

AWS JOBS YOU CAN GET WITH AN AWS CERTIFICATION



- **#1. Operational Support Engineer**
- **#2. Cloud Software Engineer**
- **#3. System Integrator — Cloud**
- **#4. Cloud Developer**
- **#5. Cloud DevOps Engineer**
- **#6. AWS Solutions Architect**
- **#7. AWS SysOps Administrator**
- **#8. Senior AWS Cloud Architect**
- **#9. AWS Consultant**

Activate Windows
Go to Settings to activate Windows.

18

COURSE OUTLINE



Client Server Architecture

Network Basic Concepts

Virtualization Overview

Cloud Computing

Amazon Web Services Overview

High Availability Architecture

AWS Sign UP Procedure

MFA Configuration

AWS CLI

Compute (EC2, Elastic Beanstalk, Light Sail, Lambda, GA)

Storage (S3, EBS, EFS, Storage Gateway, Glacier, Snowball)

Databases(RDS, Redshift, DynamoDB, ElasticCache)

Network and Content Delivery(VPC, Route53, CloudFront, Direct Connect, Global Accelerator)

Management Tools(CloudWatch, CloudTrail)

Security(IAM, Trusted Advisor and Inspector)

Application Services(SWF, Transcoder)

Messaging (SNS, SQS and SES)

Overview on Developer Tools(Code Commit, CodeBuild, CodeDeploy, Code Pipeline)

Route53 Failover Project

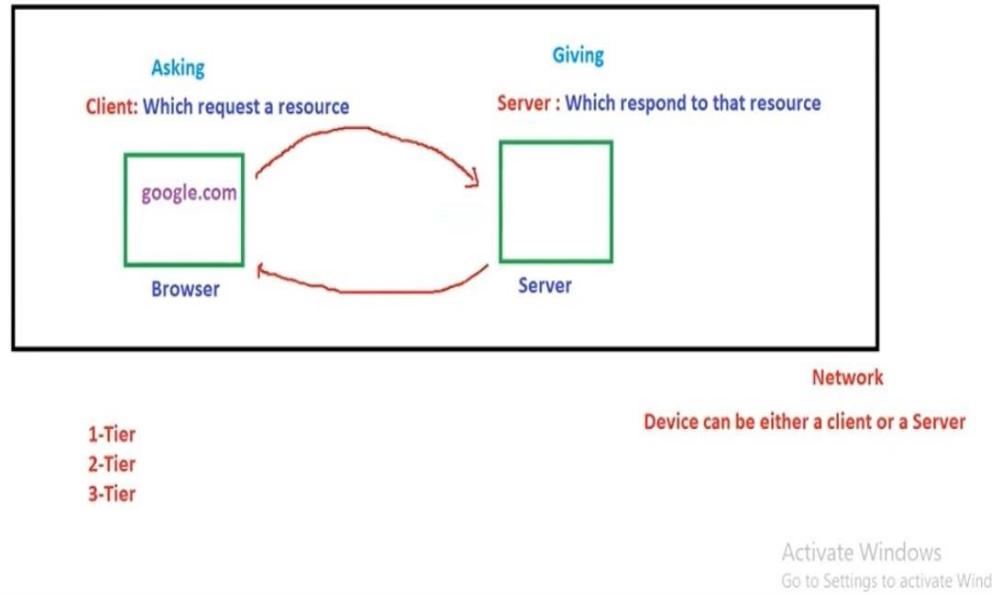
Architecting VPC from scratch(Project)

Final AWS project including multiple services

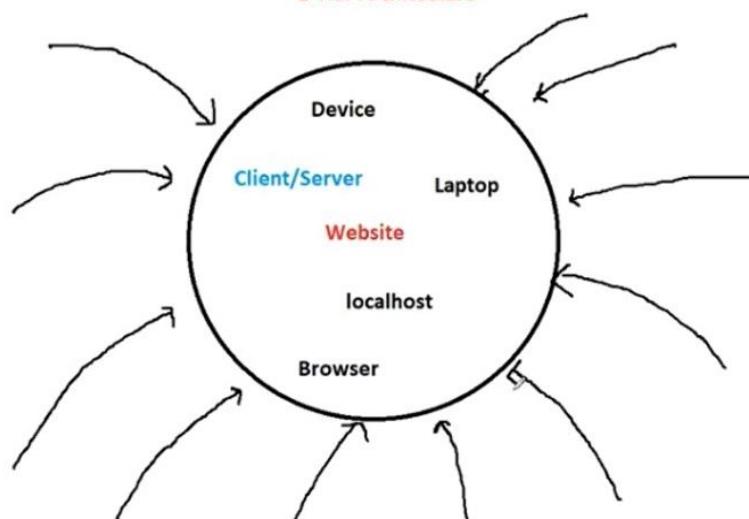
Activate Windows
Go to Settings to activate Wind

6

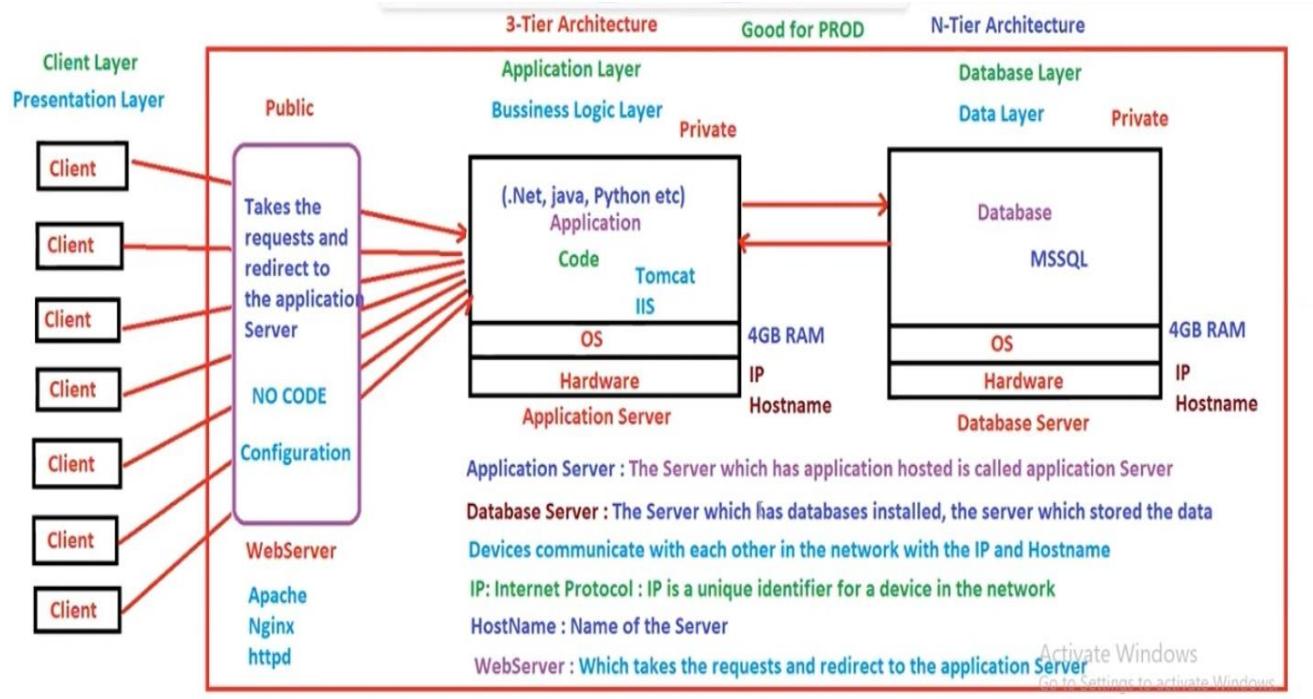
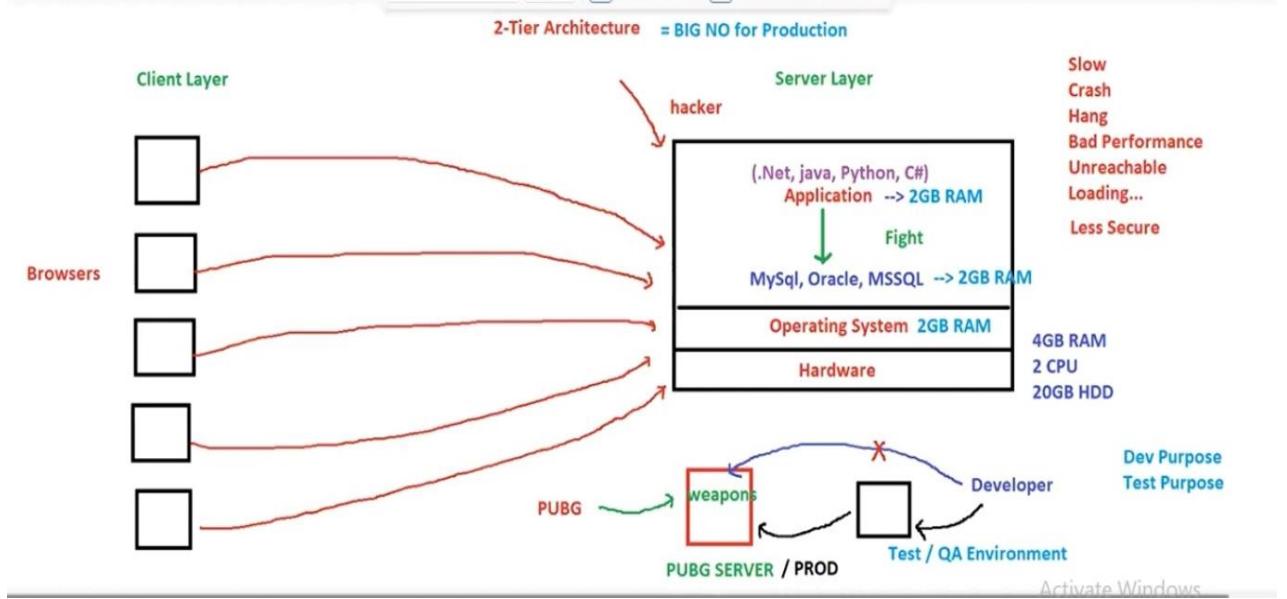
Client Server Architecture

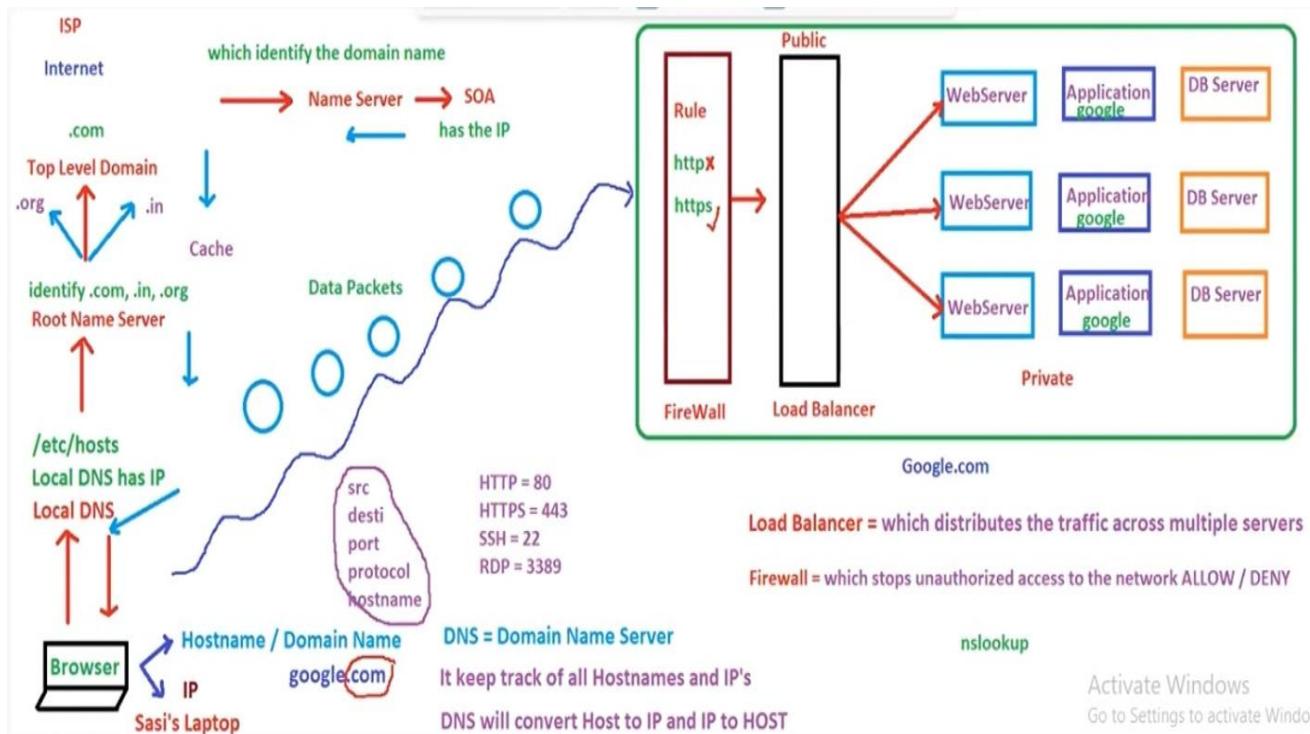
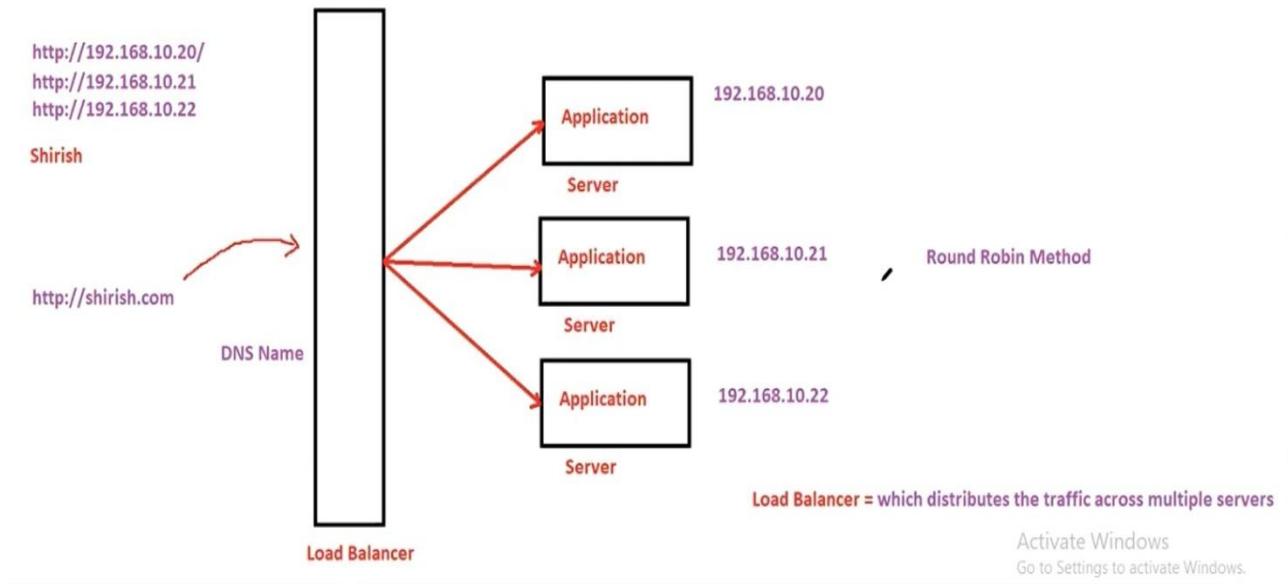


1-Tier Architecture



Act





Browser --> Local DNS --> Root Name Server --> Top Level Domain --> Name Server --> SOA
 Browser --> Firewall --> Load Balancer --> WebServer --> Application Server --> DB Server

HTTP = HyperText Transfer Protocol

<http://google.com>

HTTP default Port Number is 80

Protocol://Domainname:PortNumber

You can customize the port number on application level

<http://192.168.10.10:80>

<http://192.168.10.10:8080> ✓

<http://192.168.10.10>

Application

Tomcat

8080

Server 192.168.10.10

For customer its always recommend to expose port 80 only
[https - 443](https://www.google.com)

Status Code

404 = Page Not Found

503 = Service Unavailable

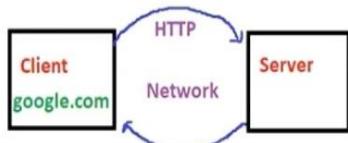
401 = Unauthorized

500 = Internal Server Error

200 = Success Code

HTTP Over TCP/IP

Transmission Control Protocol



HTTP transfers the data to and fro from the browser to Server

HTTPS - 443 (Secure)

Certificates SSL

Encrypted

SSL / TLS / HTTPS

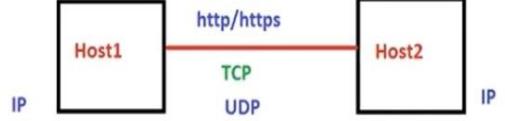


http (Not Secure)

hacker

Plain Text

Host = Client/Server

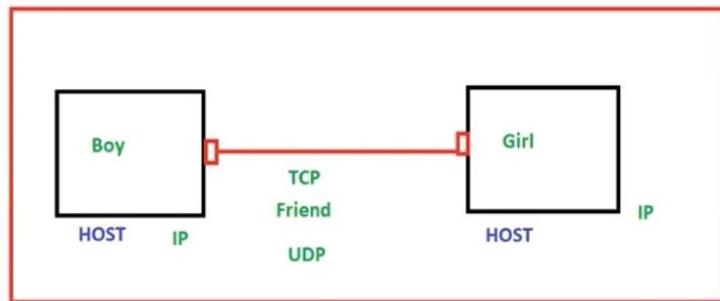


TCP establish the connection between the 2 hosts

TCP is like a messenger / bridge

Activate Windows
 Go to Settings to activate Windows.

