Date: 06/08/24

Lab Practical #06:

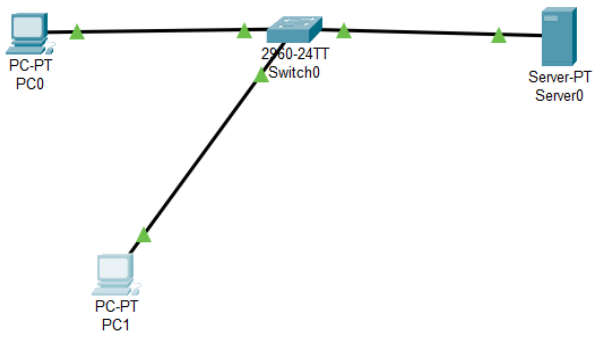
Study the application layer protocol DNS, DHCP, FTP.

Practical Assignment #06:

1. Implement the application layer protocol DNS, DHCP, and FTP. Also check connectivity between them using ping command or PDU utility.

I. DNS:

The Domain Name System (DNS) is an application layer protocol that translates human-readable domain names into IP addresses that computers use to identify each other on the network.



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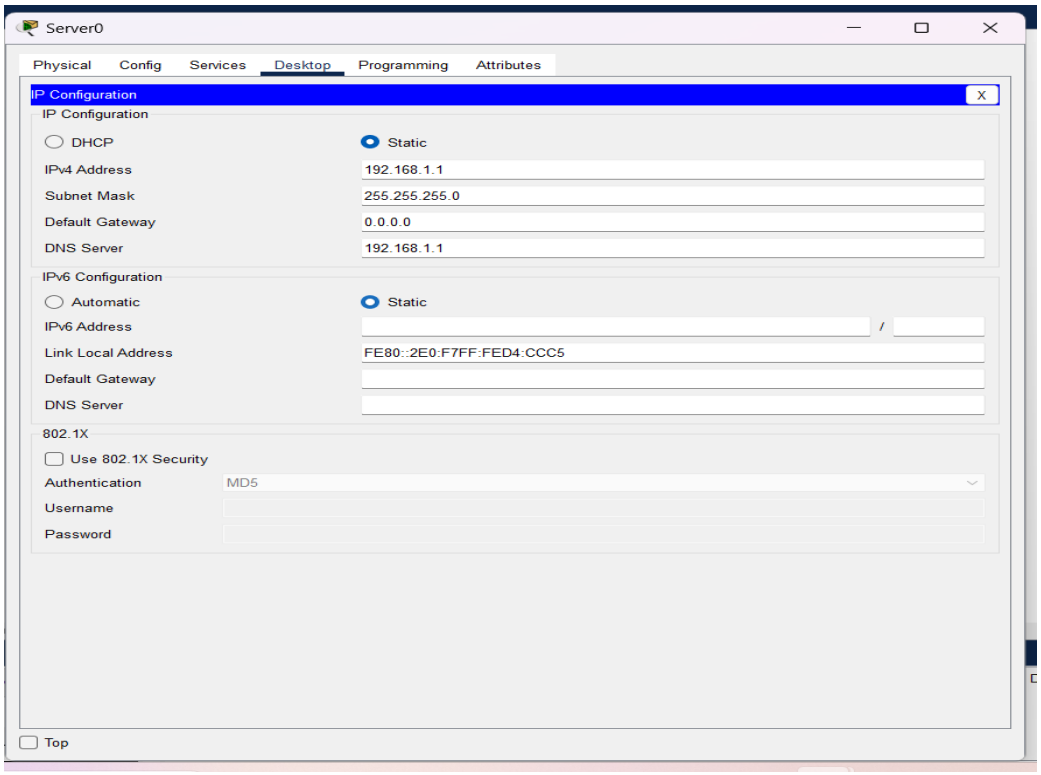
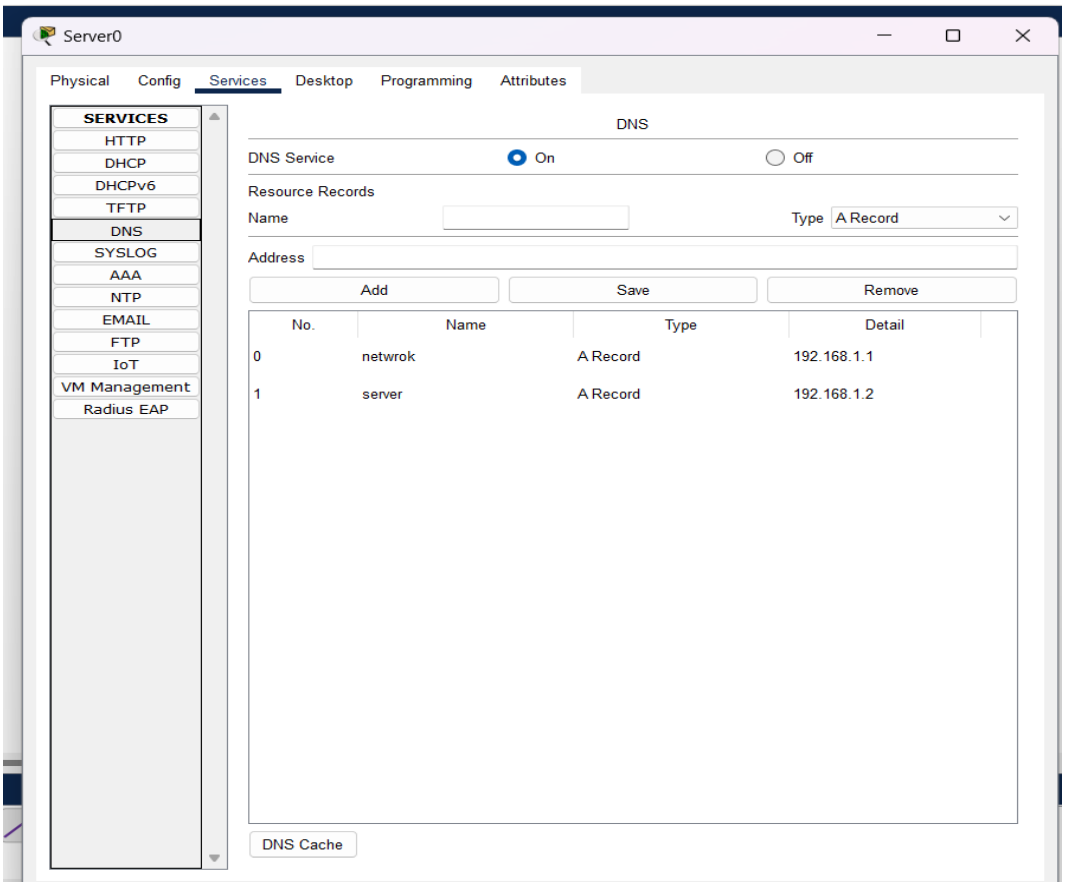

