# ITN (Version 7.00) Final PT Skills Assessment (PTSA) Exam Answers

## Topology

ITN Final PT Skills Assessment (PTSA)

## Device Names Table

You will receive one of three possible scenarios. In order to use the logical topology diagram that is provided with the instructions, use the device names in the Device Names Table.

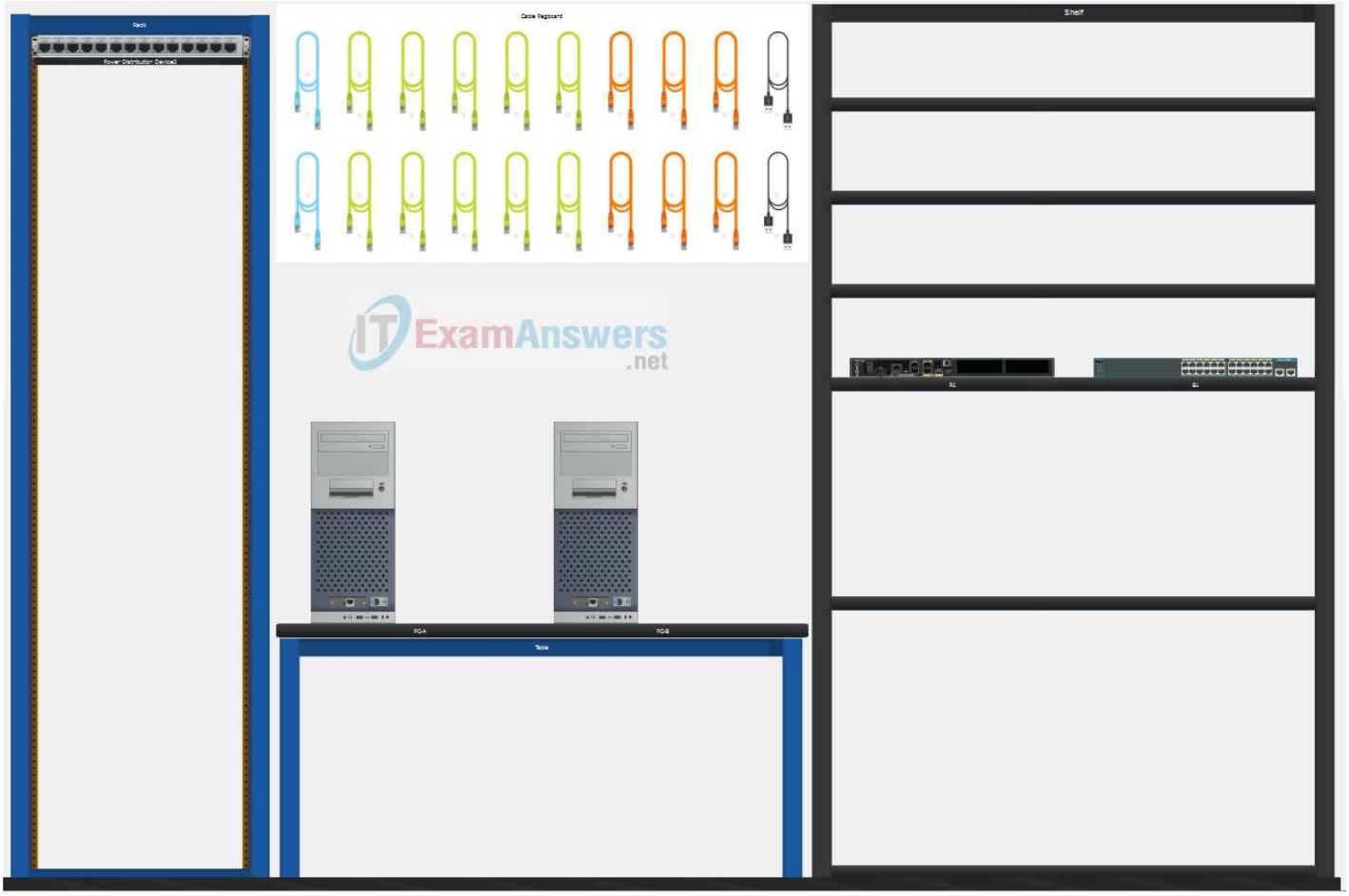
| Topology Diagram Name | Your Scenario Name |
|---|---|
| R1 | R1 |
| S1 | S1 |
| PC-A | PC-A |
| PC-B | PC-B |

## Addressing Requirements Table

| Item | Requirements |
|---|---|
| Network Address | 192.168.10.0/24 |
| LAN 1 subnet host requirements | 100 |
| LAN 2 subnet host requirements | 50 |
| R1 G0/0/1 | First host address in LAN 1 subnet |

| Item | Requirements |
|---|---|
| R1 G0/0/0 | First host address in LAN 2 subnet |
| S1 SVI | Second host address in LAN 1 subnet |
| PC-A | Last host address in LAN 1 subnet |
| PC-B | Last host address in LAN 2 subnet |

## ITN Final PT Skills Assessment (PTSA)




A few things to keep in mind while completing this activity:

1. Do not use the browser **Back** button or close or reload any exam windows during the exam.

2. Do not close Packet Tracer when you are done. It will close automatically.
3. Click the **Submit Assessment** button in the browser window to submit your work.

