Spring - Mar 11

Agenda

1, introduction to AWS

2, Compute in Cloud

3, Global infrastructure and Security

4, Networking

5, Storage and database

6, Security

7, Monitoring and Analytics

8, Migration

0, AWS Certification

foundational

associate

Profesional

- solutions architect
- devops

Specialty

1, introduction to AWS

client - server

sever

- CPU
- RAM

- Data
- Routers, Switch

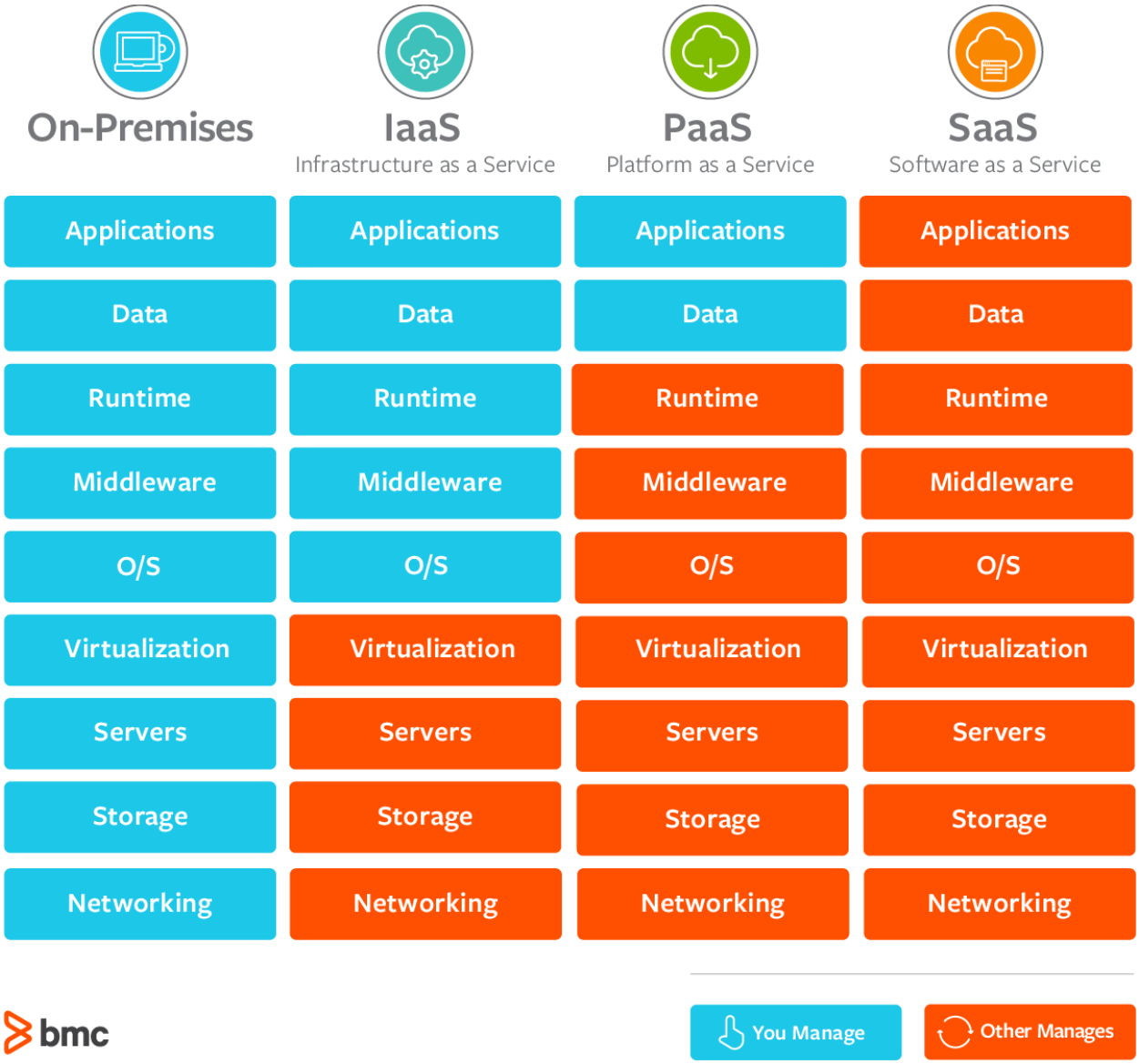
Traditional Approach

- pay for the rent for data center
- pay for power supply, cooling, maintenance
- adding and replacing hardware
- scaling is limited
- monitor 24/7

