

Networking Interview Questions

By
Shivprasad Koirala

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Chapter 1: Basics

- Can you define protocol?
- Can you explain the concept of OSI layer?
- Can you explain the different layers in OSI model?
- Can you explain Application layer in OSI model?
- Can you explain Presentation layer in OSI model?
- Is it compulsory that compression, encryption and translation functions will be used during communication?
- Can you explain Session layer in OSI model?
- What's the concept of Simplex, Half Duplex and Full Duplex dialogs?
- What are the different types of dialogs in Session layer?
- Can you explain Transport layer in OSI model?

- Can you explain the concept of Congestion?
- Can you explain Network Layer?
- Can you explain Data link Layer?
- Can you explain the Physical layer?
- Can you explain what an IP address is?
- How to convert Decimal to Binary?
- How many IP addresses can come in IPV4?
- Can you explain the concept of Unicast IP address?
- Can you explain the concept of IP multicasting or multicast IP address?
- How many different types of subnet classful networks are present?
- What are the IP address ranges for public and private IP address?
- Why do we need class and how many different types of class exists?
- How are the IP addresses distributed between different classes?
- Can you explain what is classful IP addressing?
- Can you explain the concept of subnetting?
- What are the advantages of using subnetting?
- If the host has the subnet ID why do we need a subnet mask?
- How is network address calculated from the subnet?
- What is the advantage of using classless addressing over classful addressing scheme?
- Can you explain the concept of CIDR?
- Twist: - Can you explain superneting?
- Can you explain concept of custom subnetting?
- What is the implication of increasing and decreasing subnet Bits?
- Why do we need to subtract two from number of hosts?
- Can you explain the concept of VLSM?
- Can you explain IP packet in detail?

Chapter 2: Routers

- Can you explain the concept of DPU, Segments, Datagram, Frame and packet?
- What is IP datagram fragmentation and MTU?
- Can you explain in detail with example how data fragmentation works?
- Larger the IP datagram less the overhead, is it true or false?
- What is the minimum size of MTU bytes?
- Can you explain how optimal MTU size is calculated?
- How does the IP message finally reassemble?
- Can you explain the concept of Repeaters, Hubs, Bridges, Switches and Routers?
- On what layers do router, switches, bridges and hubs operate?
- Can you explain the concept of Layer 3 switches?
- What are CSU, DSU and TSU?
- What are the basic components of the router?
- Can you explain the WAN and LAN Interface in Routers?
- What are DB-15, DB-60 and RJ-45 in CISCO routers?
- Can you explain the concept of TTL?
- What is the concept of ICMP packets?

- Which operating system does CISCO have?
- Can you explain the concept of NAT?
- How is NAT implemented?
- Can you explain how actually NAT works?
- Why does collision occur in HUBS and repeaters?
- Can you explain the concept of Collision domain?
- What is the concept of routing tables?
- What is the use of route print?
- Can you explain how in detail how routing table looks like?
- How can you see route tables on the router?
- Can you explain the concept of static and dynamic routing?
- When to use Static routes and dynamic routes?
- How do you configure static routes on a router?
- Can you explain static default routes?
- What is the advantage of using Static default routes?
- Why do workstations have route tables?
- What is the concept of gateway of last resort?
- Can you explain the concept of routing protocol?
- What activities does routing protocol perform?
- What metrics are used by routing protocols to determine the best path?
- Can you explain what is interior and exterior routing protocols?
- Can you explain the concept of intradomain and interdomain routing protocols?
- Can you explain the concept of internet work and intranet work routing protocols?
- Which method does routing protocol use to determine shortest path?
- What is distance vector routing protocol?
- How do routers share information in Distance Vector routing?
- What is the main issue with routing by rumor?
- Can you explain the count-to-infinity problem in distance vector?
- How is metric or the cost calculated for Distance Vector routing protocol?
- What is the main issue with hop count metric issue?
- Can you explain how Link-State routing protocols work?
- Can you explain the concept of broad cast and multi-cast?
- Can you tell which protocols falls in Distance vector and which in Link-State?
- What's the difference between distance vector and link-state protocol?
- Can you explain difference between Single path and Multipath?
- Can you explain route summarization?
- How are the series of IP combined in to one route path in route summarization?
- Can you explain RIP protocol?
- How is route table populated by RIP protocol?
- Can you explain convergence in networks?
- Can you explain RIP timers in detail?
- Can you explain routing loop issue in RIP protocol?
- How do we avoid routing loop issue in RIP?
- In RIP why do we have HOP count of 15?

