# PACKET TRACER LAB 1: INTRODUCTION
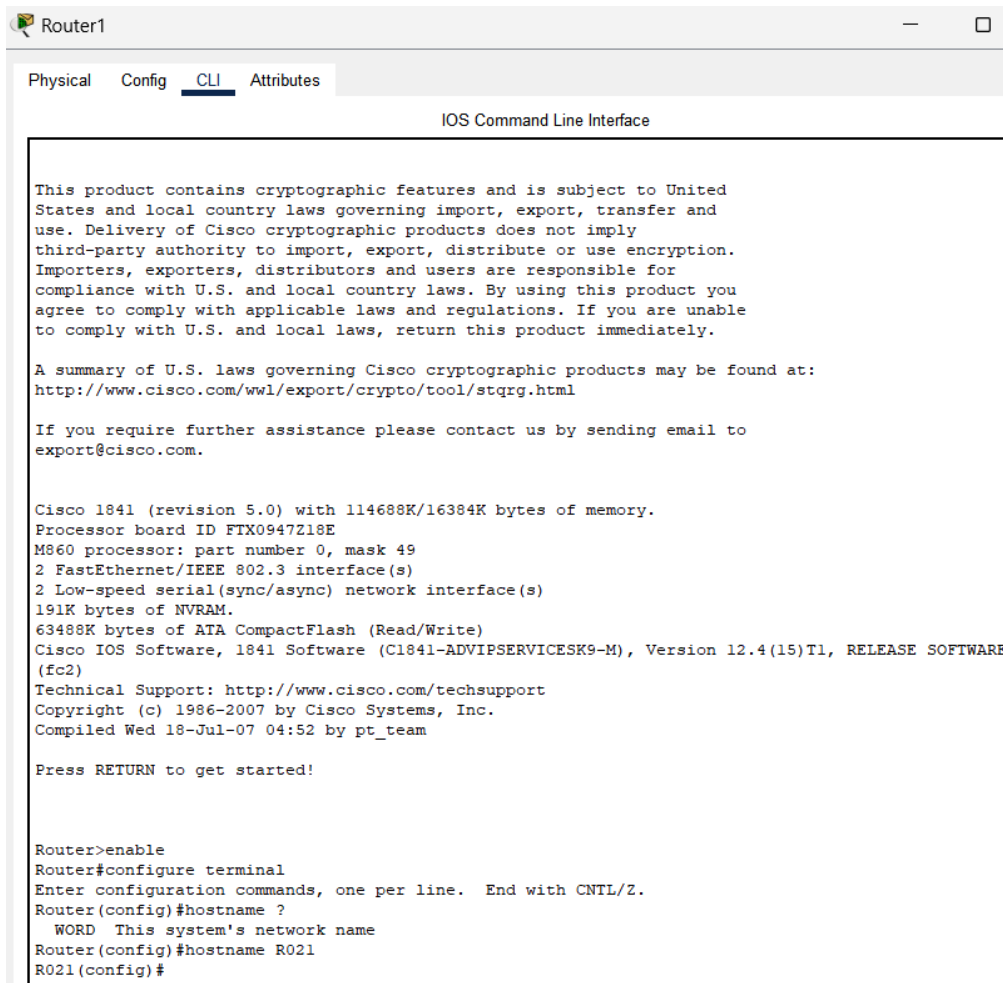
Student name:  Bùi Phương Thanh. Student ID: ITITIU21311

Q1.  Change the ==router name== to Rx1, x is your group number (G02)

**Answer**:

Syntax: Router (config)#hostname R021

Result: R021 (config)#

```
Router1

Physical   Config   CLI   Attributes


Press RETURN to get started!



Router>enable
Router#show running-config
Building configuration...
                                              interface FastEthernet0/1
Current configuration : 694 bytes             no ip address
!                                             duplex auto
version 12.4                                  speed auto
no service timestamps log datetime msec       shutdown
no service timestamps debug datetime msec    !
no service password-encryption               interface Serial0/0/0
!                                             no ip address
hostname Router                               clock rate 2000000
!                                             shutdown
!                                            !
!                                            interface Serial0/0/1
!                                             no ip address
!                                             clock rate 2000000
!                                             shutdown
!                                            !
!                                            interface Vlan1
!                                             no ip address
no ip cef                                     shutdown
no ipv6 cef                                  !
!                                            ip classless
!                                            !
!                                            ip flow-export version 9
!                                            !
!                                            !
!                                            !
!                                            !
!                                            !
!                                            !
!                                            !
!                                            !
spanning-tree mode pvst                      line con 0
!                                            !
!                                            line aux 0
!                                            !
!                                            line vty 0 4
!                                             login
!                                            !
!                                            !
!                                            !
interface FastEthernet0/0                    end
 no ip address
 duplex auto                                 Router#show startup-config
 speed auto                                  startup-config is not present
 shutdown                                    Router#configure terminal
 !                                           Enter configuration commands, one per line.  End with CNTL/Z.
                                             Router(config)#hostname R021
                                             R021(config)#


Top
```

