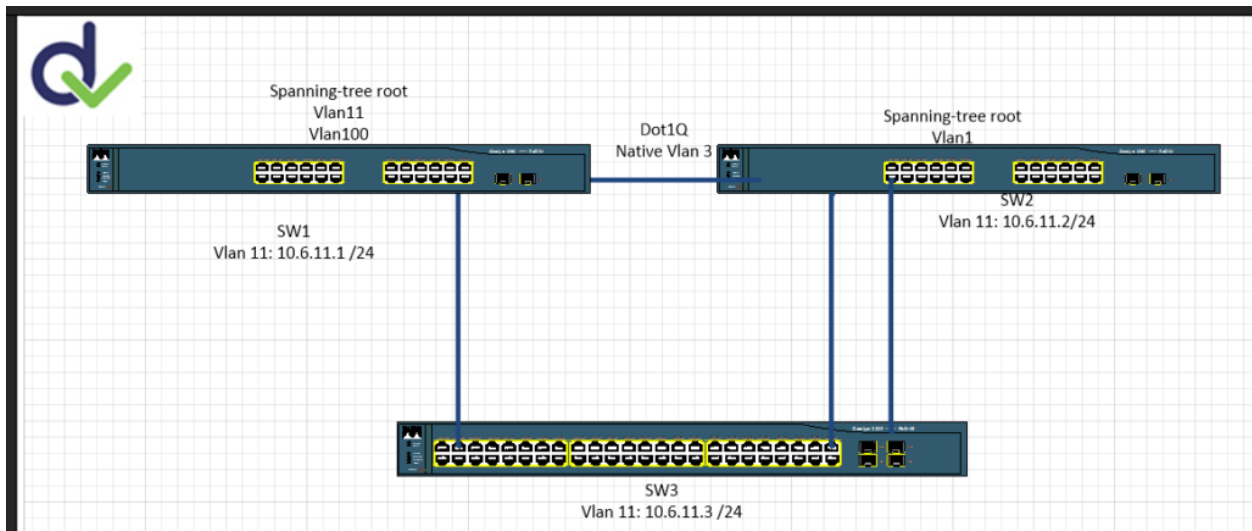
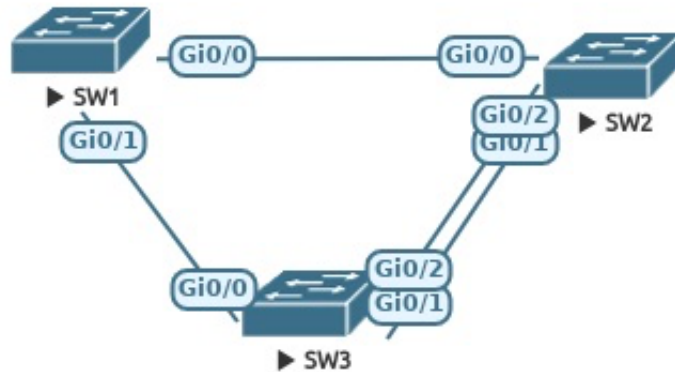


Lab Topologies:

Lab 001 - Layer 2 Trunking, VTP and STP Lab



Interface Tasks:

SW1 Tasks:

1. Configure and unshut the following interfaces on SW1 as 802.1q trunks: Gi0/0 and Gi0/1
int range g0/0 – 1
shutdown
switchport
switchport trunk encapsulation dot1q
switchport mode trunk
no shut
2. Configure the Trunk on Gi0/0 with a Native VLAN of 3
int range g0/0 – 1
switchport trunk native vlan 3

SW2 Tasks:

1. Configure and unshut the following interfaces on SW2 as an 802.1q trunks: Gi0/0 and Gi0/1
int range g0/0 – 1
shutdown
switchport
switchport trunk encapsulation dot1q
switchport mode trunk
no shut
2. Configure the Trunk on Gi0/0 with a Native VLAN of 3
int range g0/0
switchport trunk native vlan 3
3. Configure and unshut the following interface on SW2 as an ISL Trunk: Gi0/2
int g0/2
shutdown
switchport
switchport trunk encapsulation isl
switchport mode trunk
no shut

SW3 Tasks:

1. Configure and unshut the following interfaces on SW3 as 802.1q trunks: Gi0/0 and Gi0/1
int range g0/0 – 1
shutdown
switchport
switchport trunk encapsulation dot1q
switchport mode trunk
no shut
2. Configure and unshut the following interface on SW3 as an ISL Trunk: Gi0/2
int g0/2
shutdown
switchport
switchport trunk encapsulation isl
switchport mode trunk
no shut

