

# Vertex AI for Machine Learning Practitioners

Learn how to use Vertex AI to create custom machine learning workflows on Google Cloud

1 jour / 7h

## Learning outcomes

- Understand the key components of Vertex AI and how they work together to support your ML workflows.
- Configure and launch Vertex AI Custom Training and Hyperparameter Tuning Jobs to optimize model performance.
- Organize and version your models using Vertex AI Model Registry for easy access and tracking.
- Configure serving clusters and deploy models for online predictions with Vertex AI Endpoints.
- Operationalize and orchestrate end-to-end ML workflows with Vertex AI Pipelines for increased efficiency and scalability.
- Configure and set up monitoring on deployed models

## Who this course is for

Machine Learning Engineers, Data Scientists

## Prerequisites

Experience building and training custom ML models. Familiar with Docker.

## Course Outline

### **Module 01 : Training, Tuning, and Deploying Models on Vertex AI**

#### **Topics**

- Understand Containerized Training Applications
- Understand Vertex AI Custom Training and Tuning Jobs
- Understand how to track and version your trained models in Vertex AI Model Registry
- Understand Online Deployment with Vertex AI Endpoints

#### **Activities**

- Lab: Train, Tune, and Serve Models with Vertex AI

### **Module 02 : Orchestrating end-to-end Workflows with Vertex AI Pipelines**

#### **Topics**

- Understand Kubeflow
- Understand pre-built and lightweight Python components
- Understand how to compile and execute pipelines on Vertex AI

#### **Activities**

- Lab: Orchestrating an AutoML Based Pipeline with Vertex AI Pipelines
- Lab: Orchestrate Custom Training and Tuning Pipeline with Pre-Built Components
- Lab: Orchestrate Custom Training and Tuning Pipeline with Lightweight Python Components

### **Module 03 : Model Monitoring on Vertex AI**

#### **Topics**

- Understand Feature Drift and Skew
- Understand Model Monitoring for models deployed to Vertex AI Endpoints

#### **Activities**

- Lab: Vertex AI Model Monitoring