Q2. Change the enable password of your router to "network" (w/o quote)

**Answer**:

Syntax: R021 (config)#enable password network


Q3. Save your work (by pressing CNTL+Z) and view the running config

**Answer**:

```
Router(config)#hostname R021
R021(config)#enable password network
R021(config)#^Z
R021#
%SYS-5-CONFIG_I: Configured from console by console

R021#show running-config
Building configuration...

Current configuration : 718 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R021
!
!
!
enable password network
!
!
!
!
!
!
no ip cef
no ipv6 cef
 --More--
```
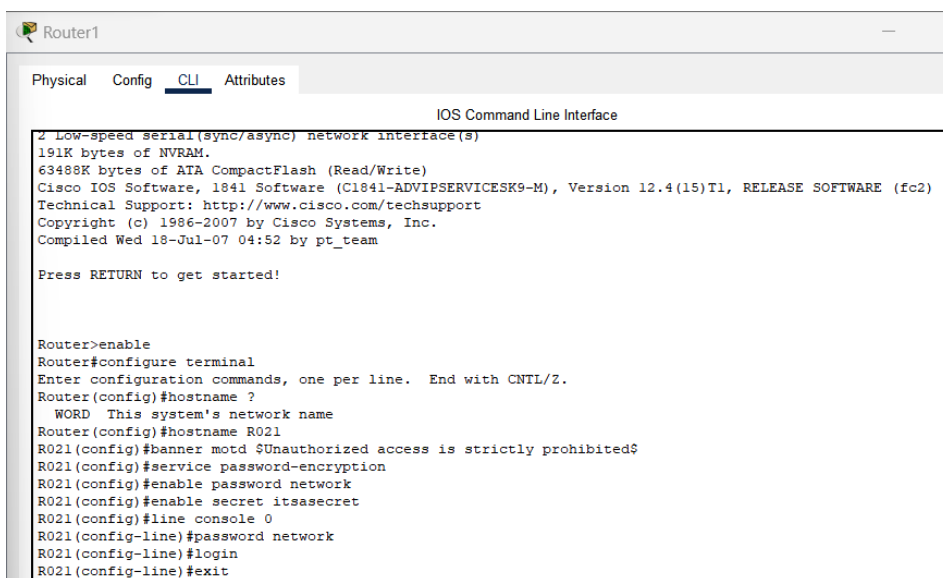
**Q4.** With the above running config, did you see the password is already set? Now try to change the router enable password to "network" but with encrypted option, how is this different from other when you view running config this time?

**Answer**:

Yes

The password is saved in the configuration in encrypted form, so you cannot view the original password after you enter it.

```
R021(config)#exit
R021#
%SYS-5-CONFIG_I: Configured from console by console

R021#show running-config
Building configuration...

Current configuration : 866 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname R021
!
!
!
enable secret 5 $1$mERr$ILwq/b7kc.7X/ejA4Aosn0
enable password 7 082F495A1E16171C
!
!
!
!
!
no ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
!
```

Router1

Physical    Config    CLI    Attributes

IOS Command Line Interface

```
interface FastEthernet0/0
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 no ip address
 clock rate 2000000
 shutdown
!
interface Serial0/0/1
 no ip address
 clock rate 2000000
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
!
ip flow-export version 9
!
!
!
banner motd ^CUnauthorized access is strictly prohibited^C
!
!
!
!
line con 0
 password 7 082F495A1E16171C
 login
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

Q5. In the privileged mode, type *disable* to return to user mode then back to privileged mode again, the router should ask you for password this time, otherwise check your configuration. Turn off the router then power on immediately, access the router via console then try go to privileged mode, does the router ask for password this time? How about the router name?

**Answer**:

The router doesn't ask for password this time.

The router name is the origin name.

Router1

Physical    Config    CLI    Attributes

```
R021#exit




R021 con0 is now available



Press RETURN to get started.






