

(Q) How to deploy an API on AWS EKS & ? & Use case

→ (1) 1st create EKS cluster:-

(i) use Aws console or CLI to set up an EKS (Elastic Kubernetes Service) cluster

(2) API code :-

(i) Create API code (written By Python) or other language

(3) Containerize to API :-

(i) user docker to package your API into a container

• docker build -t my-api

(4) push API to Amazon ECR :- (AWS Lambda + Lambda with API)

(i) store your Docker Image in Amazon Elastic Container Registry (ECR) (AWS Lambda + Lambda with API)

• push the image ! :-

submit credential -> validation = true (true)
use docker push <your-repo-url>

call command : docker push -f <repo>.dkr.ecr.us-east-1.amazonaws.com

(5) Deploy on EKS Using k8s

- Create k8s deployment and service YAML files.

- Example : deployment.yaml

yaml

apiVersion : apps/v1

kind : Deployment

metadata :

name : my-api

Spec :

replicas : 2

Selector :

matchLabels :

app : my-api

template :

Metadata :

labels :

app : my-api

Spec :

Containers :

- name : my-api

image : <your-ecr-https-uri>

Ports :

- containerPort : 5000

- Apply this yaml into EKS! -

```
kubectl apply -f deployment.yaml
```

- (e) Expose API with Local balancer! -

Create Service (Local Balancer) to make your API accessible.
Yaml

apiVersion: v1

kind: service

Metadata:

name: my-api-service

spec:

type: LoadBalancer

Selector:

app: my-api

Ports:

- Protocols: TCP

Port: 80

targetport: 5000

• kubectl apply -f service.yaml

(7) Access your API :-

- Get the external URL from the Load Balancer.
- Test your API
curl `http://<your-loadbalancer-url>/endpoint`

* use cases:-

1) E-commerce website API:-

- Many companies e.g like Amazon needs ~~API's~~ API's to handle orders, payment and other request of users.
- EKS helps us to scale API's automatically when there are more users.

2) Streaming Service:-

- API's mostly used in streaming service like YouTube, Netflix to run video management.
- EKS helps us to ensure that our API's runs smoothly even millions of people use them.