




LAB

# Servers

## Network

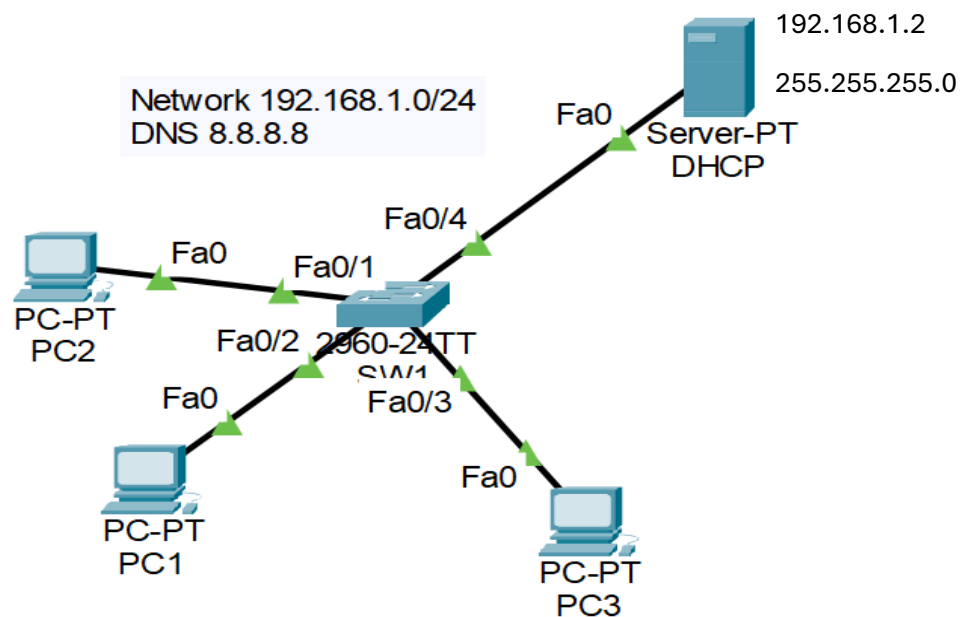


Network Engineer: - Ahmed Abou\_Elmaged Shallan Allam

# 1-DHCP

- How to create a protocol DHCP on a server and distribute the IP automatically in PCs.

## LAB1



- How configurations Server DHCP?
  - Enter **DHCP server**.
  - Choose **Services**.
  - Choose Desktop and **Enter IP and mask** to server.
  - Choose **DHCP**.
  - Choose **DHCP is ON**.
  - Create a **pool Name**.
  - Add **Gateway** and **DNS server**.
  - Add **Start IP address**.
  - Add **subnet mask**.
  - **Max of Users**.
  - Enter **Your Device** and choose the **DHCP**.

Physical Config Services Desktop Programming Attributes

## IP Configuration X

## IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.100

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 8.8.8.8

Physical Config Services Desktop Programming Attributes

## SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

## DHCP

Interface FastEthernet0 Service ☒ On ☐ Off

Pool Name Network192.168.1.0

Default Gateway

DNS Server 8.8.8.8

Start IP Address : 192 168 1 3

Subnet Mask: 255 255 255 0

Maximum Number of Users : 40

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add

Save

Remove

| Pool Name          | Default Gateway | DNS Server | Start IP Address | Subnet Mask   | Max User | TFTP Server | WLC Address |
|--------------------|-----------------|------------|------------------|---------------|----------|-------------|-------------|
| Network192.168.1.0 | 192.168.1.1     | 8.8.8.8    | 192.168.1.2      | 255.255.255.0 | 40       | 0.0.0.0     | 0.0.0.0     |
| serverPool         | 0.0.0.0         | 0.0.0.0    | 169.254.0.0      | 255.255.0.0   | 512      | 0.0.0.0     | 0.0.0.0     |

