P7(Packet Tracer - Layer 2 Security Topology)

Part 1: Configure Root Bridge

Type the following command in CLI mode of Multilayer Switch0, to check which is the Root bridge

```
Switch>enable
Switch#show spanning-tree

Switch#
Switch#configure terminal
Switch(config)#spanning-tree vlan 1 root primary
Switch(config)#do show spann
```

Now, we have made the Multilayer Switch0 as the Root Bridge.

But we also need to remove the Switch2 from Root Bridge. For that open the CLI mode of Switch2 and type the following code.

```
Switch2#configure terminal
Switch2(config)#spanning-tree vlan 1 root secondary
Switch2(config)#do show span
```

Thus, we have successfully made the central (Multilayer Switch0) as the Root Bridge.

Part 2: Protect Against STP Attacks

Open CLI mode of Switch a and type the following command

```
Switcha>enable
Switcha#configure termial
Switcha(config)#interface range fastEthernet 0/1-2
Switcha(config-if-range)#switchport mode access
Switcha(config-if-range)#spanning-tree portfast
Switcha(config-if-range)#spanning-tree bpduguard enable
```

Now minimize the Switch a window and open the Switch b CLI mode and type the same command

```
Switchb>enable
Switchb#configure termial
Switchb(config)#interface range fastEthernet 0/1-2
Switchb(config-if-range)#switchport mode access
Switchb(config-if-range)#spanning-tree portfast
Switchb(config-if-range)#spanning-tree bpduguard enable
```

Now minimize the Switch b window and open the Switch 1 CLI mode and type the following command

```
Switch1>enable
Switch1#configure terminal
Switch1(config)#interface range fastEthernet 0/23-24
Switch1(config-if-range)#spanning-tree guard root
```

Now minimize the Switch 1 window and open the Switch 2 CLI mode and type the same command

```
Switch2>enable
Switch2#configure terminal
Switch2(config)#interface range fastEthernet 0/23-24
Switch2(config-if-range)#spanning-tree guard root
```

Thus, we have Protected all the switch against STP Attacks.

Part 3: Configure Port Security and Disable unsed ports

Open CLI mode of Switch a and type the following command

```
Switcha(config-if-range)#switchport port-security
Switcha(config-if-range)#switchport port-security maximum 2
Switcha(config-if-range)#switchport port-security mac-address sticky
Switcha(config-if-range)#switchport port-security violation shutdown
```

Now minimize the Switch a window and open the Switch b CLI mode and type the same command

```
Switchb(config-if-range)#switchport port-security
Switchb(config-if-range)#switchport port-security maximum 2
Switchb(config-if-range)#switchport port-security mac-address sticky
Switchb(config-if-range)#switchport port-security violation shutdown
```

Now let us check if the security is enabled or not. Open CLI mode of Switch a and type the following

```
Switcha(config-if-range)# CTRL Z
Switcha#show port-security interface f0/1
```

Let us now disable all the unused ports in switch a and switch b.

Open the CLI mode of Switch a and type the following command

```
Switcha#enable
Switcha#configure terminal
Switcha(config)#interface range fastEthernet 0/3-22
Switcha(config-if-range)#shutdown
```

Open the CLI mode of Switch b and type the following command

```
Switchb#enable
Switchb#configure terminal
Switchb(config)#interface range fastEthernet 0/3-22
Switchb(config-if-range)#shutdown
```

Thus, Port Security is enabled and all the unsed ports are disabled.