HƯỚNG DẪN THỰC HÀNH CHƯƠNG 6 – Thực hành 2

Fa0/0 - L11
Fa0/1 - L10
Fa1/0 - L12

Fa0/0 - L21
Fa0/1 - L20
Fa1/0 - L22

R-UTC   1/1   1/1   R-UTC2

0/0   0/1   1/0   0/0   0/1   1/0

0/1   0/2   0/3   0/1   0/2   0/3

G0/1   G0/1

Sw-UTC-A2   Sw-UTC-A1   Sw-UTC2

0/1   0/4   0/11   0/12   0/12   0/10   0/11

L12 - PC1   L11 - Lap1   L10 - Ser1   L10 - Ser2   L22 - PC1   L21 - Lap1   L20 - Ser1

vip2/123   +3   +3   +5   +3   +3   +3

vip1/123   vip1/123   vip2/123

DNS: 116.154.209.131
DNS v6: 24C1:D8E0:0:3::3

Mục tiêu:

- R-UTC cấp phát DHCP v4,v6 cho máy L12-PC1

- Sử dụng dịch vụ Web với 2 domain utc.edu.vn và utc2.edu.vn

- Sử dụng dịch vụ Mail, gửi mail giữa 2 hòm thư @utc.edu.vn và @utc2.edu.vn

Chia mạng thành các mạng con (Xem chi tiết trong file Bảng quy hoạch)

Không gian IP	Ipv4 Address 116.154.208.0/23	Ipv6 Address 24C1:D8E0::/48	VLAN ID (tên VLAN)
L1-v4 = /24; L1-v6 = /64	116.154.208.0/24	24C1:D8E0:0:1::/64	VLAN 12 (UTC-CLA)
L2-v4 = /25; L2-v6 = /64	116.154.209.0/25	24C1:D8E0:0:2::/64	VLAN 22 (UTC2-CLA)
L3-v4 = /26; L3-v6 = /64	116.154.209.128/26	24C1:D8E0:0:3::/64	VLAN 10 (UTC-SER)
L4-v4 = /27; L4-v6 = /64	116.154.209.192/27	24C1:D8E0:0:4::/64	VLAN 20 (UTC2-SER)
L5-v4 = /28; L5-v6 = /64	116.154.209.224/28	24C1:D8E0:0:5::/64	VLAN 11 (UTC-VIP)
L6-v4 = /29; L6-v6 = /64	116.154.209.240/29	24C1:D8E0:0:6::/64	VLAN 21 (UTC2-VIP)
L7-v4 = /30; L7-v6 = /64	116.154.209.248/30	24C1:D8E0:0:7::/64	Kết nối giữa 2 Router

- Cấu hình địa chỉ IP ở Router R-UTC

```
Device Name: R-UTC
Custom Device Model: 2811 IOS15
Hostname: R-UTC

Port            Link   VLAN   IP Address        IPv6 Address            MAC Address
FastEthernet0/0  Up    --     116.154.209.225/28 24C1:D8E0:0:5::1/64    0002.1642.1801
FastEthernet0/1  Up    --     116.154.209.129/26 24C1:D8E0:0:3::1/64    0002.1642.1802
FastEthernet1/0  Up    --     116.154.208.1/24   24C1:D8E0:0:1::1/64    0090.2BD3.A601
FastEthernet1/1  Up    --     116.154.209.249/30 24C1:D8E0:0:7::1/64    0090.2BD3.A602
Vlan1            Up    1      <not set>          <not set>             0000.0C6C.EC60

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > R-UTC
```

en

conf t

hostname R-UTC

enable secret UTC@123

exit

wr mem

conf t

interface fa0/0

ip address 116.154.209.225 255.255.255.240

ipv6 address 24C1:D8E0:0:5::1/64

no shut

ex

```
interface fa0/1

ip address 116.154.209.129 255.255.255.192

ipv6 address 24C1:D8E0:0:3::1/64

no shut

ex

interface fa1/0

ip address 116.154.208.1 255.255.255.0

ipv6 address 24C1:D8E0:0:1::1/64

no shut

exit

interface fa1/1

ip address 116.154.209.249 255.255.255.252

ipv6 address 24C1:D8E0:0:7::1/64

speed 100

duplex full

no shut

exit
```

