



COMMUNITY DAY

CONTAINERS ON AWS

WITH ECR, ECS, EC2 & FARGATE

Presented by: Youssef Mnani and Kris Fernando



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SPEAKERS



Youssef Mnani
CLOUD ENGINEER



Kris Fernando
SOLUTIONS ARCHITECT

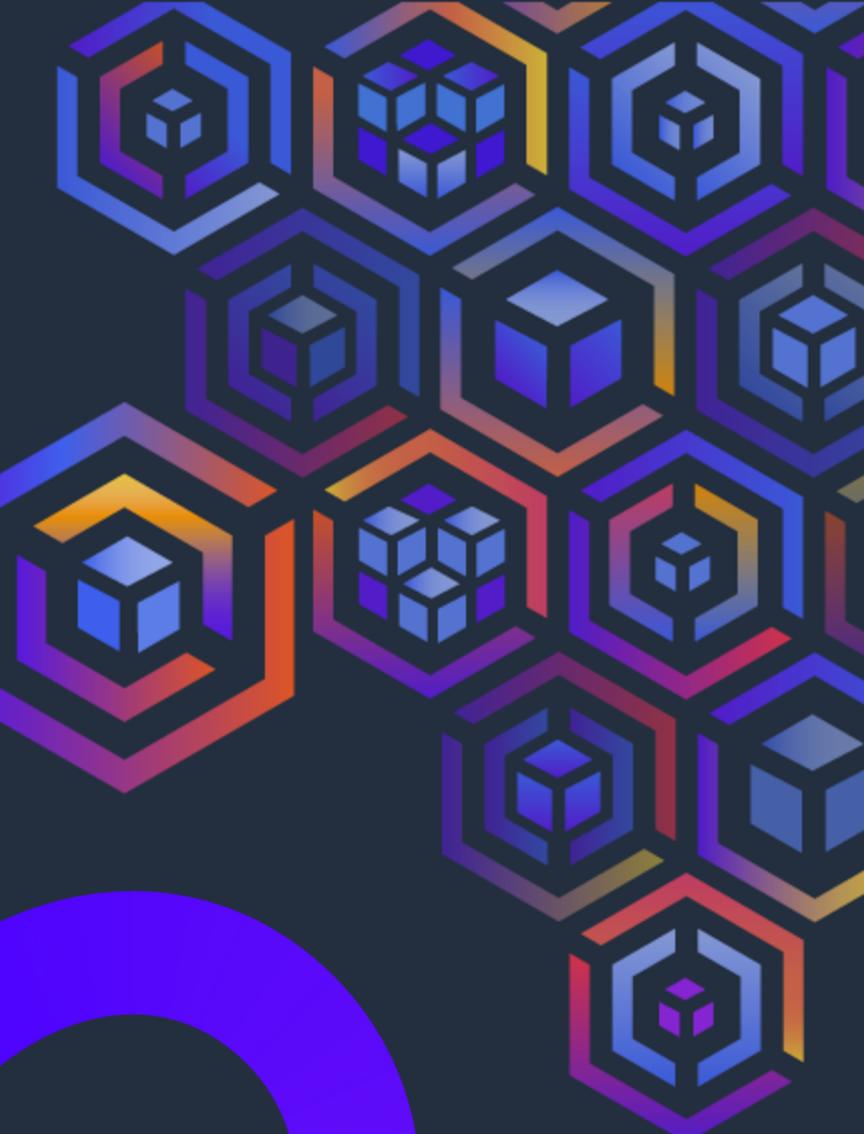




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INTRODUCTION

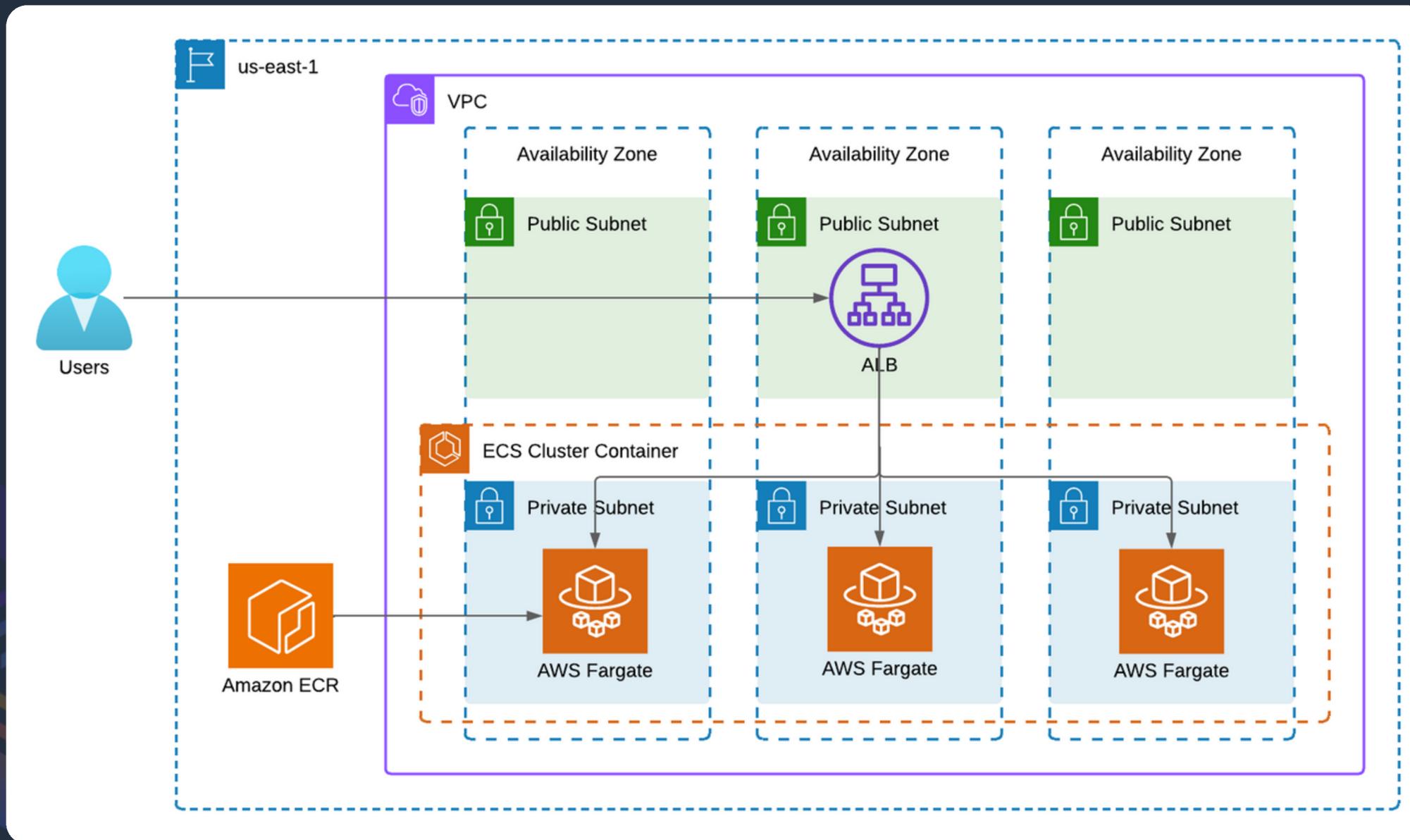
- Introduction to DevOps
- Why use containers?
- Overview of AWS container services
 - Elastic Container Registry
 - Elastic Container Service
 - Fargate





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ARCHITECTURE



Design:

- Region
- Elastic Container Registry
- Virtual Private Cloud
- Elastic Load Balancer
- ECS Cluster
- Task Definition
- ECS Service
- Fargate and/ or EC2





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DOCKER FILE

```
🐳 dockerfile ✘  
1  FROM node:18-alpine  
2  WORKDIR /app  
3  COPY package*.json ./  
4  RUN npm install  
5  COPY . .  
6  CMD ["npm", "start"]  
7  EXPOSE 80
```

Docker File:

- Base Image
- Setup Working Directory
- Copy Application Dependencies
- Install Dependencies
- Copy Application Code
- Start Application
- Expose Port
- Container Image Blueprint





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ELASTIC CONTAINER REGISTRY

Private repositories (1)

Search by repository substring

| Repository name | URI | Created at | Tag immutability | Encryption type |
|-----------------------|--|-------------------------------------|------------------|-----------------|
| aws-community-day/app | .dkr.ecr.us-east-1.amazonaws.com/aws-community-day/app | 30 March 2025, 10:49:57 (UTC-04) | Mutable | AES-256 |