Cloud Computing

- pay as you go pricing
- provision exactly the right size and type of computing resources
- accessed instantly

SaaS vs PaaS vs IaaS



Deployment models for cloud computing

- public cloud: cloud based
- private cloud: on-premises
- Hybrid cloud: hybrid

2, Compute in Cloud

EC2

Amazon Elastic Compute Cloud

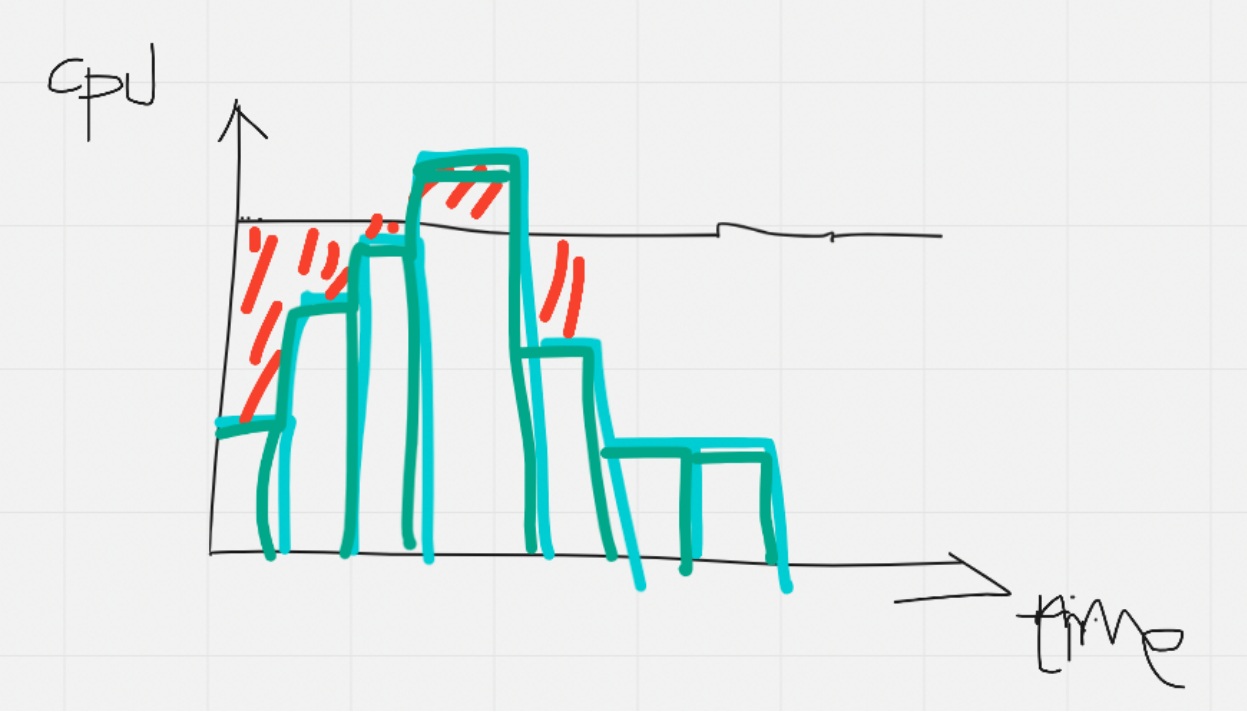
- general purpose instance
- compute optimized instance
- memory optimized instance
- accelerated computing instance
- storage optimized instance