Server0
Physical
Config
Services
Desktop
Programming
Attributes
IP Configuration
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.1
Subnet Mask
255.255.255.0
Default Gateway
0.0.0.0
DNS Server
192.168.1.1
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::2E0:F7FF:FED4:CCC5
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top


Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No.
Name
Type
Detail
0
netwrok
A Record
192.168.1.1
1
server
A Record
192.168.1.2
DNS Cache

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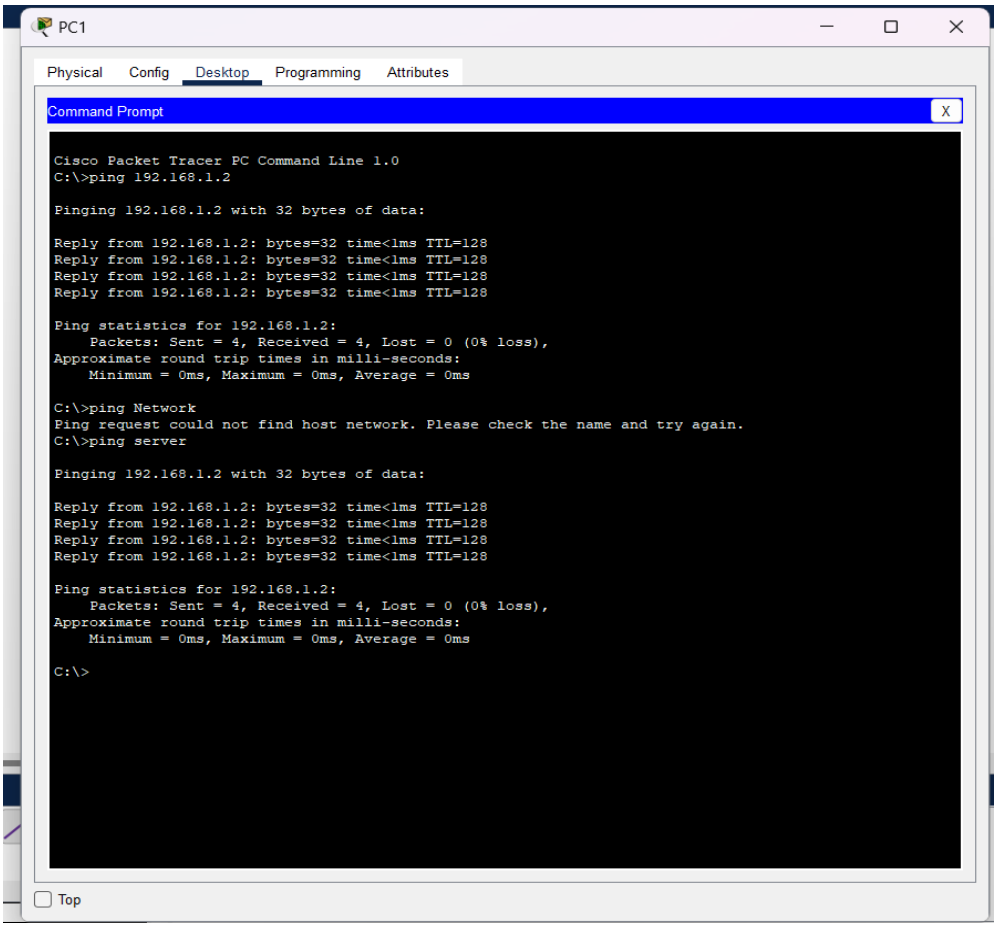

II. DHCP:

The Dynamic Host Configuration Protocol (DHCP) is an application layer protocol used for automating the assignment of IP addresses, subnet masks, default gateways, and other network configuration parameters to devices on a network.

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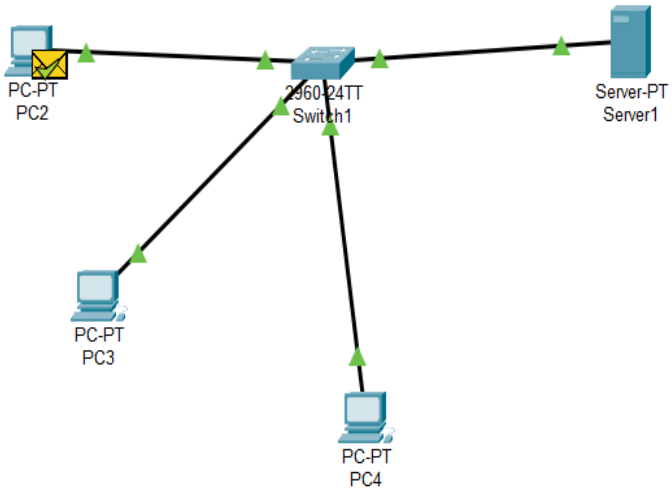
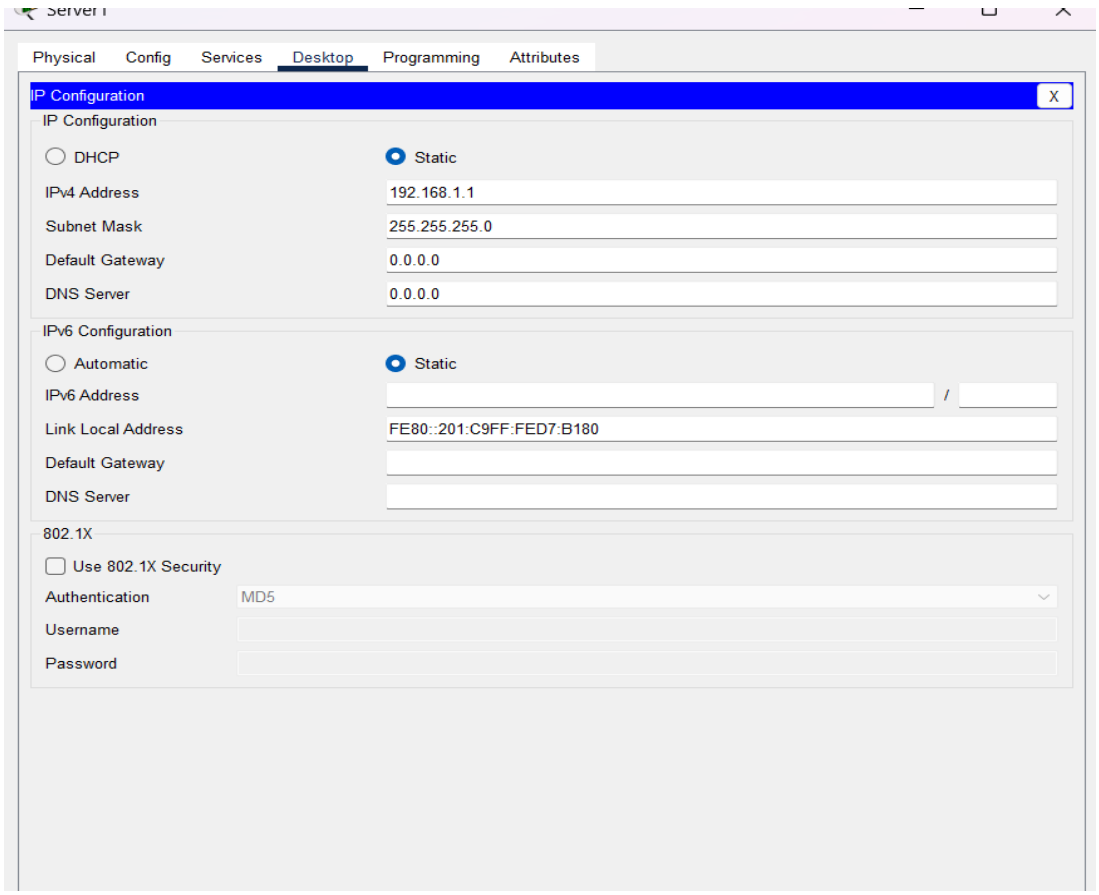

