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Vellore Institute of Technology
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Course Code: BCSE353E

Course Name: Information Security Analysis and Audit

Assessment – 3

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Cisco Packet Tracer to simulate a firewall

Step 1: First, open the Cisco packet tracer desktop and select the devices given below:

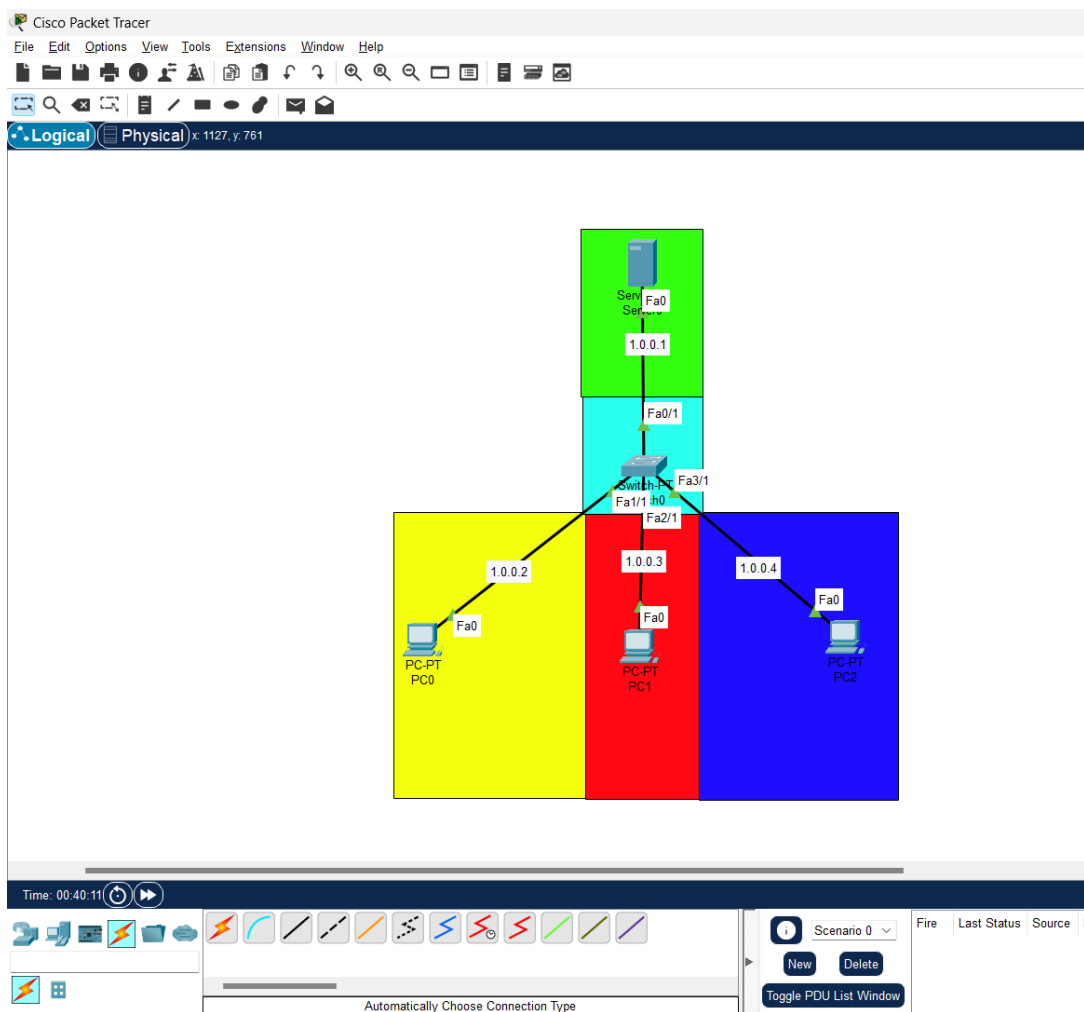
S.NO	Device	Model Name	Quantity
1.	PC	PC	3
2.	server	PT-Server	1
3.	switch	PT-Switch	1

IP Addressing Table:

S.NO	Device	IPv4 Address	Subnet Mask
1.	Server	1.0.0.1	255.0.0.0
2.	PC0	1.0.0.2	255.0.0.0
3.	PC1	1.0.0.3	255.0.0.0
4.	PC2	1.0.0.4	255.0.0.0

Then, create a network topology as shown below the image.

Use an Automatic connecting cable to connect the devices with others.



Step 2: Configure the PCs (hosts) and server with IPv4 address and Subnet Mask according to the IP addressing table given above.

- To assign an IP address in PC0, click on PC0.
- Then, go to desktop and then IP configuration and there you will

IPv4 configuration.

