DATABRICKS TRAINING

Microsoft Dp 090t00 A Implementing A Machine Learning Solution With Azure Databricks

Master implementing machine learning solutions with Azure Databricks. Learn to build and deploy robust ML models on the Azure platform.

DURATION
Flexible

LEVEL
Intermediate

FORMAT
Instructor-Led

- Globally Recognized Certification
- Expert-Led Hands-On Training
- Flexible Scheduling

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COURSE OVERVIEW

The Microsoft DP-090T00 A: Implementing a Machine Learning Solution with Azure Databricks course is designed for IT professionals aiming to master the deployment of scalable machine learning solutions on the Azure platform. This intermediate-level training dives deep into Azure Databricks, a powerful analytics platform optimized for Apache Spark, enabling participants to harness its capabilities for big data processing and advanced analytics. You will gain hands-on experience in building and operationalizing end-to-end machine learning pipelines, from data ingestion and preparation to model training, evaluation, and deployment, all within the robust Azure ecosystem.

Participants will learn to leverage core technologies such as Apache Spark for data transformation, MLflow for managing the machine learning lifecycle, and integrate seamlessly with other Azure services like Azure Data Lake Storage and Azure Machine Learning. This course equips you with the practical skills to architect, implement, and monitor robust ML solutions, providing a significant career advantage in the rapidly evolving fields of data science and AI. By the end of this certification, you will be proficient in turning raw data into actionable intelligence and deploying high-performance machine learning models at scale.

Level	Intermediate
Vendor	Databricks

COURSE CURRICULUM

01 Module 1: Introduction to Azure Databricks for Machine Learning

- Overview of Azure Databricks architecture and components
- Introduction to Apache Spark and its role in big data processing
- Understanding the machine learning lifecycle in a cloud environment
- Setting up and configuring Azure Databricks workspaces and clusters
- Navigating Databricks notebooks and collaborative features

02 Module 2: Data Preparation and Feature Engineering with Databricks

- Ingesting data from various sources into Azure Databricks (e.g., ADLS, Blob Storage)
- Performing data cleaning, transformation, and aggregation using Spark SQL and DataFrames
- Techniques for effective feature engineering and selection for ML models
- Utilizing Delta Lake for building reliable, performant data lakes
- Handling structured, semi-structured, and unstructured data

03 Module 3: Model Training and Experiment Tracking with MLflow

- Building and training machine learning models using popular libraries (scikit-learn, Spark MLlib)
- Introduction to MLflow for managing the machine learning lifecycle
- Tracking experiments, logging parameters, metrics, and models with MLflow
- Hyperparameter tuning and model optimization strategies on Databricks
- Registering and versioning machine learning models in MLflow Model Registry

04 Module 4: Deploying and Monitoring Machine Learning Solutions

- Implementing batch inference for large-scale predictions
- Setting up real-time inference endpoints for low-latency predictions
- Integrating Azure Databricks with Azure Machine Learning for model deployment
- Containerizing models for deployment (e.g., Docker, Azure Kubernetes Service)
- Monitoring model performance, drift, and retraining strategies in production

05 Module 5: Advanced Topics and Best Practices

- Working with streaming data for real-time ML with Structured Streaming
- Implementing MLOps principles for automated ML pipelines
- Security considerations and best practices for Databricks ML workloads
- Cost optimization techniques for Azure Databricks environments
- Collaborative development and code management for ML projects

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

> **Azure Machine Learning Engineer**

> **Databricks Platform Specialist**

> **Cloud Data Scientist (Azure Focus)**

FREQUENTLY ASKED QUESTIONS

Q: What specific Azure services will I interact with beyond Databricks during this course, and how do they integrate with the ML solution?

This course focuses on implementing machine learning solutions primarily using Azure Databricks, but you will extensively interact with and integrate other crucial Azure services. This includes Azure Data Lake Storage (ADLS) for scalable data ingestion and storage, Azure Machine Learning for managing experiments and deploying models, and potentially Azure Key Vault for secure credential management. You'll learn how these services form a cohesive ecosystem to support a robust, end-to-end ML pipeline, from data preparation to model deployment and monitoring.

Q: What kind of machine learning models or algorithms will I learn to implement and deploy using Azure Databricks in a scalable manner?

This course emphasizes the practical implementation and scalability of various machine learning models. You will gain hands-on experience with common model types such as regression for prediction, classification for categorization, and potentially clustering for pattern discovery. The curriculum covers utilizing popular libraries like scikit-learn and Spark MLlib, and integrating with frameworks like TensorFlow or PyTorch. The primary focus is on how to train, manage, and deploy these models effectively at scale within the Databricks environment, leveraging Spark's distributed processing capabilities.

Q: Is prior experience with Apache Spark, data science, or Databricks required for someone considering this intermediate-level course?

While this is an intermediate-level course, a foundational understanding of programming (preferably Python or Scala) and basic data concepts is recommended. Prior exposure to Apache Spark or general big data processing concepts will be beneficial but is not strictly mandatory, as the course will introduce Spark within the Databricks context. However, a basic grasp of machine learning fundamentals and statistics will help you assimilate the advanced implementation techniques covered, allowing you to focus more deeply on building and deploying scalable ML solutions with Databricks.

ABOUT COMPUTER PRIDE

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15+	10,000+	50+
Years of Excellence	Professionals Trained	Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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