OSI Layers



7 Layers

Application Layer ([http](http://))

Presentation Layer (<ssh>, <rdp>)

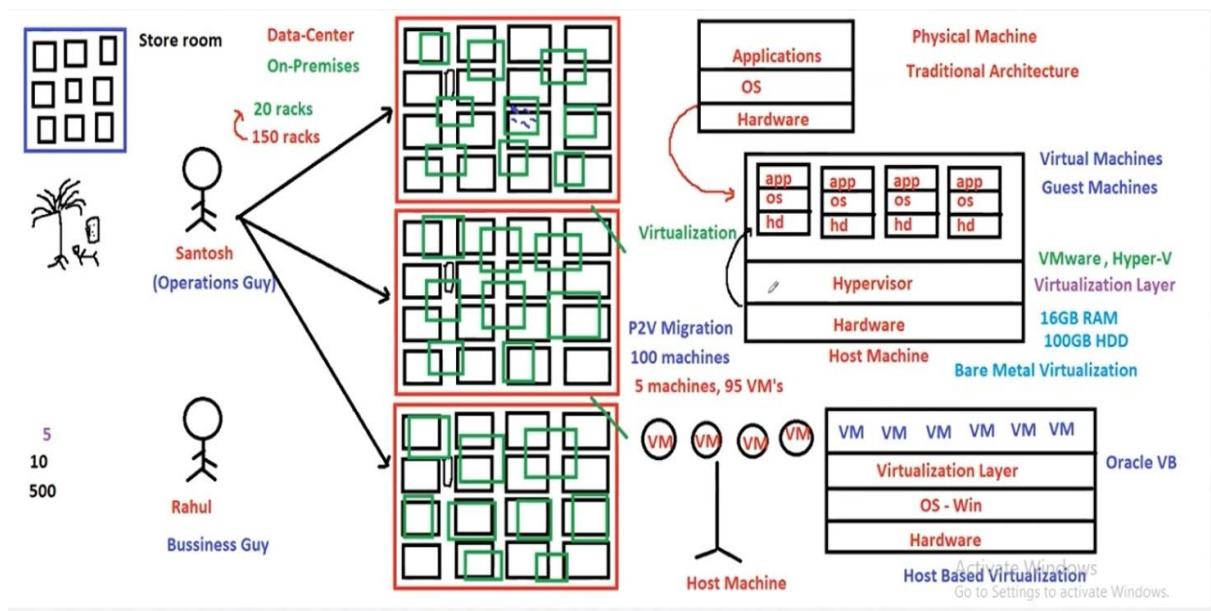
Session Layer

Transport Layer (<TCP>)

Network Layer (<IP>)

Data Link Layer

Physical Layer



AWS has Global Infrastructure

AWS is providing Infrastructure as a Service

AWS has DataCenters

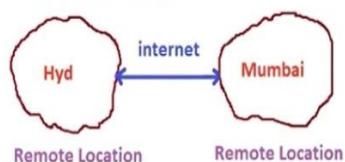
Cloud is present in the remote location

Remote Location = DataCenter

We need internet to connect to the Cloud

AWS is a Cloud Provider, who provides infrastructure as a Service

Amazon Web Services



AWS is Public Cloud Provider who provides Infrastructure as a Service

Key-Words

Virtualization, Host Machine, VM's, Infrastructure, DataCenter, Load Balancer, FireWall Protocols, Cloud, Remote Location

Physical DC → Virtualization → Cloud → AWS (remote location(DataCenters))

Cloud Computing

Instead of doing computing on local machine / on-prem, you will be now doing computing on remote location(Cloud) that is called Cloud Computing

Deployment Models (Types of Cloud)

Public Cloud : The Provider Services which are accessed by everyone Like EX: AWS , Azure, GCP

Private Cloud : The Services which are accessed with in the organization like Ex: IBM

Hybrid Cloud : The Combination of Public and Private Cloud

Community Cloud : It is same as Private Cloud, but can be accessible from few organizations

Service Models

Infrastructure as a Service (IAAS)

Platform as a Service (PAAS)

Software as a Service (SaaS)

Activate Windows
Go to Settings to activate Windows.

AWS is a group of Services

Virtual Machine = Server

EC2 = Elastic Compute Cloud

Server = Instance

EC2 instances

Shared Model
Customer has full control on the Servers

URL
java, .net
Application
Sagar
Client

Customer's Responsibility

Provider

Application
Data
OS
Virtualization
Network, DC

Console
Provider
IAAS
AWS

VM	VM	VM	VM
Hypervisor			
Hardware			
Physical Host Machine			

AWS doesn't have any access inside VM
ElasticBeanstalk (PAAS)

Easy and Quick deployment of application in AWS

PAAS
Azure

Application
Data
OS
Virtualization
Network, DC

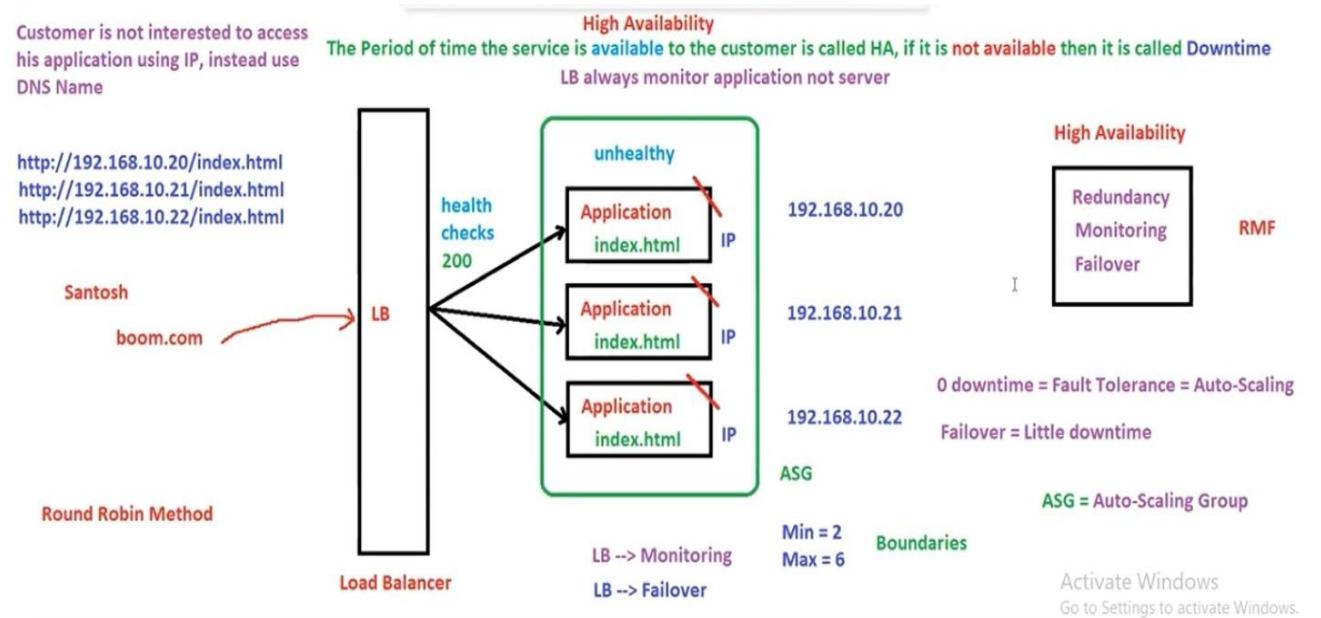
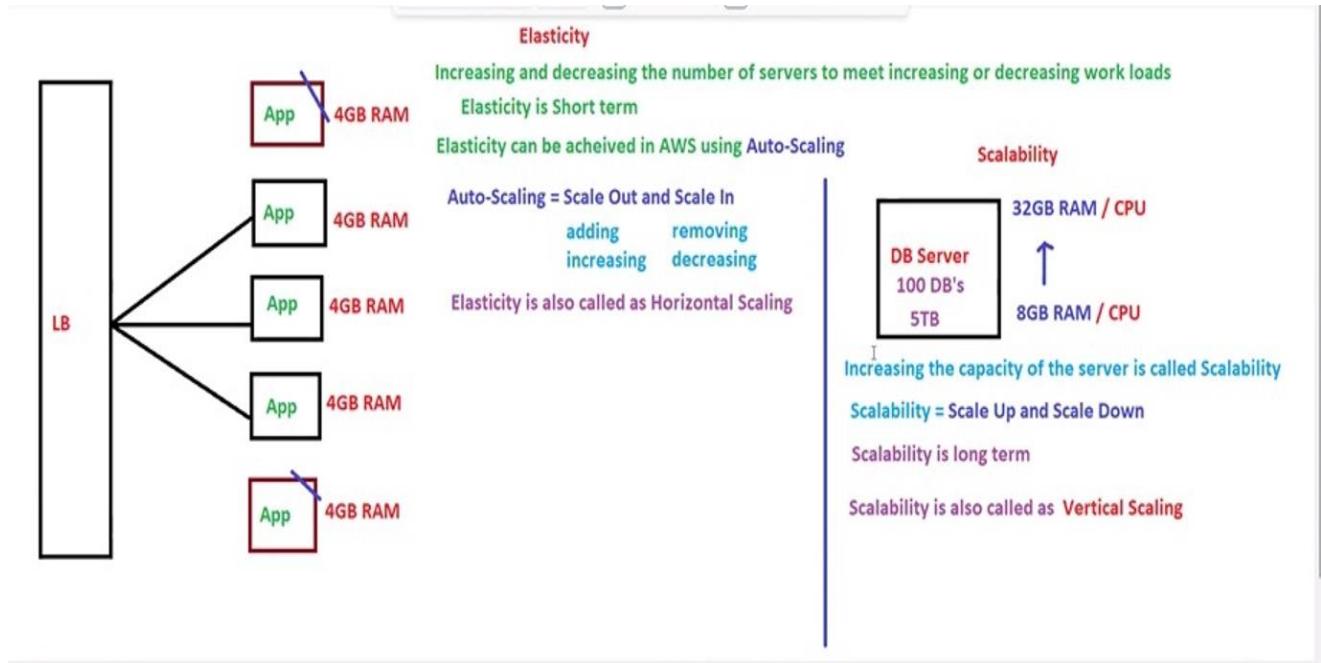
PAAS
Azure

Gmail, zoom, dropbox

SAAS

SalesForce

Anything as a Service



AWS has Global Infrastructure

Servers = Instances

Region is a place where AWS has its own infrastructure

A Region has multiple DataCenter

A Region has multiple AZ's

Servers/Instances are placed in AZ's

AZ's are in sync with each other(network), but not data

Best practise is to distribute the instances across multiple AZ's

Very very less chance that 1 AZ goes down

AZ = group of DC's

1a

1b

andheri,bandra,dadar thane, kurla,panvel

Regions and Availability Zone

Region = Its a geo-graphical area , Ex : AWS-Region =Mumbai

Availability Zone = Its a simply a DataCenter (AZ)

Mumbai = ap-south-1

AZ's = ap-south-1a

= ap-south-1b

= ap-south-1c

Regions and AZ's are managed by AWS

AZ's can communicate with each other by default

AZ's networks are inter-connected

Low Latency = Good

High Latency = Bad

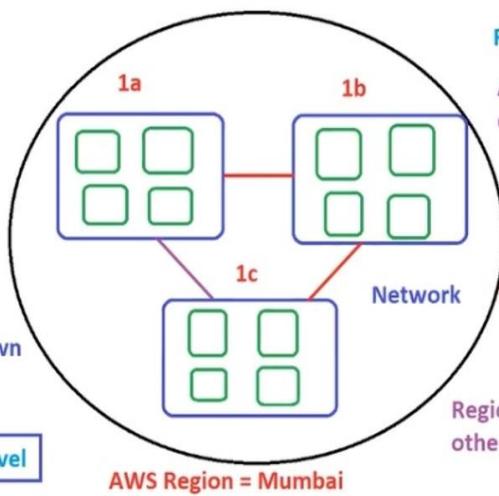
Network

default

Ireland

Regions dont communicate with each other by default, if required yes

Activate Windows
Go to Settings to activate Wi-Fi



Mahesh

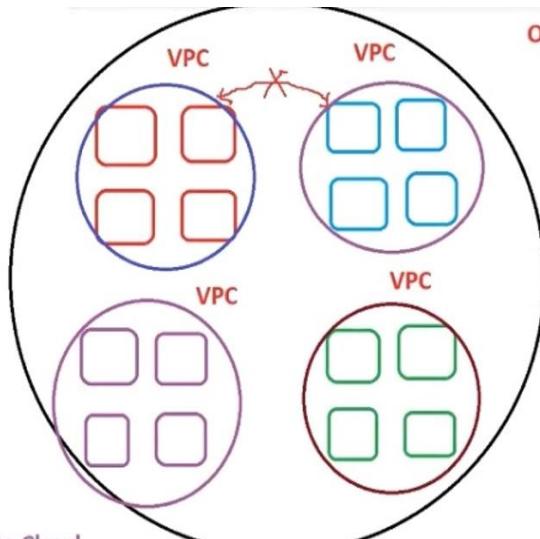
Srinu

Santosh

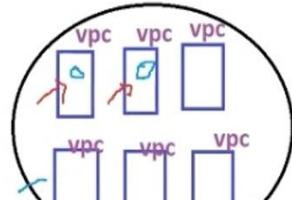
Sagar

Virtual Private Cloud

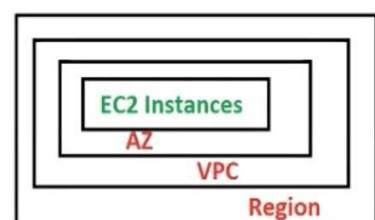
VPC

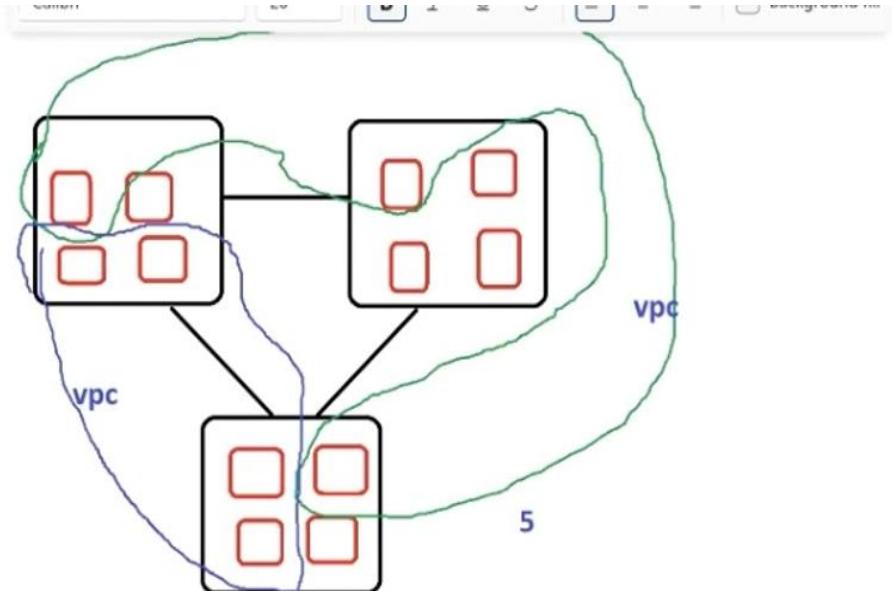


One Region can have multiple VPC's (Max 5 VPC's)



Sulabh Complex





VPC spans across AZ's

Load Balancer distributes the traffic to multiple EC2 instances across multiple AZ's

<p>AWS Services can be Regional or Global</p> <p>EC2 is Regional</p>	<p>EC2 = Elastic Compute Cloud Servers = Instances / EC2 Instances (VM) Load Balancer = Which distribute the traffic to the Servers Elastic Load Balancer(ELB) = ELB distribute the traffic to multiple EC2 instances across multiple AZ's ELB is completely managed by AWS (HA, AS, Scalability, Performance etc) ELB is not a Server, it is a Service for us You cannot login to ELB, you can access ELB with the DNS Name ELB doesn't have AZ's. It is created regional level</p>	<p>In EC2 Service, We can launch EC2 instances</p>
---	--	--

elasticBeanstalk = Easy and Quick deployment of applications in AWS
In General, in PaaS --> You don't have any control on the Servers
In AWS Beanstalk --> You have full control on the EC2 instances launched by Beanstalk
Beanstalk handles EC2 instances(OS) behalf of us

lightSail = If you want to setup and create a virtual private server which already has everything installed(Wordpress, Gitlab, node.js, joomla, drupal, Django, Ghost, Nginx, Redmine etc) --> No Auto-Scaling

HA
Auto-Scaling
Scalability

App Client
java

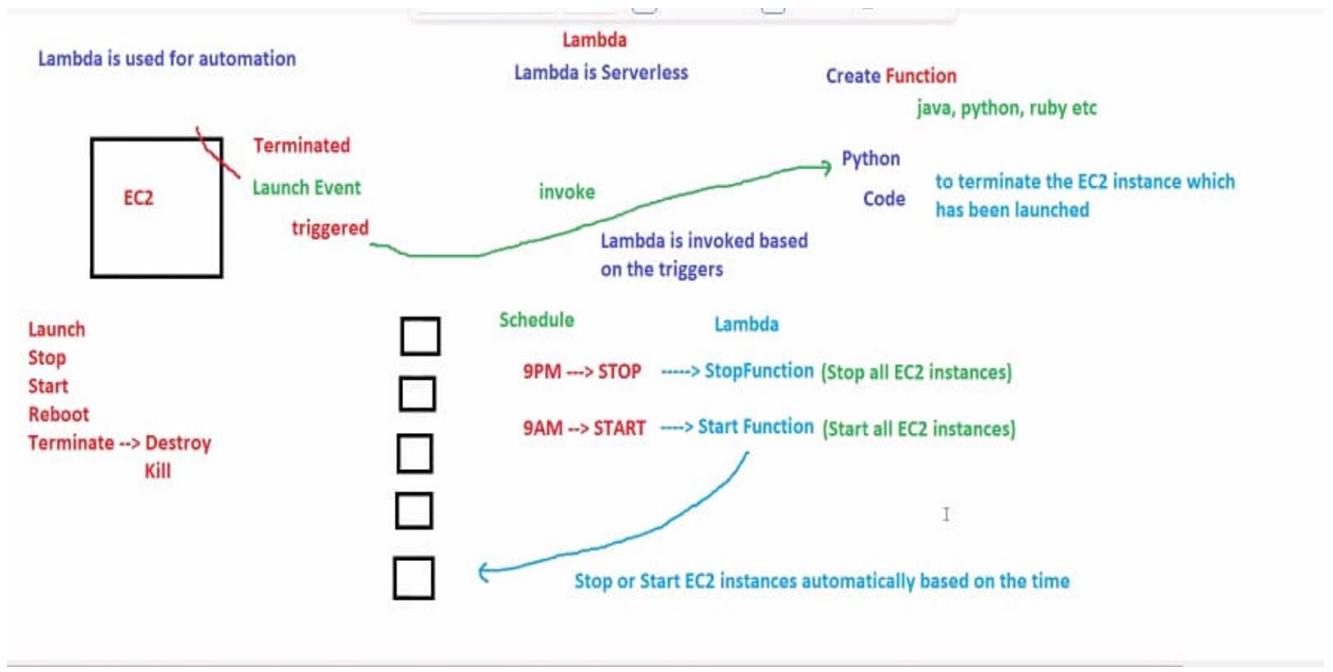
EC2: Launch EC2 instances
Configure and deploy application
BeanStalk
Just Select the Platform

Tomcat
.NET
Docker
Python
GO

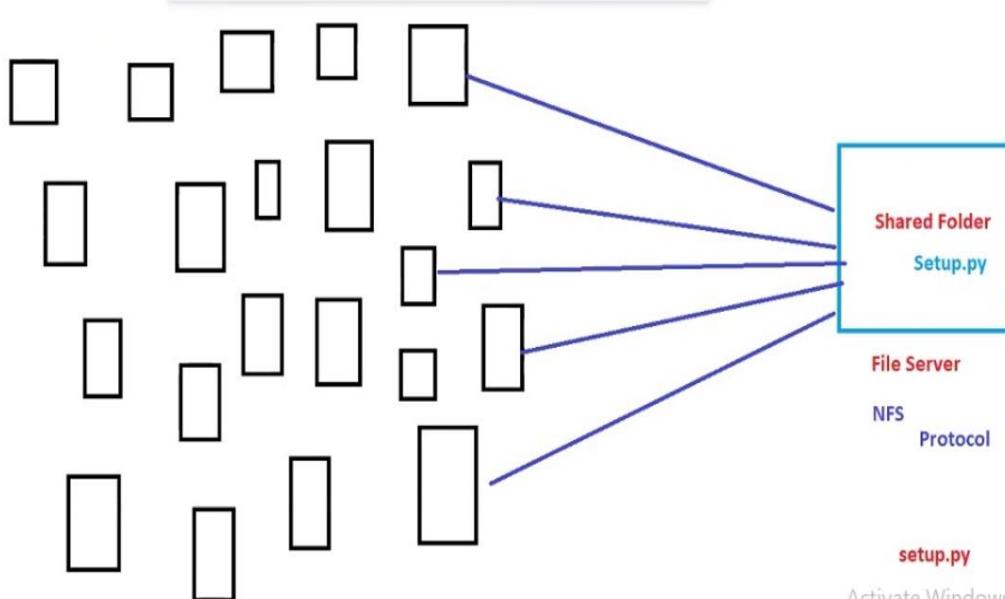
App
EC2

DNS Name

Scale OUT
Scale IN



In AWS, all services will start with Simple and end with Service	S3 -Simple Storage Service S3 is unlimited Storage by AWS S3 is used to just store your files S3 can store all FLAT files With S3, you can upload, download and access your files	Floppy --> 2MB CD's --> 700MB DVD's --> 4.7GB Pen Drives --> 128GB Hard Disks --> 2TB
SNS --> Simple Notification Service SES --> Simple Email Service		
S3 is a Object Based Storage	You cannot execute any files in S3 Is it possible to install OS in S3? NO Is it possible to install DB in S3? NO Is it possible to run .net, .py etc in S3 ? NO	S3 is Global Buckets are regional
Windows	S3	AWS handles HA, Performance, Scalability etc for S3
Folder	Bucket	Bucket is a container for Objects
Files	Objects	Object is a File Key is the File name / Name of the Object
boom.mp4	KEY	S3 supports STATIC website hosting (HTML files)[Create a bucket, upload all files, enable static website hosting] (No need to worry about HA, performance, etc handled by S3)



Activate Windows
Go to Settings to activate Windows.