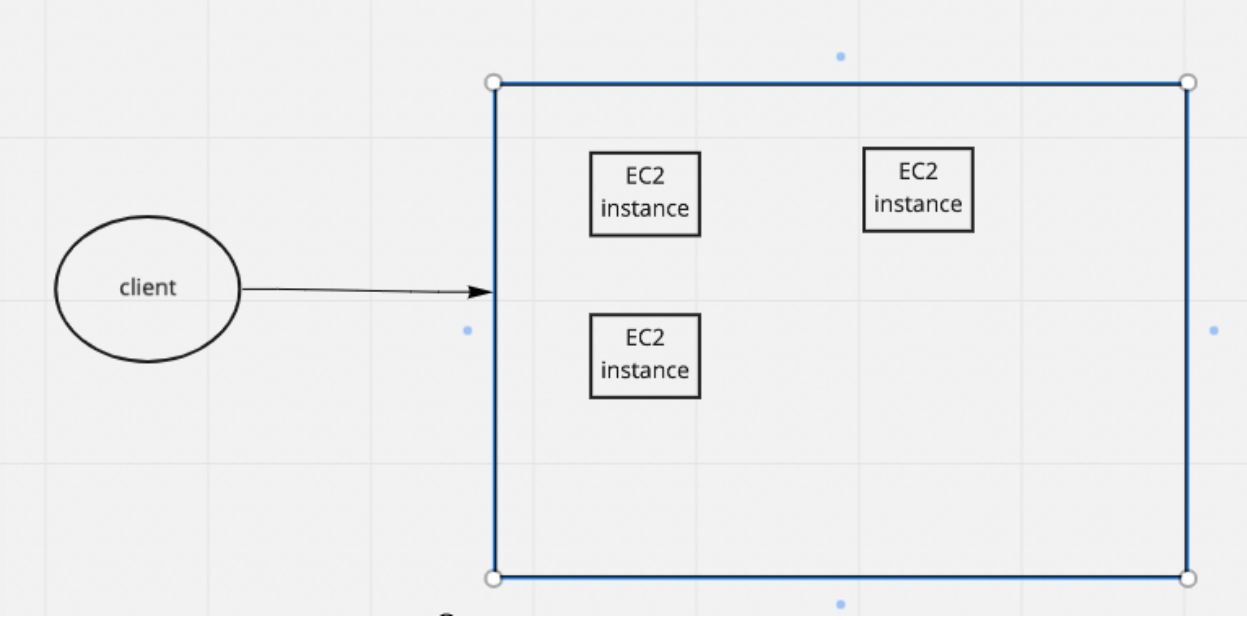
EC2 Pricing

- spot instance
- reserved instance
- on demand instance

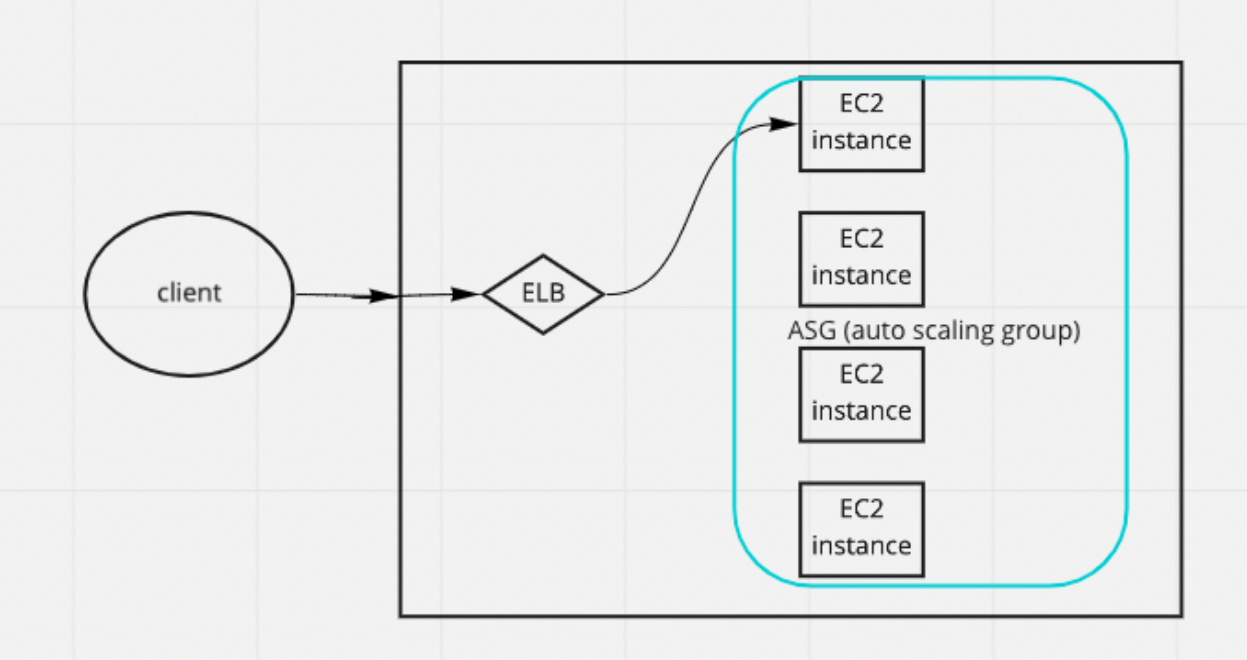
Scaling

- Auto Scaling





Elastic Load Balancing



Monolithic application vs Microservice Application

SNS (Amazon Simple Notification Service)

