

# Computer Networks (CS303)

## Practical Exam

### U19CS012

#### Problem Statement:

Q1. Create a network topology in Cisco packet tracer. (20 Marks)

Add minimum 5 systems and one server

Configure below services on the server

1. **DNS:** Provide domain name and modify index.html page on server

Expected output:

- nslookup <domain name> command in command prompt of any pc should show server ip address
- Web browser of any pc should be able to open index.html page

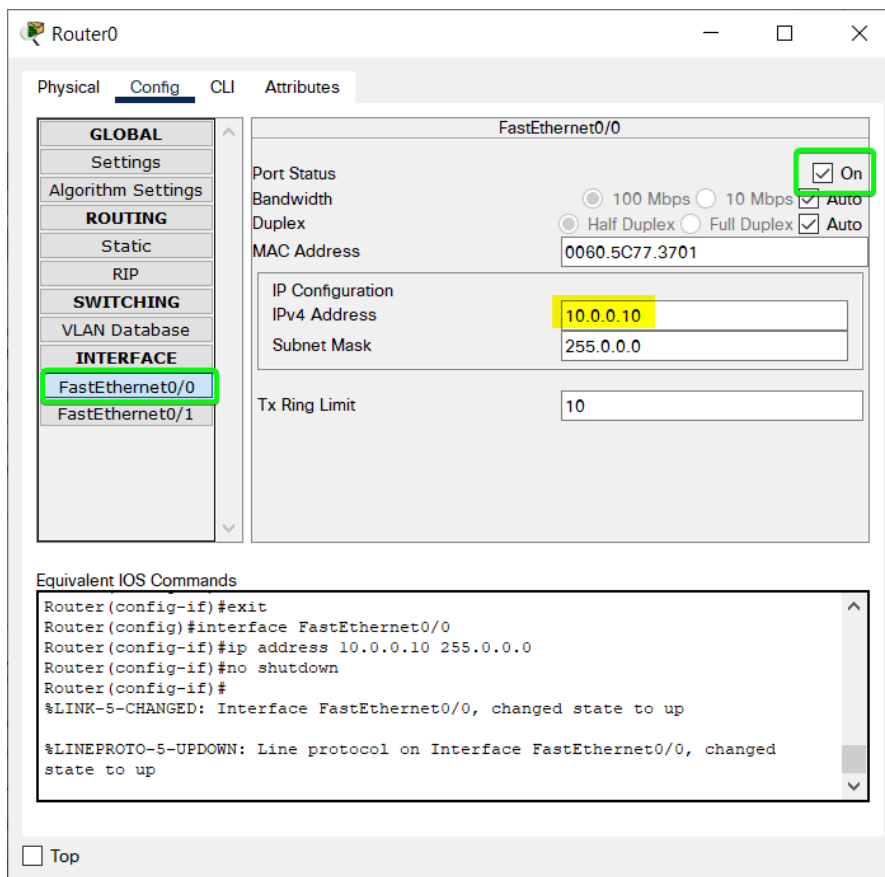
#### Config the Server

The screenshot shows the 'Desktop' tab of a Cisco Packet Tracer interface. A window titled 'IP Configuration' is open, displaying the following settings:

- IP Configuration:**
  - ☐ DHCP
  - ☒ Static
  - IPv4 Address: 10.0.0.9
  - Subnet Mask: 255.0.0.0
  - Default Gateway: 10.0.0.10
  - DNS Server: 0.0.0.0
- IPv6 Configuration:**
  - ☐ Automatic
  - ☒ Static
  - IPv6 Address: [empty] / [empty]
  - Link Local Address: FE80::202:16FF:FE90:3AEA
  - Default Gateway: [empty]
  - DNS Server: [empty]
- 802.1X:**
  - ☐ Use 802.1X Security
  - Authentication: MD5
  - Username: [empty]
  - Password: [empty]

At the bottom left of the window, there is a checkbox labeled 'Top' which is currently unchecked.

