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# DHCP, DNS, HTTP AND FTP SERVICES

ALGORITHM

(STEPS INVOLVED)

- CREATE A TOPOLOGY USING THE DEVICES PRESENT IN THE PACKET TRACER SOFTWARE.
- ASSIGN APPROPRIATE IPS TO THE VARIOUS PORTS PRESENT IN THE ROUTER AND UDPATE THE NETWORKS IN THE RIP (ROUTER INFORMATION PROTOCOL) TABLE.
- NOW YOU CONFIGURE A SERVER AND ENABLE ITS DHCP SERVICES AND ASSIGN APPROPRIATE IPS THEN LATER ADD THE PC AND CONFIGURE IT'S IP BY USING THE DHCP OPTION.
- ADD A SERVER TO THE TOPOLOGY, CONFIGURE IT AND ENABLE ITS DNS SERVICES. SET UP A DNS RECORD IN THE SERVER.
- TO HOST THAT DOMAIN ADD ONE MORE SERVER TO THE TOPOLOGY WHICH WILL PROVIDE OUR HTTP SERVICE FOR THE SPECIFIED DOMAIN NAME.
- PING THE DOMAIN NAME USING A WEB BROWSER IN A PC PRESENT INSIDE THE TOPOLOGY TO CHECK THE INTEGRITY OF YOUR TOPOLOGY AND THE SERVICES ITS PROVIDES.
- NOW ADD ANOTHER SERVER WHICH WILL PROVIDE FTP SERVICE IN OUR TOPOLOGY. CONFIGURE IT AND TURN ON ITS FTP SERVICE.AND ASSIGN THE USER DETAILS.
- NOW USE A PC PRESENT INSIDE THE TOPOLOGY TO VERIFY THE FTP SERVICE PROVIDED BY THE FTP SERVER WE JUST ADDED.