All Switch Tasks:

1. Shutdown the rest of the unused ports on all switches

```
int g0/3  
shutdown  
int range g1/0 – 3  
shutdown
```

VTP Tasks:

SW1 and SW2 Tasks:

1. Configure SW1 and SW2 to use VTP Transparent mode
`vtp mode transparent`
2. Configure SW1 and SW2 as VTP Clients
`vtp mode client`
3. Configure SW1 and SW2 to run in VTP Version 2
`vtp version 2`
4. Configure SW1 and SW2 with the VTP Domain name of "TND-LAB" (no quotes)
`vtp domain TND-LAB`
5. Configure SW1 and SW2 with the VTP Password of vtpP@SS
`vtp password vtpP@SS`

SW3 Tasks:

1. Configure SW3 as the VTP Server
`vtp mode transparent`
2. Configure SW3 to run in VTP Version 2
`vtp version 2`
3. Configure SW3 with the VTP Domain name of "TND-LAB" (no quotes)
`vtp domain TND-LAB`
4. Configure SW3 with the VTP Password of vtpP@SS
`vtp password vtpP@SS`
5. Build VLAN 11 on SW3 and name it "MGMT" (no quotes)
`vlan 11`
`name MGMT`
6. Build VLAN 100 on SW3 and name it "WORKSTATIONS" (no quotes)
`vlan 100`
`name WORKSTATIONS`

All Switch Tasks:

1. Verify the following VTP configuration on each switch:
 - a. The VTP Version
`show vtp status`
 - b. The VTP Domain
`show vtp status`
 - c. The VTP Operating Mode
`show vtp status`
 - d. The VTP Password
`show vtp password`

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2. Verify VLAN Propagation via VTP by viewing the VLAN tables on SW1 and SW2. They should now contain VLANs 11 and VLAN 100.

`show vlan brief`

Spanning-Tree Tasks:

SW1 Tasks:

1. Configure SW1 as the Spanning-Tree root bridge using the priority value of 0 for VLANs 11 and 100.

```
spanning-tree vlan 11 priority 0  
spanning-tree vlan 100 priority 0
```

SW2 Tasks:

1. Configure SW2 as the Spanning-Tree root bridge using the priority value of 0 for VLAN 1

```
spanning-tree vlan 1 priority 0
```

SW3 Tasks:

1. Set SW3s Spanning-Tree priority to the maximum value for all VLANs (current and future) to ensure it does not become the root during an election process while SW1 and SW2 are both online.

```
spanning-tree vlan 1-4094 priority 61440
```

Additional Spanning-Tree Tasks:

SW1 Tasks:

1. Configure SW1 to take over as the backup Spanning-Tree root bridge if there is an issue with SW2 for VLAN 1

```
spanning-tree vlan 1 priority 4096
```

SW2 Tasks:

1. Configure SW2 to take over as the backup Spanning-Tree root bridge if there is an issue with SW1 for VLANs 11 and 100

```
spanning-tree vlan 11 priority 4096
```

```
spanning-tree vlan 100 priority 4096
```

Layer 3 VLAN (SVI) Tasks:

SW1 Tasks:

1. Configure SW1 with a Layer 3 VLAN interface for VLAN 11.
`interface vlan 11`
2. Configure 10.6.11.1/24 as the IP Address and Subnet Mask for VLAN 11's SVI
`ip address 10.6.11.1 255.255.255.0`
`no shut`

SW2 Tasks:

1. Configure SW2 with a Layer 3 VLAN interface for VLAN 11.
`interface vlan 11`
2. Configure 10.6.11.2/24 as the IP Address and Subnet Mask for VLAN 11's SVI
`ip address 10.6.11.2 255.255.255.0`
`no shut`

SW3 Tasks:

1. Configure SW3 with a Layer 3 VLAN interface for VLAN 11.
`interface vlan 11`
2. Configure 10.6.11.3/24 as the IP Address and Subnet Mask for VLAN 11's SVI
`ip address 10.6.11.3 255.255.255.0`
`no shut`

Verification Tasks:

1. Verify that SW1 is the root bridge for VLAN 11 and VLAN 100
`sh spanning-tree root`
2. Verify that SW2 is the root bridge for VLAN1
`sh spanning-tree root`
3. Verify that VTP is in sync between SW1, SW2 and SW3
`sh vtp status`
4. Verify that SW1 and SW2 are configured as VTP Clients
`sh vtp status`
5. Verify that SW3 is configured as the VTP Server
`sh vtp status`
6. Verify that all Inter-Switch links are trunking all VLANs
`sh interface trunk`