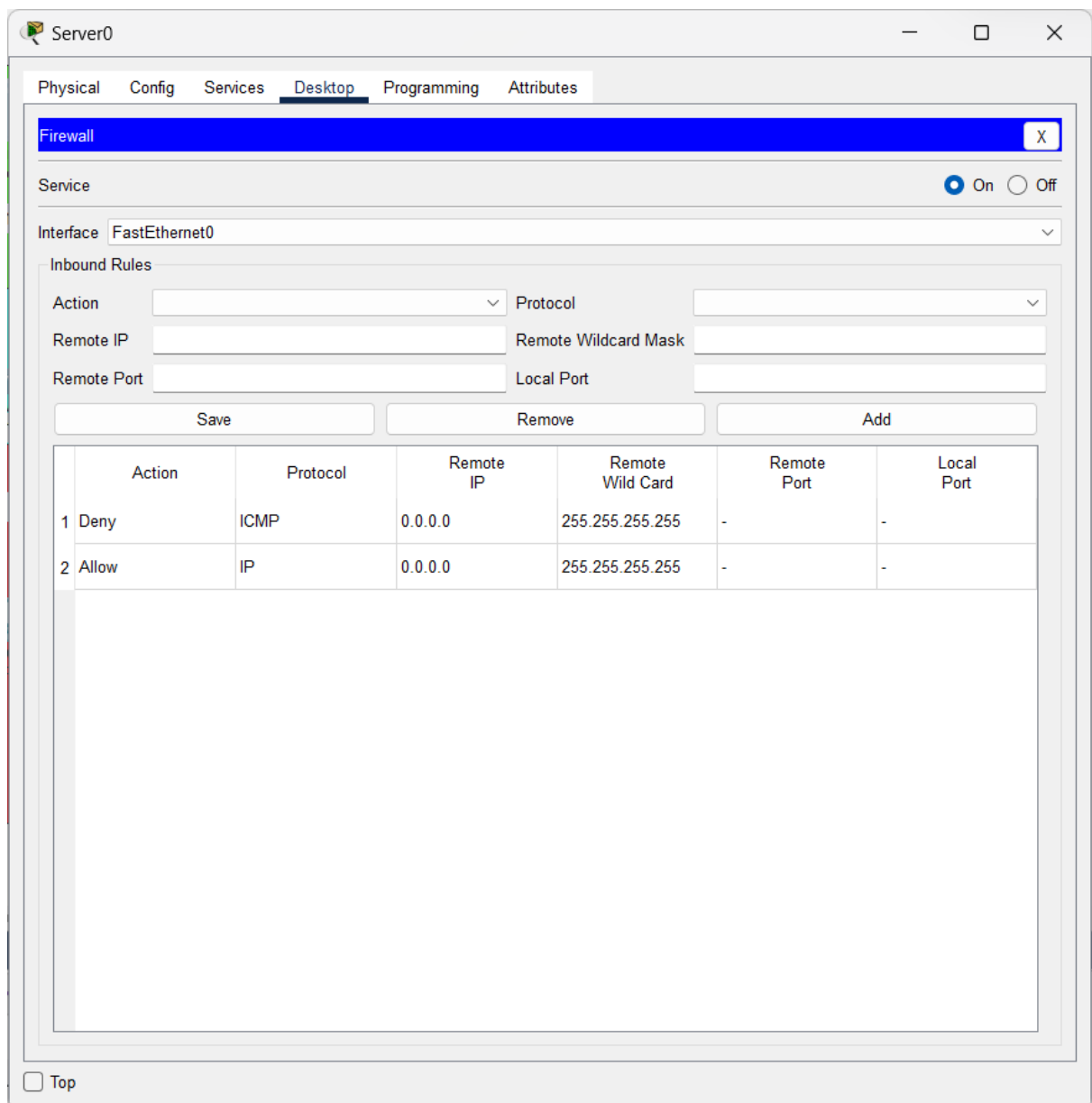
- Fill IPv4 address and subnet mask.
- Repeat the same procedure with the server