## Assessment Objectives

- **Part 1: Build the Network**
- **Part 2: Develop an IP Addressing Scheme**
- **Part 3: Configure Basic Device Settings**
- **Part 4: Configure Security Settings on R1 and S1**
- **Part 5: Configure the Hosts and Verify Connectivity**

## Instructions

In this assessment you will configure the **R1** router and **S1** switch, as you have done in the activities in this course. You will also connect two PCs using a switch and a router that are in the main wiring closet. You will subnet the **192.168.10.0/24** network to provide IPv4 addresses for two subnets that will support the required number of hosts. The larger subnet (LAN 1) requires **100** hosts and the smaller subnet (LAN 2) requires **50** hosts.

### Part 1: Build the Network

a. Build the network according to the logical topology by placing the required equipment in the wiring closet equipment rack.
b. Cable the network devices in the closet as shown in the topology diagram.
c. Connect the hosts as shown in the topology diagram.

### Part 2: Develop an IP Addressing Scheme

In this part of the assessment, you will develop an IP addressing scheme. You will subnet an IPv4 network to create two subnets with the required number of hosts. You will also subnet an IPv6 network. You will then assign the addresses according to the requirements below.

Work with the following information:

- IPv4 Network: **192.168.10.0/24**
- Required number of hosts in IPv4 LAN 1: **100**
- Required number of hosts in IPv4 LAN 2: **50**

a. Record your subnet assignments according to the following requirements.

1) Assign the first IPv4 address of each subnet to a router interface

- LAN 1 is hosted on **R1 G0/0/1**

- LAN 2 is hosted on **R1 G0/0/0**

2) Assign the last IPv4 address of each subnet to the PC NIC.
3) Assign the second IPv4 address of LAN 1 to **S1** SVI.

## Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection. Connectivity between the hosts should be established.

### Step 1: Configure Basic Settings

a. Disable DNS lookup on **R1** and **S1**
b. Configure router hostname using the name **R1**.
c. Configure switch hostname using the name **S1**.
d. Configure an appropriate banner on **R1** and **S1**.
e. Allow console logins with the password **C@nsPassw!**

### Step 2: Configure Interfaces

a. Configure **R1** G0/0/0 and G0/0/1 interfaces using the addressing from the previous part of this assessment:

- Interface description
- IPv4 address / subnet mask

b. Configure the **S1** VLAN 1 SVI interface using the addressing from the previous part of this assessment:

- Interface description
- IPv4 address / subnet mask
- The switch should be reachable from devices on other networks.

## Part 4: Configure Security Settings on R1 and S1

### Step 1: Configure enhanced password security

a. Configure **DontTellAnyone** as the encrypted privileged EXEC password
b. Encrypt all plaintext passwords
c. Set minimum password length to **10** on **R1**.

### Step 2: Configure SSH on R1 and S1

a. Configure **netsec.com** as the domain name
b. Configure a local user netadmin with the secret password **Ci$co12345**
c. Set login on vty lines to use local database.
d. Configure the vty lines to accept SSH access only.
e. Generate an RSA crypto key using 1024 bits modulus.

### Step 3: Secure switch ports on S1

a. Shut down **all** unused ports on **S1**.
b. Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