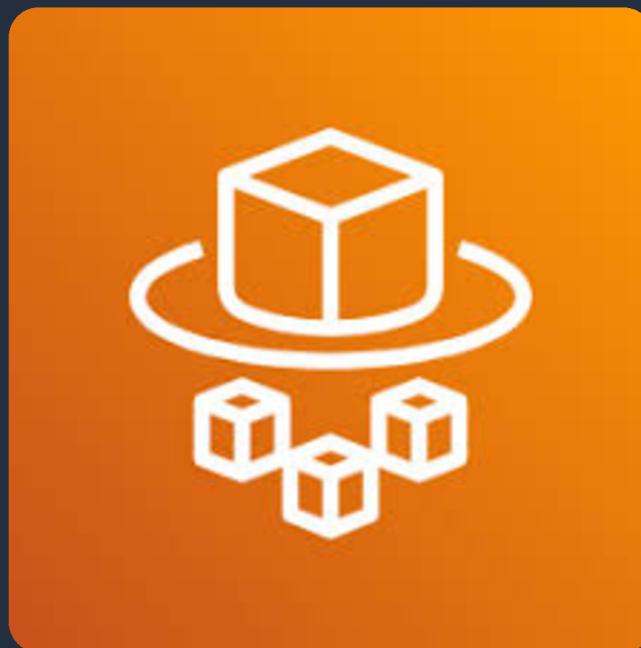
Fully managed container registry service provided by AWS. It allows developers to store, manage, and deploy Docker container images. Essentially, it simplifies the process of working with containerized applications by providing a secure and scalable place to keep images.