## Config the Router



The Router0 configuration window shows the 'Config' tab. On the left sidebar, the 'INTERFACE' section is expanded, and 'FastEthernet0/0' is selected. The main area displays the configuration for 'FastEthernet0/0'. The 'Port Status' checkbox is checked and labeled 'On'. The 'Bandwidth' is set to '100 Mbps' and 'Duplex' is set to 'Half Duplex'. The 'MAC Address' is '0060.5C77.3701'. The 'IP Configuration' section shows 'IPv4 Address' as '10.0.0.10' and 'Subnet Mask' as '255.0.0.0'. The 'Tx Ring Limit' is set to '10'. Below the configuration fields, the 'Equivalent IOS Commands' are listed in a text area.

Physical **Config** CLI Attributes

**GLOBAL**

- Settings
- Algorithm Settings

**ROUTING**

- Static
- RIP

**SWITCHING**

- VLAN Database

**INTERFACE**

- FastEthernet0/0**
- FastEthernet0/1

FastEthernet0/0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☒ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 0060.5C77.3701

IP Configuration

IPv4 Address 10.0.0.10

Subnet Mask 255.0.0.0

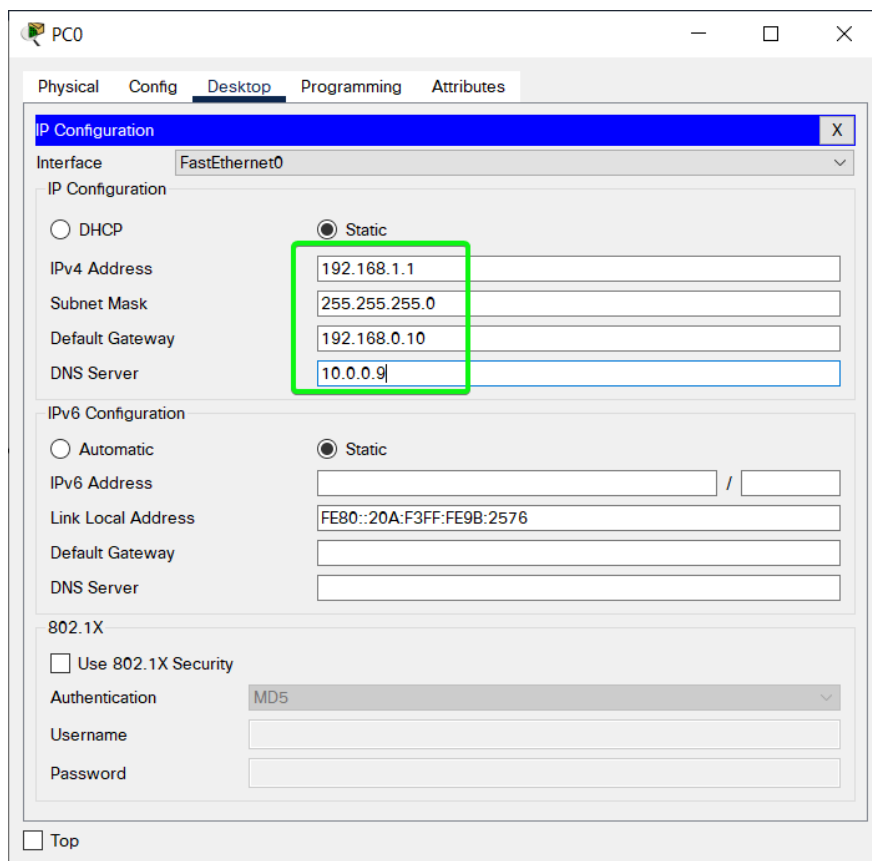
Tx Ring Limit 10

Equivalent IOS Commands

```
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 10.0.0.10 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

