Highly Available and Elastic Architecture

- **High availability architecture/system** means a system which ensures optimal operational performance, even at times of **high** loads.

- **Elastic Architecture means** the ability of an system to resume its normal state after failure or stretching(scale-in) or compression(scale-out).

VPC

- VPC stands for **V**irtual **P**rivate **C**loud, and in VPC we can create our own **SECURE** virtual cloud infrastructure, like Virtual Machines(EC2) , Database(RDS) ,Gateways, Firewalls (Security rules and routes), etc..

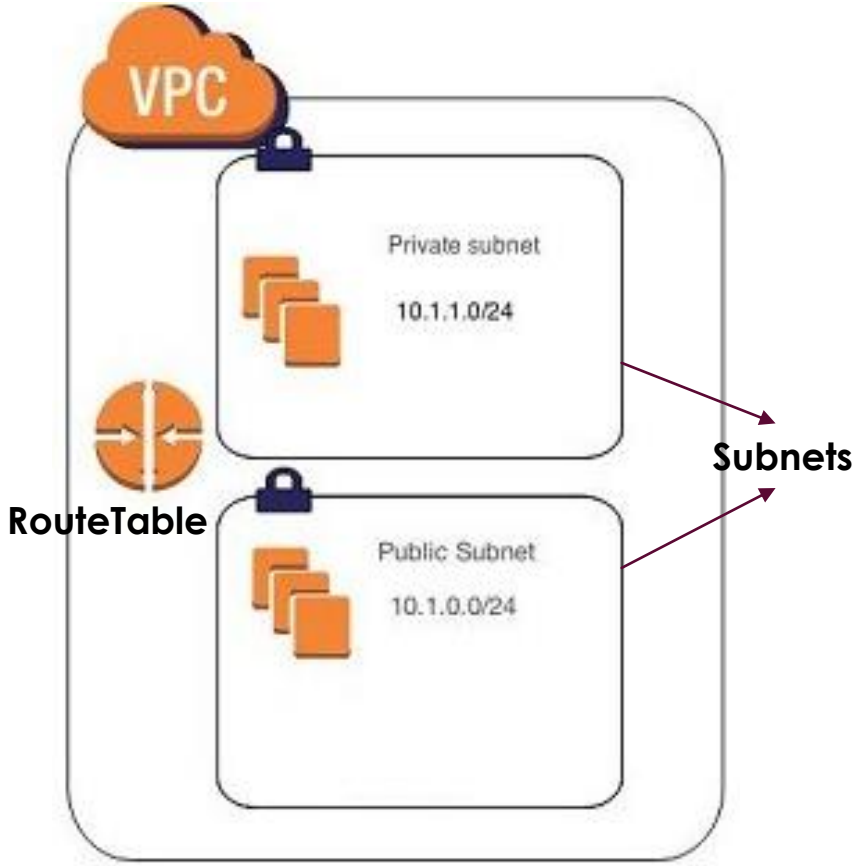
Subnets

- Its a smaller network within

the VPC where you can deploy your AWS resources.

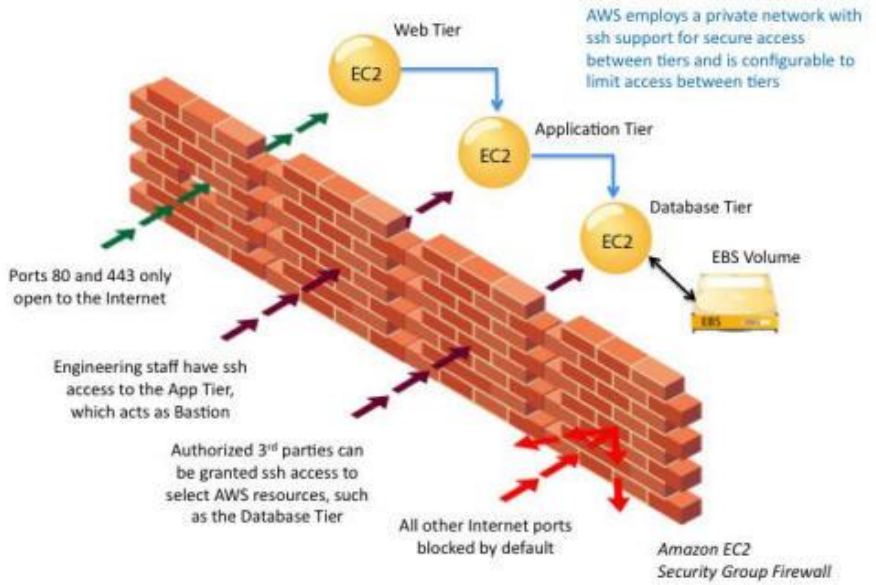
VPC = Subnet 1+ Subnet 2 + ...so on .