S3 is Object Based Storage
EBS is Block Based Storage

1a

EC2 Instance

C-Drive D-Drive

1a OS 1a

Root Vol Additional vol

Device Name

/dev/sda1 /dev/sdb, e, f, g etc
/dev/xvda xvdf, xvdg , etc

Root Volume is always mounted / attached as /dev/sda1

EBS - Elastic Block Storage

Hard Disk = Volume = EBS Volume

Volumes can be attached and detached

You can attach multiple volumes to the EC2 instance

EC2 instance has a default volume and that is called ROOT Volume

The Root Volume always contain OS (Win, Linux, Mac)

EC2 supports only Server side OS not Client side OS

If you have OS on the Volume, that volume is called ROOT Volume

EC2 instance can have only 1 ROOT Volume

EC2 instance can have multiple additional Volumes

Max size of each EBS Volume is 16TB

You cannot attach a volume to multiple EC2 instances at the same time

Volumes should be pre-provisioned like 50GB, 100GB ... max 16TB

Volume size can be increased on FLY (no need to stop the EC2 instance)

Volume size cannot be decreased

Is it possible to detach the ROOT Volume while EC2 is running? NO: Stop the EC2 instance first and then detach the ROOT Volume

Is it possible to detach ADDITIONAL Volume while EC2 is running? YES: it is not recommended to detach while running, stop first

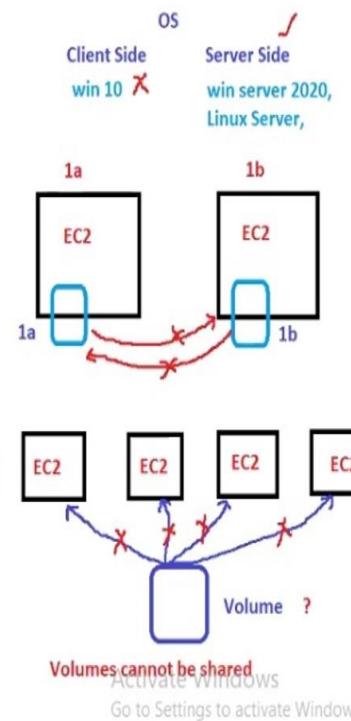
EC2 instance has AZ, Volume also have AZ

We cannot attach 1a volume to 1b EC2 instance (diff AZ)

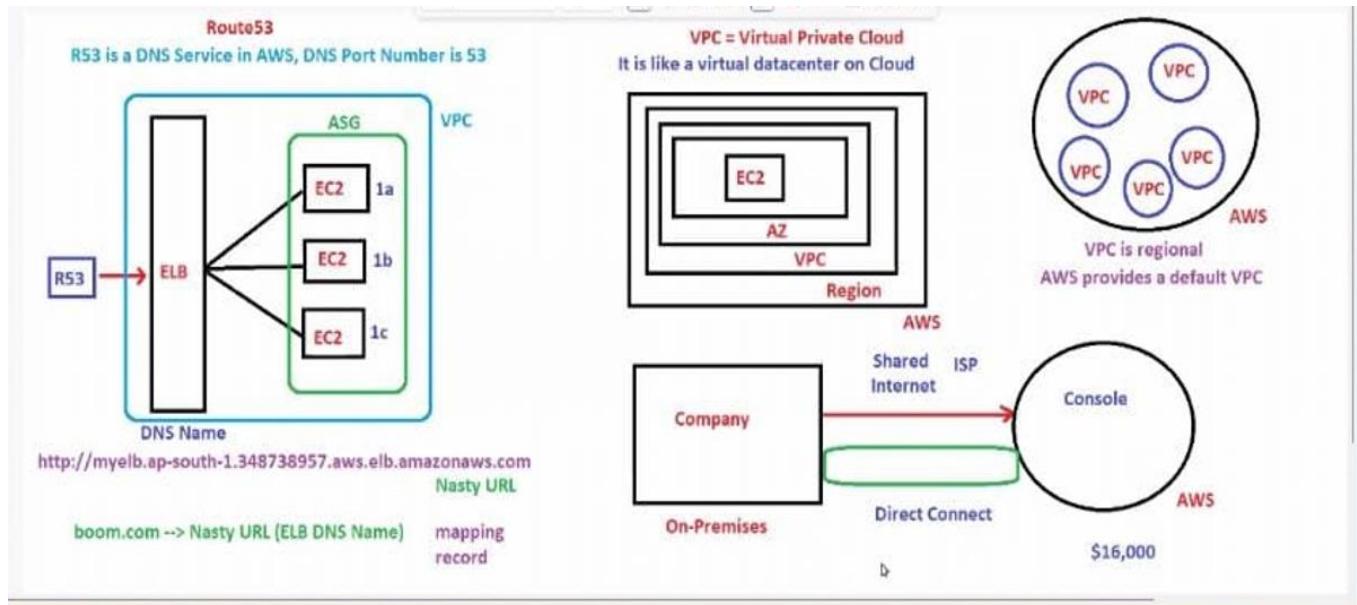
EC2 instance and Volume should be in same AZ

We can attach 1a volume to 1a EC2 instance (same AZ)

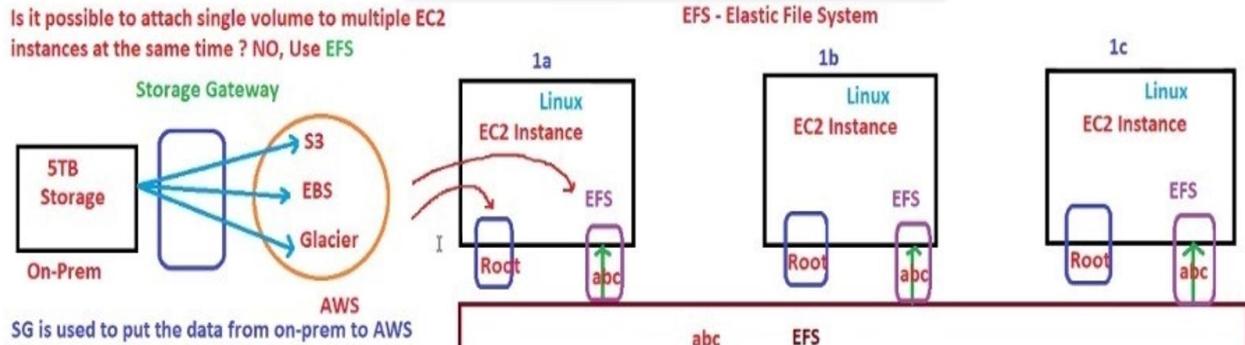
Activate Windows
Go to Settings to activate Windows.



Route 53



Elastic File System



EFS is completely managed by AWS

EFS is only for Linux EC2 instance

Fsx is for Windows EC2 instance

EFS works with NFSv4 Protocol

EFS is File based Storage

EFS is unlimited Storage

EFS doesn't require any pre-provisioning (it will automatically increase and shrink based on the data you put in EFS)

EFS can be mounted to multiple EC2 instances at the same time across AZ's

Glacier = Archive Purpose

Glacier is cheaper than S3

SNOW FAMILY

SnowCone --> 8TB

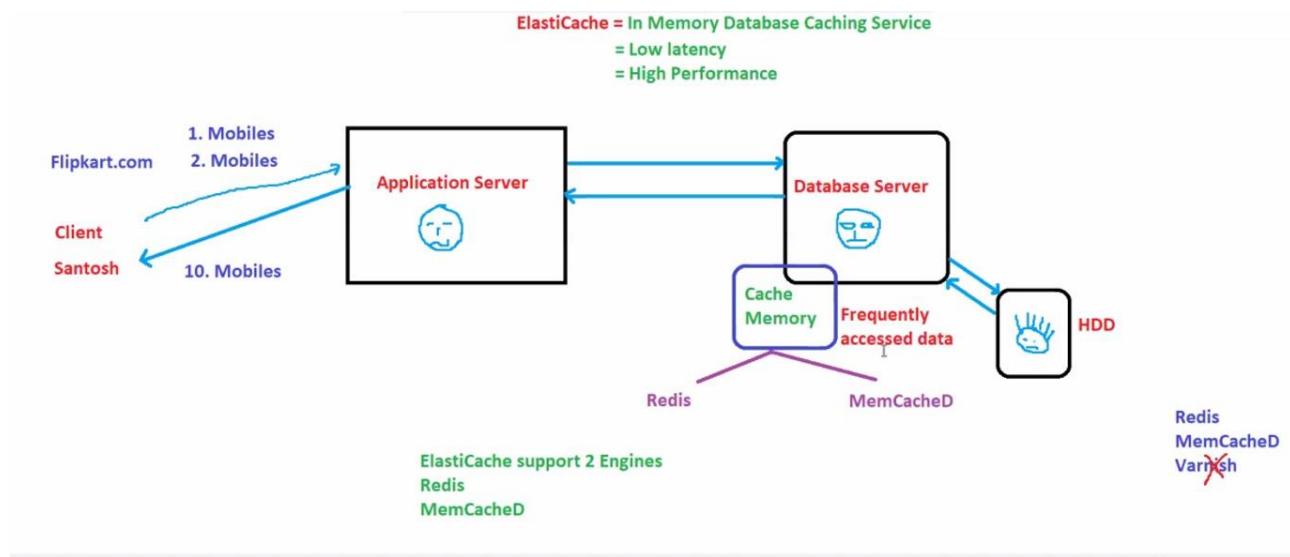
SnowEdge --> 100TB ---> S3

SnowMobile --> PB's (Truck)

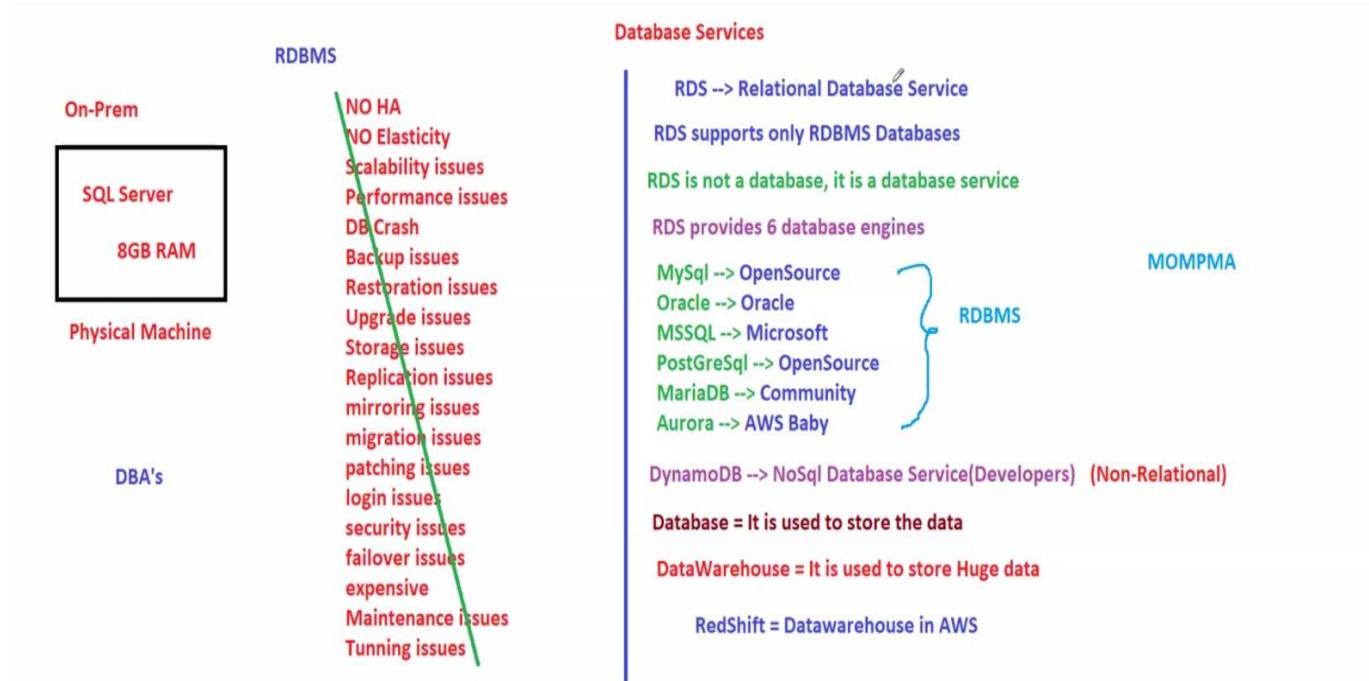
Snow Family is used to transfer huge data from On-prem to AWS and Vice versa

SnowFamily is a Physical Transfer

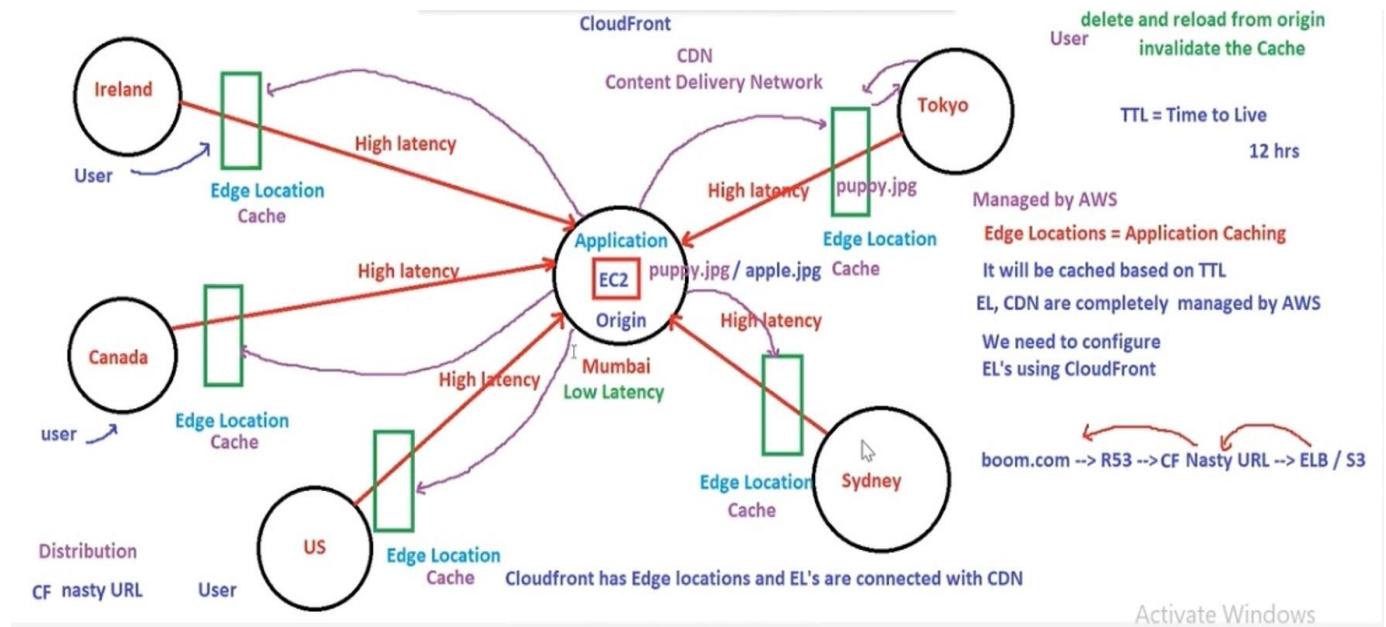
ElastiCache



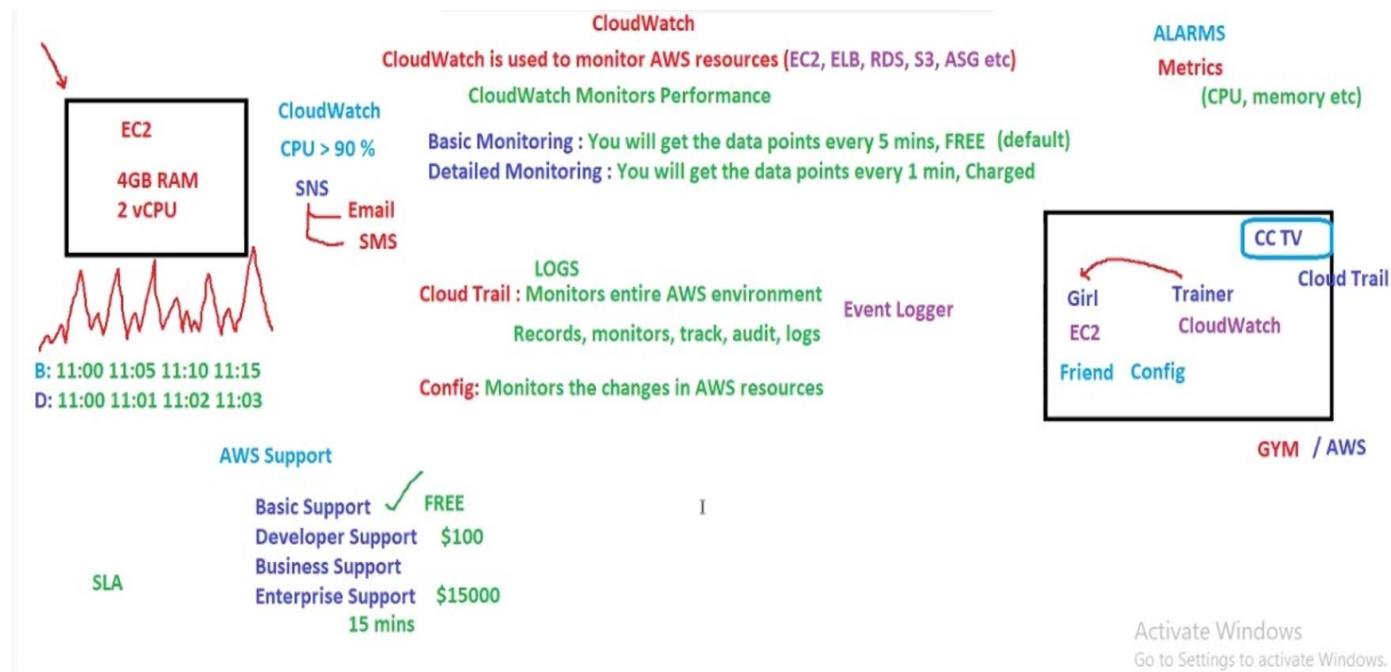
Relational Database Service :



