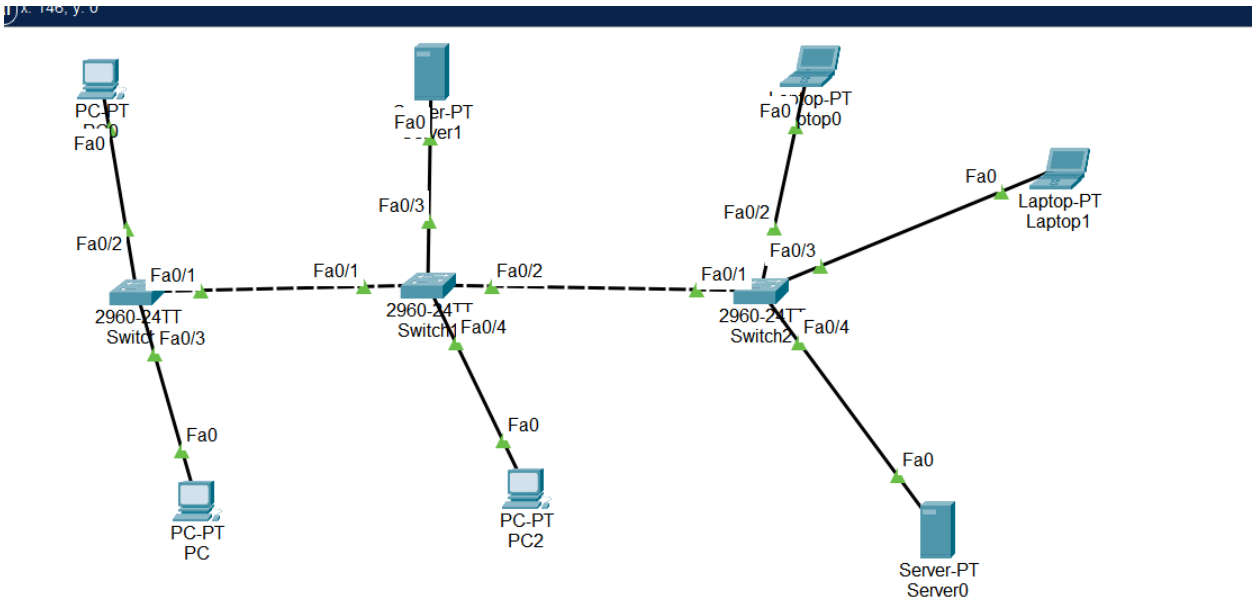
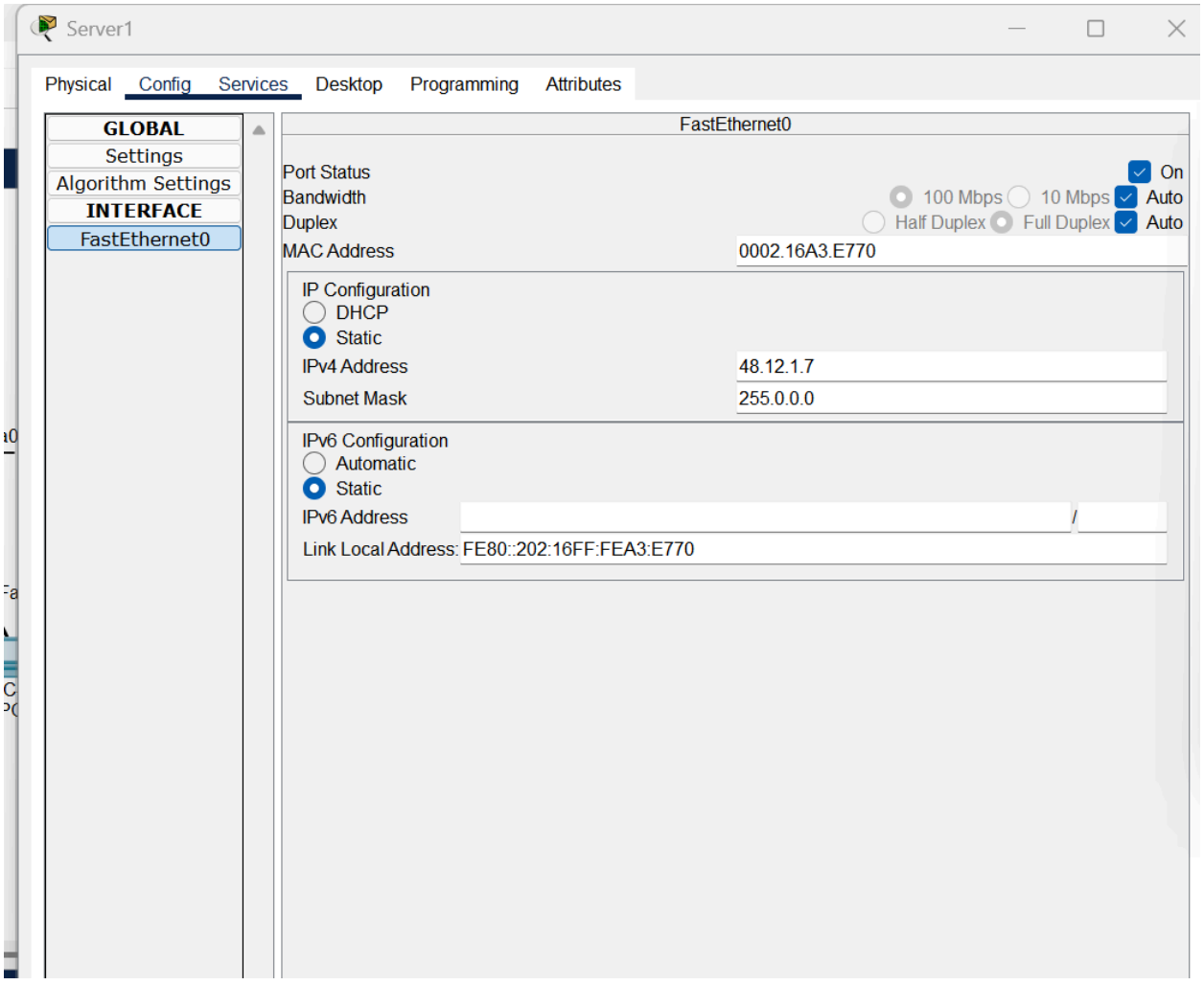
