# Part 1: Build the Network

Placing Switch S1 and Router R1 to wiring closet equipment rack.

- Using Copper Straight-Through cable to connect PC-A (FastEthernet0 port) and S1 (FastEthernet0/6 port)
- using Copper Straight-Through cable to connect all devices as shown in the topology diagram.

**Turn-on PCs and Router R1**

# Part 2: Develop an IP Addressing Scheme

| Item | Requirements | IPv4 Address |
|---|---|---|
| Network Address | 192.168.10.0/24 | |
| LAN 1 subnet host requirements | 100 | 192.168.10.0/25 SM: 255.255.255.128 |
| LAN 2 subnet host requirements | 50 | 192.168.10.128/26 SM: 255.255.255.192 |
| R1 G0/0/1 | First host address in LAN 1 subnet | 192.168.10.1 |
| R1 G0/0/0 | First host address in LAN 2 subnet | 192.168.10.129 |
| S1 SVI | Second host address in LAN 1 subnet | 192.168.10.2 |
| PC-A | Last host address in LAN 1 subnet | 192.168.10.126 |
| PC-B | Last host address in LAN 2 subnet | 192.168.10.190 |

## Configuration for router R1

## Using line console to connect PC-A and Router R1

## Router R1 configuration script:

enable

configure terminal

no ip domain-lookup

hostname R1

banner motd #Unauthorized access to this device is prohibited!#


interface g0/0/0

description Connect to Subnet B

ip address 192.168.10.129 255.255.255.192

no shutdown

exit


interface g0/0/0

description Connect to Subnet B

ip address 192.168.10.129 255.255.255.192

no shutdown

exit


enable secret **NoOneShouldKnow**

service password-encryption

security passwords min-length 10


ip domain-name netsec.com

username netadmin secret Ci$co12345

```
line console 0

password C@nsPassw!

login

exit
```

```
line vty 0 15

transport input ssh

login local

exit
```

```
crypto key generate rsa

1024

exit

copy running-config startup-config
```

## Configuration for Switch S1

**Then, using Console cable to connect User-B and Switch**

**To show Console port on Switch, Right click Switch --> Inspect Rear --> Console port**

**<span style="color:red">Switch S1 configuration script</span>**

```
enable
configure terminal
no ip domain-lookup
hostname S1
banner motd #Unauthorized access to this device is prohibited!#
```

```
interface vlan 1

description Switch Subnet A

ip address 192.168.10.2 255.255.255.128

no shutdown

exit

ip default-gateway 192.168.10.1


enable secret NoOneShouldKnow

service password-encryption


ip domain-name netsec.com

username netadmin secret Ci$co12345


line console 0

password C@nsPassw!

login

exit


line vty 0 15

transport input ssh

login local

exit


crypto key generate rsa

1024


int range f0/1 - 4, f0/7 - 24, g0/1 - 2

description Unused switch ports

shutdown

end

copy running-config startup-config
```

## Part 5: Configure the Hosts and Verify Connectivity

On PCs, go to Desktop tab --> IP Configuration menu

| PC-A Network Configuration | |
| --- | --- |
| IPv4 Address | **192.168.10.126** |
| Subnet Mask | **255.255.255.128** |
| IPv4 Default Gateway | **192.168.10.1** |

| PC-B Network Configuration | |
| --- | --- |
| IPv4 Address | **192.168.10.190** |
| Subnet Mask | **255.255.255.192** |
| IPv4 Default Gateway | **192.168.10.129** |