

Explain the concept of VLANs (Virtual LANs) and how they are used to segment networks.

Answer: VLANs are used as a concept rather than physically. You can have a switch/ router and have a VLAN on the same network, You are just segmenting the network.

What is the advantage of VLANs in terms of network management and security?

Answer: It improves security because you can terminate the segments as needed if there a security breach.

What is QoS (Quality of Service) in networking, and why is it important? Describe the methods and techniques used to implement QoS for network traffic prioritization.

Answer: Quality of Service is basically allocating resources of the network to a particular service. So if you want it to be dedicated to one particular machine over another.

Discuss the differences between stateful and stateless firewalls. What advantages and limitations do each type of firewall have, and in what scenarios would you choose one over the other?

Answer: Stateful firewalls keep track of active connections where stateless do not. Stateful also have the ability to inspect and filter traffic at the application layer, and stateless does not. You would choose the stateful firewall over stateless when you are protecting a larger network and security monitoring is more of a concern.