## Part 5: Configure the Hosts and Verify Connectivity

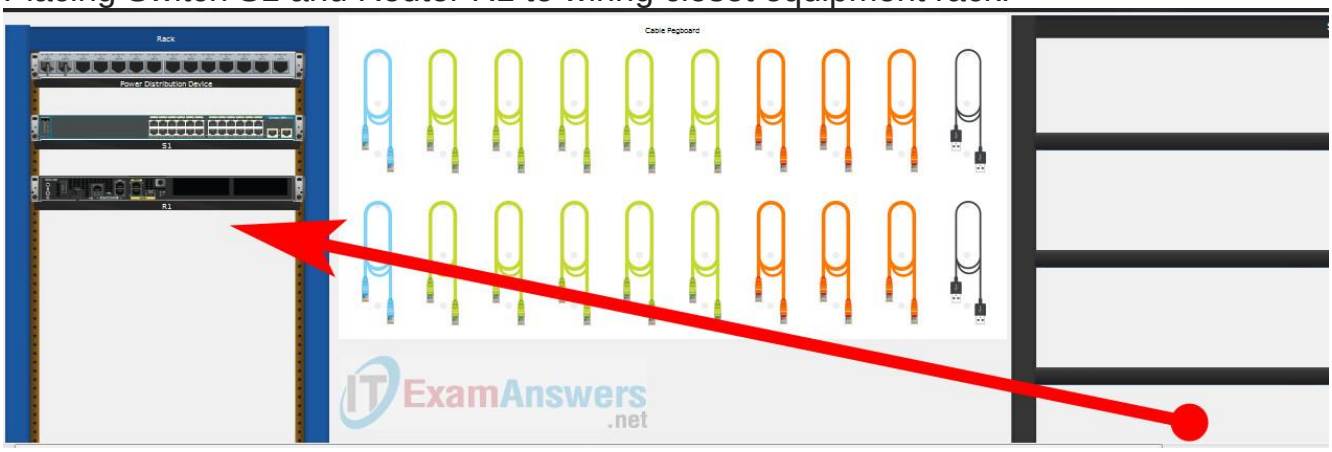
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

