RUNNING CONTAINERS ON AMAZON ELASTIC KUBERNETES SERVICE (AMAZON EKS) CERTIFICATION TRAINING

Course Level:
Intermediate

Course Duration:
3 Days

Course Overview:

This Amazon EKS training course from CloudThat teaches candidates container management and orchestration for Kubernetes using Amazon EKS. Candidates taking up this AWS Kubernetes training, candidates learn how to configure the environment, build an Amazon EKS cluster, deploy the cluster, and add applications to the cluster. In addition, candidates also learn how to manage container images using Amazon Elastic Container Registry (ECR) and how to automate application deployment and deploy applications using CI/CD tools.

With this training on how to run Kubernetes on AWS, candidates learn how to monitor and scale your environment using logging, metrics, tracing, and vertical/horizontal scaling. Also, candidates learn how to design and manage a large container environment, configure AWS networking services, and secure your Amazon EKS environment. The course comprises instructor lectures, presentations, hands-on labs, demonstrations, and group exercises/discussions.

Prerequisites

We recommend that attendees of this Amazon Elastic Kubernetes Service training and certification course have:

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

Objectives

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. Publish container images to ECR and secure access via IAM policy.

Automate and deploy applications, examine automation tools and pipelines. Create a GitOps pipeline using WeaveFlux.

Collect monitoring data through metrics, logs, tracing with AWS X-Ray and identify metrics for performance tuning. Review scenarios where bottlenecks require the best scaling approach using horizontal or vertical scaling.

Assess the tradeoffs between efficiency, resiliency, and cost and impact for tuning one over the other. Describe and outline a holistic, iterative approach to optimizing your environment. Design for cost, efficiency, and resiliency.

Configure the AWS networking services to support the cluster. Describe how EKS/Amazon Virtual Private Cloud (VPC) functions and simplifies inter-node communications. Describe the function of VPC Container Network Interface (CNI). Review the benefits of a service mesh.

Upgrade your Kubernetes, Amazon EKS, and third-party tools.

Attend Any 5 AWS Certification Trainings at the cost of 2 with AWS Mastery Pass!

Enroll Today!

Course Outline

Day 1

Module 0: Course Introduction

- Course preparation activities and agenda

Module 1: Container Fundamentals

- Best practices for building applications

- Container fundamentals

- Components of a container

Module 2: Kubernetes Fundamentals

- Container orchestration

- Kubernetes objects

- Kubernetes internals

- Preparing for Lab 1: Deploying Kubernetes Pods

Module 3: Amazon EKS Fundamentals

- Introduction to Amazon EKS

- Amazon EKS control plane

- Amazon EKS data plane

- Fundamentals of Amazon EKS security
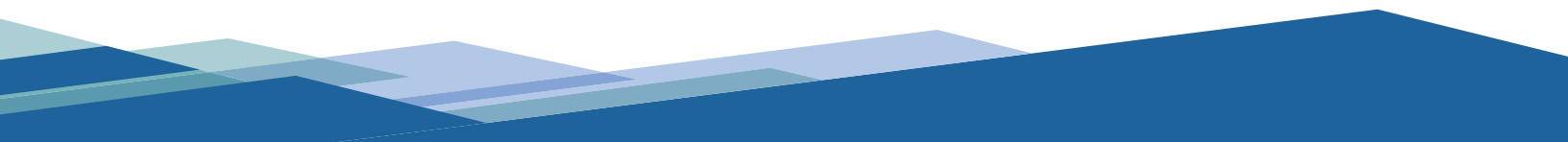
- Amazon EKS API

Module 4: Building an Amazon EKS Cluster

- Configuring your environment

- Creating an Amazon EKS cluster

- Demo: Configuring and deploying clusters in the AWS Management Console

- Working with eksctl

- Preparing for Lab 2: Building an Amazon EKS Cluster

Day 2

Module 5: 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 3: Deploying App

Module 6: 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 4: Monitoring Amazon EKS