- Cấu hình địa chỉ IP ở Router R-UTC2
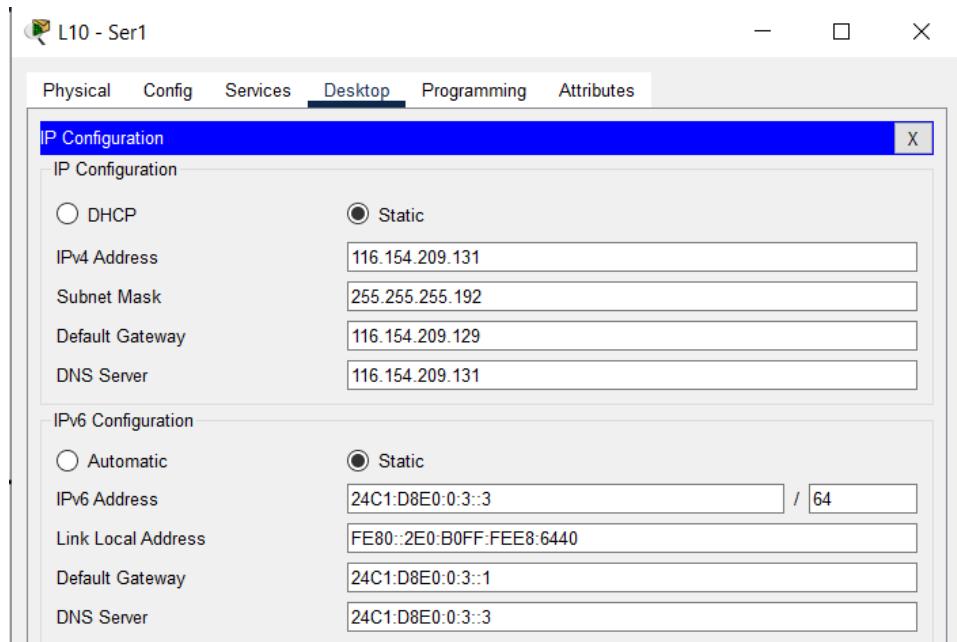
```
Device Name: R-UTC2
Custom Device Model: 2811 IOS15
Hostname: R-UTC2

Port              Link   VLAN   IP Address            IPv6 Address              MAC Address
FastEthernet0/0   Up     --     116.154.209.241/29 24C1:D8E0:0:6::1/64         0002.1728.A501
FastEthernet0/1   Up     --     116.154.209.193/27 24C1:D8E0:0:4::1/64         0002.1728.A502
FastEthernet1/0   Up     --     116.154.209.1/25   24C1:D8E0:0:2::1/64         0090.2B46.3401
FastEthernet1/1   Up     --     116.154.209.250/30 24C1:D8E0:0:7::2/64         0090.2B46.3402
Vlan1             Down   1      <not set>             <not set>                 0001.64AA.4CDB

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > R-UTC2
```

