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Sign up

Kubeflow training: Industrializing Machine Learning in Kubernetes

2 days (14 hours)

Presentation

Our Kubeflow training course is aimed at data scientists and machine learning engineers who want to simplify their processes with a complete automated MLOps platform.

Using Kubeflow gives you a true multi-cloud framework capable of running complete machine learning pipelines.

Kubeflow is a Kubernetes toolkit for running machine learning workflows in a simple, scalable way. It works as an end-to-end solution for deploying ML [pipelines](#) in production. Kubeflow simplifies the machine learning process by applying it to the Kubernetes cluster. Supported by most cloud providers, it offers unrivalled portability.

In this training course, you'll learn how to familiarize yourself with the Kubeflow environment, use add-ons and create pipelines, as well as use serving tools.

This course is based on the latest version: [Kubeflow 1.6](#).

Objectives

- Understanding and using Kubeflow's essential components
- Understand the basic challenges of MLOps and how Kubeflow can meet them
- Build an entire machine learning pipeline right through to serving

Target audience

- Data scientists
- Machine learning engineers
- MLOps engineers

Prerequisites

- Knowledge of Python
- Knowledge of Docker
- Machine learning

Hardware requirements

A Unix-based machine (such as Linux or MacOS).

Kubeflow training program

Introduction to Kubeflow

- Kubernetes reminder
- ML life cycle and MLOps
- Why Kubeflow?
- Competitor comparison
- Kubeflow architecture
- Installation & tool discovery

MLOps and Kubeflow

- The different stages of MLOps
- Real-life case study
- Case study application with Kubeflow

Kubeflow pipelines

- Introduction to pipelines
- ML workflow application
- Installation and construction of the first pipelines

Model training with Kubeflow

- Introduction to drive operators
- Job Scheduling
- Add operator to previous pipelines

Hyper-parameter search

- Overview of hyperparameter searches
- Introducing Katib
- Using templates
- Adding a tuning step to previous pipelines

Serving with Kubeflow & Introducing external Add-ons

- Kserve
- Serving: Seldon Core, BentoML, Serving pipelines
- Feature stores: Feast

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.