



COMMUNITY DAY

CONTAINERS ON AWS

WITH ECR, ECS, EC2 & FARGATE

Presented by: Youssef Mnani and Kris Fernando



COMMUNITY DAY

SPEAKERS



Youssef Mnani
CLOUD ENGINEER



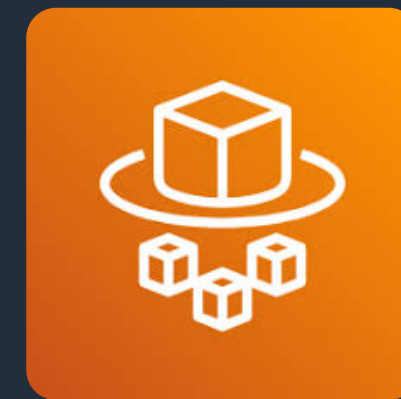
Kris Fernando
SOLUTIONS ARCHITECT



COMMUNITY DAY

INTRODUCTION

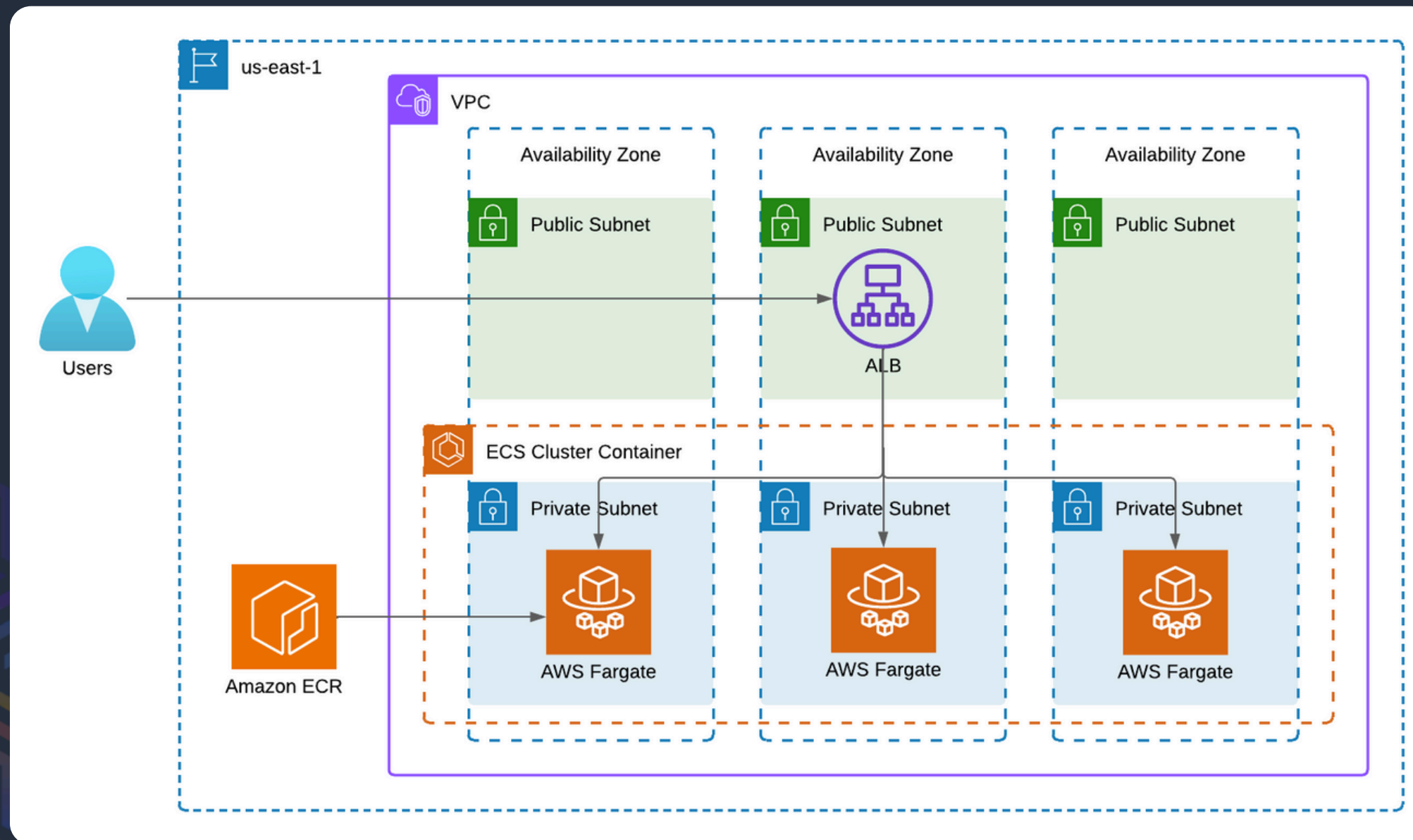
- Introduction to DevOps
- Why use containers?
- Overview of AWS container services
 - Elastic Container Registry
 - Elastic Container Service
 - Fargate
 - Elastic Compute Cloud