SQS (Amazon Simple Queue Service)

AWS lambda (serverless)

Virtualization

- virtual machine
- hypervisor

Containers

- docker

ECS (Amazon Elastic Container Service)

ECR (Amazon Elastic Container Registry/Repository)

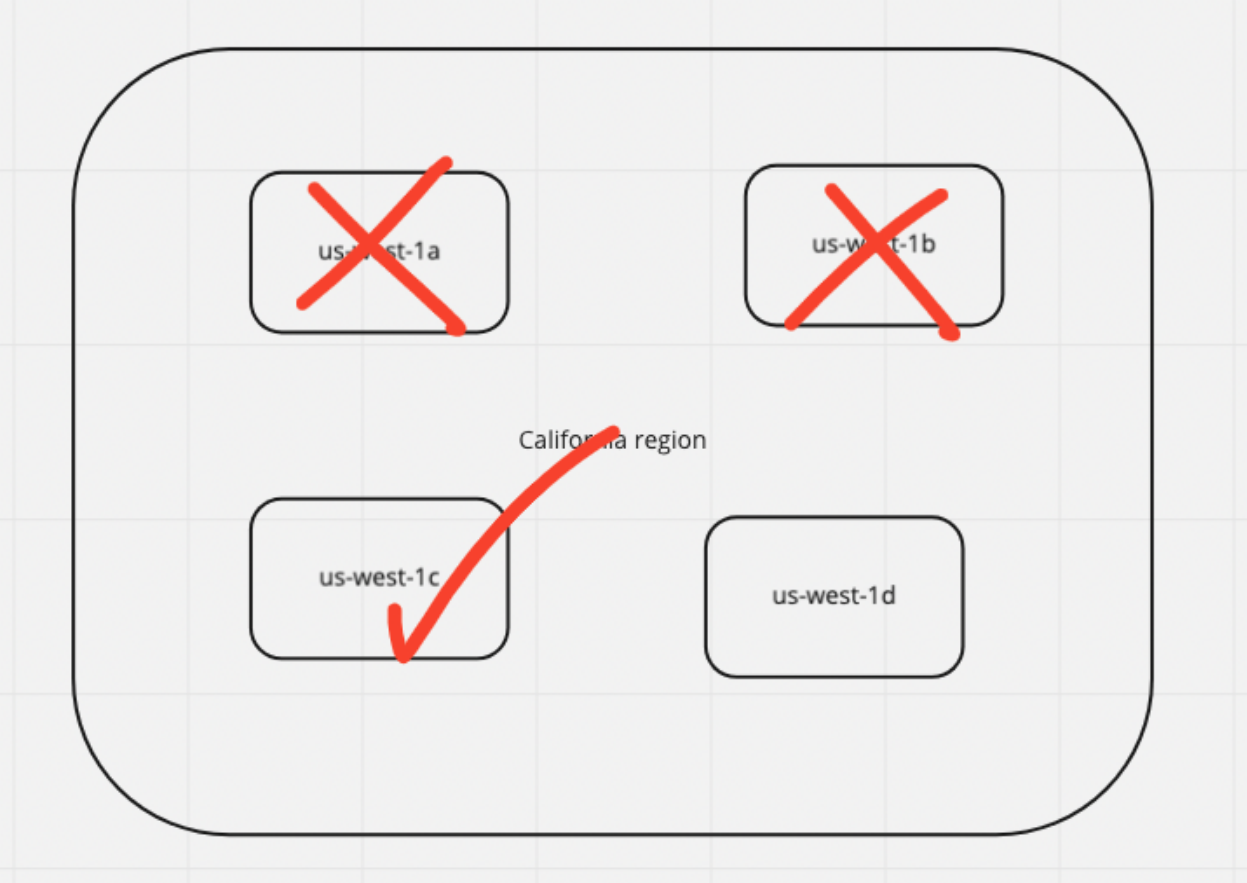
EKS (Amazon Elastic Kubernetes Service)

