



RUNNING CONTAINERS ON AMAZON ELASTIC KUBERNETES SERVICE (AMAZON EKS)

Large enterprises, midsize businesses, and startups are looking for the speed and agility of a managed Kubernetes service like Amazon EKS. However, they are often held back by a shortage of DevOps engineers, systems administrators, and cloud architects that understand container management for Kubernetes. AWS Training and Certification is launching a new, three-day classroom course, Running Containers on Amazon Elastic Kubernetes Service (Amazon EKS). The course includes classroom presentations, demonstrations, group discussions, exercises (e.g., building better clusters), and six hands-on labs. DevOps engineers, systems administrators, and cloud architects will learn how to manage containers with Amazon EKS. Learners will build an Amazon EKS cluster, configure the environment, deploy the cluster, add applications, and much more. By the end of the course, learners will have in-depth skills for designing, configuring, securing, scaling, and managing a container environment using Amazon EKS. Learners will also understand how to scale their environment securely and optimize or balance cost, efficiency, and resiliency through monitoring and observability.

CONTENTS

The content of this course is designed to support the course objectives.

Module 1: Kubernetes Fundamentals

- Container orchestration
- Kubernetes objects
- Kubernetes internals

Module 2: Amazon EKS Fundamentals

- Introduction to Amazon EKS
- Amazon EKS control plane
- Amazon EKS data plane
- Fundamentals of Amazon EKS security
- Amazon EKS API

Module 3: Building an Amazon EKS Cluster

- Configuring your environment
- Creating an Amazon EKS cluster
- Demo: Deploying a cluster
- Deploying worker nodes
- Demo: Completing a cluster configuration
- Preparing for Lab 1: Building an Amazon EKS Cluster

Module 4: Deploying Applications to Your Amazon EKS Cluster

- Configuring Amazon Elastic Container Registry (Amazon ECR)
- Demo: Configuring Amazon ECR
- Deploying applications with Helm
- Demo: Deploying applications with Helm
- Continuous deployment in Amazon EKS
- GitOps and Amazon EKS
- Preparing for Lab 2: Deploying Applications

Module 5: Configuring Observability in Amazon EKS

- Configuring observability in an Amazon EKS cluster
- Collecting metrics
- Using metrics for automatic scaling
- Managing logs
- Application tracing in Amazon EKS
- Gaining and applying insight from observability
- Preparing for Lab 3: Monitoring Amazon EKS

Module 6: Balancing Efficiency, Resilience, and Cost Optimization in Amazon EKS

- The high level overview
- Designing for resilience
- Designing for cost optimization
- Designing for efficiency

Module 7: Managing Networking in Amazon EKS

- Review: Networking in AWS
- Communicating in Amazon EKS
- Managing your IP space
- Deploying a service mesh
- Preparing for Lab 4: Exploring Amazon EKS Communication

Module 8: Managing Authentication and Authorization in Amazon EKS

- Understanding the AWS shared responsibility model
- Authentication and authorization
- Managing IAM and RBAC
- Demo: Customizing RBAC roles
- Managing pod permissions using RBAC service accounts

Module 9: Implementing Secure Workflows

- Securing cluster endpoint access
- Improving the security of your workflows
- Improving host and network security
- Managing secrets
- Preparing for Lab 5: Securing Amazon EKS

Module 10: Managing Upgrades in Amazon EKS

- Planning for an upgrade
- Upgrading your Kubernetes version
Amazon EKS platform versions



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DISCOVER COURSE CATALOG

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