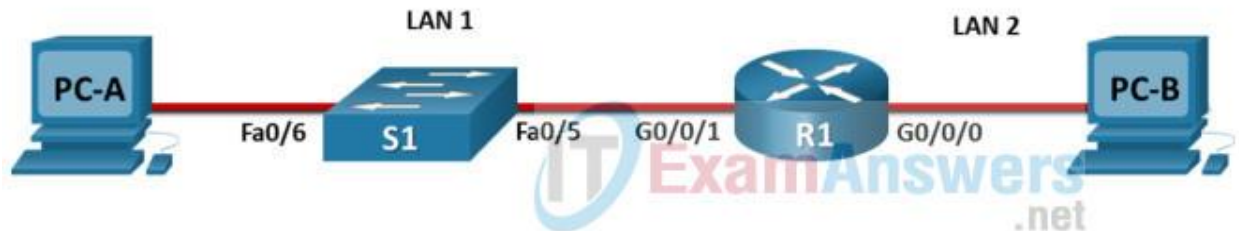


ITN Final Skills Exam (PTSA) - ID: 002 - Last Updated: Aug 2021

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
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.

No [subnet calculators](#) may be used.

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.

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

- Configure **NoOneShouldKnow** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **R1**.

Step 2: Configure SSH on R1 and S1

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

Step 3: Secure switch ports on S1

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

Part 5: Configure the Hosts and Verify Connectivity

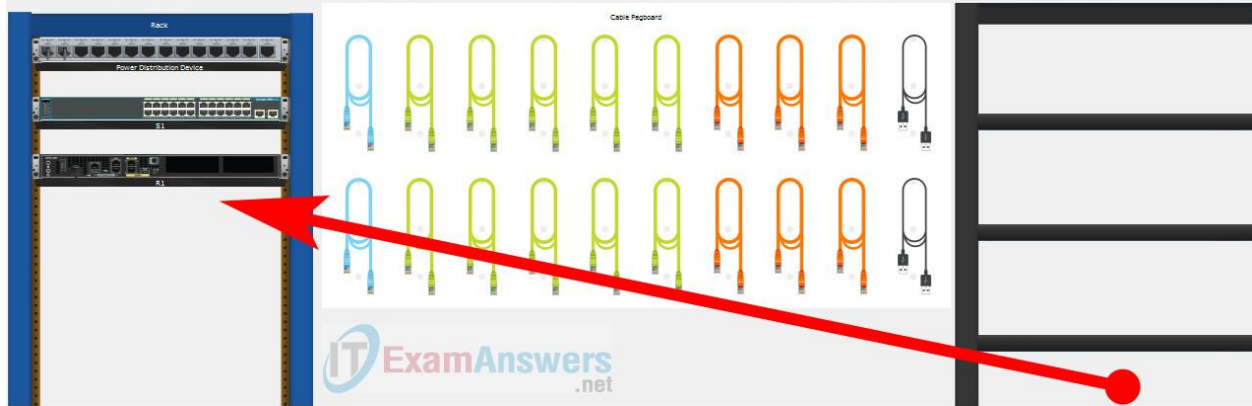
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 002

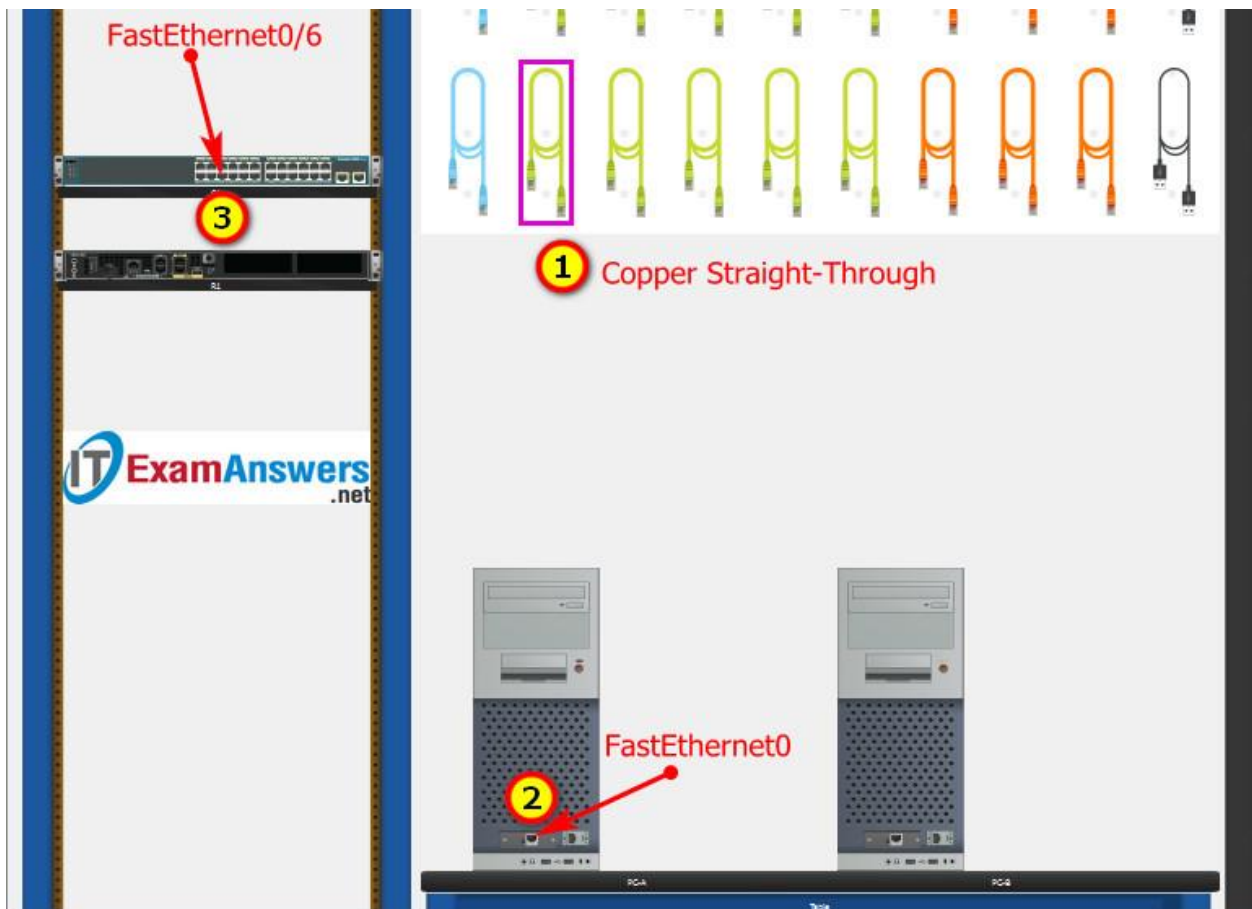
Answers Key - 100% Score

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)



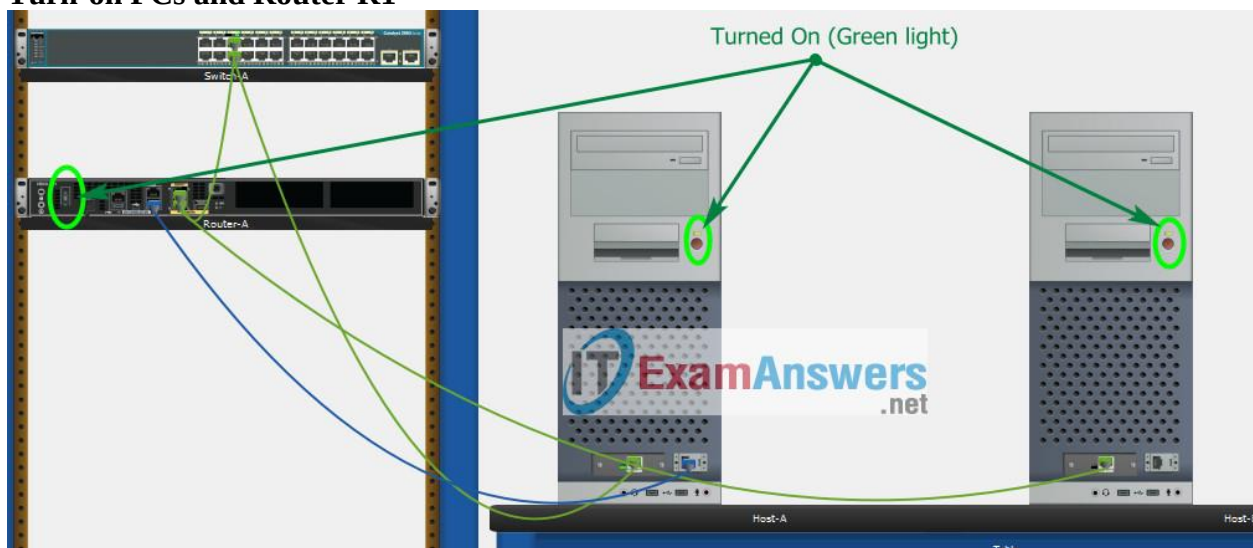
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



Turn-on PCs and Router R1

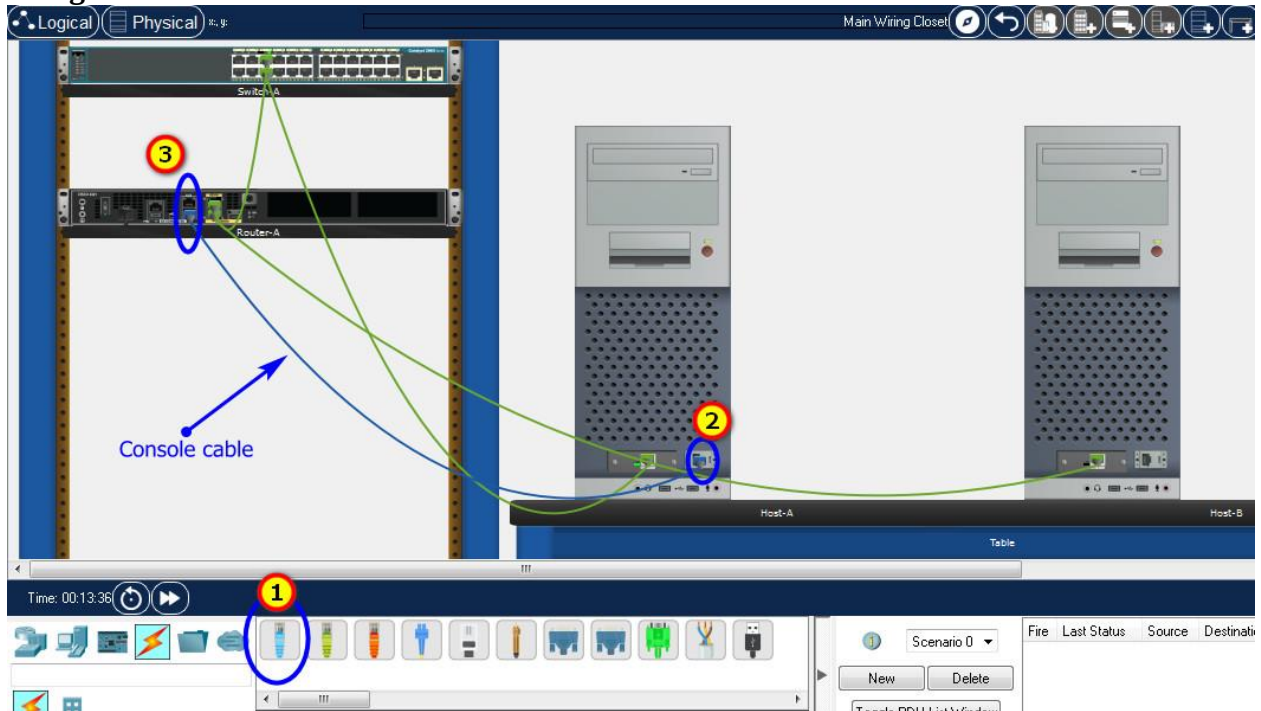


Part 2: Develop an IP Addressing Scheme

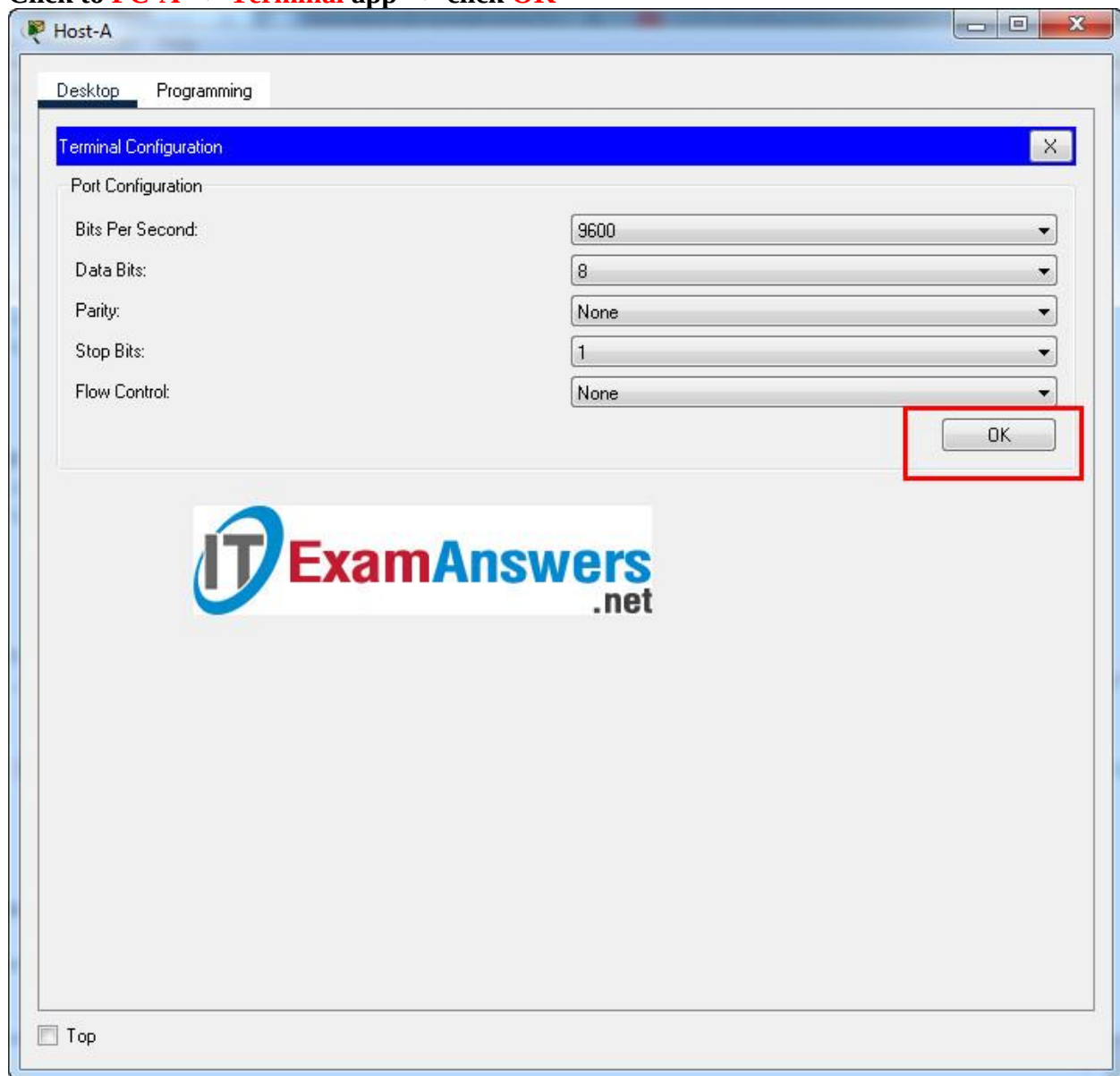
Item	Requirements	IPv4 Address
Network Address	192.168.10.0/24	
LAN 1 subnet host requirements	100	192.168.10.0/25 SM: 255.255.255.128
LAN 2 subnet host requirements	50	192.168.10.128/26 SM: 255.255.255.192
R1 G0/0/1	First host address in LAN 1 subnet	192.168.10.1
R1 G0/0/0	First host address in LAN 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



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 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

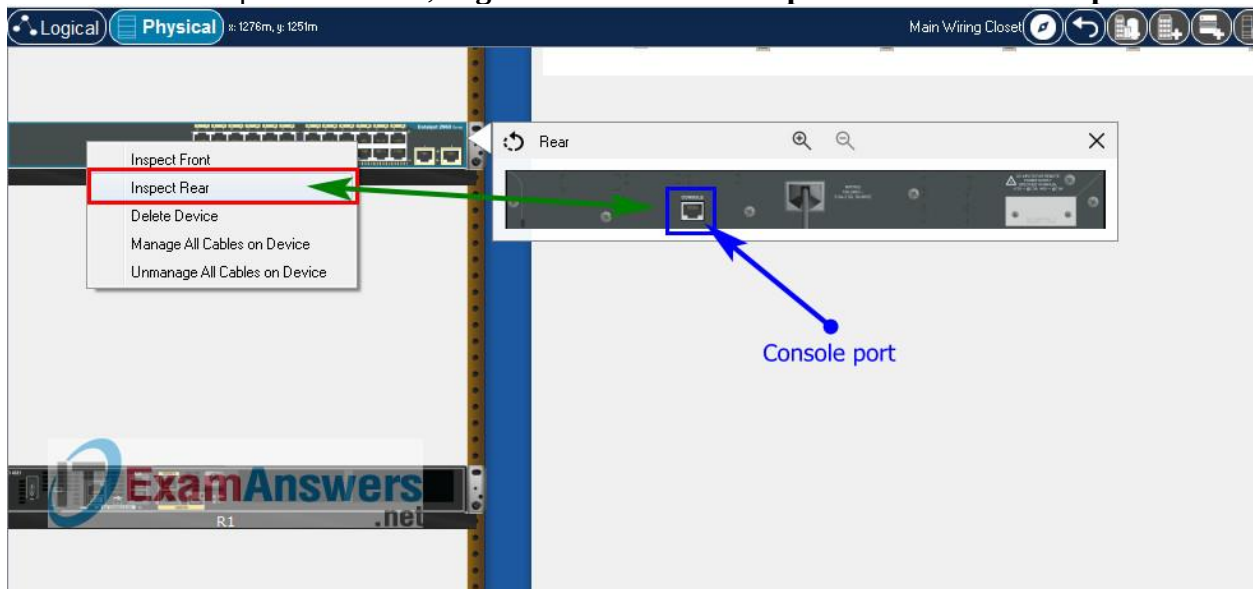
crypto key generate rsa
1024
exit
copy running-config startup-config

```

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



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 NoOneShouldKnow
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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-A

Desktop Programming

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.10.126

Subnet Mask: 255.255.255.128

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::202:17FF:FE19:59A7

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

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:

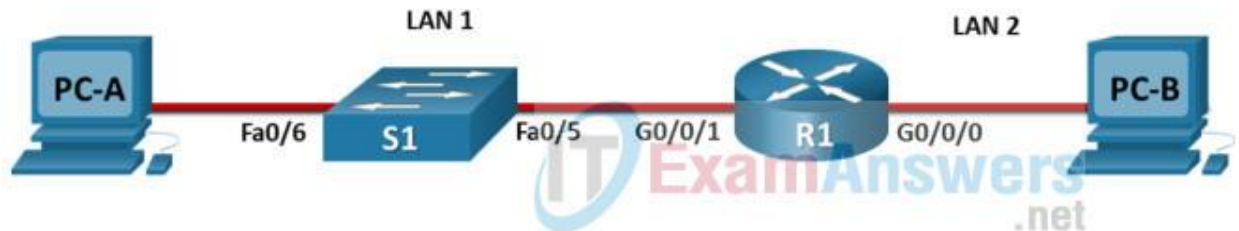
Password:

☐ Top

ITN Final Skills Exam (PTSA)

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	Central-RT
S1	Central-SW
PC-A	User-A
PC-B	User-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
Central-RT G0/0/1	First host address in LAN 1 subnet
Central-RT G0/0/0	First host address in LAN 2 subnet
Central-SW SVI	Second host address in LAN 1 subnet
User-A	Last host address in LAN 1 subnet
User-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 Central-RT and Central-SW**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Central-RT** router and **Central-SW** 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.

No [subnet calculators](#) may be used.

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 **Central-RT G0/0/1**
- LAN 2 is hosted on **Central-RT 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 **Central-SW** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Central-RT** 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 **Central-SW** 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 Central-RT and Central-SW

Step 1: Configure enhanced password security

- Configure **NoOneShouldKnow** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Central-RT**.

Step 2: Configure SSH on Central-RT and Central-SW

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

Step 3: Secure switch ports on Central-SW

- Shut down **all** unused ports on **Central-SW**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

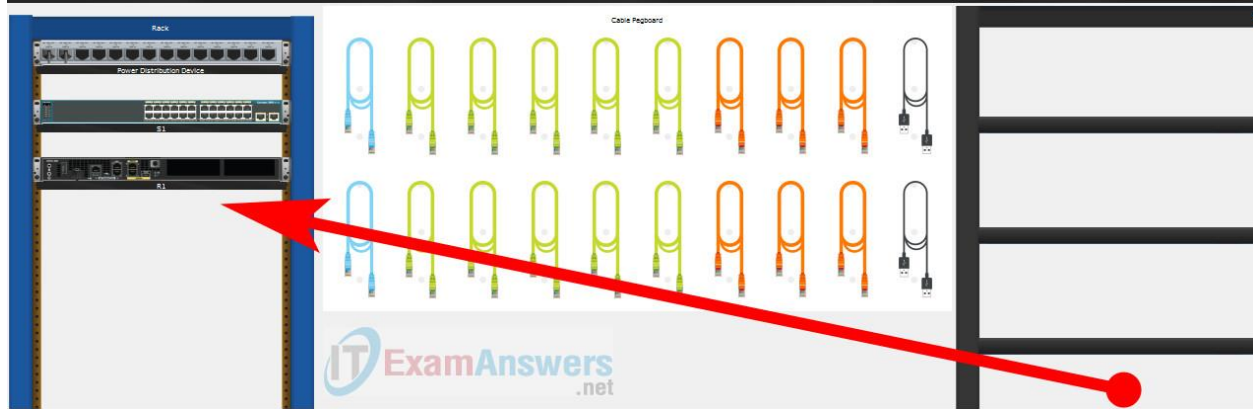
Part 5: Configure the Hosts and Verify Connectivity

Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.
ID: 012

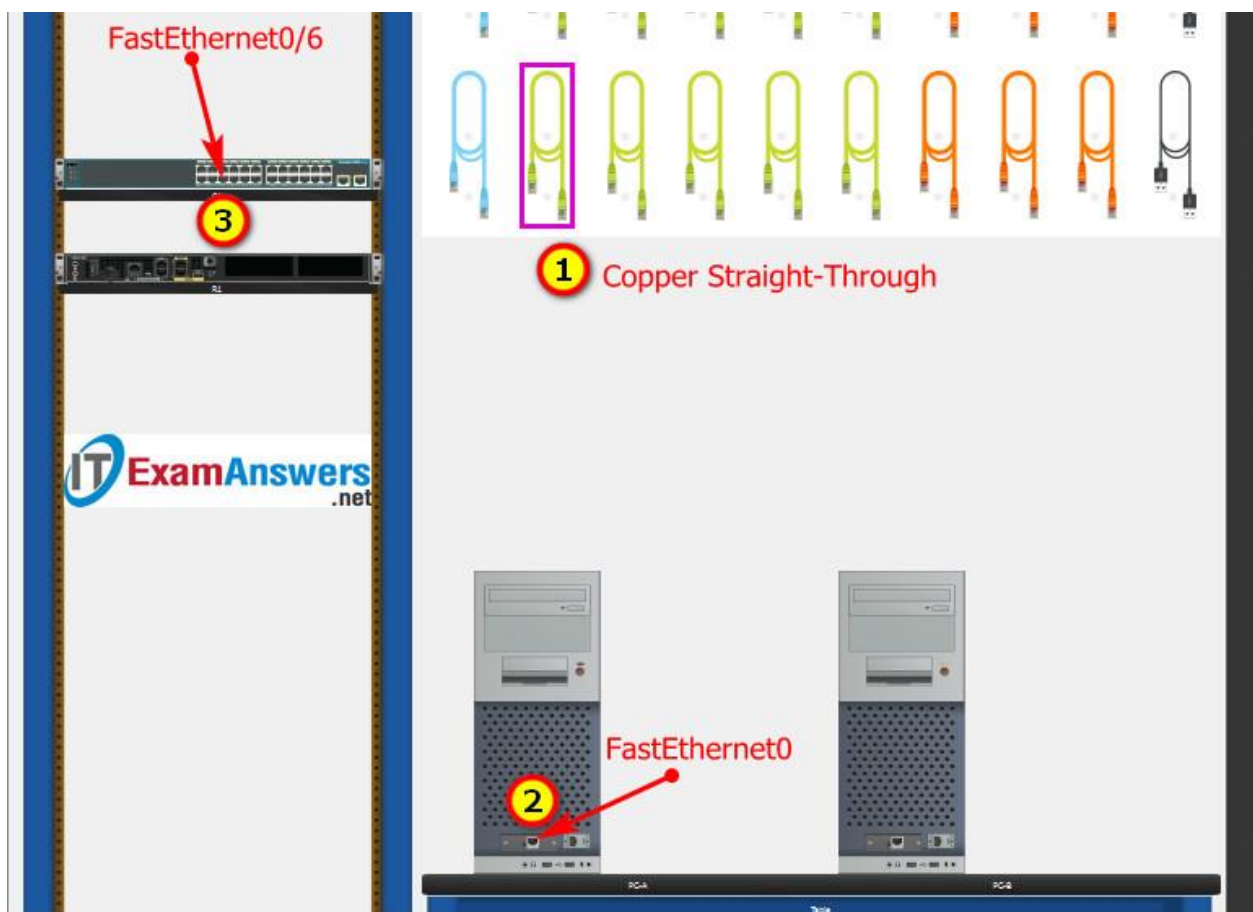
Answers Key

Part 1: Build the Network

Placing Switch Central-SW and Router Central-RT to wiring closet equipment rack.



Using **Copper Straight-Through** cable to connect **User-A** (FastEthernet0 port) and **Central-SW** (FastEthernet0/6 port)



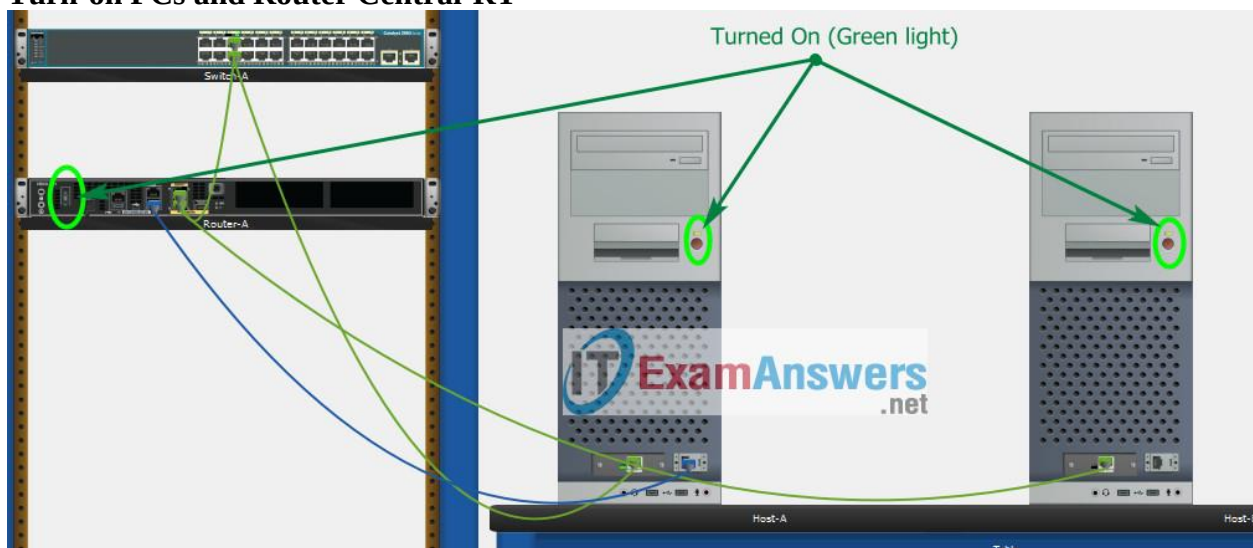
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



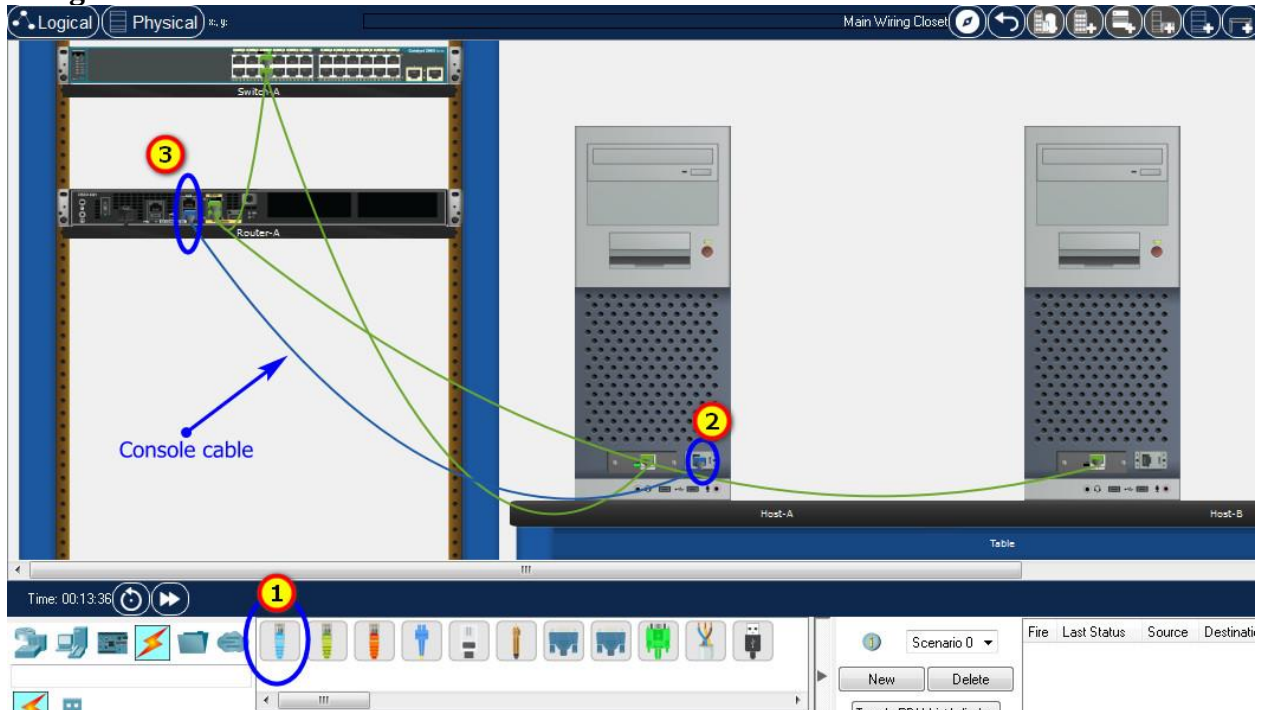
Turn-on PCs and Router Central-RT



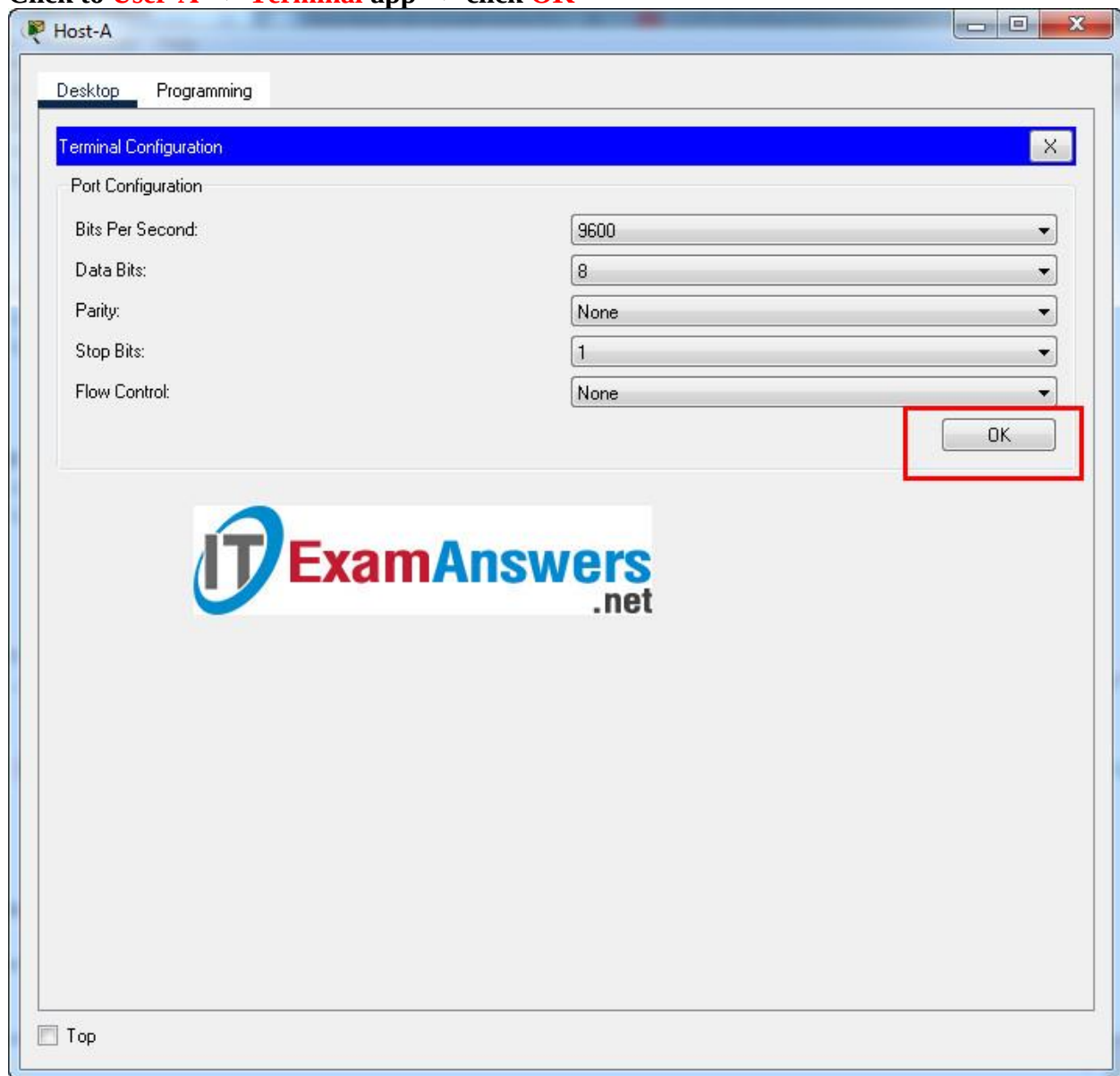
Part 2: Develop an IP Addressing Scheme

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
Central-RT G0/0/1	First host address in LAN 1 subnet	192.168.10.1
Central-RT G0/0/0	First host address in LAN 2 subnet	192.168.10.129
Central-SW SVI	Second host address in LAN 1 subnet	192.168.10.2
User-A	Last host address in LAN 1 subnet	192.168.10.126
User-B	Last host address in LAN 2 subnet	192.168.10.190

Using line console to connect User-A and Router



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



Router Central-RT configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Central-RT
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 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
```