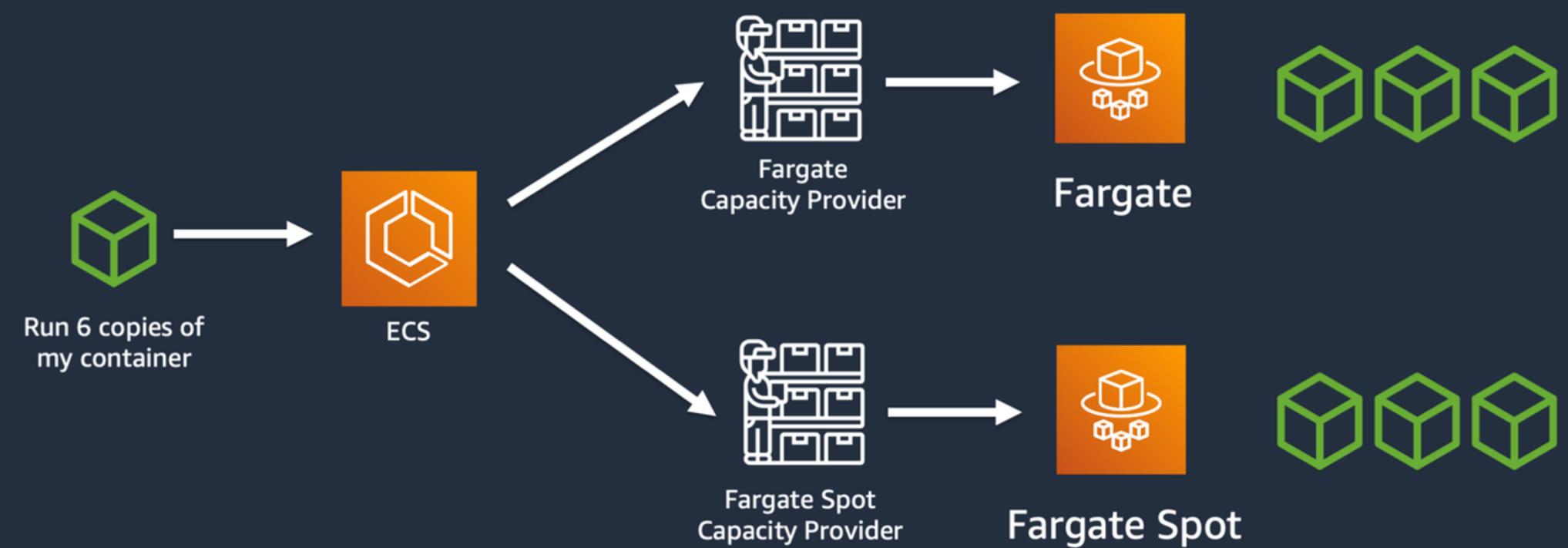


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FARGATE



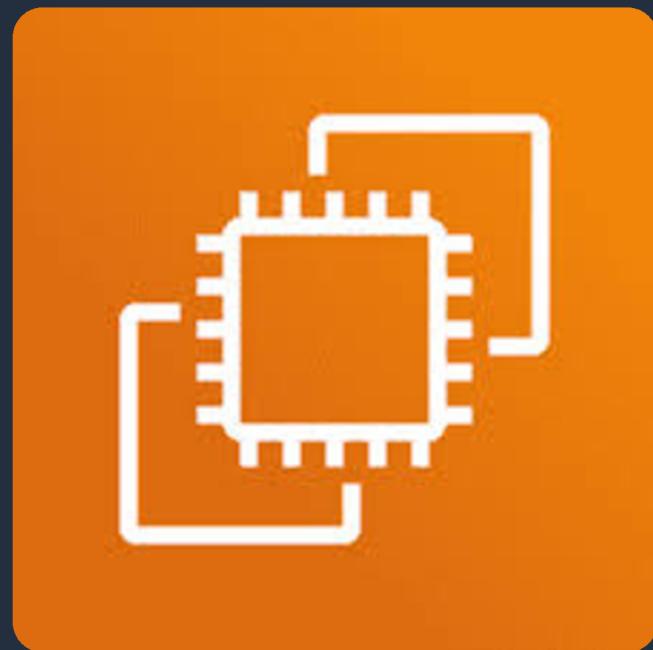
AWS Fargate is a serverless compute engine for containers that works with Amazon ECS. It removes the need to manage servers or clusters, allowing you to focus solely on designing and building applications. In essence, Fargate lets you run containers without worrying about the underlying infrastructure.





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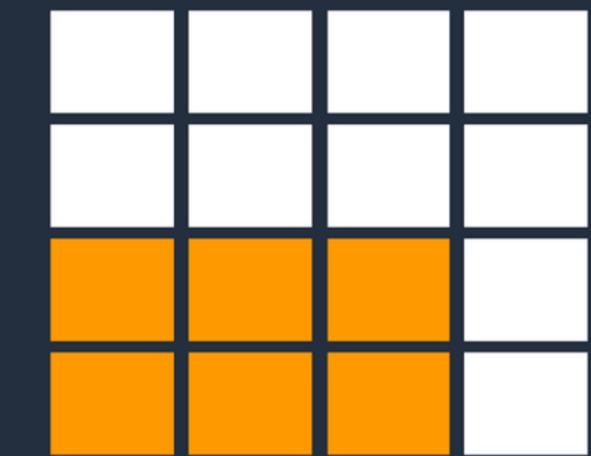
ELASTIC COMPUTE CLOUD



Amazon Elastic Compute Cloud (EC2) provides resizable compute capacity in the cloud, essentially offering virtual servers. It allows users to rent virtual machines, or "instances," to run applications, giving them control over their computing resources. In short, EC2 provides on demand, scalable computing in the cloud.



25% CPU



50% Memory





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ELASTIC CONTAINER SERVICE

Clusters (1) [Info](#)

Last updated 30 March 2025 at 11:24 (UTC-4:00) [C](#) [Create cluster](#)

Search clusters

| Cluster | Services | Tasks | Container instances |
|---|----------|------------------|---------------------|
| aws-community-day-cluster | 0 | No tasks running | 0 EC2 |

Task definitions (1) [Info](#)

Last updated 30 March 2025 at 11:20 (UTC-4:00) [C](#) [Deploy](#) [Create new revision](#) [Create new task definition](#)

Filter by status Active

Filter task definitions

| Task definition | Status of last revision |
|--|-------------------------|
| aws-community-day-task | ACTIVE |

Services (1) [Info](#)

Manage tags [Update](#) [Delete service](#) [Create](#)

Filter launch type Any launch type Filter service type Any service type

Filter services by value

| Service name | ARN | Status | Service type | Deployments and tasks | Task definition |
|---|--------------|------------------------|--------------|-----------------------|--|
| aws-community-day-service | arn:aws:ecs: | Active | REPLICA | 0/1 tasks running | aws-community-day-task:1 |



Fully managed container orchestration service that makes it easy to deploy, manage, and scale containerized applications. It eliminates the need to install and operate your own container orchestration software, allowing you to focus on building your applications.





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DEMONSTRATION





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QUESTIONS?



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THANK YOU!