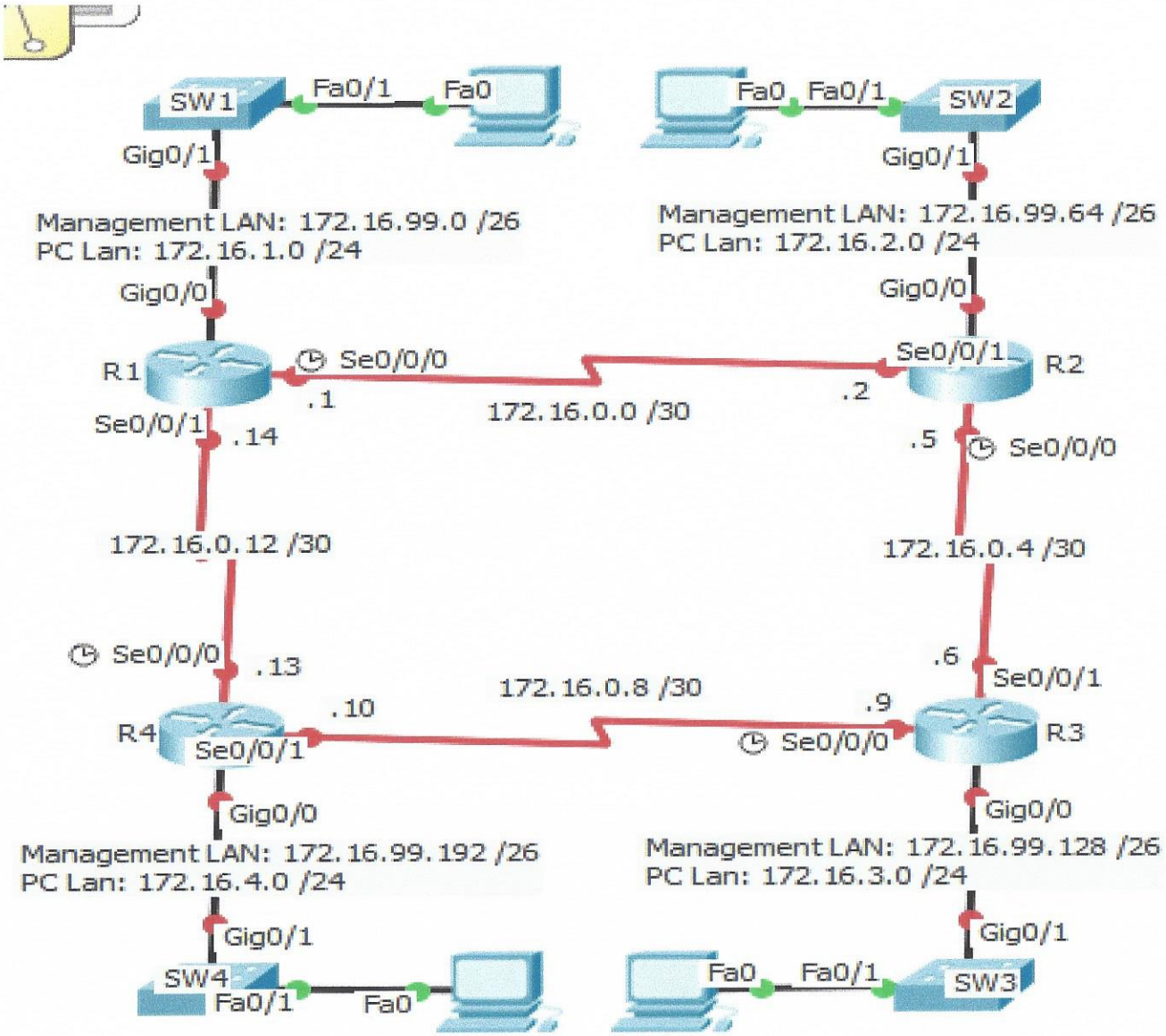
SW1
Fa0/1
Fa0
Gig0/1
Management LAN: 172.16.99.0 /26
PC Lan: 172.16.1.0 /24
Gig0/0
R1
Se0/0/0
.1
172.16.0.0 /30
.2
Se0/0/1
R2
Se0/0/1
.14
.5
Se0/0/0
172.16.0.12 /30
172.16.0.4 /30
Se0/0/0
.13
.6
Se0/0/1
172.16.0.8 /30
.10
.9
R4
Se0/0/1
Se0/0/0
R3
Gig0/0
Gig0/0
Management LAN: 172.16.99.192 /26
PC Lan: 172.16.4.0 /24
Management LAN: 172.16.99.128 /26
PC Lan: 172.16.3.0 /24
Gig0/1
Gig0/1
SW4
Fa0/1
Fa0
Fa0
Fa0/1
SW3
Fa0
Fa0/1
SW2

For the following topology, complete the following configuration specifications.

1. This is a hands-on lab and must be checked off by the instructor or a lab monitor as having been completed in lab. Your name must be on the completion sheet within SciTech 231. THEN complete this starter file and turn in to the assignment link within Netacad for full credit.
2. Click on 'Preferences' located on the Packet Tracer toolbar. Select 'User Profile' and complete the information in the dialog. This is to include your first and last name, along with your ECU email address. This activity will NOT be scored if you do not complete this requirement. You must do this first before any other activity and save the file, then close and re-open the file to ensure the information is still in the User Profile dialog box. After you verify the dialog box is complete and accurate, you may begin working on the configuration steps below. Upon completion of the remaining steps below, save the file again and proceed to Netacad Hands-On Module for this course and find the submission link entitled: Router RIP Hands-On Assignment.
3. Ensure proper device naming conventions match the topology (PCs excluded)
4. Configure all PCs with the LAST assignable address in the LAN to which they are connected. There will be no machine (PC) attached to the management VLANs. The PCs are attached to the LAN assigned in the topology.
5. Enable RIP according to the following specifications:
    A. Enable classless RIP routing
    B. Turn off automatic summarization of networks
    C. ALL networks on a router should be advertised.
    D. If there are no neighbors on a particular interface, disable RIP requests out that network interface. **If it is a physical interface made up of sub-interfaces, disable these requests on the SUB interfaces, rather than the physical interface.**(e.g. If a router does not attach to another router on the other end of a particular interface, it does not need to send RIP advertisements out of that interface. This would be unnecessary routing traffic that has no receiving destination. This is the purpose of putting an interface into passive mode. It will still advertise the existence of that network if you desire, however it will not try to find a neighboring RIP enabled router out of that interface if it is known that none exist.)
6. Ensure the following configurations are completed on all devices:
    A. Configure the steps to ensure Intra-vlan routing
        1. Assign Sub-interfaces to router's Gi0/0 interface:
            a. Gi0/0.1 - VLAN ID 1 - First Available IP address in the applicable LAN
            b. Gi0/0.99 - VLAN ID 99 - First available IP address in the applicable management LAN

c. Mark 99 as native

2. Ensure proper trunking to applicable switch port - Ensure native vlan is 99

B. Configure switches with the following settings:

1. Create a switched virtual interface VLAN99
2. Assign the LAST available address in the applicable management subnet to the SVI

7. Ensure ALL devices can ping ALL addresses across the network.
8. Ensure you have a total of eight RIP routes on each router. Two of these should be equal hop count routes and therefore will show two equal cost but alternative paths to the same network.