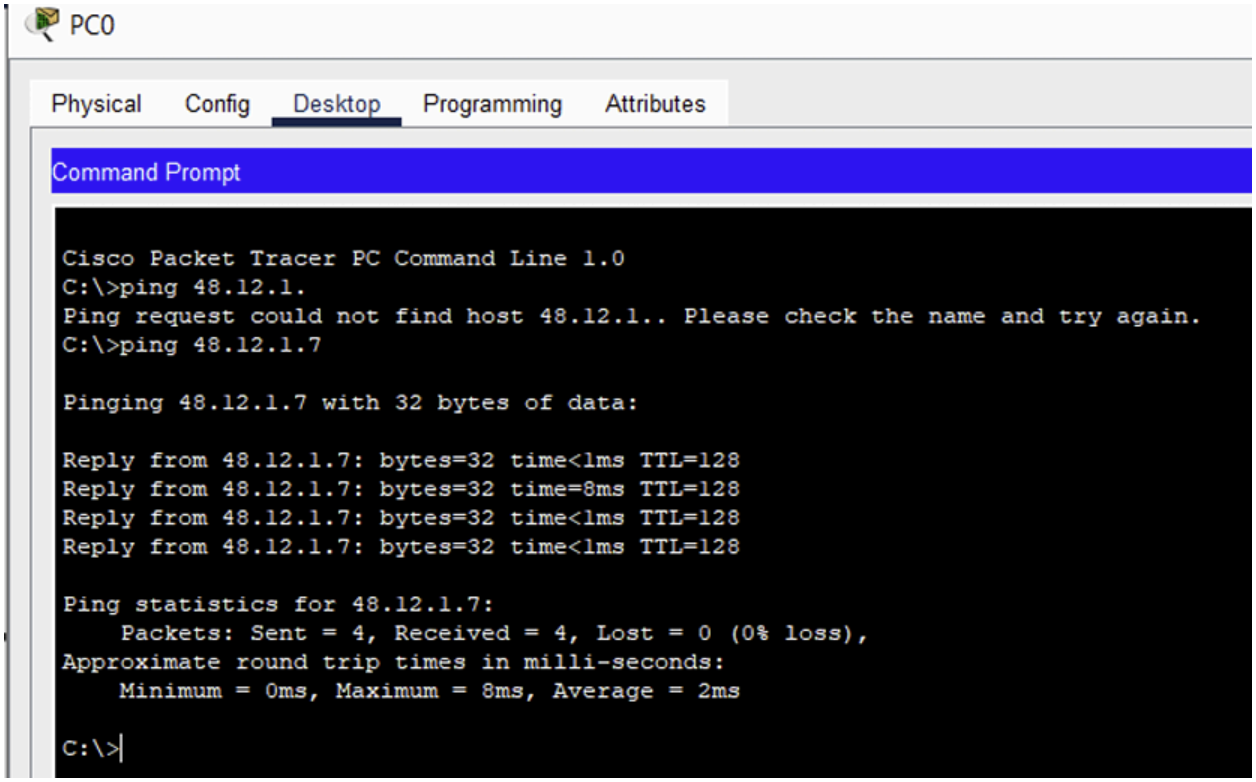
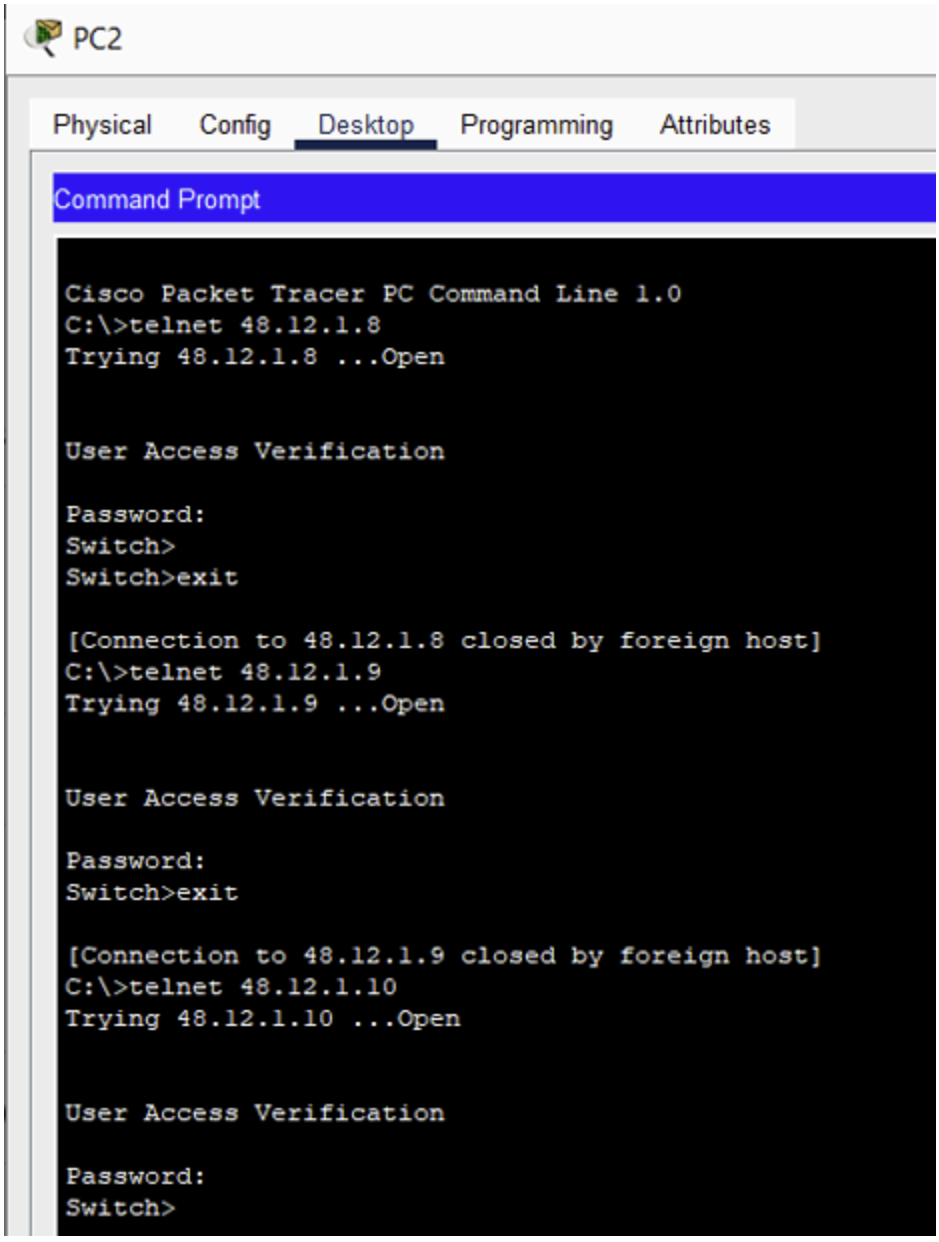

