Running Containers on Amazon Elastic Kubernetes Service (Amazon EKS) – Intensive Training («AWSA09»)

In this course, you will learn how to use Amazon EKS to manage and orchestrate containers with Kubernetes.

Duration: 3 days
Price: 3'200.–
Course documents: Digital original AWS course books

Content

With Amazon EKS you can run Kubernetes on AWS without needing to install, operate, and maintain your own Kubernetes control plane. You will manage container images using Amazon Elastic Container Registry (Amazon ECR) and learn how to automate application deployment. You will deploy applications using continuous integration and delivery (CI/CD) tools. You will learn how to monitor and scale your environment by using metrics, logging, tracing, and horizontal and vertical scaling. You will also manage storage for your containerized applications, configure AWS networking services to support the cluster, and learn how to secure your Amazon EKS environment

Day 1
Module 1: Kubernetes Fundamentals

- Benefits of containers
- Container orchestration
- Kubernetes internals
- Pod scheduling
- Kubernetes objects

Module 2: Amazon EKS Fundamentals

- Introduction to Amazon EKS
- Amazon EKS control plane
- Amazon EKS data plane
- Fundamentals of Amazon EKS security
- Two APIs: Kubernetes and Amazon EKS
- Hands-On Lab: Deploying Kubernetes Pods

Module 3: Building and maintaining an Amazon EKS cluster

- Creating an Amazon EKS cluster
- Deploying nodes
- Planning for an upgrade
- Upgrading your Kubernetes version

Module 4: Deploying Applications to Your Amazon EKS Cluster

- Application deployment methods
- Working with Amazon ECR
- Deploying applications with Helm
- Hands-On Lab: Deploying Applications

Day 2
Module 5: Managing Applications at Scale in Amazon EKS

- Scale to meet demand in Amazon EKS
- Continuous deployment in Amazon EKS
- GitOps and Amazon EKS
- Hands-On Lab: Continuous Deployment and GitOps

Module 6: Managing Networking in Amazon EKS

- Review: Networking in AWS
- Communicating in Amazon EKS
- Improving Pod-level security
- Load balancing with Services

Module 7: Configuring Observability in Amazon EKS

- Configuring observability in an Amazon EKS cluster
- Collecting metrics
- Managing logs
- Application tracing in Amazon EKS
- Hands-On Lab: Monitoring Amazon EKS

Day 3
Module 8: Managing Storage in Amazon EKS

- Design patterns for storage
- Persistent storage in Kubernetes
- Persistent storage with AWS storage services
- Managing secrets
- Hands-On Lab: Persistent Storage in Amazon EKS

Module 9: Managing Security in Amazon EKS

- Cloud security fundamentals
- Authentication and authorization
- Managing IAM and RBAC
- Managing Pod permissions using RBAC service accounts
- Hands-On Lab: Capstone Exercise

Key Learnings

- Describing the main components of Kubernetes, including the key objects and the core components of the Kubernetes API
- Describing how Amazon EKS manages the Kubernetes control plane and parts of the data plane
- Building and maintaining an Amazon EKS cluster
- Deploying applications to an Amazon EKS cluster
- Managing applications running in enterprise-scale Amazon EKS clusters
- Configuring efficient, secure communication both within the cluster and with outside services
- Configuring observability in an Amazon EKS cluster
- Provisioning storage for applications running on Amazon EKS
- Securing an Amazon EKS cluster

Methodology & didactics

This course includes instructor lecture, presentations, hands-on labs, demonstrations, and group exercises/discussions.

Target audience

This course is intended for the following job roles:

- Solution Architects
- CloudOps
- DevOps Engineers

Why should you attend this specific course? What are my benefits from taking this course? The **Voice of the Instructor answers these questions**. We have asked our instructor team to write a short text about WHY this course is very relevant for the respective job roles and what you can expect from attending the course. You can find this section in the course description under the «*Additional Information*» section.

Requirements

We recommend that attendees of this course have:

- completed «Introduction to Containers»
- 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

- AWS Cloud Practitioner Essentials – Intensive Training («AWSE03»)

Additional information

Voice of the Instructor

Whether you are just starting to learn Kubernetes from scratch or seeking managed Kubernetes services for existing workloads, the «Running Containers on Amazon EKS» course is perfect for you! Join us on this three-day journey to learn everything you need to know to startusing managed Kubernetes on the AWS cloud. Kubernetes may not be for the faint of heart, but when combined with the power of AWS and the convenience of a managed environment for the control plane, it provides an excellent starting point for learning and safely taking baby steps in the world of container orchestration.

This course is designed for both beginners and experienced users of Kubernetes. If you have already used Kubernetes on-premises and want to take your containerized apps to the next level in the AWS cloud, you'll find everything you need to start customizing your own EKS clusters as you see fit. Throughout the course, we will discuss topics such as EKS cluster anatomy, AWS resources and services involved in operating EKS at different levels, as well as addressing performance, cost optimization, and security.

This course offers hands-on labs led by expert instructors, providing real-world experience in configuring, deploying, and managing EKS clusters, while also fostering networking opportunities with professionals and peers. Additionally, students will benefit from extended post-course lab access, ensuring a strong foundation for continued learning and growth in their Kubernetes journey. Join us on this exciting and informative journey to learn how to efficiently use Kubernetes on AWS, and enhance your skills in managing containerized applications.

Any questions?

We are happy to advise you on +41 44 447 21 21 or info@digicomp.ch. You can find detailed information about dates on www.digicomp.ch/courses-it-

provider/amazon-web-services-aws/aws-cloudops/course-running-
containers-on-amazon-elastic-kubernetes-service-amazon-eks-intensive-
training