Unauthorized access is strictly prohibited

User Access Verification

Password:
% Password:  timeout expired!
```

```
Press RETURN to get started!

Unauthorized access is strictly prohibited

User Access Verification

Password:

R021>disable
R021>enable
Password:
Password:
Password:
R021#System Bootstrap, Version 12.3(8r)T8, RELEASE SOFTWARE (fc1)
Initializing memory for ECC
..
C1841 processor with 524288 Kbytes of main memory
Main memory is configured to 64 bit mode with ECC enabled

Readonly ROMMON initialized

Self decompressing the image :
######################################################################## [OK]



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


Press RETURN to get started!



Router>
```

Q6. The above happens because the running config is saved in the router RAM and when you turn off, it will be destroyed. You should store the running config into router **NVRAM**. Provide the command to store router running config so next time when you start up, everything is kept intact

**Answer**:

Syntax:

R021#copy running-config startup-config

R021#show startup-config

```
R021>disable
R021>enable
Password:
R021#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R021#show startup-config
Using 866 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname R021
!
!
!
enable secret 5 $1$mERr$ILwq/b7kc.7X/ejA4Aosn0
enable password 7 082F495A1E16171C
!
!
!
!
!
!
no ip cef
no ipv6 cef
!
```

Q7. Provide the command to show the detailed information about all interfaces of your router. How many interfaces are there? What are their statuses (i.e. Name, IP address, up/down)

**Answer**: Command: R021#show ip interface brief

There are 5 interfaces. All they are also down status.

```
R021#show ip interface brief
Interface          IP-Address      OK? Method Status                Protocol
FastEthernet0/0    unassigned      YES unset  administratively down down
FastEthernet0/1    unassigned      YES unset  administratively down down
Serial0/0/0        unassigned      YES unset  administratively down down
Serial0/0/1        unassigned      YES unset  administratively down down
Vlan1              unassigned      YES unset  administratively down down
R021#
```

Q8. Now try connecting from hub to router, what kind of cable we need for this connection? Connect from port 5 of hub to FastEthernet 0/0 on router. After finish connecting, do you see how this connection is different from the ones that connect PCs to hub? Why is this happening?

**Answer**:

Kind of cable we need for this connection is Copper Straight-Through.

After finish connecting, I see that this connection is direction changed so far initial the ones that connect PCs to hub.

Because the router determined the IP address and subnet mask.

Before:
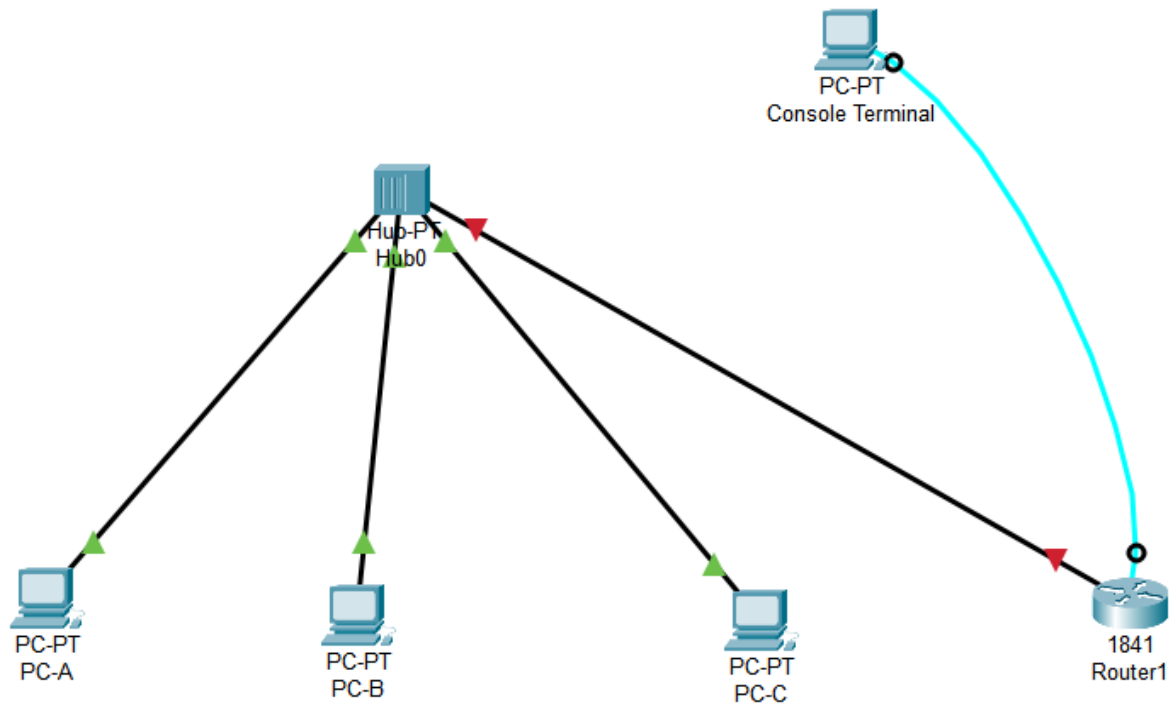
```
Press RETURN to get started!