PC-PT
Fa0
Fa0/2
Fa0/1
2960-24TT
Switch0
Fa0/3
Fa0
PC-PT
PC
Fa0/1
Fa0/3
Fa0/2
Switch1
Fa0/4
Fa0
PC-PT
PC2
Fa0/2
Fa0/1
Fa0/3
Switch2
Fa0/4
Fa0
Server-PT
Server0
Fa0
Laptop-PT
Laptop1

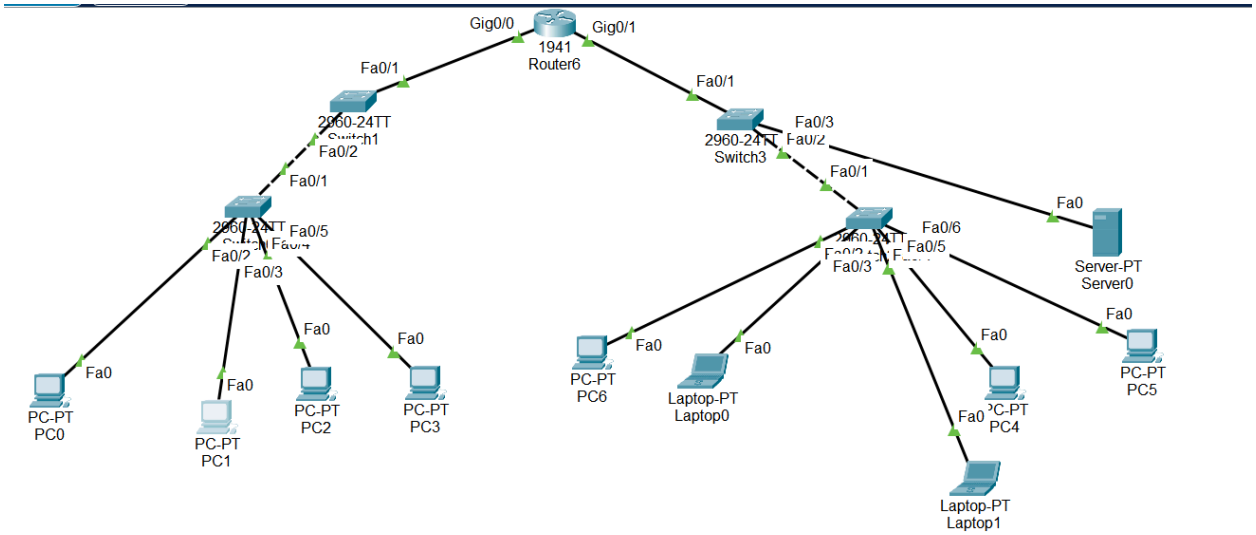

Server1
Physical
Config
Services
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
FastEthernet0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0002.16A3.E770
IP Configuration
DHCP
Static
IPv4 Address
48.12.1.7
Subnet Mask
255.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address:
FE80::202:16FF:FEA3:E770


PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 48.12.1.
Ping request could not find host 48.12.1.. Please check the name and try again.
C:\>ping 48.12.1.7
Pinging 48.12.1.7 with 32 bytes of data:
Reply from 48.12.1.7: bytes=32 time<1ms TTL=128
Reply from 48.12.1.7: bytes=32 time=8ms TTL=128
Reply from 48.12.1.7: bytes=32 time<1ms TTL=128
Reply from 48.12.1.7: bytes=32 time<1ms TTL=128
Ping statistics for 48.12.1.7:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 8ms, Average = 2ms
C:\>


PC2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 48.12.1.8
Trying 48.12.1.8 ...Open
User Access Verification
Password:
Switch>
Switch>exit
[Connection to 48.12.1.8 closed by foreign host]
C:\>telnet 48.12.1.9
Trying 48.12.1.9 ...Open
User Access Verification
Password:
Switch>exit
[Connection to 48.12.1.9 closed by foreign host]
C:\>telnet 48.12.1.10
Trying 48.12.1.10 ...Open
User Access Verification
Password:
Switch>

