



**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



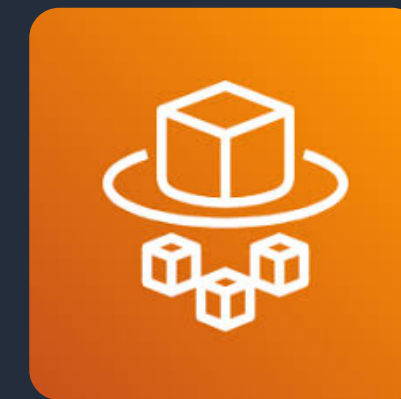
**Kris Fernando**  
SOLUTIONS ARCHITECT



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## INTRODUCTION

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

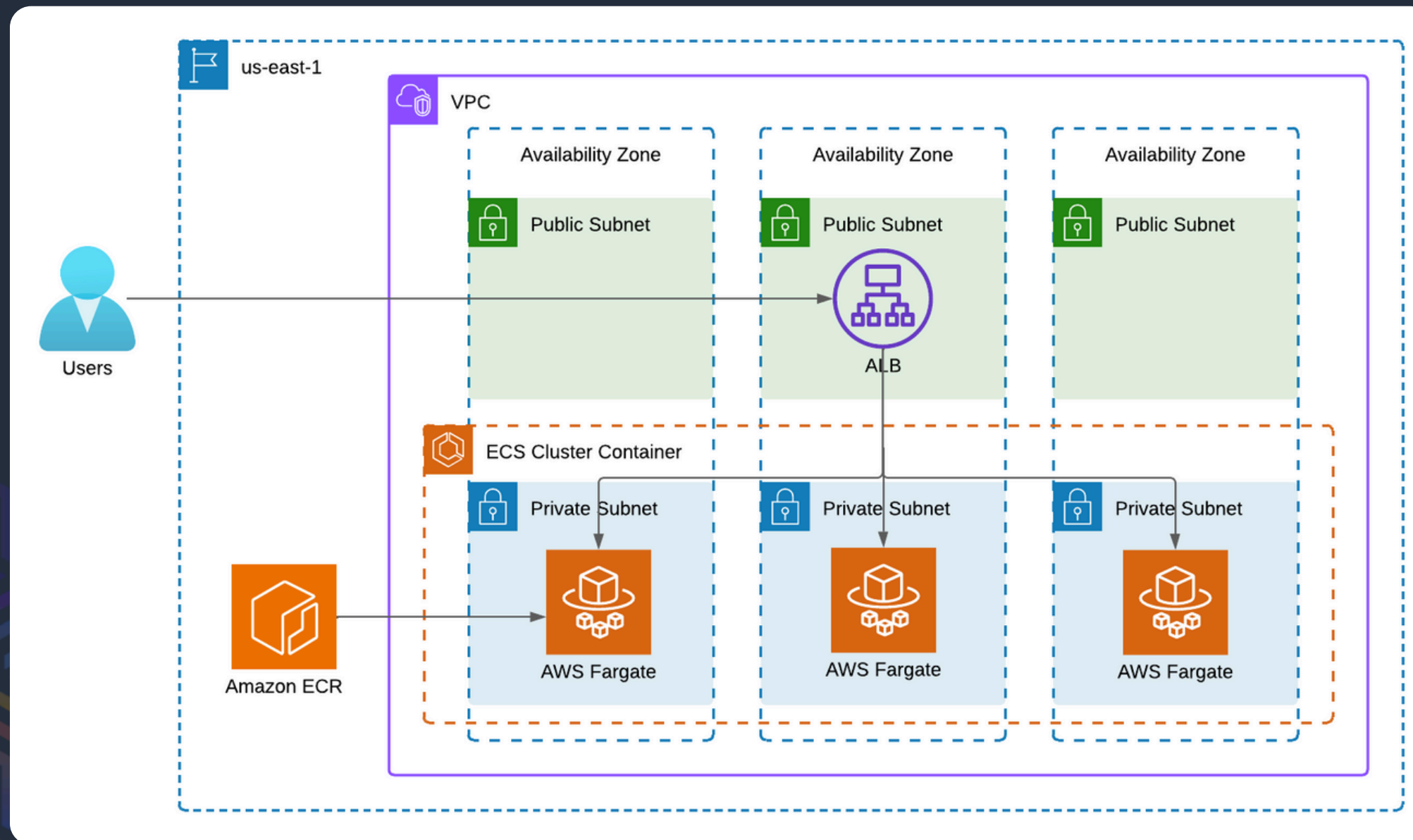






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## ARCHITECTURE



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 X

```
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
```

Container Image:


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






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## ELASTIC CONTAINER REGISTRY

**Private repositories** (1) 

[View push commands](#) [Delete](#) [Actions ▼](#) [Create repository](#)

	Repository name ▲	URI	Created at ▼	Tag immutability	Encryption type
<input type="radio"/>	aws-community-day/app	 [redacted].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.

