

Computer Networks

CS361 Lab4

Name: Dipean Dasgupta

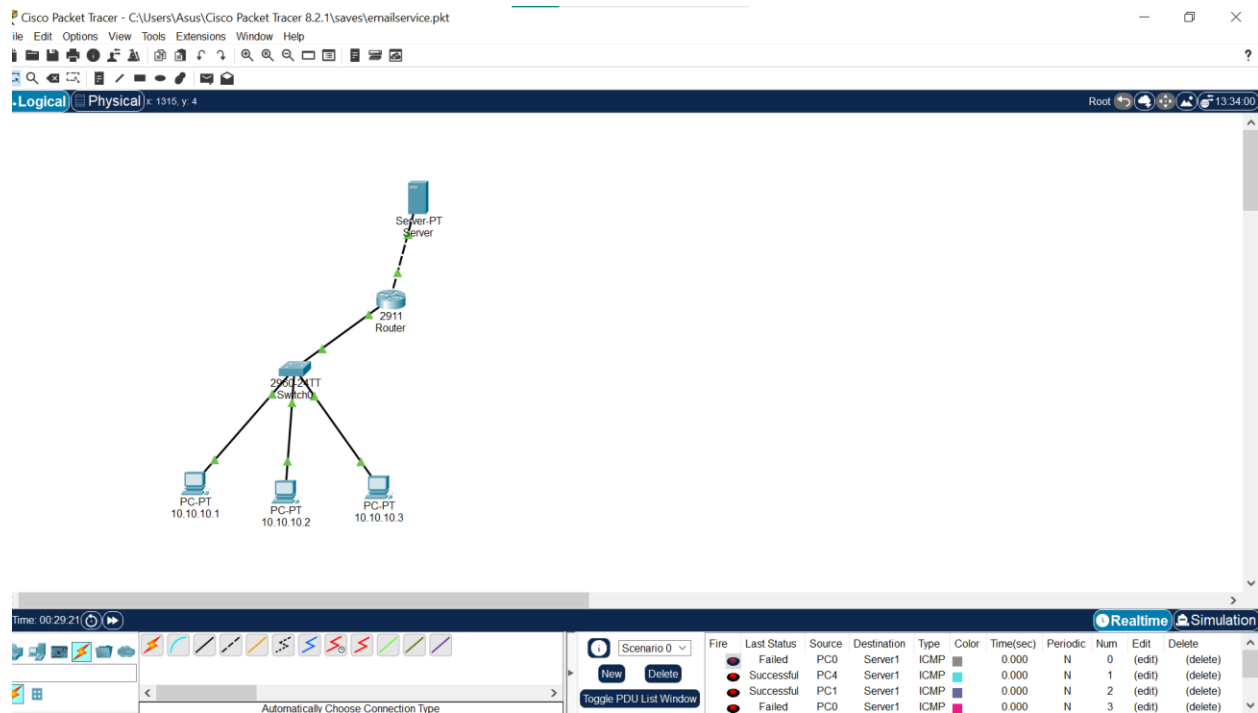
ID:202151188

CPT experiment file link:

<https://drive.google.com/drive/folders/10s1hzK7XaJzeYiOVeLJAr1ivrN8JbfB?usp=sharing>

Task1: Design a small network using a PC, switch, and router; send mail from one PC to another using a server.

Creating Network



Checking connection...

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	10.10....	Server	ICMP		0.000	N	4	(edit)	(delete)
	Successful	10.10....	Server	ICMP		0.000	N	5	(edit)	(delete)
	Successful	10.10....	Server	ICMP		0.000	N	6	(edit)	(delete)

Connection successful!

Configuring email service...

The screenshot shows the 'Server' configuration window with the 'Services' tab selected. On the left, a list of services includes HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL (highlighted), FTP, IoT, VM Management, and Radius EAP. The main area is titled 'EMAIL' and contains two service status sections: 'SMTP Service' and 'POP3 Service', both with 'ON' selected. Below these is a 'Domain Name' field containing 'iiitvadodara.com' and a 'Set' button. A 'User Setup' section has 'User' and 'Password' input fields. A list box contains 'student1', 'student2', and 'student3'. To the right of the list box are buttons for '+', '-', 'Change', and 'Password'.

Setting up pc email service...

The screenshot shows the '10.10.10.2' configuration window with the 'Desktop' tab selected. A 'Configure Mail' dialog box is open, featuring three sections: 'User Information' with 'Your Name' (student2) and 'Email Address' (student2@iiitvadodara.com); 'Server Information' with 'Incoming Mail Server' and 'Outgoing Mail Server' (both 192.168.0.4); and 'Logon Information' with 'User Name' (student2) and a masked 'Password' field. At the bottom are 'Save', 'Remove', 'Clear', and 'Reset' buttons.

