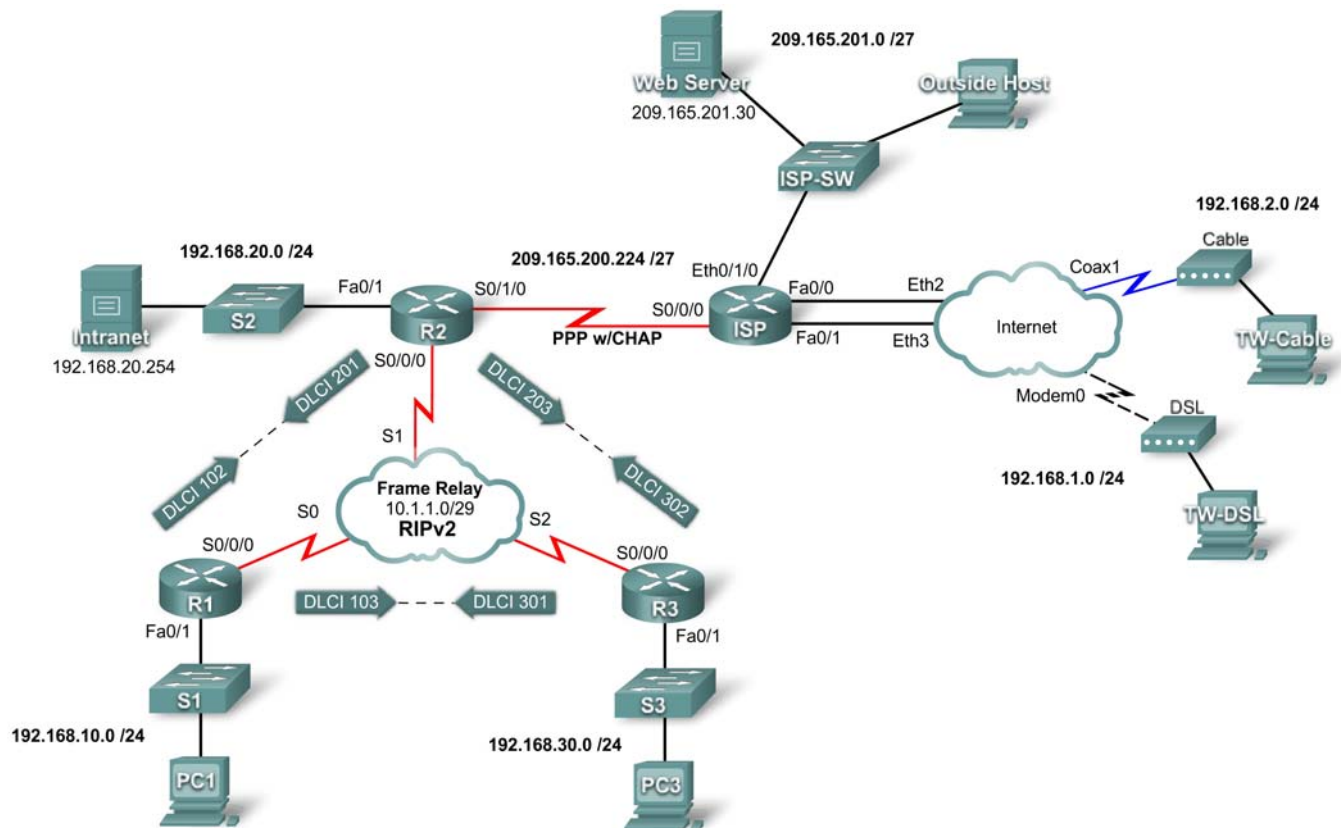


PT Activity 6.4.1: Packet Tracer Skills Integration Challenge

Topology Diagram



Addressing Table

Device	Interface	IP Address	Subnet Mask
R1	Fa0/1	192.168.10.1	255.255.255.0
	S0/0/0	10.1.1.1	255.255.255.248
R2	Fa0/1	192.168.20.1	255.255.255.0
	S0/0/0	10.1.1.2	255.255.255.248
	S0/1/0	209.165.200.225	255.255.255.224
R3	Fa0/1	192.168.30.1	255.255.255.0
	S0/0/0	10.1.1.3	255.255.255.248
ISP	S0/0/0	209.165.200.226	255.255.255.224
	Eth0/1/0	209.165.201.1	255.255.255.224
	Fa0/0	192.168.1.1	255.255.255.0
	Fa0/1	192.168.2.1	255.255.255.0
PC1	NIC	192.168.10.10	255.255.255.0
PC3	NIC	192.168.30.10	255.255.255.0
Intranet	NIC	192.168.20.254	255.255.255.0
TW-DSL	NIC	192.168.1.10	255.255.255.0
TW-Cable	NIC	192.168.2.10	255.255.255.0
Web Server	NIC	209.165.201.30	255.255.255.224
Outside Host	NIC	209.165.201.10	255.255.255.224

Learning Objectives

- Apply basic router configurations
- Configure dynamic and default routing
- Establish teleworker services
- Test connectivity before ACL configuration
- Apply ACL policies
- Test connectivity after ACL configuration

Introduction

This activity requires you to configure a default route as well as dynamic routing using RIP version 2. You will also add broadband devices to the network. Finally, you will set up ACLs on two routers to control network traffic. Because Packet Tracer is very specific in how it grades ACLs, you will need to configure the ACL rules in the order given.

Task 1: Apply Basic Router Configurations

Using the information in the topology diagram and addressing table, configure the basic device configurations on R1, R2, and R3. Hostnames are configured for you.

Include the following:

- Console and vty lines
- Banners
- Disable domain name lookup
- Interface descriptions

Task 2: Configure Dynamic and Default Routing

Step 1. Configure default routing.

R2 needs a default route. Use the *exit-interface* argument in the default route configuration.

Step 2. Configure dynamic routing.

Configure RIPv2 on R1, R2, and R3 for all available networks. R2 needs to pass its default network configuration to the other routers. Also, be sure to use the **passive-interface** command on all active interfaces not used for routing.

Step 3. Check results.