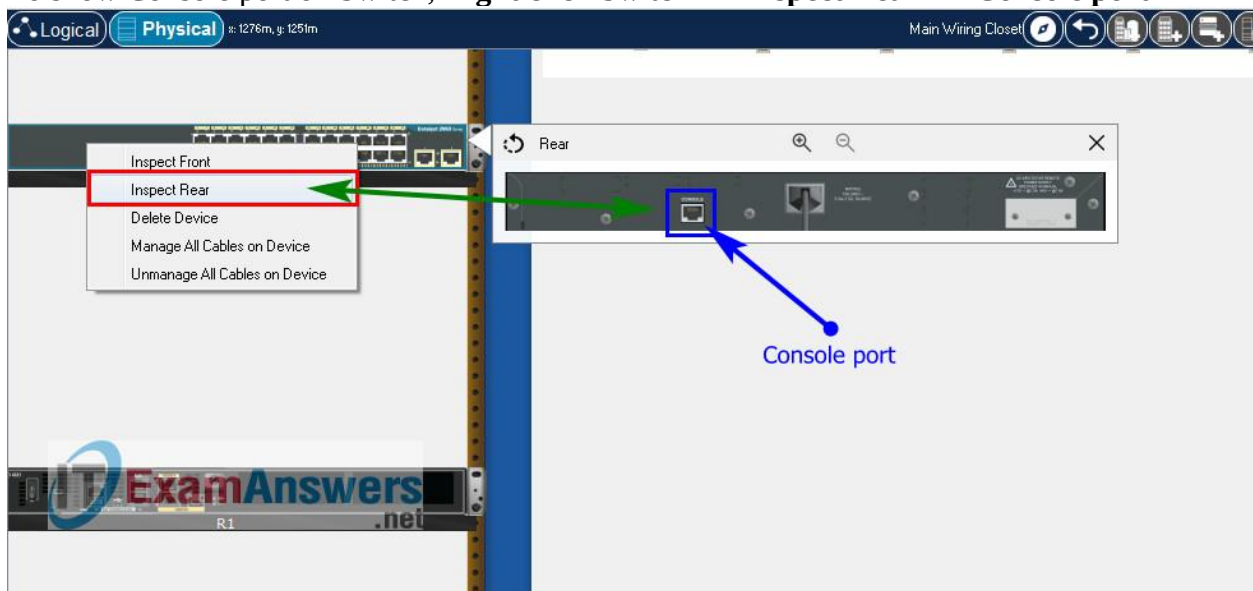
```
line vty 0 15
transport input ssh
login local
exit
```

```
crypto key generate rsa
1024
exit
copy running-config startup-config
```

Configuration for Switch Central-SW

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

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



Switch Central-SW configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Central-SW
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$col2345

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-A

Desktop Programming

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.10.126

Subnet Mask: 255.255.255.128

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::202:17FF:FE19:59A7

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

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

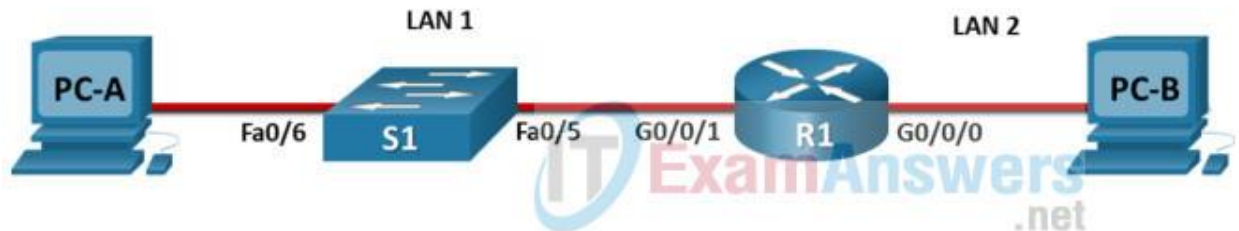
Password

☐ Top

ITN Final Skills Exam (PTSA)

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	Central-RT
S1	Central-SW
PC-A	User-A
PC-B	User-B

Addressing Requirements Table

Item	Requirements
Network Address	209.165.201.0/24
LAN 1 subnet host requirements	29
LAN 2 subnet host requirements	17
Central-RT G0/0/1	First host address in LAN 1 subnet
Central-RT G0/0/0	First host address in LAN 2 subnet
Central-SW SVI	Second host address in LAN 1 subnet
User-A	Last host address in LAN 1 subnet
User-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:

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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 Central-RT and Central-SW**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Central-RT** router and **Central-SW** 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 **209.165.201.0/24** network to provide IPv4 addresses for two subnets that will support the required number of hosts. The larger subnet (LAN 1) requires **29** hosts and the smaller subnet (LAN 2) requires **17** hosts.

No [subnet calculators](#) may be used.

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: **209.165.201.0/24**
- Required number of hosts in IPv4 LAN 1: **29**
- Required number of hosts in IPv4 LAN 2: **17**

- 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 **Central-RT G0/0/1**
- LAN 2 is hosted on **Central-RT 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 **Central-SW** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Central-RT** 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 **Central-SW** 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 Central-RT and Central-SW

Step 1: Configure enhanced password security

- Configure **NoOneShouldKnow** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Central-RT**.

Step 2: Configure SSH on Central-RT and Central-SW

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

Step 3: Secure switch ports on Central-SW

- Shut down **all** unused ports on **Central-SW**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

Part 5: Configure the Hosts and Verify Connectivity

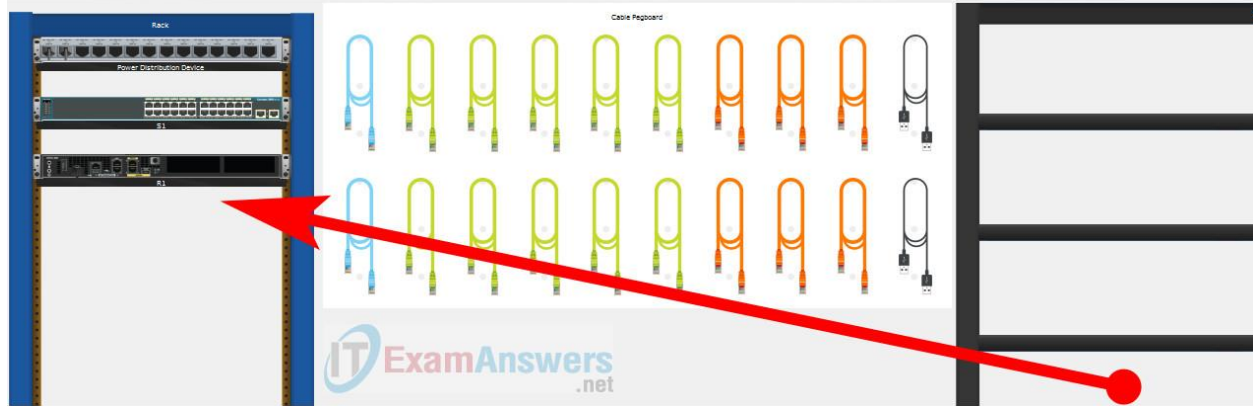
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 211

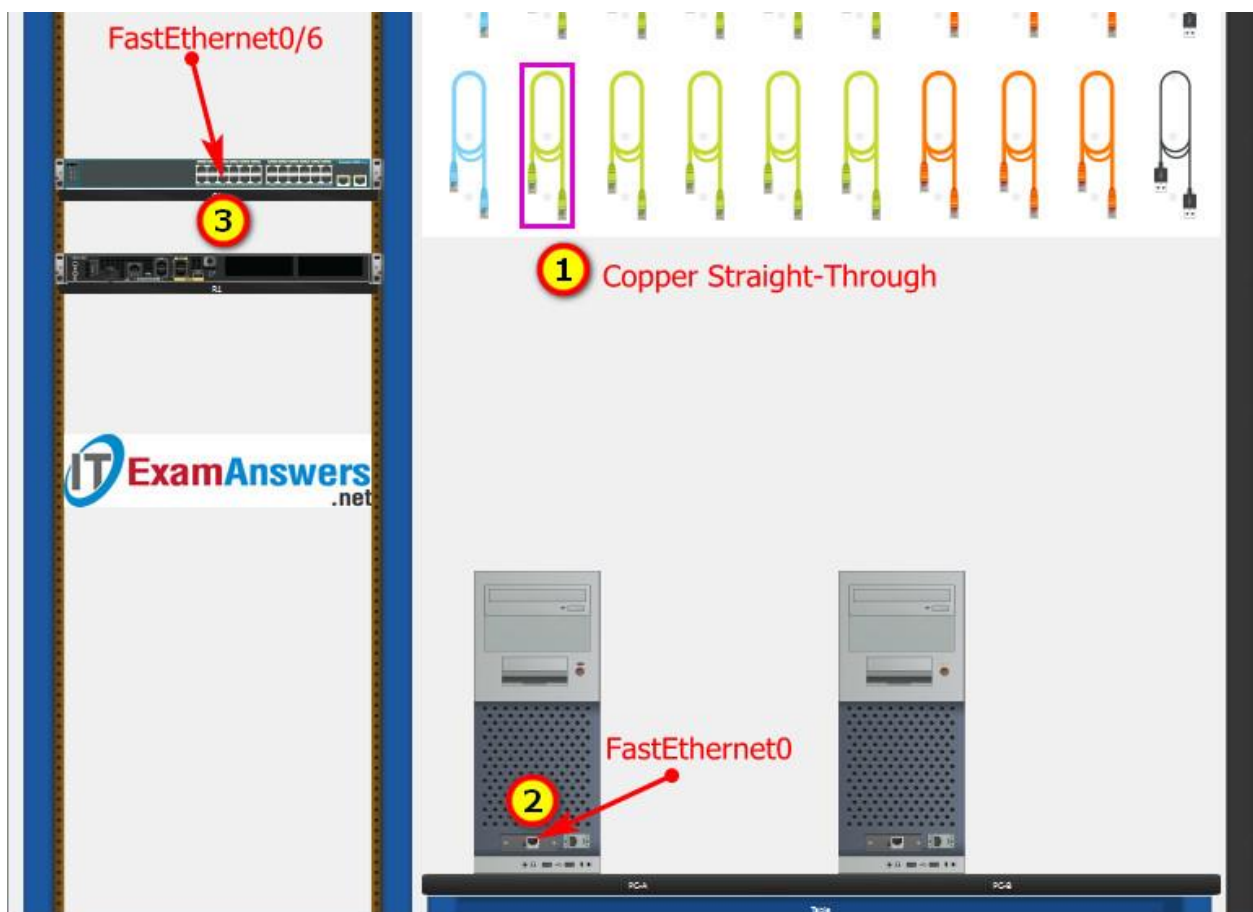
Answers Key - 100% Score

Part 1: Build the Network

Placing Switch Central-SW and Router Central-RT to wiring closet equipment rack.



Using **Copper Straight-Through** cable to connect **User-A** (FastEthernet0 port) and **Central-SW** (FastEthernet0/6 port)



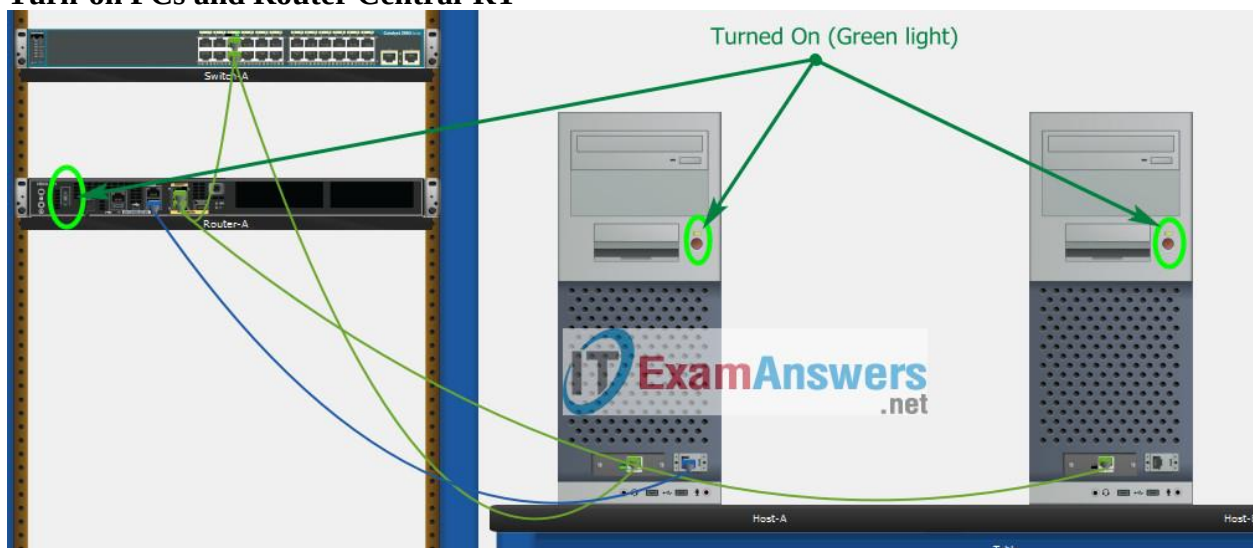
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