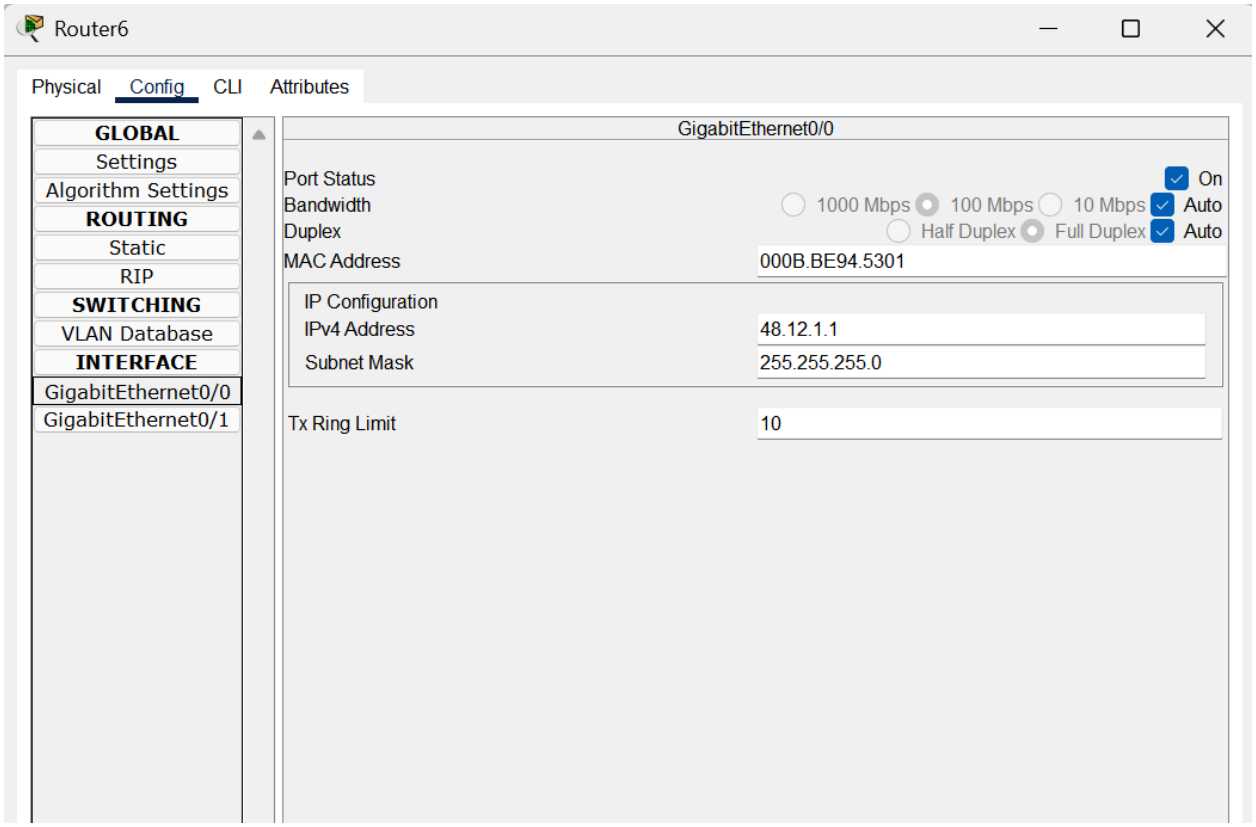
```
Switch>enable
Password:
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
Switch(config)#interface vlan1
Switch(config-if)#ip address 48.12.1.11 255.255.255.0
% Connection refused by remote host
C:\>telnet 48.12.1.10
Trying 48.12.1.10 ...
% Connection timed out; remote host not responding
C:\>telnet 48.12.1.11
Trying 48.12.1.11 ...Open


User Access Verification

Password:
Switch>en
```

2)



Router6

```
Router(config-if)#exit
Router(config)#int gig0/0
Router(config-if)#ip address 48.12.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#int gig0/1
Router(config-if)#ip address 48.12.2.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
```



Switch0

Physical Config CLI Attributes

IOS Command Line Interface

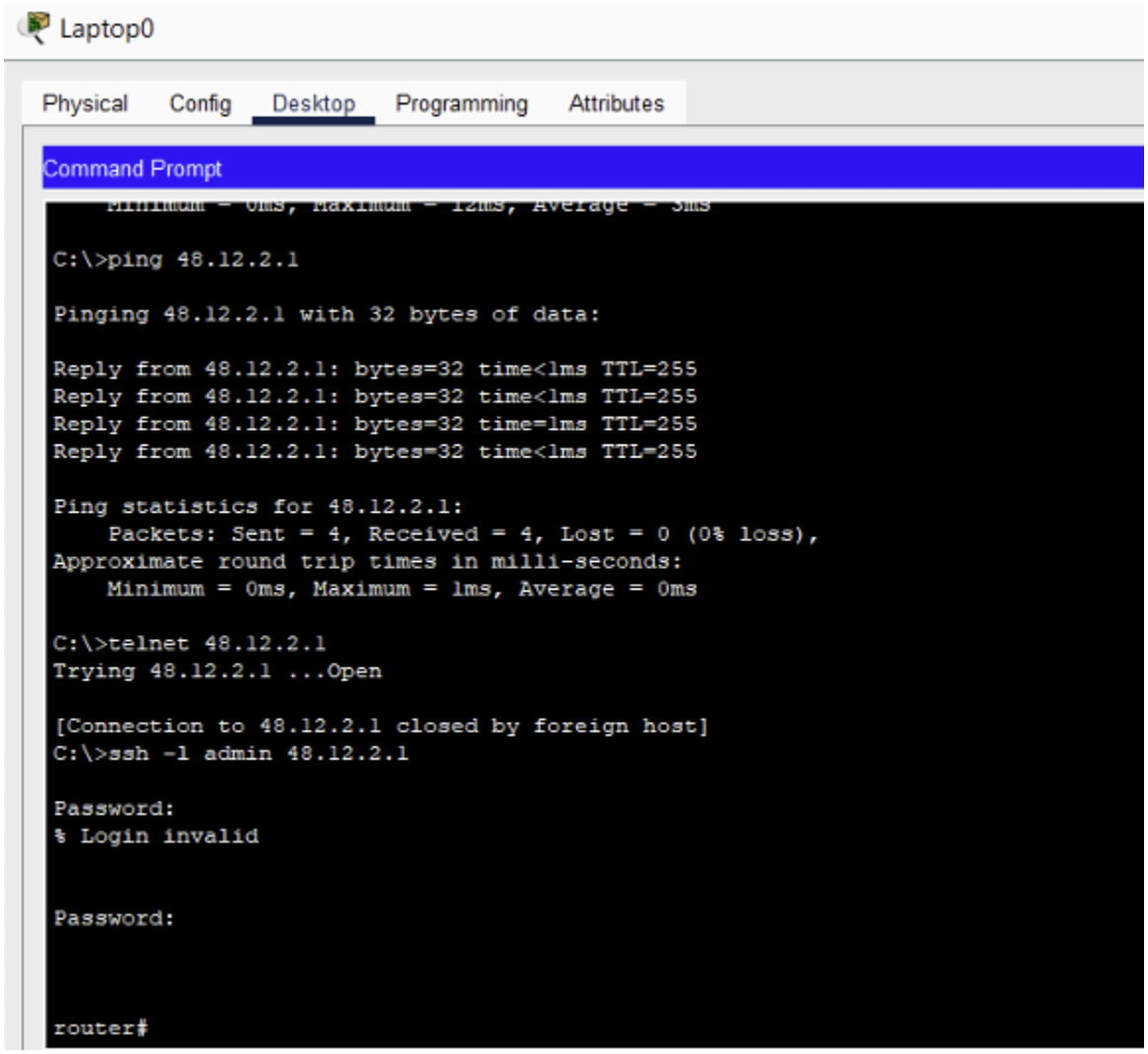
```
Switch>
Switch>en
Switch#show running-config
Building configuration...

Current configuration : 1080 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
```

```
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
!
!
!
line con 0
!
line vty 0 4
```

