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Discover Your Future

IT2050-Computer Networks

Tutorial 06- Switch Basics & Switch security

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FACULTY OF COMPUTING

1. Show how you can go to the global configuration mode of the switch from the user EXEC mode.

```
Switch>enable
Switch #configure terminal
Switch(config)#
```

2. Why a switch needs an IP address?

For management Purposes For unique Identification

Remote accessing via Telnet /SSH

3. What is the command to examine the addresses that a switch has learned?

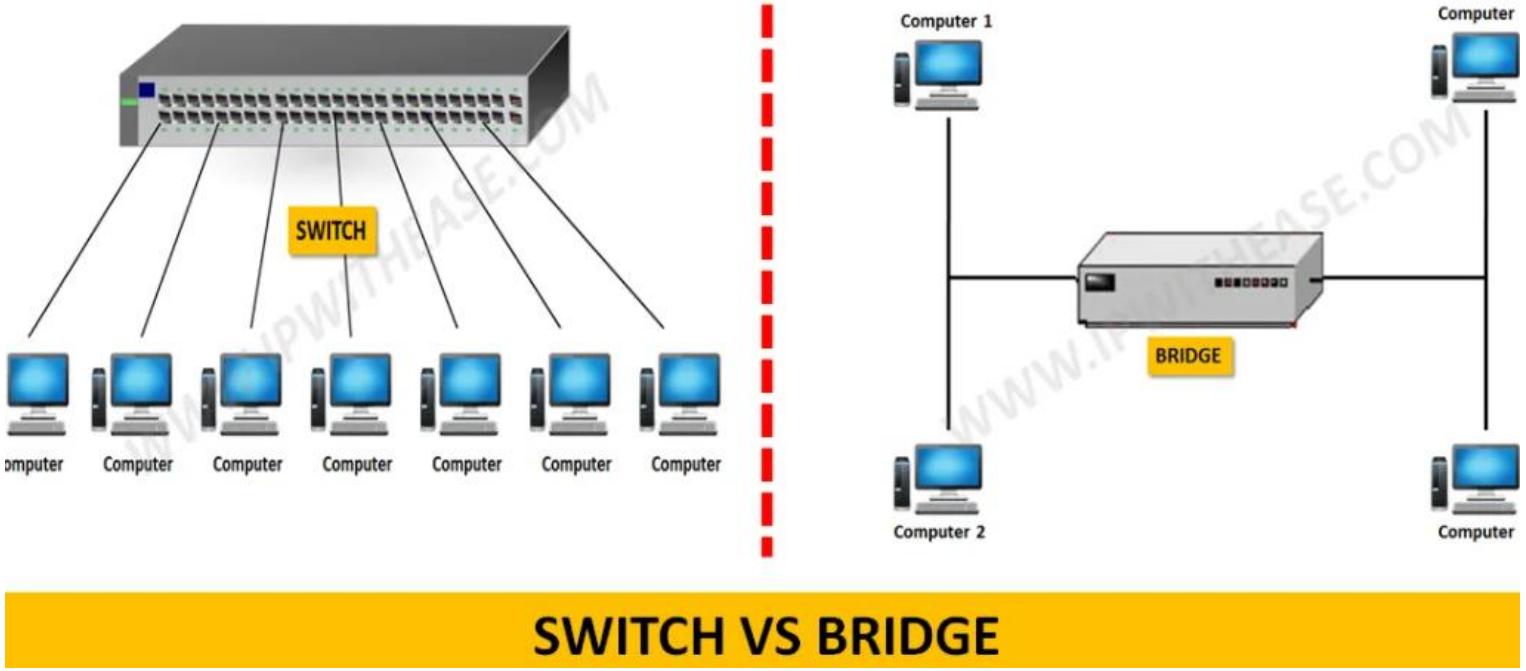
Switch# show mac-address-table

4. What can the ‘port security’ feature do?

Enable / activate security functions to the switch per port basis

5. Out of these devices what is more likely to act as a multi-port bridge?

a) Router
b) Switch
c) Hub
d) Repeater
e) Transceiver



b) Switch

6. Explain the Frame Transmission Modes.

Switching Method	Description
Store-and-forward	The switch fully receives all bits in the frame (store) before forwarding the frame (forward). This allows the switch to check the FCS before forwarding the frame.
Cut-through	The switch forwards the frame as soon as it can. This reduces latency but does not allow the switch to discard frames that fail the FCS check.
Fragment-free	The switch forwards the frame after receiving the first 64 bytes of the frame, thereby avoiding forwarding frames that were errored due to a collision.

What is the fastest mode?

Cut – through Method

What is the most accurate?

Store and forward Method

7. Briefly describe the functions of switches.

- Address Learning
- Making forwarding and filtering decisions for incoming and outgoing frames
- Loop avoidance

8. State 5 factors to be considered when purchasing switches.

a)Cost

Speed and #of Interfaces , Supported Features

Expansion Capability

b) Port Density

#of devices on the Network

c) Power

Power access points , PoE , Redundant Power Supply

d) Reliability

24/7 Continues access

e) Port Speed

Ethernet , FastEthernet , GigabitEthernet

f) Scalability

Network growth

9. Describe about Stackable Configuration Switches

Stackable configuration switches can be interconnected using a special cable that provides high-bandwidth throughput between the switches, Cisco Stack Wise technology allows the interconnection of up to nine switches

10. State the best practices of applying security for switches.

- Configure permanent devices MAC addresses to the switch as static MAC addresses.
- Shutdown unused ports.
- Apply passwords
- Limit the number of devices to be connected
- Configure a security violation action