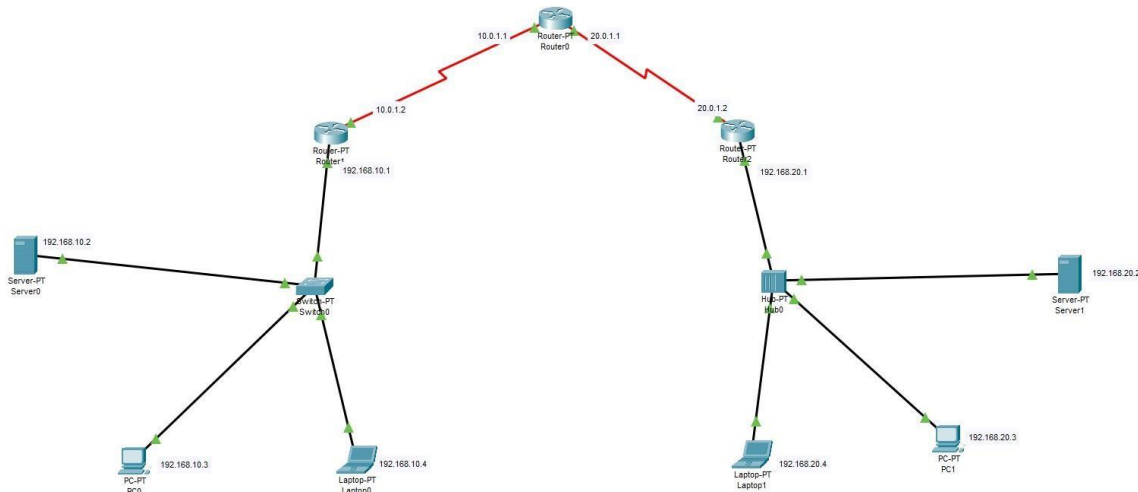


Cyber Security and Digital Forensics

Practical 3: Exploring Router and VLAN security, setting up access lists using cisco packet tracer



```

Router(config-if)#ip address 10.0.1.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial3/0
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#ip address 20.0.1.1 255.0.0.0
Router(config-if)#ip address 20.0.1.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial3/0
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 20.0.0.0
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial2/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
  
```

System Configuration Dialog

Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial2/0
Router(config-if)#ip address 10.0.1.2 255.0.0.0
Router(config-if)#ip address 10.0.1.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 192.168.10.0
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#
%SYS-5-CONFIG_I: Configured from console by console
no network 10.0.0.0
Router(config-router)#network 10.0.0.0
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial2/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console

Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial2/0
Router(config-if)#ip address 20.0.1.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
|
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 20.0.0.0
Router(config-router)#network 192.168.20.0
Router(config-router)#
```

Server0

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.10.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::201:96FF:FED4:68D3

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

Server1

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.20.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.20.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::20C:85FF:FE69:6981

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

PC0

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCPStatic

IP Address192.168.10.3

Subnet Mask255.255.255.0

Default Gateway192.168.10.1

DNS Server0.0.0.0

IPv6 Configuration

DHCPAuto ConfigStatic

IPv6 Address

Link Local AddressFE80::201:43FF:FE98:6CA3

IPv6 Gateway

IPv6 DNS Server

802.1X

Use 802.1X Security

AuthenticationMD5

Username

Top

PC1

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCPStatic

IP Address192.168.20.3

Subnet Mask255.255.255.0

Default Gateway192.168.20.1

DNS Server0.0.0.0

IPv6 Configuration

DHCPAuto ConfigStatic

IPv6 Address

Link Local AddressFE80::201:42FF:FECE:3CC8

IPv6 Gateway

IPv6 DNS Server

802.1X

Use 802.1X Security

AuthenticationMD5

Username

Top

Laptop0

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCPStatic

IP Address192.168.10.4

Subnet Mask255.255.255.0

Default Gateway192.168.10.1

DNS Server0.0.0.0

IPv6 Configuration

DHCPAuto ConfigStatic

IPv6 Address

Link Local AddressFE80::201:43FF:FE12:B1B8

IPv6 Gateway

IPv6 DNS Server

802.1X

Use 802.1X Security

AuthenticationMD5

Username

Top

Laptop1

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCPStatic

IP Address192.168.20.4

Subnet Mask255.255.255.0

Default Gateway192.168.20.1

DNS Server0.0.0.0

IPv6 Configuration

DHCPAuto ConfigStatic

IPv6 Address

Link Local AddressFE80::260:3EFF:FED4:E17

IPv6 Gateway

IPv6 DNS Server

802.1X

Use 802.1X Security

AuthenticationMD5

Username

Top


