

Day 3/13

Module 3 → Exploring Compute Services

DATA
DELTA Pg No.

#1 Intro to serverless
serverless - You cannot see or access the underlying infrastructure.

Unmanaged

Unmanaged Service (e.g. EC2)

AWS manages the hardware, but you manage the OS, security, network settings and applications.

Managed Service (E.g. RDS)

AWS manages most of the infrastructure and maintenance, and you mainly handle configuration and usage.

Fully-Managed service (e.g. AWS Lambda)

AWS manages servers, scaling, and infrastructure completely, and you only focus on writing and securing your application code.

#2 AWS Lambda (FaaS)

Maximum duration: 15 min

Lambda is a serverless compute service that runs code in response to events without the need to provision or manage servers.



Unmanaged services	Managed services	Fully-managed services
Customer data	Customer data	Customer data
Client-side data encryption	Client-side data encryption	Client-side data encryption
Server-side encryption	Server-side encryption	Server-side encryption
Network traffic protection	Network traffic protection	Network traffic protection
Platform and application management	Platform and application management	Platform and application management
OS, network, firewall configuration	OS, network, firewall configuration	OS, network, firewall configuration
Software for compute, storage, database, and networking	Software for compute, storage, database, and networking	Software for compute, storage, database, and networking
Hardware, AWS Global Infrastructure	Hardware, AWS Global Infrastructure	Hardware, AWS Global Infrastructure



Steps:

- (I) Upload code to Lambda
- (II) Set code to trigger from an event source
- (III) Run code when triggered
- (IV) Pay only for the compute time used.

#3 Containers and Orchestration on AWSAmazon Elastic Container Service (ECS)

- Streamlined and integrated
- Define some parameters
- Fully managed service

Amazon Elastic Kubernetes Service (EKS)

- Open Source Platform
- More complex
- More control and flexibility

Amazon Elastic Container Registry (ECR)

- Fully Managed Docker Registry
- Stores container images

AWS Fargate - Serverless

Steps

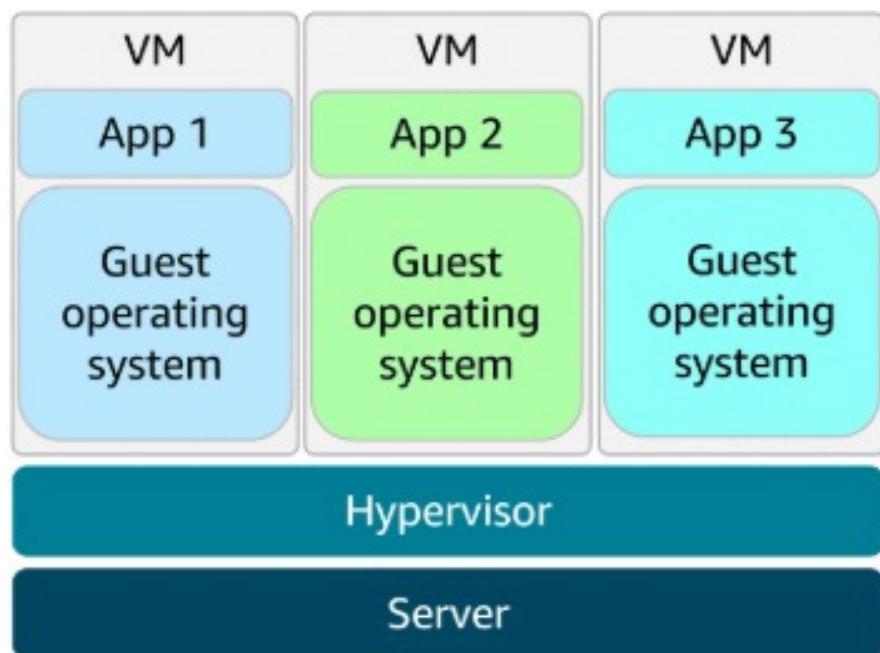
- Start with uploading a container image to ECR.
- Choose an orchestration service based on your needs: ECS or EKS
- Select which compute platform to run your containers: EC2 or Fargate.

* VM me har machine apna alag-alag OS hypervisor ke through chalati hai, jabki container host OS share karta hai isiliye lightweight aur fast hota hai.

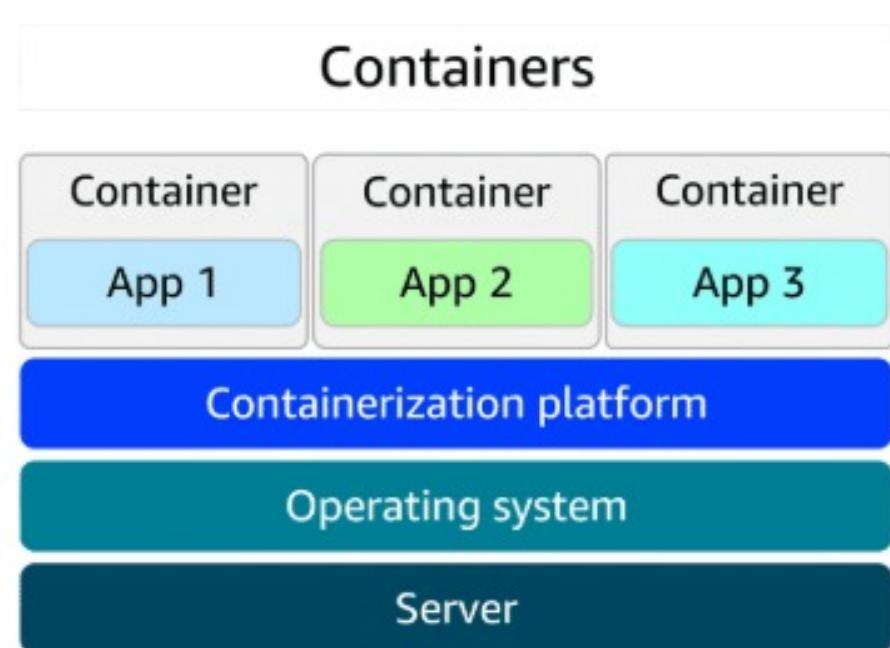
Orchestration - Automating deployment, scaling, management of containers to keep everything running smoothly

Fargate - AWS Fargate is a serverless compute engine for containers. It works with both Amazon ECS and EKS.

Virtual machines



Containers



#4 Additional compute services

{ AWS Elastic Beanstalk - Deploy and manage apps

- Simplified provisioning
- Configuration management
- Visibility and control

AWS Batch is a fully managed service that you can use to run batch computing workloads on AWS

- Infrastructure Management
- Parallel processing support
- Auto-scale

AWS Lightsail

- Simplicity
- cost-effective solution
- Managed Infrastructure

AWS Outposts

- Hybrid cloud solution
- Consistent environment
- Low latency and data residency