Email configured!...

Sending test email...

10.10.10.1

Physical Config **Desktop** Programming Attributes

Compose Mail X

Send To: student3@iiitvadodara.com

Subject: test emails

testing the email service! |

Sending mail to student3@iiitvadodara.com , with subject : test emails ..
Mail Server: 192.168.0.4
Send Success.

Cancel
Send/Receive

Email send successful from student1

10.10.10.3

Physical Config **Desktop** Programming Attributes

MAIL BROWSER X

Mails

Compose Reply Receive Delete Configure Mail

	From	Subject	Received
1	student1@iiitvadodara.com	test emails	Fri Oct 13 2023 13:31:03
2	student1@iiitvadodara.com	test email	Fri Oct 13 2023 13:30:17

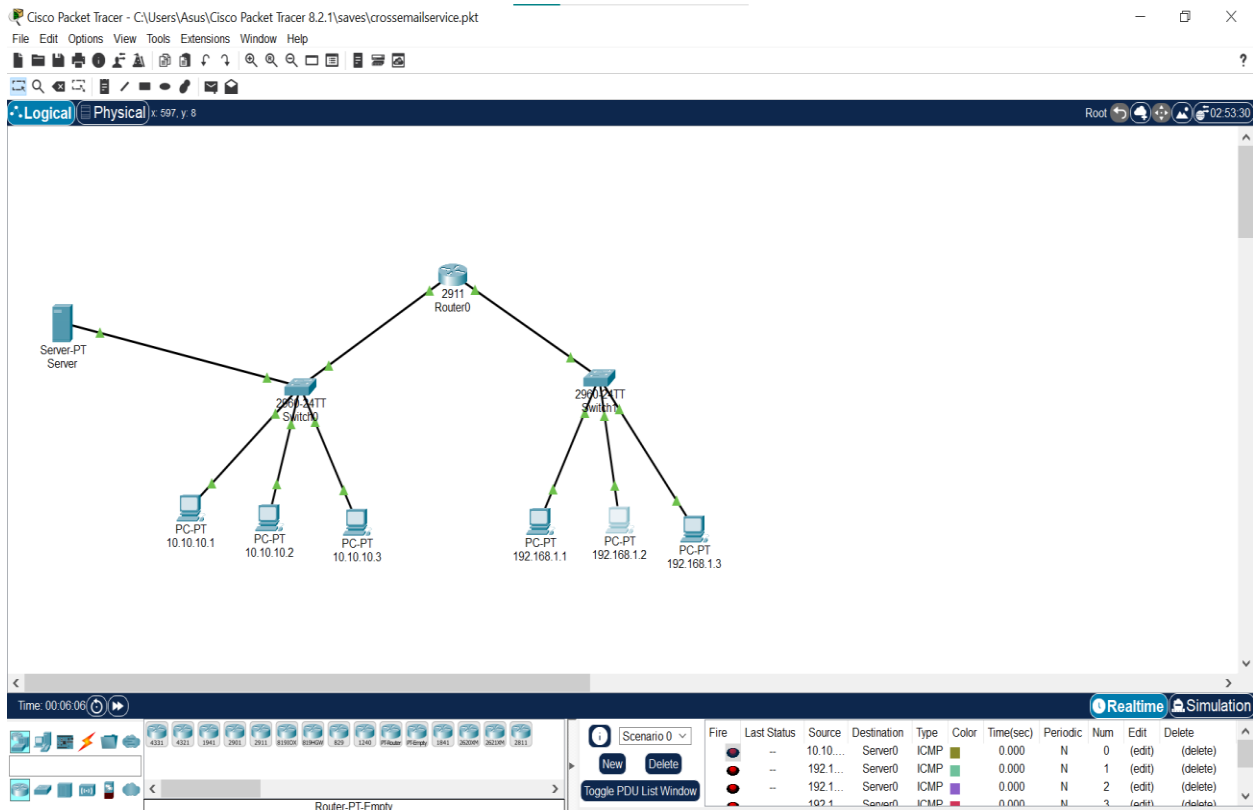
< >

Email successfully received by student3

Continued next page...

Task2: Design a complex network with at least two different addresses (the network diagram shown in the laboratory). You can use many PCs, switches, and routers. Note that the PC used for sending and receiving mail should be connected to other network addresses this time.

Creating network...



Checking connection..

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	10.10.10.1	Server	ICMP	Green	0.000	N	5	(edit)	(delete)
●	Successful	192.168.1.1	Server	ICMP	Purple	0.000	N	6	(edit)	(delete)
●	Successful	10.10.10.2	Server	ICMP	Blue	0.000	N	7	(edit)	(delete)

Connection successful!...