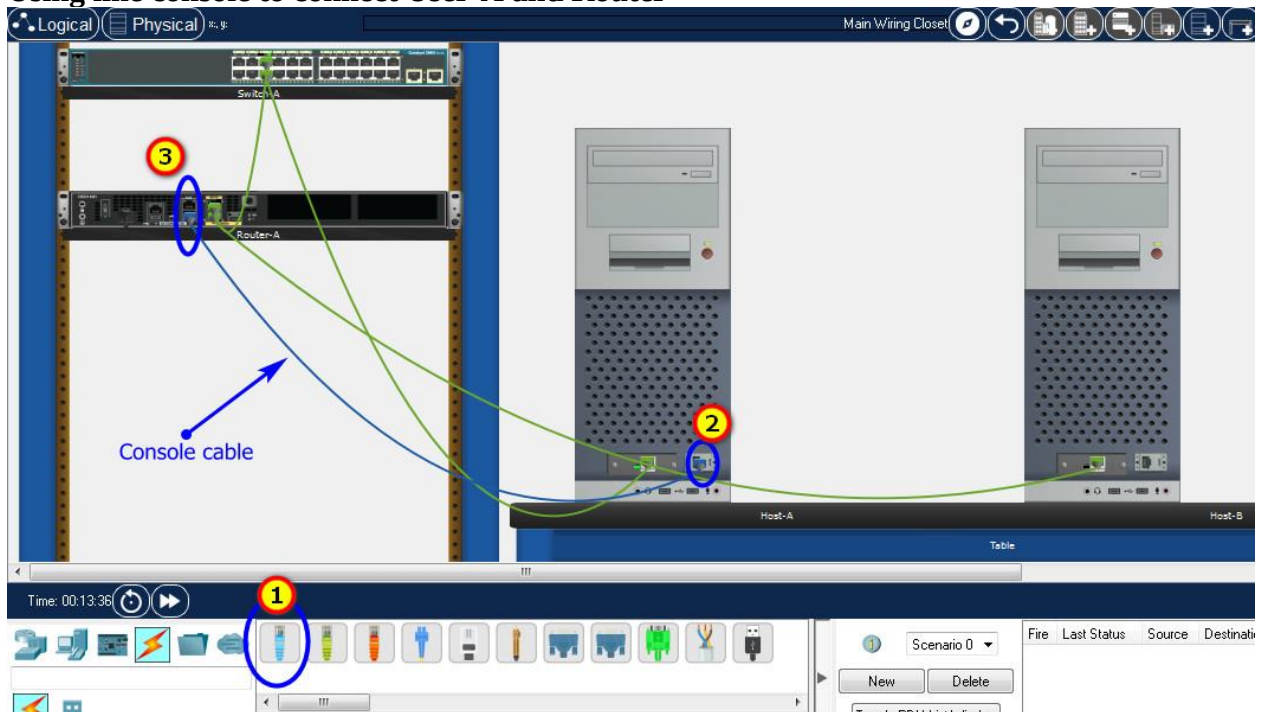
Turn-on PCs and Router Central-RT



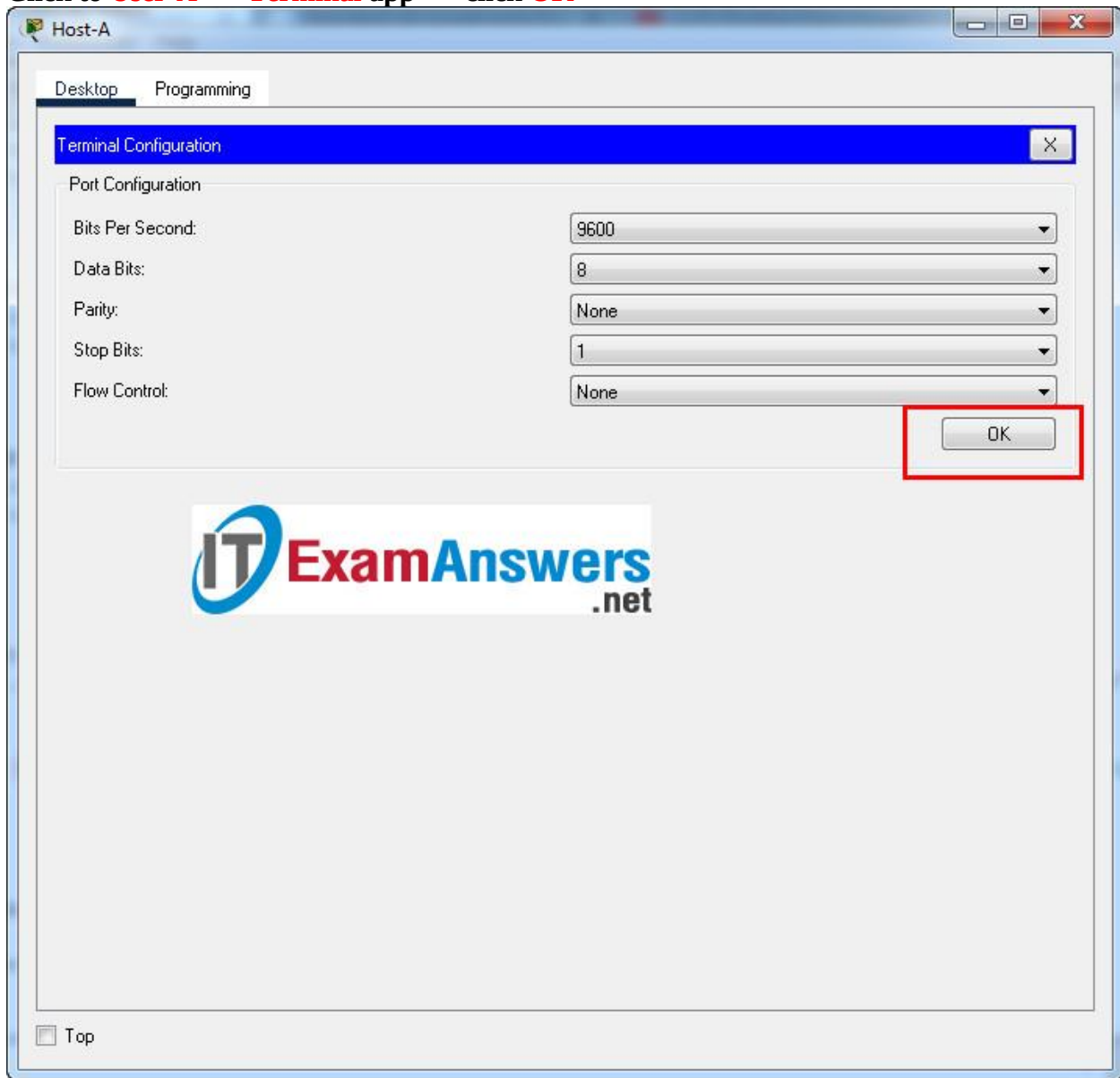
Part 2: Develop an IP Addressing Scheme

Item	Requirements	IPv4 Address
Network Address	209.165.201.0/24	
LAN 1 subnet host requirements 29		209.165.201.0/27 SM: 255.255.255.224
LAN 2 subnet host requirements 17		209.165.201.32/27 SM: 255.255.255.224
Central-RT G0/0/1	First host address in LAN 1 subnet	209.165.201.1
Central-RT G0/0/0	First host address in LAN 2 subnet	209.165.201.33
Central-SW SVI	Second host address in LAN 1 subnet	209.165.201.2
User-A	Last host address in LAN 1 subnet	209.165.201.30
User-B	Last host address in LAN 2 subnet	209.165.201.62

Using line console to connect User-A and Router



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



Router Central-RT configuration script

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

interface g0/0/0
description Connect to Subnet B
ip address 209.165.201.33 255.255.255.224
no shutdown
exit
```

```
interface g0/0/1
description Connect to Subnet A
ip address 209.165.201.1 255.255.255.224
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
```

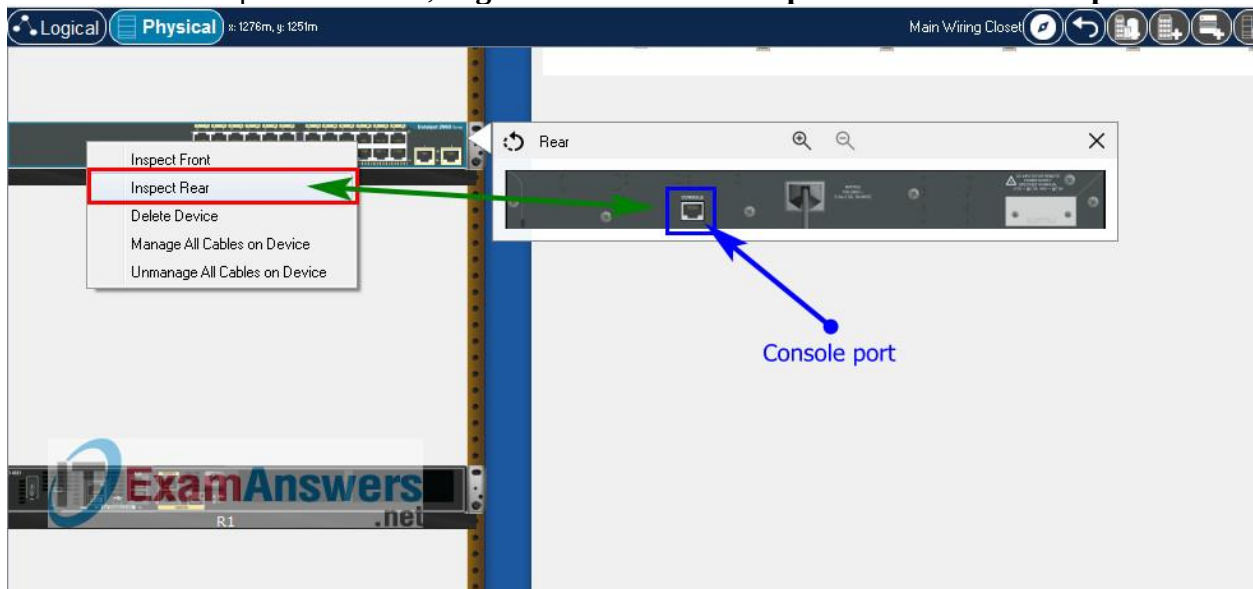
```
line vty 0 15
transport input ssh
login local
exit
```

```
crypto key generate rsa
1024
exit
copy running-config startup-config
```

Configuration for Switch Central-SW

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

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



Switch Central-SW configuration script

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

interface vlan 1
description Switch Subnet A
ip address 209.165.201.2 255.255.255.224
no shutdown
exit

ip default-gateway 209.165.201.1

enable secret NoOneShouldKnow
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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 **209.165.201.30**
Subnet Mask **255.255.255.224**
IPv4 Default Gateway **209.165.201.1**

PC-B Network Configuration

IPv4 Address **209.165.201.62**
Subnet Mask **255.255.255.224**

PC-B Network Configuration

IPv4 Default Gateway **209.165.201.33**

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Topology



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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	Router-A
S1	Switch-A
PC-A	Host-A
PC-B	Host-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
Router-A G0/0/1	First host address in LAN 1 subnet
Router-A G0/0/0	First host address in LAN 2 subnet
Switch-A SVI	Second host address in LAN 1 subnet
Host-A	Last host address in LAN 1 subnet
Host-B	Last host address in LAN 2 subnet

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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 Router-A and Switch-A**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Router-A** router and **Switch-A** 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.

No [subnet calculators](#) may be used.

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 **Router-A G0/0/1**
- LAN 2 is hosted on **Router-A 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 **Switch-A** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Router-A** 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 **Switch-A** 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 Router-A and Switch-A

Step 1: Configure enhanced password security

- Configure **ThisisaSecret** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Router-A**.

Step 2: Configure SSH on Router-A and Switch-A

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

Step 3: Secure switch ports on Switch-A

- Shut down **all** unused ports on **Switch-A**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

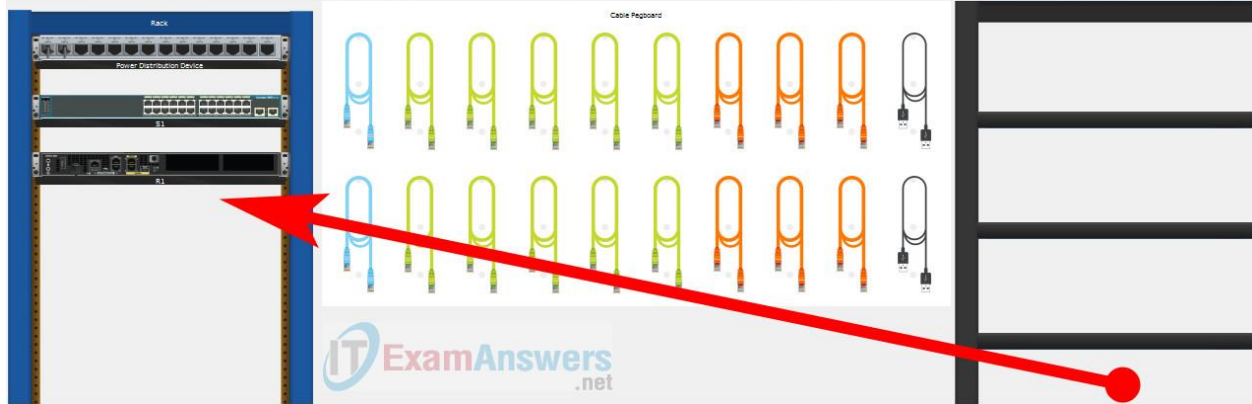
Part 5: Configure the Hosts and Verify Connectivity

Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.
ID: 020

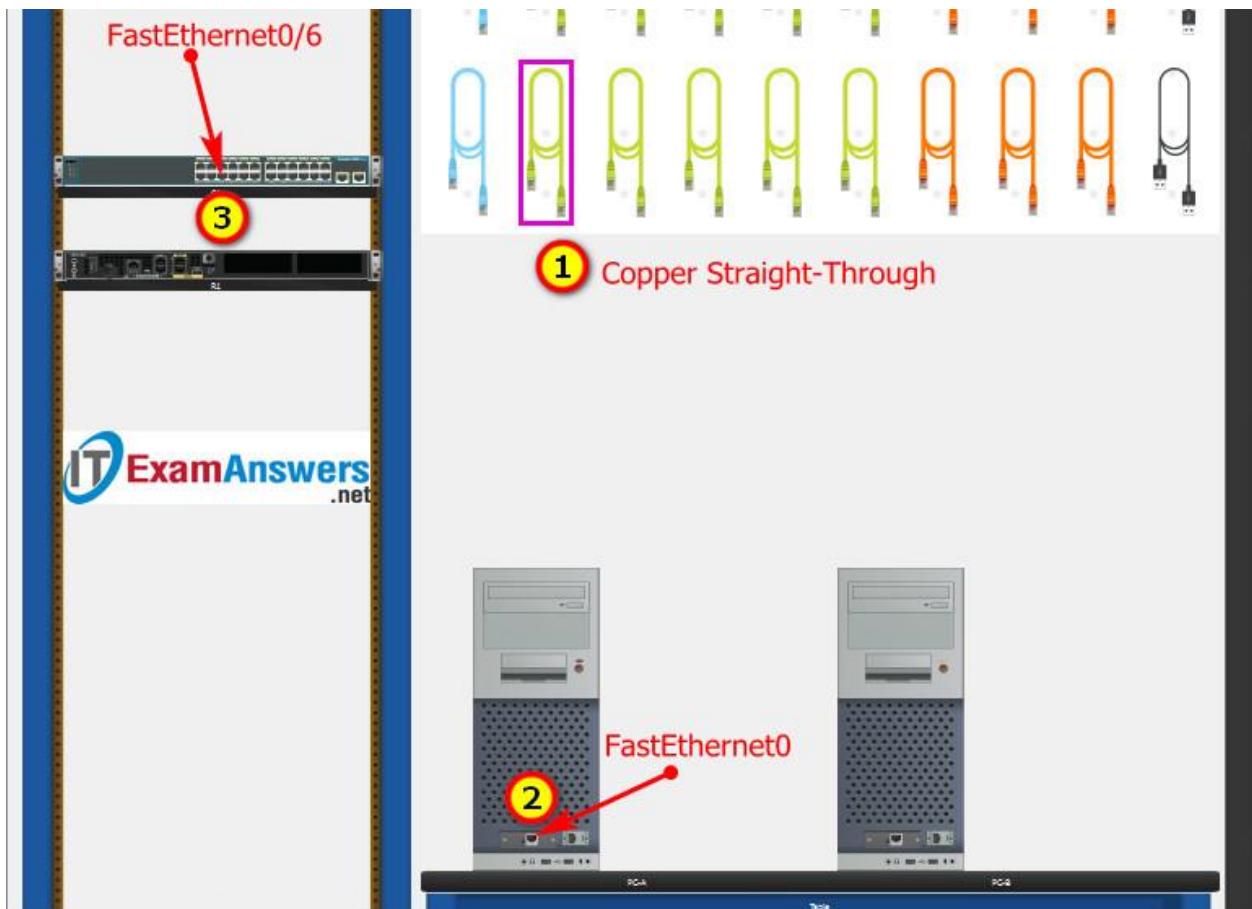
Answers Key

Part 1: Build the Network

Placing Switch Switch-A and Router Router-A to wiring closet equipment rack.



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



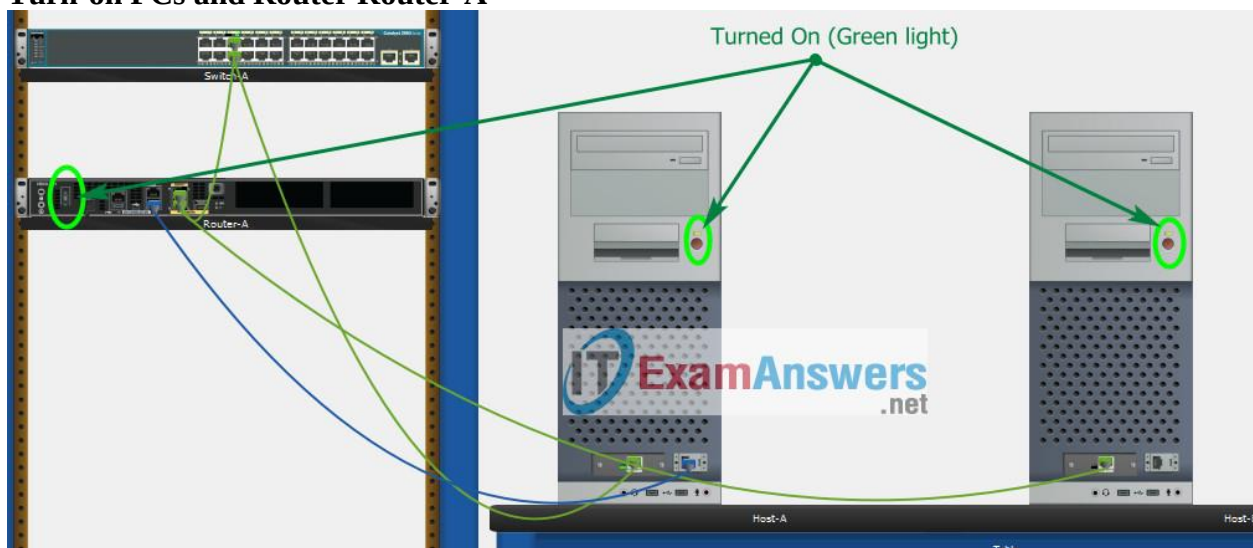
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



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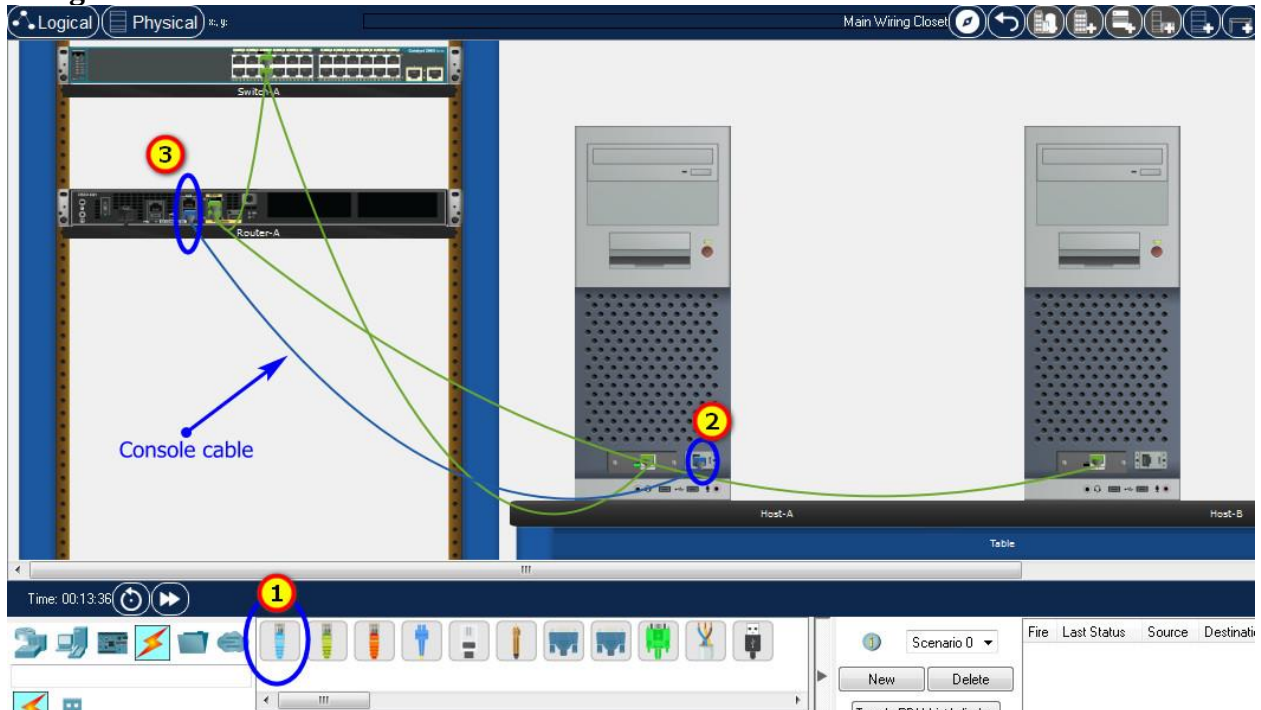
Turn-on PCs and Router Router-A



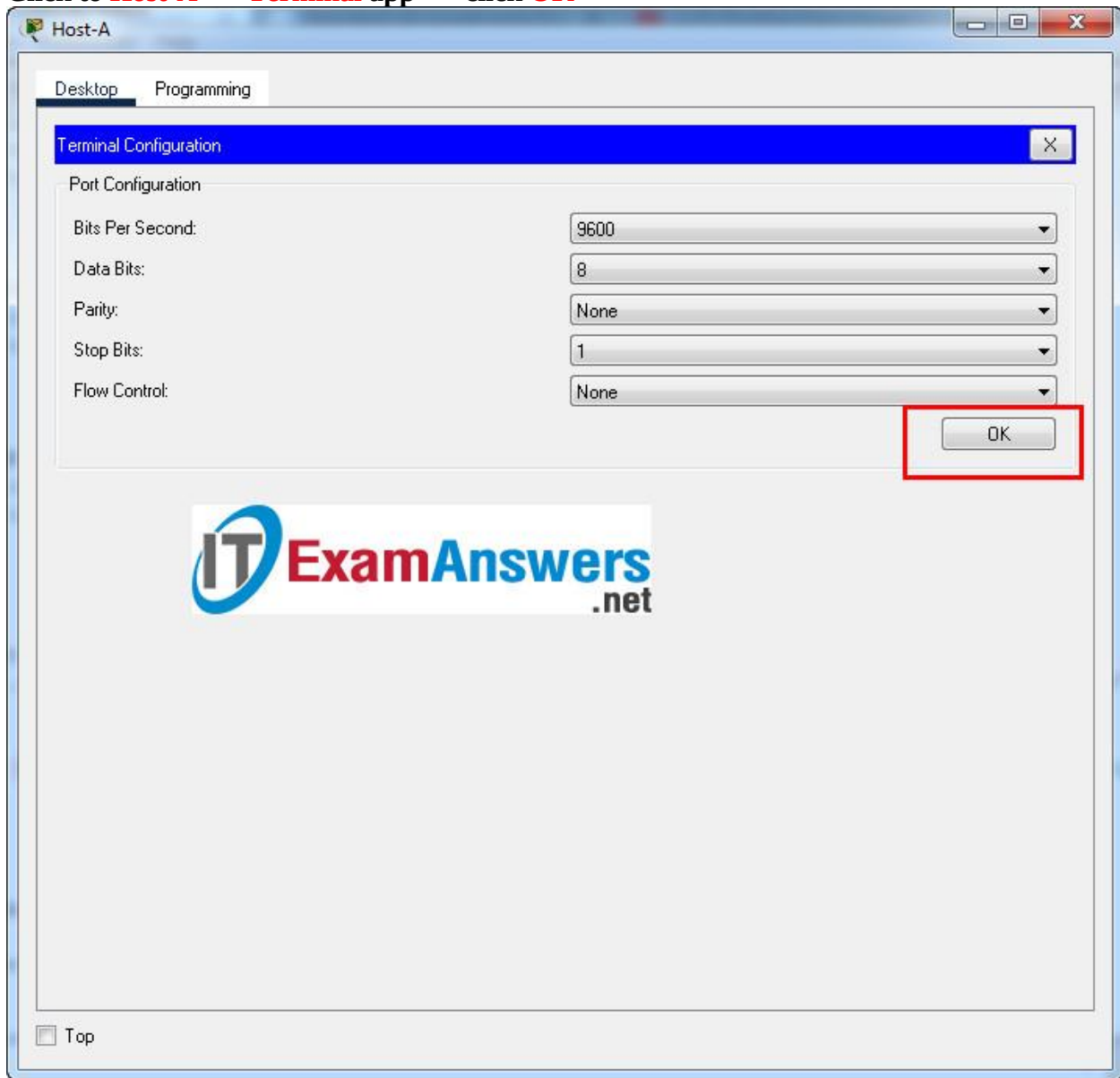
Part 2: Develop an IP Addressing Scheme

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
Router-A G0/0/1	First host address in LAN 1 subnet	192.168.10.1
Router-A G0/0/0	First host address in LAN 2 subnet	192.168.10.129
Switch-A SVI	Second host address in LAN 1 subnet	192.168.10.2
Host-A	Last host address in LAN 1 subnet	192.168.10.126
Host-B	Last host address in LAN 2 subnet	192.168.10.190

Using line console to connect Host-A and Router



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



Router Router-A configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Router-A
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 ThisisaSecret
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

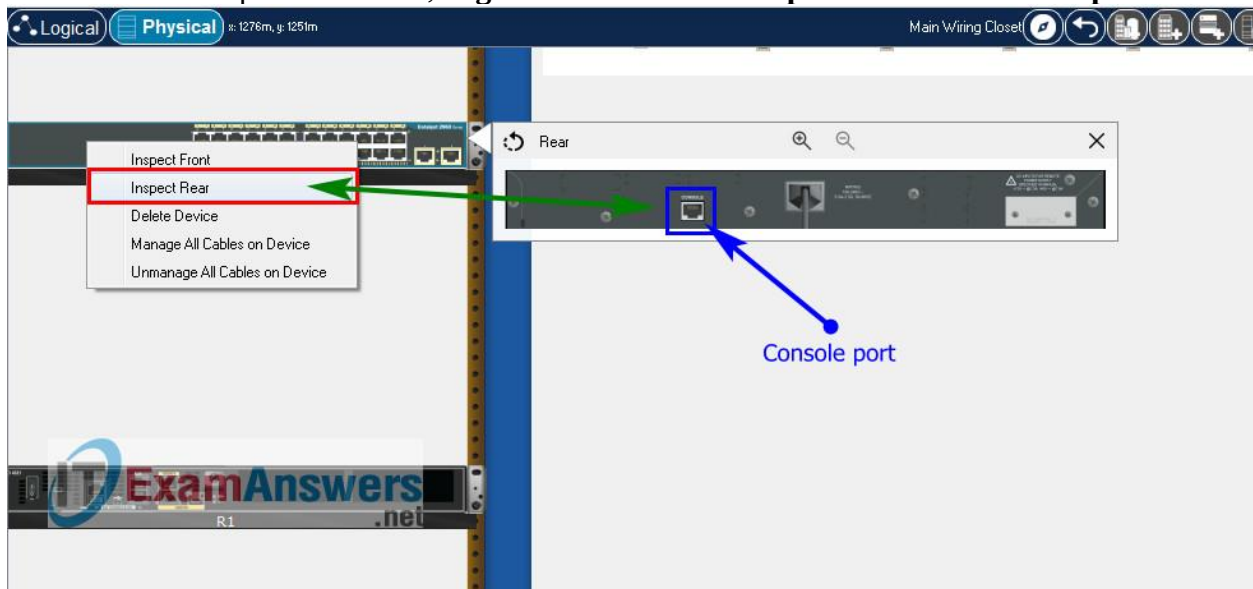
crypto key generate rsa
1024
exit
copy running-config startup-config

```

Configuration for Switch Switch-A

Then, using Console cable to connect Host-B and Switch

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



Switch Switch-A configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Switch-A
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 ThisisaSecret
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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-A

Desktop Programming

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.10.126

Subnet Mask: 255.255.255.128

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::202:17FF:FE19:59A7

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

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

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Topology



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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.