- How do we disable auto-summarization in RIP?
- Can you explain IGRP?
- How does IGRP work?
- How many timers does IGRP have?
- How does IGRP calculate metric?
- Can multiple instance of IGRP run on one physical router?
- How is load balancing done in IGRP?
- What's the command to configure IGRP?
- Can you explain EIGRP?
- What does neighbor terminology mean in EIGRP?
- What are different types of packets in EIGRP?
- How does EIGRP protocol update route information to its neighbors?
- What is the concept of successor in EIGRP?
- What is DUAL in EIGRP?
- Can you explain reported distance (RD), feasibility distance (FD) and Feasibility condition (FC)?
- Can you explain the concept of successor and feasible successor?
- Can you explain passive and active route states?
- What is SIA or stuck in active?
- How do packets and timers in EIGRP work?
- What are the different tables used in EIGRP?
- Can you explain EIGRP metrics?
- Can you explain how EIGRP finds its successor and feasible successor?
- Can you explain Active and Passive route?
- Can you explain OSPF?
- How does OSPF populate route table?
- What are the different tables in OSPF?
- Can you explain different areas in OSPF?
- Can you explain different router types in OSPF?
- Can you explain Designated Router and Backup designated router?
- Can you explain different router states in OSPF?
- Can you explain different OSPF packet types?
- What are the different types of OSPF timers?
- How SPF algorithm does the route determination?
- Can you explain autonomous system?
- What are different types of dynamic protocols?
- Can you explain autonomous numbers in EGP?
- What is BGP?
- What is the concept of BGP speakers and Peers?
- What is EBGP and IBGP?
- What is RIB?
- Can you explain the concept of BGP confederations?
- What are BGP path attributes?
- What is the concept of NLRI?

- How are routing neighbors discovered in BGP?
- Can you explain how BGP does the decision process?
- What is the concept of redistribution?
- Can you explain the concept of one way redistribution and mutual distribution?
- How does metric translation takes place in redistributing routes?

Chapter 3: Firewall

- Can you define what a FIREWALL is?
- What are the different types of firewalls?
- Can you explain packet filtering firewall?
- Can you explain circuit level gateway?
- Can you explain stateful inspection?
- What is Application Gateway?
- Is NAT a firewall?
- Are personal firewall actually firewalls?
- Can you explain the concept of demilitarized zone?
- What is the meaning of bastion host?
- What are the different types of firewall architectures?
- Can you explain dual home architecture?
- Can you explain screened host architecture?
- Can you explain screened subnet architecture?
- What is the use of perimeter area?
- What is IP spoofing and how can it be prevented?
- Which firewall have you worked with?

Chapter 4: VPN

- Can you explain the difference between trusted and untrusted networks?
- Can you define in short what VPN is?
- What are the different types of VPN?
- What requirements should a VPN fulfill?
- How many ways are there to implement VPN architecture?
- What are the different ways authentication mechanism in VPN?
- Can you explain the basic of encryption in VPN?
- What's the difference between Symmetric and Asymmetric cryptosystem?
- What are the different symmetric algorithms?
- What are the disadvantages of symmetric algorithms?
- What are the different asymmetric algorithms?
- Can you explain different components in PKI?
- What is a digital certificate?
- Can you explain tunneling?
- What is the concept of HA and FA in VPN tunneling?
- Can you explain VPN tunneled packet in detail?
- Can you explain voluntary and compulsory tunnels?
- Can you explain static and dynamic tunnels?
- Can you explain encapsulating, carrier and passenger protocol?

- On which layer does L2F, PPTP and L2TP operate?
- Can you explain PPP protocol?
- Can you explain PPP link process step by step?
- Can you explain PPP packet format?
- How does PPP use LCP for link control?
- Can you explain PPTP (Point-to-Point Tunneling Protocol)?
- What is GRE in PPTP?
- How does PPTP encapsulate data?
- Can you explain CHAP?
- Can you explain PAP?
- What does PPTP use for encryption and authentication?
- What is a L2F protocol?
- Can you explain the broader steps of how L2F establishes the tunnel?
- Can you explain how L2F data tunneling process works?
- How do we do encryption and authentication in L2F?
- Can you explain L2TP?
- Can you define LAC and LNS?
- How does L2TP process?
- How do we do encryption and authentication in L2TP?
- Can you explain what IPsec is?
- Can you give an overview of various components in IPsec?
- In IPsec what is SAD, SPD and SA's?
- Can you explain in a generic manner the packet of IPsec?
- Can you describe the Authentication Header (AH) Protocol?
- What is ESP (Encapsulating Security Payload)?
- What is Transport and Tunnel mode?
- Can you explain IKE (Internet Key Exchange)?
- Can you explain IKE phases?
- Can you explain IKE modes?
- Can you explain transport and tunnel mode in detail with datagram packets?

Chapter 5: Protocols and other questions

- What is NetBIOS protocol?
- Can you explain what the use of IGMP Protocol is?
- What are the different types of host in multicasting?
- Can you explain Ping and Tracert?
- How do you continuously ping an IP Address?
- How does Tracert actually work?
- What is the use of RTP and RTCP Protocol?
- Can you explain RTP in Detail?
- Can you explain RTP multiplexing in detail?
- Can you explain format of RTP and RTCP packets?
- Can you explain RSVP?
- Can you explain in detail how RSVP actually works?

- Can you explain RPC (Remote Procedure Calls)?
- Can you explain the RPC and Client server Architecture?
- Can you explain TCP IP Protocol?
- Can you explain the architecture of TCP IP Protocol?
- Can you explain TCP header in detail?
- Can you explain IP protocol?
- Can you explain the concept of CDMA?
- Can you explain the concept of DHCP?
- How does DHCP work?
- How can we configure DHCP?
- What is DNS?
- How do we control USB through a network?
- What is the difference between Windows 2000 and Windows 2003?
- What is a difference between a domain and workgroup?