

Course 2: Mastering AWS EKS (Elastic Kubernetes Service)

Subtitle: Kubernetes Power on AWS – Build Enterprise-Grade Clusters



Duration: 2 Weeks (10-12 hours total, including hands-on labs)

◆ Week 1: Kubernetes + EKS Core Concepts



Theory

- Kubernetes Basics (Pods, Deployments, Services, Ingress, ConfigMaps, Secrets)
- Amazon EKS architecture
- EKS Networking: VPC CNI plugin, Subnets, Security Groups
- IAM Roles for Service Accounts (IRSA)



Hands-On Labs

- Provision EKS cluster using `eksctl`
 - Deploy a sample app using `kubectl` and Helm
 - Set up ALB Ingress Controller
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◆ Week 2: EKS Production Workloads



Theory

- Cluster scaling (Managed Node Groups, Karpenter)
- Observability: Prometheus, Grafana, FluentBit
- Security: Network Policies, OPA Gatekeeper

- Cost & performance tuning tips

Hands-On Labs

- Setup monitoring & logging stack
- Implement PodSecurity policies
- Use IRSA to access S3 securely from pods

Mini Project

Deploy a microservices app on EKS with monitoring, ingress, autoscaling, and RBAC.