A minimum of 1 subnet exists in a VPC.



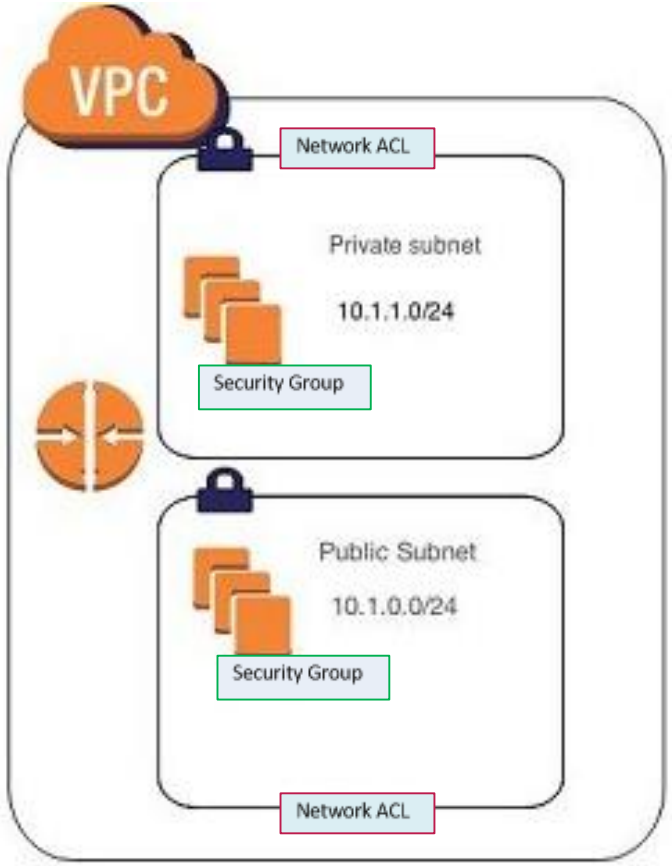
Security Groups(SGs) and Network Access Control Lists(NACLs)

- FIREWALLS
- Guard VPC's , Subnets and resources from undesirable access ,providing security, and ability to configure inbound and outbound rules.



Security Groups(SGs) and Network Access Control Lists(NACLs)

- SG's ==> for Resources
- NACL's ==> for SNs.



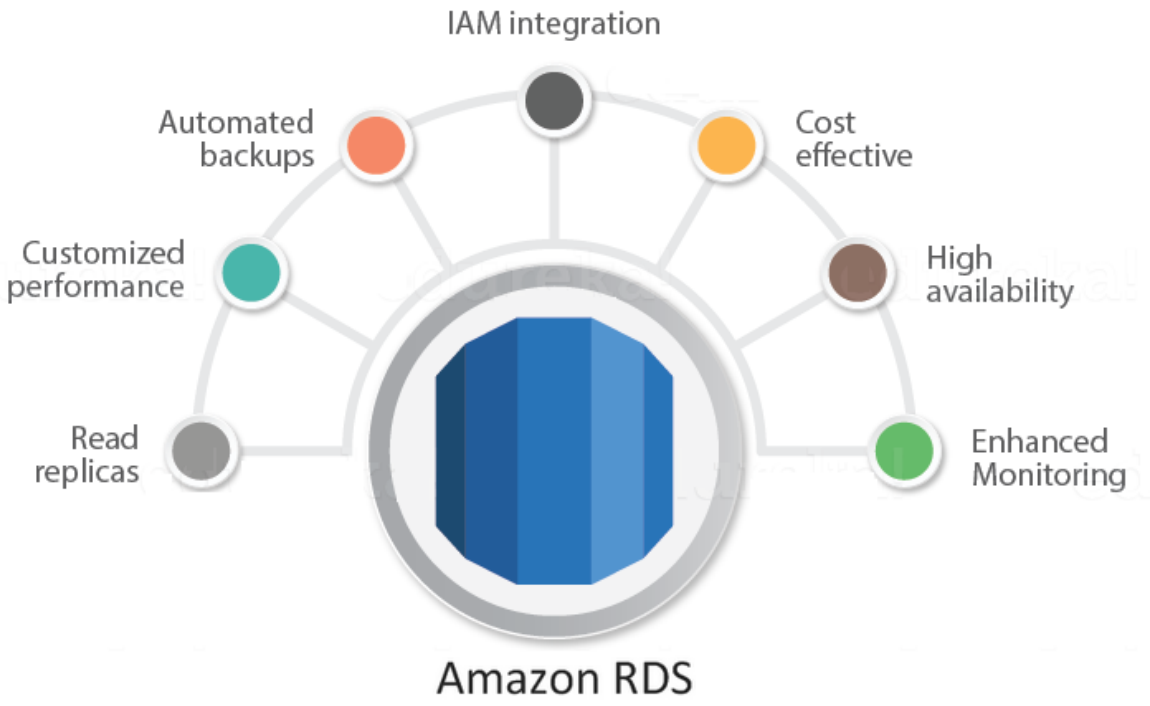
Elastic Compute Cloud(EC2)

- A machine in cloud, more precisely a virtual machine (CPU + Memory + Processor + Disk)
- The beauty of EC2 is you can launch VMs on demand, stop , start ,reboot , terminate and change configuration on fly in few seconds or minutes.

