**AWS VPC - ASSIGNMENT**

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1. **What is the difference between the B/w Stateful set and the Stateless set?**

**Stateful**: Any changes applied to an inbound rule will be automatically applied to the outbound rule

Security groups are stateful: This means any changes applied to an incoming rule will be automatically applied to the outgoing rule. e.g. If you allow an incoming port 80, the outgoing port 80 will be automatically opened.

**Stateless**: This means that responses to allowed inbound traffic are subject to the rules for outbound traffic (and vice versa).

Network ACLs are stateless because it has separate inbound and outbound rules, and each rule can either allow or deny traffic.

**2) What is the VPC endpoint in AWS?**

A VPC endpoint enables connections between a virtual private cloud (VPC) and support services, without requiring that you use an internet gateway, NAT device, VPN connection, or AWS Direct Connect connection.

**Types :**

1. **Interface endpoints:** An interface endpoint is an elastic network interface with a private IP address from the IP address range of your subnet.

* It serves as an entry point for traffic destined to a service that is owned by AWS or owned by an AWS customer or partner.

1. **Gateway Load Balancer endpoint**: A Gateway Load Balancer endpoint is an elastic network interface with a private IP address from the IP address range of your subnet.

* You are billed for hourly usage and data processing charges.

1. **Gateway endpoints**: A gateway endpoint is a gateway that is a target for a route in your route table used for traffic destined to either Amazon S3 or DynamoDB.

There is no charge for using gateway endpoints.

**3) What is Transit Gateway in AWS?**

A transit gateway is a network transit hub that you can use to interconnect your virtual private clouds (VPCs) and on-premises networks.

**4)What is the customer gateway in AWS?**

A customer gateway is a resource that you create in AWS that represents the customer gateway device in your on-premises network.

**5)What is Virtual Private Gateway in AWS?**

A virtual private gateway is a logical, fully redundant distributed edge routing function that sits at the edge of your VPC.

**VPN connection:** A secure connection between your on-premises equipment and your VPCs.

**6)What is a site-to-site VPN connection AWS?**

AWS Site-to-Site VPN is a fully-managed service that creates a secure connection between your data center or branch office and your AWS resources using IP Security (IPSec) tunnels.

**7) What is the client VPN endpoint in AWS?**

AWS Client VPN is a managed client-based VPN service that enables you to securely access your AWS resources and resources in your on-premises network. With Client VPN, you can access your resources from any location using an OpenVPN-based VPN client.