**AWS**

1)Infrastructure provisioning

2)Cloud formation (infrastructure as a code)

3)CDK (cloud development kit) (python)

4)Terraform (Most focused)

5)CI/CD

**Types of Instances**

1) On demand instance

2)Reserved instance

3)Spot instance

**Global infrastructure: where physically your data get placed**

1)Region

2)Availability zone

3)Edge location

**CDN** (content delivery network)

The origin of data will be somewhere else but you will be get from edge location

1)Memory optimized

2)Storage optimized

3)Compute optimized

4)General Purpose

Encryption

1)Symmetric – one key -DES, AES etc

2)Asymmetric -two keys – public key, private key, RSA, Elliptic curve

Network Access Control List (NACL)

* VPC
* Subnet
* Ec2
* Application
* Internet gateway communication purpose

IAM is a global service mainly used for authentication and authorization

In AWS what are the global services available (IAM, route 53),6 pillars of Aws (Built around six pillars—**operational excellence, security, reliability, performance efficiency, cost optimization, and sustainability**)

**IAM**(Identity Access Management) **policy** (Json)

1)Identity based policy

2)Resource based policy

**Compute Service**

1)EC2

Dedicated instance and Dedicated host will not share their hardware, but Dedicated host entire physical machine will be given to you (high cost).

**AWS CLI**

**S3**

**VPC**

**3 types of storage**

Object storage (S3)

Block storage (EFS)

File storage (EBS)

**DevOps Practitioner**

* Compute service
* IAM
* Storage
* Container
* Integration service (SQS, SNS)
* Serverless service (API gateway, Lambda)
* Database service (RDS)
* Monitoring Service (cloud watch)
* Management and Governance service (system manger)
* Networking service (VPC, Load balancer, Autoscaling)

**DevOps professional**

* Code formation
* Code build
* System build
* CDKR

Difference b/w dedicated instance and dedicated host

**A Dedicated Instance is a virtual machine (like an Amazon EC2 instance) that runs on hardware dedicated to a single AWS customer account, but still shares the physical server with other instances from the same account. A Dedicated Host is a physical server that is entirely dedicated to a single AWS customer account, providing higher isolation and control over instance placement**

Purchase options

What is SaaS, PaaS and SaaS

What is placement group

**Keys in Json file**

Effect: Allow/Deny policy

Action: Various tasks to perform

Resource: like S3 (on which resource it is allowed)

Principle: whom it is allowed

Condition (optional)

**IAM** (Authentication and Authorization purpose)

IAM USER

GROUP

ROLE (list of permissions)

Enabling MFA

Instance: IaaS

* Name of the instance: ustinstance1
* AMI (Amazon Machine Image) (OS): Amazon
* Instance Type: t2-micro
* Key pair (Authentication purpose) : ust1
* Network settings  
  VPC: default
* Subnet: no preference  
  auto-assign public IP: enable
* Firewall (Create security group at first)
* Config storage gp3
* Create instance

S3(regional storage)

features

* Versioning
* Object lock
* Storage class (Types)
* 1)Standard
* 2)Standard IA
* 3)Standard 1Zone IA
* 4)Intelligent tier
* 5)Glacier
* Storage life cycle
* Access Control (object level ownership bucket level ownership)
* Static Web Hosting
* Replication rules
* CORS (cross origin resource sharing)
* S3 event handling
* S3 logs
* Sever side encryption
* Signed URL
* Transfer Acceleration