=> AWS -> EC2 — RDS — S3 —

LoadBalancers — Autoscaling Group

Application Loadbalancer -> 2
Network LBR —
Gateway LBR

Application LB --> layer 7 ex: http, https microservices, advanced routing, path based routing .

Network load balancer : Layer 4 Transport layer --> ultra high performance , lowest latency -> gaming, video streaming
Gateway LB --> layer 3 Network layer : Third part communication : VPNs, Firewalls, High security

Auto Scaling Groups:

It is used to adjust the capacity required to handle the load

If number of requests are increasing then servers must also be increased to give smooth exp for clients and similarly if request are decreasing then no of servers should be reduced to manage cost it that case we can go woth Auto scaling group.
1) Fault Tolerance
2) Cost Management
3) High Availability

--> To create Auto Scaling Group we use Launch Template --> used to specify configuration required to launch new VM whenever needed.

How an App will be deployed into new VM created by Auto Scaling group ?
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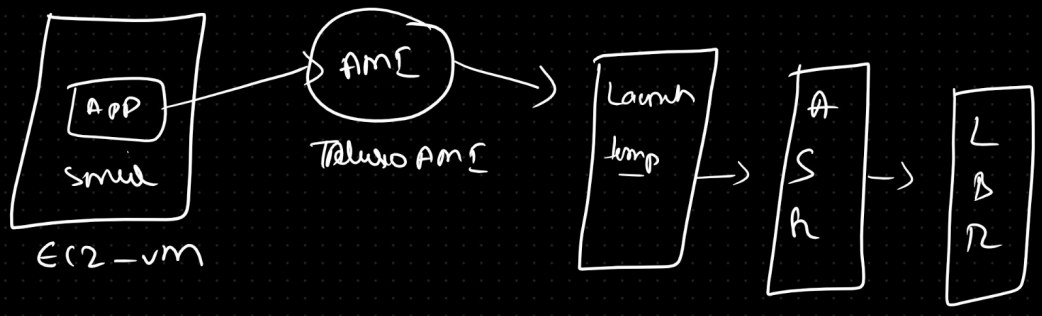
-> Using Custom AMI ->

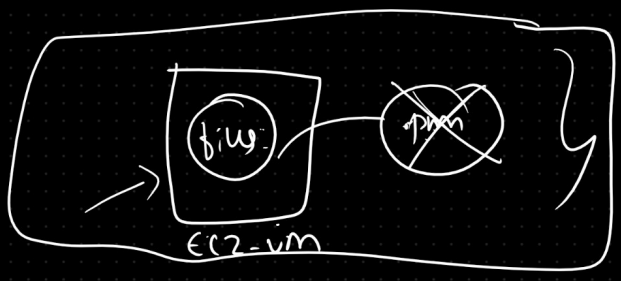
- User Data - script

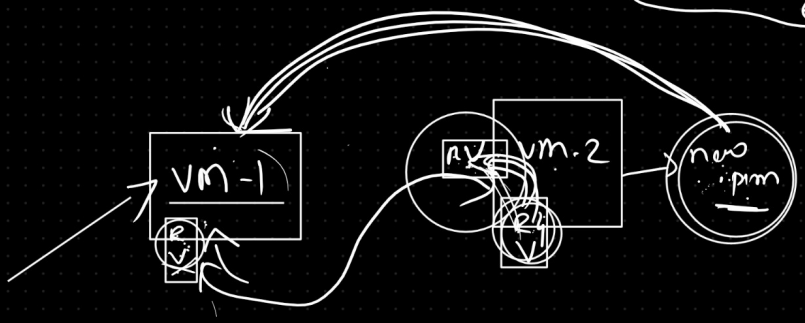
-> Kubernetes cluster (EKS)



