AW-PDS
PRACTICAL DATA SCIENCE WITH AMAZON SAGEMAKER

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
1 Days	Intermediate	AWS	Instructor-led	NA

INTRODUCTION

Artificial intelligence and machine learning (AI/ML) are becoming mainstream. In this course, you will spend a day in the life of a data scientist so that you can collaborate efficiently with data scientists and build applications that integrate with ML. You will learn the basic process data scientists use to develop ML solutions on Amazon Web Services (AWS) with Amazon SageMaker. You will experience the steps to build, train, and deploy an ML model through instructor-led demonstrations and labs.

AUDIENCE PROFILE

This course is intended:
– Development Operations (DevOps) engineers
– Application developers

PREREQUISITES

Before attending this course, delegates must:
– AWS Technical Essentials
– Entry-level knowledge of Python programming
– Entry-level knowledge of statistics

COURSE OBJECTIVES

After completing this course, students will be able to:
– Discuss the benefits of different types of machine learning for solving business problems
– Describe the typical processes, roles, and responsibilities on a team that builds and deploys ML systems
– Explain how data scientists use AWS tools and ML to solve a common business problem
– Summarize the steps a data scientist takes to prepare data
– Summarize the steps a data scientist takes to train ML models
– Summarize the steps a data scientist takes to evaluate and tune ML models
– Summarize the steps to deploy a model to an endpoint and generate predictions
– Describe the challenges for operationalizing ML models
– Match AWS tools with their ML function

COURSE CONTENT

Module 1: Introduction to Machine Learning
– Benefits of machine learning (ML)
– Types of ML approaches
– Framing the business problem
– Prediction quality
– Processes, roles, and responsibilities for ML projects

Module 2: Preparing a Dataset
– Data analysis and preparation
– Data preparation tools

– Demonstration: Review Amazon SageMaker Studio and Notebooks
– Hands-On Lab: Data

Module 3: Training a Model
– Steps to train a model
– Choose an algorithm
– Train the model in Amazon SageMaker
– Hands-On Lab: Training a Model with Amazon SageMaker
– Amazon CodeWhisperer

– Demonstration: Amazon CodeWhisperer in SageMaker Studio Notebooks

Module 4: Evaluating and Tuning a Model
– Model evaluation
– Model tuning and hyperparameter optimization
– Hands-On Lab: Model Tuning and Hyperparameter Optimization with Amazon SageMakerModel-specific prompt techniques

Module 5: Deploying a Model

– Model deployment
– Hands-On Lab: Deploy a Model to a Real-Time Endpoint and Generate a Prediction

Module 6: Operational Challenges

– Responsible ML
– ML team and MLOps

– Automation
– Monitoring
– Updating models (model testing and deployment)

Module 7: Other Model-Building Tools

– Different tools for different skills and business needs
– No-code ML with Amazon SageMaker Canvas

– Demonstration: Overview of Amazon SageMaker Canvas
– Amazon SageMaker Studio Lab
– Demonstration: Overview of SageMaker Studio Lab
– (Optional) Hands-On Lab: Integrating a Web Application with an Amazon SageMaker Model

ASSOCIATED CERTIFICATIONS & EXAM

None.