



# MLOps Engineering on AWS Training

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This course builds upon and extends the DevOps practice prevalent in software development to build, train, and deploy machine learning (ML) models. The course stresses the importance of data, model, and code to successful ML deployments. It will demonstrate the use of tools, automation, processes, and teamwork in addressing the challenges associated with handoffs between data engineers, data scientists, software developers, and operations. The course will also discuss the use of tools and processes to monitor and take action when the model prediction in production starts to drift from agreed-upon key performance indicators.

The instructor will encourage the participants in this course to build an MLOps action plan for their organization through daily reflection of lesson and lab content, and through conversations with peers and instructors.

### Course Contents

- Module 0: Welcome
- Module 1: Introduction to MLOps
- Module 2: MLOps Development
- Module 3: MLOps Deployment
- Module 4: Model Monitoring and Operations
- Module 5: Wrap-up

You have access to the labs for another 14 days after the course. This way you can repeat exercises or deepen them individually.

**E-Book** You will receive the original course documentation by Amazon Web Services as an e-book.

### Target Group

This course is intended for any one of the following roles with responsibility for productionizing machine learning models in the AWS Cloud:

- DevOps Engineers
- ML Engineers
- Developers/operations with responsibility for operationalizing ML models

### Prerequisites

Required:  
AWS Technical Essentials  
DevOps Engineering on AWS  
Practical Data Science with Amazon SageMaker

Recommended:  
The Elements of Data Science  
Machine Learning Terminology and Process

### This Course in the Web



You can find the up-to-date information and options for ordering under the following link:  
[www.expertech-training.com/go/AWMO](http://www.expertech-training.com/go/AWMO)

### Reservation

On our Website, you can reserve a course seat for 7 days free of charge and in a non-committal manner. This can also be done by phone under +49 6074/4868-0.

### Guaranteed Course Dates

To ensure reliable planning, we are continuously offering a wide range of guaranteed course dates.

### Your Tailor-Made Course!

We can precisely customize this course to your project and the corresponding requirements.

| Training                  | Prices, excl. of V.A.T. |
|---------------------------|-------------------------|
| <b>Classes in Germany</b> | <b>3 Days € 2,685</b>   |
| <b>Online Training</b>    | <b>3 Days € 2,685</b>   |
| Date/course venue         | Course language German  |
| 06/05-08/05/24            | 04/11-06/11/24          |
| 06/05-08/05/24            | 04/11-06/11/24          |

Status 03/08/2024



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Course introduction

Activity: MLOps Action Plan Workbook

### Module 1: Introduction to MLOps

Machine learning operations

### Module 5: Wrap-up

Goals of MLOps

Course review

Communication

Activity: MLOps Action Plan Workbook

From DevOps to MLOps

Wrap-up

ML workflow

Scope

MLOps view of ML workflow

MLOps cases

### Module 2: MLOps Development

Intro to build, train, and evaluate machine learning models

MLOps security

Automating

Apache Airflow

Kubernetes integration for MLOps

Amazon SageMaker for MLOps

Lab: Bring your own algorithm to an MLOps pipeline

Demonstration: Amazon SageMaker

Intro to build, train, and evaluate machine learning models

Lab: Code and serve your ML model with AWS

CodeBuild

Activity: MLOps Action Plan Workbook

### Module 3: MLOps Deployment

Introduction to deployment operations

Model packaging

Inference

Lab: Deploy your model to production

SageMaker production variants

Deployment strategies

Deploying to the edge

Lab: Conduct A/B testing

Activity: MLOps Action Plan Workbook

### Module 4: Model Monitoring and Operations

Lab: Troubleshoot your pipeline

The importance of monitoring

Monitoring by design

Lab: Monitor your ML model

Human-in-the-loop

Amazon SageMaker Model Monitor

Demonstration: Amazon SageMaker Pipelines, Model

Monitor, model registry, and Feature Store

Solving the Problem(s)