TOPOLOGY
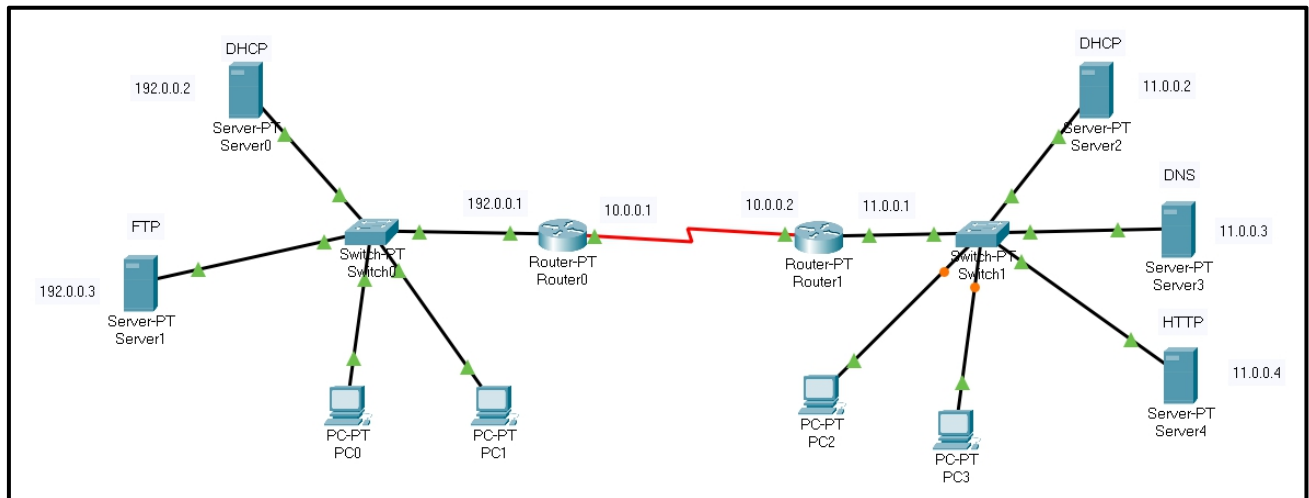
CHANGING THE NUMBER OF PHYSICAL PORTS IN THE SWITCH
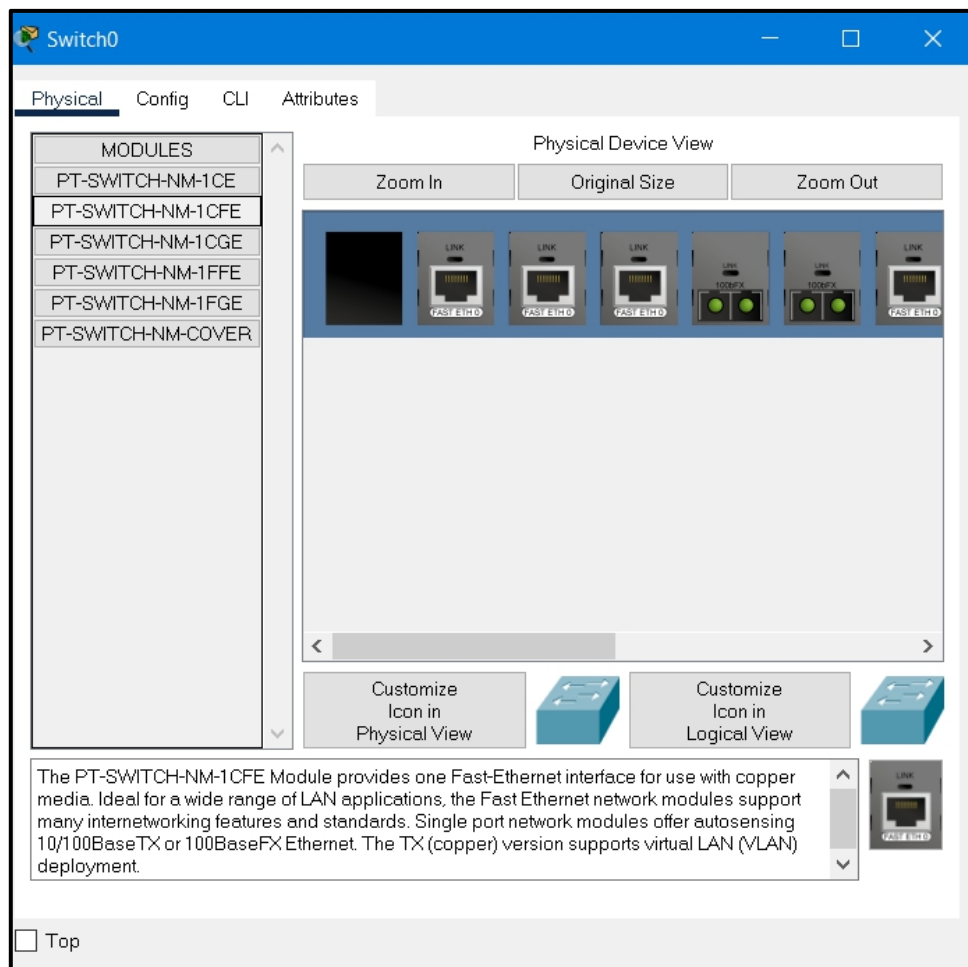
CONFIGURING THE ROUTER

Router1 — □ ✕

Physical   Config   CLI   Attributes

GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0

FastEthernet1/0

Port Status   ☑ On
Bandwidth   ○ 100 Mbps   ○ 10 Mbps   ☑ Auto
Duplex   ○ Half Duplex   ○ Full Duplex   ☑ Auto
MAC Address   000C.8561.28D8

IP Configuration
IPv4 Address   10.0.0.2
Subnet Mask   255.0.0.0

Tx Ring Limit   10

Equivalent IOS Commands

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet1/0
Router(config-if)#ip address 10.0.0.2 255.0.0.0
Router(config-if)#ip address 10.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
```

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CONFIGURING THE RIP TABLE OF THE ROUTER

Router0 — □ ✕

Physical   Config   CLI   Attributes

GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0

RIP Routing

Network

Add

Network Address
10.0.0.0
192.0.0.0

Remove

Equivalent IOS Commands