Unauthorized access is strictly prohibited

User Access Verification

Password:
R021>enable
Password:
Password:
R021#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R021(config)#interface FastEthernet0/0
R021(config-if)# ip address 192.168.1.1 255.255.255.0
R021(config-if)#no shutdown

R021(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

R021#
%SYS-5-CONFIG_I: Configured from console by console

R021#|
```
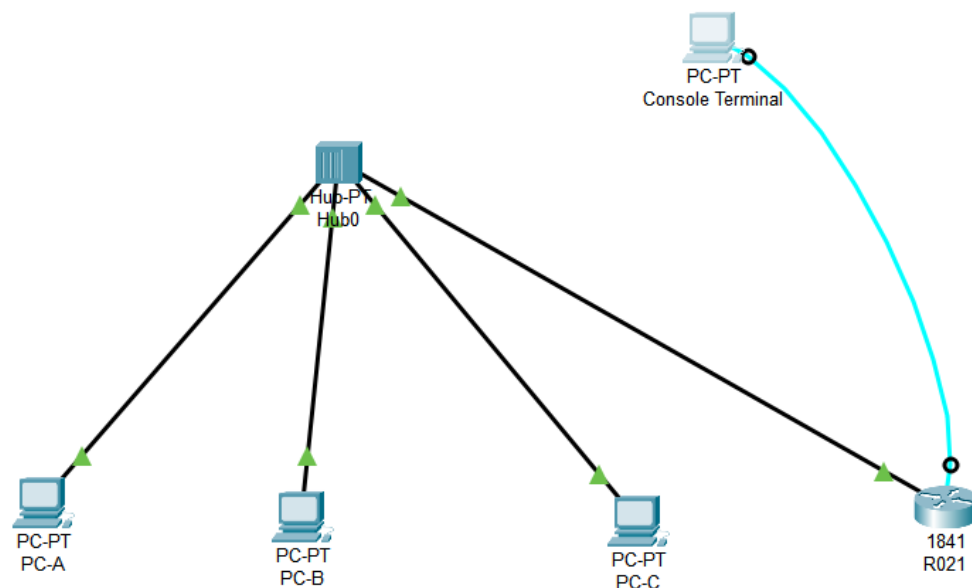
After:

Q9. Provide the commands to config the port FaseEthernet 0/0 with IP address of 192.168.x1.1 subnet mask 255.255.255.0. Does the hub-router link change status to the same as pc-hub connection? If not, double check your configuration

**Answer**:

R021>configure terminal

R021 (config)#interface FastEthernet 0/0

R021 (config-if)#ip address 192.168.111.1 255.255.255.0

R021 (config-if)#no shutdown

 The hub-router link doesn't change status to the same as pc-hub connection.


Q10. Provide the commands to config port Serial0/0/0 with IP address of 10.0.0.1/255.255.255.0 and clock rate 56000

**Answer**:

R021#configure terminal

R021 (config)#interface serial 0/0/0

R021 (config-if)#ip address 10.0.0.1 255.255.255.0

R021 (config-if)#clock rate 56000

```
Press RETURN to get started.




Unauthorized access is strictly prohibited

User Access Verification

Password:

R021>enable
Password:
Password:
R021#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R021(config)#interface serial 0/0/0
R021(config-if)#ip address 10.0.0.1 255.255.255.0
R021(config-if)#clock rate 56000
```

1.  Connection testing

Test the configuration by ping from PC-A, PC-B and PC-C to FastEthernet 0/0 of R1. Now try ping to Serial0/0/0, what is the result? Can you explain?

**Answer**: (bonus)