COMMUNITY DAY

ARCHITECTURE



Design:

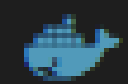
- Region
- Elastic Container Registry
- Virtual Private Cloud
- Elastic Load Balancer
- ECS Cluster
- Task Definition
- ECS Service and Task
- Fargate and/ or EC2





COMMUNITY DAY

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




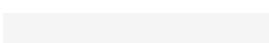


COMMUNITY DAY

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	  .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.



COMMUNITY DAY

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
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)

Deploy Create new revision Create new task definition

Filter by status: Active

< 1 >

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

< 1 >

<input type="checkbox"/>	Service name	ARN	Status	Service type	Deployments and tasks	Task definition
<input type="checkbox"/>	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.

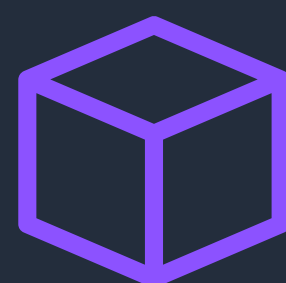


COMMUNITY DAY

FARGATE



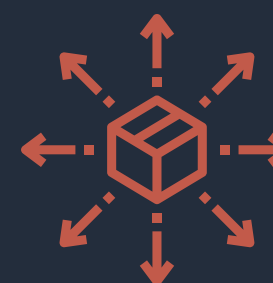
AWS Fargate is a serverless compute engine for containers that works with Amazon ECS. It removes the need to manage servers or clusters, allowing you to focus solely on designing and building applications. In essence, Fargate lets you run containers without worrying about the underlying infrastructure.



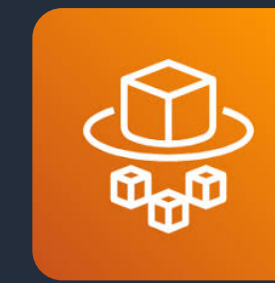
Container
App



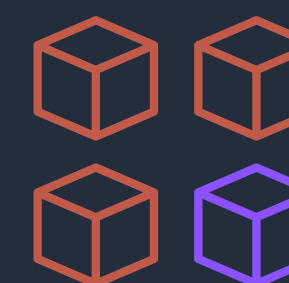
ECS



Capacity
Provider



Fargate



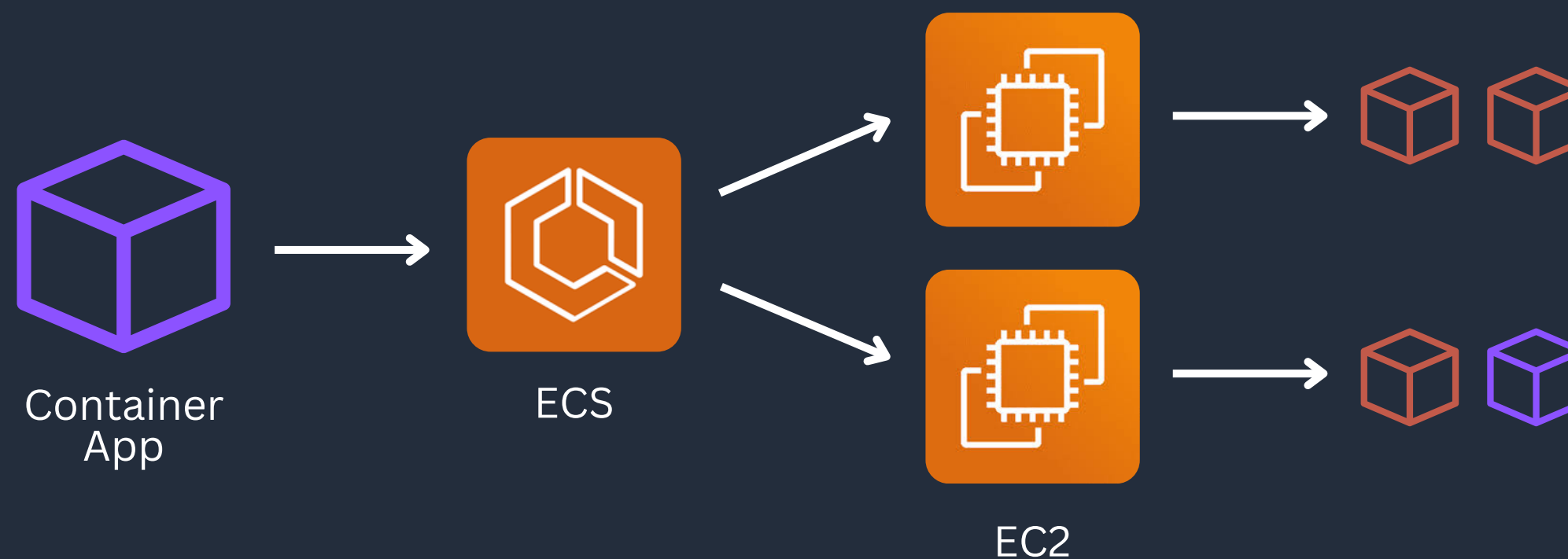


COMMUNITY DAY

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.