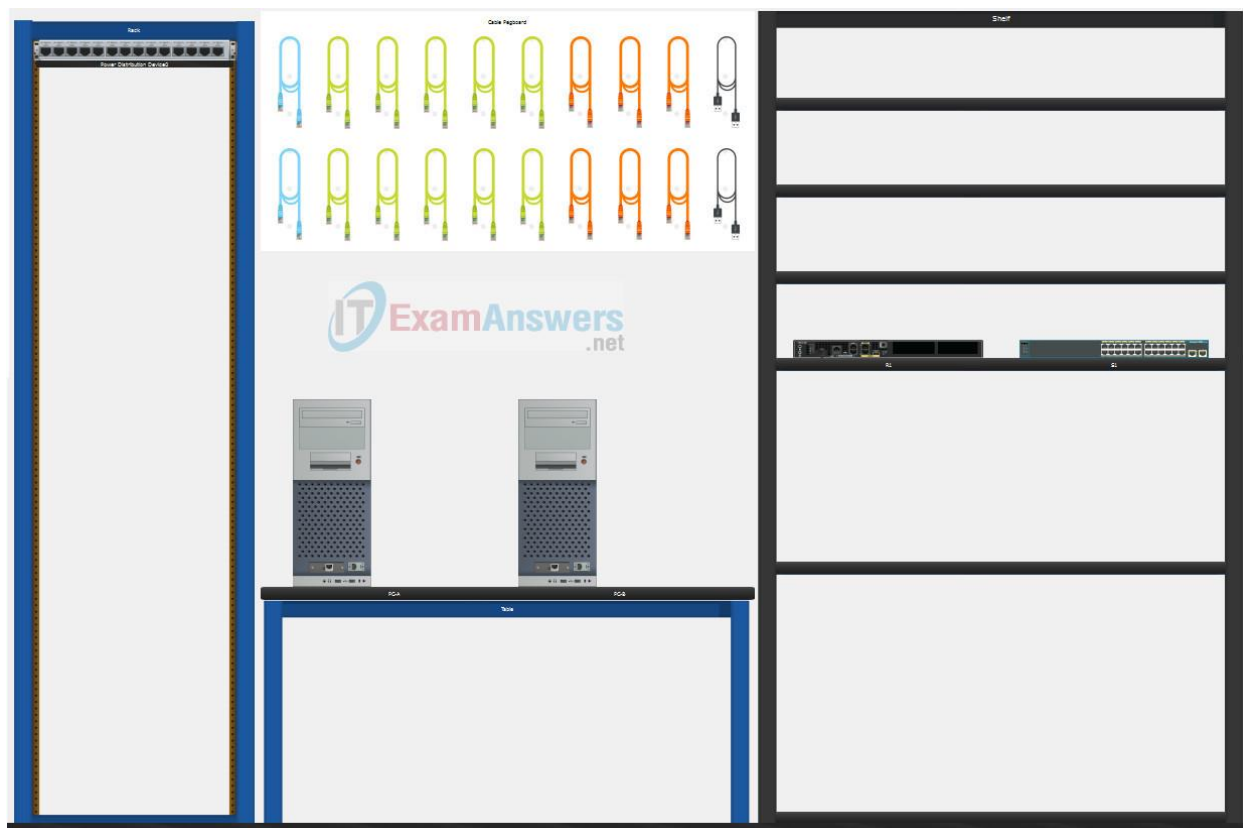
Topology Diagram Name Your Scenario Name

R1	Router-A
S1	Switch-A
PC-A	Host-A
PC-B	Host-B

Addressing Requirements Table

Item	Requirements
Network Address	172.16.1.0/24
LAN 1 subnet host requirements	60
LAN 2 subnet host requirements	20
Router-A G0/0/1	First host address in LAN 1 subnet
Router-A G0/0/0	First host address in LAN 2 subnet
Switch-A SVI	Second host address in LAN 1 subnet
User-A	Last host address in LAN 1 subnet
User-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 Router-A and Switch-A**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Router-A** router and **Switch-A** 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 **172.16.1.0/24** network to provide IPv4 addresses for two subnets that will support the required number of hosts. The larger subnet (LAN 1) requires **60** hosts and the smaller subnet (LAN 2) requires **20** hosts.

No [subnet calculators](#) may be used.

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: **172.16.1.0/24**
- Required number of hosts in IPv4 LAN 1: **60**
- Required number of hosts in IPv4 LAN 2: **20**

- 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 **Router-A G0/0/1**
- LAN 2 is hosted on **Router-A 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 **Switch-A** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Router-A** 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 **Switch-A** 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 Router-A and Switch-A

Step 1: Configure enhanced password security

- Configure **NoOneShouldKnow** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Router-A**.

Step 2: Configure SSH on Router-A and Switch-A

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

Step 3: Secure switch ports on Switch-A

- Shut down **all** unused ports on **Switch-A**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

Part 5: Configure the Hosts and Verify Connectivity

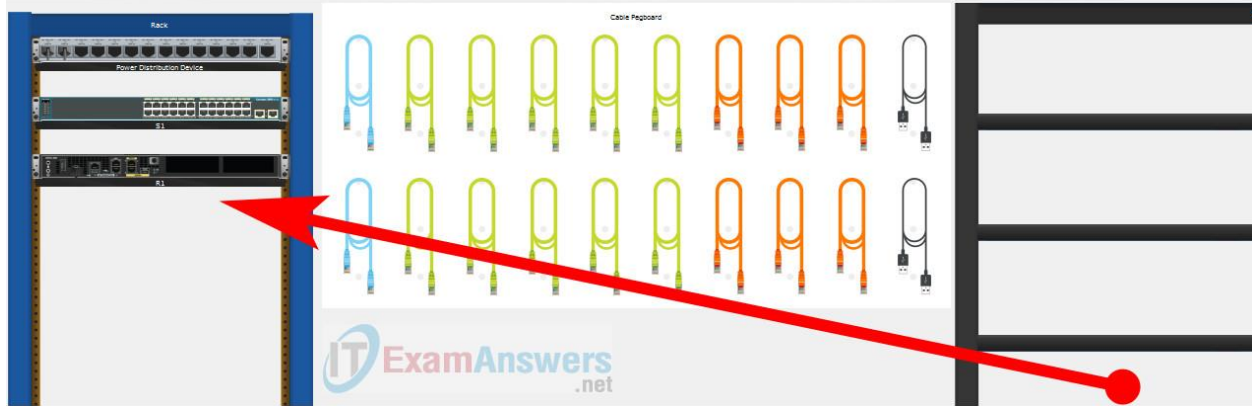
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 120

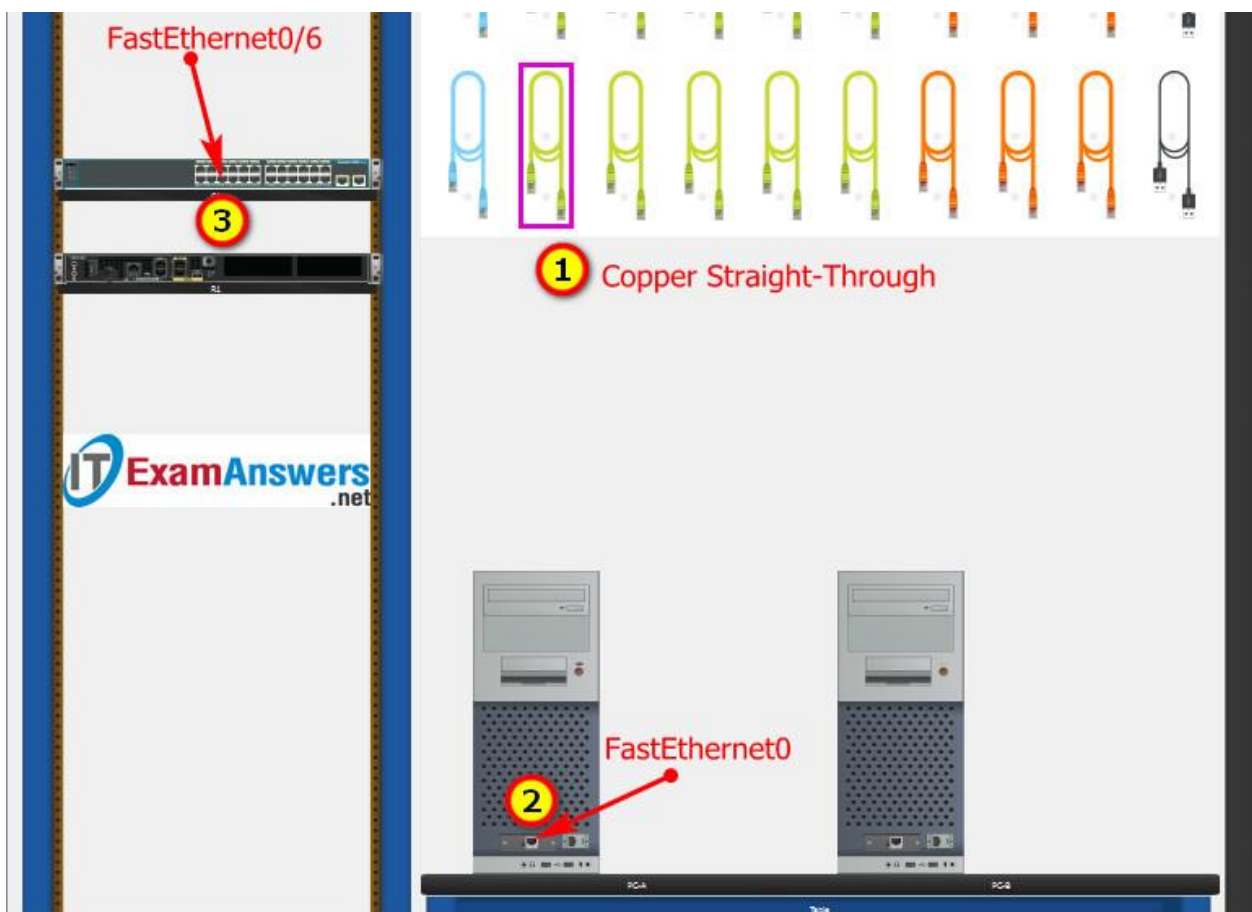
Answers Key - 100% Score

Part 1: Build the Network

Placing Switch Switch-A and Router Router-A to wiring closet equipment rack.



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



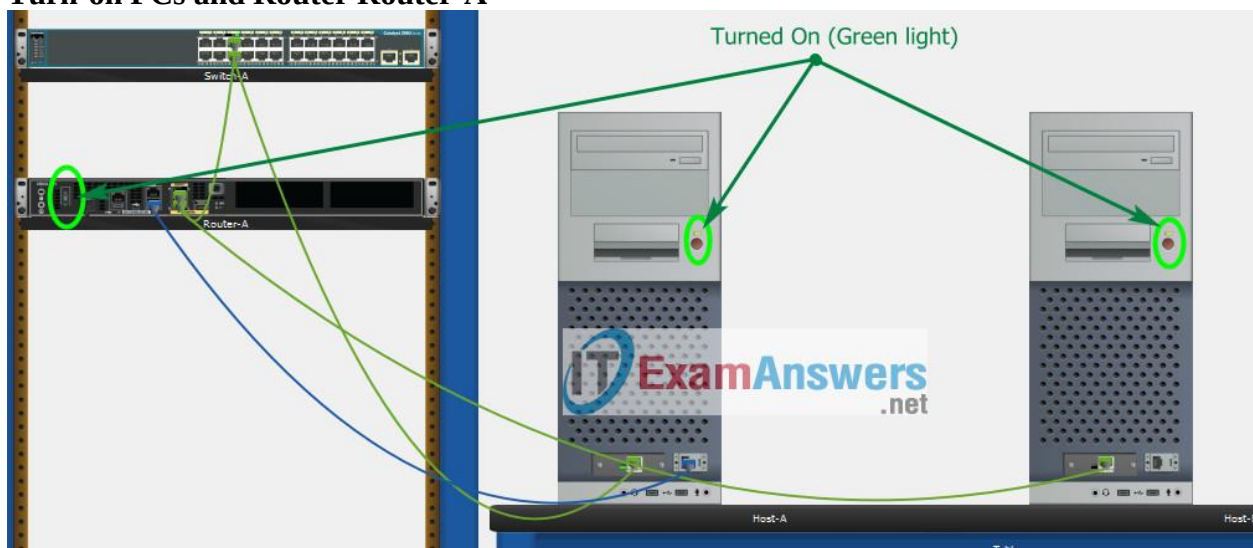
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



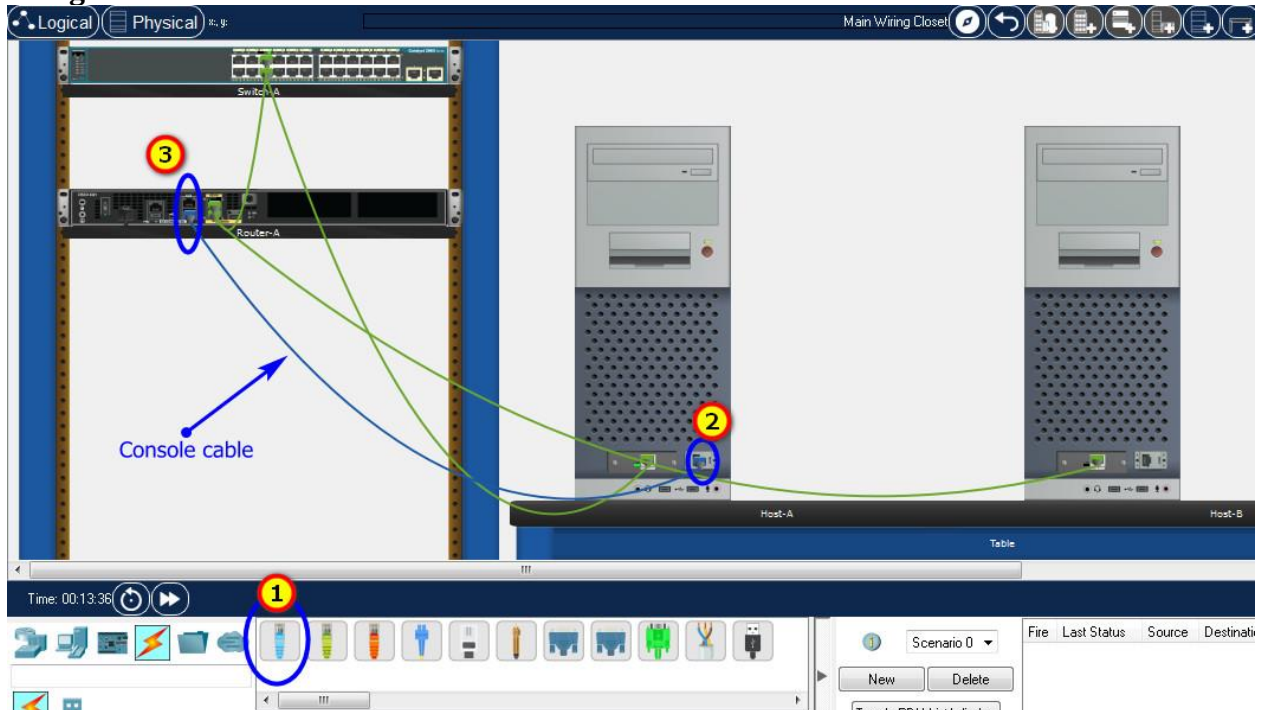
Turn-on PCs and Router Router-A



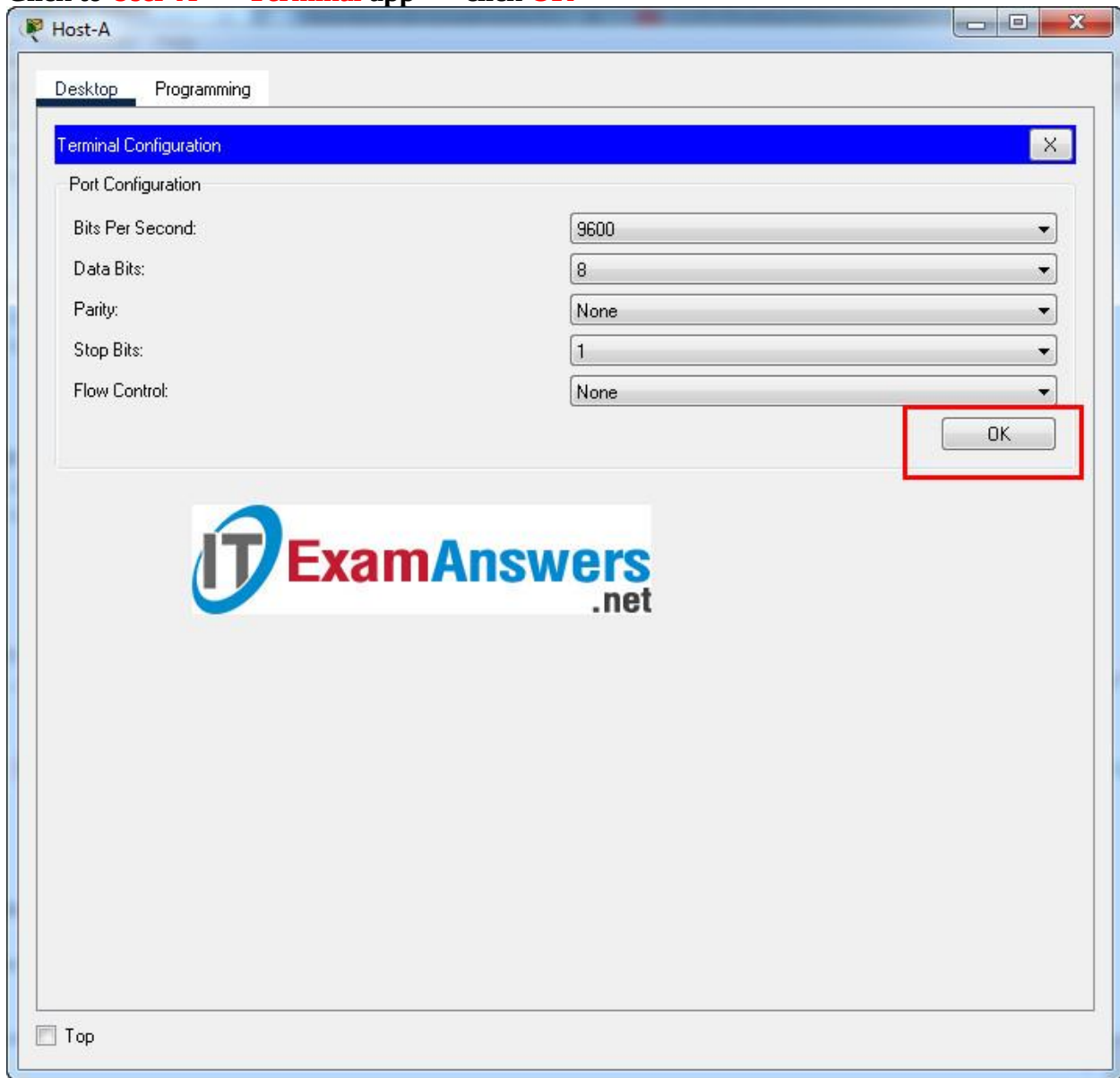
Part 2: Develop an IP Addressing Scheme

Item	Requirements	IPv4 Address
Network Address	172.16.1.0/24	
LAN 1 subnet host requirements	60	172.16.1.0/26 SM: 255.255.255.192
LAN 2 subnet host requirements	20	172.16.1.64/27 SM: 255.255.255.224
Router-A G0/0/1	First host address in LAN 1 subnet	172.16.1.1
Router-A G0/0/0	First host address in LAN 2 subnet	172.16.1.65
Switch-A SVI	Second host address in LAN 1 subnet	172.16.1.2
User-A	Last host address in LAN 1 subnet	172.16.1.62
User-B	Last host address in LAN 2 subnet	172.16.1.94

Using line console to connect User-A and Router



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



Router Router-A configuration script

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

interface g0/0/0
description Connect to Subnet B
ip address 172.16.1.65 255.255.255.224
no shutdown
exit
```

```
interface g0/0/1
description Connect to Subnet A
ip address 172.16.1.1 255.255.255.192
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
```

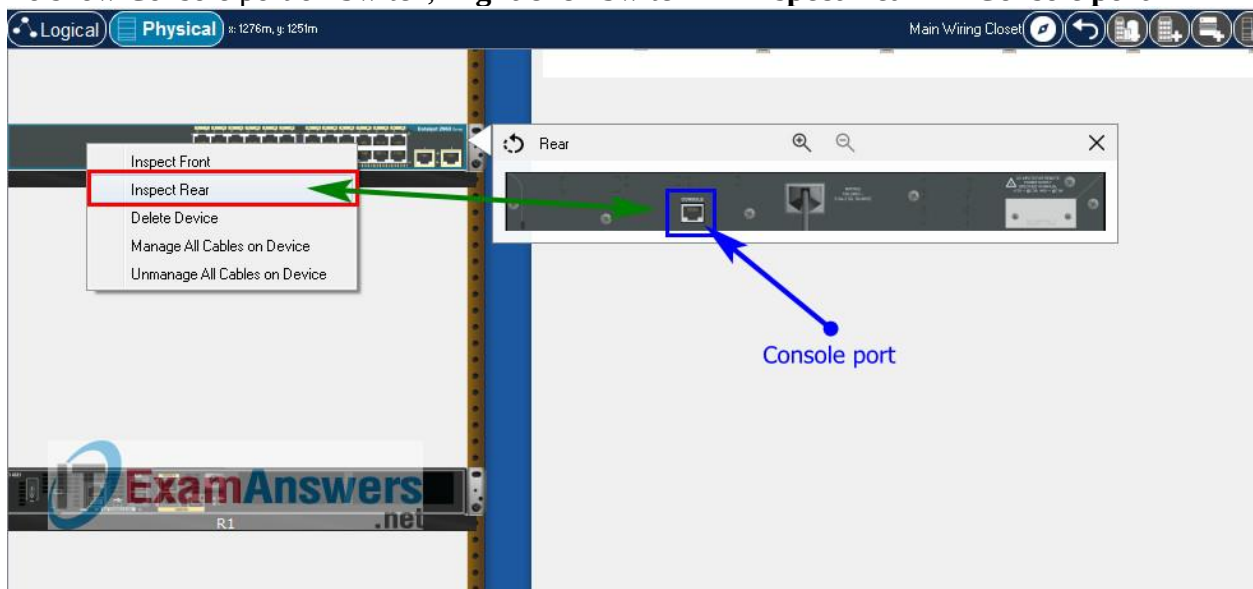
```
line vty 0 15
transport input ssh
login local
exit
```

