

Key Networking Topics for Cloud & DevOps Engineers!



OSI Model & TCP/IP Model

1. Understanding of the OSI and TCP/IP layers.
2. Role of protocols like TCP, UDP, IP, and ICMP.

IP Addressing & Subnetting

1. IPv4 and IPv6 addressing
2. Subnetting and CIDR notation
3. Public vs Private IP addressing

DNS (Domain Name System)

1. How DNS works
2. DNS records like A, CNAME, MX, TXT
3. DNS resolution process

VPC (Virtual Private Cloud) & Networking in the Cloud

1. VPC setup in AWS, Azure, and GCP
2. Subnets, route tables, and internet gateways
3. NAT gateways, peering, and transit gateways
4. Security groups and Network ACLs (Access Control Lists)

Load Balancing

1. Types of load balancers: Layer 4 (Network) vs Layer 7 (Application)
2. AWS ELB, Azure Load Balancer, GCP Load Balancer
3. Round-robin, sticky sessions, and SSL termination

VPN (Virtual Private Network)

1. Site-to-Site VPN and Client VPN
2. IPSec and SSL VPN
3. VPN setup in cloud environments

Firewalls and Security

1. Network firewalls and host-based firewalls
2. AWS Security Groups, Azure NSGs, GCP Firewalls
3. Stateful vs Stateless firewalls

Routing & Switching

1. Static vs Dynamic routing
2. Common routing protocols like OSPF, BGP
3. VLANs, ARP, and switching fundamentals

Network Performance & Troubleshooting

1. Latency, bandwidth, and throughput
2. Tools like Ping, Traceroute, Netstat, and Tcpdump
3. Monitoring tools like Wireshark, Prometheus, and Grafana

Load Balancing & Autoscaling

1. Horizontal vs Vertical Scaling
2. Cloud-native autoscaling services like AWS Auto Scaling, Azure VM Scale Sets, GCP Autoscaler

Container Networking

1. Docker Networking (bridge, host, none, and overlay)
2. Kubernetes Networking (CNI plugins like calico, flannel)
3. Service mesh technologies like istio and Linkerd

CDN (Content Delivery Network)

1. How CDNs work to distribute content
2. Services like AWS CloudFront, Azure CDN, GCP CDN

DNS Management in Cloud

1. AWS Route 53, DNS Azure, GCP Cloud DNS
2. Geolocation-based routing and failover mechanisms

Network Security

1. Encryption protocols like TLS/SSL, IPSec
2. DDoS protection and WAF (Web Application Firewall)
3. Cloud-native tools like AWS shield, Azure DDoS protection

Note: - By mastering these topics, you will have the foundational networking knowledge required for Cloud platforms and DevOps practices.

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Keep Learning & Keep Growing!