en

conf t

hostname R-UTC2

enable secret UTC@123

exit

wr mem

conf t

interface fa0/0

ip address 116.154.209.241 255.255.255.248

ipv6 address 24C1:D8E0:0:6::1/64

no shut
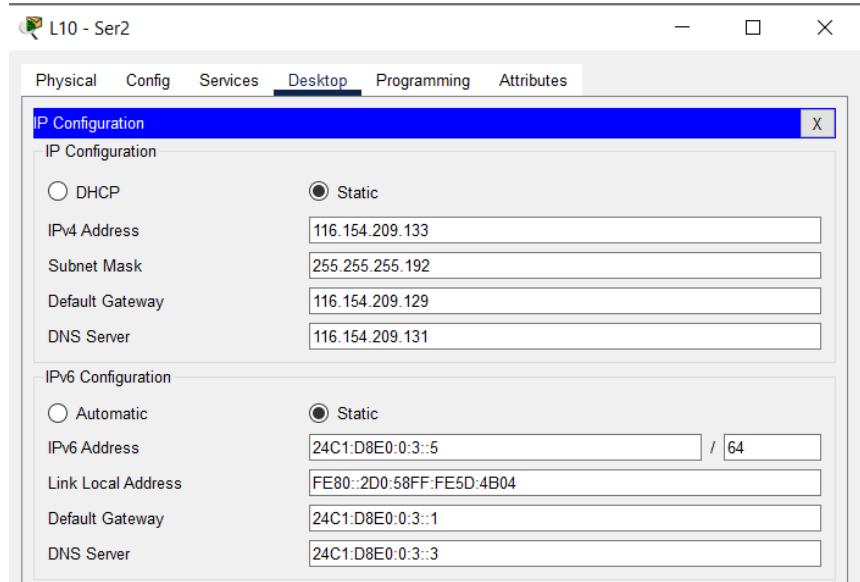
```
ex
interface fa0/1
ip address 116.154.209.193 255.255.255.224
ipv6 address 24C1:D8E0:0:4::1/64
no shut
ex
interface fa1/0
ip address 116.154.209.1 255.255.255.128
ipv6 address 24C1:D8E0:0:2::1/64
no shut
exit
interface fa1/1
ip address 116.154.209.250 255.255.255.252
ipv6 address 24C1:D8E0:0:7::2/64
speed 100
duplex full
no shut
exit
```

- Cấu hình địa chỉ IP trên các máy Server
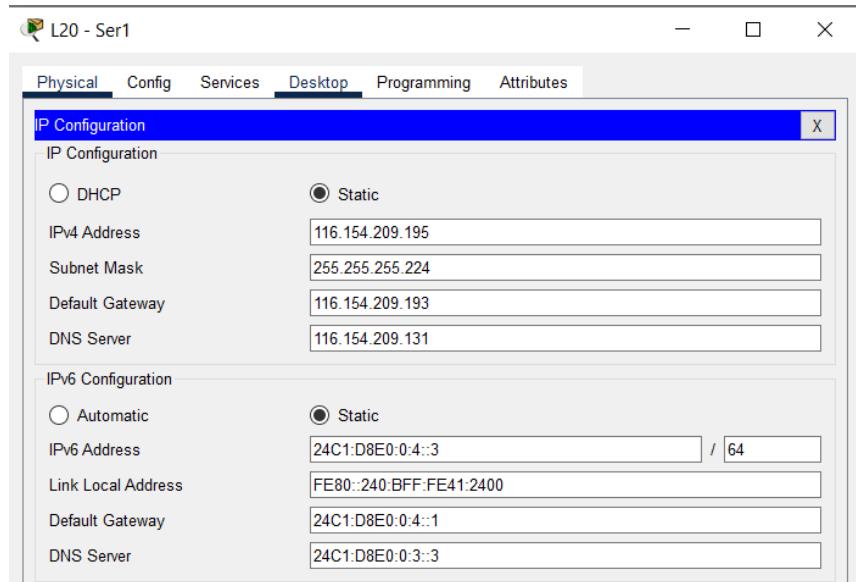
Máy L10-Ser1

Máy L10-Ser2

Máy L20-Ser1

Tương tự với các máy L11-Lap1, L22-PC1, L21-Lap1

Cấu hình trên Switch

- Tại Switch Sw-UTC-A1

```
en
conf t
hostname SW-UTC-A1
enable secret UTC@123
exit
wri mem
```

```
en

conf t

vlan 10

name UTC-Ser

end

conf t

vlan 11

name UTC-VIP

end

conf t

vlan 12

name UTC-Cla

end

conf t

int range Fa 0/11, Fa 0/2, Fa 0/12

switchport mode access

switchport access vlan 10

end

conf t
```

```
int range Fa 0/4, Fa 0/1

switchport mode access

switchport access vlan 11

end

conf t

int Fa 0/3

switchport mode access

switchport access vlan 12

end

show vlan brief
```