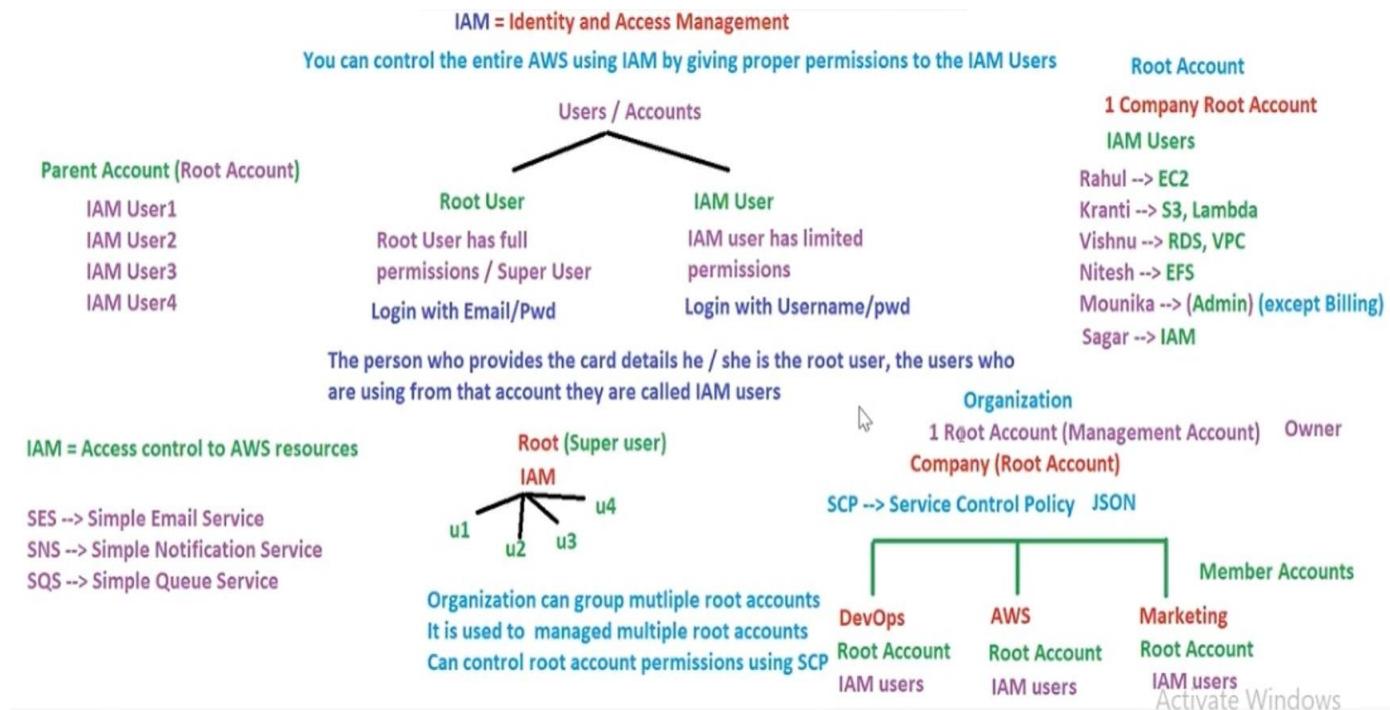
CloudFront :



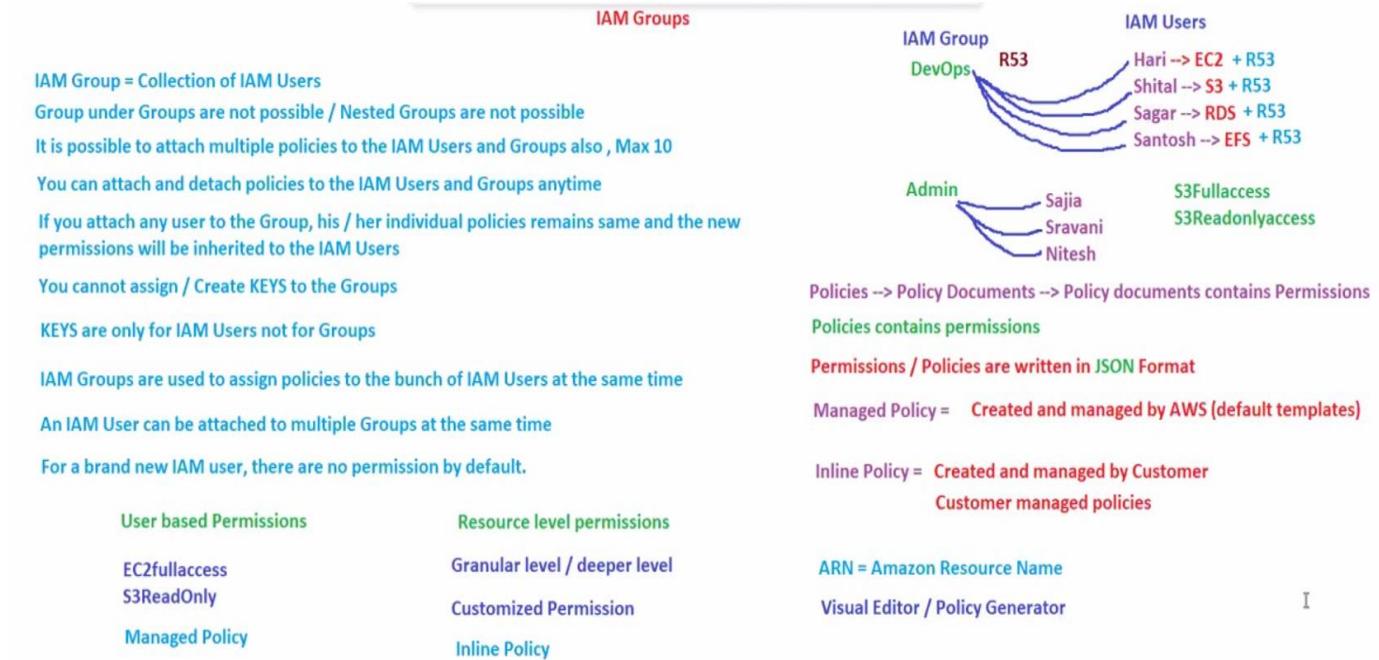
CloudWatch :



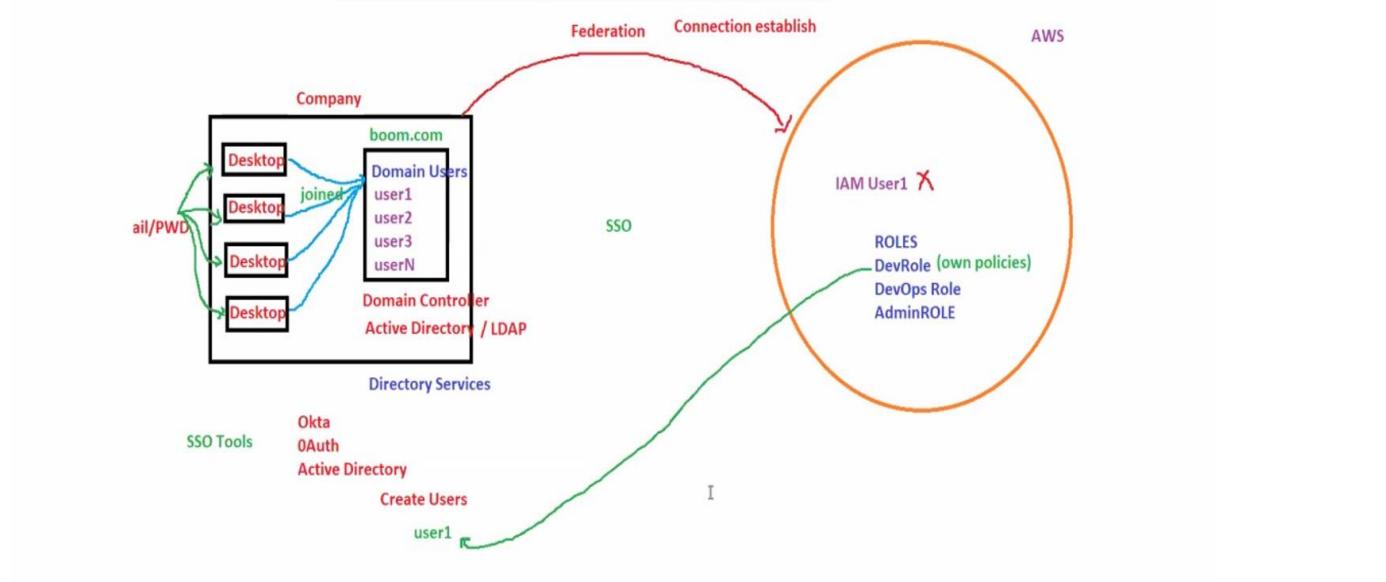
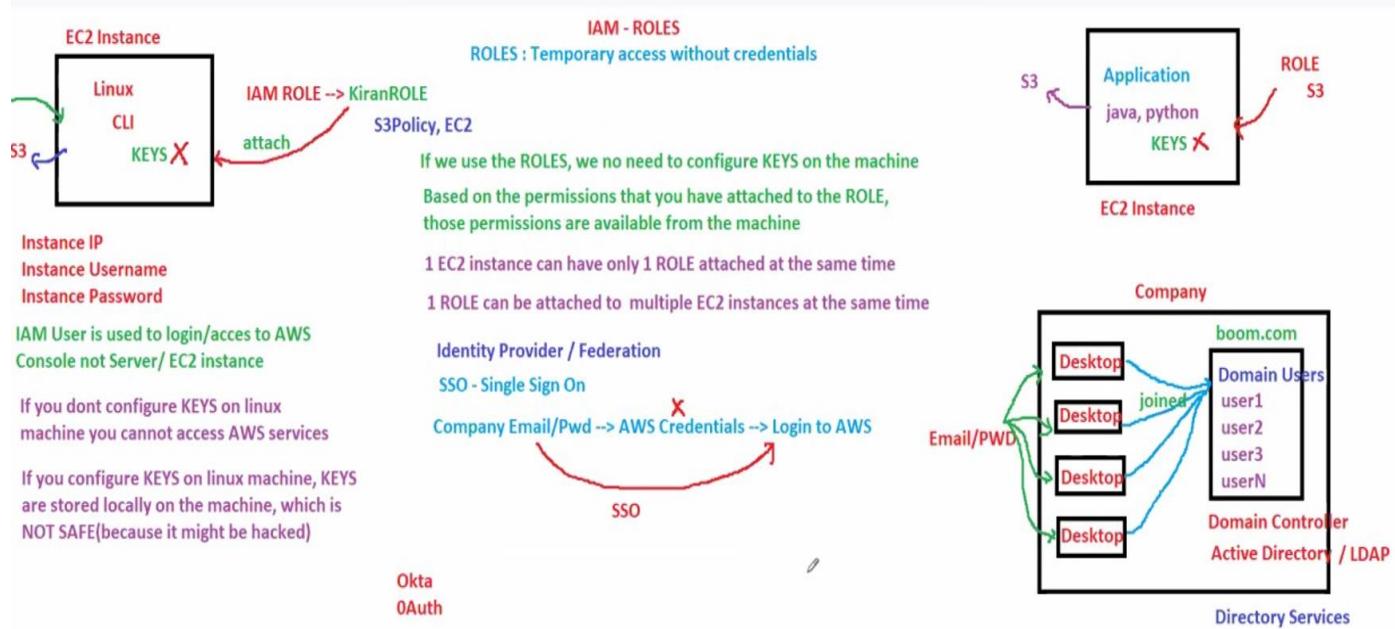
IAM

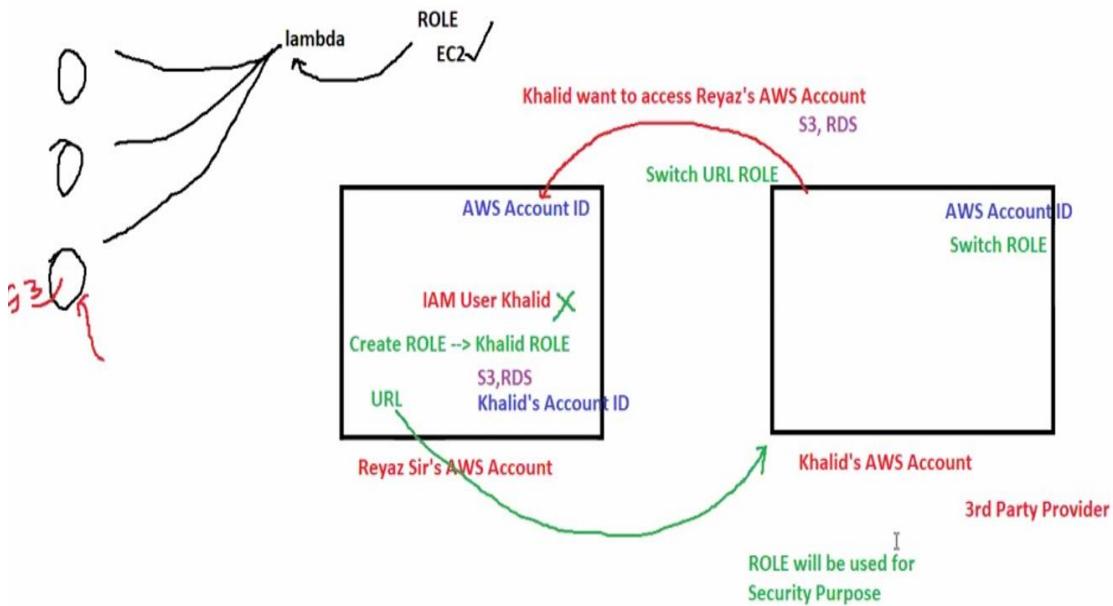


IAM Groups



IAM-ROLES





Elastic Compute Cloud

EC2 is Regional
 Servers = Instances
 750 hours / per month
 1 Year FREE

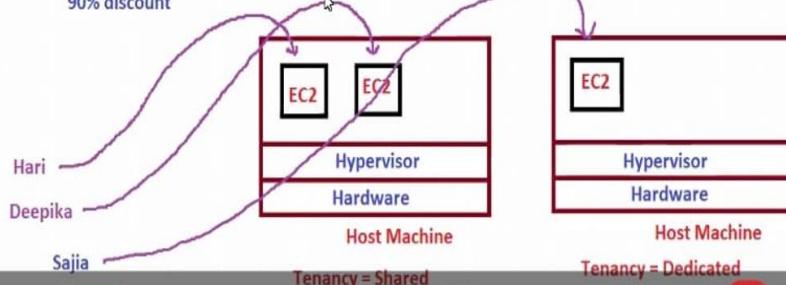
On-Demand Instances
Fixed Price (Hourly)
 Pay for what you have used
 No Commitments
 No Upfront payments
 No Predictable Usage

EC2 - Elastic Compute Cloud
 EC2 is a webservice from AWS that provides **resizable** compute services in the Cloud
 Resizable = Scale Up / Scale Down , Scale Out / Scale In
Scalability Elasticity
Pricing Models in AWS

<u>Reserved Instances</u>	<u>SPOT Instances</u>
Long Term Commitment 1 or 3 years	Bidding Auctioning Huge Capacity for cheaper price 90% discount
Upfront Payment(Full, partial) 75% discount on hourly price Predictable Usage	
Standard RI = 75% discount Convertible RI = To change the capacity of the instance anytime Scheduled RI = Reserve it for fraction of a day , a week , or a month	

Savings Plan

Launch
 Running --> Bill
 Stop --> No Bill
 Start
 Reboot --> No Bill
 Terminate --> Kill / Destroy
 No Bill



EC2-Families

General Instances = For General Purpose

Memory Instances = If you need more memory for your applications

CPU Instances = More CPU

Storage Instances = For More Storage

GPU Instances = Graphics, Heavy Machines

Every family has their own different instance types

All instance families	c5	d3en	inf1	m5n	r5	z1d
t1	c5a	f1	m1	m5zn	r5a	
t2	c5ad	g2	m2	m6g	r5ad	
t3	c5d	g3	m3	m6gd	r5d	
t3a	c5n	g3s	m4	mac1	r5dn	
t4g	c6g	g4dn	m5	p2	r5n	
a1	c6gd	h1	m5a	p3	r6g	
c1	cc2	i2	m5ad	p3dn	r6gd	
c3	d2	i3	m5d	r3	x1	
c4	d3	i3en	m5dn	r4	x1e	

EC2- Families / Instance Types

General Instances

Family Members = Instance Types

- t2.nano = 0.5GB RAM, 1 vCPU
- t2.micro = 1GB RAM, 1 vCPU
- t2.small = 2GB RAM, 2vCPU
- t2.medium = 4GB RAM, 4vCPU
- t2.large = 8GB RAM
- t2.xlarge = 16GB RAM

Scalability = Scale Up and Scale Down

Scalability can be achieved by changing the instance type

Anytime = Scale Up → No Data Lost
Anytime = Scale Down → No Data Lost

You should STOP the EC2 instance to change the instance type (downtime)

If you change the instance type, data in the instance will NOT BE LOST

Burstable Performance Instances

EC2 **2GB RAM** **t2.small** **t2.large**

Billable

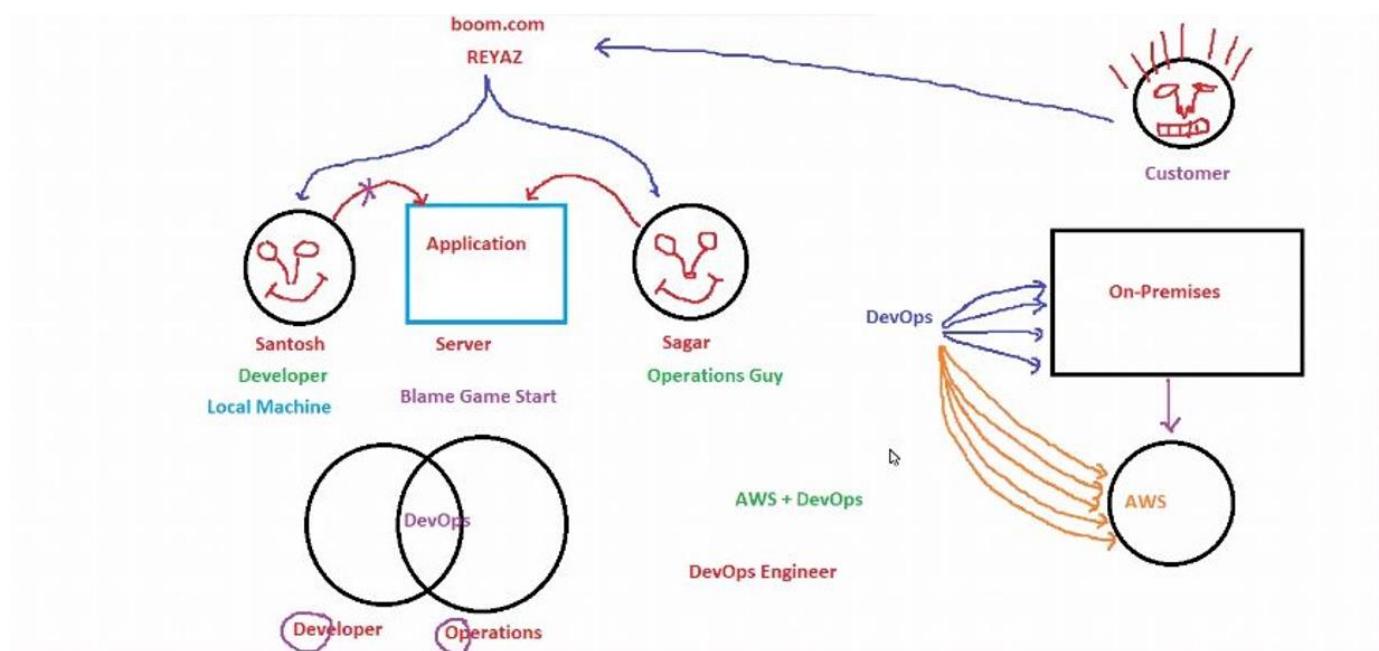
EC2 instance will enter into burstable mode and give high performance for limited period of time only

