

Amazon SageMaker Studio for Data Scientists – Intensive Training («AWSB10»)

This advanced level course helps experienced data scientists build, train, and deploy ML models for any use case with fully managed infrastructure, tools, and workflows to reduce training time from hours to minutes with optimized infrastructure.

Duration: 3 days

Price: 2'500.–

Course documents: Digital original AWS courseware

Content

This course includes presentations, demonstrations, discussions, labs, and at the end of the course, you'll practice building an end-to-end tabular data ML project using SageMaker Studio and the SageMaker Python SDK.

Course outline

Module 1: Amazon SageMaker Setup and Navigation

- Launch SageMaker Studio from the AWS Service Catalog
- Navigate the SageMaker Studio UI
- Demo 1: SageMaker UI Walkthrough
- Lab 1: Launch SageMaker Studio from AWS Service Catalog

Module 2: Data Processing

- Use Amazon SageMaker Studio to collect, clean, visualize, analyze, and transform data
- Set up a repeatable process for data processing
- Use SageMaker to validate that collected data is ML ready
- Detect bias in collected data and estimate baseline model accuracy
- Lab 2: Analyze and Prepare Data Using SageMaker Data Wrangler
- Lab 3: Analyze and Prepare Data at Scale Using Amazon EMR
- Lab 4: Data Processing Using SageMaker Processing and the SageMaker Python SDK
- Lab 5: Feature Engineering Using SageMaker Feature Store

Module 3: Model Development

- Use Amazon SageMaker Studio to develop, tune, and evaluate an ML model against business objectives and fairness and explainability best practices
- Fine-tune ML models using automatic hyperparameter optimization capability
- Use SageMaker Debugger to surface issues during model development
- Demo 2: Autopilot
- Lab 6: Track Iterations of Training and Tuning Models Using SageMaker Experiments
- Lab 7: Analyze, Detect, and Set Alerts Using SageMaker Debugger
- Lab 8: Identify Bias Using SageMaker Clarify

Module 4: Deployment and Inference

- Use Model Registry to create a model group; register, view, and manage model versions; modify model approval status; and deploy a model
- Design and implement a deployment solution that meets inference use case requirements
- Create, automate, and manage end-to-end ML workflows using Amazon SageMaker Pipelines
- Lab 9: Inferencing with SageMaker Studio

- Lab 10: Using SageMaker Pipelines and the SageMaker Model Registry with SageMaker Studio 

Module 5: Monitoring

- Configure a SageMaker Model Monitor solution to detect issues and initiate alerts for changes in data quality, model quality, bias drift, and feature attribution (explainability) drift
- Create a monitoring schedule with a predefined interval
- Demo 3: Model Monitoring

Module 6: Managing SageMaker Studio Resources and Updates

- List resources that accrue charges
- Recall when to shut down instances
- Explain how to shut down instances, notebooks, terminals, and kernels
- Understand the process to update SageMaker Studio

Capstone

- The Capstone lab will bring together the various capabilities of SageMaker Studio discussed in this course. Students will be given the opportunity to prepare, build, train, and deploy a model using a tabular dataset not seen in earlier labs. Students can choose among basic, intermediate, and advanced versions of the instructions.
- Capstone Lab: Build an End-to-End Tabular Data ML Project Using SageMaker Studio and the SageMaker Python SDK

Key Learnings

- Accelerating the preparation, building, training, deployment, and monitoring of ML solutions by using Amazon SageMaker Studio
- Using the tools that are part of SageMaker Studio to improve productivity at every step of the ML lifecycle

Methodology & didactics

This course includes presentations, demonstrations, practice labs, discussions, and a capstone project.

Target audience

This course is intended for the following job roles:

- Machine Learning & AI

Requirements

The following course or equivalent knowledge is required:

- [MLOps Engineering on AWS – Intensive Training \(«AWSS07»\)](#)

Further courses

- [Building Data Lakes on AWS – Intensive Training \(«AWSB04»\)](#)

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-

