ALI USTUNKOL

COMP 5352 1: Advanced Internetworking Technology

North American University

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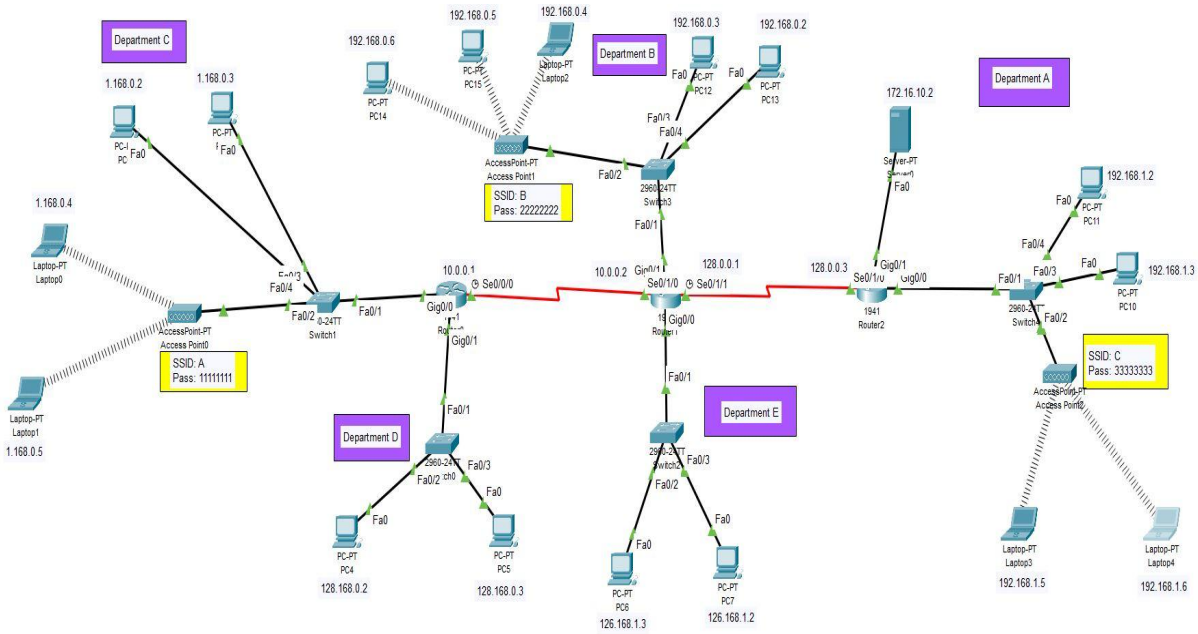
Final Project

I attached below the full scheme packet tracer version and I will explain part by part.



Devices list:

- 3 - 1941 routers
- 5 - 2960 switches
- 1 - Server
- 3 - Access points
- 10 wired connected PC
- 6 wireless connected Laptop

Router Configuration:

I used three 1941 routers. I set up an OSPF and IP route for insides and outside communication. I didn't use the DHCP pool, because I manually set each device IP address.

For OSPF:

I used ospf for inside and outside communications.

Router 0

Router ospf 1

Router- id 1.1.1.1

Network 10.0.0.0 255.255.255.0 area 0

Network 1.0.0.0 255.255.255.0 area 1

Network 128.168.0.0 255.255.255.0 area 1

Router 1

Router ospf 1

Router – id 2.2.2.2

Network 10.0.0.0 255.255.255.0 area 0

Network 126.168.1.0 255.255.255.0 area 1

Network 128.0.0.0 255.255.255.0 area 0

Network 192.168.0.0 255.255.255.0 area 1

Router 2

Router ospf 1

Router – id 3.3.3.3

Network 128.0.0.0 255.255.255.0 area 0

Network 172.16.10.0 255.255.255.0 area 1

Network 192.168.1.0 255.255.255.0 area 1

For IP Route:

Router 0:

IP route 0.0.0.0 0.0.0.0 se0/0/0

Router 1:

IP route 0.0.0.0 0.0.0.0 se0/1/0

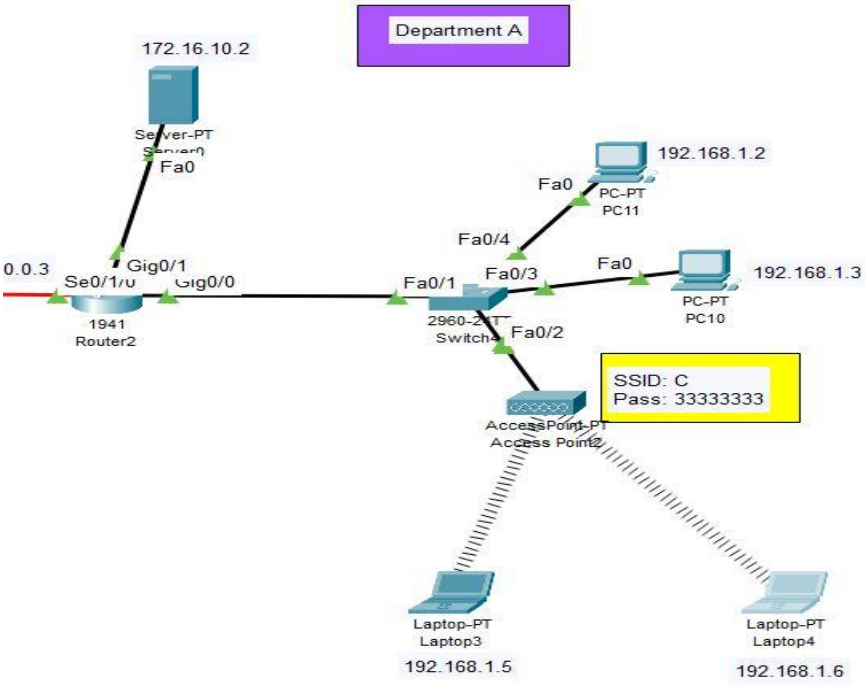
IP route 0.0.0.0 0.0.0.0 se0/1/1

Router 2

IP route 0.0.0.0 0.0.0.0 se0/1/0

Part 1 – Department A

I took screenshots part by part and started to explain. I will explain IP's and which ports connect each other.



As you can see the scheme in department A. We have one server, one router, switch, AP and 4 Pc.