PC-PT
PC2
2960-24TT
Switch1
Server-PT
Server1
PC-PT
PC3
PC-PT
PC4


Physical
Config
Services
Desktop
Programming
Attributes
IP Configuration
X
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.1
Subnet Mask
255.255.255.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::201:C9FF:FED7:B180
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password

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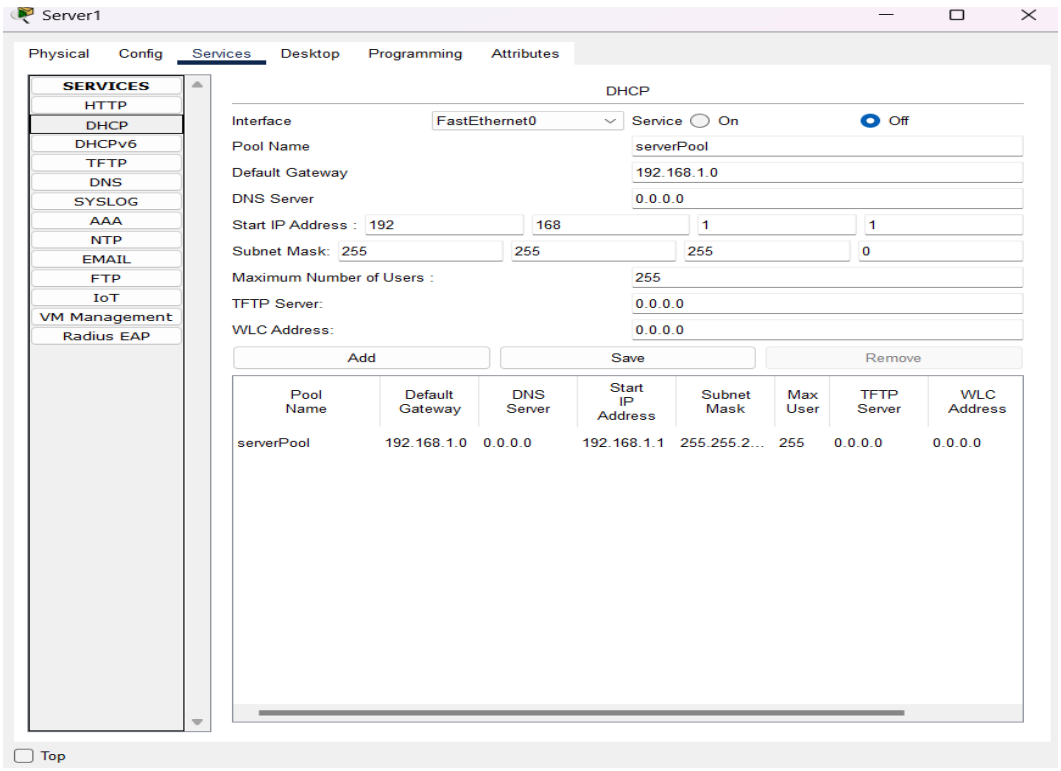