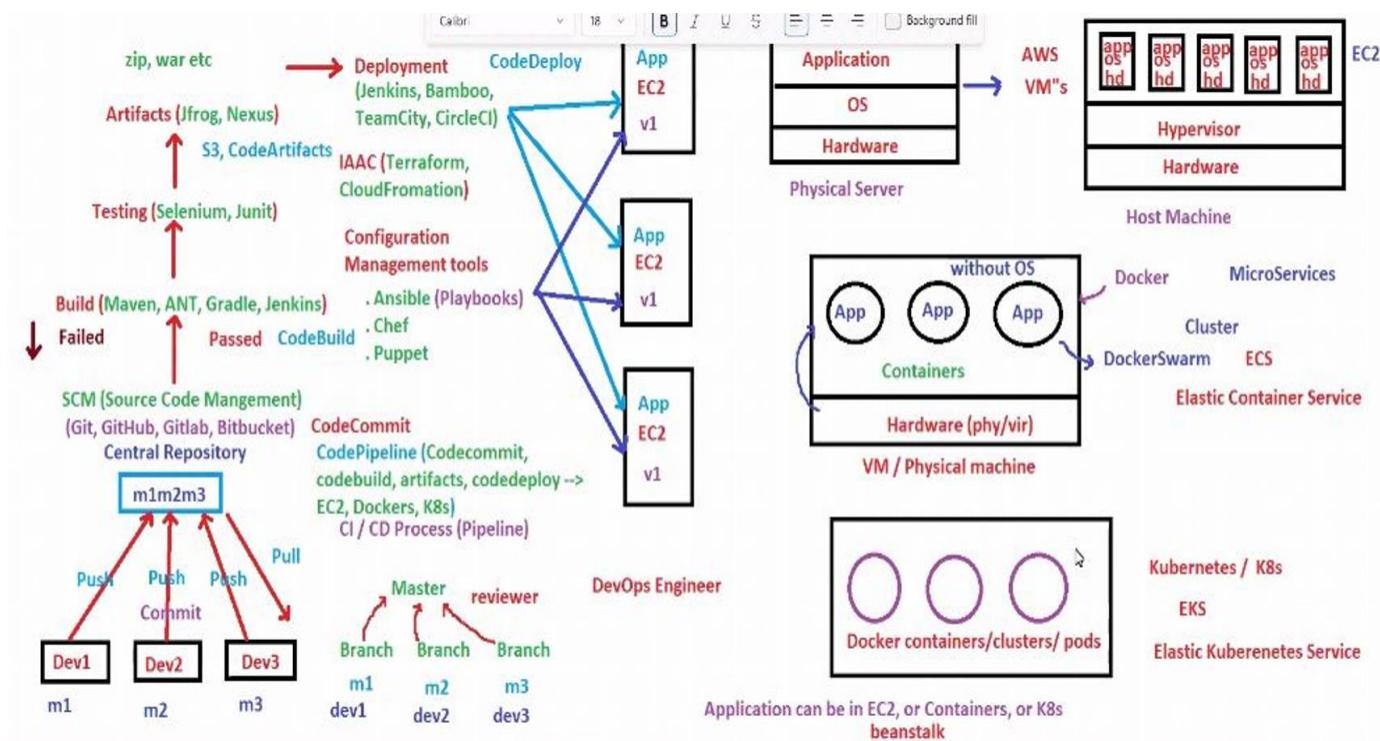
Application
1GB RAM
1vCPU
6 CPU Credits

t2 and t3 instance type

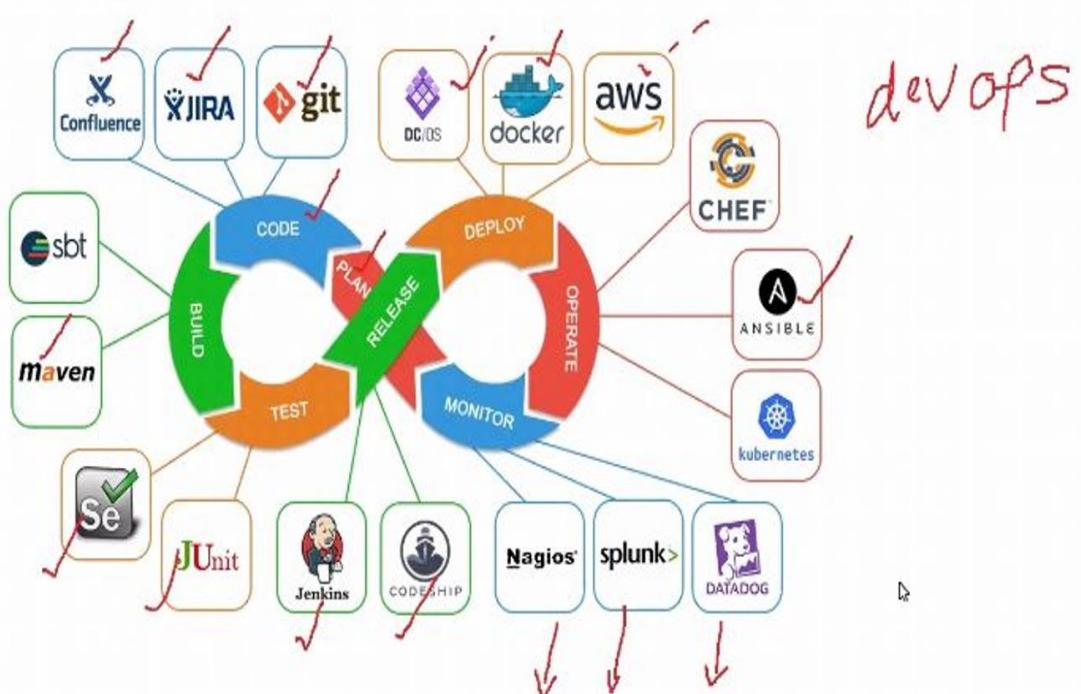
CPU credits will happen based on instance type by AWS

DevOps

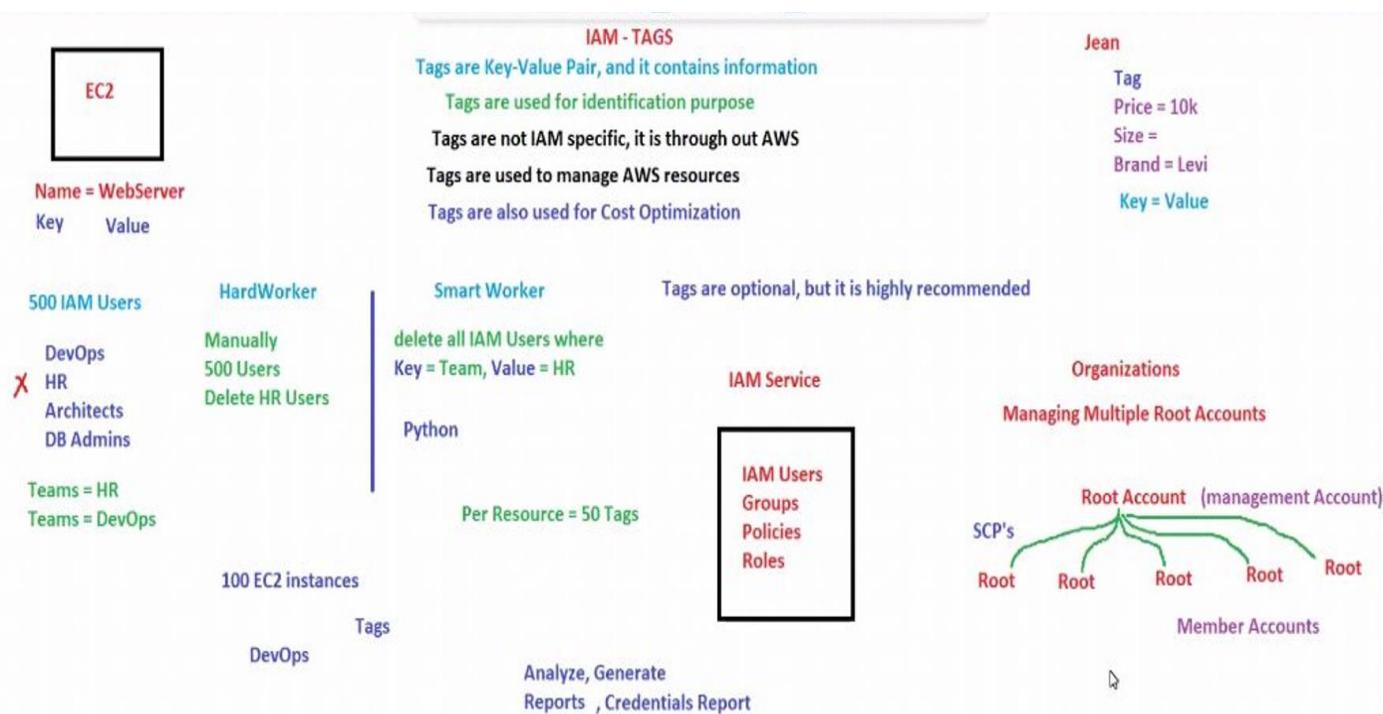




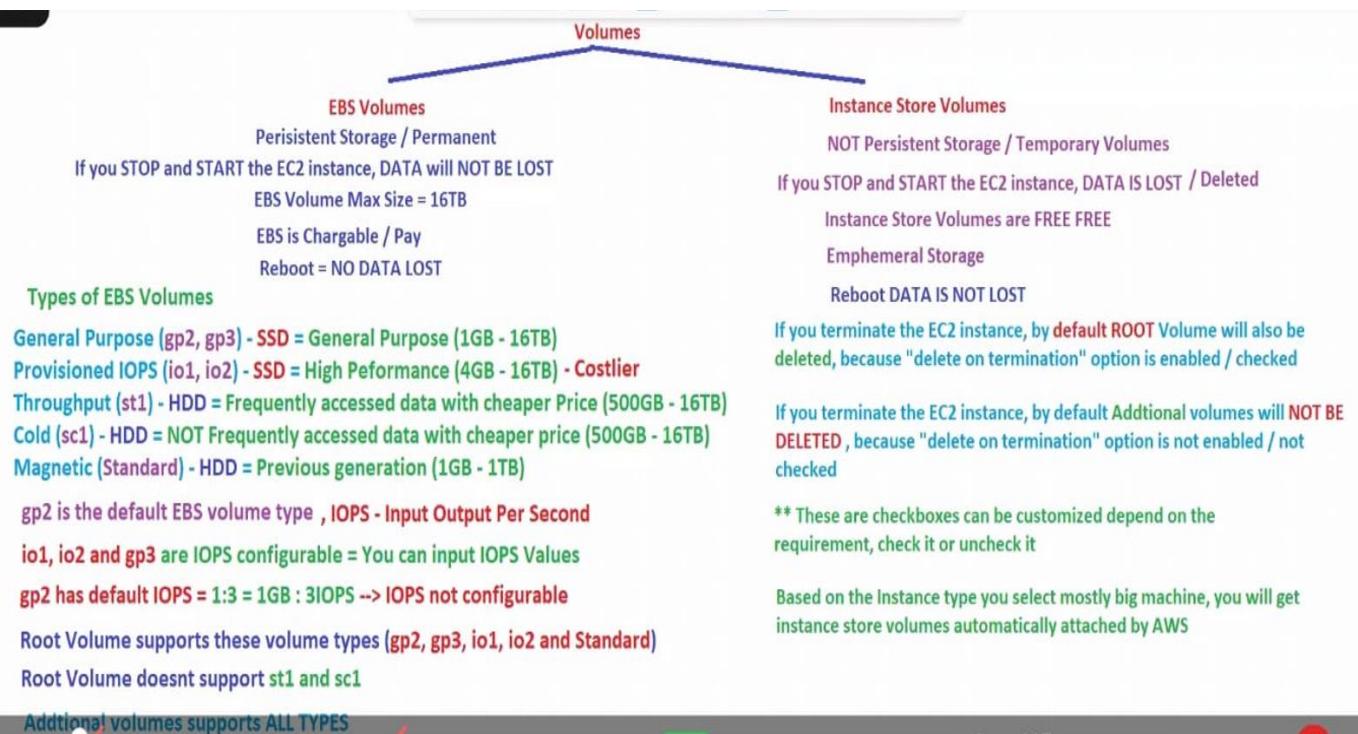
DevOps Tools

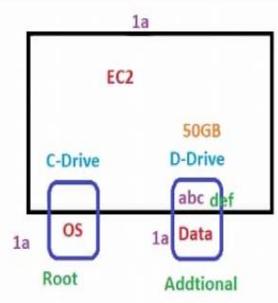
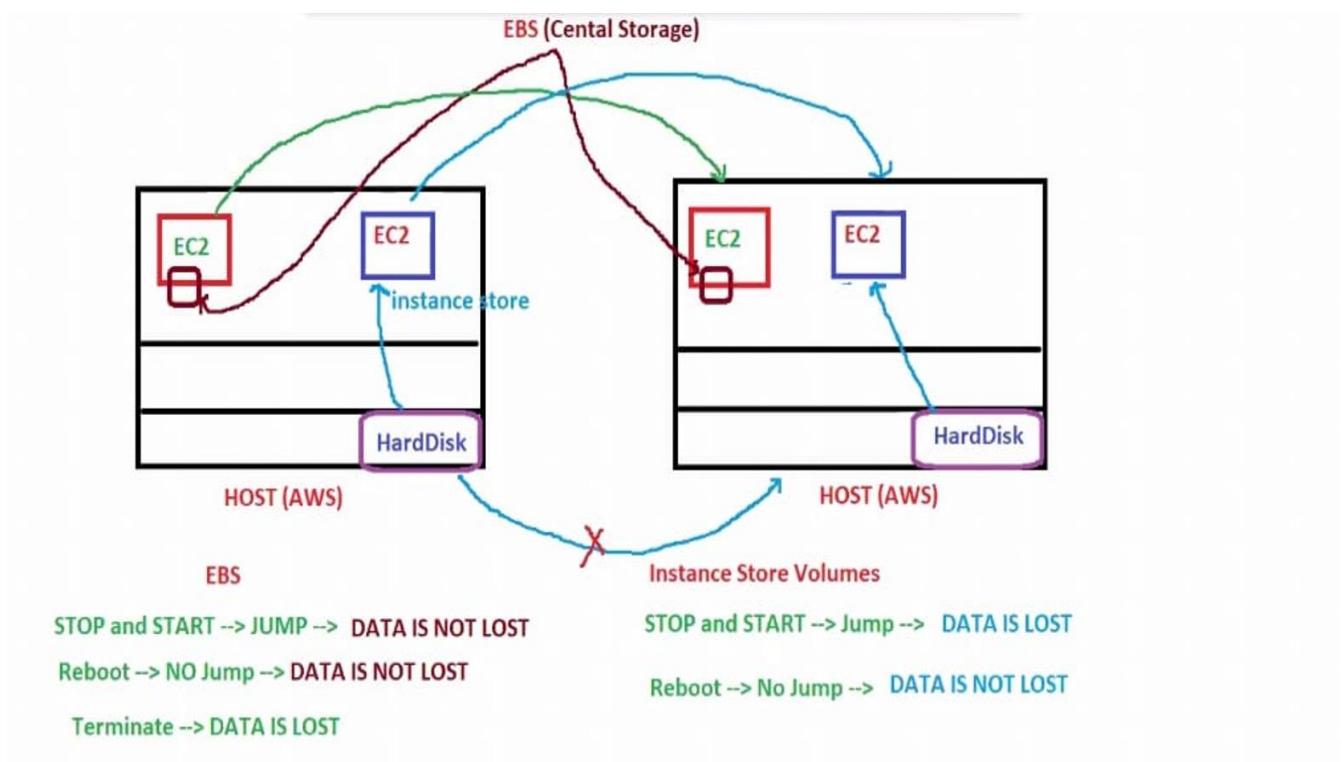


IAM Tags



Volumes





Vol 50GB --> Snapshot(50GB) --> abc
 --> Snapshot (50GB) --> X abc + def
 --> Snapshot --> def

Incremental backup

SNAPSHOTS

1. Snapshot is a point in time copy of the volume
2. Backup of the volume is also called as Snapshot
3. EBS Snapshots are created from EBS Volumes
4. You can create a Snapshot from the Volumes
5. EBS Volume --> EBS SNAPSHOT --> EBS VOLUME
6. You cannot attach snapshots directly to the EC2 instance, you have to create a volume out of snapshot first and then attach volume to the EC2 instance
7. Is it possible to login or use snapshots directly ? NO
8. Snapshots are stored in S3 (Provider's S3)
9. Snapshots doesn't have any AZ's
10. Snapshots are Regional
11. By default, Snapshots are Private, if required you can make it public
12. You can copy the snapshots from one region to another region in the same account
13. Snapshots can be shared from one AWS account to another AWS account using AWS account ID (Private)
14. EBS Volumes cannot be moved directly to any other region, use Snapshots

EBS Volumes are created from EBS Snapshots

Instance Store volumes are created from a template stored in S3

To create a snapshot we no need to stop the EC2 instance

By default, Volumes, snapshots are not Encrypted

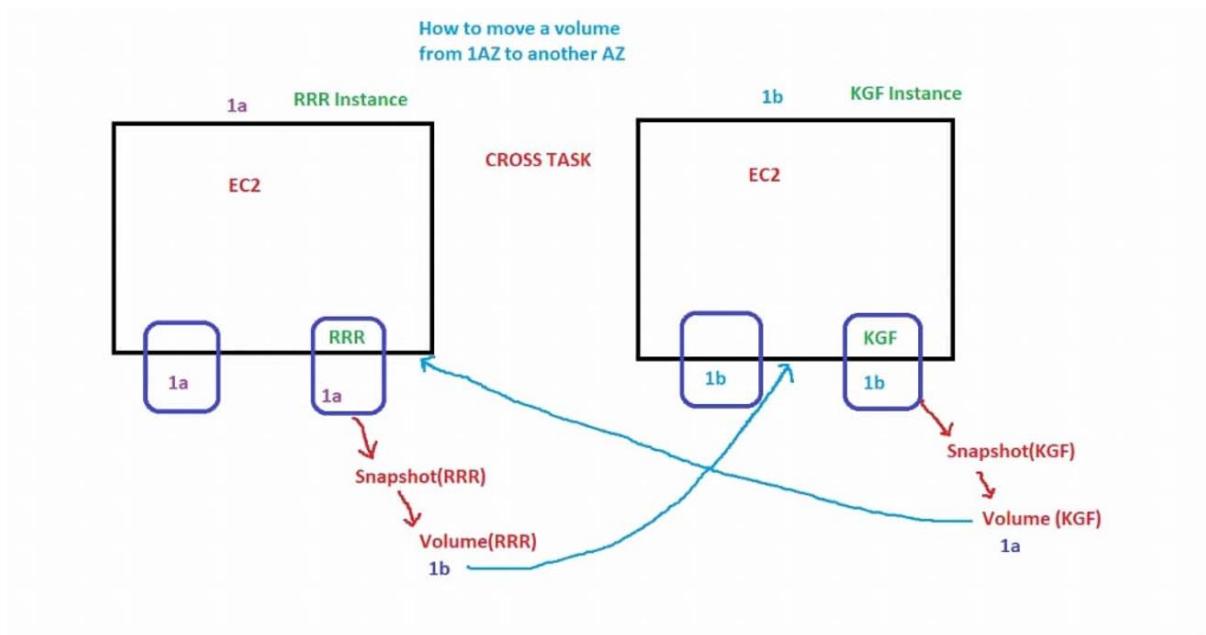
NOT Encrypted --> NOT Encrypted

Encrypted --> Encrypted

NOT Encrypted --> Encrypt (Copy Option)