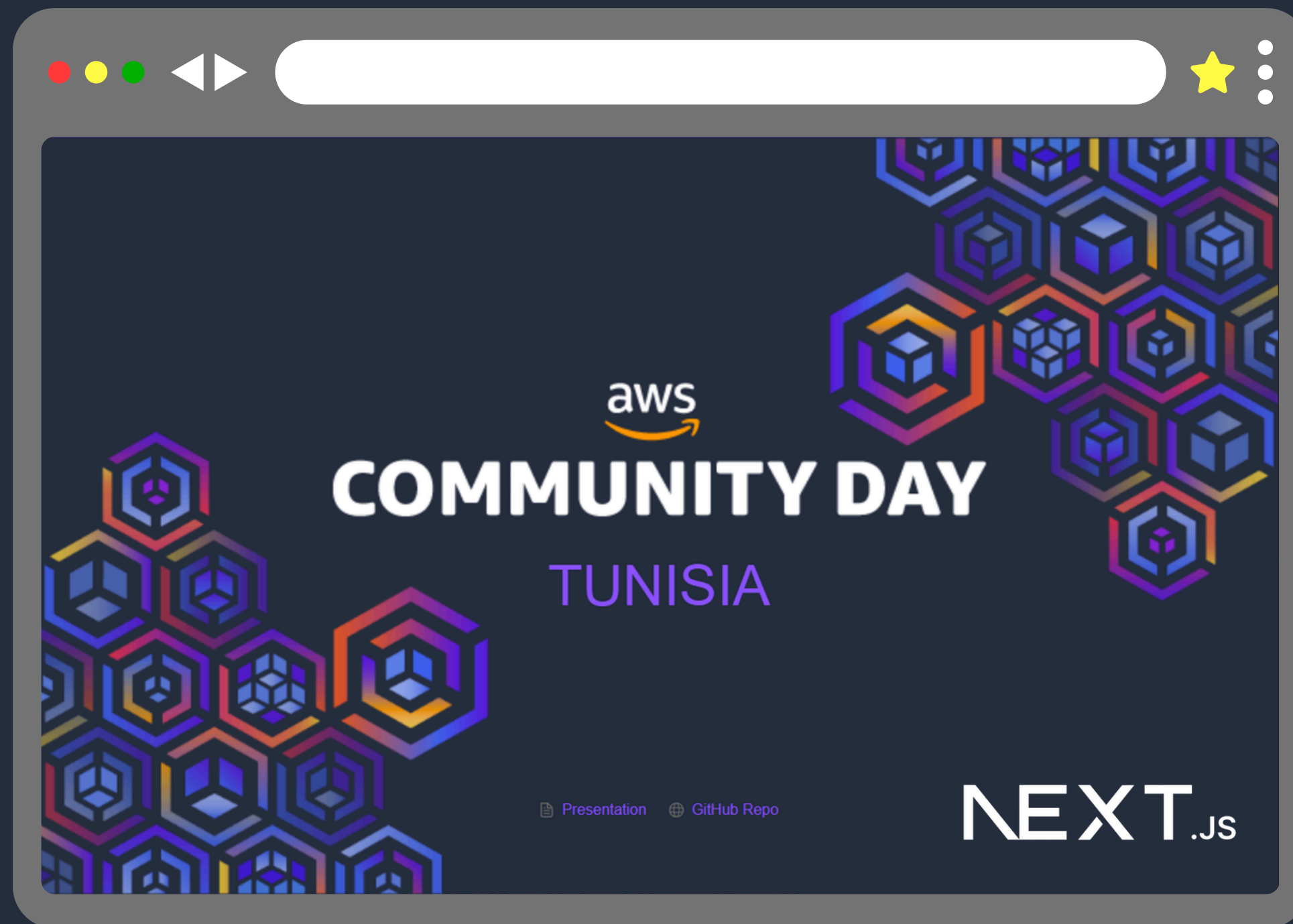


COMMUNITY DAY

DEMONSTRATION



DOCKER



ECR



ECS



FARGATE