1941 router connected Server PT Gig 0/1 to Fa0/0

IP address: 172.16.10.2

Subnet Mask: 255.255.255.0

Default Gateway: 172.16.10.0

2960 switch connected PC 11 Fa 0/4 to Fa 0/0

IP address 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.0

2960 switch connected PC 11 Fa 0/3 to Fa 0/0

IP address: 192.168.1.3

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.0

2960 switch connected AP Fa 0/2

AP connected two laptop3 to laptop4

Laptop3

IP address:192.168.1.5

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.0

Laptop4

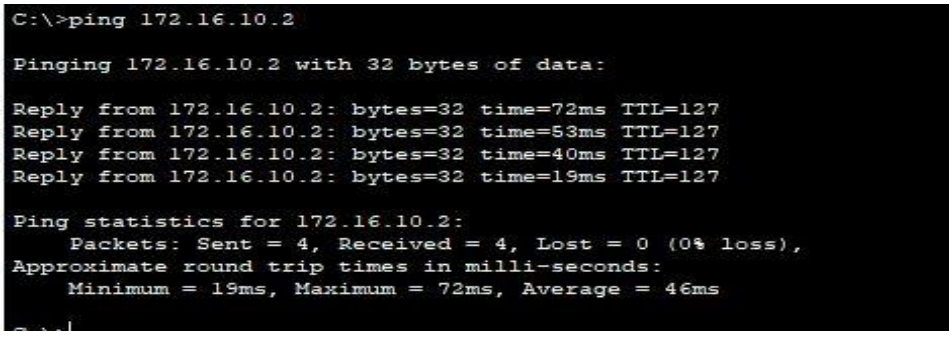
IP address: 192.168.1.6

Subnet Mask: 255.255.255.0

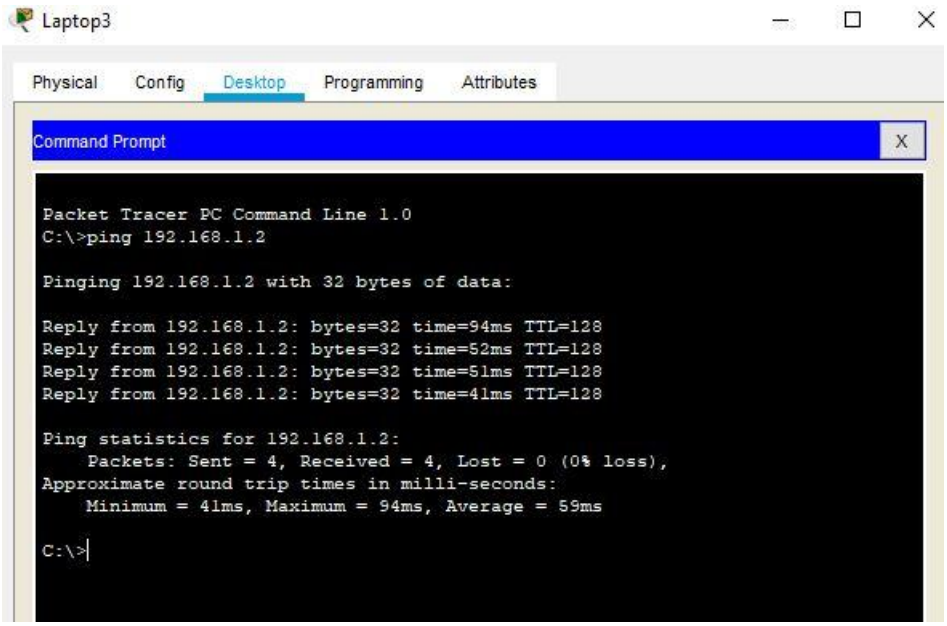
Default Gateway: 192.168.1.0

Ping Tests:

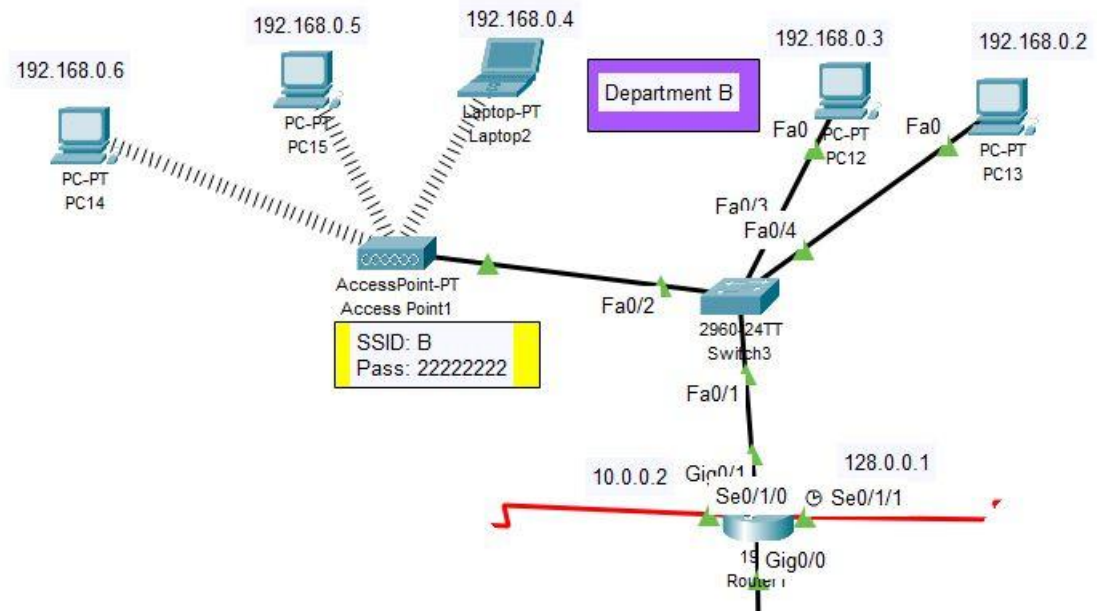
Laptop4 to Server



Laptop3 to PC11



Part 2 – Department B



Router Configuration:

Router 1

Router ospf 1

Router – id 2.2.2.2

Network 10.0.0.0 255.255.255.0 area 0

Network 126.168.1.0 255.255.255.0 area 1

Network 128.0.0.0 255.255.255.0 area 0

Network 192.168.0.0 255.255.255.0 area 1

IP Route:

Router 1:

IP route 0.0.0.0 0.0.0.0 se0/1/0

IP route 0.0.0.0 0.0.0.0 se0/1/1

1941 router connected 2960 switch Gig0/1 to Fa0/1

2960 switch connected PC13 Fa0/4 to Fa0/0

IP address: 192.168.0.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

2960 switch connected PC12 Fa0/3 to Fa0/0

IP address: 192.168.0.3

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

2960 switch connected AP Fa0/2

AP switch to Laptop2

IP address: 192.168.0.4

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

AP switch to PC15

IP address: 192.168.0.5

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

AP switch to PC14

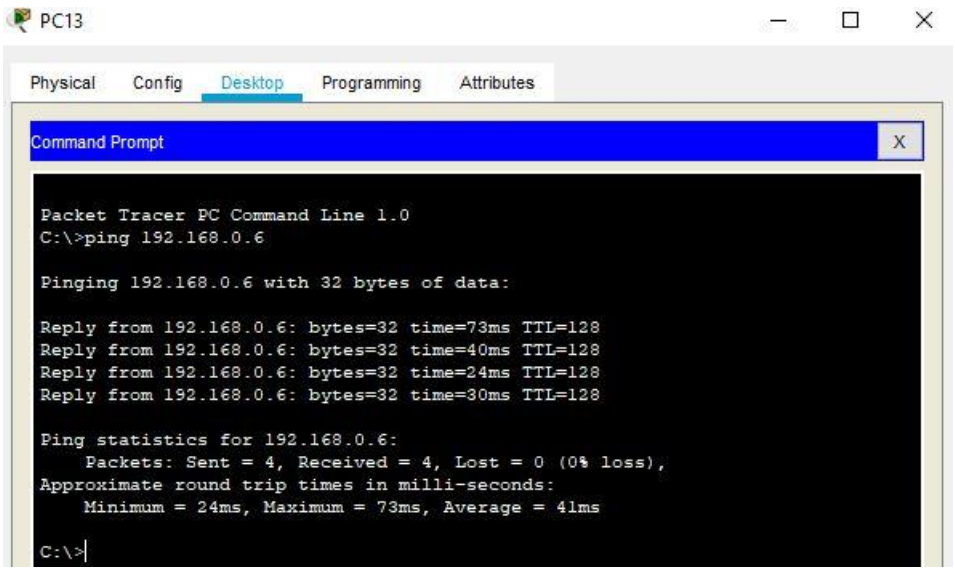
IP address: 192.168.0.6

Subnet Mask: 255.255.255.0

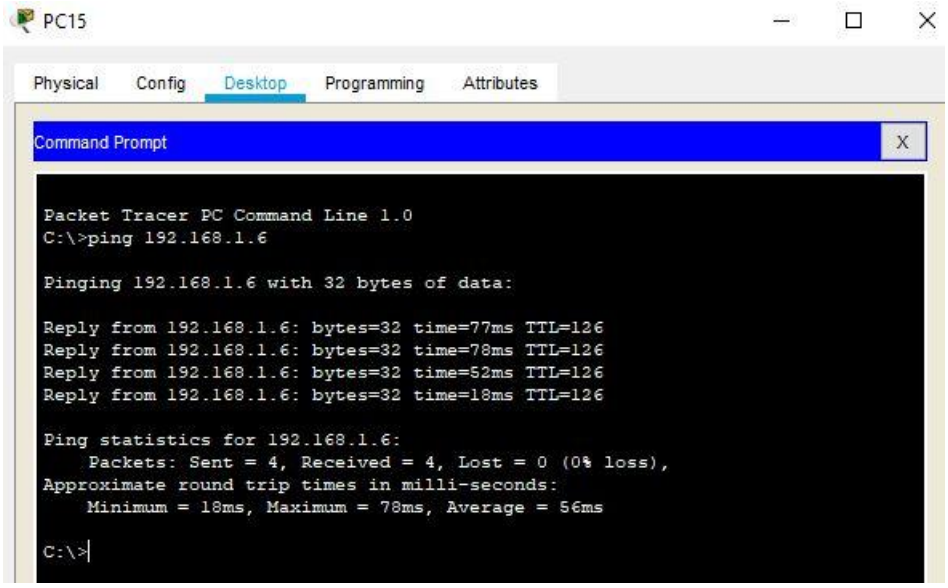
Default Gateway: 192.168.0.1

Ping Test:

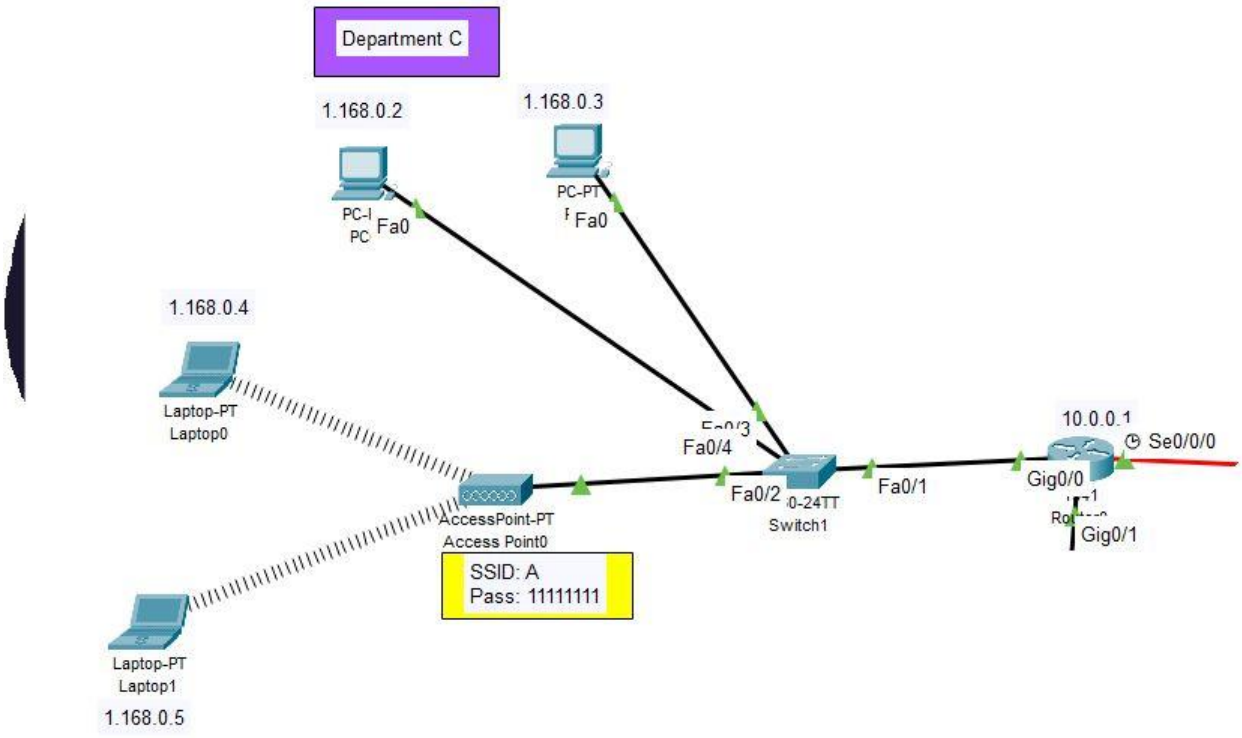
PC 13 to PC14



Department A to Department B PC15 to Laptop 4



Part 3 – Department C



Router Configuration:

Router 0

Router ospf 1

Router- id 1.1.1.1

Network 10.0.0.0 255.255.255.0 area 0

Network 1.0.0.0 255.255.255.0 area 1

Network 128.168.0.0 255.255.255.0 area 1

For IP Route:

Router 0:

IP route 0.0.0.0 0.0.0.0 se0/0/0

1941 router connected 2960 switch Gig0/0 to Fa0/1

2960 switch connected Pc0 Fa0/3 to Fa0/0

IP address: 1.168.0.2

Subnet Mask: 255.255.255.0

Default Gateway: 1.168.0.1

2960 switch connected Pc0 Fa0/4 to Fa0/0

IP address: 1.168.0.2

Subnet Mask: 255.255.255.0

Default Gateway: 1.168.0.1

2960 switch connected AP

AP connected Laptop0

IP address: 1.168.0.4

Subnet Mask: 255.255.255.0

Default Gateway: 1.168.0.1

AP connected Laptop1

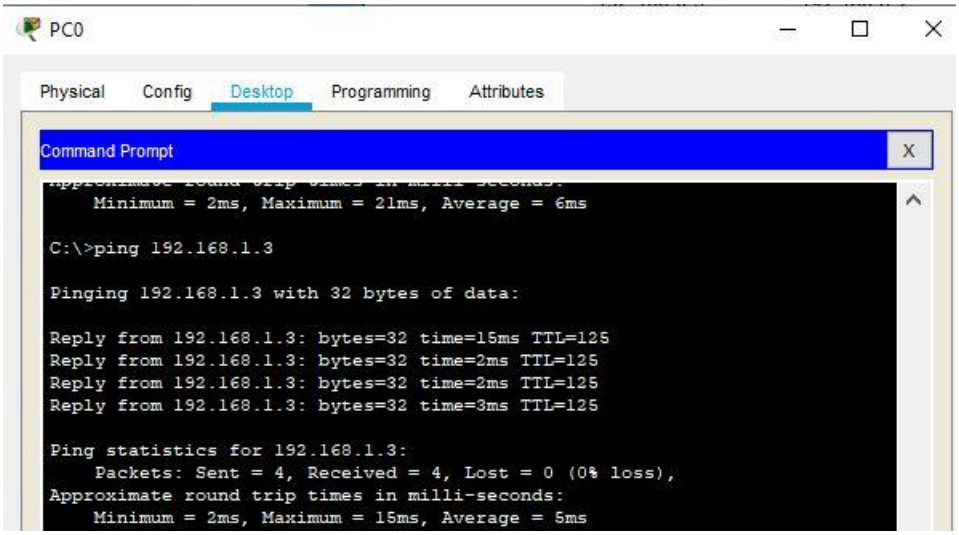
IP address: 1.168.0.5

Subnet Mask: 255.255.255.0

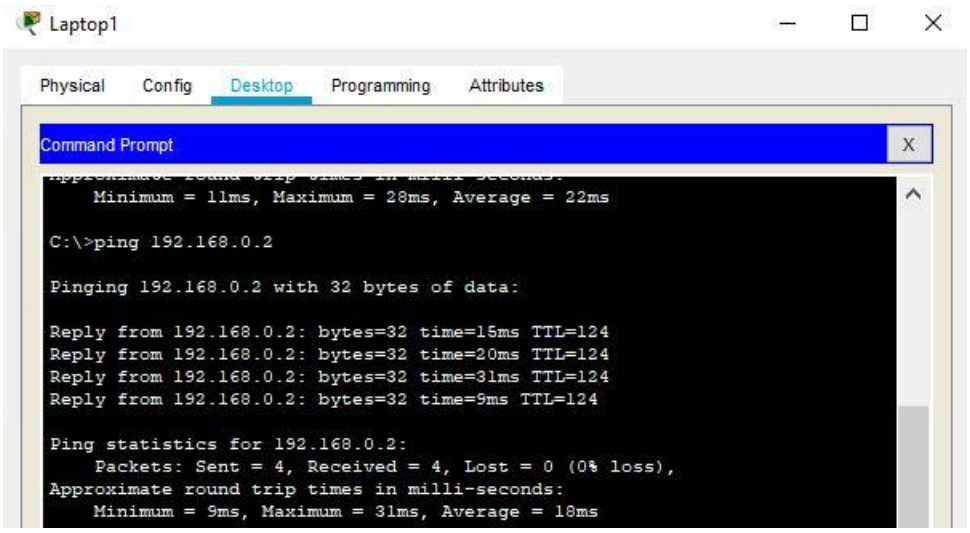
Default Gateway: 1.168.0.1

Ping Tests:

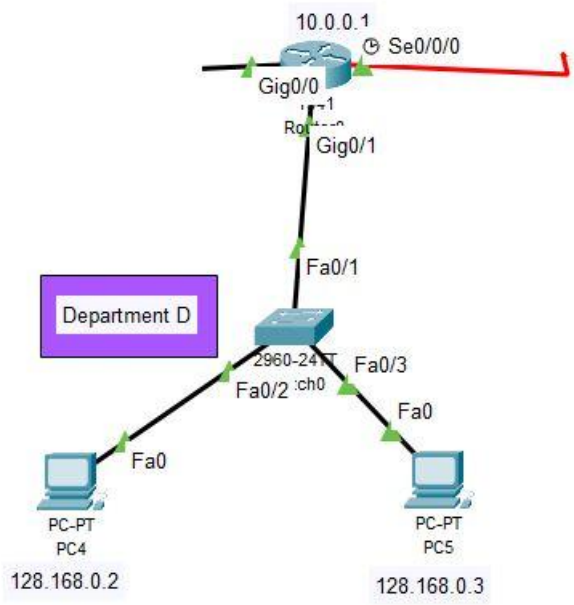
Department C to Department A Pc0 to Pc10



Department C to Department B Laptop1 to Pc13



Part 4 – Department D



Router configuration:

Router 0

Router ospf 1

Router- id 1.1.1.1

Network 10.0.0.0 255.255.255.0 area 0

Network 1.0.0.0 255.255.255.0 area 1

Network 128.168.0.0 255.255.255.0 area 1

For IP Route:

Router 0:

IP route 0.0.0.0 0.0.0.0 se0/0/0

1941 router connected 2960 switch Gig0/1 to Fa0/1

2960 switch connected PC4 Fa0/2 to Fa0/0

IP address: 128.168.0.2

Subnet Mask: 255.255.255.0

Default Gateway: 128.168.0.0

2960 switch connected PC5 Fa0/3 to Fa0/0

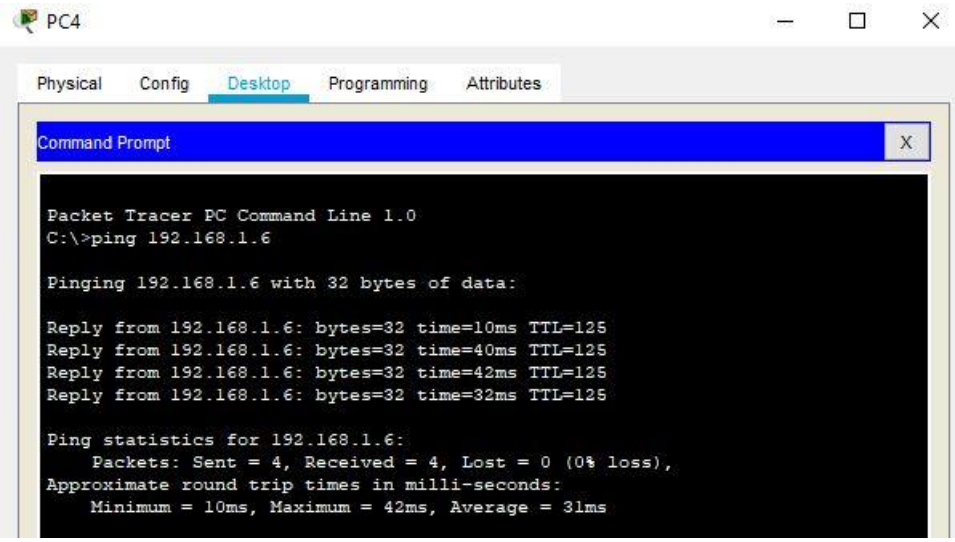
IP address: 128.168.0.3

Subnet Mask: 255.255.255.0

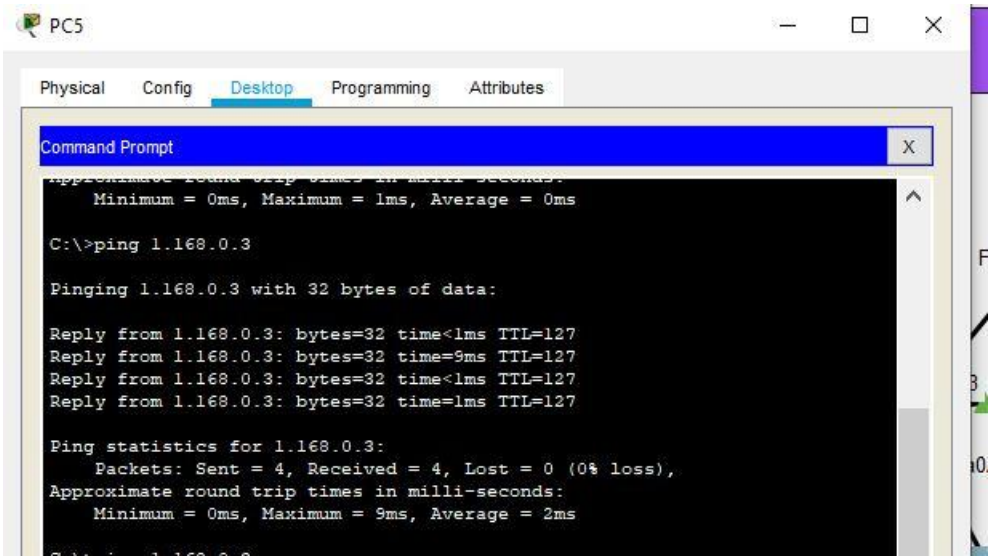
Default Gateway: 128.168.0.0

Ping Tests:

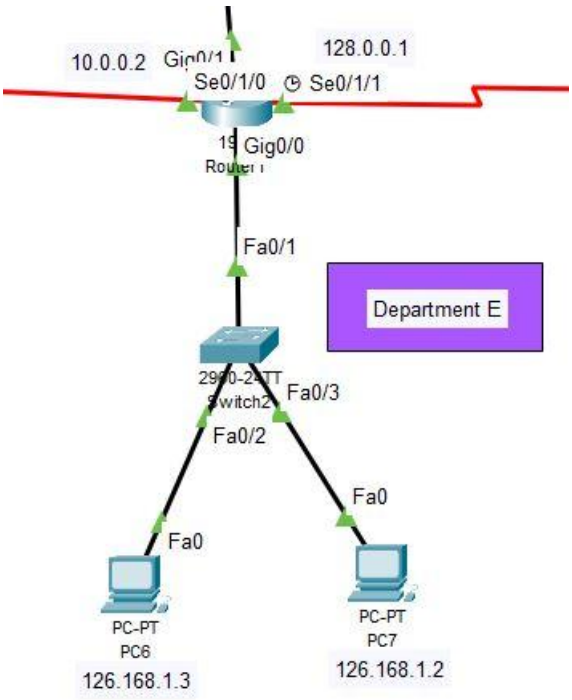
Department D to Department A Pc4 to Laptop 4



