**VPC & NETWORK**

* The default security group has been configured to allow no inbound traffic and allow all outbound traffic.
* Sec Grp: Permit rules only, NACL: Assigned permit and deny rule
* Sec Grp: 2nd line of defence, NACL: 1st line of defence
* NAT Instance; in public subnet and work as bastion host to private subnet

NAT Gateway; Mange by AWS and use Elastic IP

* Free: VPC, Route table, NACLs, S.G, Int.Gateway,VPC peerings

Cost: Nat Gateway, Nat Instance, VPN Gateway, Customer gateway

* Each subnet associated one route table but route table can assigned multiple subnet
* AWS Private Link: Connectivity b/w VPC, AWS Services, on premise applications

NOTE: Classic Link about old platform, if you see in any iption is wrong

* VPC Endpoints connect AWS Services (S3, DynamoDB) without internet connection.
* Direct Connect: Connection Customer’s on premise to AWS with private network.
* Direct Connect Gateway; Interface VPCs of AWS regions
* VPC Peering is used to connect multiple VPCs

**Egress-only Internet gateway** is a VPC component that allows outbound communication over IPv6

* You cannot assign static MAC Address to EC2 Server, if the server will restart, it will also change,

server to be MAC Dependent, you must use VPC with an ENI (Elastic Network Interface)

* What is carrier gateway in AWS?

A carrier gateway serves two purposes. It allows inbound traffic from a carrier network in a specific location, and it allows outbound traffic to the carrier network and the internet. There is no inbound connection configuration from the internet to a Wavelength Zone through the carrier gateway.

* What is site-to-site VPN in 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.

* What is client VPN AWS?

AWS Client VPN is a new managed service that provides you with the ability to securely access your AWS and on-premises networks from anywhere, using OpenVPN-based clients. ... With AWS Client VPN, you can now provide highly available and secure VPN access to all your employees regardless of their location.

* For the communication between EC2-Classic instance and resources in VPC, ClassicLink should be used.

 PrivateLink is used for resources within the VPC.