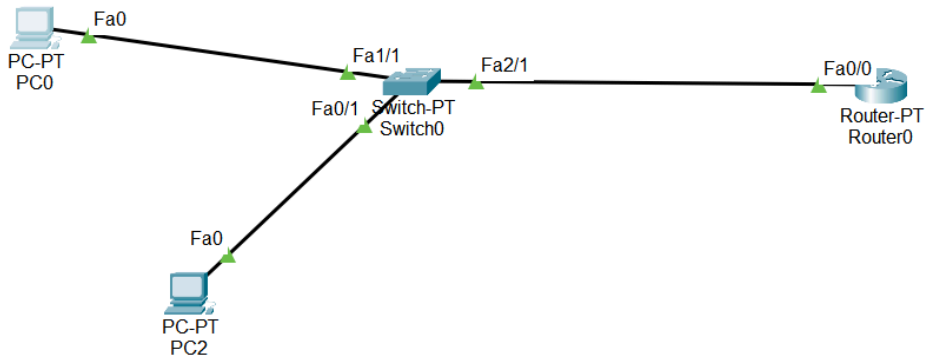

Switch1
Physical
Config
CLI
Attributes
Switch>en
Switch#show running-config
Building configuration...
Current configuration : 1080 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime mse
no service password-encryption
!
hostname Switch
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11

```
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
!
!
!
line con 0
!
line vty 0 4
```

```
 login
line vty 5 15
 login
!
!
!
!
end


Switch#
```



Q3)



