

Running Containers on Amazon Elastic Kubernetes Service (Amazon EKS)

Amazon EKS makes it easy for you to run Kubernetes on AWS without needing to install, operate, and maintain your own Kubernetes control plane. In this three-day course, you'll learn container management and orchestration for Kubernetes using Amazon EKS. You'll build an Amazon EKS cluster, configure the environment, deploy the cluster, and add applications to your cluster. Also discover how to manage container images using Amazon Elastic Container Registry (ECR) and learn how to automate application deployment. In addition, you'll deploy applications using CI/CD tools. You'll review how to monitor and scale your environment by using metrics, logging, tracing, and horizontal/vertical scaling. Learn efficiency, cost, and resiliency by designing and managing a large container environment. Lastly, explore configuring AWS networking services to support the cluster and learn how to secure your Amazon EKS environment.



Przeznaczenie szkolenia

This course is intended for:

- Anyone who will provide container orchestration management in the AWS Cloud, including DevOps engineers and systems administrators



Korzyści wynikające z ukończenia szkolenia

In this course, you will:

- Review and examine containers, Kubernetes, and Amazon EKS fundamentals—and the impact of

containers on workflows

- Build an Amazon EKS cluster by selecting the correct compute resources to support worker nodes
- Secure your environment with AWS Identity and Access Management (IAM) authentication by creating an Amazon EKS service role for your cluster
- Deploy an application on the cluster, then publish container images to ECR and secure access via IAM policy
- And much more



Oczekiwane przygotowanie słuchaczy

We recommend that attendees of this course have:

- Completed Amazon Elastic Kubernetes Service (EKS) Primer
- Completed AWS Cloud Practitioner Essentials (or equivalent real-world experience)
- Basic Linux administration experience
- Basic network administration experience
- Basic knowledge of containers and microservices



Język szkolenia

- Szkolenie: polski
- Materiały: angielski



Czas trwania

3 dni / 21 godzin

Agenda szkolenia

Module 0: Course Introduction

- Course preparation activities and agenda

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

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