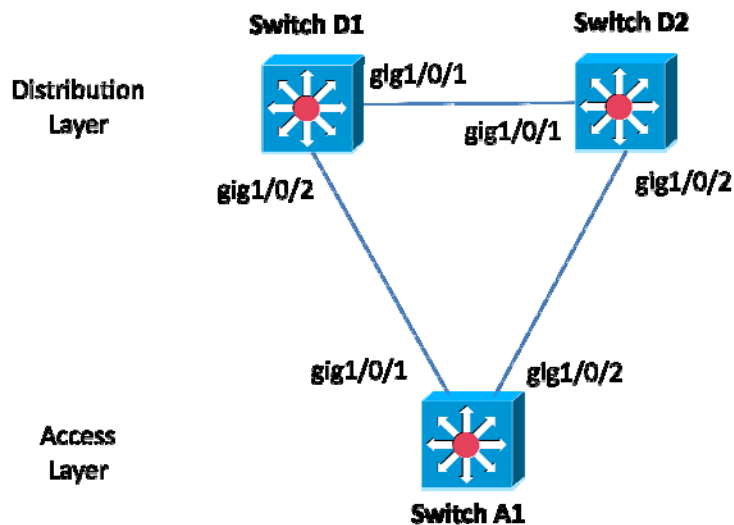


One LAN switching best practice is to locate the STP root in a strategic place for each VLAN. In Scenario 4, we'll need to configure the STP root location...

Three switches are connected to each other as shown in the network diagram. Switches D1 and D2 form the distribution layer, while switch A1 is in the access layer. The links between the switches are all Gigabit Ethernet. Each of the switches has been left to the default STP configuration, and a partial output from each is shown below.



```
D1#show spanning-tree vlan 2
VLAN0002
Spanning tree enabled protocol rstp

Bridge ID Priority 32770 (priority 32768 sys-id-ext 2)
Address 001c.570f.5e80
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
```

```
D2#show spanning-tree vlan 2
VLAN0002
Spanning tree enabled protocol rstp

Bridge ID Priority 32770 (priority 32768 sys-id-ext 2)
Address 001c.570f.41f0
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
```

```
A1# show spanning-tree vlan 2
VLAN0002
Spanning tree enabled protocol rstp

Bridge ID Priority 32770 (priority 32768 sys-id-ext 2)
Address 001c.570f.4180
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
```

Answer the following questions:

1. Based on the console output, which switch will be elected as the STP root for VLAN 2?
2. Is this the best choice to be the root switch? Why or why not?
3. If the root should be relocated, what configuration commands should be entered on each of the switches to force the appropriate switch to become the root?

After configuring the root switch, suppose that a fourth switch, A2, is introduced into the access layer of the network a month later. A2 has an uplink to each of the distribution switches. From switch A2, we can see this partial output:

```
A2#show spanning vlan 2
```

```
VLAN0002
```

```
Spanning tree enabled protocol rstp
```

```
Bridge ID Priority    16386 (priority 16384 sys-id-ext 2)
```

```
Address      001c.570f.f030
```

```
Hello Time    2 sec Max Age 20 sec Forward Delay 15 sec
```

```
Aging Time 300
```

4. Does the addition of switch A2 sway the election and change the location of the STP root?