☐ Top

## Config the End Devices



The PC0 configuration window shows the 'Desktop' tab. The 'IP Configuration' section is expanded. The 'Interface' is 'FastEthernet0'. The 'IP Configuration' section shows 'Static' selected. The 'IPv4 Address' is '192.168.1.1', 'Subnet Mask' is '255.255.255.0', 'Default Gateway' is '192.168.0.10', and 'DNS Server' is '10.0.0.9'. The 'IPv6 Configuration' section shows 'Static' selected. The 'IPv6 Address' is empty, 'Link Local Address' is 'FE80::20A:F3FF:FE9B:2576', 'Default Gateway' is empty, and 'DNS Server' is empty. The '802.1X' section shows 'Use 802.1X Security' unchecked, 'Authentication' set to 'MD5', 'Username' is empty, and 'Password' is empty.

Physical **Config** Desktop Programming Attributes

**IP Configuration**

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.0.10

DNS Server 10.0.0.9

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20A:F3FF:FE9B:2576

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

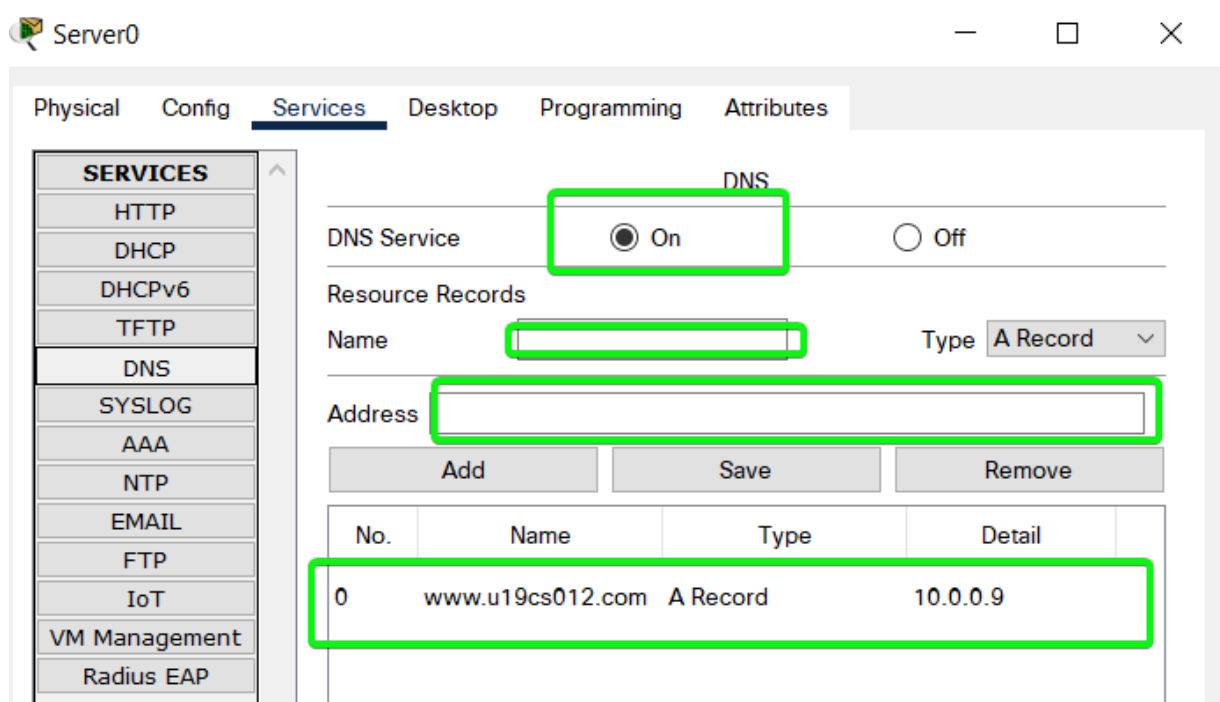
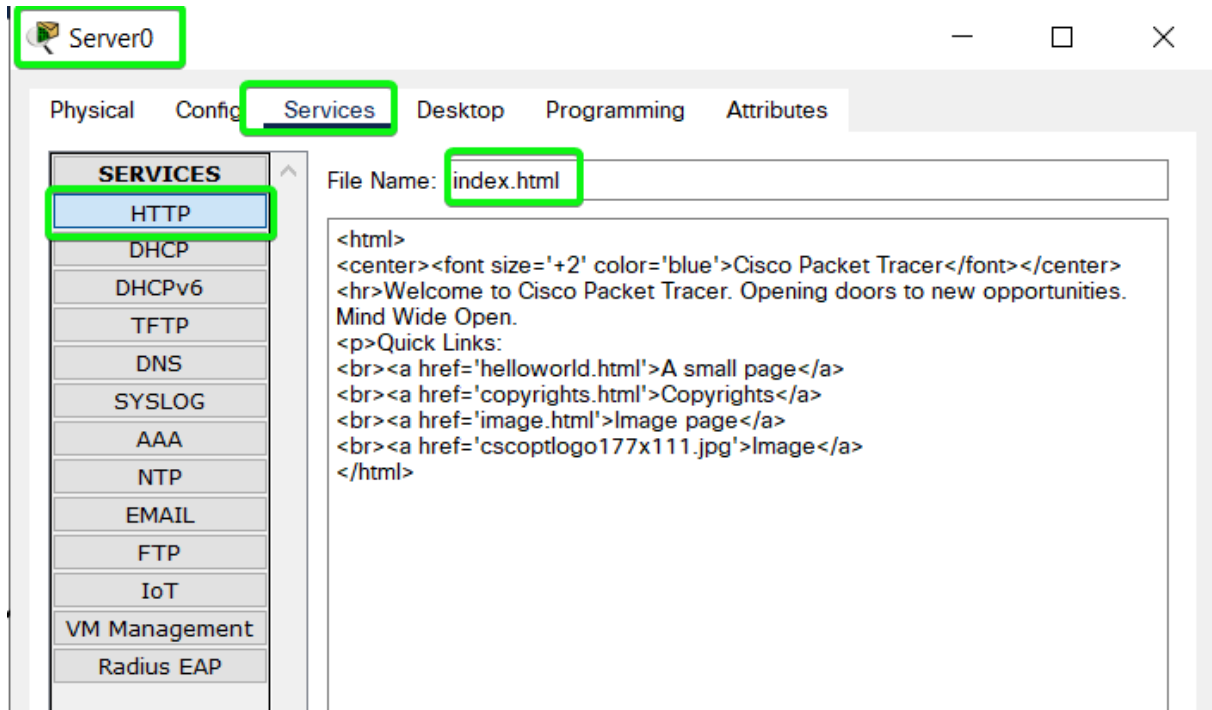
Authentication MD5

Username

Password

☐ Top

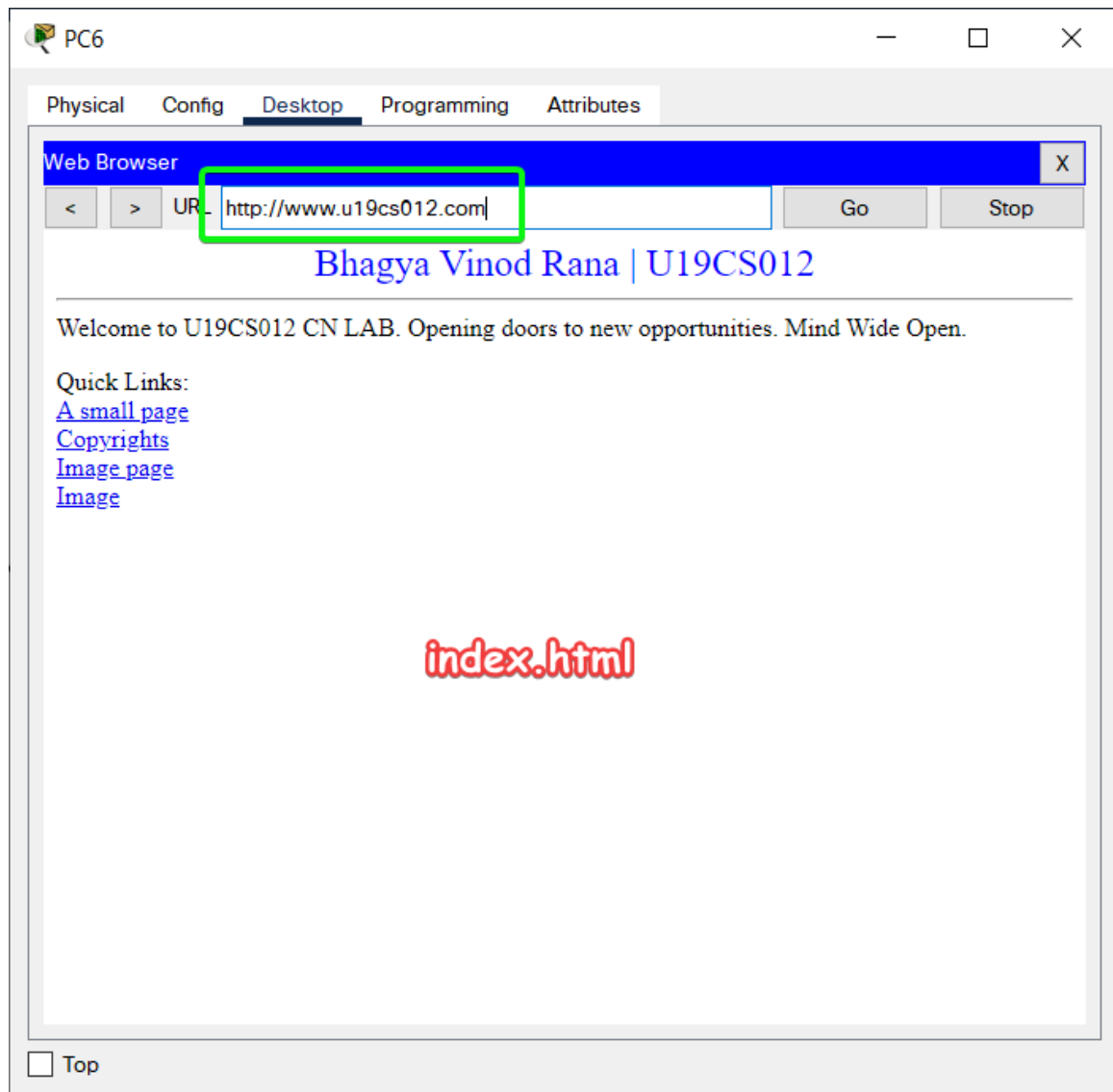
## Service in Server



File Name: index.html

