

## Interview Questions and Answers On Spanning Tree Protocol

Spanning Tree Protocol (STP) is a network protocol which make sure of loop-free topology for any bridged Ethernet local area network. This protocol also allows a network design to include redundant links for providing automatic backup paths. STP is employed for the prevention of bridge loops and the broad cast radiation of them. Here in this post some important Interview Questions and Answers on spanning tree protocol are mentioned, which will help students specially Computer Science for betterment in their examinations and also it will help for interviews.

### **1. What is Spanning tree ?**

Answer: It is the protocol which is used in switching network to create a loop free topology. STP is enabled by default on every VLANs on Catalyst switches. STP switches send BPDUs to each other to form their topology databases. BPDUs are sent out every ports every two seconds, which are forwarded to a specific MAC multicast address.

### **2. What is non-designated port?**

Answer: A non-designated port is the port with a higher cost rather than the designated port. In blocking mode non designated ports are put. These are not used as forwarding ports.

### **3. STP Learning Port States :**

Answer: The switch port hears to BPDUs and learns all the paths in the network of switched. A port in learning state is also populates the MAC address table but it doesn't forward data frames. Forward delay takes the time it takes to transition a port from listening to learning mode, which is set to by default 15 seconds and can be seen in the show spanning p-tree output.

### **4. What is the use of Spanning Tree Protocol (STP)?**

Answer: Spanning Tree Protocol has the protocol is to prevent Layer 2 switching loop and to broadcast storms in a Local Area Network. The STP allows redundant links in a network for preventing complete network failure if an active link fails, without the danger of Layer two Switching loops.

### **5. Types of Bridge Protocol data units (BPDU).**

Answer: Three types of Bridge Protocol Data Units are Configuration BPDU ,Topology Change Notification BPDU and Topology Change Notification Acknowledgment.

### **6.What is the purpose of STA and BPDU ?**

Answer: The main purpose of the BPDU and the Spanning Tree Algorithm is to avoid Layer 2 Switching loops and Broadcast storms.

### **7. What is path cost?**

Answer: It is an arbitrary value, based on bandwidth, hop count, or another calculation, that is totally assigned by a network administrator and used by the routing protocol to compare different routes by an inter network. Protocols of Routing use cost values to select the best path to a destination. The minimum cost identifies the best path. It is also known as path cost.

### **8.What is UDLD and why it is required?**

Answer: UDLD is a Layer 2 protocol that enables devices connected through fiber-optic or twisted-pair Ethernet cables to monitor the physical configuration of the cables and detect when an unidirectional link exists. All connected devices supports UDLD for the protocol to successfully identify and disable the unidirectional links. When UDLD detects an unidirectional link, it shuts down the affected port and alerts us. Unidirectional links causes a variety of problems, including ST topology loops.

### **9. Explain about three functions of a Switch .**

Answer: There are three functions of layer 2 switching : address learning, forward decisions, and loop avoidance.

Address learning :

Layer 2 bridges and switches remember the source hardware address of every frame received on the interface, and then they enter this information to a MAC database called a forward/filter table.

Forward/filter decisions :

When a frame is received on the interface, the switch looks at the destination hardware address and finds the exit interface in the MAC database. The frame is forwarded out the specified destination port.

Loop avoidance :

If multiple connections between switches are created only for redundancy purposes, network loops occurs. SPT is used to stop network loops while still permitting redundancy.

### **10. Define Root bridge.**

Answer: The root bridge is the bridge having the best bridge id. With spanning tree protocol, the key is for all the switches in the network to elect a root bridge that becomes the focal point in the network. All other decisions in the network i.e which port is to be blocked and which port is to be put in forwarding mode are made from the perspective of this root bridge.