## ✓ PC1

|                                       |                              |                          |   |
|---------------------------------------|------------------------------|--------------------------|---|
| Interface                             | FastEthernet0                |                          | ▼ |
| IP Configuration                      |                              |                          |   |
| <input checked="" type="radio"/> DHCP | <input type="radio"/> Static | DHCP request successful. |   |
| IPv4 Address                          | 192.168.1.1                  |                          |   |
| Subnet Mask                           | 255.255.255.0                |                          |   |
| Default Gateway                       | 0.0.0.0                      |                          |   |
| DNS Server                            | 8.8.8.8                      |                          |   |

## ✓ PC2

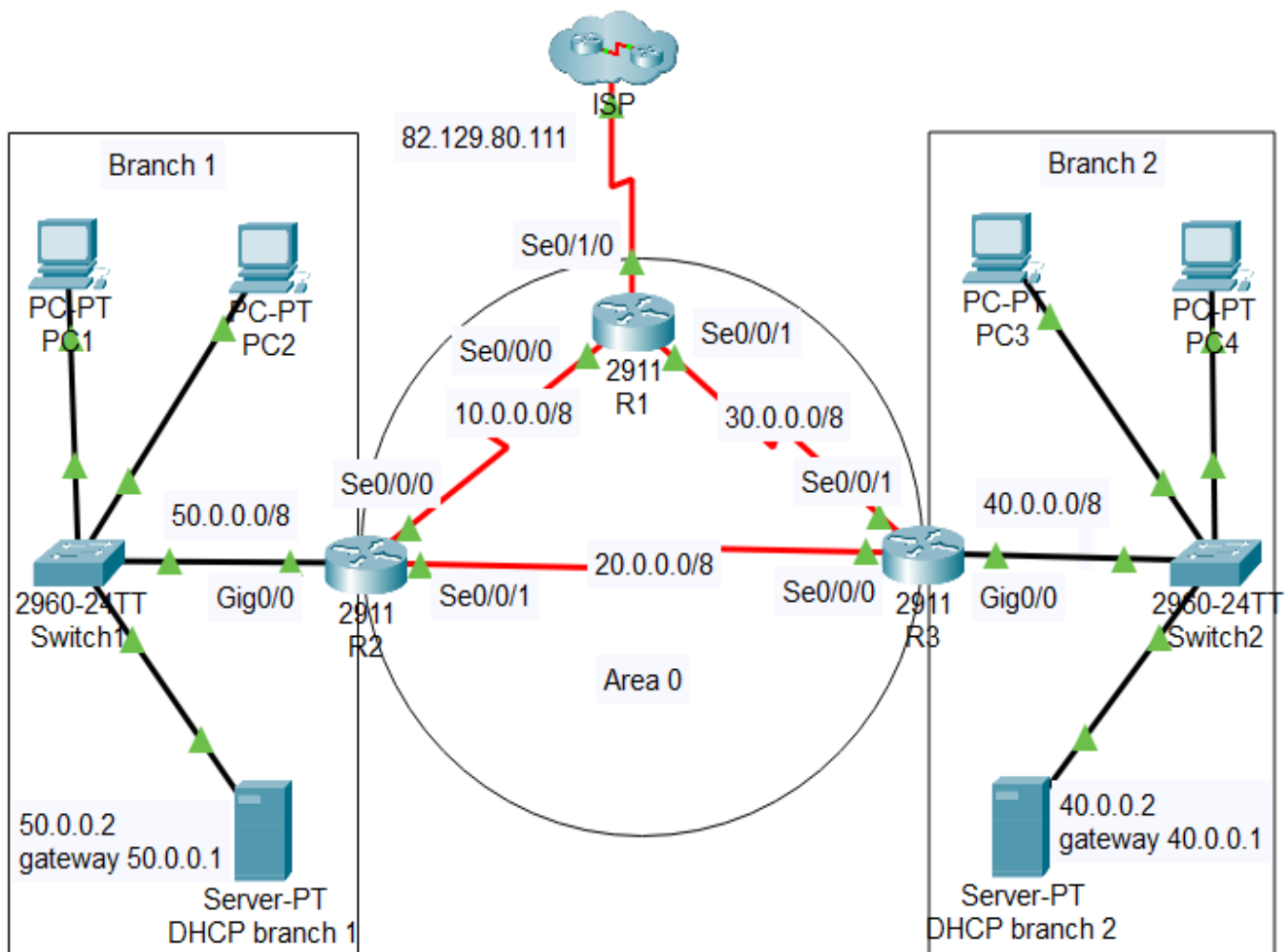
|                                       |                              |                          |   |
|---------------------------------------|------------------------------|--------------------------|---|
| Interface                             | FastEthernet0                |                          | ▼ |
| IP Configuration                      |                              |                          |   |
| <input checked="" type="radio"/> DHCP | <input type="radio"/> Static | DHCP request successful. |   |
| IPv4 Address                          | 192.168.1.2                  |                          |   |
| Subnet Mask                           | 255.255.255.0                |                          |   |
| Default Gateway                       | 0.0.0.0                      |                          |   |
| DNS Server                            | 8.8.8.8                      |                          |   |