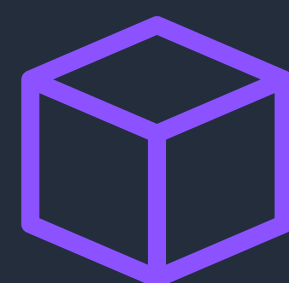


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## FARGATE



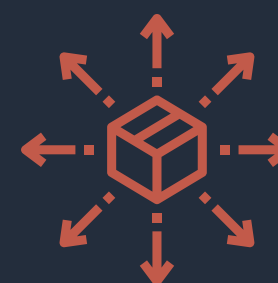
AWS Fargate is a serverless compute engine for containers that works with Amazon ECS. It removes the need to manage servers or clusters, allowing you to focus solely on designing and building applications. In essence, Fargate lets you run containers without worrying about the underlying infrastructure.



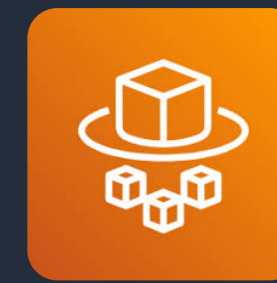
Container  
App



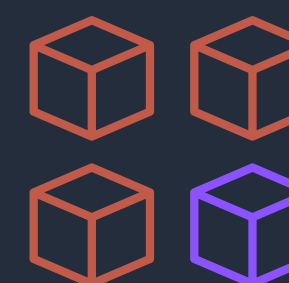
ECS



Capacity  
Provider



Fargate





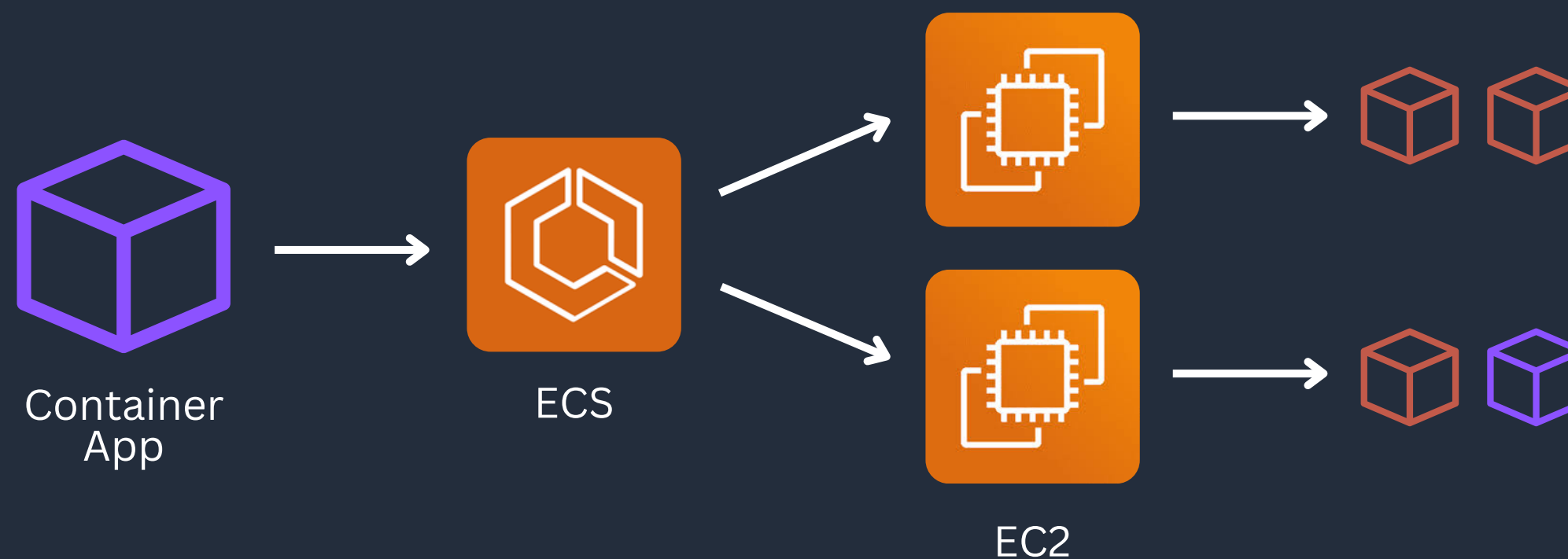


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## ELASTIC COMPUTE CLOUD



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.