```
crypto key generate rsa
1024
exit
copy running-config startup-config
```

Configuration for Switch-A

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

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



Switch Switch-A configuration script

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

interface vlan 1
description Switch Subnet A
ip address 172.16.1.2 255.255.255.192
no shutdown
exit

ip default-gateway 172.16.1.1

enable secret NoOneShouldKnow
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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 **172.16.1.62**
Subnet Mask **255.255.255.192**
IPv4 Default Gateway **172.16.1.1**

PC-B Network Configuration

IPv4 Address **172.16.1.94**
Subnet Mask **255.255.255.224**

PC-B Network Configuration

IPv4 Default Gateway **172.16.1.65**

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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	Central-RT
S1	Central-SW
PC-A	User-A
PC-B	User-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
Central-RT G0/0/1	First host address in LAN 1 subnet
Central-RT G0/0/0	First host address in LAN 2 subnet
Central-SW SVI	Second host address in LAN 1 subnet
User-A	Last host address in LAN 1 subnet
User-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 Central-RT and Central-SW**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Central-RT** router and **Central-SW** 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.

No [subnet calculators](#) may be used.

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 **Central-RT G0/0/1**
- LAN 2 is hosted on **Central-RT 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 **Central-SW** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Central-RT** 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 **Central-SW** 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 Central-RT and Central-SW

Step 1: Configure enhanced password security

- Configure **DontTellAnyone** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Central-RT**.

Step 2: Configure SSH on Central-RT and Central-SW

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

Step 3: Secure switch ports on Central-SW

- Shut down **all** unused ports on **Central-SW**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

Part 5: Configure the Hosts and Verify Connectivity

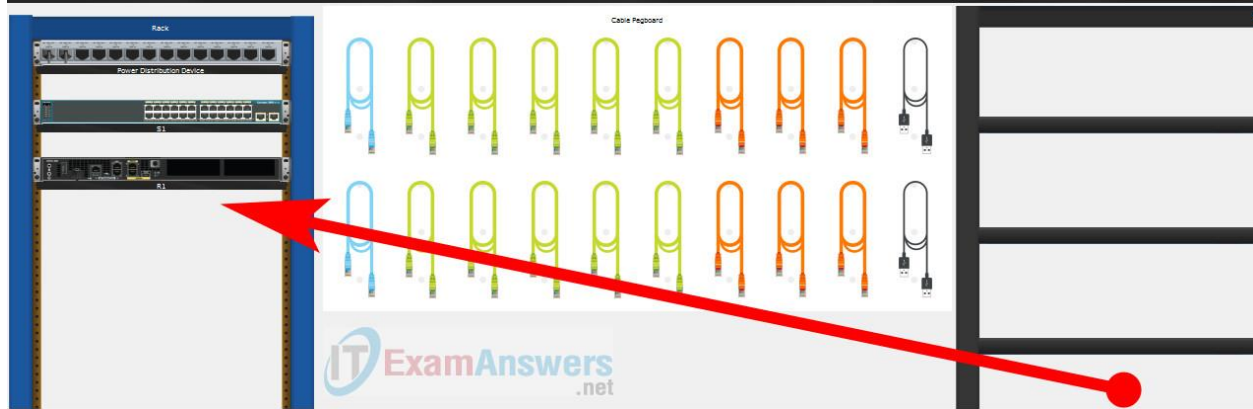
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 011

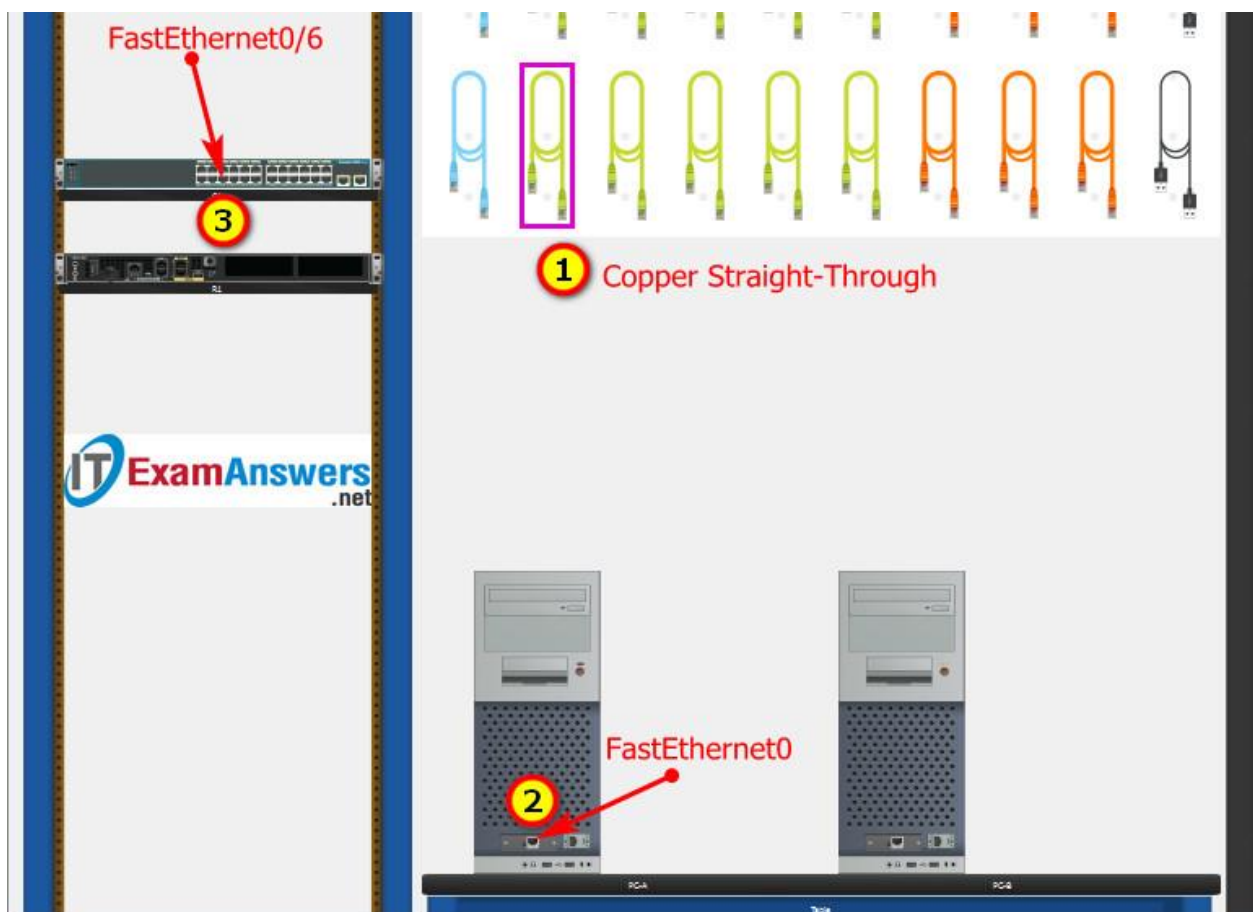
Answers Key

Part 1: Build the Network

Placing Switch Central-SW and Router Central-RT to wiring closet equipment rack.



Using **Copper Straight-Through** cable to connect **User-A** (FastEthernet0 port) and **Central-SW** (FastEthernet0/6 port)



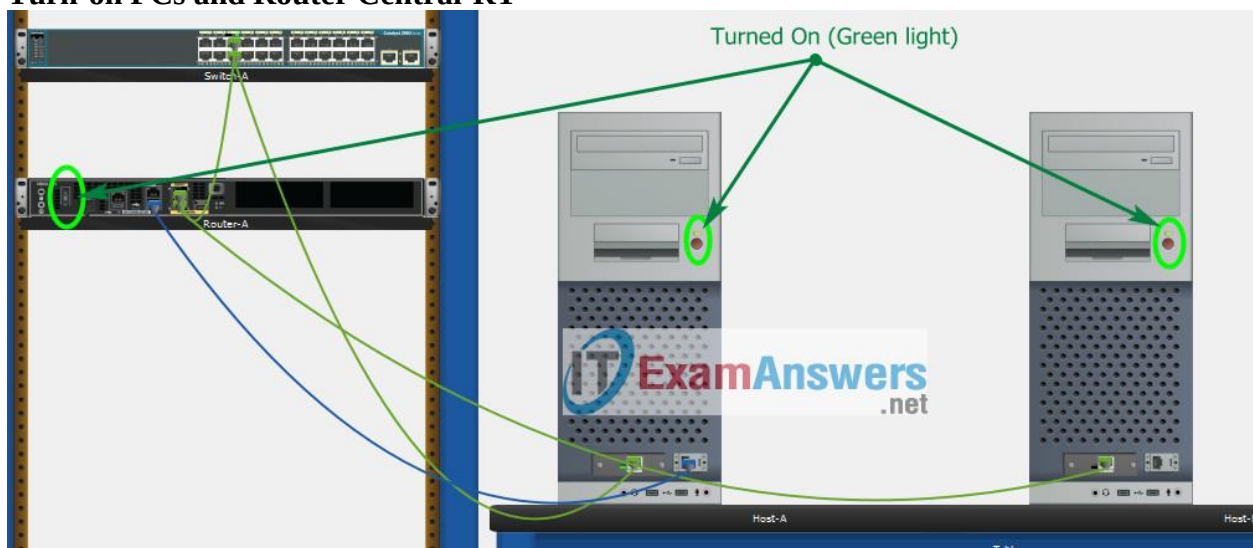
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



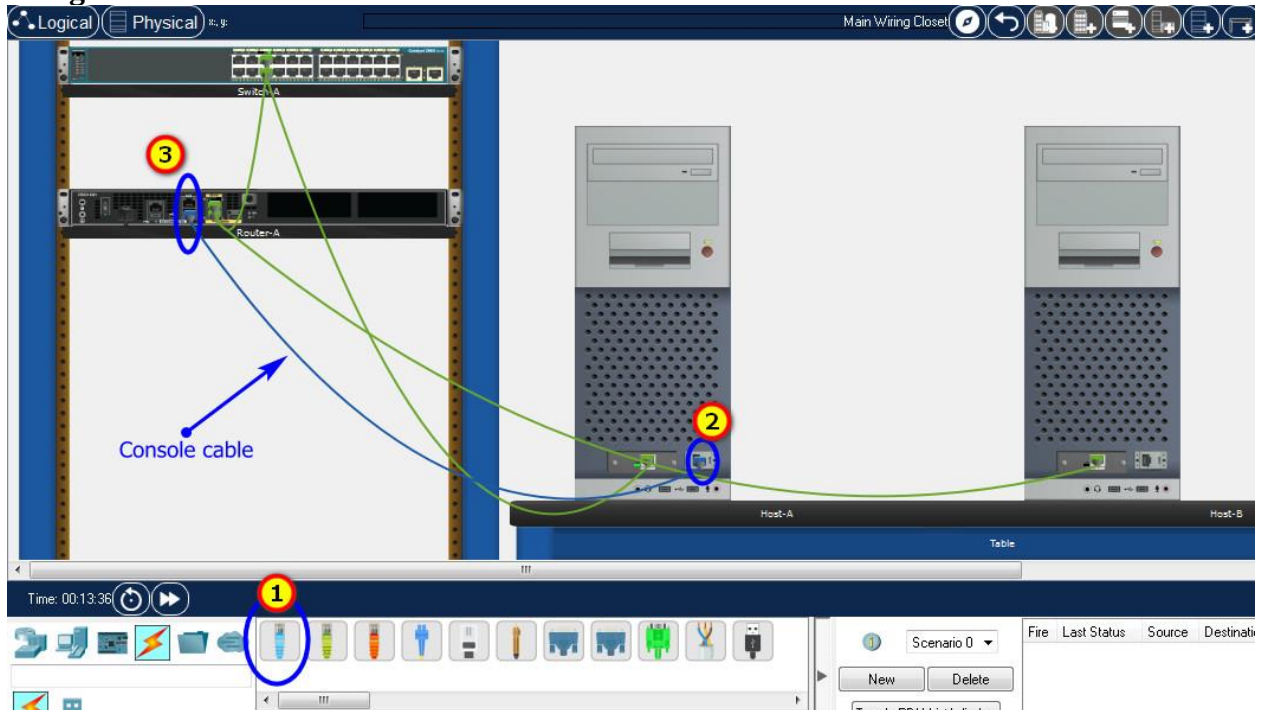
Turn-on PCs and Router Central-RT



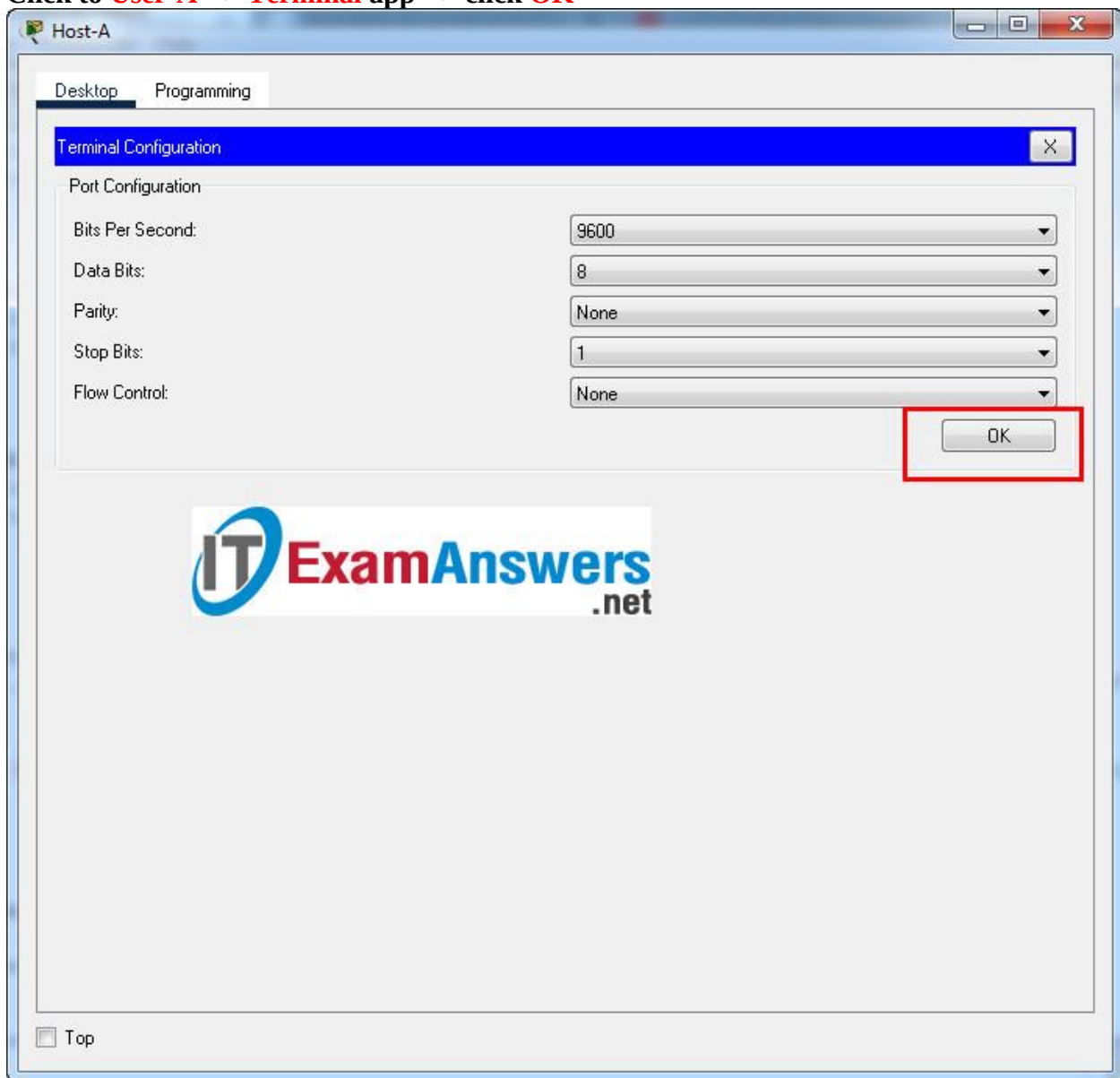
Part 2: Develop an IP Addressing Scheme

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
Central-RT G0/0/1	First host address in LAN 1 subnet	192.168.10.1
Central-RT G0/0/0	First host address in LAN 2 subnet	192.168.10.129
Central-SW SVI	Second host address in LAN 1 subnet	192.168.10.2
User-A	Last host address in LAN 1 subnet	192.168.10.126
User-B	Last host address in LAN 2 subnet	192.168.10.190

Using line console to connect User-A and Router



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



Router Central-RT configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Central-RT
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

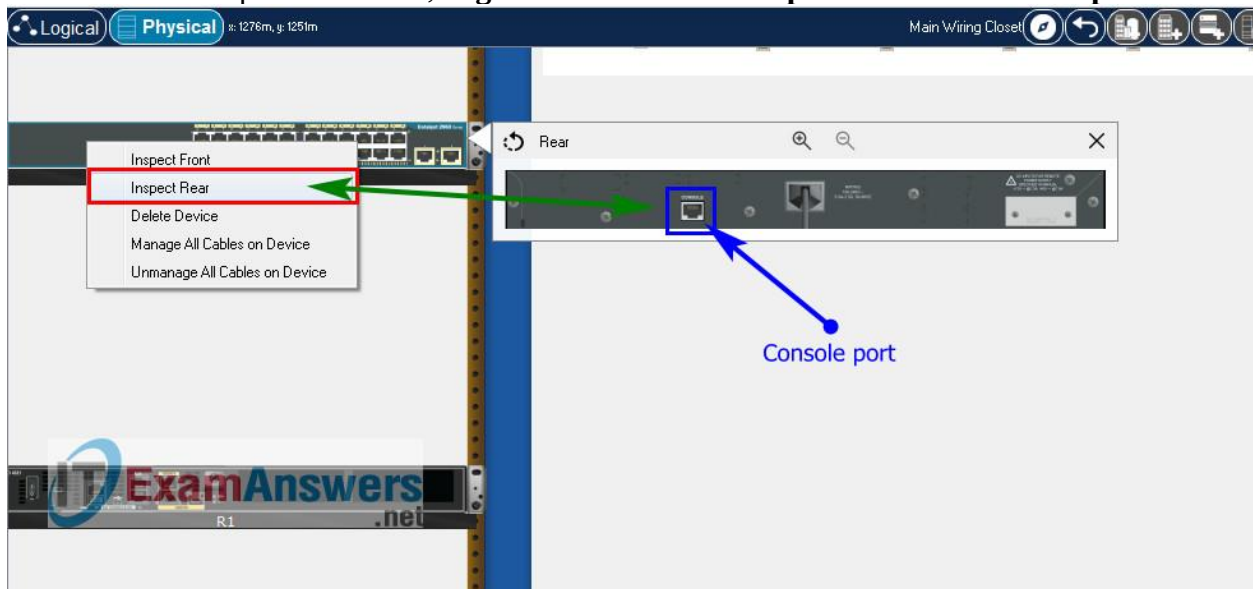
crypto key generate rsa
1024
exit
copy running-config startup-config

```

Configuration for Switch Central-SW

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

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



Switch Central-SW configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Central-SW
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$col2345