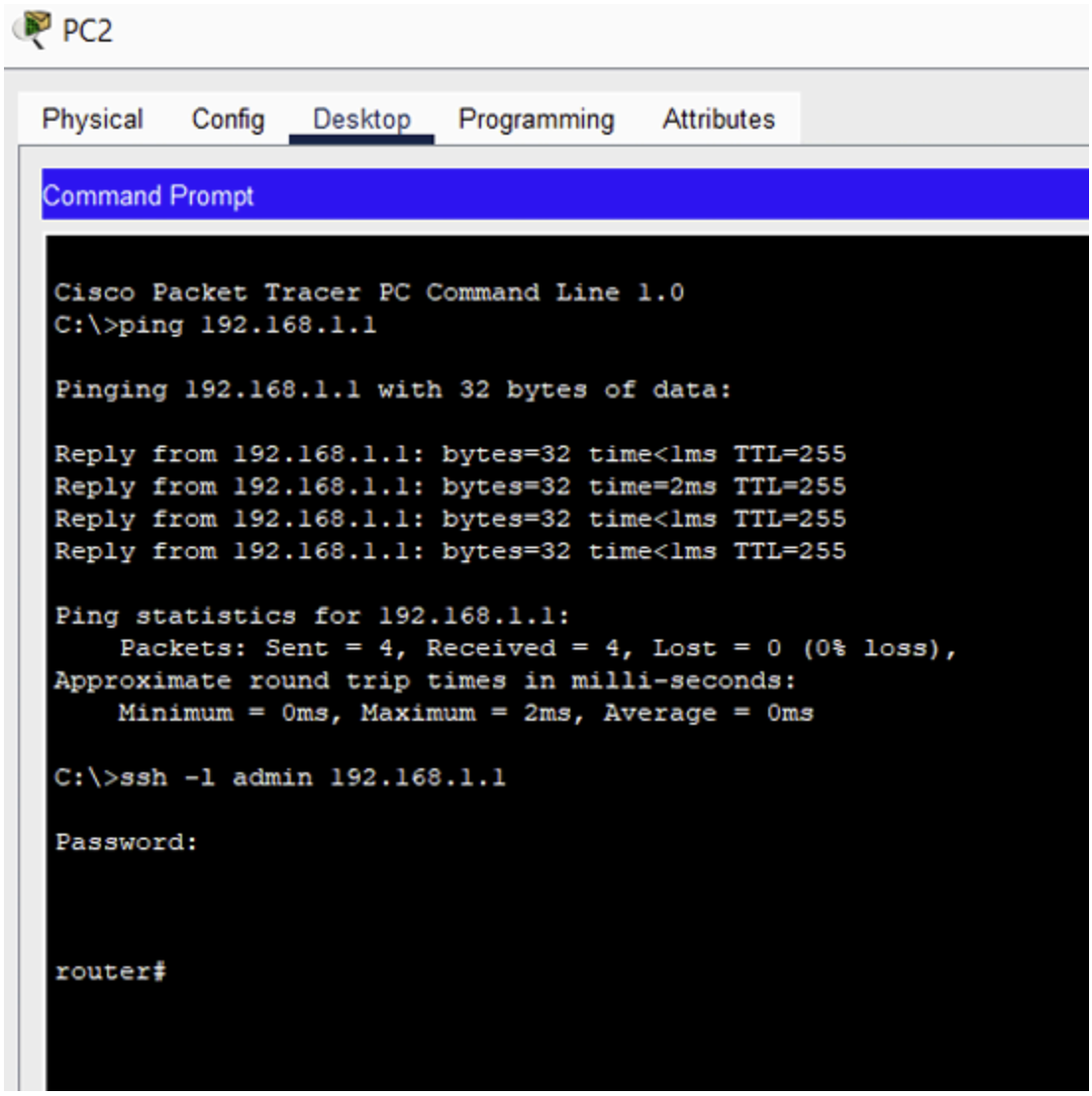
PC2

Physical Config Desktop Programming Attributes

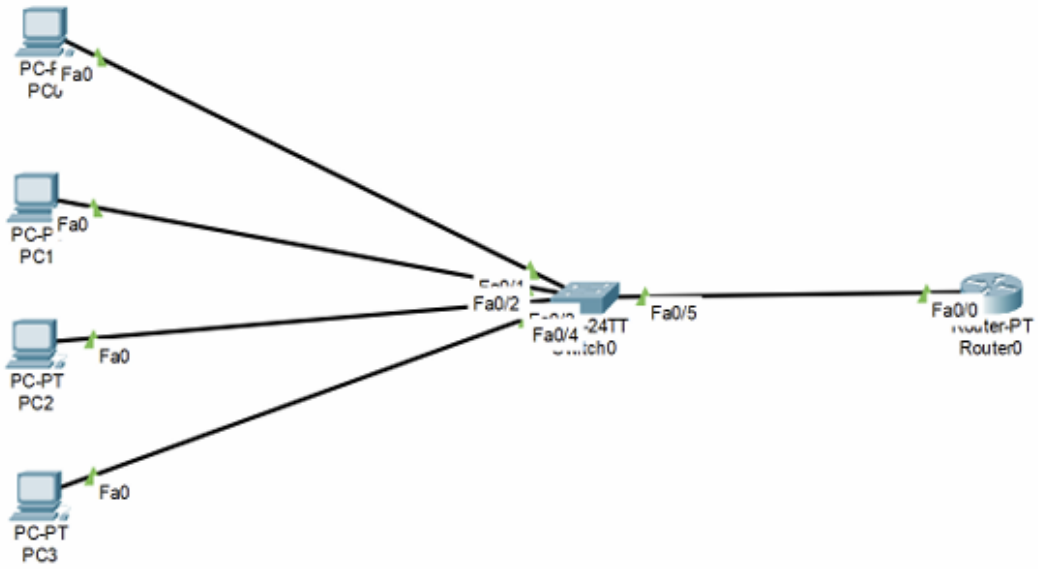
Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.1: bytes=32 time=13ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 13ms, Average = 4ms

C:\>telnet 192.168.1.1
Trying 192.168.1.1 ...Open


User Access Verification

Password:
Switch>
```

```
router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
router(config)#ip domain-name fast.edu.pk
router(config)#crypto key generate rsa
The name for the keys will be: router.fast.edu.pk
Choose the size of the key modulus in the range of 360 to 2048 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

router(config)#username admin privilege 15 secret cisco123
*Mar 1 0:4:10.506: %SSH-5-ENABLED: SSH 2 has been enabled
router(config)#ip ssh version 2
router(config)#ip ssh time-out 60
router(config)#ip ssh authentication-retries 3
router(config)#line vty 0 4
router(config-line)#login local
router(config-line)#transport input ssh
router(config-line)#exit
router(config)#exit
router#
%SYS-5-CONFIG_I: Configured from console by console