- Tại Switch Sw-UTC-A2

```
en

conf t

hostname SW-UTC-A2

enable secret UTC@123

exit

wri mem

en

conf t
```

```
vlan 10

name UTC-Ser

end

conf t

vlan 11

name UTC-VIP

end

conf t

vlan 12

name UTC-Cla

end

conf t

int Fa 0/1

switchport mode access

switchport access vlan 12

end

show vlan brief
```

- Tại Switch Sw-UTC2

```
en
```

```
conf t

hostname SW-UTC2

enable secret UTC@123

exit

wri mem

en

conf t

vlan 20

name UTC-Ser

end

conf t

vlan 21

name UTC-VIP

end

conf t

vlan 22

name UTC-Cla

end

conf t
```

```
int range Fa 0/11, Fa 0/2

switchport mode access

switchport access vlan 20

end

conf t

int range Fa 0/10, Fa 0/1

switchport mode access

switchport access vlan 21

end

conf t

int range Fa 0/12, Fa 0/3

switchport mode access

switchport access vlan 22

end

show vlan brief
```

- Cấu hình DHCP trên Router

```
conf t

ip dhcp pool UTC-DHCPv4-pool

network 116.154.208.0 255.255.255.0
```

```
default-router 116.154.208.1

dns-server 116.154.209.131

ex

ip dhcp excluded-address 116.154.208.1 116.154.208.60

ip dhcp pool UTC-DHCPv6-pool

dns-server

ex

interface fa 0/1

ipv6 nd other-config-flag

ipv6 dhcp server UTC-DHCPv6-pool

show ip dhcp pool
```

Cấu hình Trunk

- Tại Switch Sw-UTC-A1

```
en

conf t

int G 0/1

switchport mode trunk

switchport trunk allowed vlan 10,11,12

end
```

- Tại Switch Sw-UTC-A2

```
en
conf t
int G 0/1
switchport mode trunk
switchport trunk allowed vlan 10,11,12
end
```

- Cấu hình định tuyến trên R-UTC

```
en
ip route 0.0.0.0 0.0.0.0 116.154.209.250
```

- Cấu hình định tuyến trên R-UTC2

```
en
ip route 116.154.209.128 255.255.255.192 116.154.209.249
ip route 116.154.209.224 255.255.255.240 116.154.209.249
ip route 116.154.208.0 255.255.255.0 116.154.209.249
```

Cấu hình DNS trên Server L10-Ser1

Cấu hình HTTP, Email

Trên Server L10-Ser2

L10 - Ser2

Physical Config Services Desktop Programming Attributes

SERVICES

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

HTTP

HTTP
● On   ○ Off

HTTPS
● On   ○ Off

File Manager

	File Name	Edit	Delete
1	copyrights.html	(edit)	(delete)
2	cscoptlogo177x111.jpg		(delete)
3	helloworld.html	(edit)	(delete)
4	image.html	(edit)	(delete)
5	index.html	(edit)	(delete)
6	utc-index.html	(edit)	(delete)