All Encryption Keys are stored in KMS (Key Management Service)

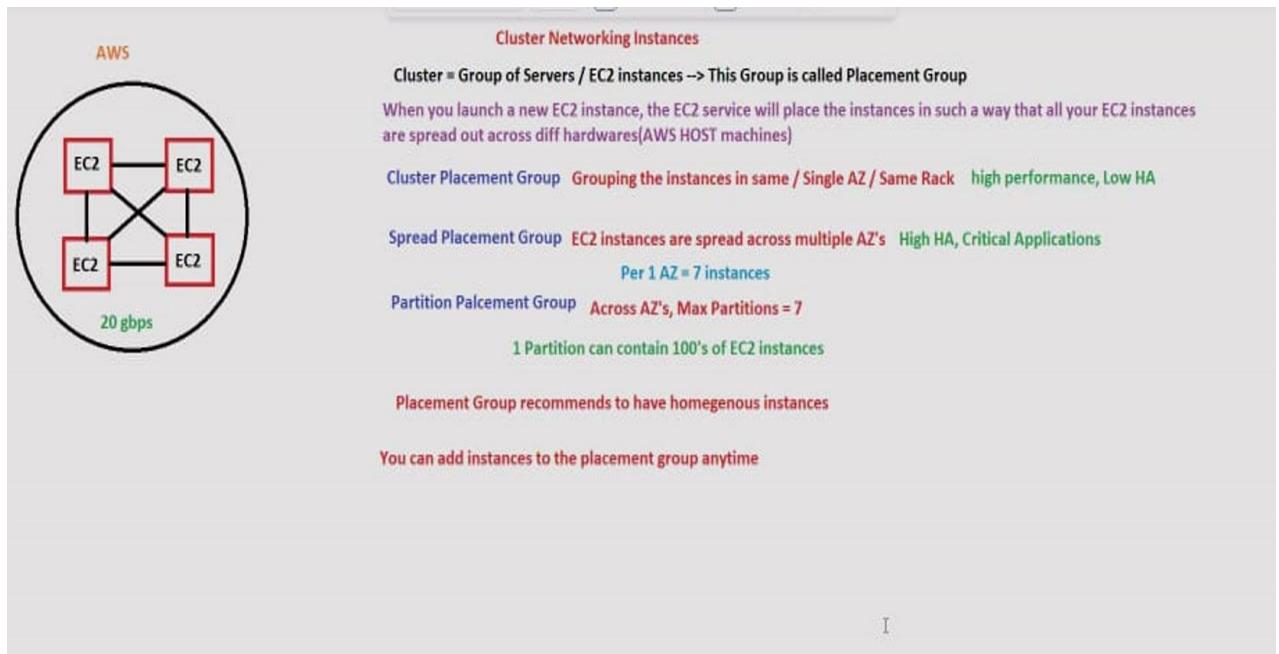
Encryption and Decryption are completely managed by AWS



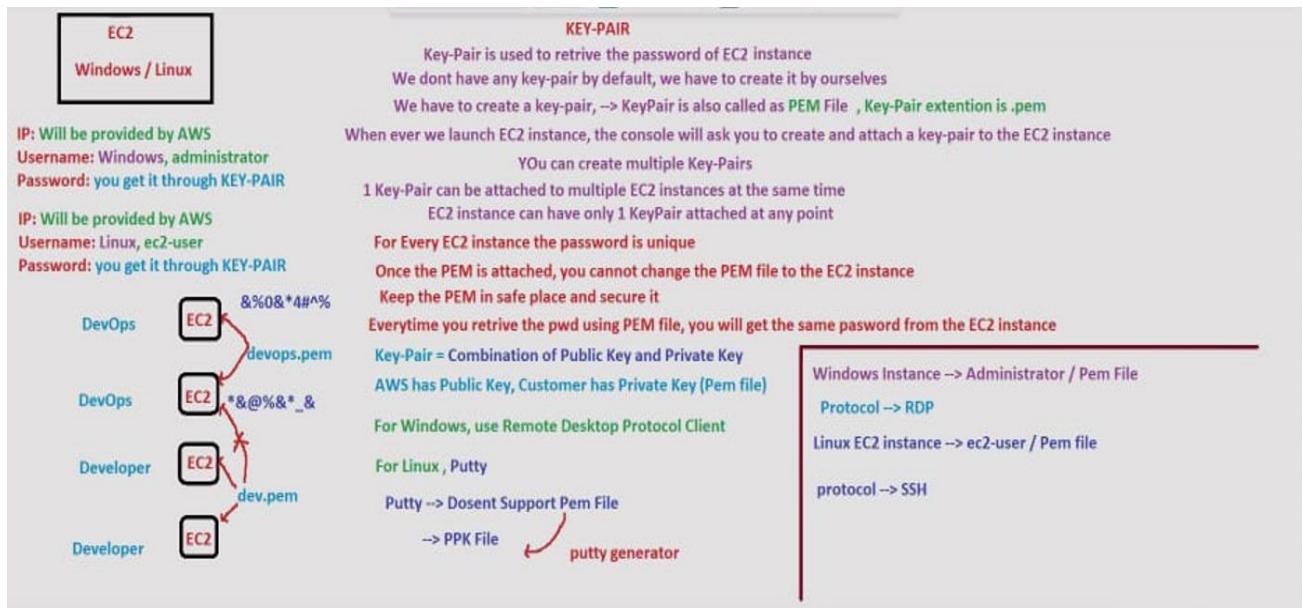
IMAGES

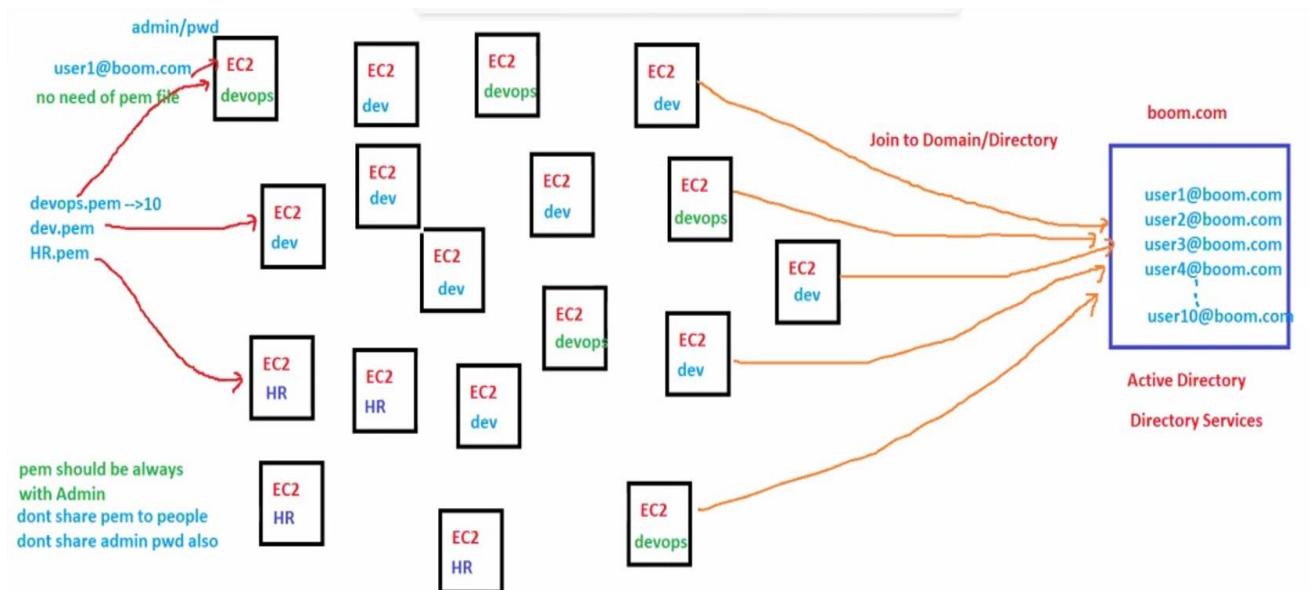
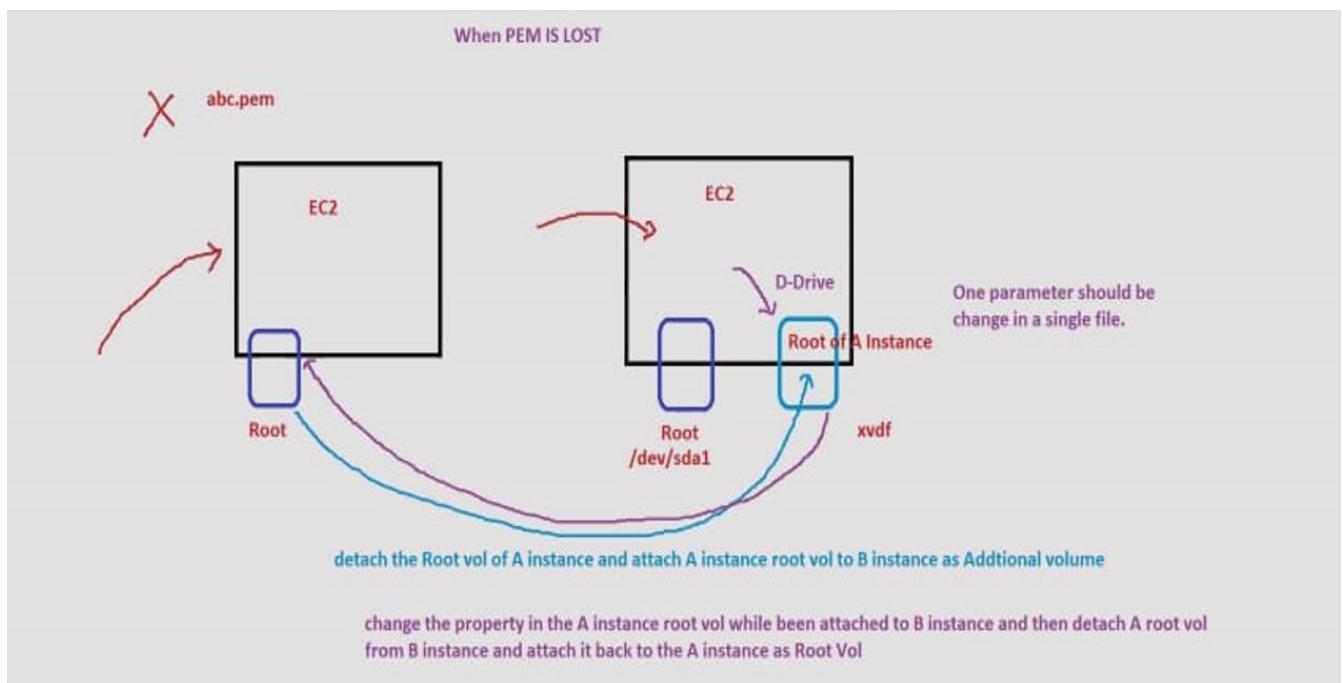
<p>Snapshot → Copy of the Volume AMI → Copy of entire EC2(includes Volumes)</p> <p>AWS AMI → Linux OS → AMI Linux EC2 Tomcat Custom AMI</p> <p>AMI's are stored in S3</p>	<p>IMAGES</p> <p>Copy of the OS is called Image Image = AMI = Amazon Machine Image Template of the OS is called AMI</p> <p>Copy of image includes all configurations that we did on original instance EC2 Instance → Image(AMI) → EC2 instance</p> <p>1 AMI, can be used multiple times to launch multiple EC2 instances AMI's are re-usable, AMI doesn't have any AZ's You cannot directly use AMI to login, instead launch EC2 instance from the image and then login to the EC2 instance By default, AMI's are Private, if required you can make it public AMI's are regional AMI's can be copied from one region to another region AMI can be shared from one AWS account to another AWS Account</p> <p>All public images are located at AWS Market Place</p> <p>Image Contains OS → Root Volume (EBS) → Root Volume (Instance Store)</p> <p>Images are backed by either EBS volume or instance store volume</p> <p>EC2 instance 2 Volumes → Image (2 volumes) Root Additional ↓ 2 Snapshots</p> <p>Snapshot (OS) → Image</p> <p>NO need to stop EC2 instance to create a image (up to you)</p>										
<p>OS</p> <table border="0"> <tbody> <tr> <td>Windows</td> <td>Linux</td> </tr> <tr> <td>win server</td> <td>RedHat</td> </tr> <tr> <td>2012, 2021, 2022</td> <td>CentOS</td> </tr> <tr> <td>Plain OS</td> <td>ubuntu</td> </tr> <tr> <td>Plain OS + Few Apps</td> <td></td> </tr> </tbody> </table>		Windows	Linux	win server	RedHat	2012, 2021, 2022	CentOS	Plain OS	ubuntu	Plain OS + Few Apps	
Windows	Linux										
win server	RedHat										
2012, 2021, 2022	CentOS										
Plain OS	ubuntu										
Plain OS + Few Apps											

Cluster Networking Instances

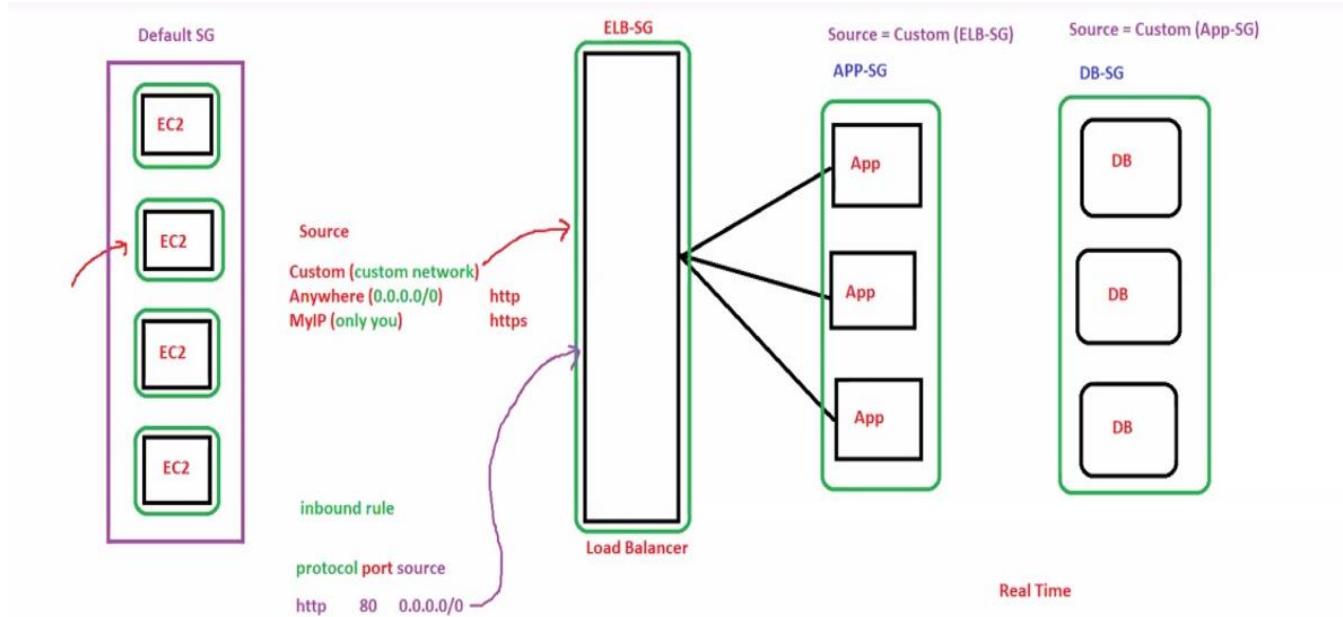
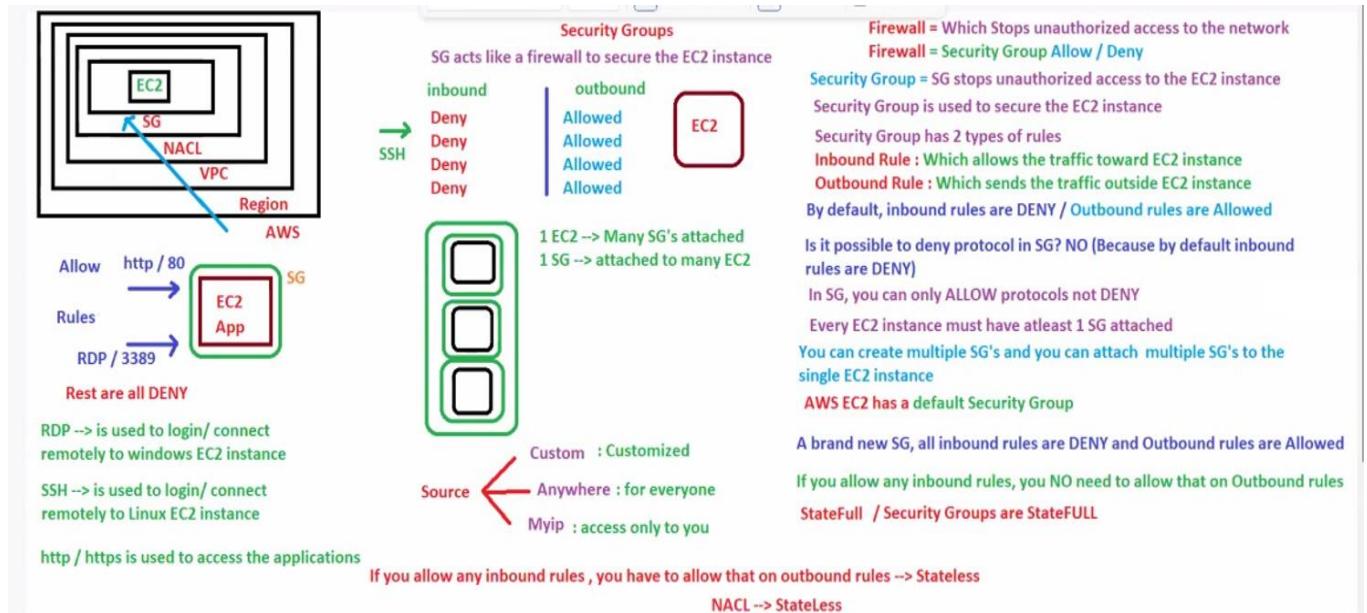