**ID: 011**

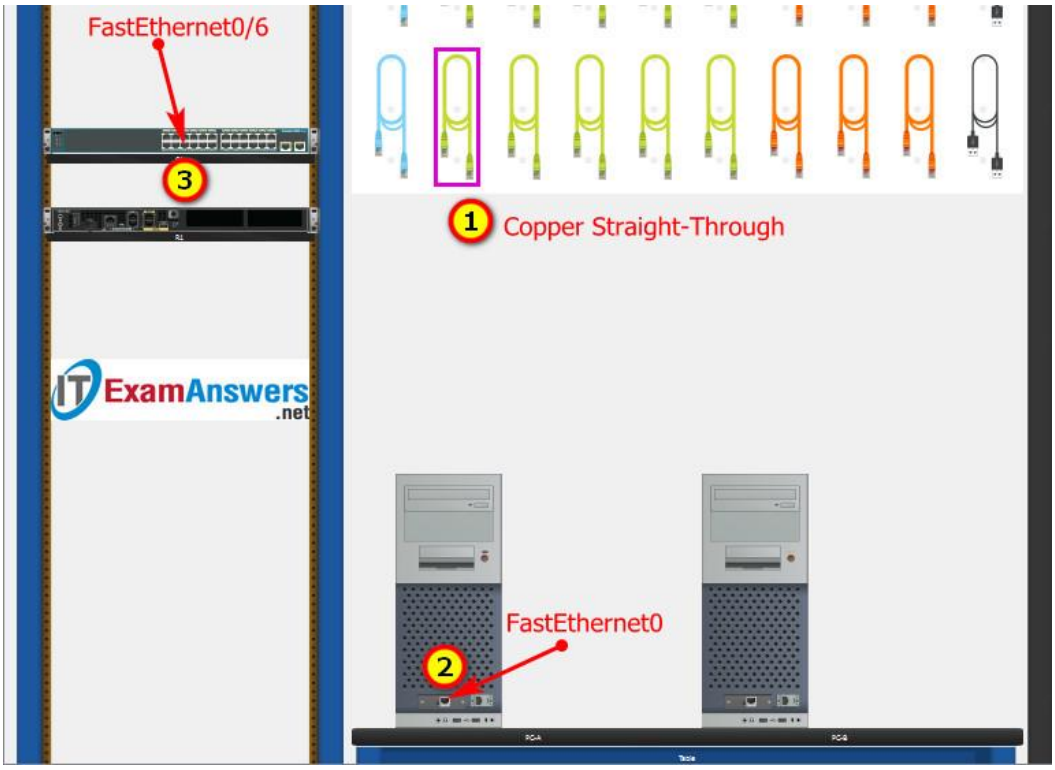
# Answers Key

## Part 1: Build the Network

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

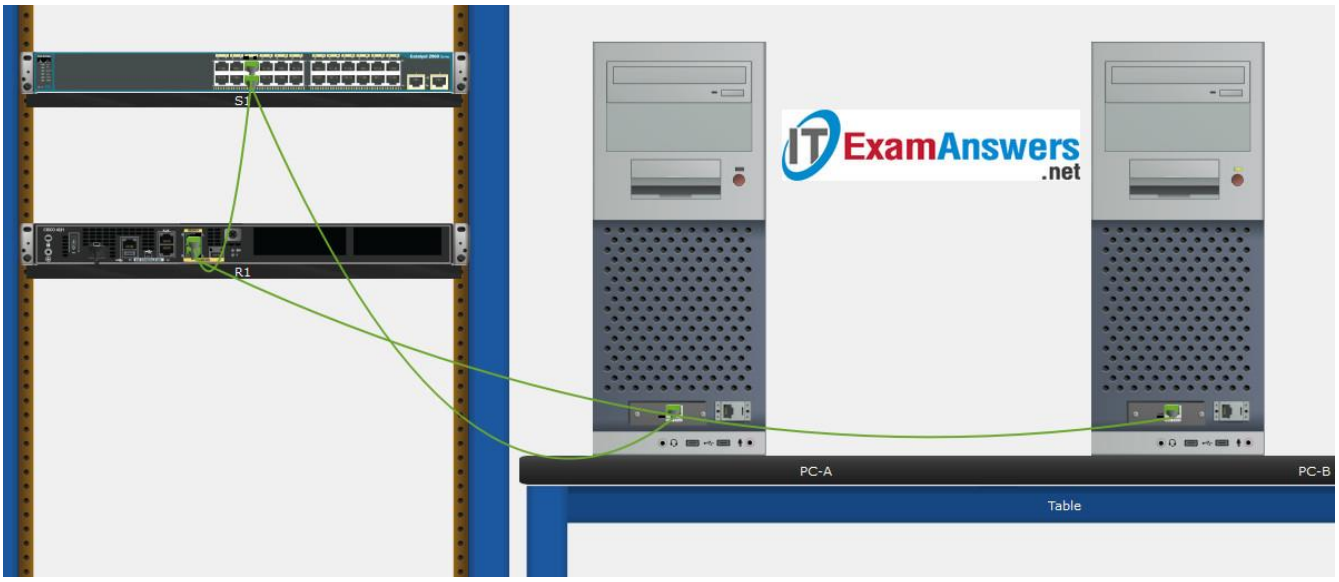



Using **Copper Straight-Through** cable to connect **PC-A** (FastEthernet0 port) and **S1** (FastEthernet0/6 port)

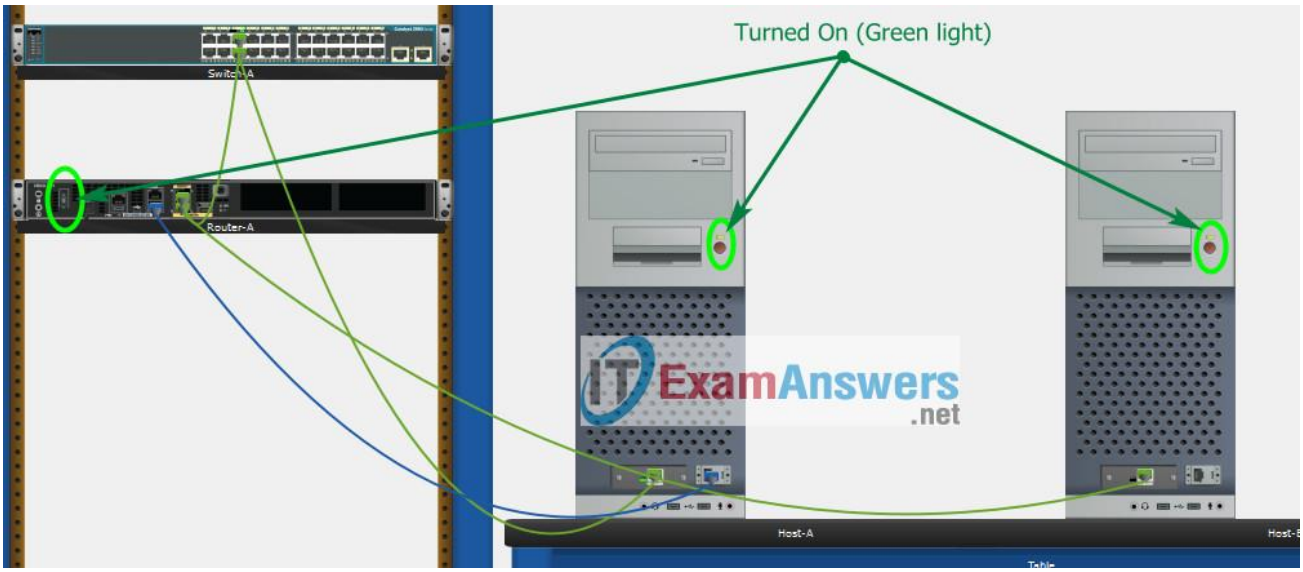



Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.

