AWS DevOps Interview Questions (4 Years Experience)

Containers & Orchestration Interview Questions with Detailed Answers

Q: What is the difference between ECS and EKS?

A: | Feature | ECS (Elastic Container Service) | EKS (Elastic Kubernetes Service) |

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| Orchestration | AWS-native | Kubernetes-based |

| Control | AWS-managed | Kubernetes API |

| Use Case | Simpler deployments | Complex workloads, portability |

Real-time example: We used ECS for small internal apps with Fargate (serverless containers), and EKS for microservices needing Helm, ConfigMaps, and Ingress controllers.

Q: What is Fargate and when would you use it?

A: AWS Fargate is a serverless compute engine for containers.

Benefits:

- No need to manage EC2 instances
- Pay-per-use
- Works with ECS and EKS

Use when:

- You want container benefits without infra ops
- Workloads are intermittent or unpredictable

Real-time example: We used Fargate for batch data processing tasks where container jobs spun up, executed, and shut downpaying only for what we used.

Q: How do you manage secrets in containers?

A: Options to manage secrets:

- AWS Secrets Manager or SSM Parameter Store
- Kubernetes Secrets (if on EKS)
- Environment variables (discouraged for sensitive data)

Best practices:

- Mount secrets as files or inject via init containers
- Use IAM roles to access Secrets Manager

Real-time example: In EKS, we used Kubernetes Secrets encrypted at rest, mounted via volumes in our microservice pods.

Q: How do you do zero-downtime deployment in ECS or EKS?

A: ECS:

- Use rolling update strategy in ECS service
- Enable health checks with ALB

EKS:

- Use rolling update in Deployment resource (`kubectl rollout`)

- Use readiness/liveness probes

Real-time example: In EKS, we deployed using `Deployment` with maxUnavailable=0 to ensure 100% uptime while rolling out a new version.

Q: What is a task definition in ECS?

A: A task definition is a blueprint for running containers in ECS.

Includes:

- Docker image
- CPU/memory
- Environment variables
- IAM roles

Real-time example: Our apps ECS task definition included two containers (app + sidecar logger), environment secrets, and mounted volumes.

Q: How do you monitor containers in AWS?

A: Tools:

- CloudWatch Container Insights (for ECS/EKS)
- Prometheus + Grafana (for EKS)
- Fluent Bit for log forwarding

Real-time example: In EKS, we installed Prometheus using Helm, scraped metrics from pods, and visualized CPU/memory usage per pod in Grafana.