```
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.0.0.0
Router(config-router)#network 10.0.0.0
Router(config-router)#
```

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CONFIGURING THE DHCP SERVER

SETTING UP THE DHCP SERVICE ON THE SERVER
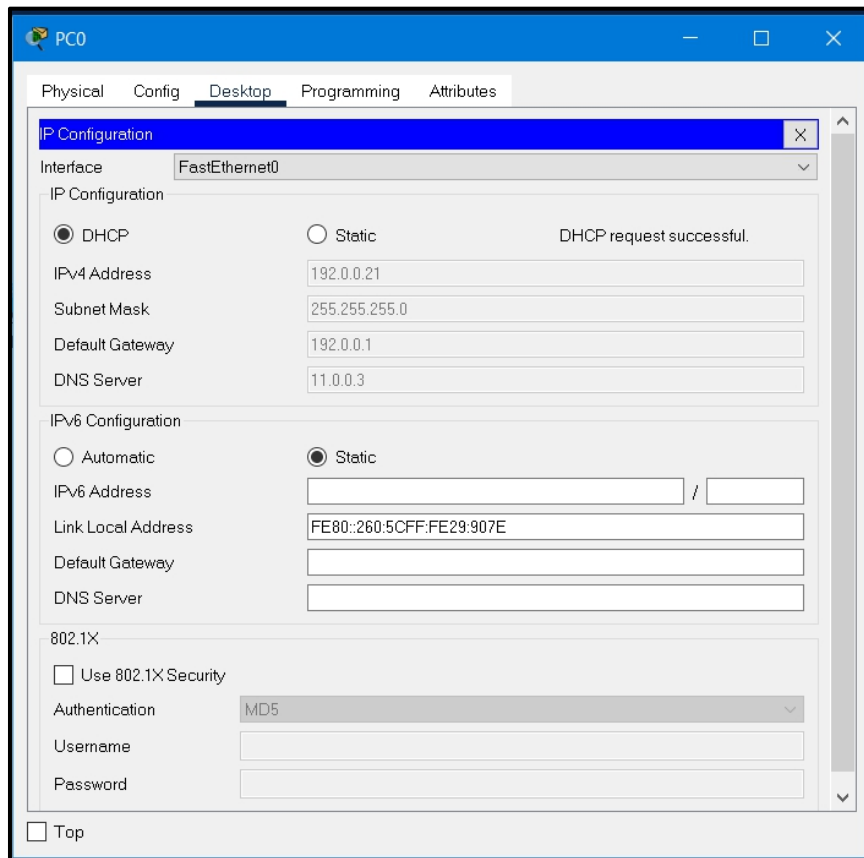
SWITCHING TO DHCP MODE IN THE PC'S IP CONFIGURATION

PC0

Physical | Config | Desktop | Programming | Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

(●) DHCP   ( ) Static   DHCP request successful.

