



## The Machine Learning Pipeline on AWS

### Course Contents

- Module 0: Introduction
- Module 1: Introduction to Machine Learning and the ML Pipeline
- Module 2: Introduction to Amazon SageMaker
- Module 3: Problem Formulation
- Module 4: Preprocessing
- Module 5: Model Training
- Module 6: Model Evaluation
- Module 7: Feature Engineering and Model Tuning
- Module 8: Deployment

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

### Target Group

This course is intended for:

- Developers
- Solutions Architects
- Data Engineers
- Anyone with little to no experience with ML and wants to learn about the ML pipeline using

### Prerequisites

We recommend that attendees of this course have:

- Basic knowledge of Python programming language
- Basic understanding of AWS Cloud infrastructure (Amazon S3 and Amazon CloudWatch)
- Basic experience working in a Jupyter notebook environment

### Course Target

Please note our overview AWS Trainings!

### 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/AWML](http://www.expertech-training.com/go/AWML)

### 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>4 Days</b>	<b>€ 2,795</b>	
<b>Online Training</b>	<b>4 Days</b>	<b>€ 2,795</b>	
<b>Date/course venue</b>	Course language German		
21/05-24/05/24	Online	11/11-14/11/24	München
22/07-25/07/24	Frankfurt	11/11-14/11/24	Online
22/07-25/07/24	Online		

Status 03/08/2024



# Table of Contents

## The Machine Learning Pipeline on AWS

### Module 0: Introduction

Pre-assessment

### Module 1: Introduction to Machine Learning and the ML Pipeline

Overview of machine learning, including use cases, types of machine learning, and key concepts

Overview of the ML pipeline

Introduction to course projects and approach

### Module 2: Introduction to Amazon SageMaker

Introduction to Amazon SageMaker

Demo: Amazon SageMaker and Jupyter notebooks

Hands-on: Amazon SageMaker and Jupyter notebooks

### Module 3: Problem Formulation

Overview of problem formulation and deciding if ML is the right solution

Converting a business problem into an ML problem

Demo: Amazon SageMaker Ground Truth

Hands-on: Amazon SageMaker Ground Truth

Practice problem formulation

Formulate problems for projects

Checkpoint 1 and Answer Review

### Module 4: Preprocessing

Overview of data collection and integration, and techniques for data preprocessing and visualization

Practice preprocessing

Preprocess project data

Class discussion about projects

Checkpoint 2 and Answer Review

### Module 5: Model Training

Choosing the right algorithm

Formatting and splitting your data for training

Loss functions and gradient descent for improving your model

Demo: Create a training job in Amazon SageMaker

### Module 6: Model Evaluation

How to evaluate classification models

How to evaluate regression models

Practice model training and evaluation

Train and evaluate project models

Initial project presentations

Checkpoint 3 and Answer Review

### Module 7: Feature Engineering and Model Tuning

Feature extraction, selection, creation, and transformation

Hyperparameter tuning

Demo: SageMaker hyperparameter optimization

Practice feature engineering and model tuning

Apply feature engineering and model tuning to projects

Final project presentations

### Module 8: Deployment

How to deploy, inference, and monitor your model on

Amazon SageMaker

Deploying ML at the edge

Demo: Creating an Amazon SageMaker endpoint

Post-assessment

Course wrap-up



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