III. FTP:

The File Transfer Protocol (FTP) is an application layer protocol used for transferring files between a client and a server over a network.

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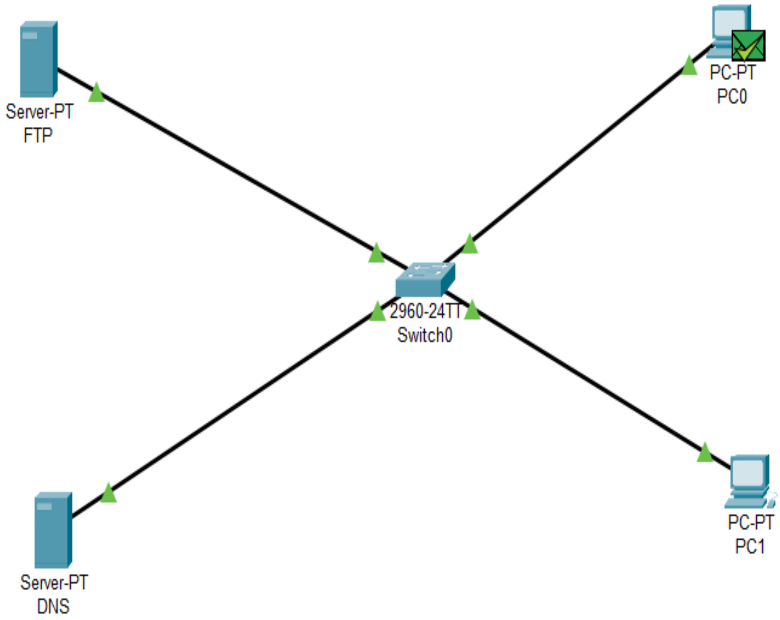
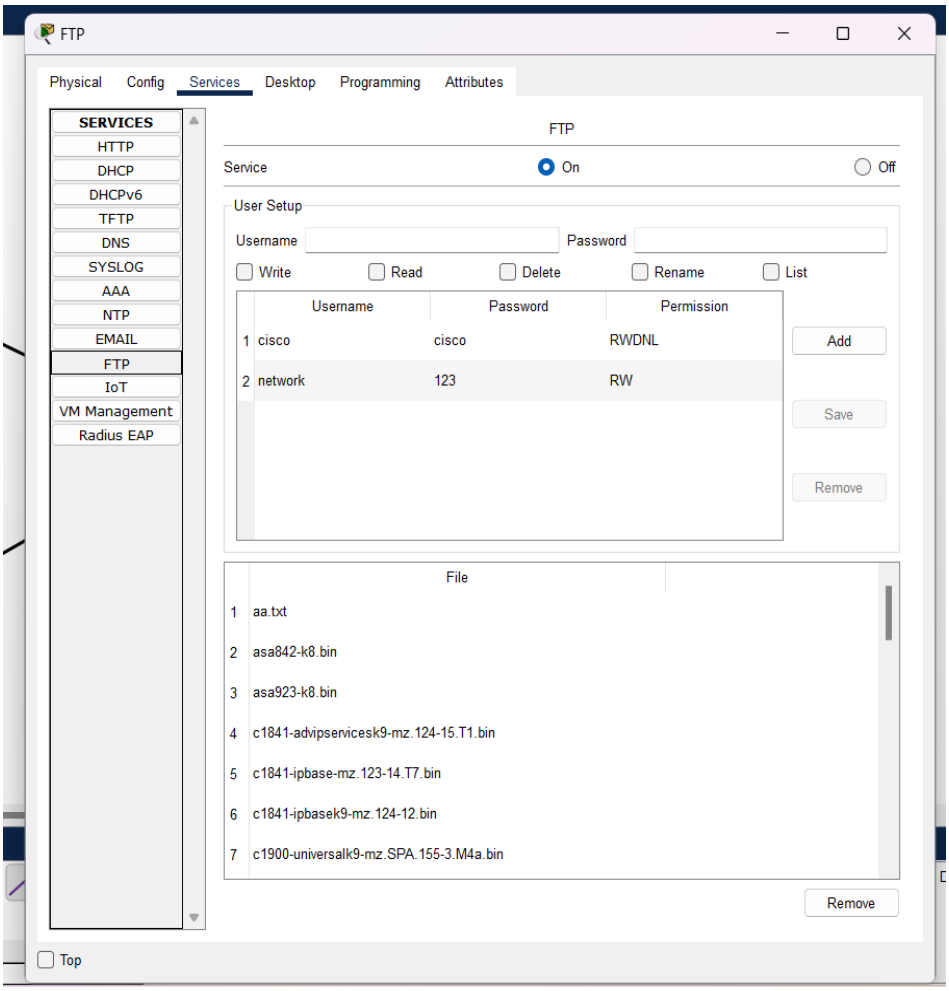