Module 7: Balancing Efficiency, Resilience, and Cost Optimization in Amazon EKS

- The high level overview

- Designing for resilience

- Designing for cost optimization

- Designing for efficiency

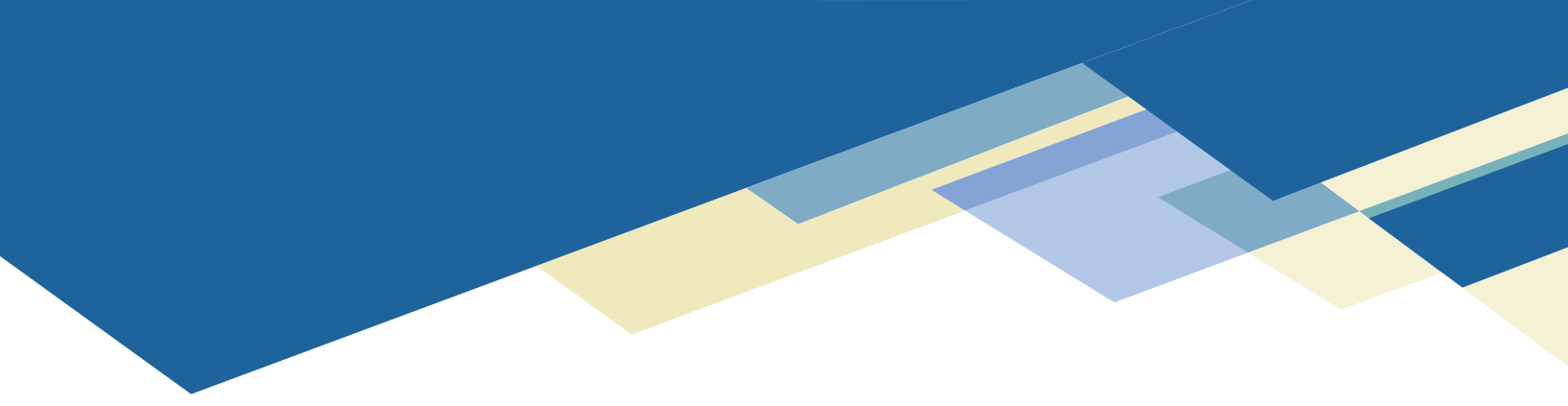## Module 8: Managing Networking in Amazon EKS

- Review: Networking in AWS

- Communicating in Amazon EKS

- Managing your IP space

- Deploying a service mesh

- Preparing for Lab 5: Exploring Amazon EKS Communication

Module 9: 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 10: Implementing Secure Workflows

- Securing cluster endpoint access

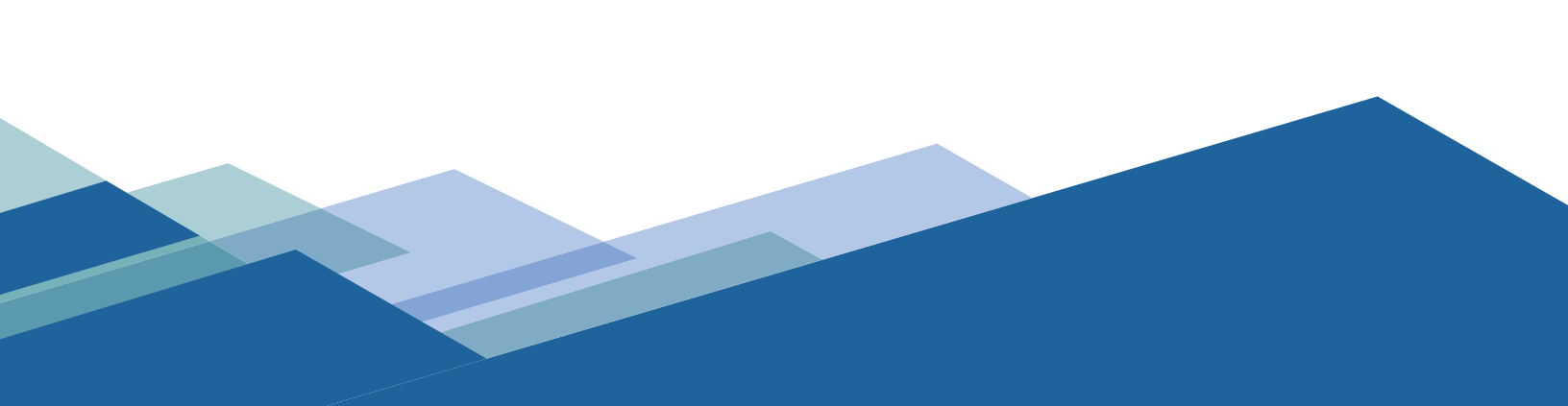- Improving the security of your workflows

- Improving host and network security

- Managing secrets

- Preparing for Lab 6: Securing Amazon EKS

Module 11: Managing Upgrades in Amazon EKS

- Planning for an upgrade

- Upgrading your Kubernetes version

- Amazon EKS platform versions

Who Should Attend

Those who will provide container orchestration management in the AWS Cloud including:

- DevOps engineers
- Systems administrators

About CloudThat

CloudThat is the first company in India to offer Cloud Training & Consulting services for mid-market & enterprise clients from across the globe. Since our inception in 2012, we have trained over 500K IT professionals from fortune 500 companies on technologies such as Microsoft Azure, Amazon Web Services, VMware, Artificial Intelligence, Machine Learning, Google Cloud, IoT, Dynamics 365, Power Platform, Power BI, HPE AI, DevOps, Big Data, Kubernetes, Terraform and more.

With expertise in all the major Cloud platforms, CloudThat is a proud Microsoft Gold Partner, AWS Authorized Training Partner, VMware Authorized Training Reseller, Google Cloud Platform Partner and HPE Learning Partner. Through sheer dedication and commitment towards customer excellence, we have been the winner of the Microsoft Asia Superstar Campaign for India – 2021 as well as recognized as the winner of Microsoft Learning Partner of the Year 2021 Finalist award. Recently, we have been recognized as the Microsoft 2022 Partner of the Year Finalist - Learning Award.

Our Success Track

11+ Years of Experience	**100+** Corporates served	**28+** countries catered
650K+ Professionals trained	**300+** Projects delivered	**500+** Cloud certifications

To know more about our VMware certification training, email at **sales@cloudthat.com** or call us at **+918880002200.**