KEY-PAIR

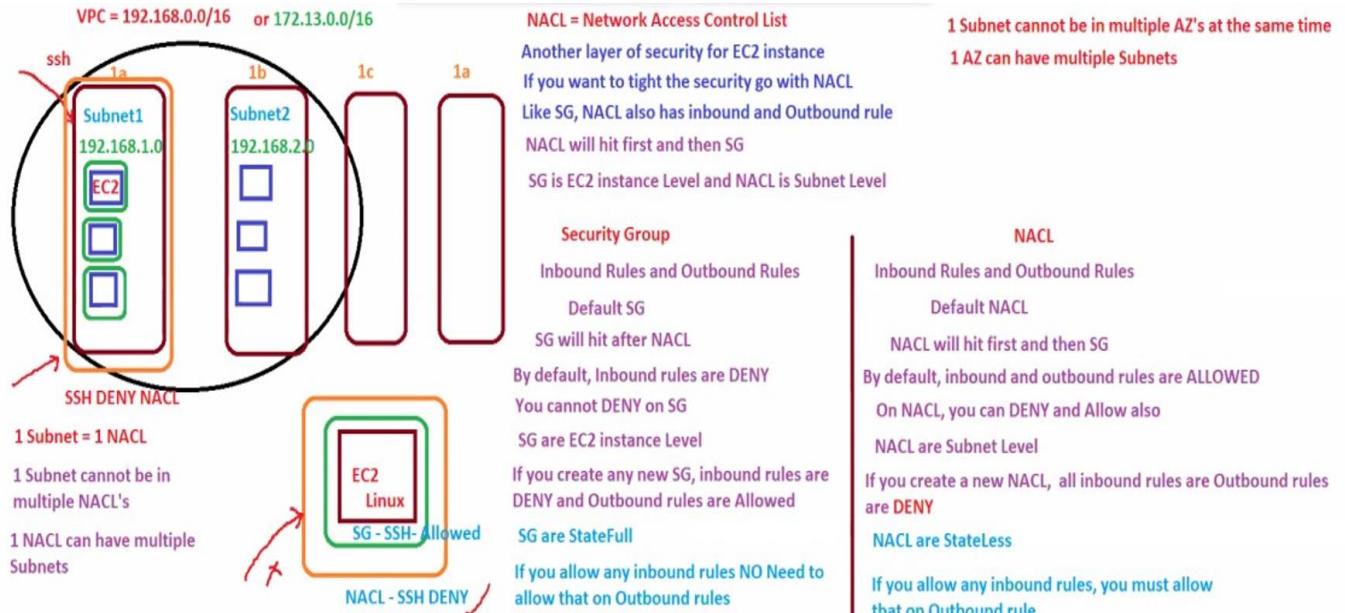




Security Groups



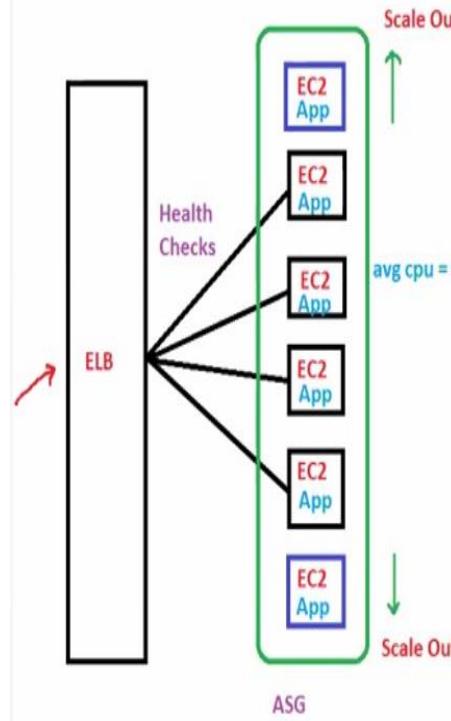
NACL



Auto-Scaling :

ELB does the Health Checks for the Application
CloudWatch monitors EC2 instance

Auto-Scaling = Scale Out and Scale In EC2 instances based on the load
adding removing



MIN = The min number of EC2 instances that the ASG should have Ex Min = 2 } Boundaries
MAX = The max number of EC2 instances that the ASG should have Ex Max = 6
Desired Capacity = The number of EC2 instances that you wish / desired to launch initially

3 Types of Scaling Options

Manual Scaling = If you are manually modifying DC, Min, Max

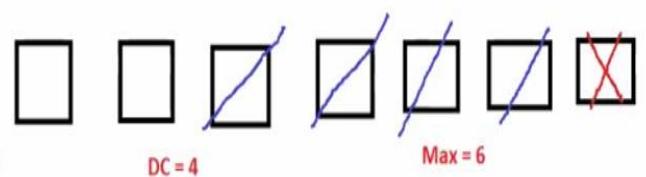
Scheduled Scaling = Based on the time period or a day

Dynamic Scaling = Based on the load (CPU, network, ELB request count) → Metrics (CloudWatch)

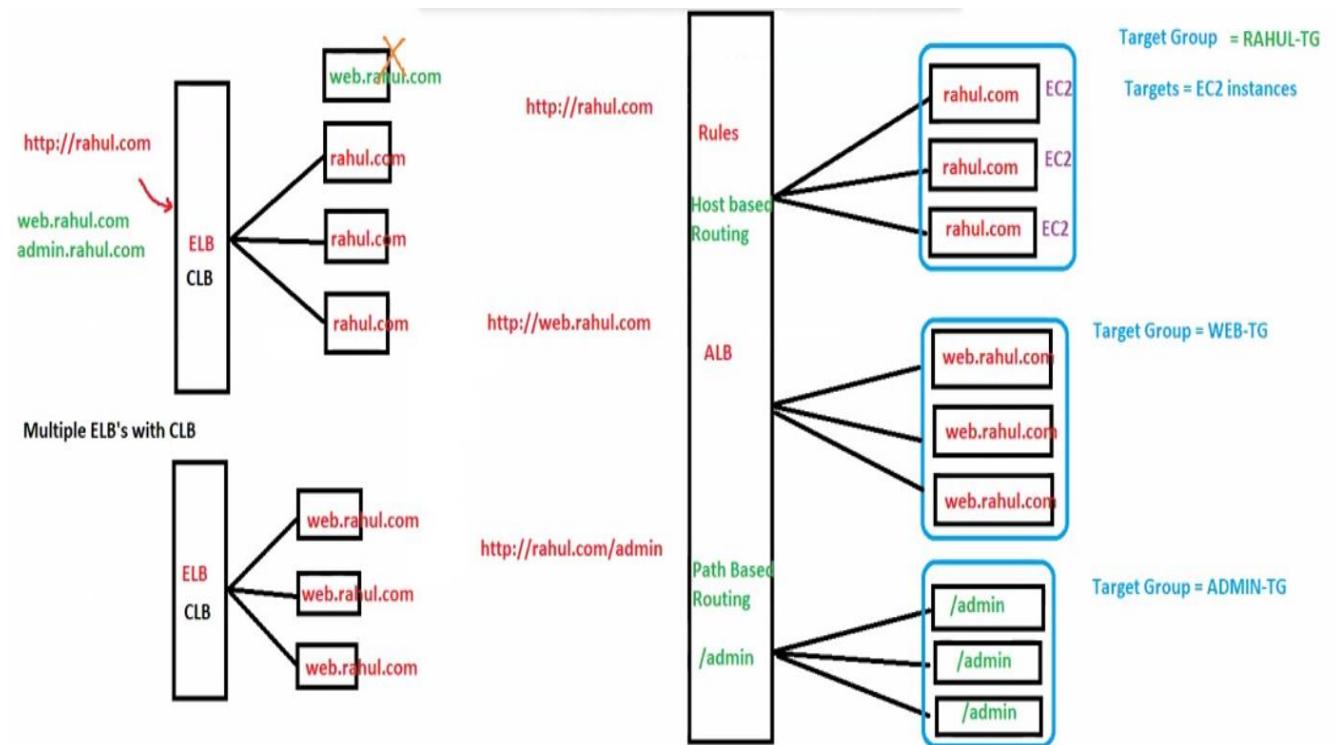
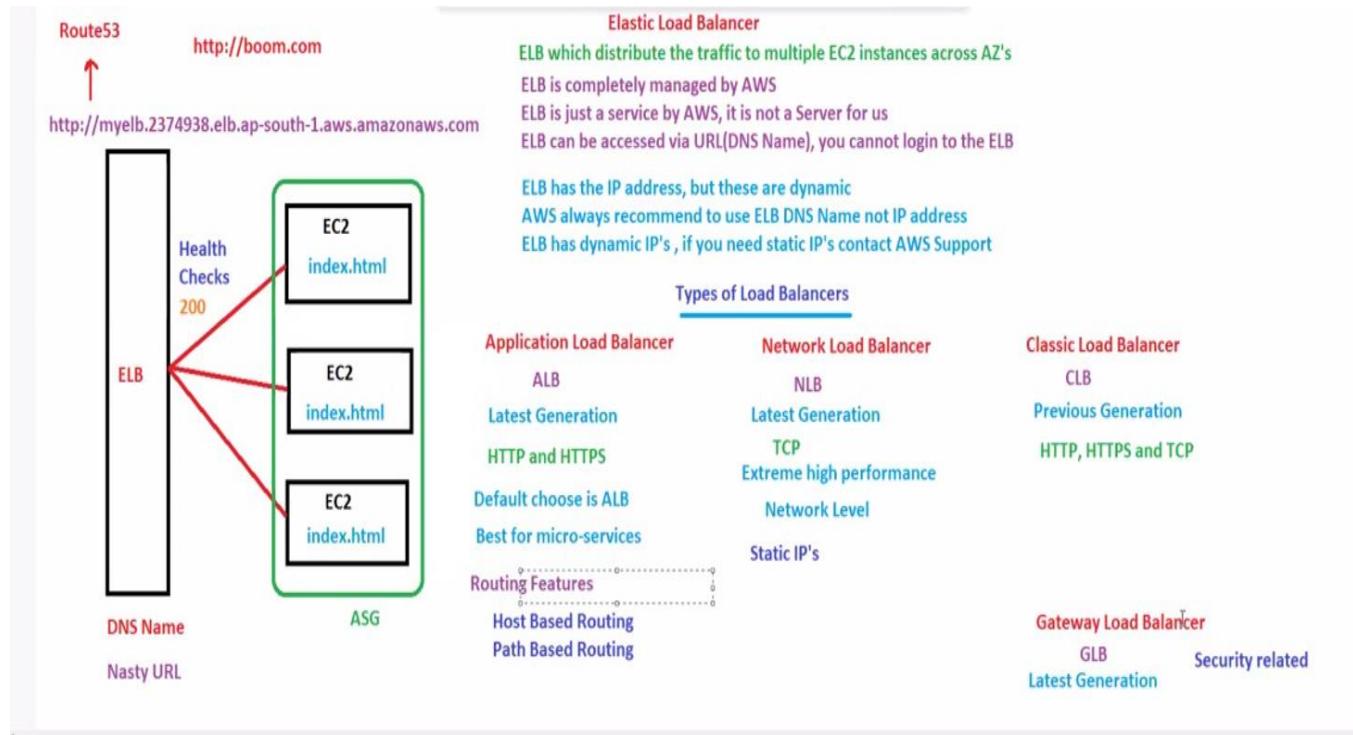
Launch configuration (AMI(app), Volumes, SG, Key-Pair, Tags, Instance types etc)

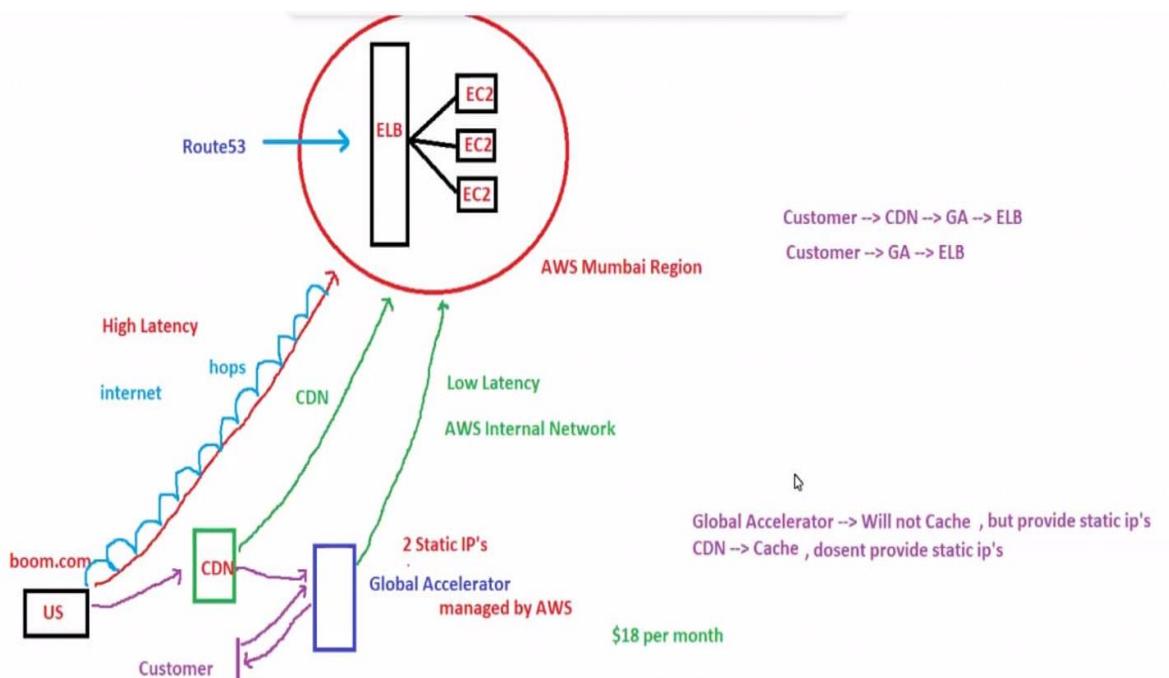
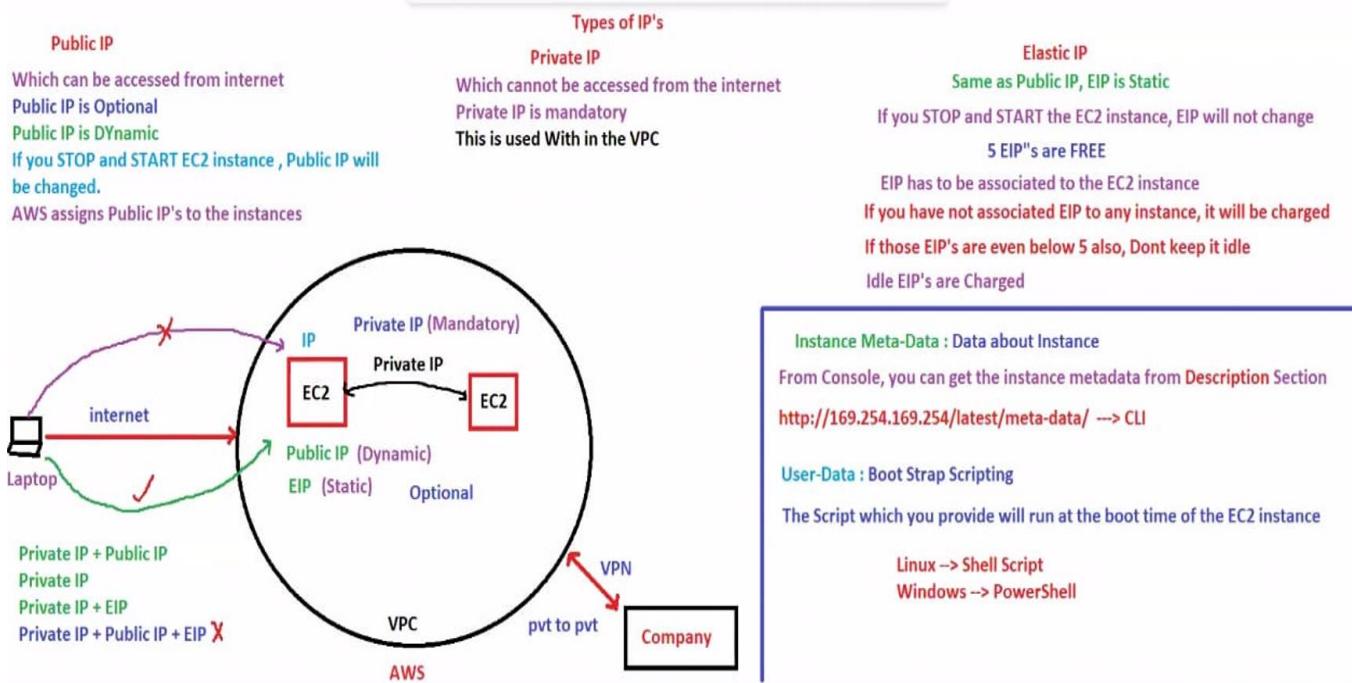
Launch Template

ASG = ELB + EC2 instances + Launch Configs + SNS



Elastic Load Balancer :





Practicle

6 State

- 1) Pending-Running
- 2) Stopping-stopped
- 3) Shuting down to terminating

17-5-2022

TASKS:

1. Launch Windows 2019 EC2 Instance(step 1 to step7(create a key pair and save it safe))

Add a new rule RDP protocol to the Security Group (dont do any changes to the default rule)

use remote desktop protocol to connect to windows machine(username: administrator, pwd: key-pair)

2. Launch Linux redhat EC2 Instance and try to connect it

Download Putty

Download PuttyGenerator

convert PEM to PPK using PuttyGen

--> Open PuttyGen

--> Load your Pem file (Load --> Choose Pem file --> save private key as xxxx.ppk)

Add a new rule SSH protocol to the Security Group(dont do any changes to the default rule)

Use Putty to connect to Linux machine(hostname: publicIP --> expand SSH --> select Auth --> browse ppk file) --> Connect it

3. Try to stop and start and reboot EC2 instance --> public IP changes or not

4. Assign EIP to the machine and try to stop and start --> EIP will change or not

5. Disssociate EIP from the Instance and release it to AWS.

6. Create Launch template and launch EC2 instances from it and then and delete it (launch ec2 instances from template)

7. Try shutdown behaviour from ec2 instance and see if the instance is stopped or terminated, change to terminate and then shutdown again and see the difference.

8. Review options in ACTIONS

9. Terminate EC2 instances.(if you have protection enabled --> disable that first from instance settings --> change termiantion protection)

18-5-2-22

IMAGES TASKS

Launch a windows instance --> login to that instance --> create some files or install a software
--> Create image --> launch instance from image --> login to the newly created instance(password?) -
-> Check the files or software are available

Copy the image to another ireland region --> once verified, delete the image in ireland region

Encrypt the image --> use copy option --> check encryption option --> create image --> launch ec2 instance --> login and see the difference

Copy the encrypted image to same region and another region (?)

Copy the Snapshot to another region --> once verified ,delete the snapshot

Encrypt the Snapshot and share it to the other AWS account ?

Try share the image and snapshot to another account

Create a image from the snapshot

First try deleting the snapshot and then AMI --> see if this works

First try deleting the AMI and then snapshot--> see if this works

Archive snapshot and restore it again

19-05-2022

TASKS

1. CROSS TASK (additional volumes + Root Volumes) - different AZ's
2. Increase the root volume size
3. Add addtional volume and make it available to the user.
4. Play with attach and detach volume for Root and Addtional volumes

--> detach 1a root volume and attach it to other new 1a EC2 instance as root vol (same AZ)

--> detach 1a root vol and attach it to other new 1a EC2 instance as addtional vol (same AZ)

--> Assume you lost your pem file, and we need to login to the EC2 instance how?