## ✓ PC3

|                                       |                              |                          |   |
|---------------------------------------|------------------------------|--------------------------|---|
| Interface                             | FastEthernet0                |                          | ▼ |
| IP Configuration                      |                              |                          |   |
| <input checked="" type="radio"/> DHCP | <input type="radio"/> Static | DHCP request successful. |   |
| IPv4 Address                          | 192.168.1.3                  |                          |   |
| Subnet Mask                           | 255.255.255.0                |                          |   |
| Default Gateway                       | 0.0.0.0                      |                          |   |
| DNS Server                            | 8.8.8.8                      |                          |   |

## LAB2

- Small Company contain Two Branches Branch 1, Branch 2 , Each Branch contain one dhcp server distribute Ips to Pcs in the branch .
- Using configuration OSPF protocol in Routers.



## Branch 1

DHCP branch 1

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: Network50

Default Gateway: 50.0.0.1

DNS Server: 8.8.8.8

Start IP Address: 50 0 0 3

Subnet Mask: 255 0 0 0

Maximum Number of Users: 40

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

| Pool Name  | Default Gateway | DNS Server | Start IP Address | Subnet Mask | Max User | TFTP Server | WLC Address |
|------------|-----------------|------------|------------------|-------------|----------|-------------|-------------|
| Network50  | 50.0.0.1        | 8.8.8.8    | 50.0.0.3         | 255.0.0.0   | 40       | 0.0.0.0     | 0.0.0.0     |
| serverPool | 0.0.0.0         | 0.0.0.0    | 50.0.0.0         | 255.0.0.0   | 512      | 0.0.0.0     | 0.0.0.0     |

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## PC1

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address: 50.0.0.3

Subnet Mask: 255.0.0.0

Default Gateway: 50.0.0.1

DNS Server: 8.8.8.8

## PC2

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 50.0.0.4

Subnet Mask 255.0.0.0

Default Gateway 50.0.0.1

DNS Server 8.8.8.8

## Branch 2

DHCP branch 2

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface FastEthernet0 Service ☒ On ☐ Off