Your completion percentage should be 59%. If not, click **Check Results** to see which required components are not yet completed.

Task 3: Establish Teleworker Services

Step 1. Add WAN devices.

Add one DSL and one cable modem according to the topology diagram.

Step 2. Name the WAN devices.

Use the **Config** tab to change the display name of each WAN device to **Cable** and **DSL**, respectively.

Step 3. Connect the WAN devices.

Connect the WAN devices to their PCs and the Internet using the appropriate cables and interfaces.

Step 4. Check results.

Your completion percentage should be 86%. If not, click **Check Results** to see which required components are not yet completed.

Task 4: Test Connectivity Before ACL Configuration

At this point, all branches of the topology should have connectivity. Switching between Simulation mode and Realtime mode can speed up convergence.

Task 5: Apply ACL Policies

Step 1. Create and apply security policy number 1.

Implement the following ACL rules using ACL number 101:

1. Allow hosts on the 192.168.30.0/24 network web access to any destination
2. Allow hosts on the 192.168.30.0/24 network ping access to any destination.
3. Deny any other access originating from the network.

Step 2. Create and apply security policy number 2.

Because ISP represents connectivity to the Internet, configure a named ACL called **FIREWALL** in the following order:

1. Allow TW-DSL web access to the Intranet server.
2. Allow TW-Cable web access to the Intranet server.
3. Allow only inbound ping replies from ISP and any source beyond ISP.
4. Allow only established TCP sessions from ISP and any source beyond ISP.
5. Explicitly block all other inbound access from ISP and any source beyond ISP.

Step 3. Check results.

Your completion percentage should be 100%. If not, click **Check Results** to see which required components are not yet completed.

Task 6: Test Connectivity After ACL Configuration

Teleworkers should not be able to ping the Intranet Server, but should be able to access its HTTP server via the web browser. Included in the activity are three PDUs, two of which should fail and one should succeed. Check the **Connectivity Tests** in the **Check Results** menu to be sure that the completion results are 100%.