--> Take a snapshot (Mumbai region) and copy to another region(ireland region) --> from snapshot --> create volume --> attach it to ec2 instance(ireland)

5. Extend the existing volume on Linux

6. New additional volume for Linux

7. Life Cycle Manager policy and delete it --> make sure snapshots are created using UTC time (tag volumes properly)

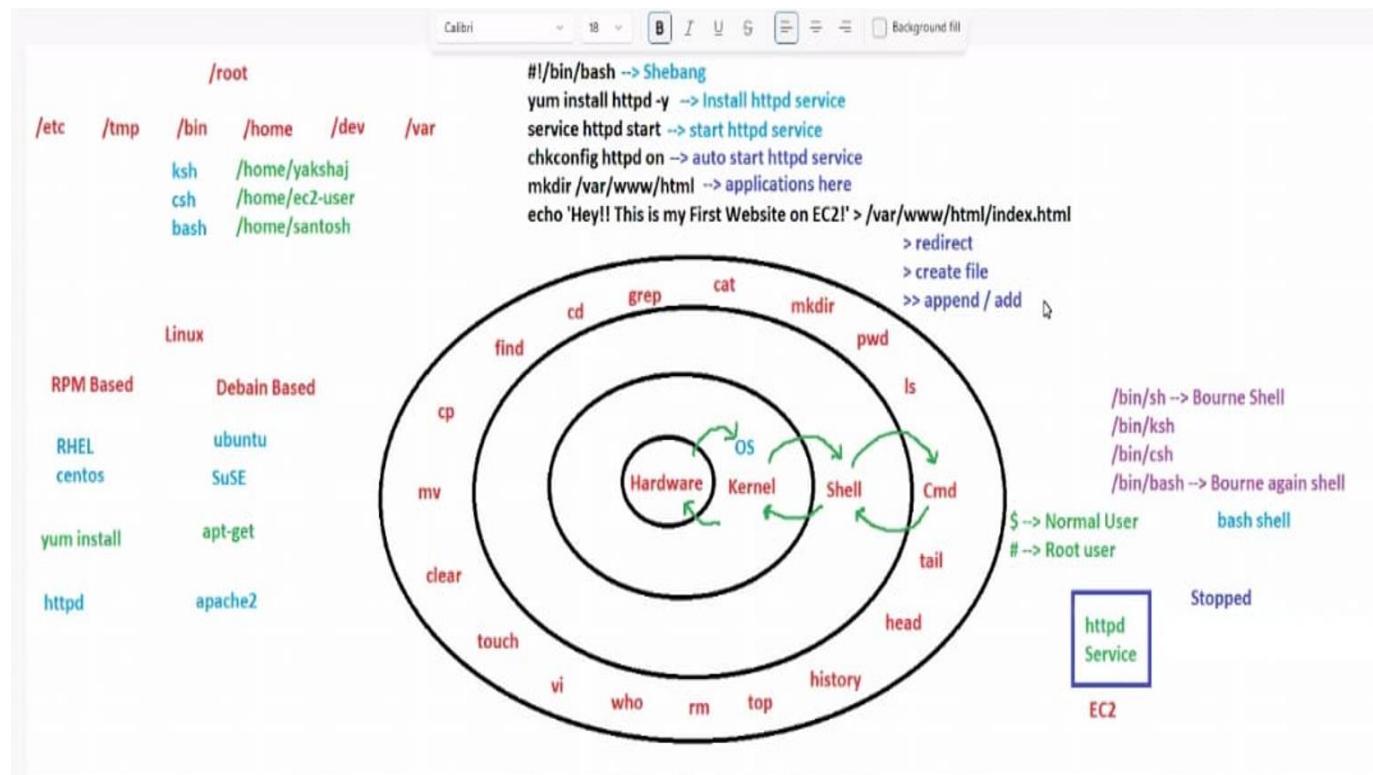
8. Terminate EC2 instances

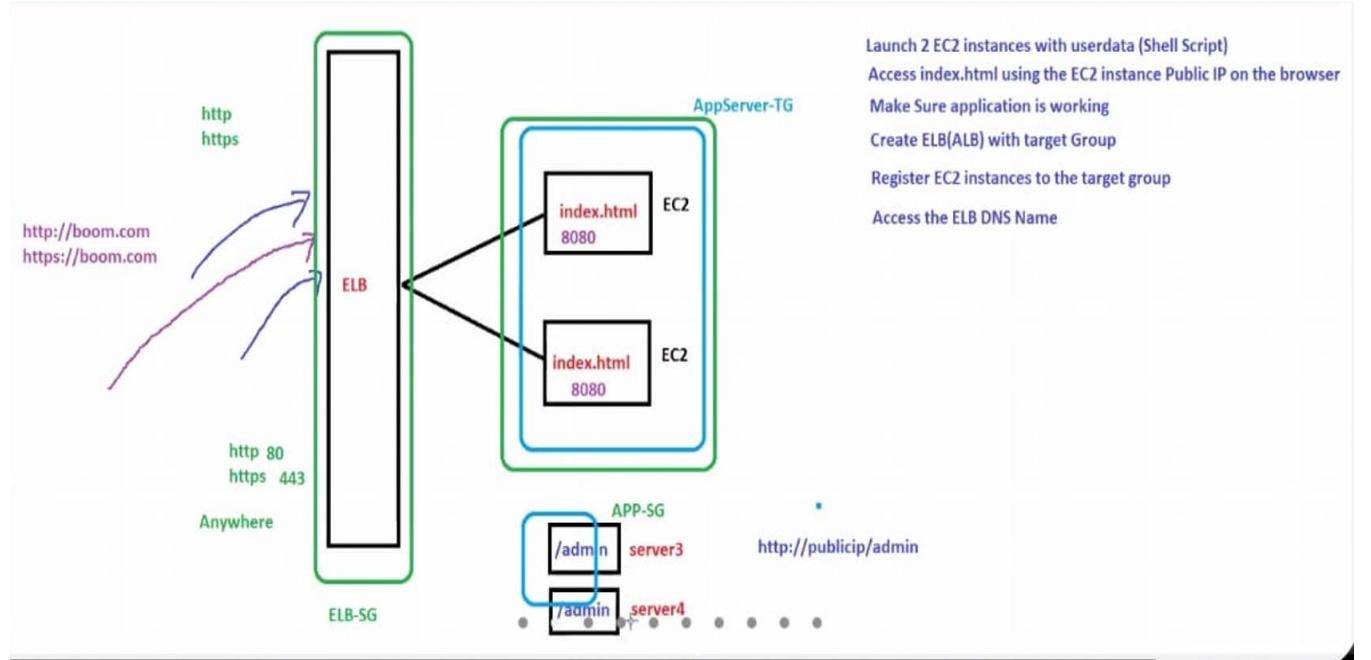
9. Delete additional volumes, life cycle policy

Extra URL:

<https://youtu.be/FUXy2t28oqc>

20-05-2022





```
#!/bin/bash

yum install httpd -y

service httpd start

chkconfig httpd on

mkdir /var/www/html

echo 'Hey!! This is my First Website on EC2!' > /var/www/html/index.html
```

22-05-2022

- C 6. Check the targets in target groups, it should show healthy --> try stickiness
 --> configure stickiness
 7. Explore path based routing (create 4 instances, 2 with /index.html(TG1) and 2 with /admin(TG2) and add rules in target groups.
 7. Terminate EC2 instance, ELB and target groups.

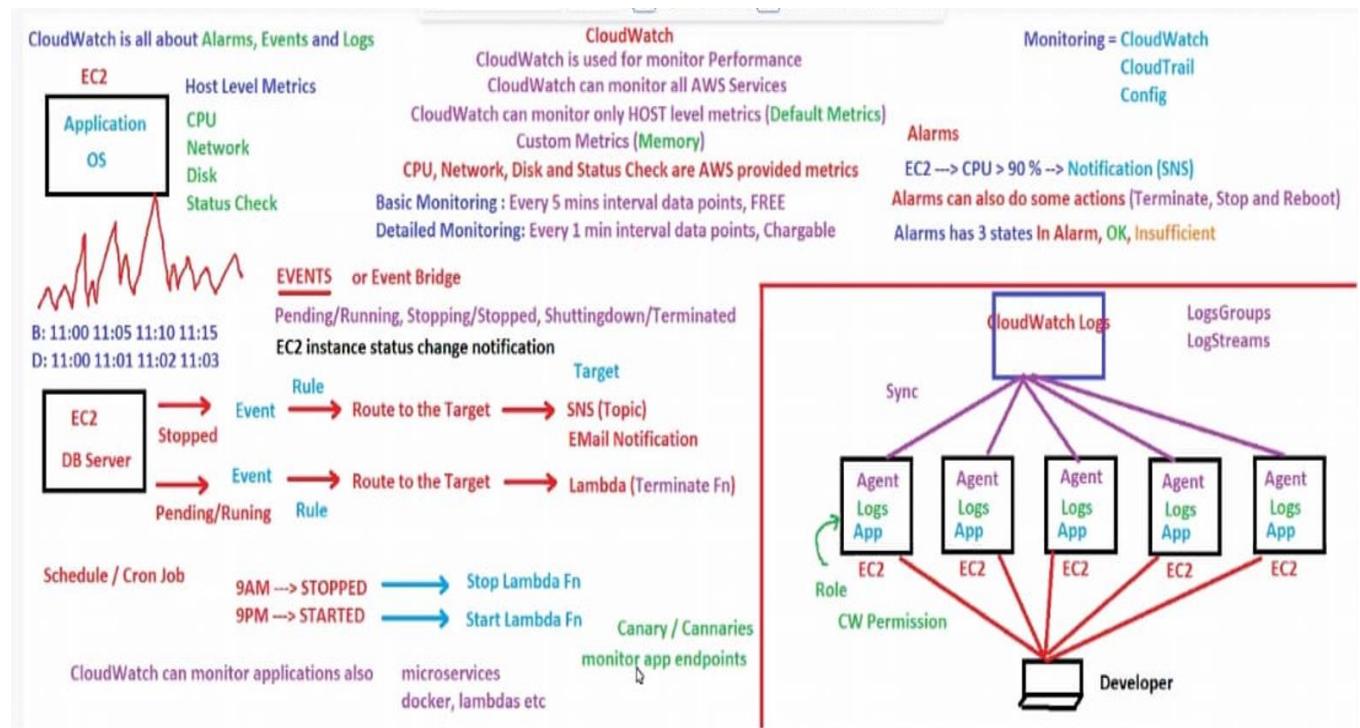
Auto-Scaling

1. Create ELB with Empty Target Group
 - 1.1: Keep HTTP in your SG, and make sure you have default rule ALL TRAFFIC with self
 2. Create Launch Configurations(select AMI ID, provide user data script)
 3. Create ASG from the created Launch configuration (min, DC, max)
 - 3.1: Check your targets in target groups, it should be healthy
 4. Access your ELB DNS Name.
 - > try to do manual scaling
 - > try to do schedule scaling
 - > try to do instance refresh
 - > try to terminate ec2 instances manually and see what happens
 5. Delete ASG
 6. Delete launch Config
 7. Delete ELB and TG
- Explore: Setup an application inside EC2 --> Create AMI --> Use this Custom AMI in LC and create ASG using this LC. update the application again --> Create new AMI --> Copy and Create LC with new AMI --> Update ASG with new LC

While Creating the image you can add the number of additional volumes

Encrypted snapshot can not be shared to others

23-05-2022



24-5-2022

(Practise on Cloudwatch)

=====

Create a role with cloudwatchfull access

launch Amazonlinux2 ec2 instance and attach role

sudo yum update -y --> it will update all patches

sudo yum install -y awslogs --> installing CW agent

Edit the file and check the log path: /etc/awslogs/awslogs.conf

Edit region /etc/awslogs/awscli.conf

sudo systemctl start awslogsd

Check Cloudwatch Logs

CloudWatch

--> Stop or Terminate the EC2 instance by creating Alarm (if the CPU is less than 10%)

--> Create Alarm from CloudWatch Console

--> Create a billing alarm (> 100 INR)

--> Create an Event and get the Email notification if any one launch the EC2 instance

--> Try Schedular in CloudWatch with Lambda (Stop and Start EC2 instance) --> Follow URL

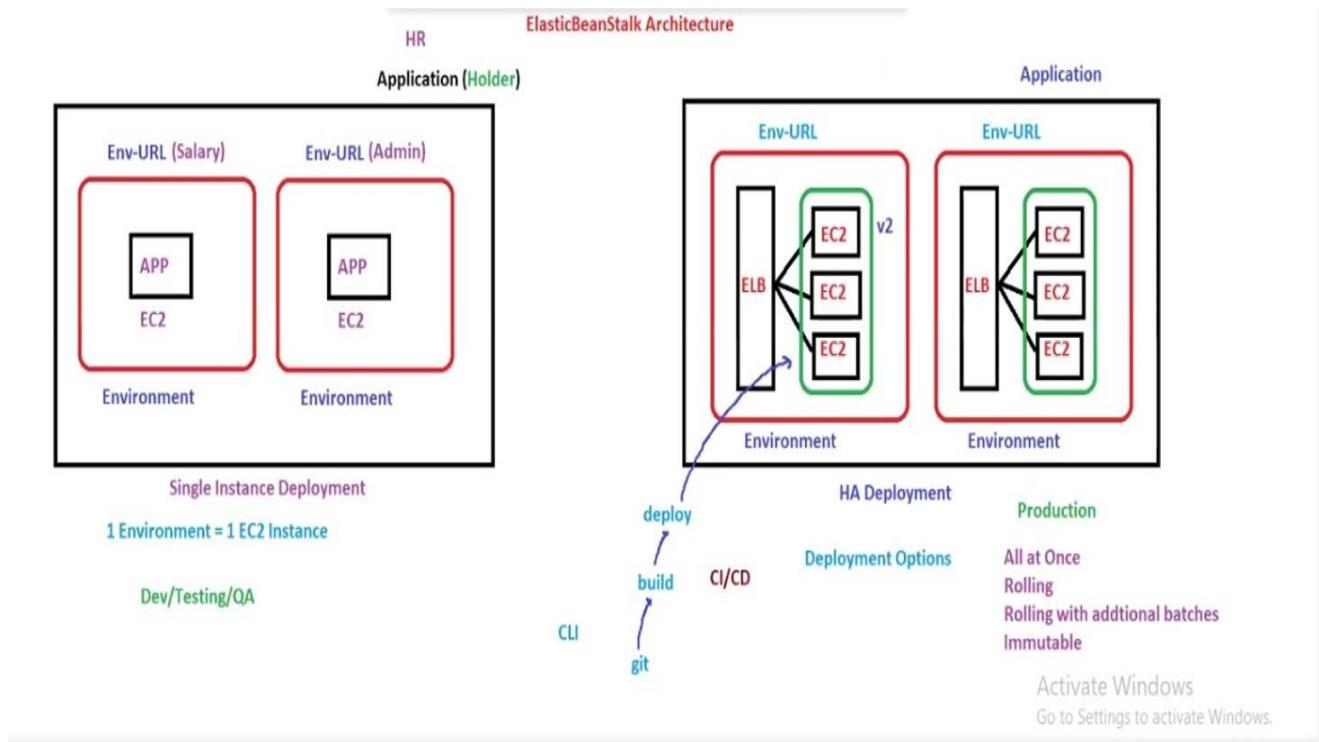
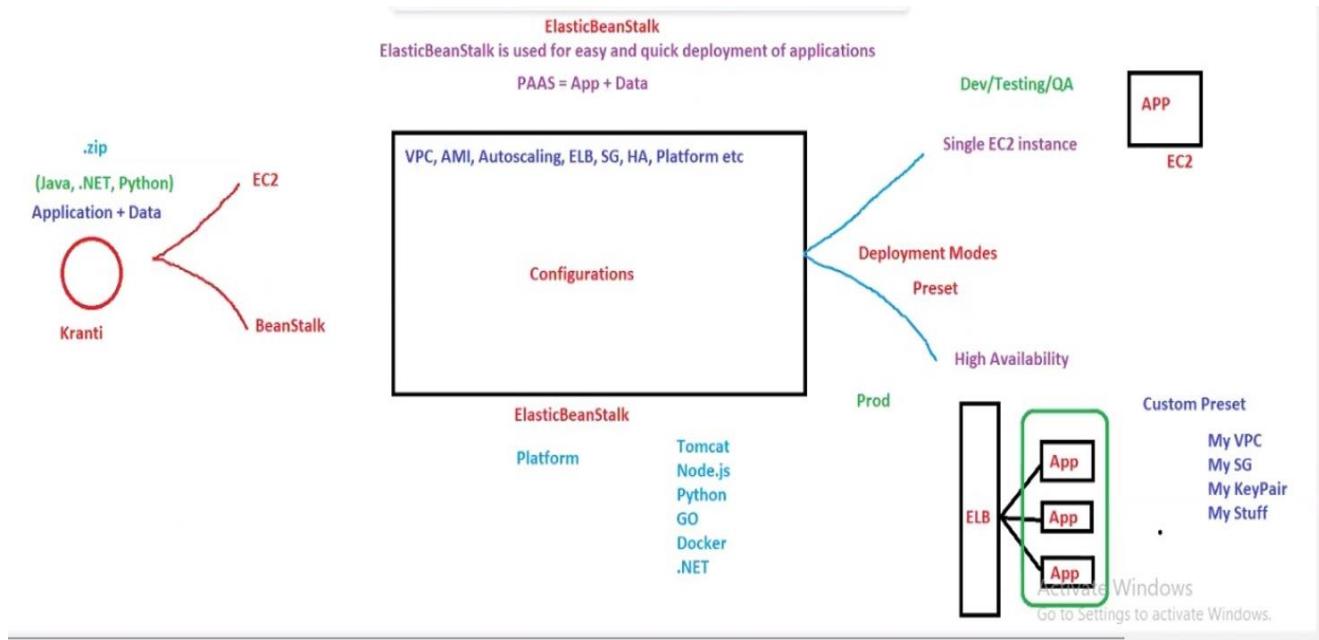
--> Setup CloudWatch Logs on Linux

--> Create a sample Dashboard and add widgets

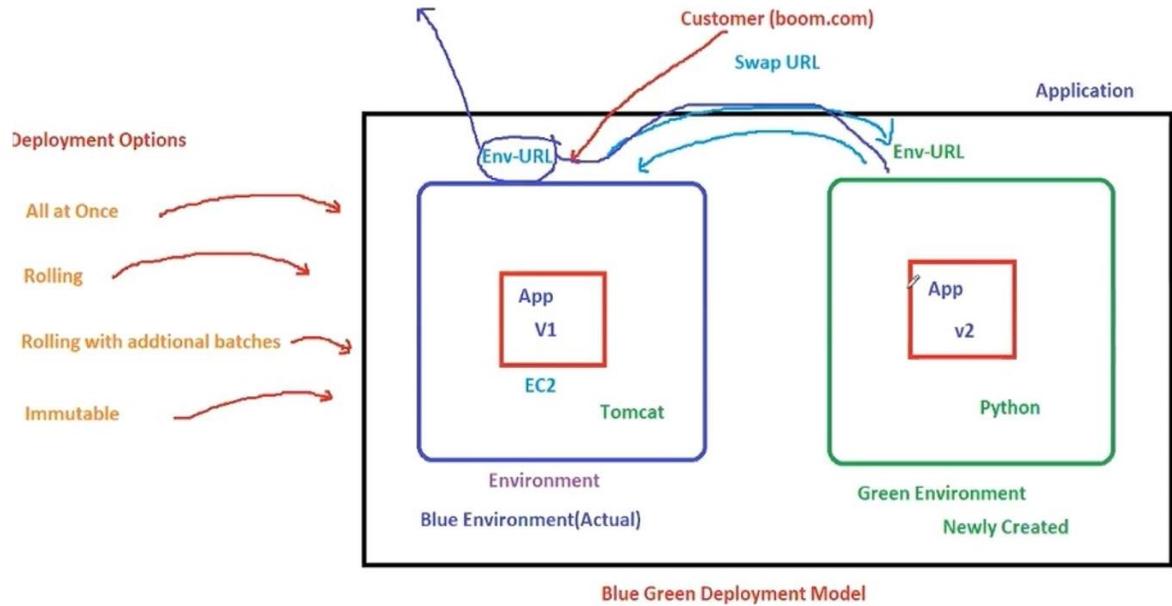
--> Clean up Everything(Terminate EC2, delete dashboard,events,Logs, Cannary,S3 bucket)

--> Setup CloudWatch Logs on Windows(explore) + Custom memory metrics

25-5-2022



26-05-2022



```
*****
Beanstalk
*****
--> Create Application with single instance preset
--> Create beanstalk env with tomcat --> Access the website using Env-URL
--> Create beanstalk env with Python--> Access the website using Env-URL
--> GO to application level options Swap the URL and then access the env-URL (Blue Green Deployment)

--> Create a new Application and environment with HA preset and check in EC2 console for ASG, ELB, TG etc
--> Clone env, restart env, rebuild env --> See what is happening
--> do Blue green deployment on HA
--> Terminate the environment and restore it
--> Download the logs and Go through it once
--> Delete the Application
Upload you own application and redeploy with latest application
*****
```

Activate Windows
Go to Settings to activate Windows.