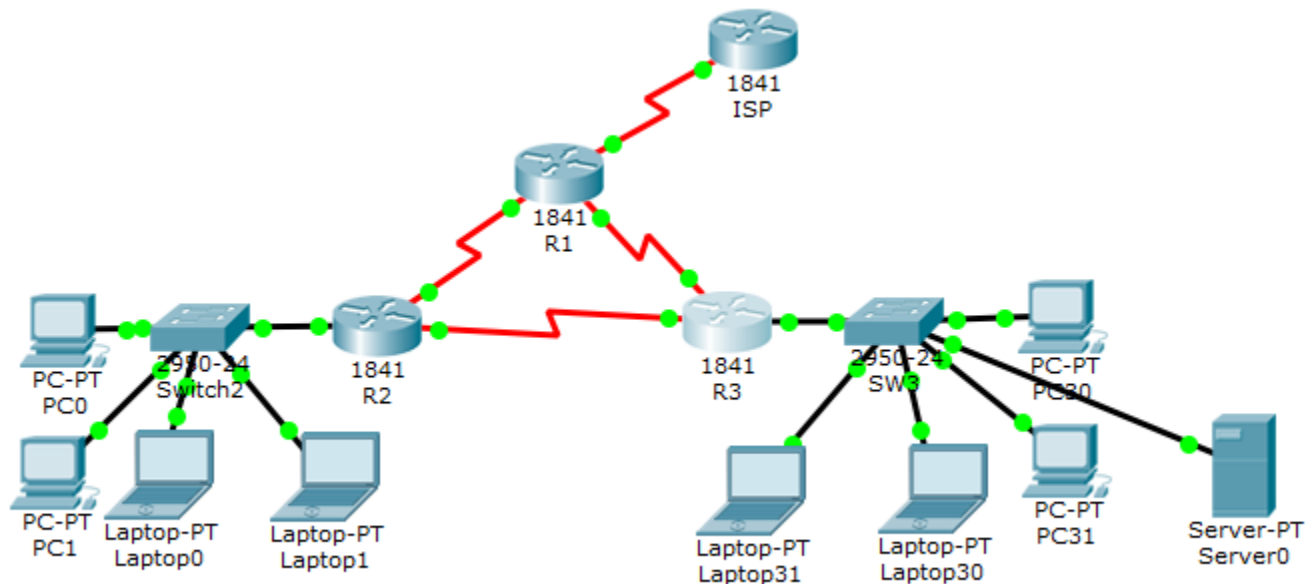


## Packet Tracer – Skills Integration Challenge

### Topology



### Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
ISP	S0/0/0	200.123.211.1	255.255.255.0	N/A
R1	Se0/0/0	200.123.211.2	255.255.255.0	N/A
	Se0/1/0	10.0.0.1	255.255.255.252	N/A
	Se0/1/1	10.0.0.5	255.255.255.252	N/A
R2	Fa0/0.100	192.168.20.1	255.255.255.0	N/A
	Fa0/0.200	192.168.21.1	255.255.255.0	N/A
	Se0/0/0	10.0.0.2	255.255.255.252	N/A
	Se0/0/1	10.0.0.9	255.255.255.252	N/A
R3	Fa0/0	192.168.30.1	255.255.255.0	N/A
		2001:db8:130::9C0:80F:301	/64	N/A

	Se0/0/0	10.0.0.6	255.255.255.252	N/A
	Se0/0/1	10.0.0.10	255.255.255.252	N/A
SW2	VLAN 100	N/A	N/A	N/A
	VLAN 200	N/A	N/A	N/A
SW3	VLAN1	N/A	N/A	N/A
PC20	NIC	DHCP	DHCP	DHCP
PC21	NIC	DHCP	DHCP	DHCP
PC30	NIC	DHCP	DHCP	DHCP
PC31	NIC	DHCP	DHCP	DHCP
Laptop20	NIC	DHCP	DHCP	DHCP
Laptop21	NIC	DHCP	DHCP	DHCP
Laptop30	NIC	DHCP	DHCP	DHCP
Laptop31	NIC	DHCP	DHCP	DHCP

### VLAN and Port Assignments Table

Device	VLAN	Name	Interface
SW2	100	LAPTOPS	Fa0/2-3
SW2	200	DESTOPS	Fa0/4-5
SW3	1	-	All Interfaces

### Trunk Links Table

Local Device	Local Interface	Remote Device
SW2	Fa0/2-3	100

### Scenario

In this activity, you will demonstrate and reinforce your ability to implement NAT, DHCP Server, RIPv2, inter-VLAN routing, including configuring IP addresses, VLANs, trunking and subinterfaces. All reachability tests are to be done via ping only.

### Requirements

- **SW1** VLANs and VLAN port assignments must comply with Table 1.
- All ports not in use should be disabled.

- **R1, R2 and R3** IP address information must comply with Table 1.
- **Laptop20, Laptop21, PC20, PC21, Laptop30, Laptop31, PC30 and PC31** must acquire IPv4 information from their DHCP server.
- **R1** must perform NAT overload on top of its public IPv4 address. Make sure all end devices are able to communicate with the public Internet (ping the ISP address) and the standard access-list is named **INSIDE-DEVS**.
- **R1** must have a static default route to ISP configured and inject that route into the **RIPv2** domain.
- **R2** is a DHCP server for the devices connected to its FastEthernet0/0 port.
- **R2** must, in addition to routing to other parts of the network, route between VLANs 100 and 200.
- **Server0** is an IPv6 only server and must only be reachable by the devices under **R3** (ping only).
- The NICs installed on **Laptop30, Laptop31, PC30 and PC31** must have IPv4 and IPv6 addresses configured simultaneously (dual-stack). Addresses should be configured via DHCP and DHCPv6
- **R3's FastEthernet 0/0** must also have IPv4 and IPv6 addresses configured (dual-stack).
- **R1, R2 and R3** exchange routing information via **RIP version 2**.
- **R1, R2 and R3** must know about each other's routes and learn the default route from **R1**.
- Verify connectivity. All end devices should be able to ping each other and the ISP's IP address. End devices under **R3** must be able to IPv6-ping each other and the server.

### Rubric

Task		Points Scored	Maximum Points
Configure RIPv2	R1		5
	R2		5
	R3		5
Configure NAT on R1	NAT Statement		5
	Access-List		5
	NAT Interface Type (inside / outside)		5
DHCP Server on R2	Create the DHCP Pools		5
	Specify Network and Subnet Mask		5
	Specify Default Gateway		5
Router on a Stick on R2	Create Subinterfaces		5
	Assign Addresses		5
	Assign VLAN ID to Subinterfaces		5
Static Default Route on R1			7
Injecting Default Route into RIPv2			11

## Packet Tracer – Skills Integration Challenge

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IPv6 Address Assignment	R3		3
	Laptop30		3
	Laptop31		3
	PC30		3
	PC31		3
Create VLANs on SW2			7