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

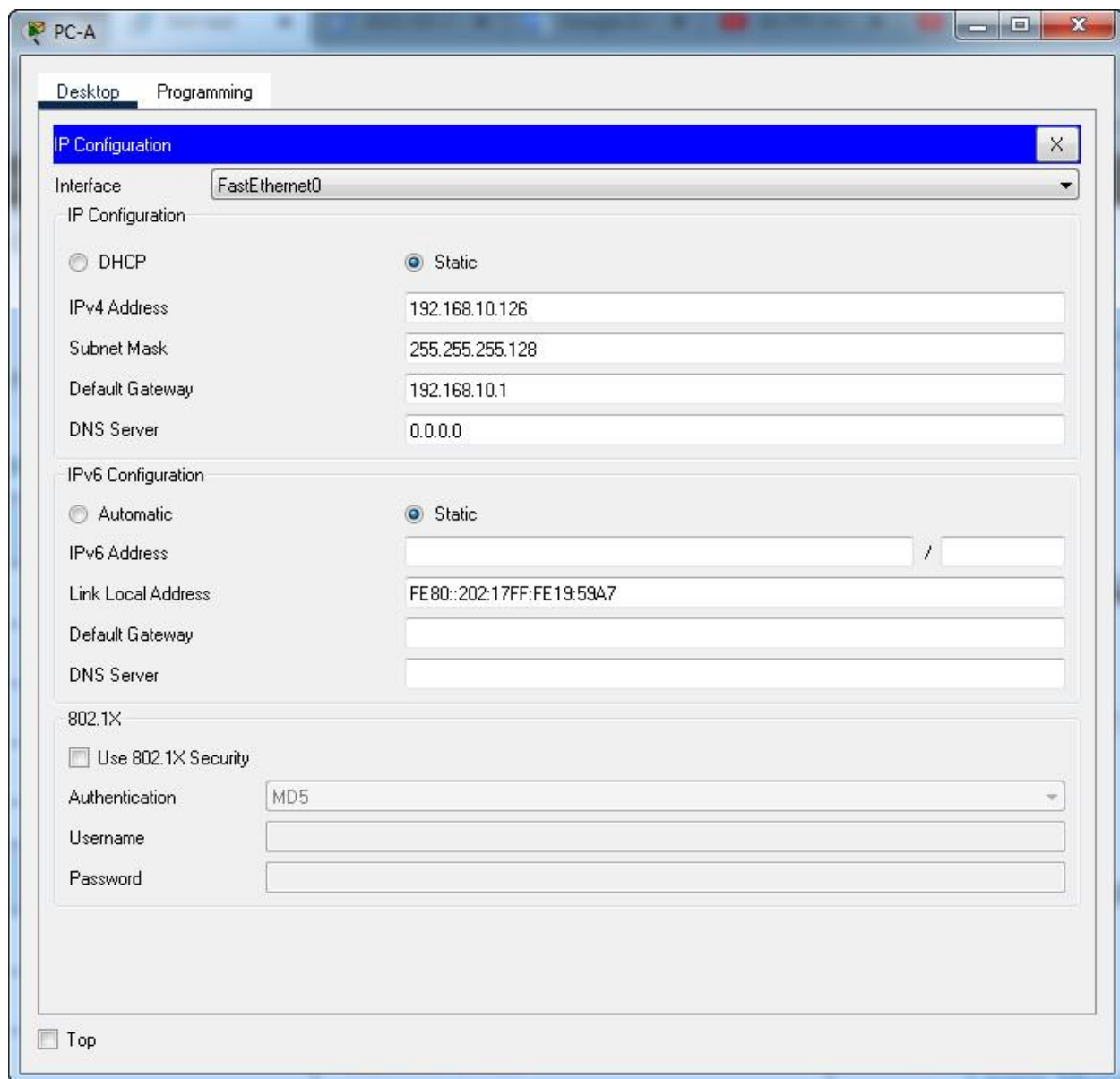
end
copy running-config startup-config
```

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

ITN Final Skills Exam (PTSA)

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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.

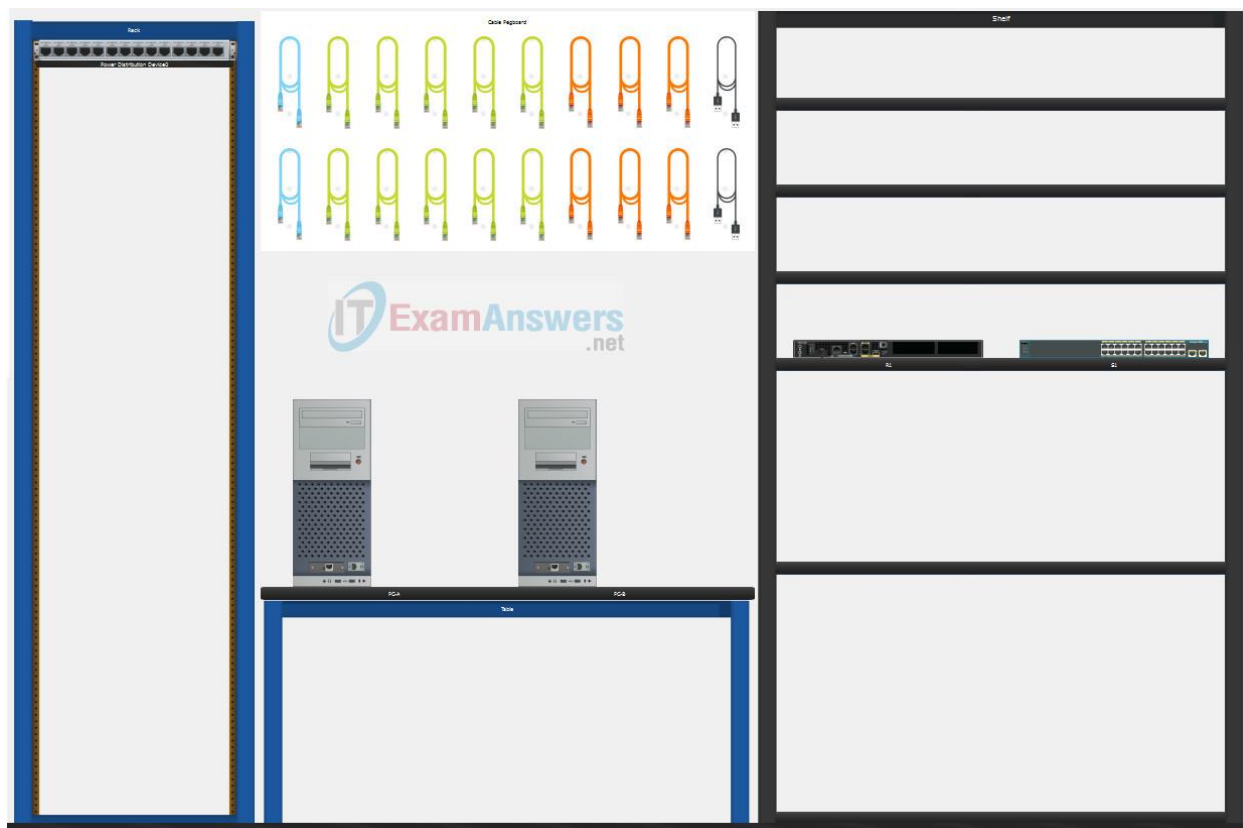
Topology Diagram Name Your Scenario Name

R1	Router-A
S1	Switch-A
PC-A	Host-A
PC-B	Host-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
Router-A G0/0/1	First host address in LAN 1 subnet
Router-A G0/0/0	First host address in LAN 2 subnet
Switch-A SVI	Second host address in LAN 1 subnet
Host-A	Last host address in LAN 1 subnet
Host-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 Router-A and Switch-A**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Router-A** router and **Switch-A** 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.

No [subnet calculators](#) may be used.

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 **Router-A G0/0/1**
- LAN 2 is hosted on **Router-A 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 **Switch-A** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Router-A** 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 **Switch-A** 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 Router-A and Switch-A

Step 1: Configure enhanced password security

- Configure **DontTellAnyone** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Router-A**.

Step 2: Configure SSH on Router-A and Switch-A

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

Step 3: Secure switch ports on Switch-A

- Shut down **all** unused ports on **Switch-A**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

Part 5: Configure the Hosts and Verify Connectivity

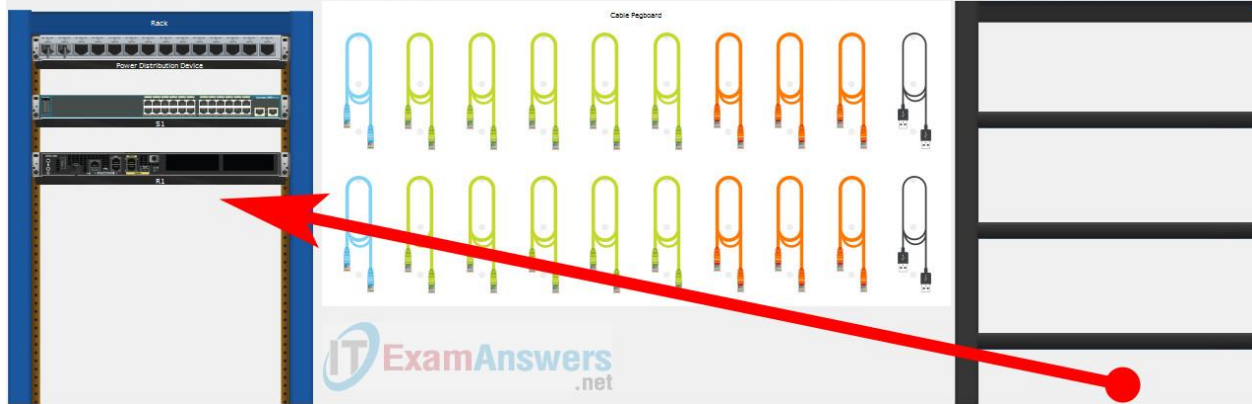
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 021

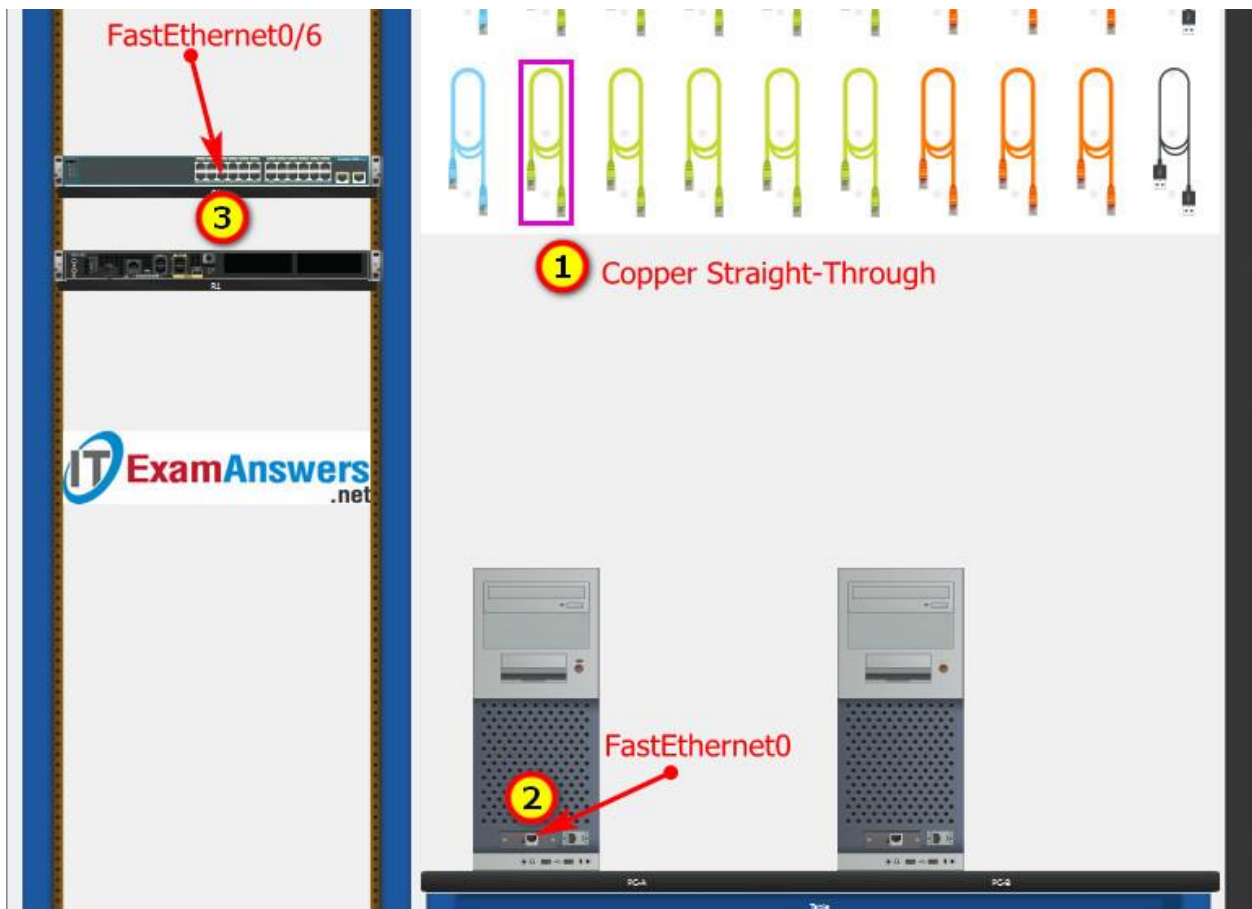
Answers Key

Part 1: Build the Network

Placing Switch Switch-A and Router Router-A to wiring closet equipment rack.



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



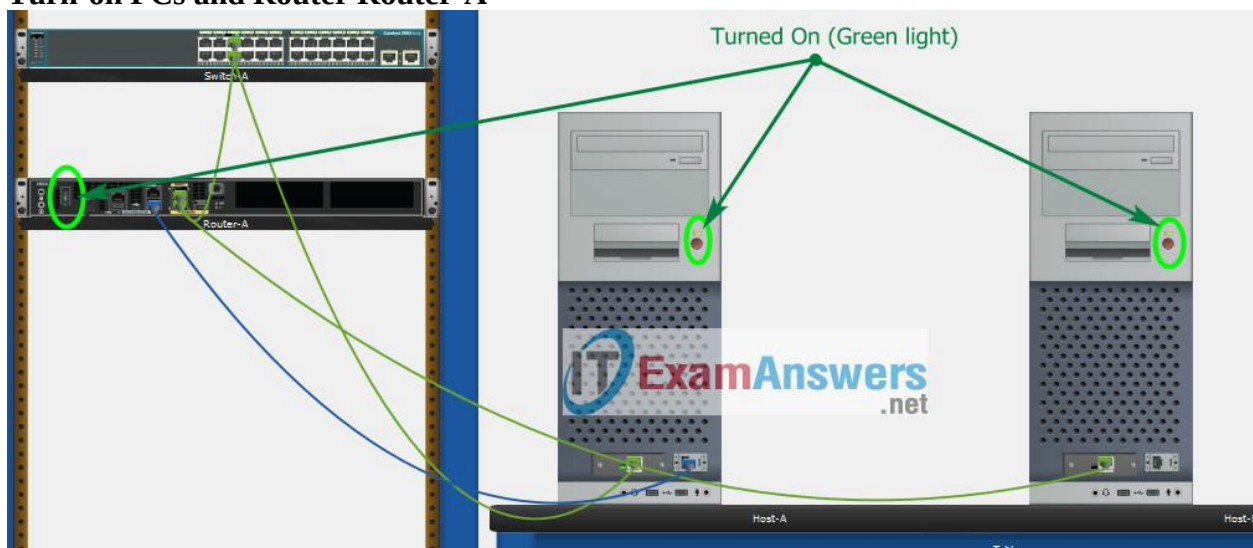
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



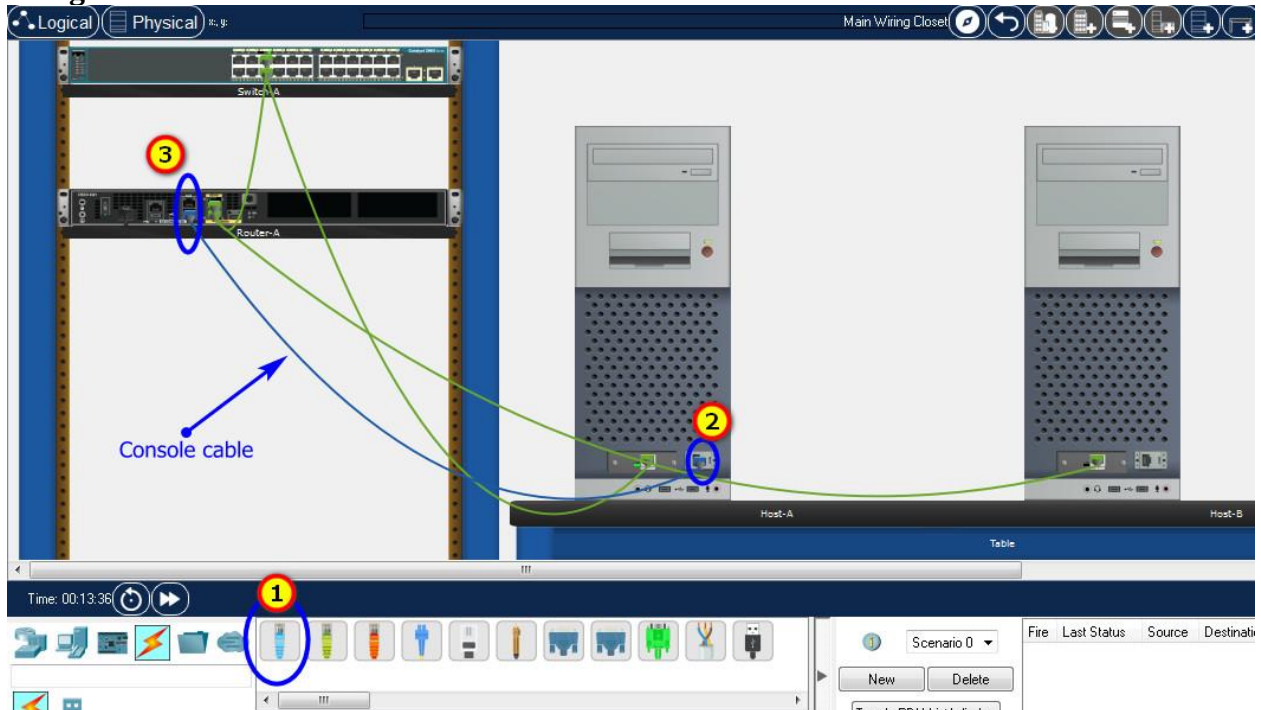
Turn-on PCs and Router Router-A



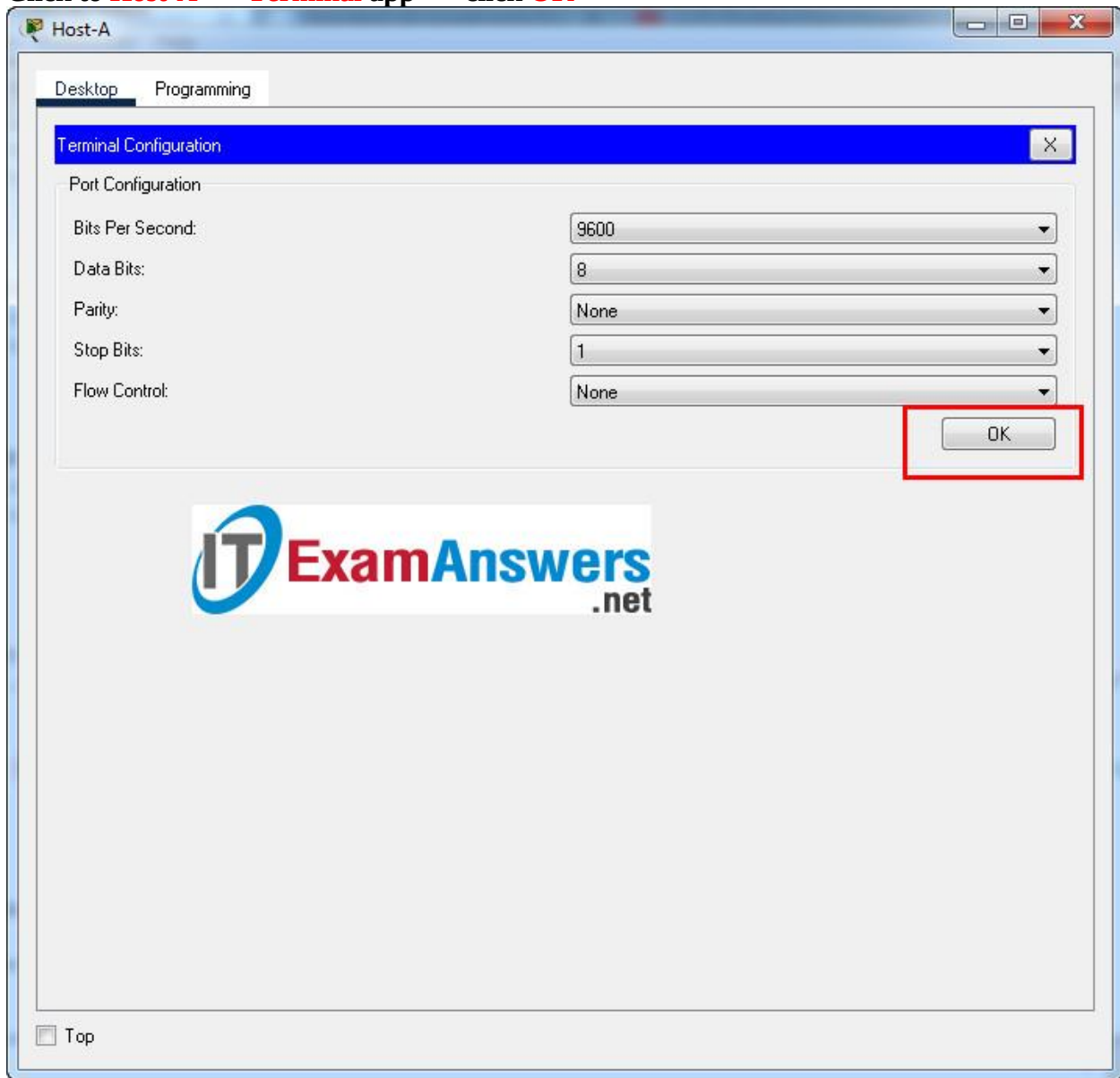
Part 2: Develop an IP Addressing Scheme

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
Router-A G0/0/1	First host address in LAN 1 subnet	192.168.10.1
Router-A G0/0/0	First host address in LAN 2 subnet	192.168.10.129
Switch-A SVI	Second host address in LAN 1 subnet	192.168.10.2
Host-A	Last host address in LAN 1 subnet	192.168.10.126
Host-B	Last host address in LAN 2 subnet	192.168.10.190

Using line console to connect Host-A and Router



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



Router Router-A configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Router-A
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

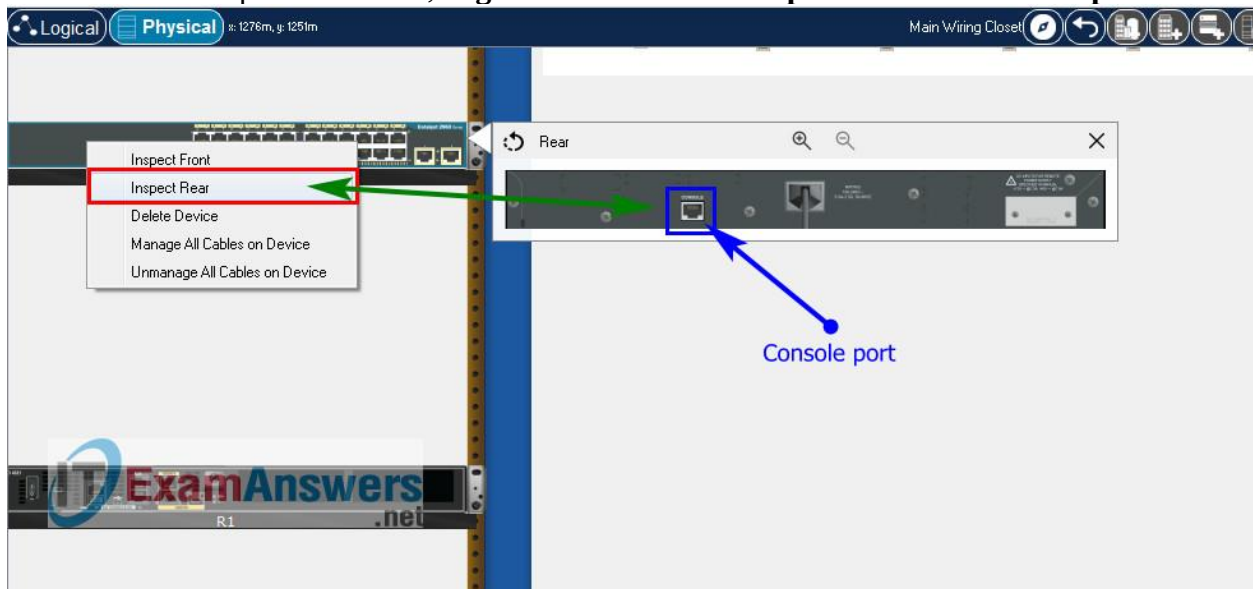
crypto key generate rsa
1024
exit
copy running-config startup-config

```

Configuration for Switch Switch-A

Then, using Console cable to connect Host-B and Switch

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



Switch Switch-A configuration script

```
enable
configure terminal
no ip domain-lookup
hostname Switch-A
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$col2345

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-A

Desktop Programming

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.10.126

Subnet Mask: 255.255.255.128

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::202:17FF:FE19:59A7

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

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

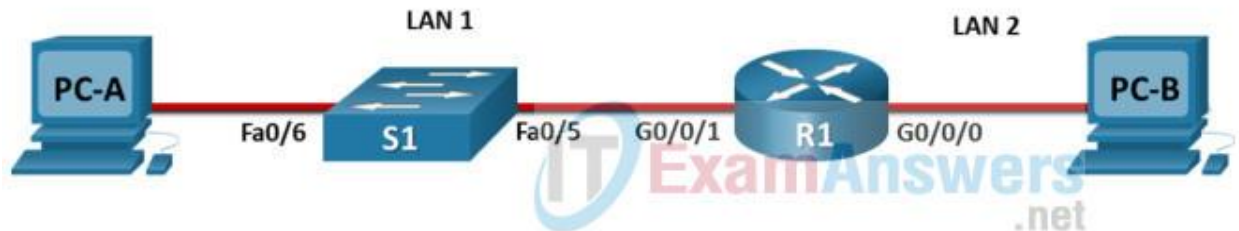
Password

Top

ITN Final Skills Exam (PTSA)

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	Central-RT
S1	Central-SW
PC-A	User-A
PC-B	User-B

Addressing Requirements Table

Item	Requirements
Network Address	209.165.201.0/24
LAN 1 subnet host requirements	29
LAN 2 subnet host requirements	17
Central-RT G0/0/1	First host address in LAN 1 subnet
Central-RT G0/0/0	First host address in LAN 2 subnet
Central-SW SVI	Second host address in LAN 1 subnet
User-A	Last host address in LAN 1 subnet
User-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 Central-RT and Central-SW**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Central-RT** router and **Central-SW** 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 **209.165.201.0/24** network to provide IPv4 addresses for two subnets that will support the required number of hosts. The larger subnet (LAN 1) requires **29** hosts and the smaller subnet (LAN 2) requires **17** hosts.

No [subnet calculators](#) may be used.

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: **209.165.201.0/24**
- Required number of hosts in IPv4 LAN 1: **29**
- Required number of hosts in IPv4 LAN 2: **17**

- 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 **Central-RT G0/0/1**
- LAN 2 is hosted on **Central-RT 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 **Central-SW** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Central-RT** 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 **Central-SW** 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 Central-RT and Central-SW

Step 1: Configure enhanced password security

- Configure **ThisisaSecret** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Central-RT**.

Step 2: Configure SSH on Central-RT and Central-SW

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

Step 3: Secure switch ports on Central-SW

- Shut down **all** unused ports on **Central-SW**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

Part 5: Configure the Hosts and Verify Connectivity

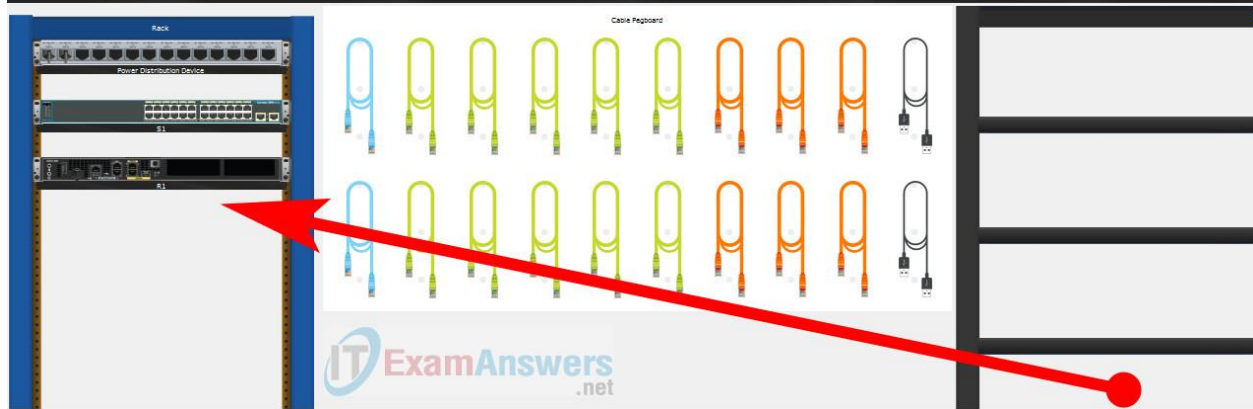
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 210

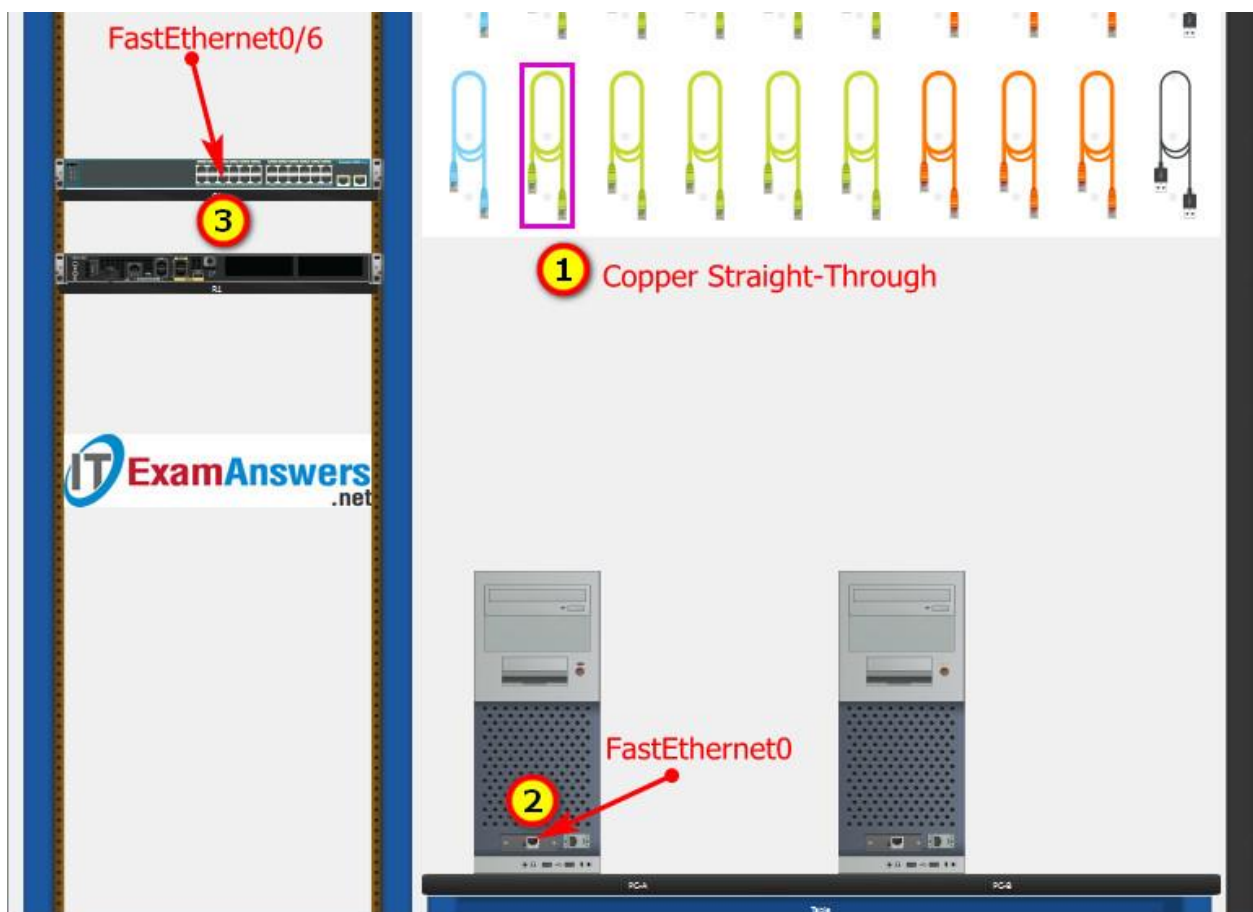
Answers Key - 100% Score

Part 1: Build the Network

Placing Switch Central-SW and Router Central-RT to wiring closet equipment rack.



Using **Copper Straight-Through** cable to connect **User-A** (FastEthernet0 port) and **Central-SW** (FastEthernet0/6 port)



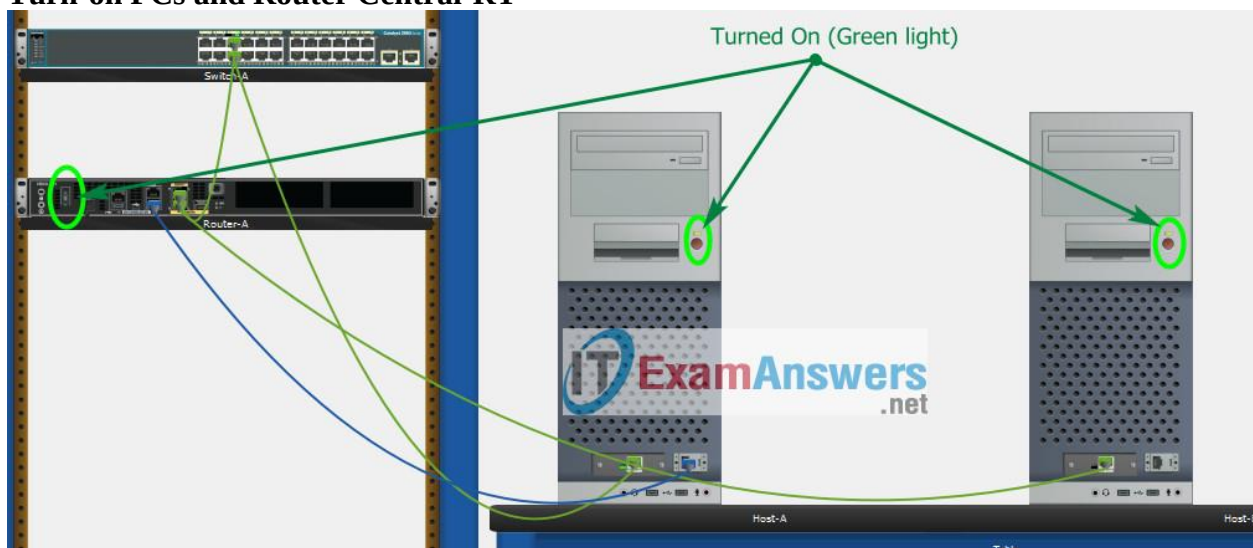
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



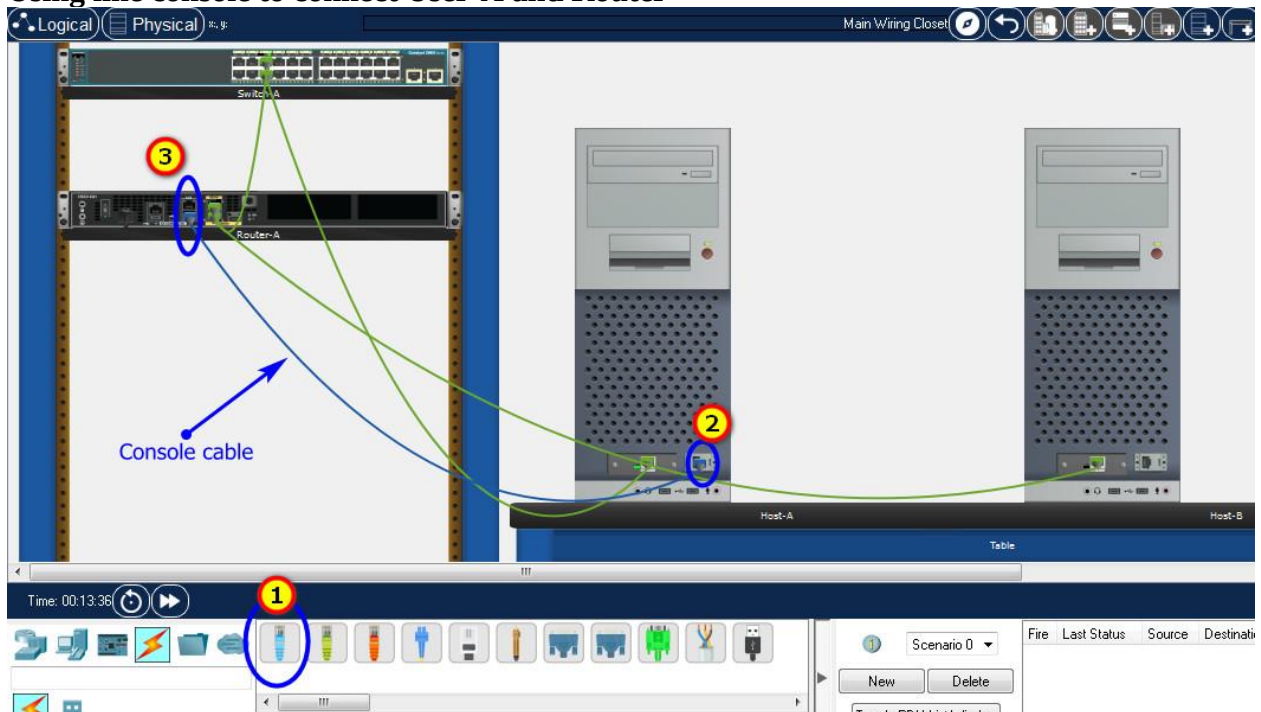
Turn-on PCs and Router Central-RT



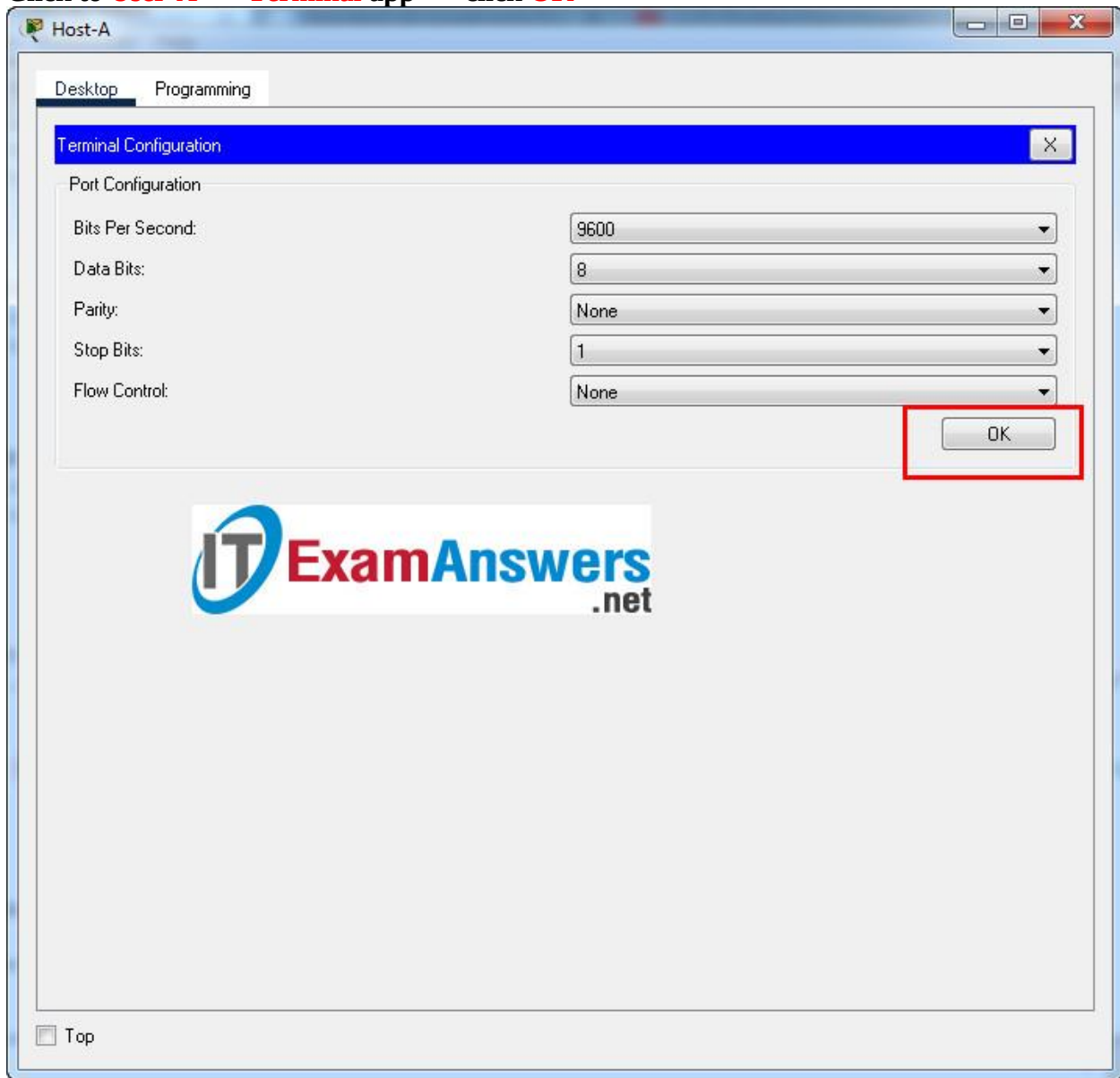
Part 2: Develop an IP Addressing Scheme

Item	Requirements	IPv4 Address
Network Address	209.165.201.0/24	
LAN 1 subnet host requirements 29		209.165.201.0/27 SM: 255.255.255.224
LAN 2 subnet host requirements 17		209.165.201.32/27 SM: 255.255.255.224
Central-RT G0/0/1	First host address in LAN 1 subnet	209.165.201.1
Central-RT G0/0/0	First host address in LAN 2 subnet	209.165.201.33
Central-SW SVI	Second host address in LAN 1 subnet	209.165.201.2
User-A	Last host address in LAN 1 subnet	209.165.201.30
User-B	Last host address in LAN 2 subnet	209.165.201.62

Using line console to connect User-A and Router



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



Router Central-RT configuration script

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

interface g0/0/0
description Connect to Subnet B
ip address 209.165.201.33 255.255.255.224
no shutdown
exit
```

```

interface g0/0/1
description Connect to Subnet A
ip address 209.165.201.1 255.255.255.224
no shutdown
exit

enable secret ThisisaSecret
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

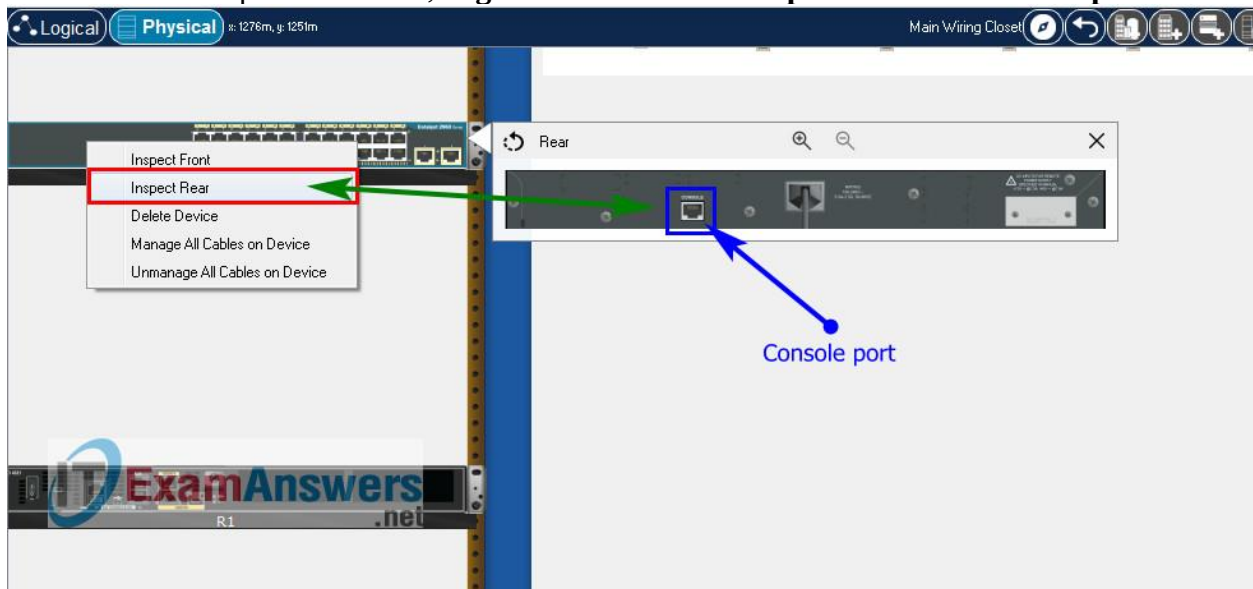
crypto key generate rsa
1024
exit
copy running-config startup-config