```

PC0
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:

Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 10.0.1.1

Pinging 10.0.1.1 with 32 bytes of data:

Reply from 10.0.1.1: bytes=32 time=2ms TTL=254
Reply from 10.0.1.1: bytes=32 time=5ms TTL=254
Reply from 10.0.1.1: bytes=32 time=2ms TTL=254
Reply from 10.0.1.1: bytes=32 time=2ms TTL=254

Ping statistics for 10.0.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 5ms, Average = 2ms

C:\>ping 20.0.1.1

Pinging 20.0.1.1 with 32 bytes of data:

Reply from 20.0.1.1: bytes=32 time=5ms TTL=254
Reply from 20.0.1.1: bytes=32 time=2ms TTL=254
Reply from 20.0.1.1: bytes=32 time=2ms TTL=254
Reply from 20.0.1.1: bytes=32 time=1ms TTL=254

Ping statistics for 20.0.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms

```

```

PC0
Physical Config Desktop Programming Attributes
Command Prompt
Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 10.0.1.1

Pinging 10.0.1.1 with 32 bytes of data:

Reply from 10.0.1.1: bytes=32 time=2ms TTL=254
Reply from 10.0.1.1: bytes=32 time=5ms TTL=254
Reply from 10.0.1.1: bytes=32 time=2ms TTL=254
Reply from 10.0.1.1: bytes=32 time=2ms TTL=254

Ping statistics for 10.0.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 5ms, Average = 2ms

C:\>ping 20.0.1.1

Pinging 20.0.1.1 with 32 bytes of data:

Reply from 20.0.1.1: bytes=32 time=5ms TTL=254
Reply from 20.0.1.1: bytes=32 time=2ms TTL=254
Reply from 20.0.1.1: bytes=32 time=2ms TTL=254
Reply from 20.0.1.1: bytes=32 time=1ms TTL=254

Ping statistics for 20.0.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms

C:\>ping 192.168.20.1

Pinging 192.168.20.1 with 32 bytes of data:

Reply from 192.168.20.1: bytes=32 time=19ms TTL=253
Reply from 192.168.20.1: bytes=32 time=6ms TTL=253
Reply from 192.168.20.1: bytes=32 time=2ms TTL=253
Reply from 192.168.20.1: bytes=32 time=1ms TTL=253

Ping statistics for 192.168.20.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 19ms, Average = 5ms

C:\>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.3: bytes=32 time=14ms TTL=125
Reply from 192.168.20.3: bytes=32 time=2ms TTL=125
Reply from 192.168.20.3: bytes=32 time=2ms TTL=125

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 14ms, Average = 7ms

C:\>

```

```

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list?
access-list
Router(config)#access-list
% Incomplete command.
Router(config)#access-list?
access-list
Router(config)#access-list
% Incomplete command.
Router(config)#access-list?
access-list
Router(config)#access-list ?
    <1-99>      IP standard access list
    <100-199>   IP extended access list
Router(config)#access-list
% Incomplete command.
Router(config)#interface FastEthernet0/0
Router(config-if)#access-list 10 deny 192.168.10.2 0.0.0.0
Router(config)#access-list 10 permit any
Router(config)#access-list 10 deny 192.168.10.2 0.0.0.0
Router(config)#interface s0
^
% Invalid input detected at '^' marker.

Router(config)#interface FastEthernet0/0
Router(config-if)#interface Se
Router(config-if)#interface Serial2/0
Router(config-if)#ip access-group 10 out
Router(config-if)#exit
Router(config)#

```