IPv4 Address: 192.0.0.21

Subnet Mask: 255.255.255.0

Default Gateway: 192.0.0.1

DNS Server: 11.0.0.3

IPv6 Configuration

( ) Automatic   (●) Static

IPv6 Address: _____ / _____

Link Local Address: FE80::260:5CFF:FE29:907E

Default Gateway: _____

DNS Server: _____

802.1X

[ ] Use 802.1X Security

Authentication: MD5

Username: _____

Password: _____

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CONFIGURING THE DNS SERVER

Server3

Physical | Config | Services | Desktop | Programming | Attributes

IP Configuration

IP Configuration

( ) DHCP   (●) Static

IPv4 Address: 11.0.0.3

Subnet Mask: 255.0.0.0

Default Gateway: 11.0.0.1

DNS Server: 0.0.0.0

IPv6 Configuration

( ) Automatic   (●) Static

IPv6 Address: _____ / _____

Link Local Address: FE80::2D0:D3FF:FE39:7009

Default Gateway: _____

DNS Server: _____

802.1X

[ ] Use 802.1X Security

Authentication: MD5

Username: _____

Password: _____

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SETTING UP THE DNS SERVICES AND CREATING A DNS RECORD

CONFIGURING THE HTTP SERVER

SETTING UP THE HTTP SERVICES IN THE SERVER
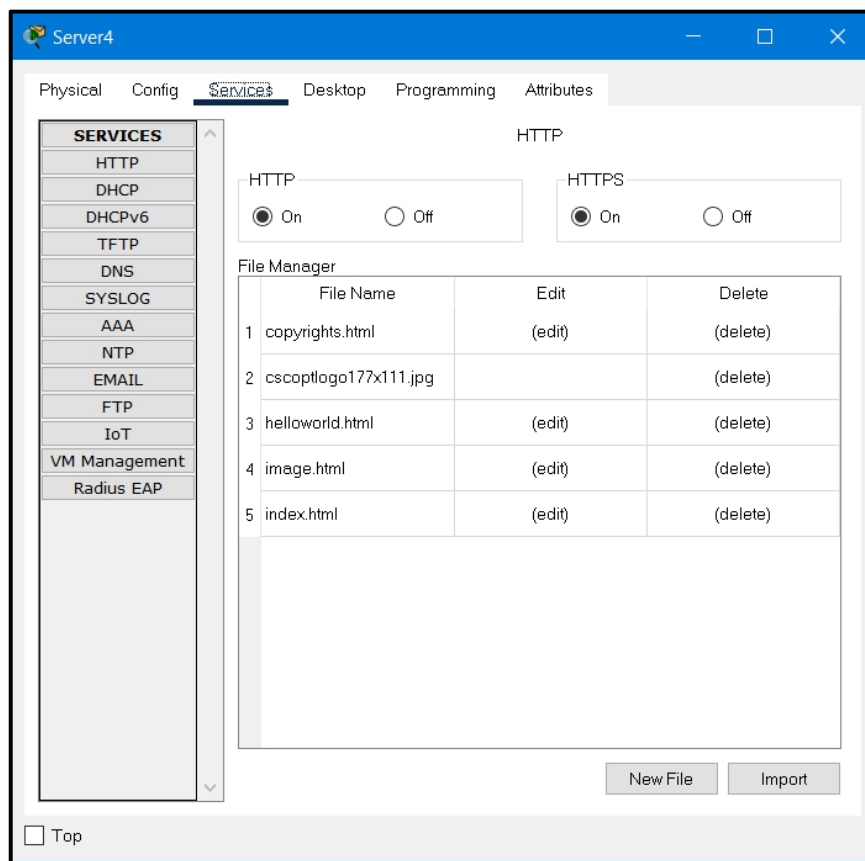
PINGING THE HTTP SERVER USING A DOMAIN NAME THAT WE CREATED IN THE DNS SERVER POINTING TOWARDS THE HTTP SERVER
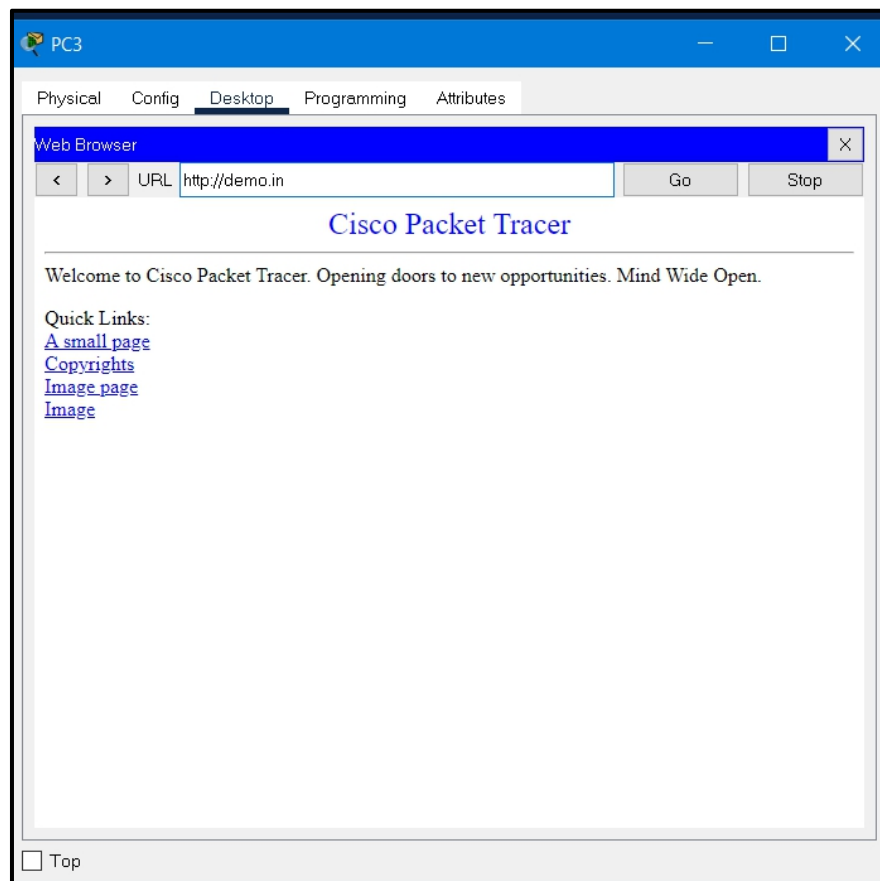
CONFIGURING THE FTP SERVER

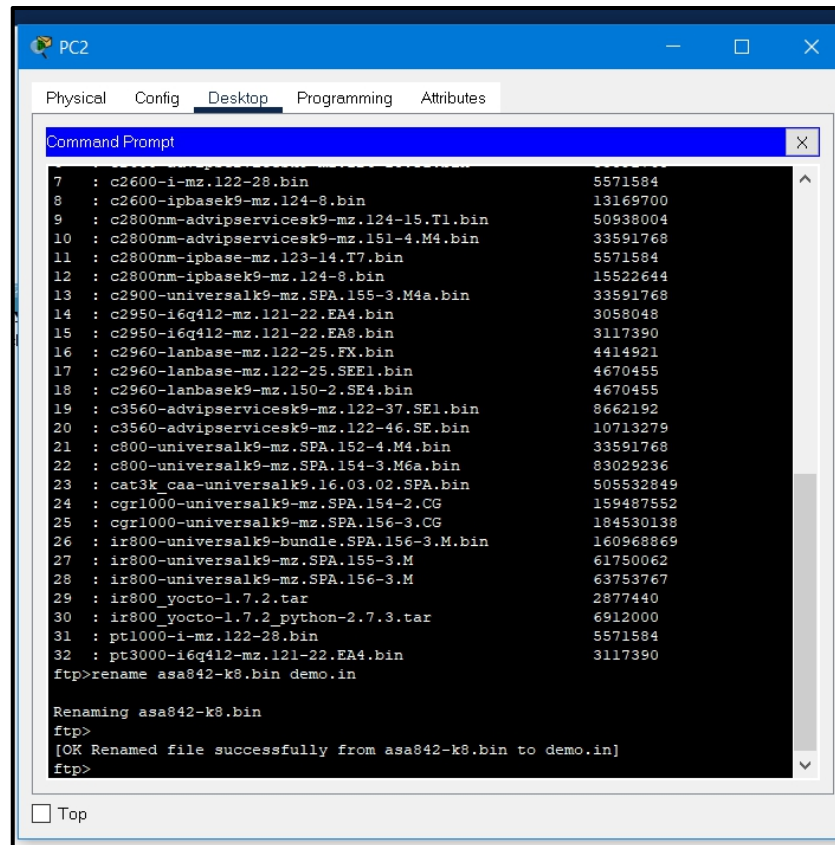# SETTING UP THE FTP SERVICES AND CREATING THE USERS

PINGING THE FTP SERVER AND LOGGING INTO IT
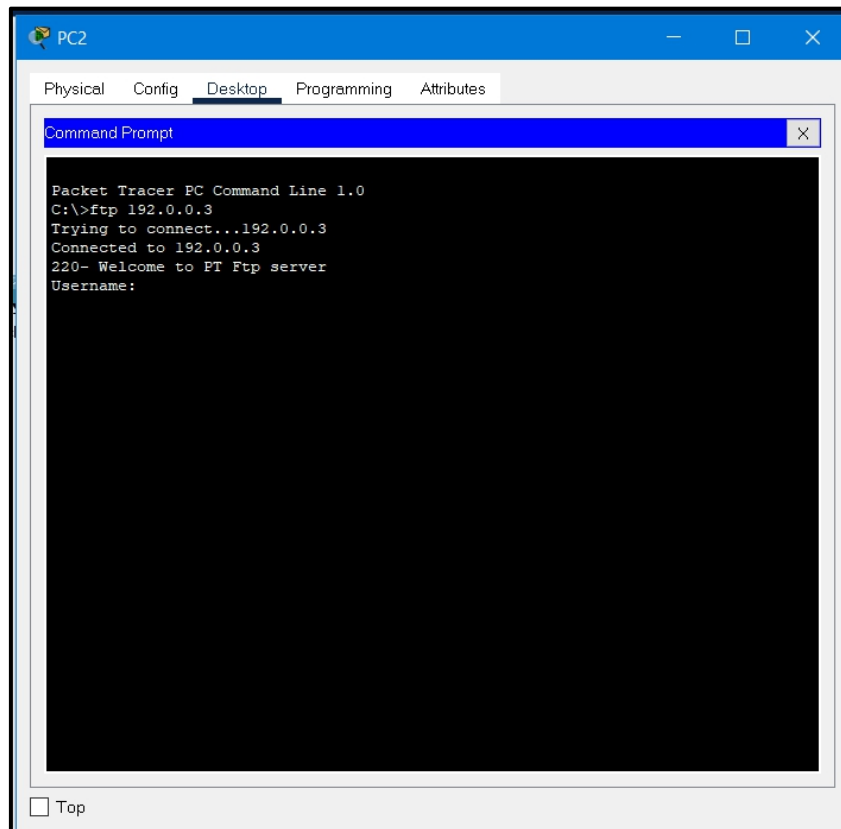
AFTER LOGGING IN, SHOWING ALL THE COMMANDS ONE CAN PERFORM IN THE FTP SERVER
