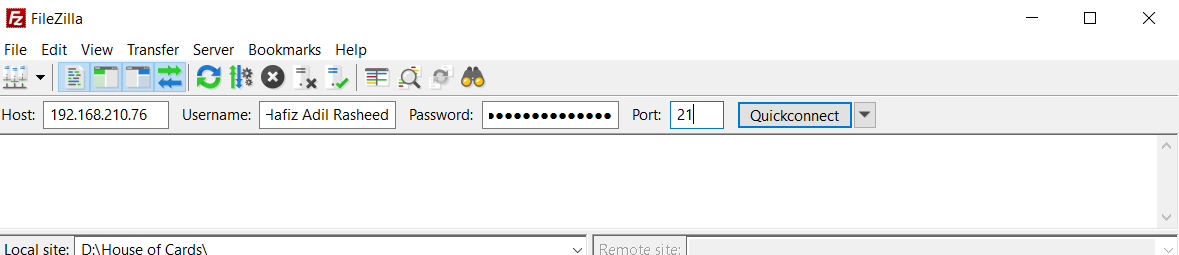
**Step 10:**  The FTP server is now successfully has been added.

Graphical user interface, text, application, email

Description automatically generated

**Step 11:**  Check the FTP Services with the help of a third-party FTP client. We are using **“Filezilla Client”** in this lab.

**Step 12:**  Open the **“Filezilla Client”** and enter the following **Host (IP address of FTP Server)** , **Username (Authorized User defined in FTP Server),** **password and port (21)** and then click on “**Quickconnect”**



**Step 13:**  The connection has now been established between FTP Server and FTP client. Now you can upload and download data.