router#show ip ssh
SSH Enabled - version 2.0
Authentication timeout: 60 secs; Authentication retries: 3
router#
```

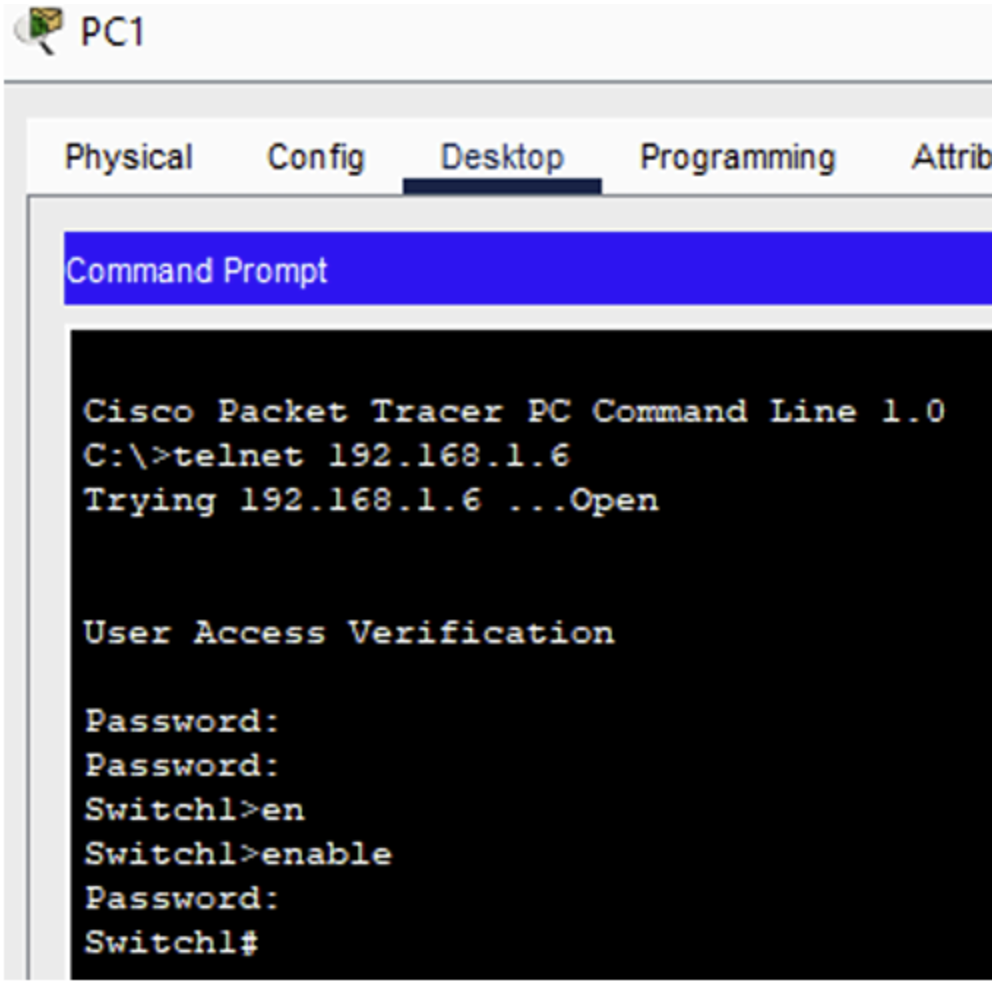

PC2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=2ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\>ssh -l admin 192.168.1.1
Password:
router#

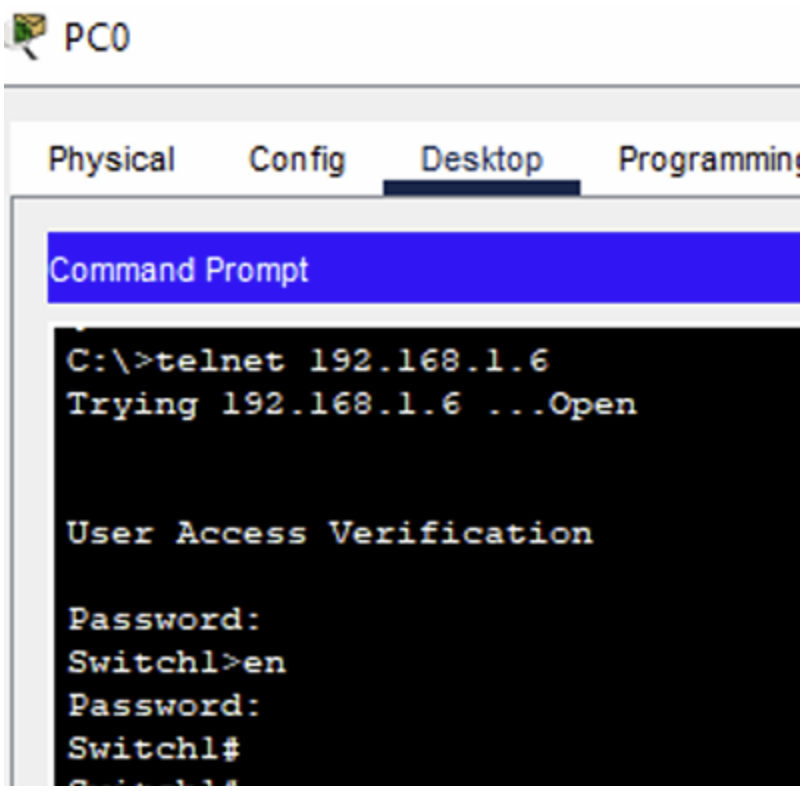
Q4)



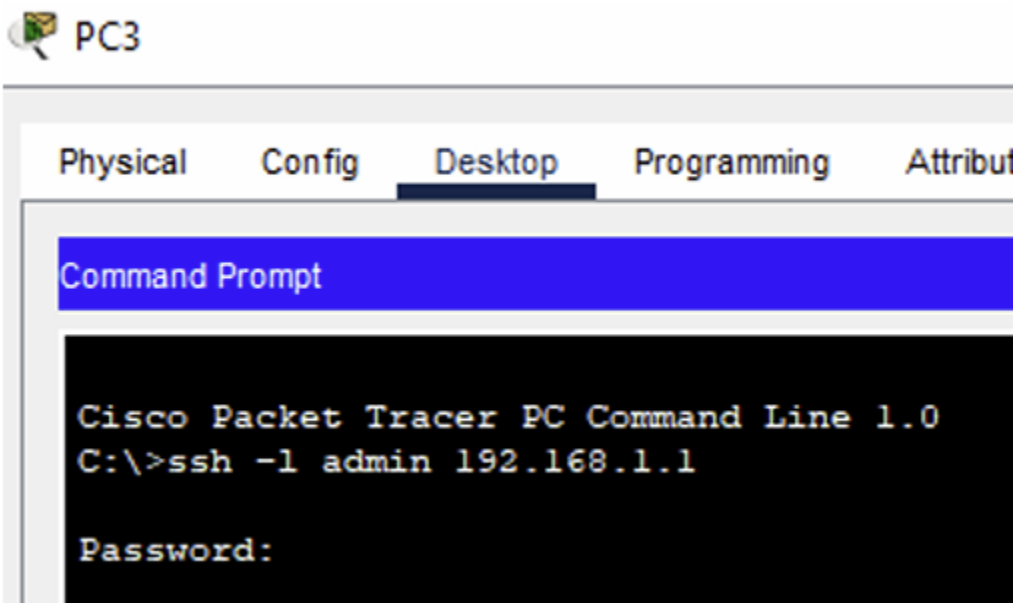

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#hostname Switch1
Switch1(config)#enable password cisco123
Switch1(config)#line vty 0 4
Switch1(config-line)#password telnetpassword
Switch1(config-line)#login
Switch1(config-line)#transport input telnet
Switch1(config-line)#exit
```

```
Switch1(config)#interface vlan 1
Switch1(config-if)#ip address 192.168.1.6 255.255.255.0
Switch1(config-if)#no shutdown
```

