Day - 1

- **Welcome & Training Orientation**
  - Overview of the Databricks Platform
  - Certification Exam Introduction
  - Learning Objectives and Agenda Review
  - Environment Setup (Clusters, Notebooks, Datasets).

- **Apache Spark Advanced Concepts**
  - Spark Execution Plan Internals
  - Catalyst Optimizer & Tungsten Engine
  - Partitioning, Caching & Broadcast Joins
  - Hands-On Lab: Optimizing Join Strategies & Caching.

- **Delta Lake Essentials**
  - Delta Lake Architecture & Features
  - Delta Log, Schema Enforcement & Evolution
  - Time Travel & Transactional Guarantees
  - Hands-On Lab: Converting Parquet to Delta, Upserts using MERGE.

- **Advanced Delta Lake Operations**
  - Data Deduplication, Z-Ordering, OPTIMIZE, VACUUM
  - Change Data Feed (CDF)
  - Hands-On Lab: Implementing SCD Type 2 Using Delta Lake

Day - 2

- **Data Ingestion Strategies**
  - Ingesting Batch & Streaming Data
  - Autoloader (CloudFiles) vs Manual Ingestion
  - Schema Inference & Evolution
  - Hands-On Lab: Ingesting JSON/CSV with Autoloader.

- **Job Orchestration with Databricks Workflows**
  - Job Definitions, Scheduling, and Task Dependencies
  - Retry Logic, Alerts, and Monitoring
  - Hands-On Lab: Building a Multi-Task Pipeline.

- **Performance Tuning**
  - Cluster Sizing and Autoscaling
  - Adaptive Query Execution (AQE)
  - Skew Joins, Shuffle Partitions, Broadcast Hints
  - Hands-On Lab: Tuning a Real-World Job.

- **Testing and Monitoring Pipelines**
  - Unit Testing with dbt/pytest
  - Logging & Metrics with MLflow and Audit Logs
  - Hands-On Lab: Adding Logging and Alerts to Pipelines.

Day - 3

- **Unity Catalog & Data Governance**
  - Unity Catalog Concepts (Catalog, Schema, Tables, Lineage)
  - Access Control (Users, Groups, Privileges)
  - Managing Data Permissions & Auditing
  - Hands-On Lab: Setting Up Fine-Grained Access Control.

- **Real-World Use Case – Capstone Project**
  - End-to-End ETL Pipeline:
  - Ingest → Clean → Transform → Load → Monitor
  - Hands-On Lab: Implementing Project with Error Handling & Optimization
  - Team/Individual Presentation (Optional).

- **Certification Exam Strategy**
  - Exam Blueprint & Common Mistakes
  - Time Management Tips & Exam Readiness Checklist
  - Full-Length Mock Exam (45–60 mins)
  - Answer Review & Explanation.

- **Wrap-Up & Graduation**
  - Knowledge Check & Final Q&A
  - Certificate of Completion (if applicable)
  - Post-Training Resources & Support Channels.