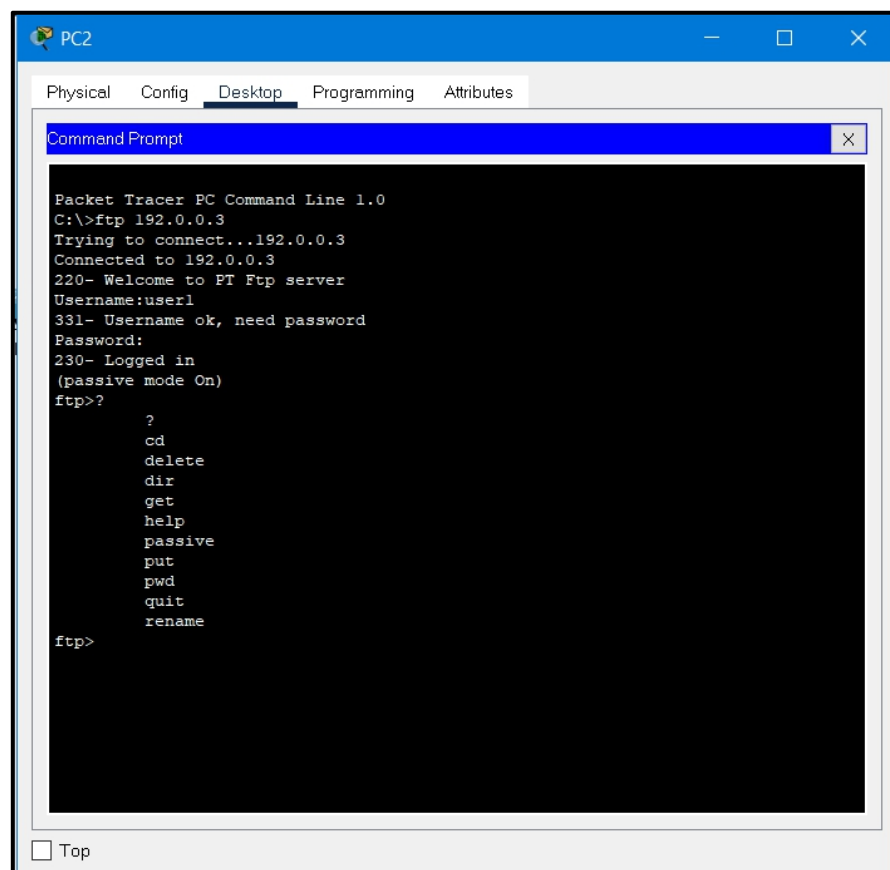
LISTING DOWN ALL THE FILES PRESENT IN THE SERVER AND RENAMING A PARTICULAR FILE AS USER HAS THE ALLOWANCE TO DO SO
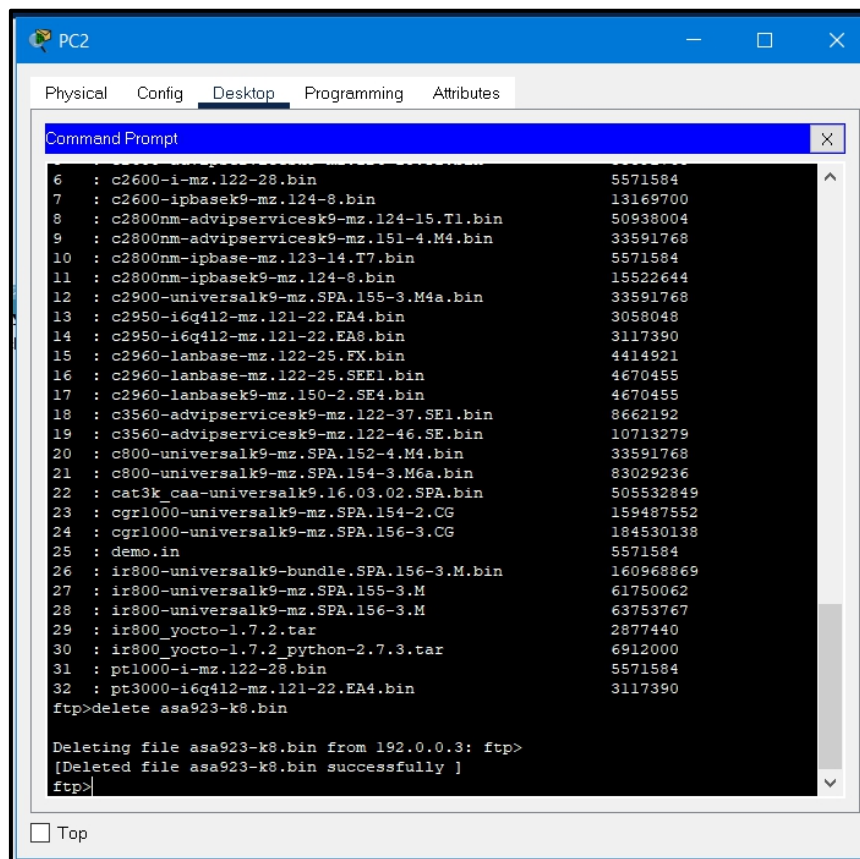

DELETION OF A CERTAIN FILES IN THE FTP SERVER

NOW SIGNING INTO THE FTP SERVER USING A NEW USER WHO HAS ONLY LISTING ALLOWANCE

HENCE WHEN HE TRIES TO DELETE A FILE THE SERVER DENIES HIM STATING HE HAS NO PERMISSION TO UNDERTAKE THAT OPERATION
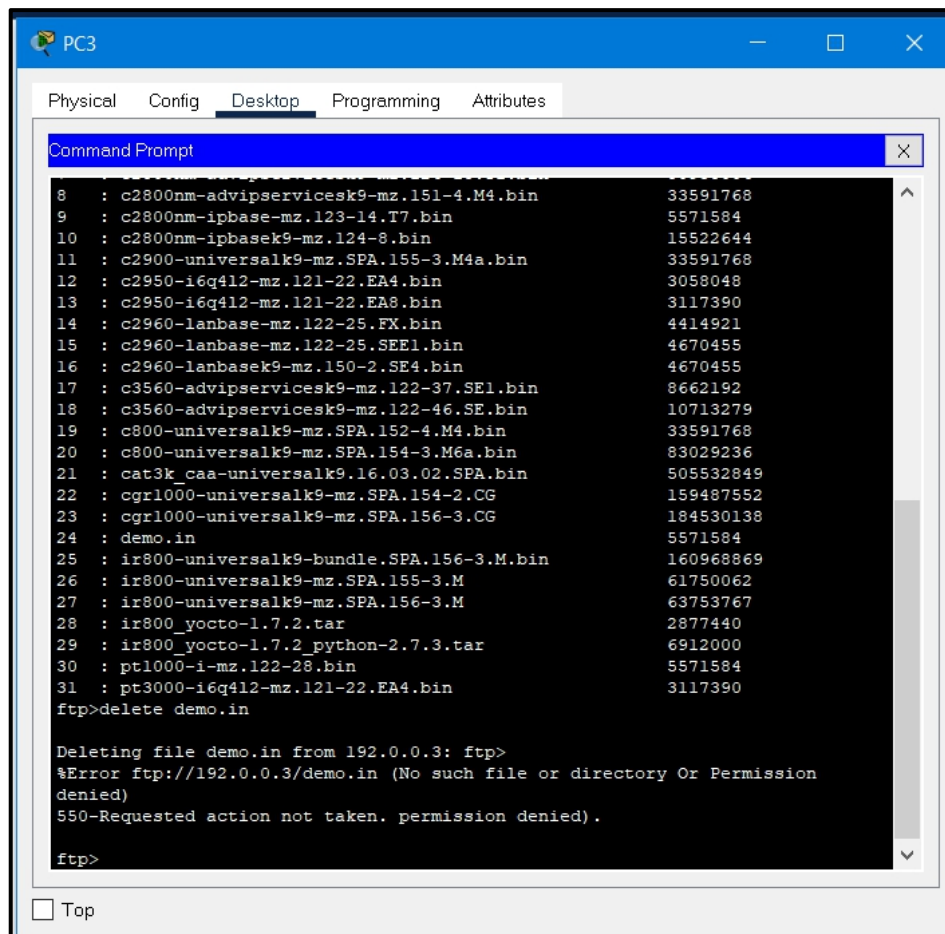