k8s

AWS Fargate

3, Global infrastructure and Security

AWS Region & Availability Zone



Edge Location

- cache

AWS Elastic Beanstalk

- adjust capacity
- load balancing
- automatic scaling
- application health monitoring

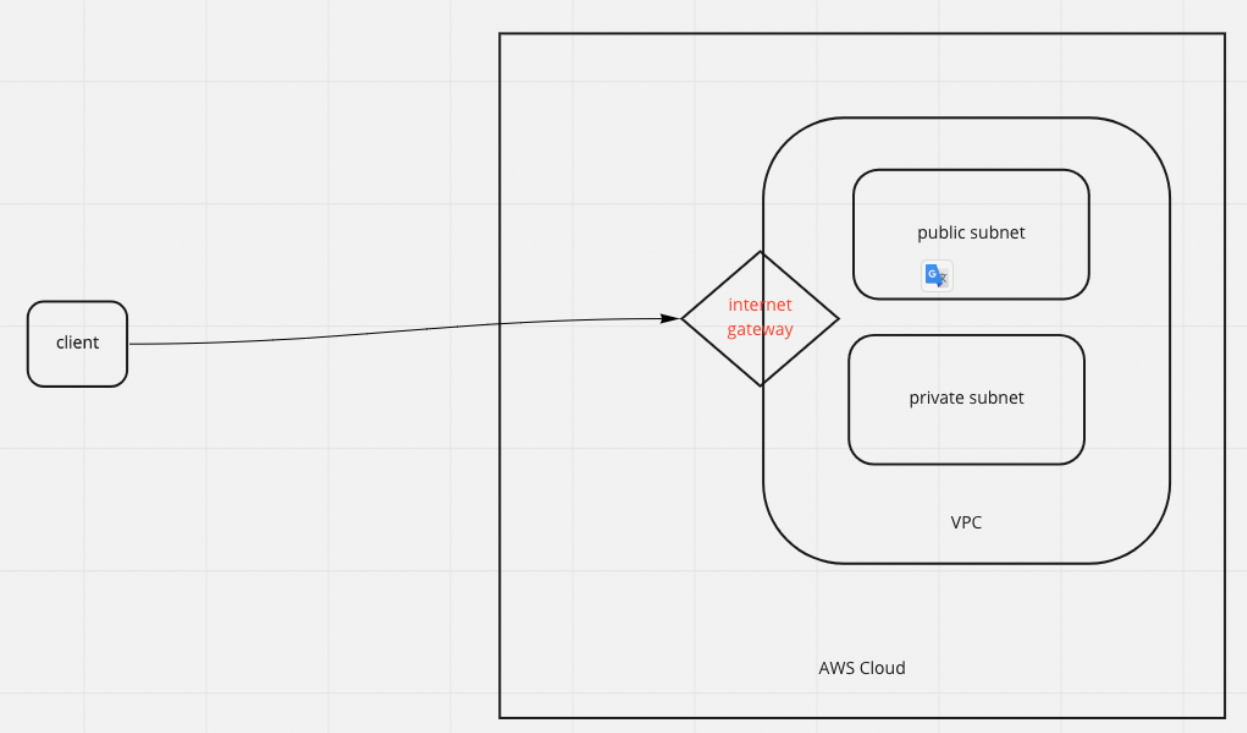
AWS CloudFormation

4, Networking

VPC (Amazon Virtual Private Cloud)

- public subnets
- private subnets

Internet gateway



Virtual private gateway

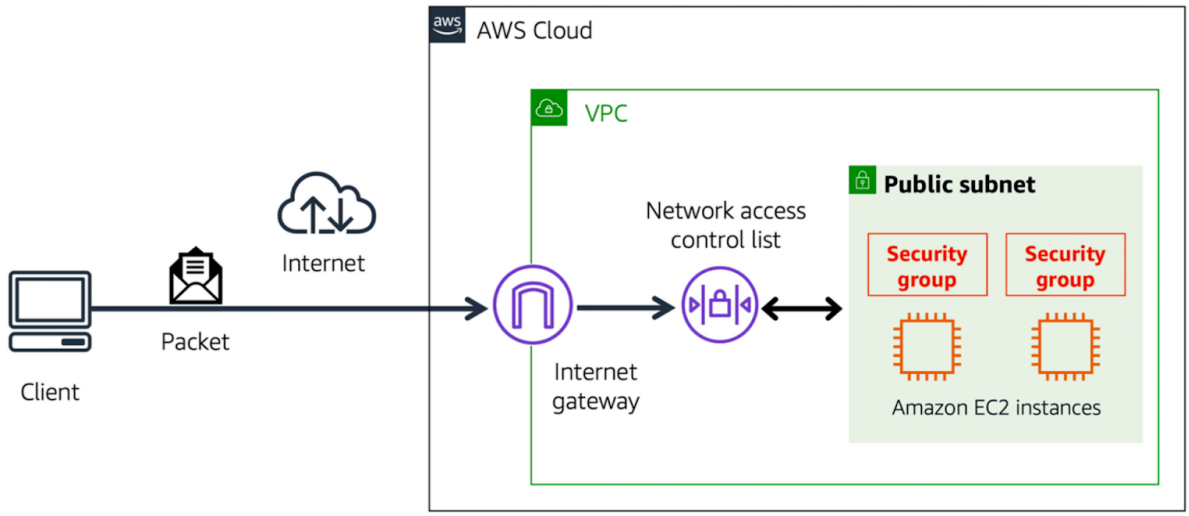
AWS Direct Connect

ACLs (Networking access control lists)

- control inbound and outbound traffic at the subnet level

Security group

- control inbound and outbound traffic for an Amazon EC2 instance



Route 53

- is a DNS web service.

5, Storage and database

EBS (Elastic Block Store)

- incremental backup

S3 (Simple Storage Service)

- object level storage

s3 storage classes

- s3 standard
- s3 standard- infrequent access
- s3 one zone - infrequent access
- s3 intelligent tiering
- s3 glacier
- s3 glacier deep archive

Amazon Elastic File storage

RDS

- relational database
- database engines
  - Aurora
  - PostgreSQL
  - MySQL
  - MariaDB
  - Oracle Database
  - SQL Server

DynamoDB

Redshift

ElasticCache

- redis
- memocache

6, Security

shared responsibility model

- customer responsibility (security in the cloud)
- AWS responsibility (security of the cloud)

IAM

- IAM users, group, roles
- IAM policies

AWS Organizations

7, Monitoring and Analytics

Amazon CloudWatch

- metrics
- dashboard

AWS CloudTrail

- record API calls for your account

8, Migration

perspectives

- business
- people
- governance
- platform
- Security
- Operations

physical devices

- AWS Snowcone
- AWS Snowball
- AWS Snowmobile