

**AWS Machine Learning Certification Preparation**

**Course Number:** AWS-184WA
**Duration:** 3 days

**Overview**

Are you preparing for the AWS Machine Learning (ML) Certification exam? As an AWS Training Partner, we have successfully helped thousands of clients prepare for their AWS certification exams. Recognizing a need for more comprehensive preparation for the AWS Machine Learning exam, we have developed an AWS ML training course that builds on the AWS official course, [The Machine Learning Pipeline on AWS](file://training/ml-pipeline-on-aws), to prepare you and your team for success on the exam.

Our exclusive AWS ML Certification Preparation training course is designed to fill any knowledge gaps needed to pass the exam. After this targeted course, attendees are ready to confidently tackle the test and become certified.

**Prerequisites**

All attendees must have some knowledge of:

* Python Programming
* AWS Cloud infrastructure (S3 and Amazon CloudWatch)
* The Jupyter Notebook environment

**Materials**

All ML training students will receive comprehensive courseware.

**Software Needed on Each Student PC**

A modern web browser and an Internet connection free of restrictive firewalls, so that the student can connect by SSH or Remote Desktop (RDP) into AWS virtual machines.

**Objectives**

* Understand the basics of Machine Learning, including use cases, types, and key concepts
* Use the ML pipeline and apply it to projects
* Work with  Amazon SageMaker and Jupyter Notebooks
* Convert business problems to ML problems
* Practice data collection, integration, and preprocessing techniques

**Outline**

* 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
* Introduction to Amazon SageMaker
	+ Introduction to Amazon SageMaker
	+ Amazon SageMaker and Jupyter notebooks
* Problem Formulation
	+ Overview of problem formulation and deciding if ML is the right solution
	+ Converting a business problem into an ML problem
	+ Amazon SageMaker Ground Truth
	+ Practice problem formulation
	+ Formulate problems for projects
* Preprocessing
	+ Overview of data collection and integration, and techniques for data preprocessing and visualization
	+ Practice preprocessing
	+ Preprocess project data
	+ Class discussion about projects
* Model Training
	+ Choosing the right algorithm
	+ Formatting and splitting your data for training
	+ Loss functions and gradient descent for improving your model
	+ The Machine Learning Pipeline on AWS
	+ Create a training job in Amazon SageMaker
* 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
* Feature Engineering and Model Tuning
	+ Feature extraction, selection, creation, and transformation
	+ Hyperparameter tuning
	+ SageMaker hyperparameter optimization
	+ Practice feature engineering and model tuning
	+ Apply feature engineering and model tuning to projects
	+ Final project presentations
* Deployment
	+ How to deploy, infer, and monitor your model on Amazon SageMaker
	+ Deploying ML at the edge
	+ Creating an Amazon SageMaker endpoint
* Conclusion