


APPLYING TELNET ON ROUTER:

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int Gig0/0/0
Router(config-if)#ip add 192.168.1.1 255.255.255.0
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

 Router0

```
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname R1
R1(config)#enable secret pass
R1(config)#username Admin password pass1
R1(config)#line vty 0 15
R1(config-line)#login local
R1(config-line)#transport input telnet
R1(config-line)#exit
R1(config)#DO WR
Building configuration...
[OK]
R1(config)#
```

```
Router#
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up
R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname R1
R1(config)#enable secret pass
R1(config)#username Admin password pass1
R1(config)#line vty 0 15
R1(config-line)#login local
R1(config-line)#transport input telnet
R1(config-line)#exit
R1(config)#DO WR
Building configuration...
[OK]
```

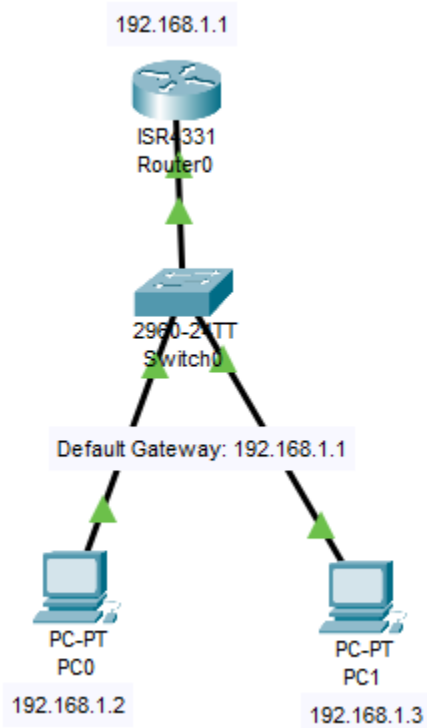
R1(config)#

PC0

```
[Connection to 192.168.1.1 closed by foreign host]
C:\>telnet 192.168.1.1
Trying 192.168.1.1 ...Open
|

User Access Verification

Username: Admin
Password:
R1>
```



APPLYING TELNET ON SWITCH:


```
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface vlan 1
Switch(config-if)#ip add 192.168.1.1 255.255.255.0
Switch(config-if)#no shutdown
```

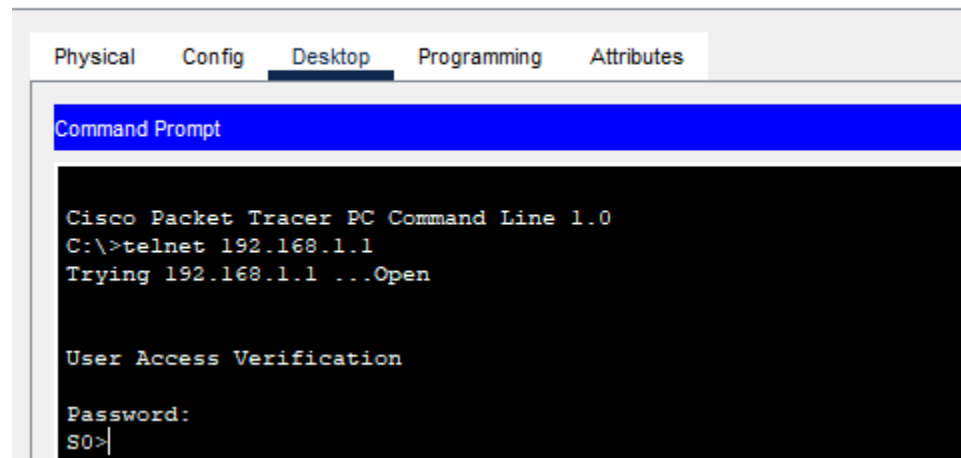
```
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up
```

```
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

```
Switch#en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S0
S0(config)#enable secret pass
S0(config)#line vty 0 4
S0(config-line)#password pass1
S0(config-line)#login
S0(config-line)#exit
S0(config)#
```

 PC3



IOS Command Line Interface

```
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface vlan 1
Switch(config-if)#ip add 192.168.1.1 255.255.255.0
Switch(config-if)#no shutdown