```

Configuration for Switch Central-SW

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

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



Switch Central-SW configuration script

```

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

interface vlan 1
description Switch Subnet A
ip address 209.165.201.2 255.255.255.224
no shutdown
exit

ip default-gateway 209.165.201.1

enable secret ThisisaSecret
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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 **209.165.201.30**
 Subnet Mask **255.255.255.224**
 IPv4 Default Gateway **209.165.201.1**

PC-B Network Configuration

IPv4 Address **209.165.201.62**
 Subnet Mask **255.255.255.224**

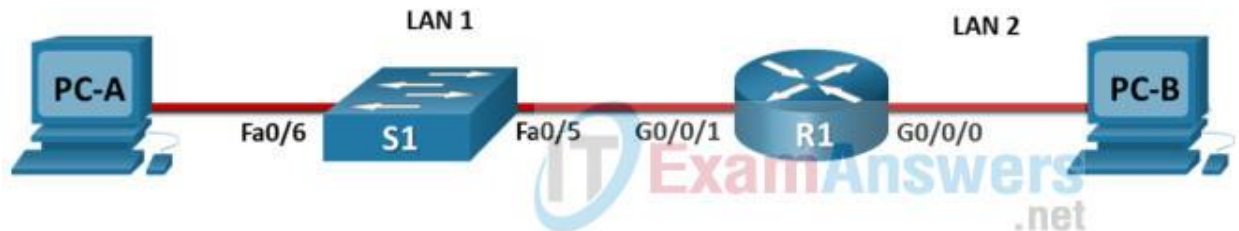
PC-B Network Configuration

IPv4 Default Gateway **209.165.201.33**

ITN Final Skills Exam (PTSA)

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	Central-RT
S1	Central-SW
PC-A	User-A
PC-B	User-B

Addressing Requirements Table

Item	Requirements
Network Address	172.16.1.0/24
LAN 1 subnet host requirements	60
LAN 2 subnet host requirements	20
Central-RT G0/0/1	First host address in LAN 1 subnet
Central-RT G0/0/0	First host address in LAN 2 subnet
Central-SW SVI	Second host address in LAN 1 subnet
User-A	Last host address in LAN 1 subnet
User-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 Central-RT and Central-SW**
- **Part 5: Configure the Hosts and Verify Connectivity**

Instructions

In this assessment you will configure the **Central-RT** router and **Central-SW** 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 **172.16.1.0/24** network to provide IPv4 addresses for two subnets that will support the required number of hosts. The larger subnet (LAN 1) requires **60** hosts and the smaller subnet (LAN 2) requires **20** hosts.

No [subnet calculators](#) may be used.

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: **172.16.1.0/24**
- Required number of hosts in IPv4 LAN 1: **60**
- Required number of hosts in IPv4 LAN 2: **20**

- 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 **Central-RT G0/0/1**
- LAN 2 is hosted on **Central-RT 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 **Central-SW** SVI.

Part 3: Configure Basic Device Settings

Network devices must be configured over a direct console connection.

Step 1: Configure Basic Settings

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

Step 2: Configure Interfaces

- a. Configure **Central-RT** 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 **Central-SW** 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 Central-RT and Central-SW

Step 1: Configure enhanced password security

- Configure **DontTellAnyone** as the encrypted privileged EXEC password
- Encrypt all plaintext passwords
- Set minimum password length to **10** on **Central-RT**.

Step 2: Configure SSH on Central-RT and Central-SW

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

Step 3: Secure switch ports on Central-SW

- Shut down **all** unused ports on **Central-SW**.
- Enter descriptions for all unused switch ports to indicate that they are intentionally shutdown.

Part 5: Configure the Hosts and Verify Connectivity

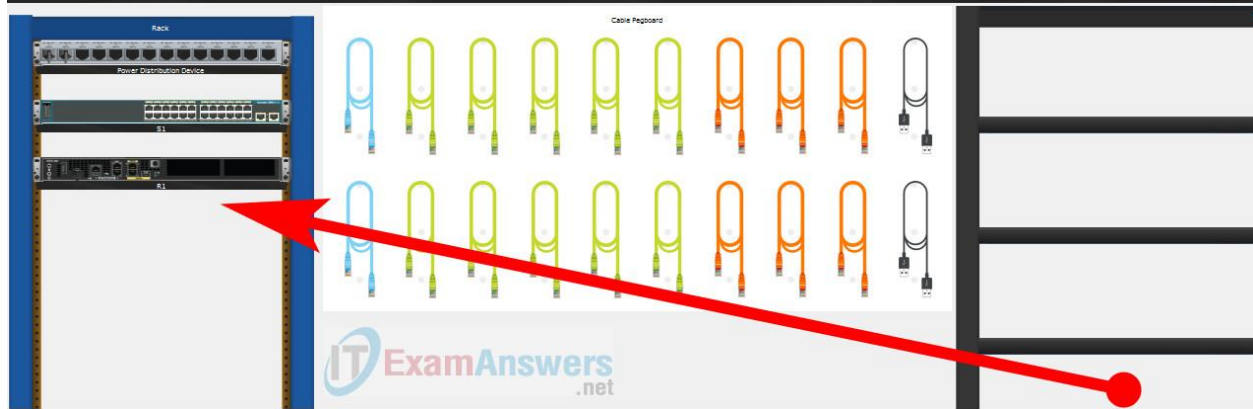
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 111

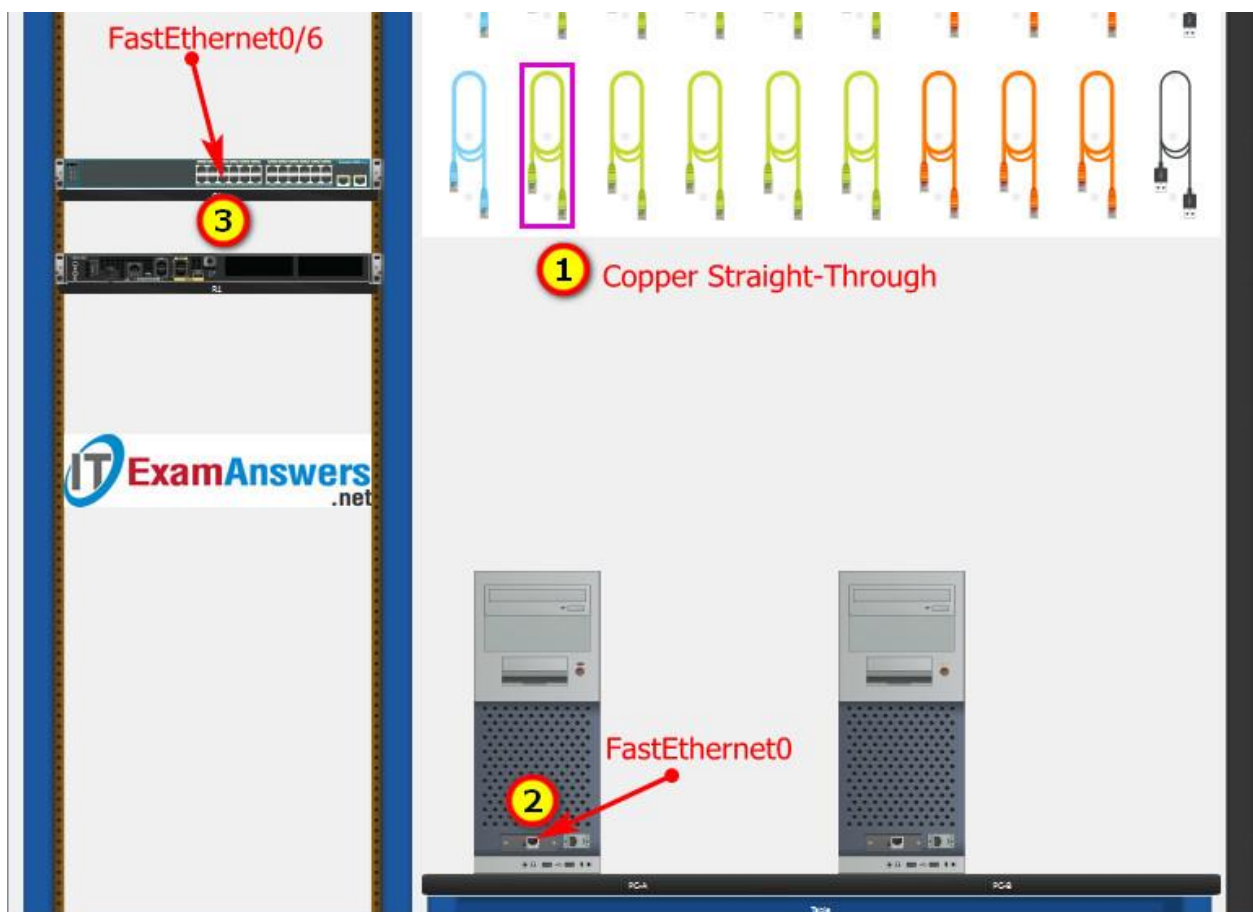
Answers Key - 100% Score

Part 1: Build the Network

Placing Switch Central-SW and Router Central-RT to wiring closet equipment rack.



Using **Copper Straight-Through** cable to connect **User-A** (FastEthernet0 port) and **Central-SW** (FastEthernet0/6 port)



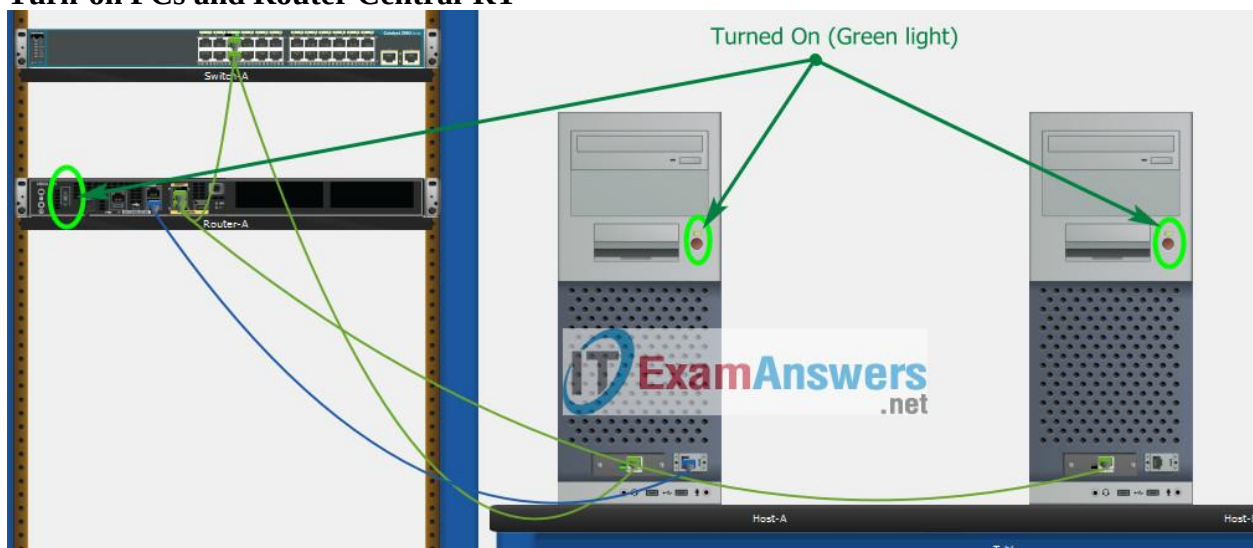
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



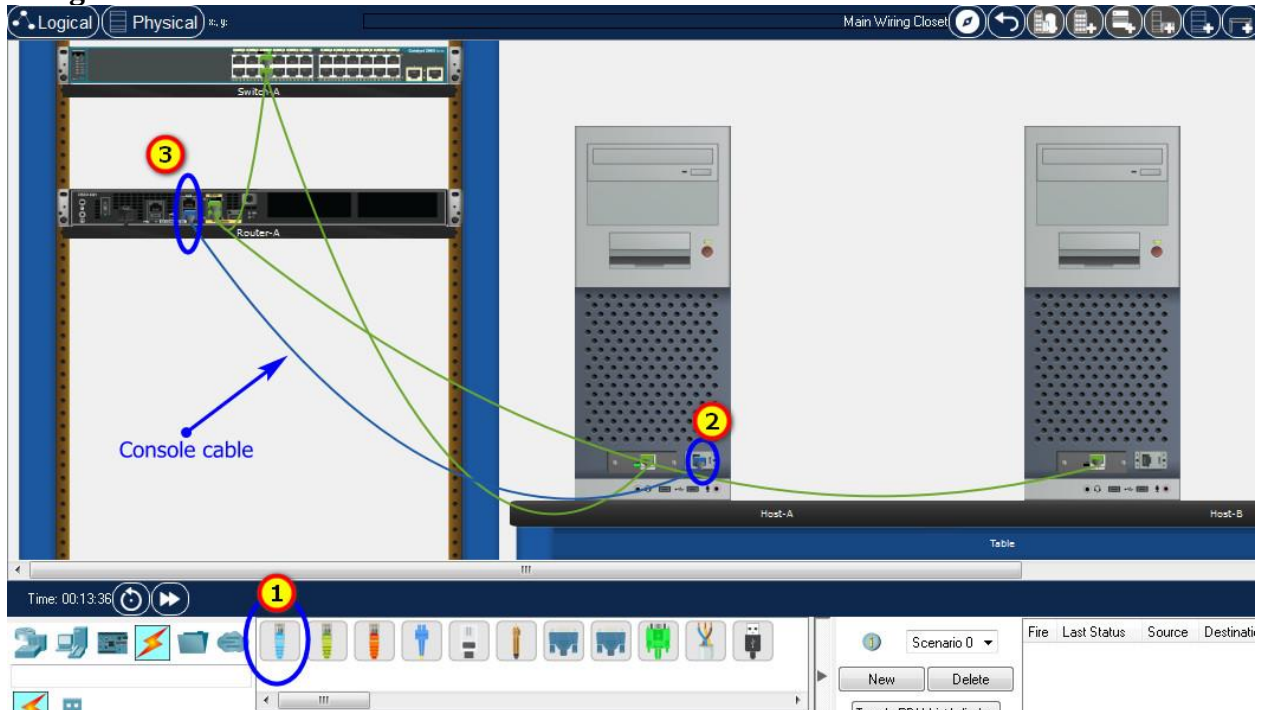
Turn-on PCs and Router Central-RT



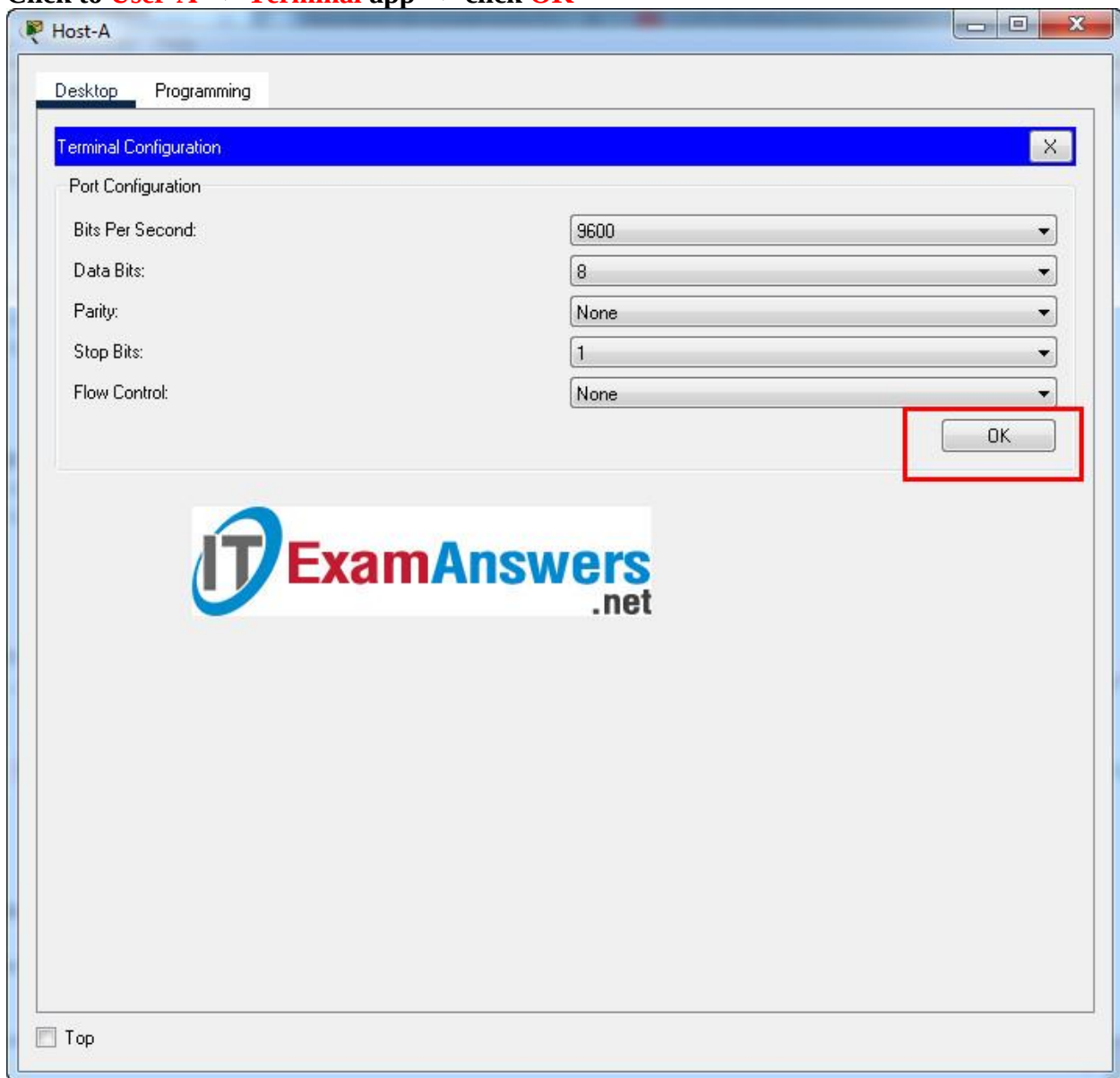
Part 2: Develop an IP Addressing Scheme

Item	Requirements	IPv4 Address
Network Address	172.16.1.0/24	
LAN 1 subnet host requirements	60	172.16.1.0/26 SM: 255.255.255.192
LAN 2 subnet host requirements	20	172.16.1.64/27 SM: 255.255.255.224
Central-RT G0/0/1	First host address in LAN 1 subnet	172.16.1.1
Central-RT G0/0/0	First host address in LAN 2 subnet	172.16.1.65
Central-SW SVI	Second host address in LAN 1 subnet	172.16.1.2
User-A	Last host address in LAN 1 subnet	172.16.1.62
User-B	Last host address in LAN 2 subnet	172.16.1.94

Using line console to connect User-A and Router



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



Router Central-RT configuration script

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

interface g0/0/0
description Connect to Subnet B
ip address 172.16.1.65 255.255.255.224
no shutdown
exit
```

```
interface g0/0/1
description Connect to Subnet A
ip address 172.16.1.1 255.255.255.192
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
```