Server-PT
FTP
PC-PT
PC0
2960-24TT
Switch0
Server-PT
DNS
PC-PT
PC1

Date: 06/08/24


FTP
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
FTP
Service
On
Off
User Setup
Username
Password
Write
Read
Delete
Rename
List
Username
Password
Permission
1 cisco cisco RWDNL
2 network 123 RW
Add
Save
Remove
File
1 aa.txt
2 asa842-k8.bin
3 asa923-k8.bin
4 c1841-advipservicesk9-mz.124-15.T1.bin
5 c1841-ipbase-mz.123-14.T7.bin
6 c1841-ipbasek9-mz.124-12.bin
7 c1900-universalk9-mz.SPA.155-3.M4a.bin
Remove
Top

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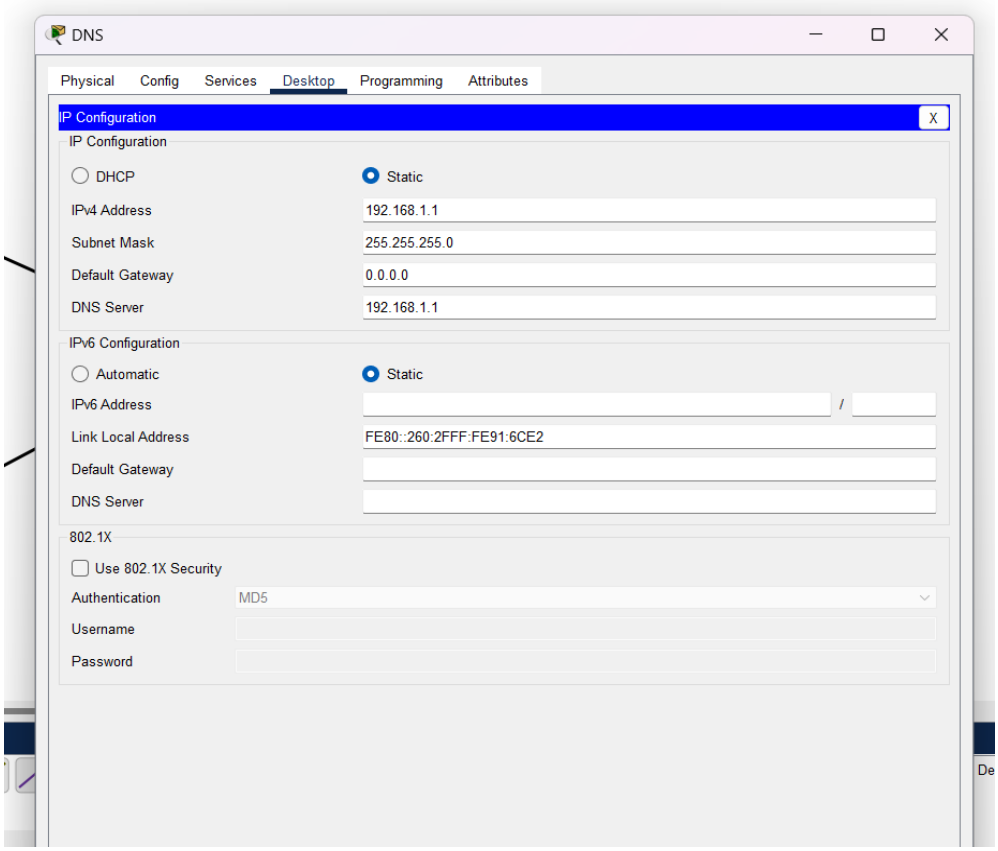
DNS
Physical
Config
Services
Desktop
Programming
Attributes
IP Configuration
X
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.1
Subnet Mask
255.255.255.0
Default Gateway
0.0.0.0
DNS Server
192.168.1.1
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::260:2FFF:FE91:6CE2
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password