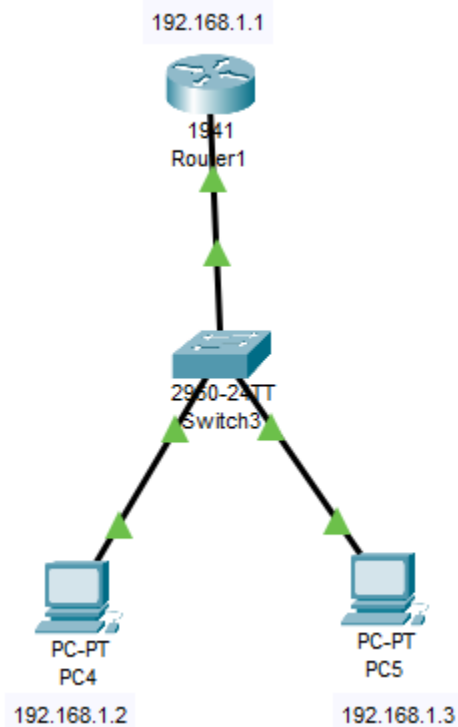
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S0
S0(config)#enable secret pass
S0(config)#line vty 0 4
S0(config-line)#password pass1
S0(config-line)#login
S0(config-line)#exit
S0(config)#
```

APPLYING SSH ON ROUTER:



```
Router>enable
```

```
Router#
```

```
Router#configure terminal
```

Enter configuration commands, one per line. End with CNTL/Z.

```
Router(config)#interface GigabitEthernet0/0
```

```
Router(config-if)#ip add 192.168.1.1 255.255.255.0
```

```
Router(config-if)#no shutdown
```

```
Router(config-if)#
```

%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

```
Router(config-if)#exit
```

```
Router(config)#exit
```

```
Router#
```

%SYS-5-CONFIG_I: Configured from console by console

```
Router#en
```

```
Router#conf t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
Router(config)#hostname R1SSH
```

```
R1SSH(config)#enable secret pass
```

```
R1SSH(config)#ip domain-name CNLAB.com
R1SSH(config)#username cs-student password pass1
R1SSH(config)#crypto key generate rsa
The name for the keys will be: R1SSH.CNLAB.com
Choose the size of the key modulus in the range of 360 to 4096 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]
```

```
R1SSH(config)#line vty 0 15
*Mar 1 0:7:17.894: %SSH-5-ENABLED: SSH 1.99 has been enabled
R1SSH(config-line)#login local
R1SSH(config-line)#transport input ssh
R1SSH(config-line)#exit
R1SSH(config)#ip ssh version 2
R1SSH(config)#
```

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip add 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1SSH
R1SSH(config)#enable secret pass
R1SSH(config)#ip domain-name CNLAB.com
R1SSH(config)#username cs-student password pass1
R1SSH(config)#crypto key generate rsa
The name for the keys will be: R1SSH.CNLAB.com
Choose the size of the key modulus in the range of 360 to 4096 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]

R1SSH(config)#line vty 0 15
*Mar 1 0:7:17.894: %SSH-5-ENABLED: SSH 1.99 has been enabled
R1SSH(config-line)#login local
R1SSH(config-line)#transport input ssh
R1SSH(config-line)#exit
R1SSH(config)#ip ssh version 2
R1SSH(config)#
```

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ssh -l cs-student 192.168.1.1

Password:

R1SSH>|
```

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ssh -l cs-student 192.168.1.1

Password:

R1SSH>en
Password:
R1SSH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1SSH(config)#ip add 192.168.1.4 255.255.255.0
      ^
% Invalid input detected at '^' marker.

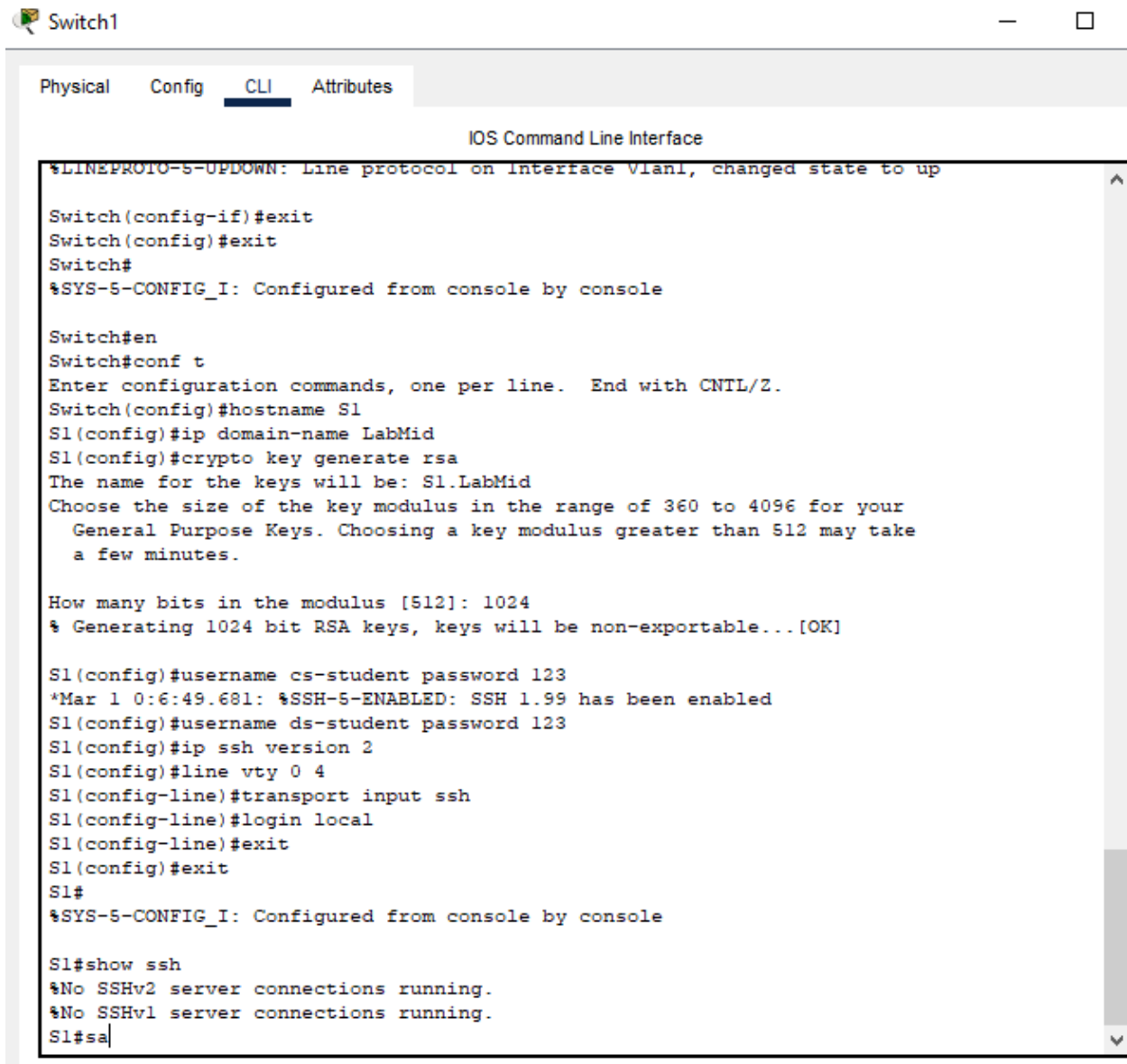
R1SSH(config)#interface Gig0/0
R1SSH(config-if)#ip add 192.168.1.4 255.255.255.0
% Connection refused by remote host
C:\>ssh -l cs-student 192.168.1.4

Password:
% Login invalid

Password:

R1SSH>|
```


APPLYING SSH ON SWITCH



The screenshot shows a network switch named 'Switch1' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The terminal output shows the following sequence of commands and responses:

```
%LINEPROTO-5-UPDOWN: Line protocol on interface Vlan1, changed state to up

Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S1
S1(config)#ip domain-name LabMid
S1(config)#crypto key generate rsa
The name for the keys will be: S1.LabMid
Choose the size of the key modulus in the range of 360 to 4096 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]

S1(config)#username cs-student password 123
*Mar 1 0:6:49.681: %SSH-5-ENABLED: SSH 1.99 has been enabled
S1(config)#username ds-student password 123
S1(config)#ip ssh version 2
S1(config)#line vty 0 4
S1(config-line)#transport input ssh
S1(config-line)#login local
S1(config-line)#exit
S1(config)#exit
S1#
%SYS-5-CONFIG_I: Configured from console by console

S1#show ssh
%No SSHv2 server connections running.
%No SSHv1 server connections running.
S1#sa|
```

Switch>en

Switch#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#interface vlan 1

Switch(config-if)#ip add 192.168.1.1 255.255.255.0

Switch(config-if)#no shutdown

Switch(config-if)#

%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

```
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

```
Switch#en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S1
S1(config)#ip domain-name LabMid
S1(config)#crypto key generate rsa
The name for the keys will be: S1.LabMid
Choose the size of the key modulus in the range of 360 to 4096 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]
```

```
S1(config)#username cs-student password 123
*Mar 1 0:6:49.681: %SSH-5-ENABLED: SSH 1.99 has been enabled
S1(config)#username ds-student password 123
S1(config)#ip ssh version 2
S1(config)#line vty 0 4
S1(config-line)#transport input ssh
S1(config-line)#login local
S1(config-line)#exit
S1(config)#exit
S1#
%SYS-5-CONFIG_I: Configured from console by console
```

```
S1#show ssh
%No SSHv2 server connections running.
%No SSHv1 server connections running.
S1#
```

PC7

Physical Config Desktop Programming Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0

C:\>ssh -l ds-student 192.168.1.1

Password:

S1>