

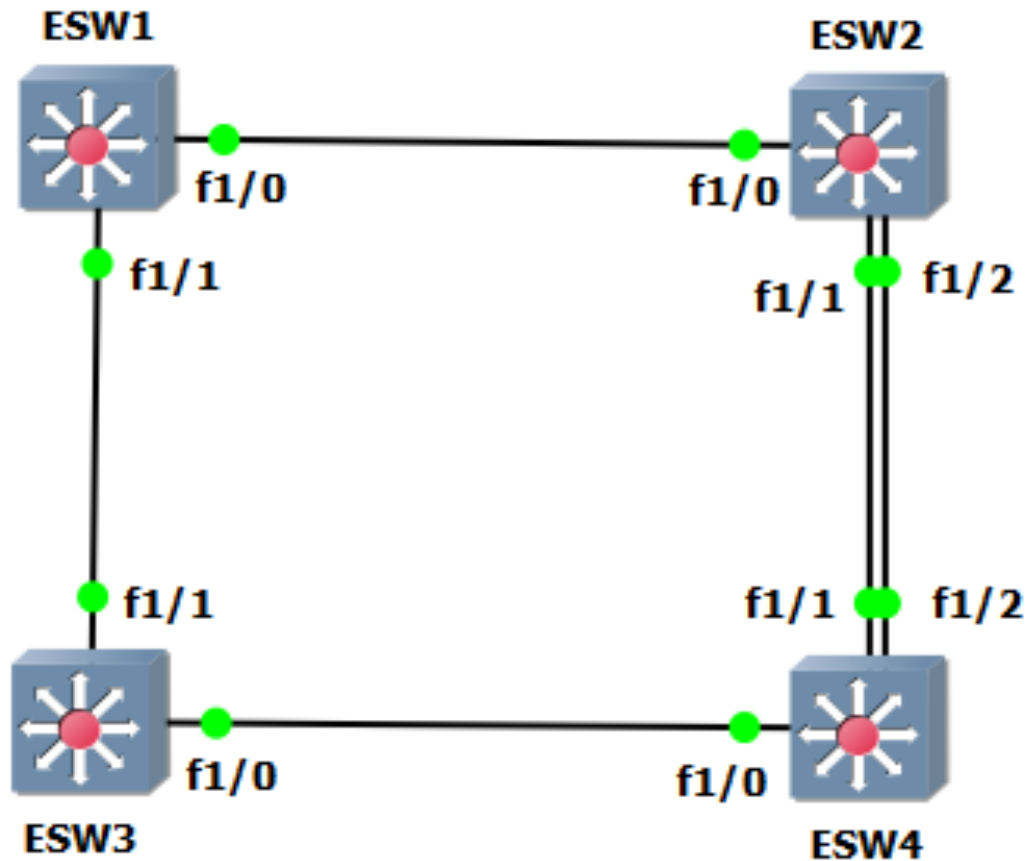
# STP LAB

## Lab Activity



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# Topology



# Task 0: Troubleshooting Basics

# Verification

- show vlan-switch
- show interface trunk
- show spanning-tree vlan <number>
- show spanning-tree brief
- show spanning-tree

# Task 1: Basic Configuration

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- Configure trunk ports.
- Create VLAN 10 and 20 on all switches.
- Who is the root bridge for VLAN 10 and why?
- For VLAN 10:
  - Make ESW1 as the root bridge and ESW2 as backup. Do not use the **priority** command.
- For VLAN 20:
  - Make ESW2 as the root bridge and ESW1 as backup. Do not use the **spanning-tree root** command.

# Example: ESW1

```
int range fa1/0 - 1  
    switchport mode trunk
```

```
vlan 10  
vlan 20
```

## Task 2: STP Configuration



# Task 2: STP Configuration

- Who is the root bridge for VLAN 10 and why?  
`show spanning-tree brief`  
`show spanning-tree vlan 10`
- For VLAN 10:
  - Make ESW1 as the root bridge and ESW2 as backup. Do not use the **priority** command.
- For VLAN 20:
  - Make ESW2 as the root bridge and ESW1 as backup. Do not use the **spanning-tree root** command.

# Example: ESW1

```
spanning-tree vlan 10 root primary  
spanning-tree vlan 20 priority 16384
```

## Task 3: STP Tuning

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- Set the hello timer 3 seconds and forward timer 10 seconds on all switches for VLAN 10.
- Configure ESW4 so that ESW4's Fa 1/1 is not used to reach the root bridge in VLAN 10 without shutdown the interfaces. Do not change the **port-priority** of any interface.
- Configure ESW2 so that Fa 1/2 is used to reach the root bridge in VLAN 20. Do not change the **cost** of any interface.
- Configure Fa f1/4 in ESW2 so that it goes to forwarding mode immediately if any workstation is connected to it.

# Example

## **ESW2:**

```
spanning-tree vlan 10 hello-time 3
spanning-tree vlan 10 forward-time 10
int fa1/2
    spanning-tree vlan 20 port-priority 64
int fa1/4
    spanning-tree portfast
```

## **ESW4:**

```
spanning-tree vlan 10 hello-time 3
spanning-tree vlan 10 forward-time 10
int fa1/1
    spanning-tree vlan 10 cost 100
```

# Question?