```
8   : c2800nm-advipservicesk9-mz.151-4.M4.bin          33591768
9   : c2800nm-ipbase-mz.123-14.T7.bin                  5571584
10  : c2800nm-ipbasek9-mz.124-8.bin                    15522644
11  : c2900-universalk9-mz.SPA.155-3.M4a.bin           33591768
12  : c2950-i6q412-mz.121-22.EA4.bin                   3058048
13  : c2950-i6q412-mz.121-22.EA8.bin                   3117390
14  : c2960-lanbase-mz.122-25.FX.bin                   4414921
15  : c2960-lanbase-mz.122-25.SEE1.bin                 4670455
16  : c2960-lanbasek9-mz.150-2.SE4.bin                 4670455
17  : c3560-advipservicesk9-mz.122-37.SE1.bin          8662192
18  : c3560-advipservicesk9-mz.122-46.SE.bin           10713279
19  : c800-universalk9-mz.SPA.152-4.M4.bin             33591768
20  : c800-universalk9-mz.SPA.154-3.M6a.bin            83029236
21  : cat3k_caa-universalk9.16.03.02.SPA.bin           505532849
22  : cgr1000-universalk9-mz.SPA.154-2.CG              159487552
23  : cgr1000-universalk9-mz.SPA.156-3.CG              184530138
24  : demo.in                                          5571584
25  : ir800-universalk9-bundle.SPA.156-3.M.bin         160968869
26  : ir800-universalk9-mz.SPA.155-3.M                 61750062
27  : ir800-universalk9-mz.SPA.156-3.M                 63753767
28  : ir800_yocto-1.7.2.tar                            2877440
29  : ir800_yocto-1.7.2_python-2.7.3.tar               6912000
30  : pt1000-i-mz.122-28.bin                           5571584
31  : pt3000-i6q412-mz.121-22.EA4.bin                  3117390
ftp>delete demo.in

Deleting file demo.in from 192.0.0.3: ftp>
%Error ftp://192.0.0.3/demo.in (No such file or directory Or Permission
denied)
550-Requested action not taken. permission denied).

ftp>
```