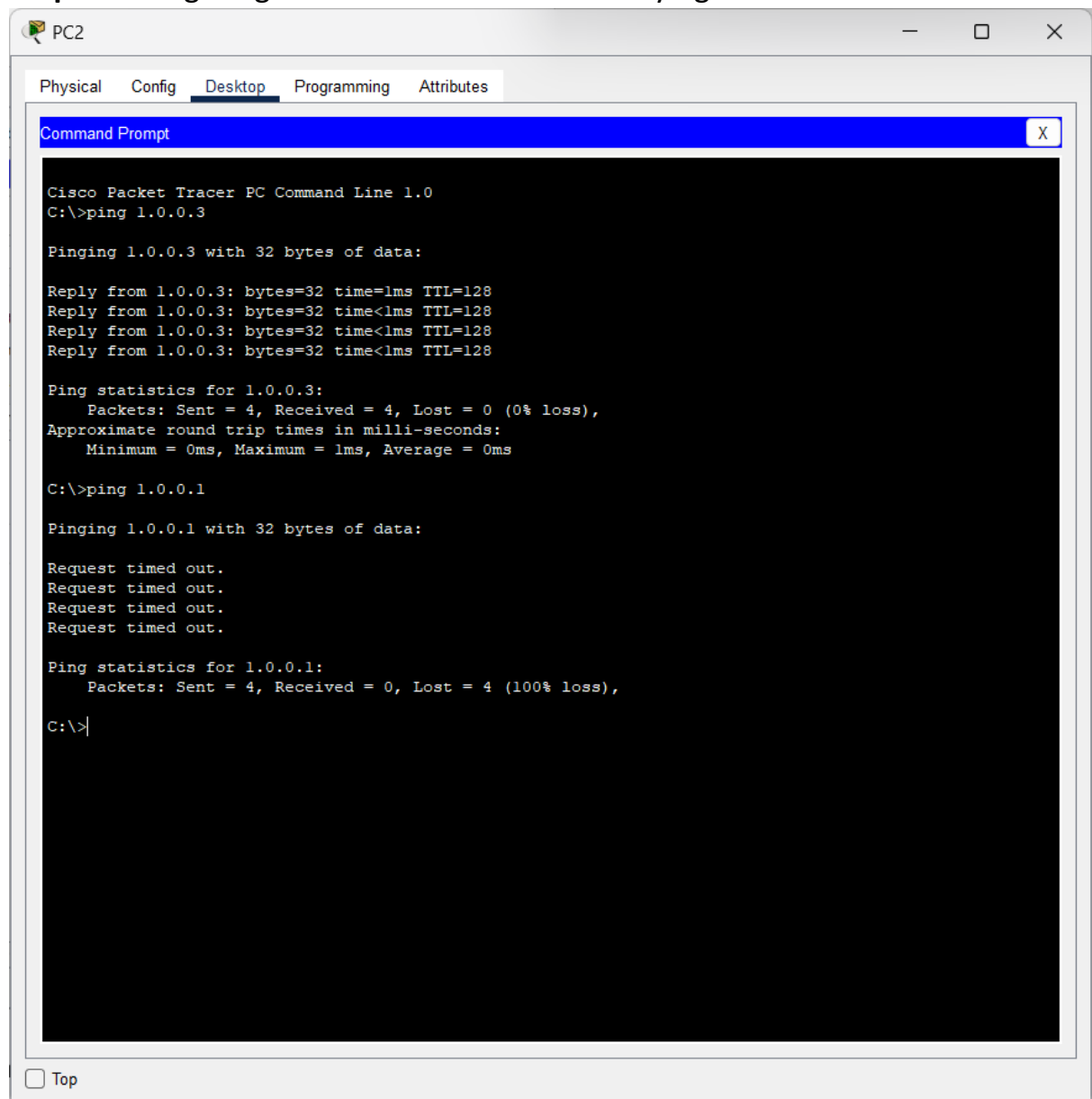
The screenshot shows the configuration window for PC0. The 'Desktop' tab is selected, and the 'IP Configuration' section is active. The interface is set to 'FastEthernet0'. Under 'IP Configuration', the 'Static' radio button is selected. The IPv4 Address is set to 1.0.0.2, the Subnet Mask is 255.0.0.0, the Default Gateway is 0.0.0.0, and the DNS Server is 0.0.0.0. Under 'IPv6 Configuration', the 'Static' radio button is also selected. The IPv6 Address field is empty, the Link Local Address is FE80::201:C9FF:FEC9:1808, and the Default Gateway and DNS Server fields are empty. Under '802.1X', the 'Use 802.1X Security' checkbox is unchecked, the Authentication is set to MD5, and the Username and Password fields are empty. A 'Top' button is located at the bottom left of the window.

Section	Option	Value
IP Configuration	Interface	FastEthernet0
	IP Configuration	Static
	IPv4 Address	1.0.0.2
	Subnet Mask	255.0.0.0
	Default Gateway	0.0.0.0
IPv6 Configuration	IPv6 Configuration	Static
	IPv6 Address	
	Link Local Address	FE80::201:C9FF:FEC9:1808
	Default Gateway	
	DNS Server	
802.1X	Use 802.1X Security	Unchecked
	Authentication	MD5
	Username	
	Password	

Step 3: Configuring the firewall in a server and blocking packets and allowing web browser.

- Click on server0 then go to the desktop.
- Then click on firewall IPv4.
- Turn on the services.
- First, Deny the ICMP protocol and set remote IP to 0.0.0.0 and Remote wildcard mask to 255.255.255.255.
- Then, allow the IP protocol and set remote IP to 0.0.0.0 and Remote wildcard mask to 255.255.255.255 and add them.



Step 4: Configuring the firewall in PC0 and verifying:

Hence Verified as we get reply from the 1.0.0.3 IP ping but not from 1.0.0.1 .