Department D to Department C Pc5 to Pc1



Part 5 – Department E



Router Configuration:

Router 1

Router ospf 1

Router – id 2.2.2.2

Network 10.0.0.0 255.255.255.0 area 0

Network 126.168.1.0 255.255.255.0 area 1

Network 128.0.0.0 255.255.255.0 area 0

Network 192.168.0.0 255.255.255.0 area 1

IP Route:

Router 1:

IP route 0.0.0.0 0.0.0.0 se0/1/0

IP route 0.0.0.0 0.0.0.0 se0/1/1

1941 router 2960 switch Gig0/0 to Fa0/1

2960 switch PC6 Fa0/2 to Fa0/0

IP address: 126.168.1.3

Subnet Mask: 255.255.255.0

Default Gateway: 126.168.1.1

2960 switch PC6 Fa0/3 to Fa0/0

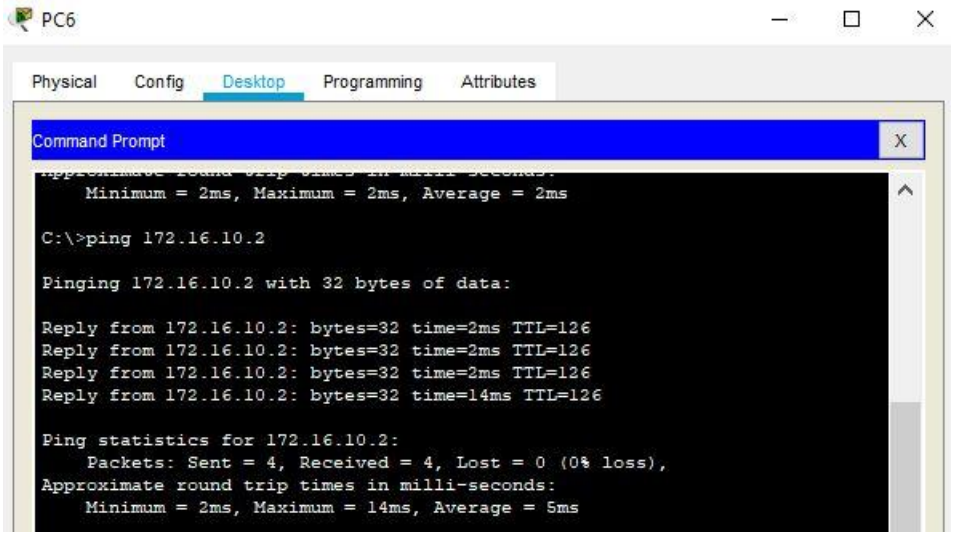
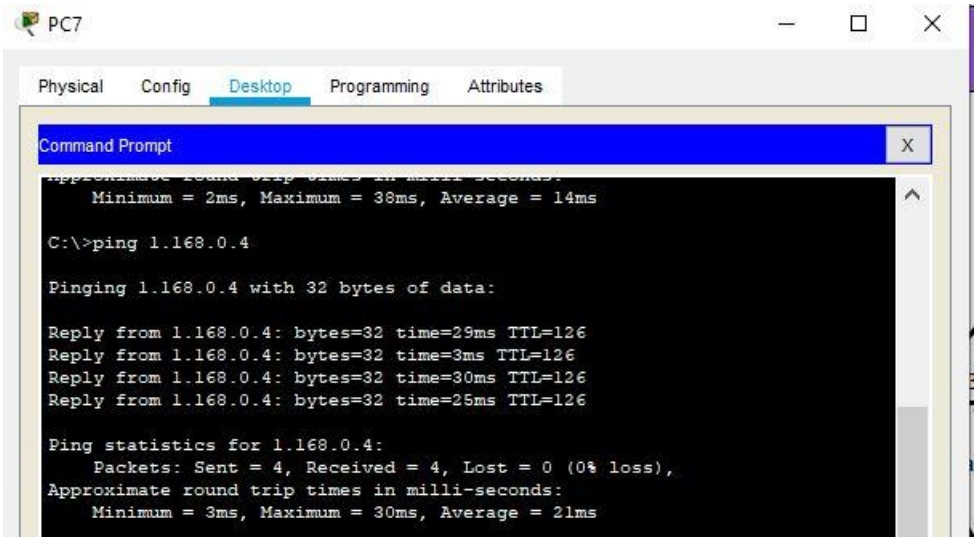
IP address: 126.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 126.168.1.1

Ping Tests:

Department E to Server Pc6 to Server



Department E to Department C Pc7 to Laptop0