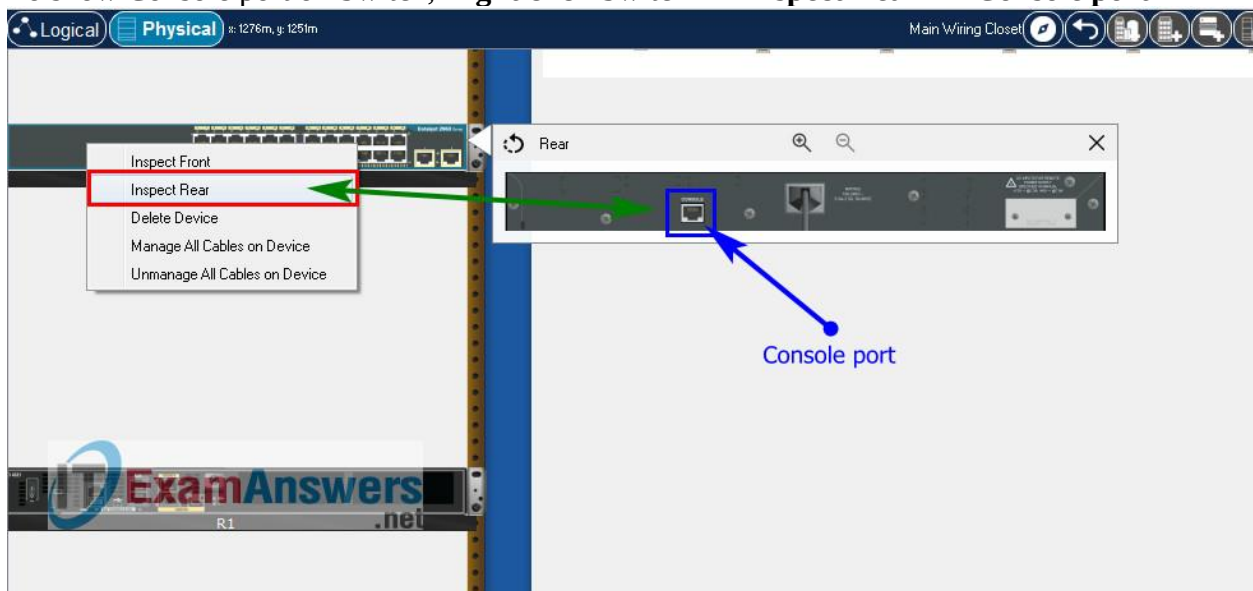
```
line vty 0 15
transport input ssh
login local
exit
```

```
crypto key generate rsa
1024
exit
copy running-config startup-config
```

Configuration for Central-SW

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

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



Switch Central-SW configuration script

```

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

interface vlan 1
description Switch Subnet A
ip address 172.16.1.2 255.255.255.192
no shutdown
exit

ip default-gateway 172.16.1.1

enable secret DontTellAnyone
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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 **172.16.1.62**
Subnet Mask **255.255.255.192**
IPv4 Default Gateway **172.16.1.1**

PC-B Network Configuration

IPv4 Address **172.16.1.94**
Subnet Mask **255.255.255.224**

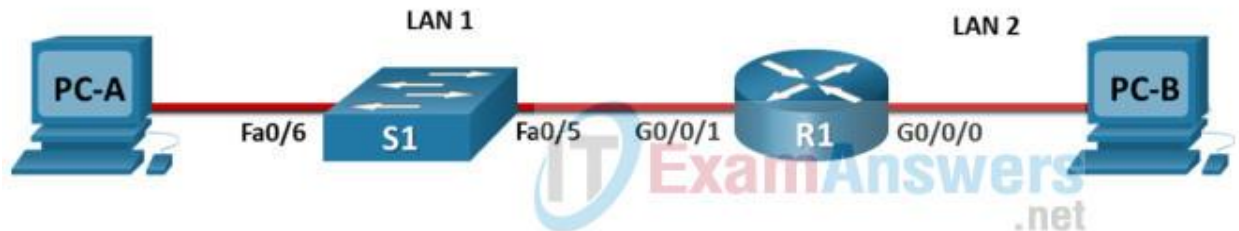
PC-B Network Configuration

IPv4 Default Gateway **172.16.1.65**

ITN Final Skills Exam (PTSA)

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	172.16.1.0/24
LAN 1 subnet host requirements	60
LAN 2 subnet host requirements	20
R1 G0/0/1	First host address in LAN 1 subnet
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)



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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 **172.16.1.0/24** network to provide IPv4 addresses for two subnets that will support the required number of hosts. The larger subnet (LAN 1) requires **60** hosts and the smaller subnet (LAN 2) requires **20** hosts.

No [subnet calculators](#) may be used.

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: **172.16.1.0/24**
- Required number of hosts in IPv4 LAN 1: **60**
- Required number of hosts in IPv4 LAN 2: **20**

- 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.

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

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

Step 2: Configure SSH on R1 and S1

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

Step 3: Secure switch ports on S1

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

Part 5: Configure the Hosts and Verify Connectivity

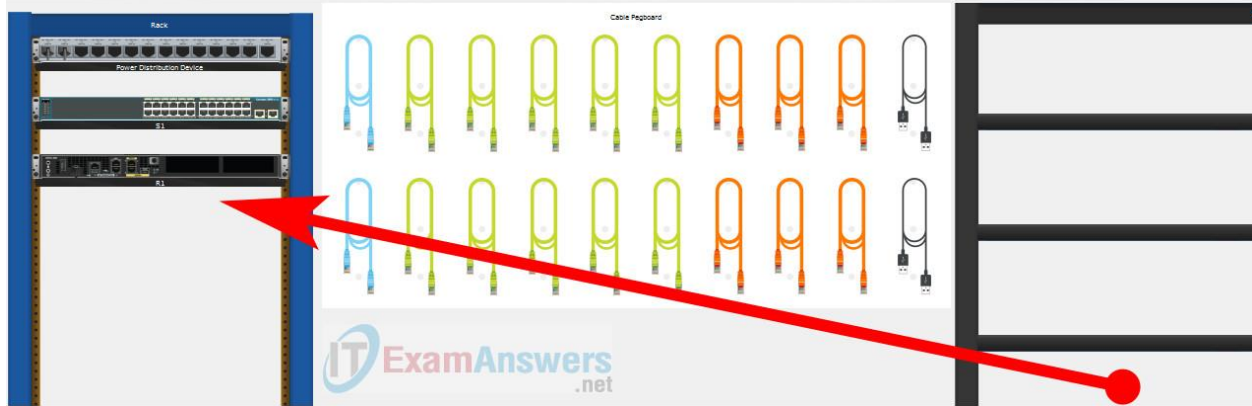
Configure both hosts with the IPv4 addresses that were assigned in Part 2 of this assessment.

ID: 101

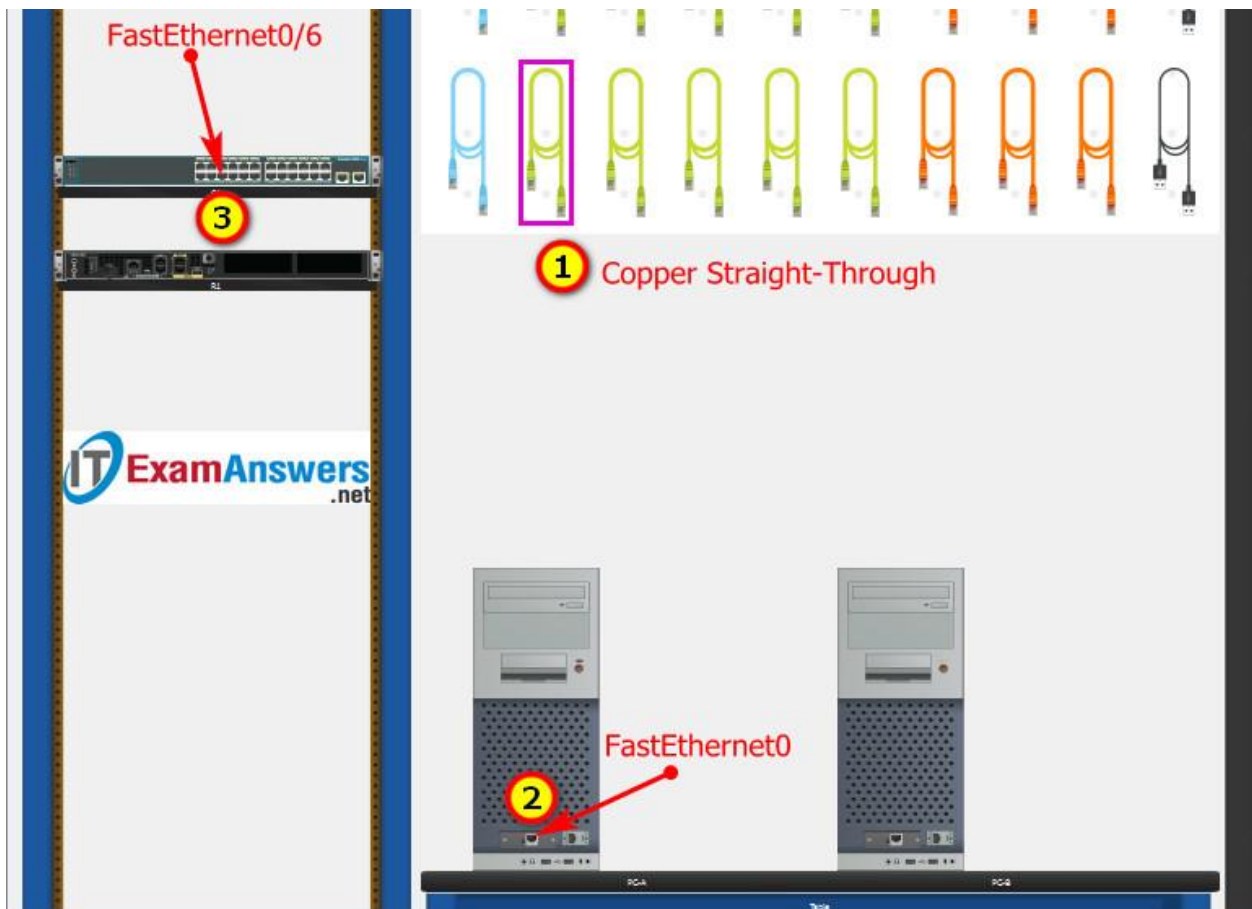
Answers Key - 100% Score

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)



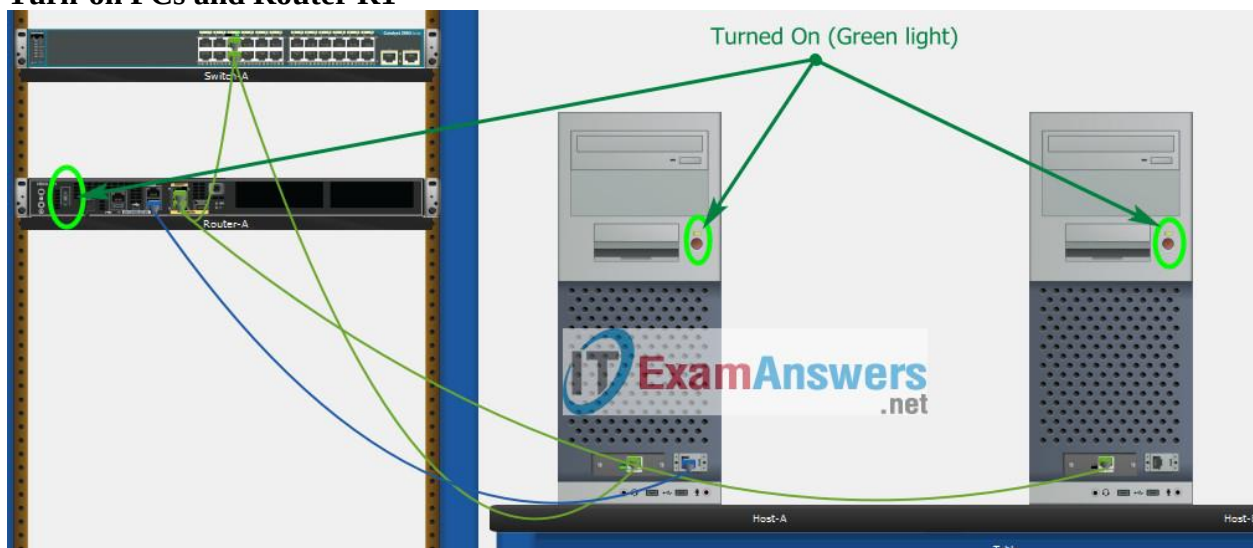
Same as above, using **Copper Straight-Through** cable to connect all devices as shown in the topology diagram.



ITN Final PT Skills Assessment (PTSA)



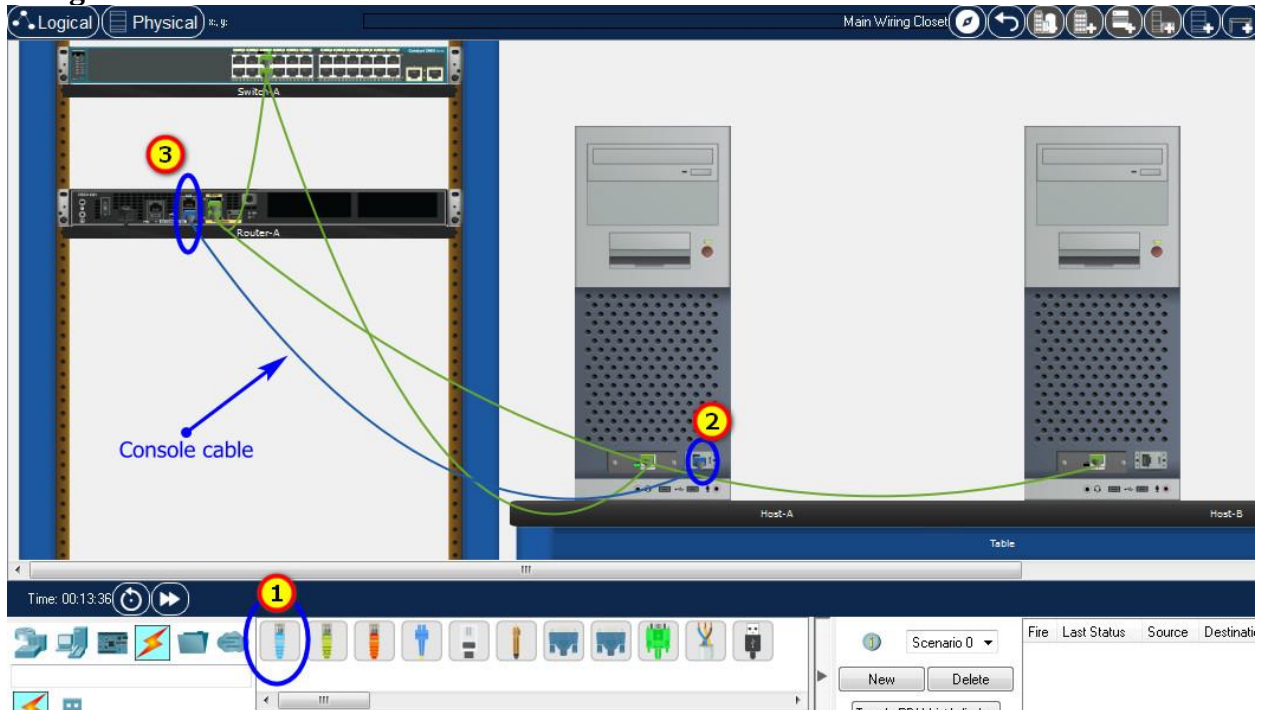
Turn-on PCs and Router R1



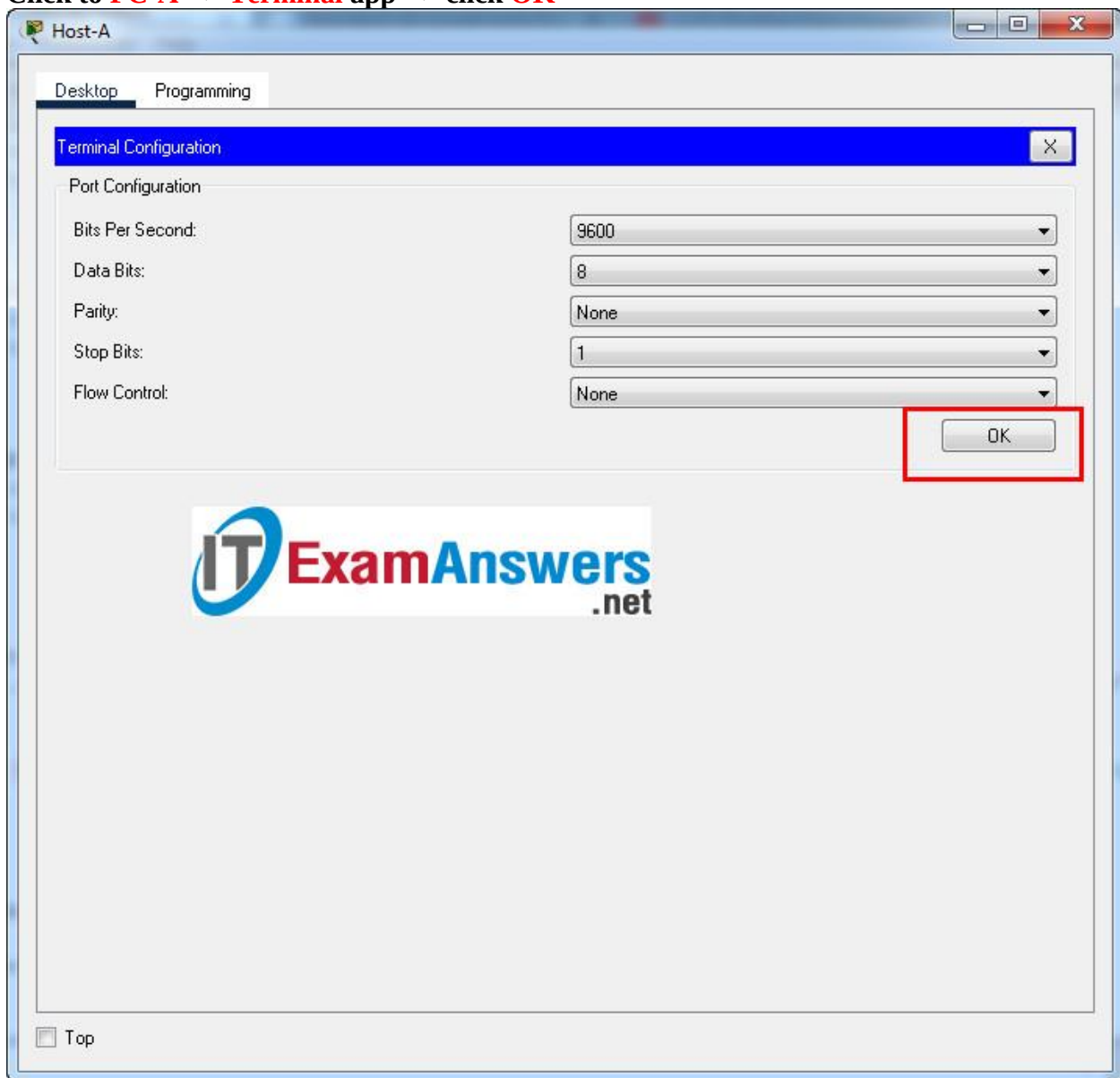
Part 2: Develop an IP Addressing Scheme

Item	Requirements	IPv4 Address
Network Address	172.16.1.0/24	
LAN 1 subnet host requirements	60	172.16.1.0/26 SM: 255.255.255.192
LAN 2 subnet host requirements	20	172.16.1.64/27 SM: 255.255.255.224
R1 G0/0/1	First host address in LAN 1 subnet	172.16.1.1
R1 G0/0/0	First host address in LAN 2 subnet	172.16.1.65
S1 SVI	Second host address in LAN 1 subnet	172.16.1.2
PC-A	Last host address in LAN 1 subnet	172.16.1.62
PC-B	Last host address in LAN 2 subnet	172.16.1.94

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 172.16.1.65 255.255.255.224
no shutdown
exit
```

```
interface g0/0/1
description Connect to Subnet A
ip address 172.16.1.1 255.255.255.192
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
```

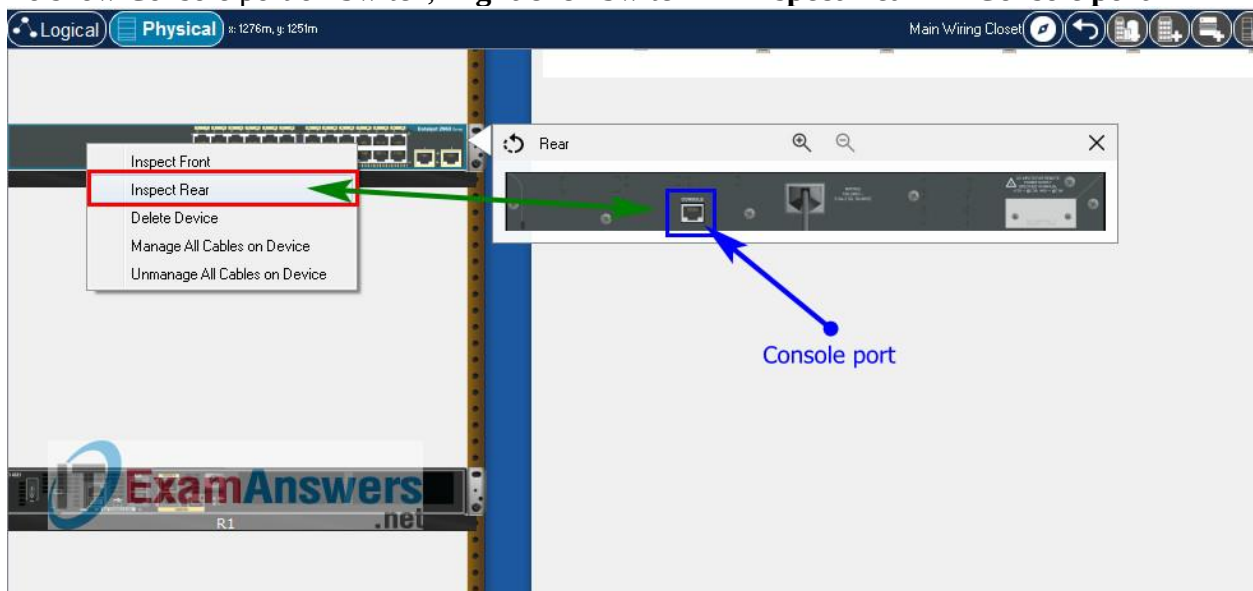
```
line vty 0 15
transport input ssh
login local
exit
```

```
crypto key generate rsa
1024
exit
copy running-config startup-config
```

Configuration for 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 172.16.1.2 255.255.255.192
no shutdown
exit

ip default-gateway 172.16.1.1

enable secret DontTellAnyone
service password-encryption

ip domain-name netsec.com
username netadmin secret Ci$col2345

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 **172.16.1.62**
 Subnet Mask **255.255.255.192**
 IPv4 Default Gateway **172.16.1.1**

PC-B Network Configuration

IPv4 Address **172.16.1.94**
 Subnet Mask **255.255.255.224**

PC-B Network Configuration

IPv4 Default Gateway **172.16.1.65**