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# How STP Works

- 1- Elect a root bridge:** The switch with the lowest BID (1- Priority, 2- MAC Address)
- 2- Elect a root port for each switch except the RB:** The port that has the lowest cost path to the root bridge (Highest Bandwidth & Lowest number of links)
  - If a switch has multiple equal cost paths to the RB, it will select the path with the lowest neighbour's BID
  - If it is connected directly to the RB or has multiple links connected to that neighbour, it will select the lowest Port ID (Example of Port ID: Fa0/1)
- 3- All the ports that are opposite the root ports and all the root bridge's ports will be designated ports**
- 4- Elect a designated port for each remaining link:** The switch that has the lowest cost path to the root bridge
  - If both switches have the same cost path, it will select the switch with lowest BID.
- 5- All the other ports will be alternate ports (Blocking state)**