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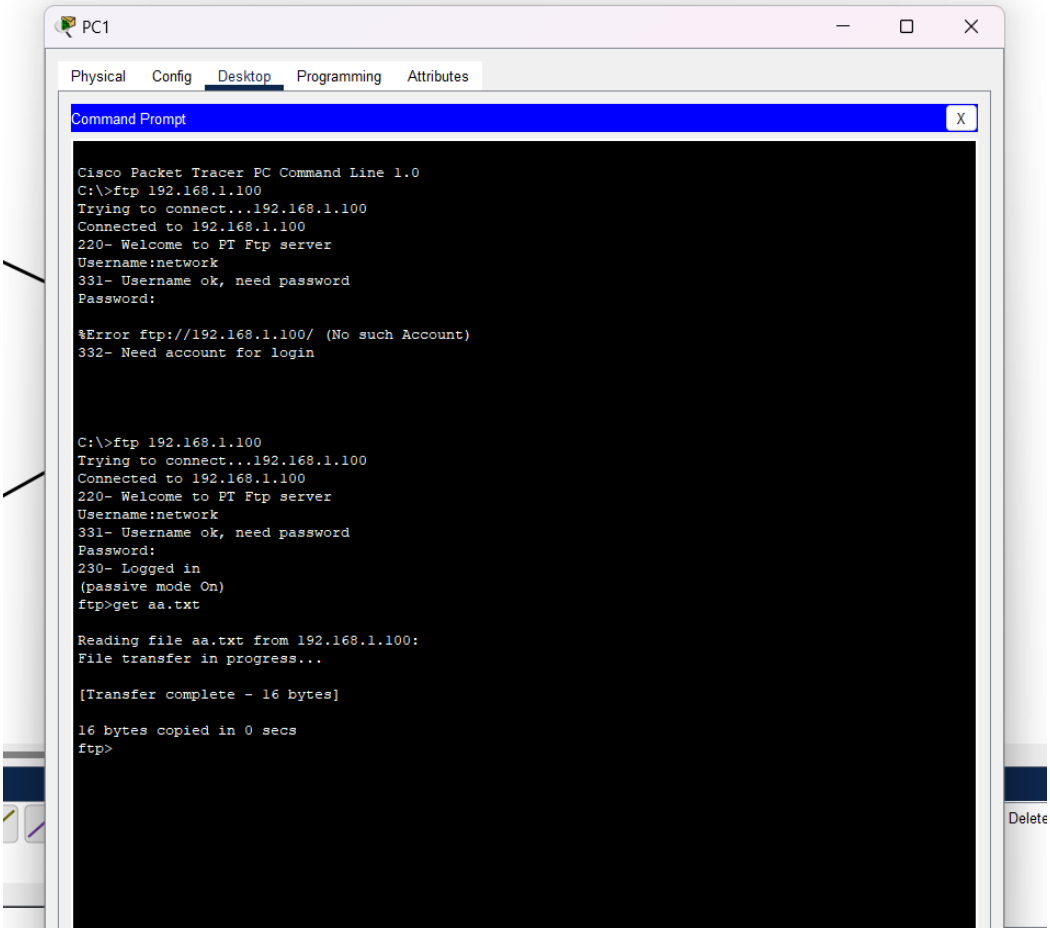

Instructions:

1. Protocol-wise configuration setup screenshot.
2. Mention IP address of each pc as label.
3. Ping command or PDU screenshot between two pcs.