Configuring email service...

The screenshot shows the 'Server' configuration window with the 'Services' tab selected. In the left sidebar, 'EMAIL' is highlighted under the 'SERVICES' section. The main area is titled 'EMAIL' and contains the following fields:

- SMTP Service:** Radio buttons for 'ON' (selected) and 'OFF'.
- POP3 Service:** Radio buttons for 'ON' (selected) and 'OFF'.
- Domain Name:** Text field containing 'iiitvadodara.ac.in' with a 'Set' button to its right.
- User Setup:** A section with a 'User' field containing 's1' and a 'Password' field containing '123'. Below these is a list of users: s1, s2, s3, s4, s5, s6. To the right of the list are buttons for '+', '-', 'Change', and 'Password'.

Configuring pc email service...

The screenshot shows the '10.10.10.3' configuration window with the 'Desktop' tab selected. A 'Configure Mail' dialog box is open, containing the following sections:

- User Information:** 'Your Name' field with 's3' and 'Email Address' field with 's3@iiitvadodara.ac.in'.
- Server Information:** 'Incoming Mail Server' field with '10.10.10.7' and 'Outgoing Mail Server' field with '10.10.10.7'.
- Logon Information:** 'User Name' field with 's3' and 'Password' field with masked characters '•••'.

At the bottom of the dialog are buttons for 'Save', 'Remove', 'Clear', and 'Reset'.

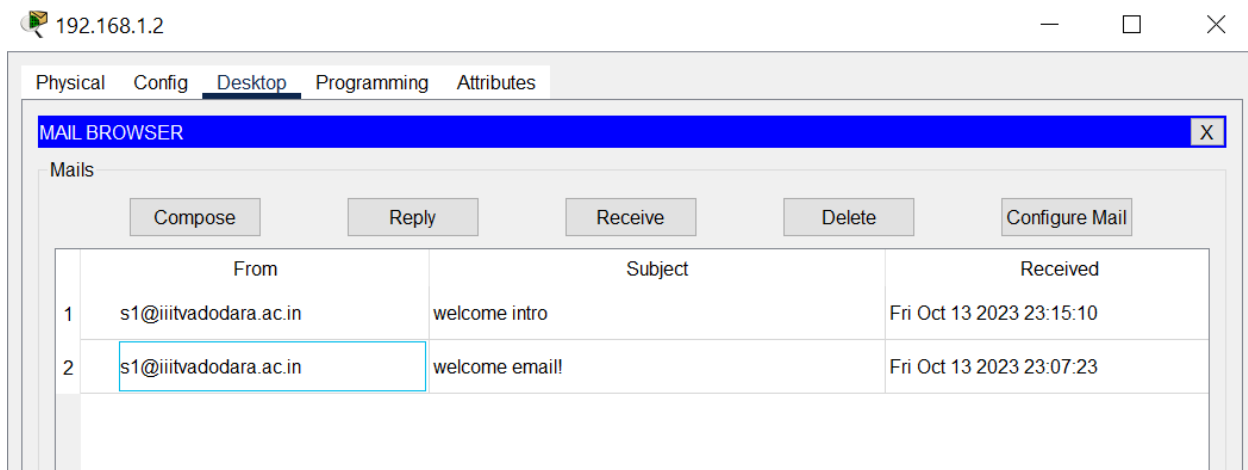
Email configured!...

Sending test email...

Sending mail to s5@iitvadodara.ac.in , with subject : welcome intro ..
Mail Server: 10.10.10.7
Send Success.

Cancel
Send/Receive

Email sent by pc s1 successfully!



Mail received by pc s5 succesfully!

Here s1 is having IP 10.10.10.1 and pc s5 having 192.168.1.2. both are from different networks but are connected. The email is successfully sent from pc s1 to pc s5.

Task3: Why do we use cross-over wire to connect a router and a server/PC?

Without the need of an intermediary equipment, such as a network switch or hub, crossover cables are used to link two identical devices directly. When both devices lacked auto-sensing ports, crossover cables had to be used to link a router and a server/PC in the past. The reasons include:

Ethernet Cable Wiring: Four pairs of wires make up an Ethernet cable's internal wiring. The wires on one end of a standard (straight-through) Ethernet cable are linked to the identical pins on the other end of the cable. Typically, this kind of cable is used to link several gadgets, such as a computer to a switch or router.

Wiring of a Crossover Cable: A Crossover Cable has some of these wires crossed, which means the data send wires are connected to the corresponding receive wires on each end. This is required when connecting two identical devices directly because the transmit and receive signals of one device must match for the second device to function.