Amazon EC2

Relational Database Service(RDS)

- Database on cloud, Highly available , with easy backup feature and can quickly recover from failures.
- Supported databases by AWS are , MYSQL , AuroraDB, SQL Server , Maraia DB , Oracle..etc..

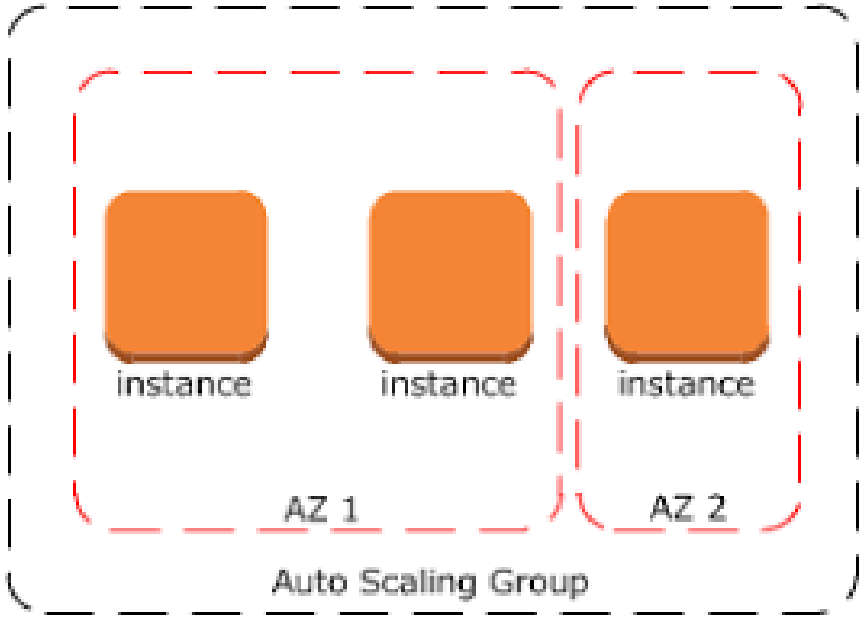


Autocasling

- **Auto**(matically) + **Scale**(in or out) > VMs.

Also you can associate it with VM(EC2) metrics to scale in and out too.

Policy creations , notifications, logs..etc.. are some of the features supported.

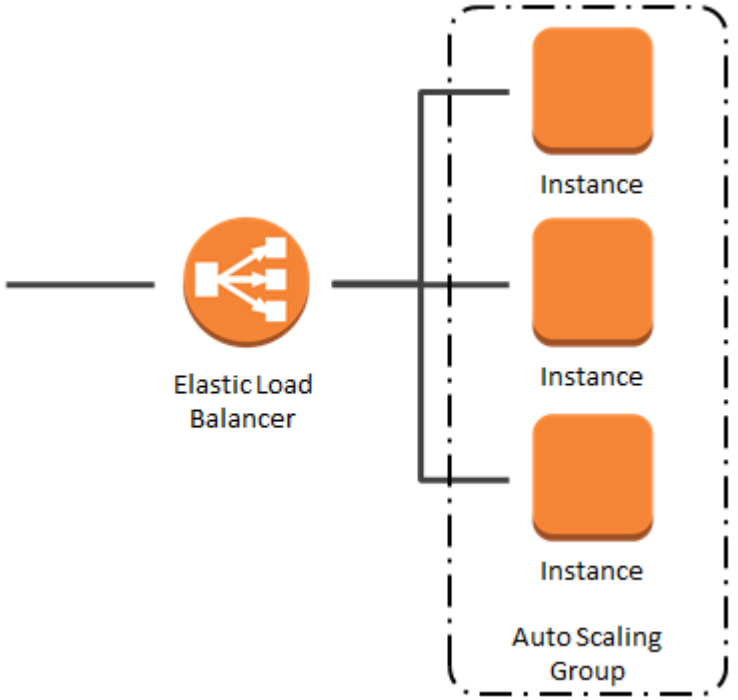


Elastic Load Balance(ELB)

- **Balancing load on VMs.**

One of the most brilliant services on AWS , 99.99% available and super fast. Features like health checks and works very well with Autoscaling.

External ELBs and internal ELBs.



What We're Going to Build