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Register

AWS Machine Learning Engineer Associate Certification Training

3 days (21 hours)

Overview

AWS Certified Machine Learning Engineer – Associate is a certification that validates the ability to design, deploy, and operate reliable and high-performance machine learning solutions on AWS.

This three-day certification training course provides a comprehensive and operational overview of the role of Machine Learning Engineer, from data preparation to production and model monitoring.

You will learn how to use AWS services dedicated to machine learning, implement MLOps practices, secure data, and optimize the performance and costs of ML solutions.

At the end of this training course, you will be able to design robust ML architectures, industrialize models, and be fully prepared to take the AWS Certified Machine Learning Engineer – Associate (MLA-C01) exam.

Like all our training courses, this one is based on the **latest AWS MLA-C01 certification framework** and offers a decidedly practical and operational approach.

Objectives

- Master the lifecycle of a Machine Learning project on AWS.
- Deploy and monitor ML models at scale.
- Implement MLOps practices.
- Secure and govern ML data and models.
- Optimize performance and costs.
- Prepare for MLA-C01 certification.

Target audience

- Machine learning engineers
- Data engineers
- Cloud/AI engineers
- ML developers

Prerequisites

- Solid foundation in Machine Learning
- Knowledge of the AWS environment
- Programming skills (Python recommended)

AWS Machine Learning Engineer - Associate (MLA-C01) training program

[Day 1 - Morning]

Fundamentals of Machine Learning applied to AWS

- Review: Machine Learning, Deep Learning, supervised and unsupervised learning
- Types of ML problems: classification, regression, clustering
- Life cycle of an ML project in production
- Specific features of ML in an AWS environment
- Role of the Machine Learning Engineer
- Hands-on workshop: Identifying the type of ML problem and the target architecture.

[Day 1 - Afternoon]

Data, preparation, and feature engineering

- ML data collection and ingestion
- Data quality, bias, and imbalances
- Feature engineering and variable selection
- Storage and versioning of datasets on AWS
- Traceability and reproducibility
- Hands-on workshop: Propose a data preparation strategy.

ML environments and AWS tools

- Overview of AWS Machine Learning services
- Role of Amazon SageMaker
- Notebooks, training jobs, and pipelines
- Environment and dependency management
- Choosing the right tools for the use case

- Hands-on workshop: Building an ML workflow on AWS.

[Day 2 - Morning]

Model training and evaluation

- Selecting ML algorithms
- Distributed training and optimization
- Evaluation metrics and validation
- Overfitting and bias management
- Model comparison and selection
- Hands-on workshop: Interpreting metrics and choosing a model.

[Day 2 - Afternoon]

Deployment and inference at scale

- ML model deployment strategies
- Real-time and batch inference
- Scalability, latency, and high availability
- Model versioning and rollback
- Best practices for production deployment
- Hands-on workshop: Designing a scalable inference architecture.

MLOps, automation, and monitoring

- MLOps principles on AWS
- CI/CD pipelines for machine learning
- Model monitoring and drift detection
- Logs, metrics, and alerts
- Continuous model improvement
- Hands-on workshop: Defining a complete MLOps pipeline.

[Day 3 - Morning]

ML security, governance, and compliance

- ML data and model security
- Access and identity management
- Governance of datasets and models
- Accountability and explainability
- Cloud compliance and best practices
- Hands-on workshop: Identifying security risks and controls.

[Day 3 - Afternoon]

Cost and performance optimization

- ML billing on AWS
- Training resource optimization
- Choosing instances and balancing cost and performance
- FinOps best practices
- Continuous optimization
- Hands-on workshop: Reducing the costs of an ML scenario.

Certification preparation and mock exam

- Structure and domains of the MLA-C01 exam
- Question types and common pitfalls
- Time management strategies
- Targeted revisions by domain
- Analysis of common mistakes
- Practical workshop: Mock exam + correction.

Companies concerned

This training is aimed at both individuals and companies, large or small, wishing to train their teams in new advanced IT technology or to acquire specific professional knowledge or modern methods.

Placement at the start of training

The positioning at the start of the training complies with Qualiopi quality criteria. Upon final registration, the learner receives a self-assessment questionnaire that allows us to assess their estimated level of proficiency in different types of technologies, as well as their expectations and personal objectives for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could be problematic for the monitoring and smooth running of the training session.

Teaching methods

Practical training: 60% practical, 40% theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been correctly acquired

of skills.

Certification

A certificate will be issued to each trainee who has completed the entire training course.