Databricks Certified Data Engineer Associate Training

Day - 1

- **Introduction to Data Engineering**
  - What is Data Engineering?
  - Key Roles and Responsibilities of a Data Engineer
  - Data Engineering Pipeline Overview
  - Databricks Overview and Introduction
  - Importance of Cloud Data Engineering and Databricks' role.

- **Introduction to Databricks Platform**
  - Overview of Databricks Architecture
  - Key Components of Databricks Workspace
  - Setting up a Databricks Workspace
  - Navigating the Databricks User Interface.

- **Databricks Notebooks and Spark Basics**
  - Introduction to Databricks Notebooks
  - Writing and Running Spark Code in Notebooks
  - Understanding DataFrames in Spark
  - Basic Spark Transformations and Actions.

- **Working with Datasets**
  - Loading Data into Databricks
  - Data Exploration Techniques
  - Basic SQL Queries with Databricks SQL
  - Data Manipulation with Spark SQL

Day - 2

- **Delta Lake and Data Reliability**
  - Introduction to Delta Lake
  - Understanding ACID Transactions in Databricks
  - Managing Delta Tables in Databricks
  - Optimizing Data with Delta Lake.

- **Data Pipelines and Workflows**
  - Introduction to Databricks Jobs and Workflows
  - Building Data Pipelines with Databricks
  - Scheduling and Monitoring Pipelines
  - Troubleshooting Pipeline Failures.

- **ETL Processes and Best Practices**
  - Building ETL Pipelines in Databricks
  - Efficient Data Transformation with Spark
  - Best Practices for Data Cleaning and Transformation.

- **Advanced Spark Operations**
  - Understanding Spark's Distributed Processing
  - Spark Performance Optimization
  - Advanced Transformations and Custom Functions.

Day - 3

- **Data Engineering at Scale with Databricks**
  - Scaling Data Engineering Pipelines in Databricks
  - Data Partitioning and Performance Tuning
  - Working with Streaming Data in Databricks.

- **Integrating Databricks with Cloud Services**
  - Integrating Databricks with AWS, Azure, and Google Cloud
  - Connecting Databricks to Cloud Data Sources
  - Working with Cloud Storage in Databricks.

- **Preparing for the Databricks Certified Data Engineer Exam**
  - Review of Key Concepts for Certification
  - Exam Format and Sample Questions
  - Tips and Strategies for Exam Preparation.

- **Hands-on Exam Simulation**
  - Practice Exam with Real-World Scenarios
  - Review of Answers and Discussions
  - Final Q&A Session and Closing Remarks.