```
<html>
<center><font size='+2' color='blue'>Bhagya Vinod Rana | U19CS012</font></center>
<hr>Welcome to U19CS012 CN LAB. Opening doors to new opportunities. Mind Wide Open.
<p>Quick Links:
<br><a href='helloworld.html'>A small page</a>
<br><a href='copyrights.html'>Copyrights</a>
<br><a href='image.html'>Image page</a>
<br><a href='cscoptlogo177x111.jpg'>Image</a>
</html>
```

**Go to Any End Device and in Web Browser**



**2. Email:** Configure Username, Email id, login details etc in 2 pc's. Configure Email service on server also.

Expected output:

- Mails should be sent and received between systems in which Email configurations are done.

The screenshot shows the 'Server0' configuration window with the 'Services' tab selected. In the left sidebar, the 'EMAIL' service is highlighted. The main configuration area for the 'EMAIL' service is displayed, showing the following settings:

- SMTP Service:** ☒ ON ☐ OFF
- POP3 Service:** ☒ ON ☐ OFF
- Domain Name:**
- User Setup:**
  - User:**
  - Password:**

Below the user setup fields, there is a large empty text area and a 'Change Password' button. At the bottom left, there is a 'Top' button.

Similarly add bob

PC6

Physical Config **Desktop** Programming Attributes

### Configure Mail

User Information

Your Name:

Email Address:

Server Information

Incoming Mail Server:

Outgoing Mail Server:

Logon Information

User Name:

Password:

☐ Top

Physical Config **Desktop** Programming Attributes

### Compose Mail

To:

Subject:

How are You?

☐ Top

PC6

PhysicalConfigDesktopProgrammingAttributes

Compose Mail

X

Send

To: bob@svnit.com

Subject: Hi U19CS012

How are you?

☐ Top

Physical Config **Desktop** Programming Attributes

## MAIL BROWSER

X

Mails

Compose

Reply

Receive

Delete

Configure Mail

From

Subject

Received

&lt;

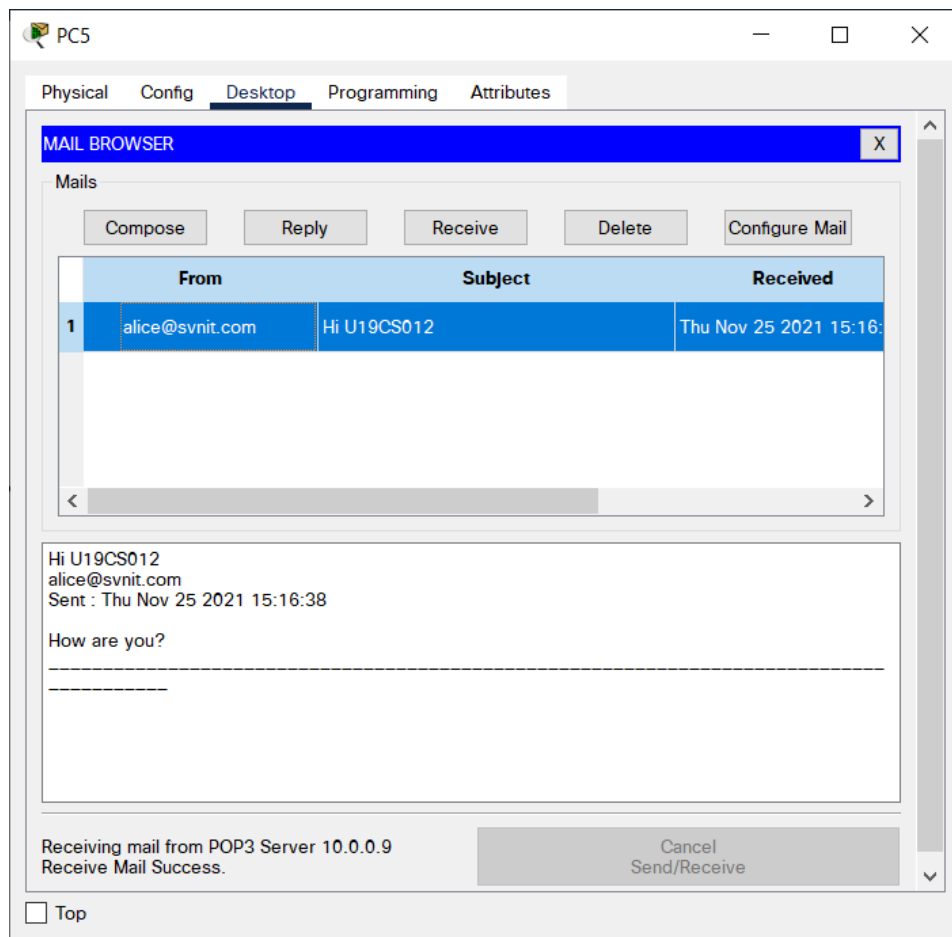
&gt;

Sending mail to bob@svnit.com , with subject : Hi  
U19CS012 .. Mail Server: 10.0.0.9  
Send Success.