ITN Final PT Skills Assessment (PTSA)




**Turn-on PCs and Router R1**

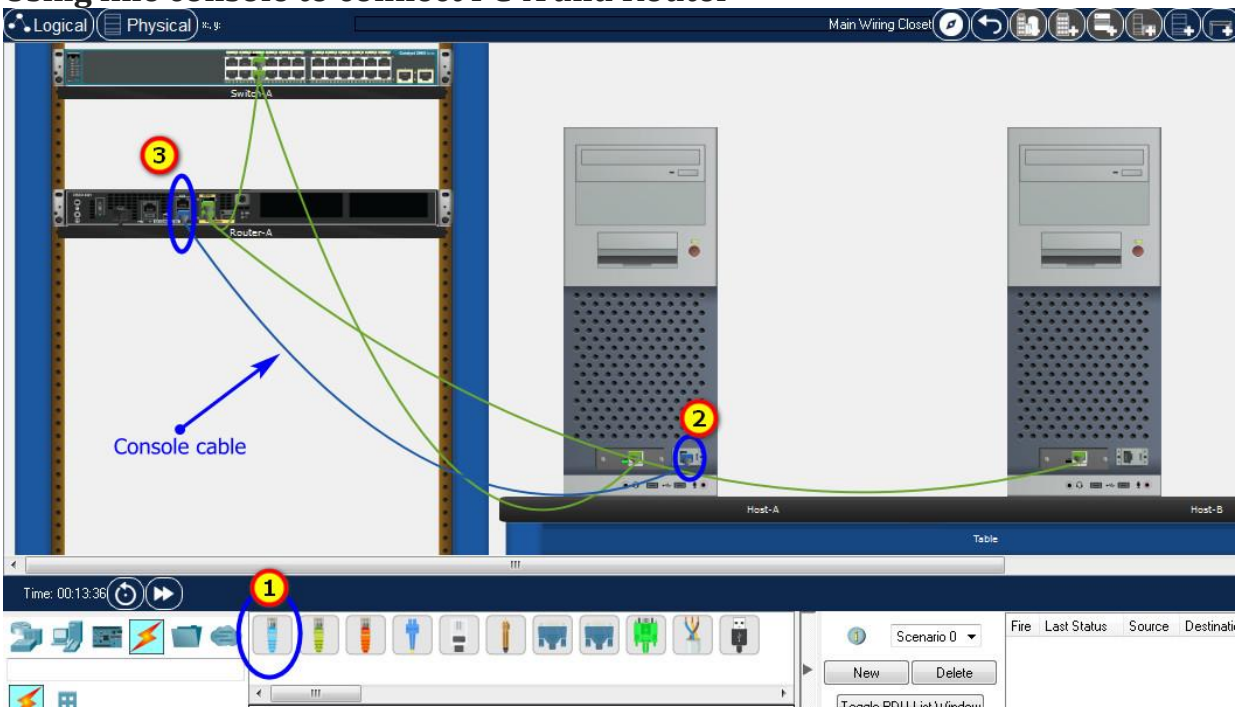



## Part 2: Develop an IP Addressing Scheme

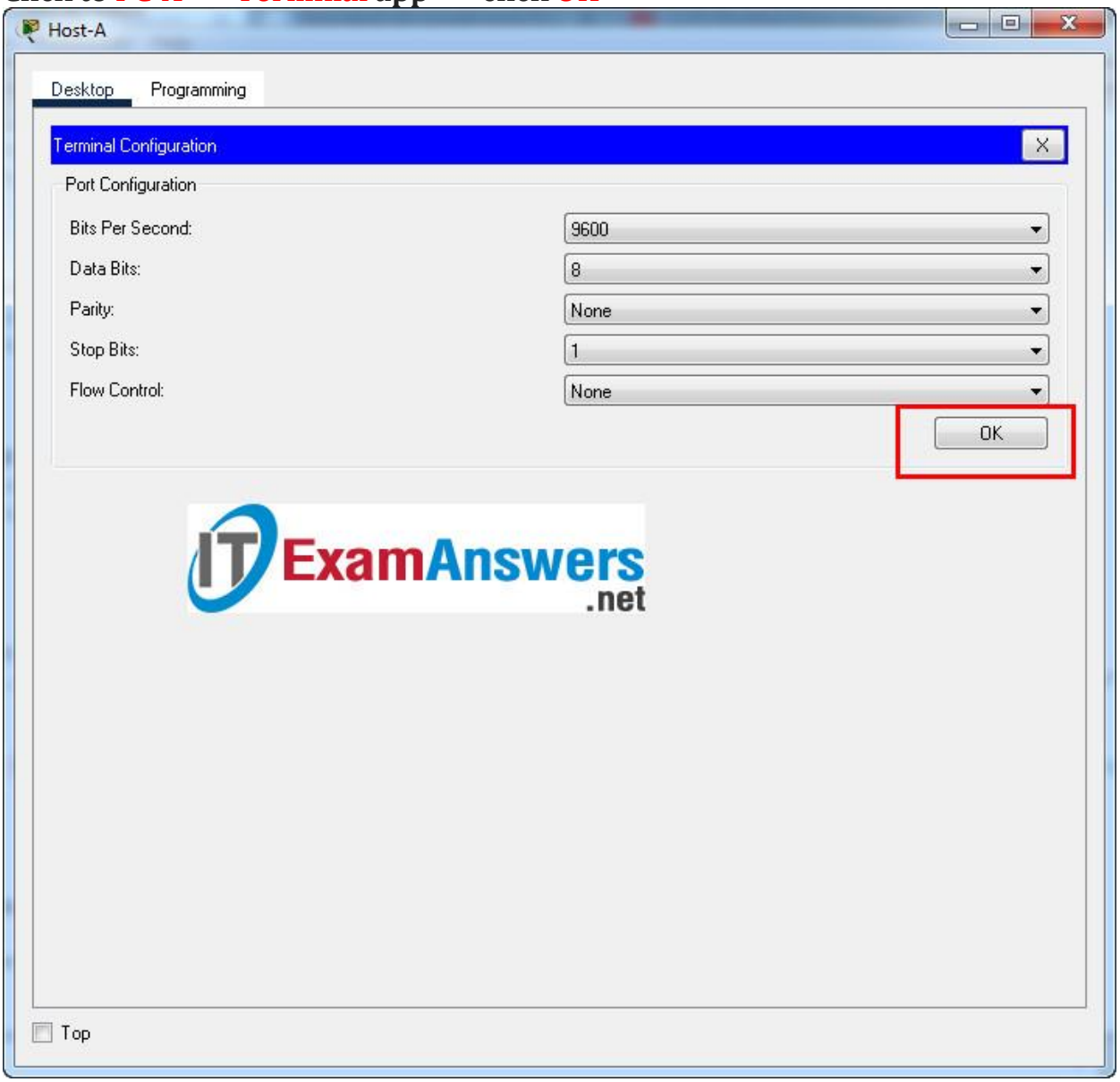
| Item | Requirements | IPv4 Address |
|---|---|---|
| Network Address | 192.168.10.0/24 | |
| LAN 1 subnet host requirements | 100 | 192.168.10.0/25<br>SM:<br>255.255.255.128 |

| Item | Requirements | IPv4 Address |
|---|---|---|