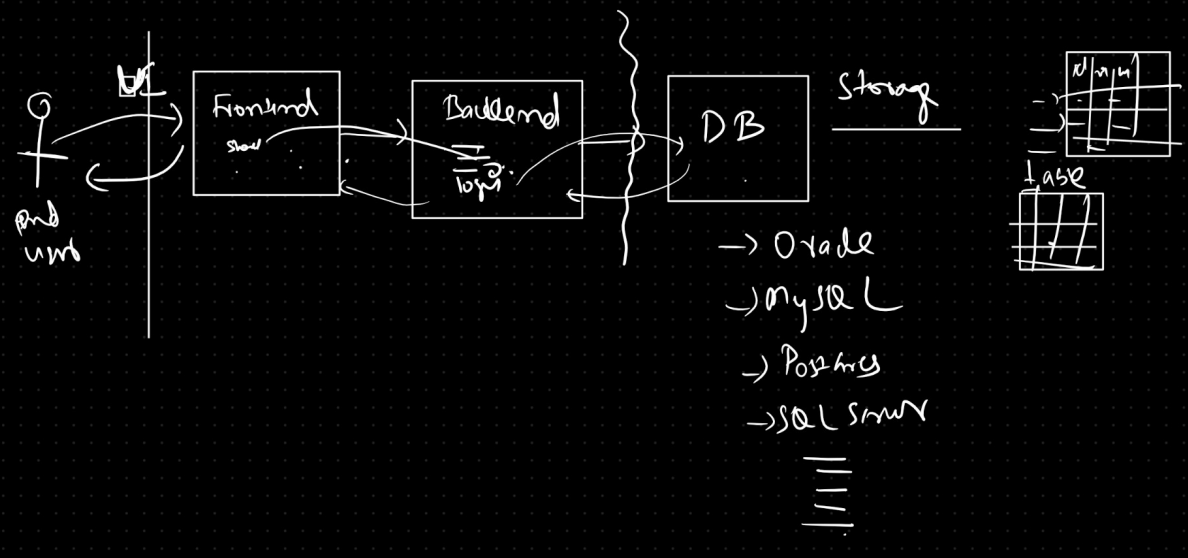
Diff Types of Amazon EC2 Instances :
General purpose
Compute Optimized
Storage Optimized
Memory optimized
Accelarated computing
High Performance computing
----------Please check official doc to know more on this ----------

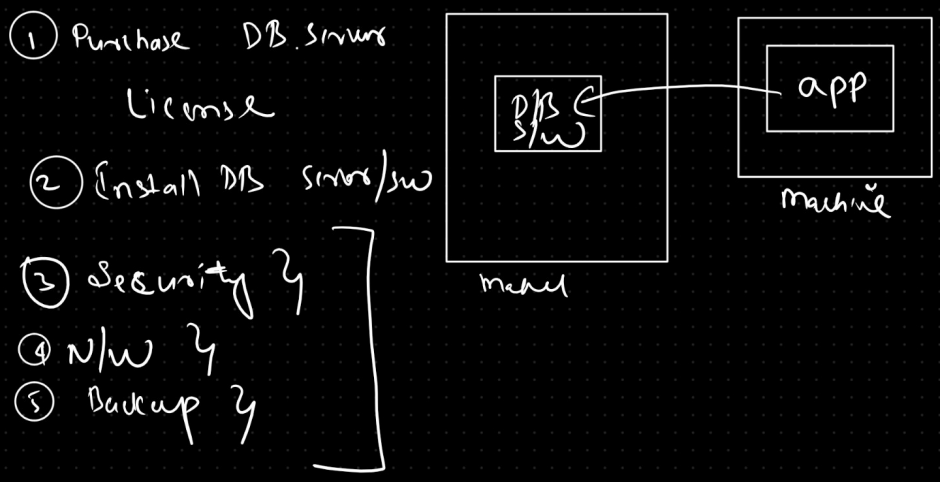
RDS → AWS RDS →
// S3





AWS → RDS :-





Database : it is a software which is used to store data permanently
We have many RDBMS --> Oracle, MySQL, Postgres, SQLServer .....
Every app will use database to store and manage data. Relational database stores data in table formate rows and columns
Limitations to have on prem database :
==========
Security concerns, network issues, backup issues, Administration

To overcome on prem Database maintanence challenges we can use Cloud Database service:

AWS RDS service provides Cloud Database facility
--> RDS stands for Relational database service in AWS Cloud which can be used to create and manage relational databases
--> RDS is a fully managed service in AWS cloud works based on Pay as you go model

Practical RDS Task :
1.create database
2.standard create
3.MYSQL
4.version of MYSQL (default)
5.Templates (Free tier)
6.Setting
  DB instance Identifier
  Master user name - admin
  self managed
  Password
7.Storage - default
8.Connectivity - default options
9.Public access -Yes
10.Security group (Add MySQL in security group)

Note : Enable MySQL :: 3306 port number in security Group Inbound Rules

11.Additional Configuration
  Database options
    initial database name --> coursesdb
12.backup -> based on your need we can edit
13.create database
NOTE : AFTER PRACTICE DELETE RDS INSTANCE TO AVOID BILLING

AWS - S3 --> Simple Storage Service || Scalable Storage in Cloud

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What is S3 --> Unlimited Storage
Why we need S3
Advantages
Working with S3
Real Time Use-cases

Simple Storage Service --> Unlimited Storage --> Object Based Storage (file)

examples : txt, pdf, word, excel, audio, video,.....

--> S3 will maintain buckets and in One bucket we can store multiple objects --> (Object == file)