Cancel  
Send/Receive

☐ Top





### 3. FTP: Configure FTP on server.

Expected output:

Create one text file( eg test.txt) on any of the pc ( Eg PC0). Connect to the server from the command prompt of PC0 and UPLOAD test.txt file on the server via FTP.

Connect to the server from the command prompt of any other PC except PC0 and DOWNLOAD test.txt file on the server via FTP.

Server0

PhysicalConfigServicesDesktopProgrammingAttributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

FTP

Service

OnOff

User Setup

Username

Password

Write

Read

Delete

Rename

List

	Username	Password	Permission
1	cisco	cisco	RWDNL
2	bvrana	12345	RWDNL

Add

Save

Remove

File

1

2

3

4

asa842-k8.bin

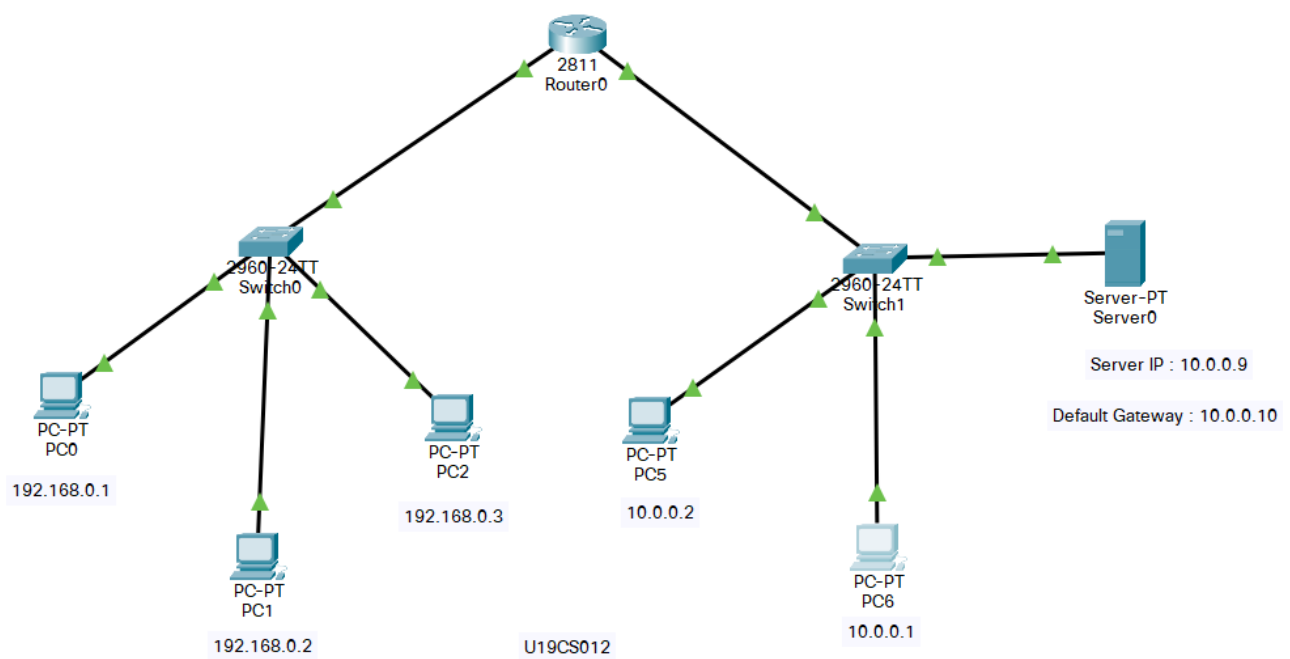
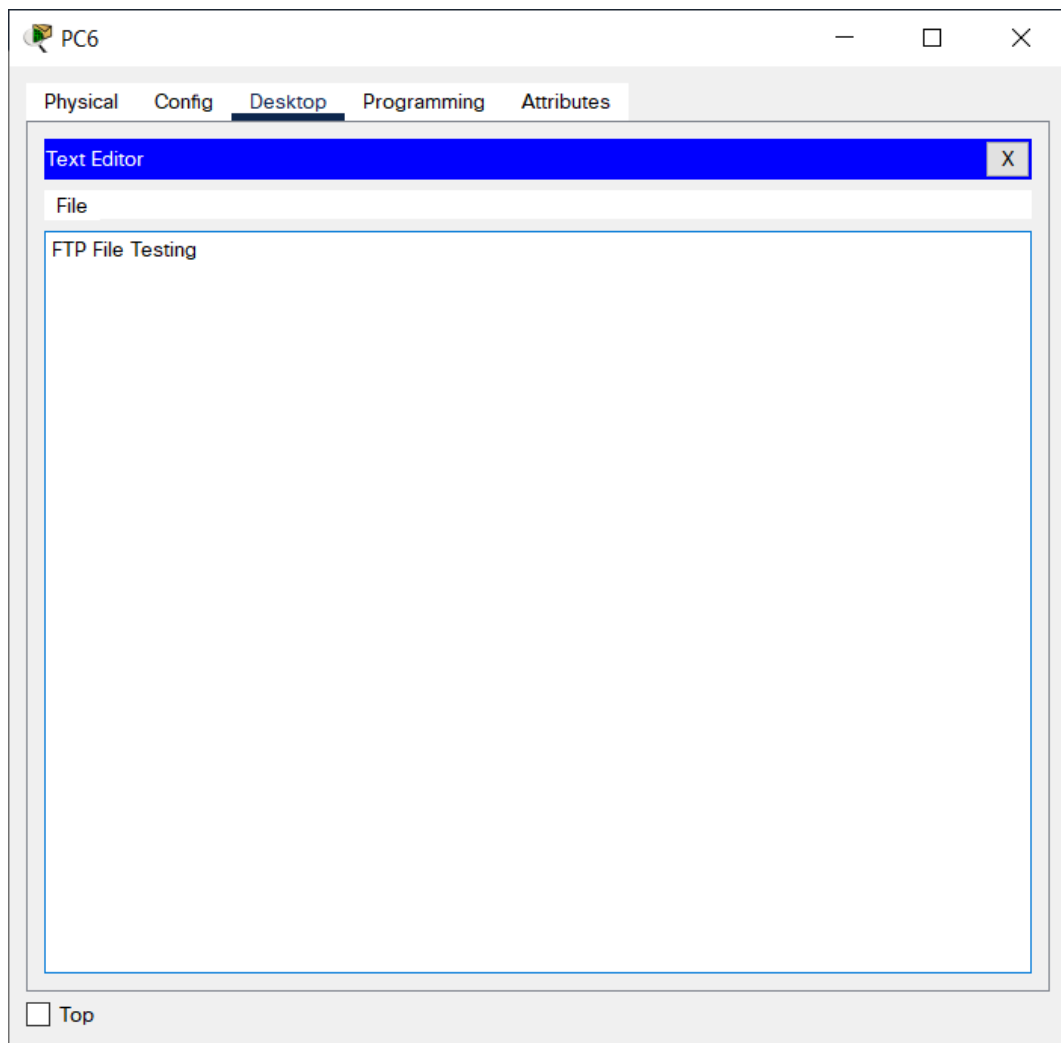
asa923-k8.bin

c1841-advipservicesk9-mz.124-15.T1.bin

c1041-advipservicesk9-mz.124-15.T1.bin

Remove

Top



SUBMITTED BY:

**U19CS012**

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