Pool Name Network40

Default Gateway 40.0.0.1

DNS Server 8.8.8.8

Start IP Address : 40 0 0 3

Subnet Mask: 255 0 0 0

Maximum Number of Users : 40

TFTP Server: 0.0.0.0

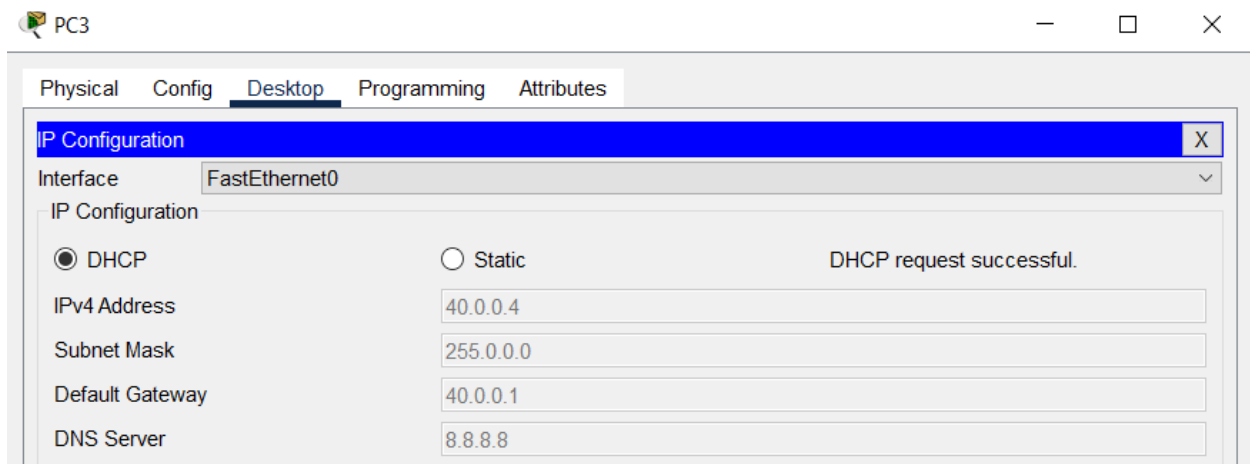
WLC Address: 0.0.0.0

Add Save Remove

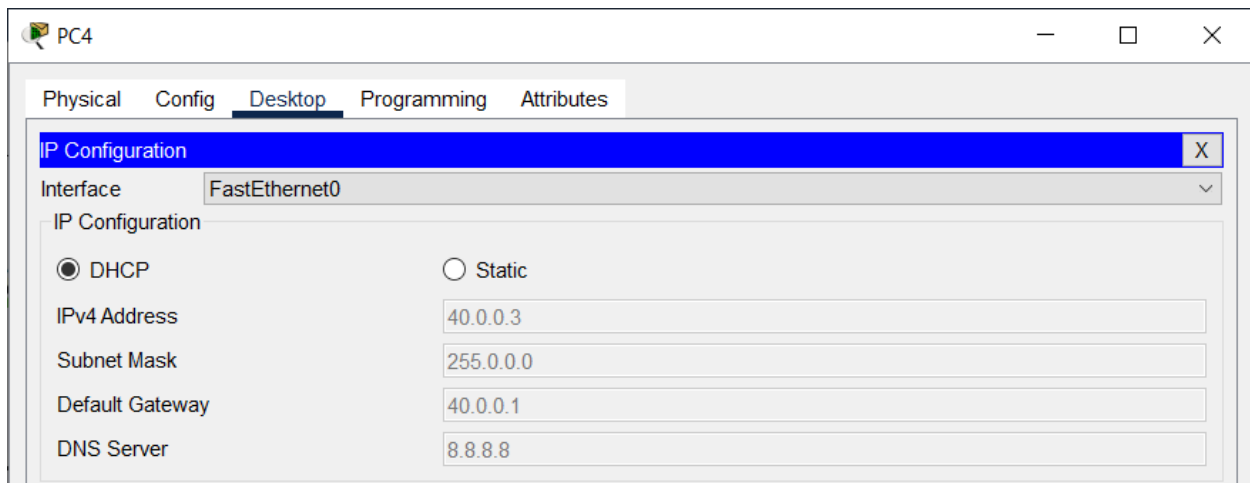
| Pool Name  | Default Gateway | DNS Server | Start IP Address | Subnet Mask | Max User | TFTP Server | WLC Address |
|------------|-----------------|------------|------------------|-------------|----------|-------------|-------------|
| Network40  | 40.0.0.1        | 8.8.8.8    | 40.0.0.3         | 255.0.0.0   | 40       | 0.0.0.0     | 0.0.0.0     |
| serverPool | 40.0.0.1        | 8.8.8.8    | 40.0.0.3         | 255.0.0.0   | 40       | 0.0.0.0     | 0.0.0.0     |

