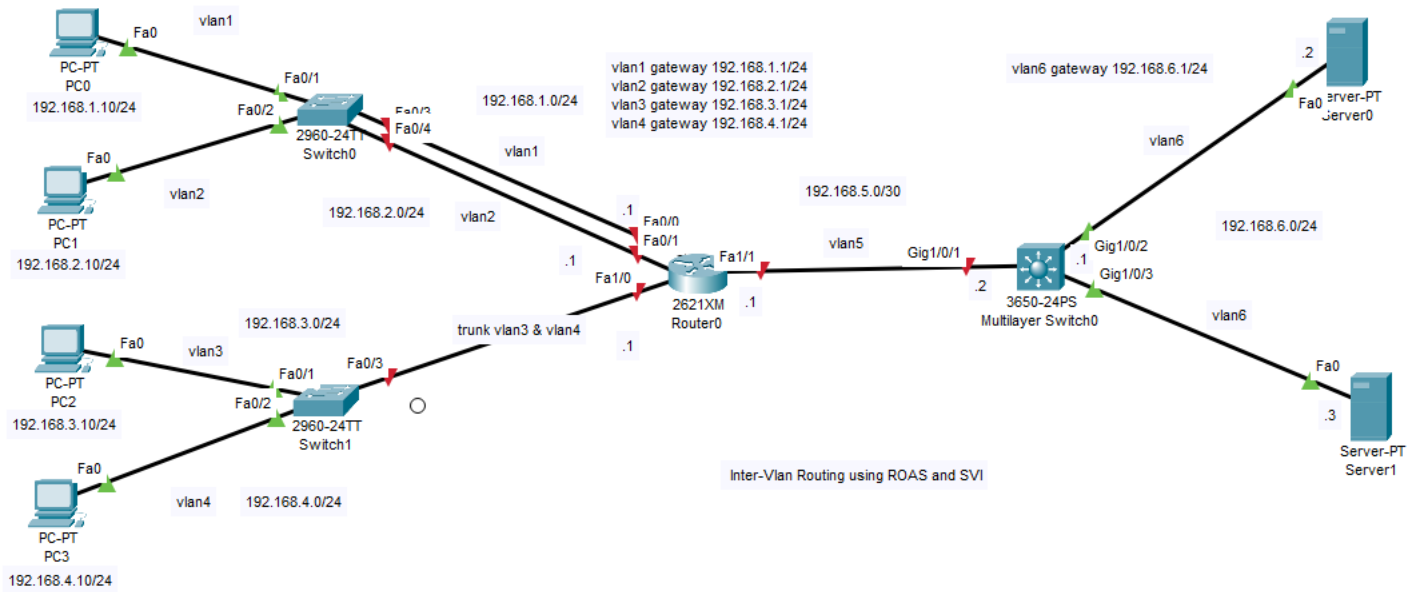


# CS4471 Inter-VLAN Routing using Router-on-a-Stick and SVI (ver1.2)



1. (1pt) Use Cisco Packet Tracer to create the network shown above. (Hint: you may need to add a network module to the 2621XM router to get two additional fast ethernet ports). Submit a screenshot of the network you created.

2. (1pt) Configure the hostnames, IP addresses, subnet masks, and default gateways on PC0 and PC1. On 2960 Switch0 configure switch ports Fa0/1 and Fa0/3 to be in vlan 1 while Fa0/2 and Fa0/4 should be in vlan 2. On Router0, configure IP address of interface Fa0/0 to be 192.168.1.1/24 while interface Fa0/1 should be configured with IP address 192.168.2.1/24.

From command prompt window of PC0, ping the IP address of PC1. Submit a screenshot showing that PC0 can successfully ping and traceroute to the IP address of PC1.

3. (1pt) Configure the hostnames, IP addresses, subnet masks, and default gateways on PC2 and PC3. On 2960 Switch1 configure switch ports Fa0/1 to be in vlan 3 while Fa0/2 should be in vlan 4. Configure switch port Fa0/3 to trunk vln 3 and vln 4 traffic. On Router0, configure IP address 192.168.3.1/24 and enable 802.1q frame tagging of vln 3 traffic on sub-interface Fa1/0.3. Configure IP address 192.168.4.1/24 and enable 802.1q frame tagging of vln 4 traffic on sub-interface Fa1/0.4.

From command prompt of PC2, ping the IP address of PC3. Submit a screenshot showing that PC2 can successfully ping and traceroute to IP address of PC3.

4. (1pt) Configure the hostnames, IP addresses, subnet masks, and default gateways on Server0 and Server1. On 3650 multi-layer Switch0, configure IP address 192.168.6.1/24 on svi interface vln 6. Assign ports G1/0/2 and G1/0/3 to vln 6.

From command prompt of Server0, ping the IP addresses 192.168.6.1 and 192.168.6.3. Submit a screenshot showing that Server0 can successfully ping these two IP addresses (multi-layer Switch0 and Server1).

5. (3 pts) On Router0, configure IP address 192.168.5.1/30 on interface Fa1/1 and add a static route in order that Router0 knows how to forward IP packets destined for remote network 192.168.6.0/24.

On 3650 multi-layer Switch0, configure IP address 192.168.5.2/30 on interface G1/0/1. In order to make this port act like a router interface rather than a switch port on a layer-3 capable switch, use the “**no switchport**” command. Enable “**ip routing**” and add a static route(s) in order that the multi-layer Switch0 knows how to forward IP packets destined for remote networks 192.168.1.0/24, 192.168.2.0/24, 192.168.3.0/24, and 192.168.4.0/24.

From the command prompt of PC3, ping the IP address of Server1.

a. Submit a screenshot showing that PC3 can successfully ping and traceroute to Server1’s IP address 192.168.6.3.

b. Submit a screenshot showing the routing table (show ip route) on Router0.

c. Submit a screenshot showing the routing table on multi-layer Switch0.

6. (1pt) Submit entire output of “show running-config” of 2960 Switch1.

7. (1pt) Submit entire output of “show running-config” of Router0.

8. (1pt) Submit entire output of “show running-config” of multi-layer Switch0.