| 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 |

**Using line console to connect PC-A and Router**



**Click to PC-A --> Terminal app --> click OK**




**Router R1 configuration script**

```
enable

configure terminal

no ip domain-lookup

hostname R1

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

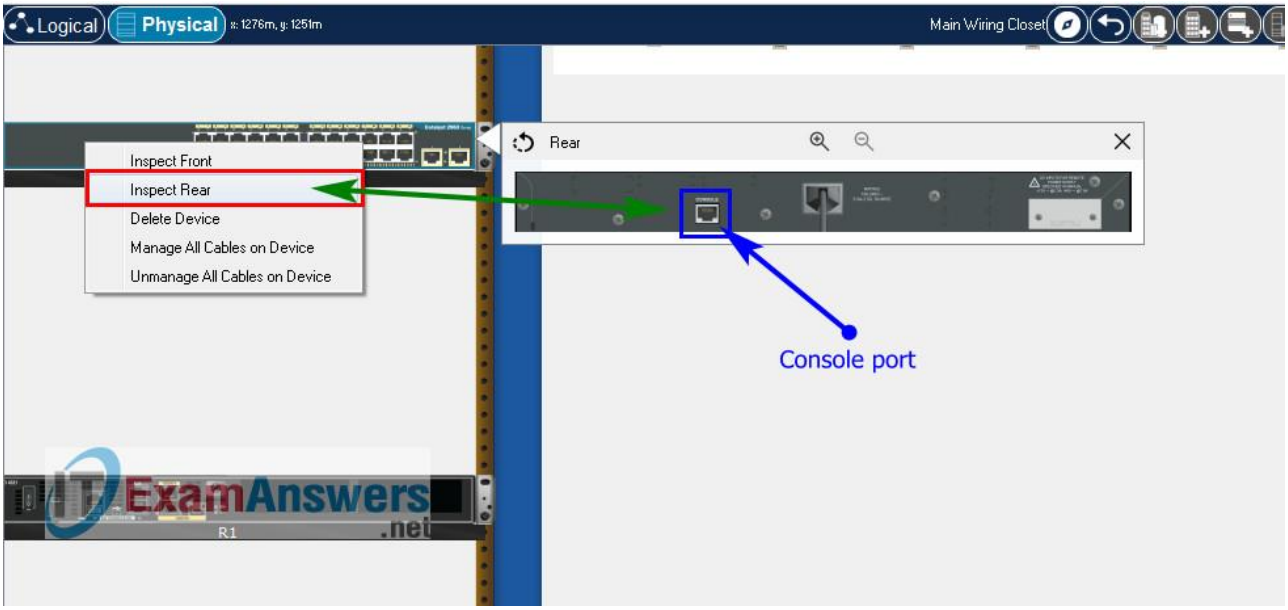
```
interface g0/0/0
description Connect to Subnet B
ip address 192.168.10.129 255.255.255.192
no shutdown
exit