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## PC3



## PC4



## Ping PC3 to PC1

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 50.0.0.1

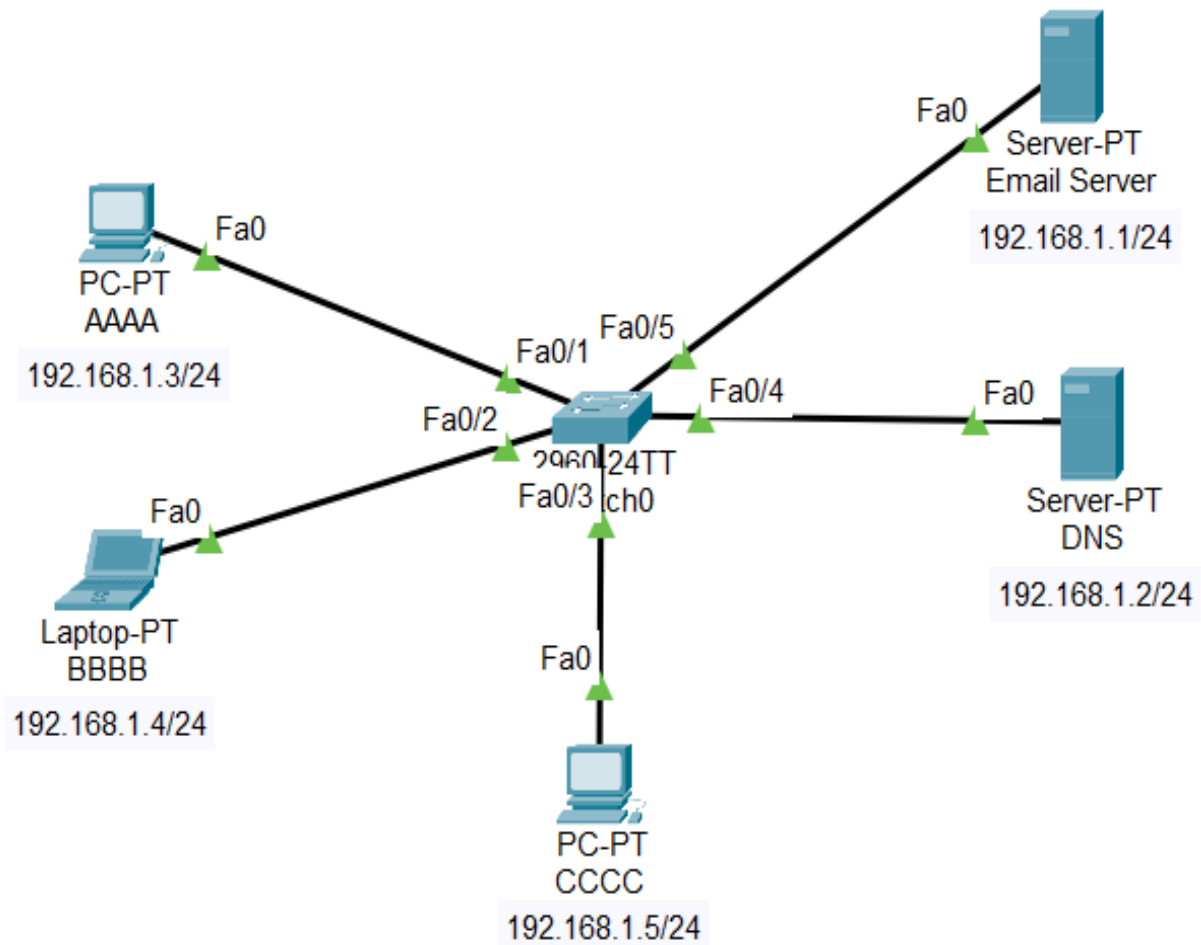
Pinging 50.0.0.1 with 32 bytes of data:

Reply from 50.0.0.1: bytes=32 time=27ms TTL=254
Reply from 50.0.0.1: bytes=32 time=2ms TTL=254
Reply from 50.0.0.1: bytes=32 time=2ms TTL=254
Reply from 50.0.0.1: bytes=32 time=1ms TTL=254
```



## 2-Email Server

- Using Email Server and DNS Create Emails to Users is PCs.
  - Client1 is AAAA
  - Client2 is BBBB
  - Client3 is CCCC



## ➤ How to Configuration Email Server and Set users.

Email Server

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 192.168.1.2

Email Server

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL**
- FTP
- IoT
- VM Management
- Radius EAP

EMAIL

SMTP Service ☒ ON ☐ OFF

POP3 Service ☒ ON ☐ OFF

Domain Name: allam.com Set

User Setup

User CCCC Password CCCC1234

AAAA  
BBBB

+  
-  
Change  
Password

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## ➤ How to Configuration DNS Server and connect to Email Server?

DNS

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 192.168.1.2

DNS

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 allam.com Type ARecord

Address 192.168.1.1

Add Save Remove

| No. | Name      | Type    | Detail      |
|-----|-----------|---------|-------------|
| 0   | allam.com | ARecord | 192.168.1.1 |

DNS Cache

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- How to Set Emails in PCs and send messages?
- ✓ PC1 is AAAA Enter Desktop and choose Email.

AAAA

Physical

Config

Desktop

Programming

Attributes

Configure Mail

X

User Information

Your Name: AAAA

Email Address: AAAA@allam.com

Server Information

Incoming Mail Server: 192.168.1.1

Outgoing Mail Server: 192.168.1.1

Logon Information

User Name: AAAA

Password: ●●●●●●●●

Save

Remove

Clear

Reset

☐ Top

✓ **PC2 is BBBB**

BBBB

—

□

×

Physical

Config

Desktop

Programming

Attributes

Configure Mail

X

User Information

Your Name: BBBB

Email Address BBBB@allam.com

Server Information

Incoming Mail Server 192.168.1.1

Outgoing Mail Server 192.168.1.1

Logon Information

User Name: BBBB

Password: ●●●●●●●●

Save

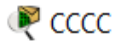
Remove

Clear

Reset

☐ Top

✓ **PC3 is CCCC**



Physical Config Desktop Programming Attributes

Configure Mail



User Information

Your Name: CCCC

Email Address CCCC@allam.com

Server Information

Incoming Mail Server 192.168.1.1

Outgoing Mail Server 192.168.1.1

Logon Information

User Name: CCCC

Password: ●●●●●●●●

Save

Remove

Clear

Reset

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## Testing

**PC1 (AAAA) sends message to PC3(CCCC).**

The image shows three overlapping windows from a PC simulation, demonstrating an email client interface.

**Window 1: PC1 (AAAA) - Compose Mail**

- Buttons: Physical, Config, **Desktop**, Programming, Attributes
- Form fields:
  - To: CCCC@allam.com
  - Subject: SMS
- Buttons: Send, Compose Mail (X)
- Text area: Hi CCCC  
How are you ?

**Window 2: PC3 (CCCC) - MAIL BROWSER**

- Buttons: Physical, Config, **Desktop**, Programming, Attributes
- Buttons: Compose, Reply, Receive, Delete, Configure Mail
- Table of Mails:

|   | From           | Subject | Received                       |
|---|----------------|---------|--------------------------------|
| 1 | AAAA@allam.com | SMS     | 13:28:06 2024 29 الإثنين يوليو |

**Window 3: PC3 (CCCC) - Message**

- Buttons: Physical, Config, **Desktop**, Programming, Attributes
- Buttons: Reply, Message (X)
- Form fields:
  - From: AAAA@allam.com
  - To: CCCC@allam.com
  - Subject: SMS
- Text area: Hi CCCC  
How are you ?
- Sent: 13:28:06 2024 29 الإثنين يوليو

**Thank You**