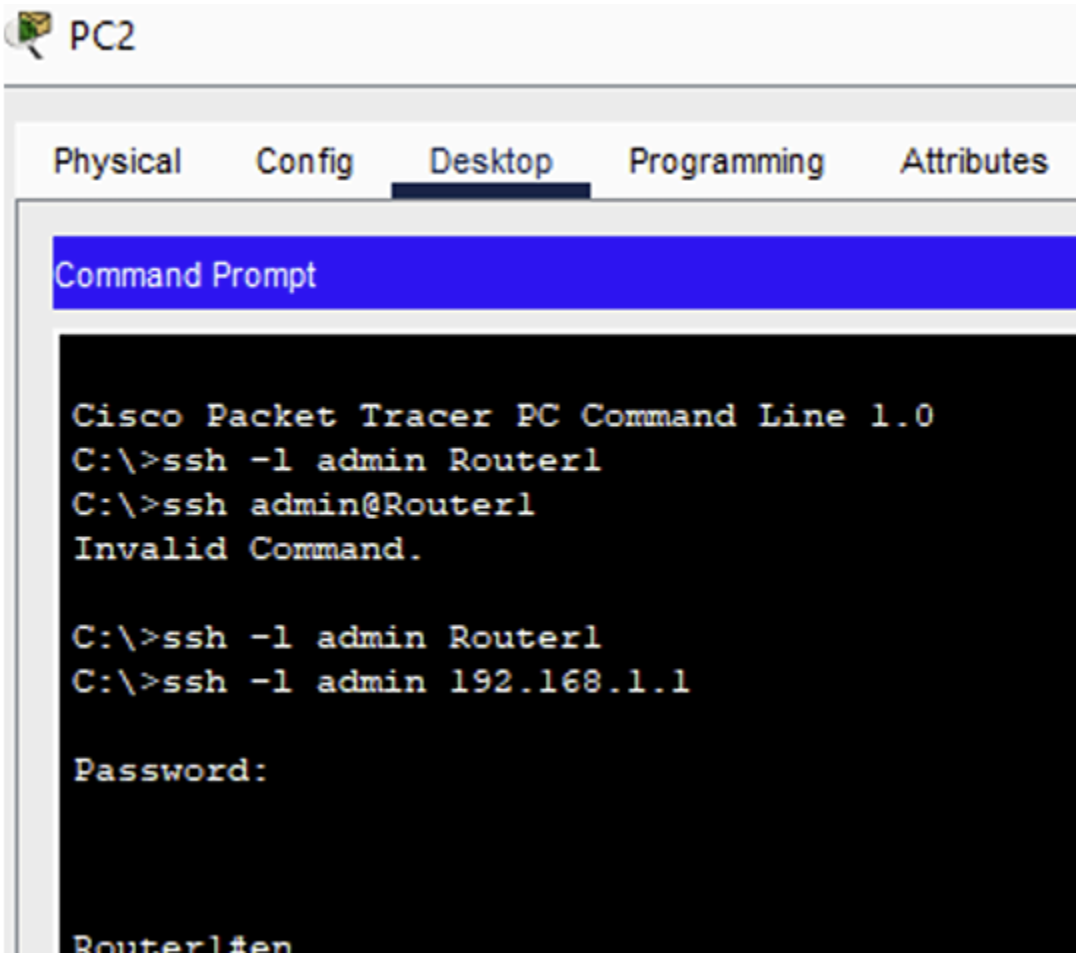

PC1
Physical
Config
Desktop
Programming
Attrib
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 192.168.1.6
Trying 192.168.1.6 ...Open
User Access Verification
Password:
Password:
Switch1>en
Switch1>enable
Password:
Switch1#


PC0
Physical
Config
Desktop
Programming
Command Prompt
C:\>telnet 192.168.1.6
Trying 192.168.1.6 ...Open
User Access Verification
Password:
Switch1>en
Password:
Switch1#

```
Router>en
Router>enable
Router#config t
Router#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname Router1
Router1(config)#enable secret admin@123
Router1(config)#username admin privilege 15 password sshsecure
Router1(config)#ip domain-name techinnovators.com
Router1(config)#crypto key generate rsa
The name for the keys will be: Router1.techinnovators.com
Choose the size of the key modulus in the range of 360 to 2048 fo
  General Purpose Keys. Choosing a key modulus greater than 512 m
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK

Router1(config)#ip ssh version 2
*Mar 1 0:28:52.934: %SSH-5-ENABLED: SSH 1.99 has been enabled
Router1(config)#line vty 0 4
Router1(config-line)#login local
Router1(config-line)#transport input ssh
Router1(config-line)#exit
```



```
Router1#show users
    Line       User       Host(s)              Idle       Location
*   0 con 0                idle                 00:00:00
  134 vty 0    admin      idle                 00:05:48
  135 vty 1    admin      idle                 00:00:14

  Interface    User               Mode         Idle     Peer Address
```




```
Switch1>show users
    Line       User       Host(s)              Idle       Location
*   0 con 0                idle                 00:00:00
    2 vty 0                idle                 00:00:49 192.168.1.2
    3 vty 1                idle                 00:00:07 192.168.1.3

  Interface    User               Mode         Idle     Peer Address
```