

**Advanced EKS with Istio, App Mesh, and Kubeflow**

**Course Number:** EKS-106  
**Duration:** 2 days

**Overview**

This Advanced Amazon EKS (Elastic Kubernetes Service) training teaches attendees advanced EKS skills, including launching EKS Kubernetes clusters, implementing networking with AWS App Mesh, building Argo batch processing pipelines, and using the Kubeflow for machine learning workloads.

**Prerequisites**

All students must have taken Accelebrate's [Advanced EKS course](file:////training/amazon-eks-advanced) or have equivalent knowledge.

**Materials**

All EKS training students receive comprehensive courseware.

**Software Needed on Each Student PC**

Each attendee must have their own AWS account. In the first session, we can assist in the setup if needed. For other courses in the series, you will use your same AWS account.

**Objectives**

* Launch EKS Kubernetes clusters
* Implement networking with AWS App Mesh
* Build Argo batch processing pipelines
* Use Kubeflow for machine learning workflows

**Outline**

* Introduction
* Setting up a K8s Client Environment on AWS’s Cloud9 IDE
  + ssh keys, secret/access keys, kubectl, and eksctl setup.
* Automatically Launch EKS Kubernetes Clusters using eksctl
* Service Mesh using Istio
  + Deploy samples
  + Manage Traffic
  + Monitor and Visualize
* Service Mesh with AWS App Mesh
  + Deploy the sample app
  + Integrate App Mesh
* Batch Processing with Argo Workflow
  + Deploy Argo
  + Setup a simple Batch workflow
  + Setup a complex Batch workflow
* Deploy and use a Kubeflow for Machine Learning
  + Deploy Kubeflow
  + Create a pipeline
  + Light model training, inference, and distributed training
* Conclusion