L10 - Ser2
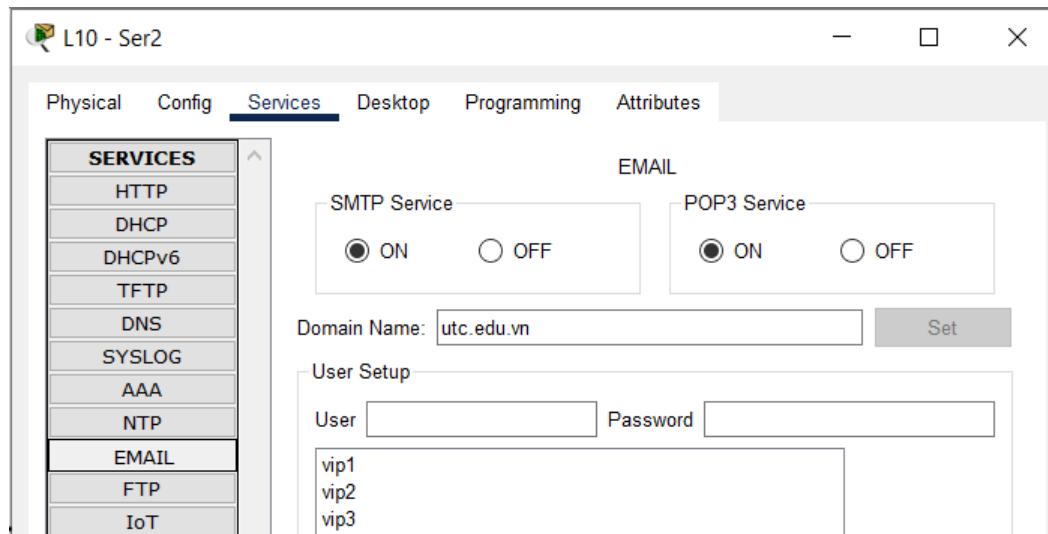
Physical Config Services Desktop Programming Attributes

SERVICES
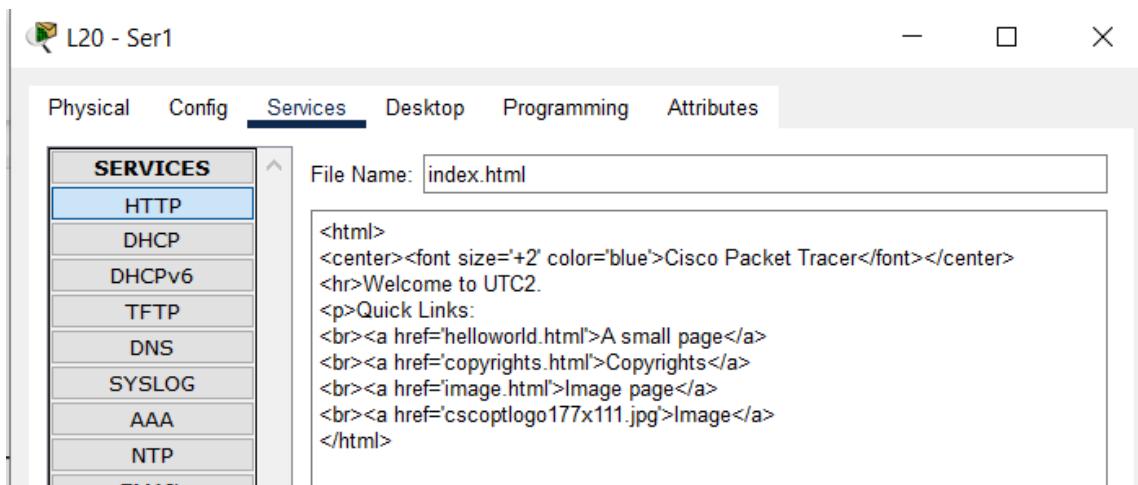
| SERVICES |
|---|
| HTTP |
| DHCP |
| DHCPv6 |