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## ELASTIC CONTAINER SERVICE

**Clusters (1)** [Info](#)

Last updated 30 March 2025 at 11:24 (UTC-4:00)

Create cluster

< 1 >

Cluster	Services	Tasks	Container instances
<a href="#">aws-community-day-cluster</a>	0	No tasks running	0 EC2

**Task definitions (1)** [Info](#)

Last updated 30 March 2025 at 11:20 (UTC-4:00)

Deploy Create new revision Create new task definition

Filter by status

Active

< 1 >

Task definition	Status of last revision
<a href="#">aws-community-day-task</a>	ACTIVE

**Services (1)** [Info](#)

Manage tags Update Delete service Create

Filter launch type

Any launch type

Filter service type

Any service type

< 1 >

<input type="checkbox"/>	Service name	ARN	Status	Service type	Deployments and tasks	Task definition
<input type="checkbox"/>	<a href="#">aws-community-day-service</a>	arn:aws:ecs:	Active	REPLICA	0/1 tasks running	<a href="#">aws-community-day-task:1</a>



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.

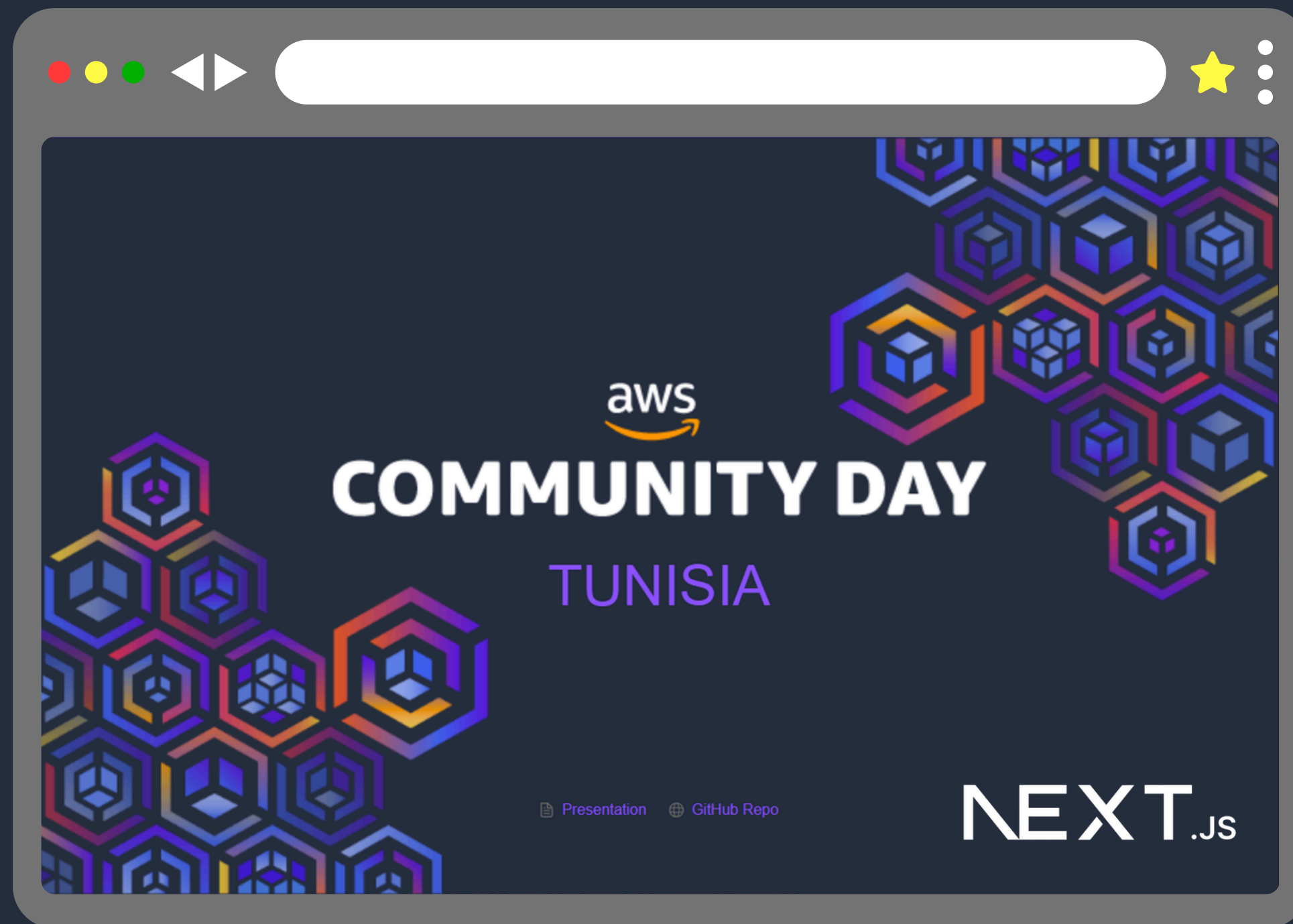


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## DEMONSTRATION



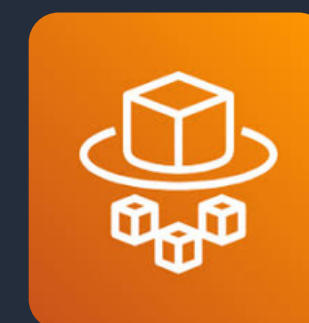
DOCKER



ECR



ECS



FARGATE