



**Document Generated: 11/23/2024**

**Learning Style: Virtual Classroom**

**Provider: Microsoft**

**Difficulty: Intermediate**

**Course Duration: 1 Day**

## **Implementing a Machine Learning solution with Azure Databricks (DP-3014)**

### **About This Course:**

Azure Databricks offers a collaborative environment where data scientists and engineers can seamlessly integrate with popular tools like Apache Spark™ for big data processing and MLflow for managing the end-to-end machine learning lifecycle

### **Course Objectives:**

- Get started with Azure Databricks
- Identify Azure Databricks workloads
- Understand key concepts
- Get to know Spark
- Create a Spark cluster
- Use Spark in notebooks

- Use Spark to work with data files
- Visualize data
- Understand principles of machine learning
- Machine learning in Azure Databricks
- Prepare data for machine learning
- Train a machine learning model
- Evaluate a machine learning model
- Capabilities of MLflow
- Run experiments with MLflow
- Register and serve models with MLflow
- Optimize hyperparameters with Hyperopt
- Review Hyperopt trials
- Scale Hyperopt trials
- What is AutoML?
- Use AutoML in the Azure Databricks user interface
- Use code to run an AutoML experiment
- Understand deep learning concepts
- Train models with PyTorch
- Distribute PyTorch training with Horovod

### **Audience:**

- Data professionals seeking to utilize Azure Databricks for ML
- Data scientists/engineers wanting to apply ML workflows
- Azure users aiming to implement scalable ML solutions
- Professionals preparing for Azure Databricks certifications
- Technical personnel interested in combining Azure services with ML

### **Prerequisites:**

- Fundamental understanding of Azure
- Basic knowledge of machine learning concepts
- Experience with Python programming
- Familiarity with Apache Spark and Databricks platform
- Prior exposure to data processing and ETL tasks

### **Course Outline:**

- Explore Azure Databricks
- Use Apache Spark in Azure Databricks
- Train a machine learning model in Azure Databricks
- Use MLflow in Azure Databricks
- Tune hyperparameters in Azure Databricks
- Use AutoML in Azure Databricks

- Train deep learning models in Azure Databricks

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