VPC — Virtual private cloud

Aws direct connect — magic doorway

$\Rightarrow$ Internet Gateway

$\Rightarrow$ The private connection that AWS Direct connect provides helps you to reduce network costs & increase the amount of bandwidth.

$\Rightarrow$ In a VPC, subnets are seperate areas that are used to group together resources.

$\Rightarrow$ subnet is a section of VPC.

* public subnets

* private "

$\Rightarrow$ The VPC component that checks packet permissions for subnets is a network access control list (ACL)

$\Rightarrow$ Network ACL — stateless — can't recognize packets — check the packets inbound & outbound

$\Rightarrow$ the VPC component that checks packet permissions for EC2 Instance is a security group.

$\Rightarrow$ Security groups — stateful — they remember previous decisions made for incoming packets.

* By default, SG denies all inbound traffic & allows all outbound tr.

* " ", NACl allows all " " & outbound traffic.

$\Rightarrow$ Route 53 AWS DNS

$\Rightarrow$ Amazon cloudFront — to store cached copies of your content at edge locations that are close to your customers.

pricing

on-demand

EC2 saving plans

Reserved instances 1/3

Spot instances — $\downarrow$ P

Dedicated Hosts — $\uparrow$ P

peak hours

192.0.2.0

⟹ Instance stores & Amazon Elastic Block store   EBS

↓

If local storage

EC2 is terminated, so Instance store gets cleared.
instance   volumes

⟹ EBS - snapshot - Incremental Backup

⟹ Amazon S3   - simple storage service - stores data
                                           as objects
S3 static website hosting   in buckets
S3 standard - Infrequent Access
S3 Glacier :- Archieve the data | 5TB max
                                          | object
S3 life cycle management | S3   size

- Amazon Elastic file System
Amazon relational database Service

- Amazon Aurora.

Dynamo DB — NOSQL

EX Prime day 2019 - 7.11 trillion calls to the Dynamo DB API

* DynamoDB is a key-value database service

Redshift - Datawarehousing as a service.

AWS cloudFormation :- It is a service that helps you model and set up your AWS resources so that you can spend less time managing those resources and more time focusing on your applications that run in AWS.

* You create a template that describes all the AWS resources that you want (like Amazon EC2 instances or Amazon RDS DB instances) and cloud formation takes care of provisioning and configuring those resources for you. You don't need to individually create and configure AWS resources and figure out what's dependent on what. CloudFormation handles that.

* CloudFormation template is a JSON or YAML Document

* AWS Elastic BeanStalk :- It is an application container for deploying & managing Apps.

* AWS ECS (Elastic container service) :- manage docker containers

* AWS Lambda :- (Serverless) operates when triggered.

* AWS KMS (key management service) is a service that combines secure, highly available hardware & software to provide a key management system scaled for the cloud.
⇒ For example, S3 uses AWS KMS keys to encrypt S3 objects

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* AWS shield :- DDOS Attack Protection
              Distributed denial of service

* AWS WAF :- web Application firewall : protects from CVE →
Common vulnerability Exposure, SQL Injection, CSS - Cross site steppig

* Amazon macie:- uses machine learning to protect ~~from~~ sensitive data in AWS by matching patterns.