interface g0/0/1
description Connect to Subnet A
ip address 192.168.10.1 255.255.255.128
no shutdown
exit

enable secret DontTellAnyone
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 PC-B and Switch**

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




**Switch S1 configuration script**

```
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
```

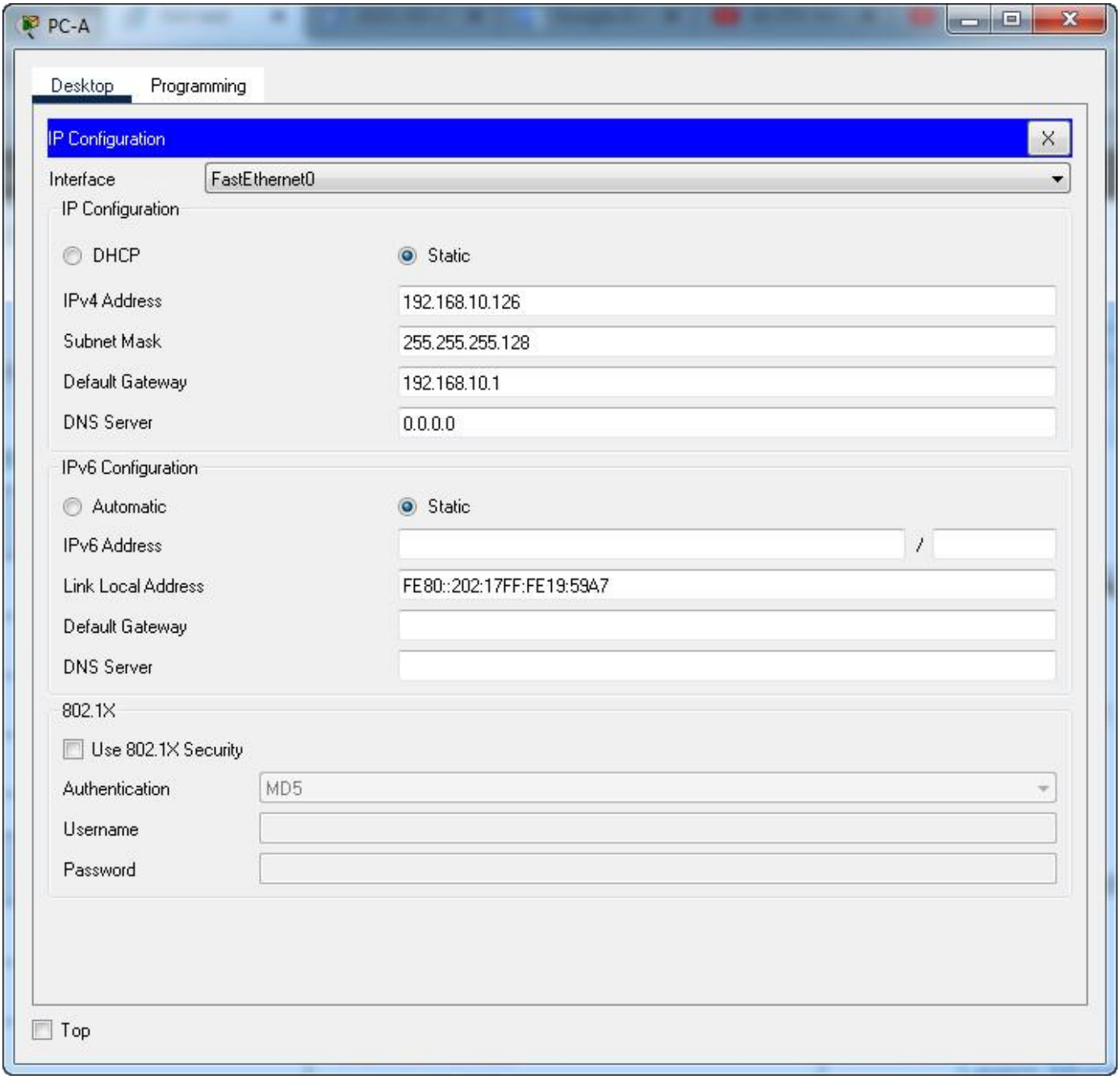
```
exit

ip default-gateway 192.168.10.1

enable secret DontTellAnyone
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
```