File Name: utc-index.html
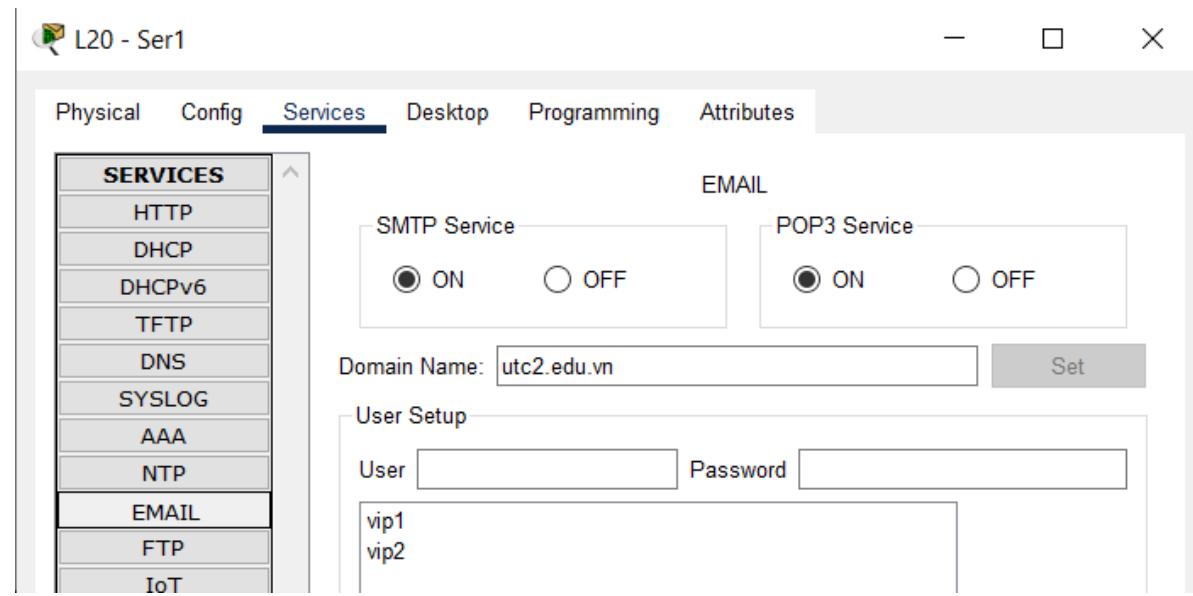
```
<h1> UTC - THE WAY TO SUCCESS </h1>
```
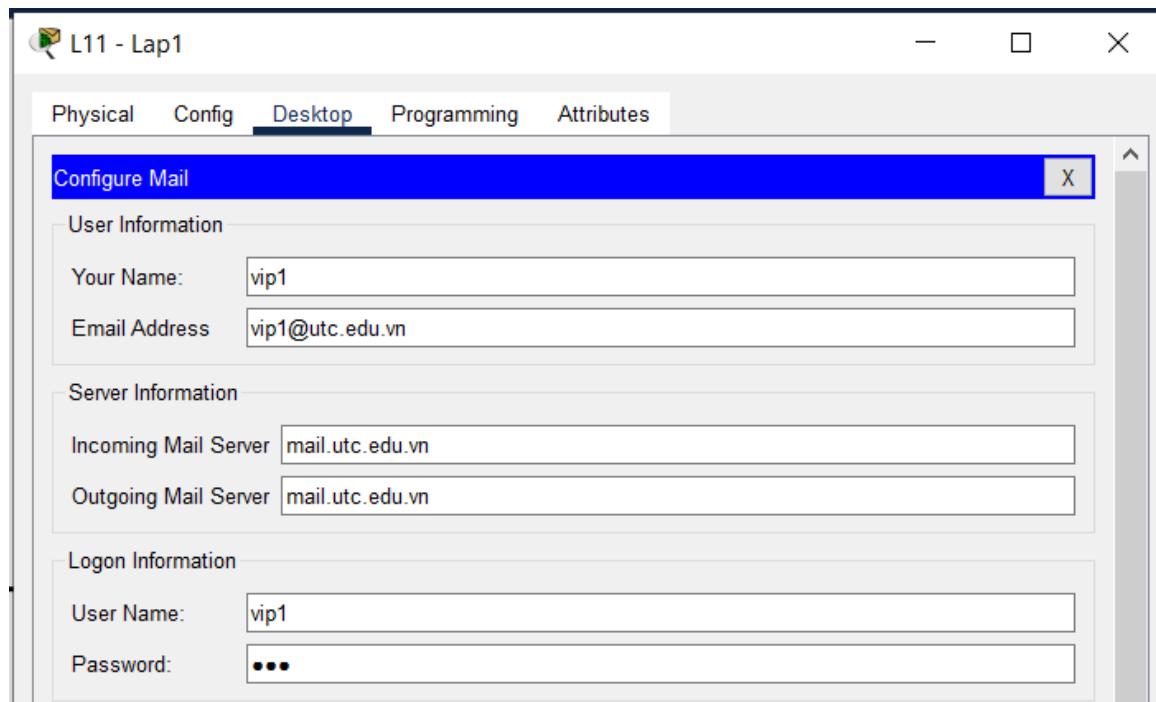
Trên server L20-Ser1
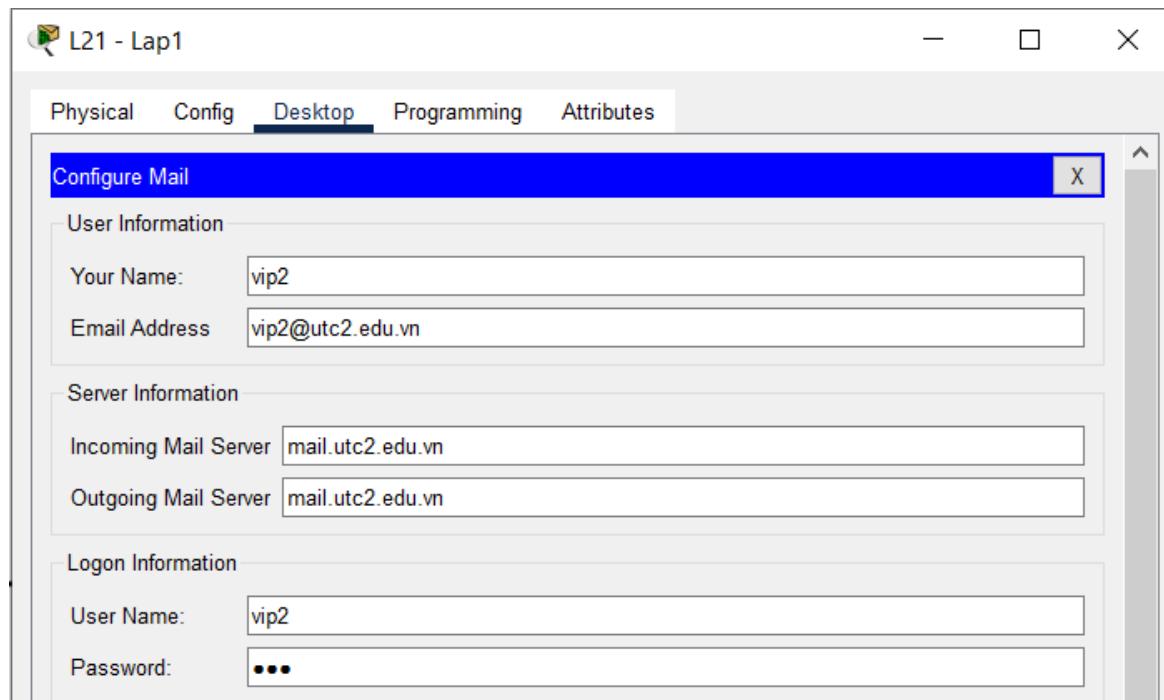
Cấu hình configure mail trên 1 máy PC dùng mail @utc.edu.vn (Các máy khác cấu hình tương tự)

Trên máy L11-Lap1

Cấu hình configure mail trên 1 máy PC dùng mail @utc2.edu.vn (Các máy khác cấu hình tương tự)

Trên máy L21-Lap1

Kiểm tra gửi mail giữa các địa chỉ khác nhau

L11 - Lap1

Physical   Config   Desktop   Programming   Attributes

MAIL BROWSER   X

Mails

| Compose | Reply | Receive | Delete | Configure Mail |

	From	Subject	Received
1	vip2@utc2.edu.vn	Test	CN Thg12 1 202401:35:59
2	vip2@utc.edu.vn	Test	CN Thg12 1 202401:31:09

L21 - Lap1

Physical   Config   Desktop   Programming   Attributes

MAIL BROWSER   X

Mails

| Compose | Reply | Receive | Delete | Configure Mail |

	From	Subject	Received
1	vip1@utc.edu.vn	RE: Test	CN Thg12 1 202401:36:49
2	vip1@utc2.edu.vn	Hello	CN Thg12 1 202401:35:35