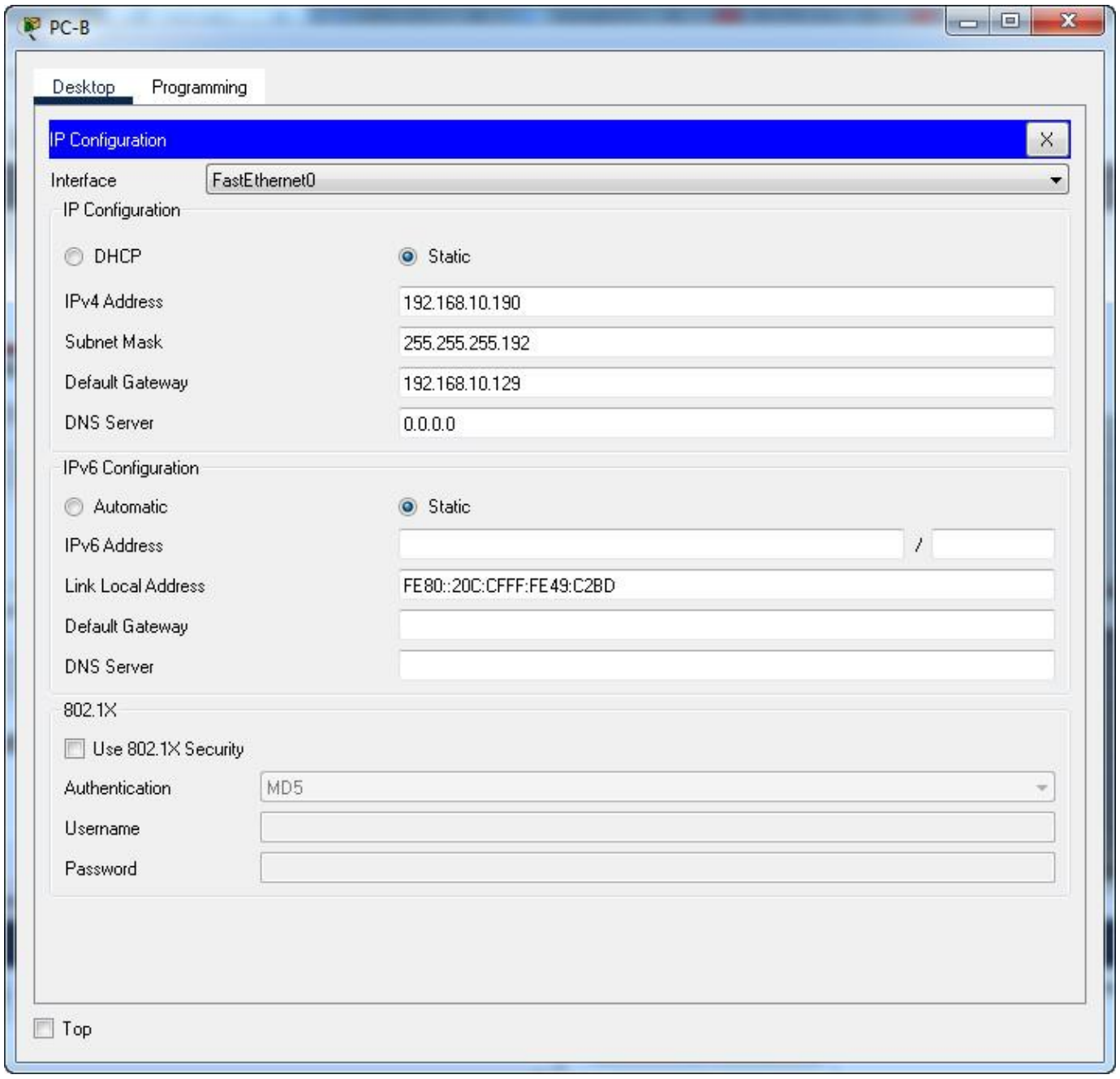
## Part 5: Configure the Hosts and Verify Connectivity

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** |


PC-B
Desktop
Programming
IP Configuration
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.10.190
Subnet Mask
255.255.255.192
Default Gateway
192.168.10.129
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
/
Link Local Address
FE80::20C:CFFF:FE49:C2BD
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top