



**NITYA
CLOUDTECH**

DATABRICKS SOLUTION ARCHITECT TRAINING

Training Modules

www.nityacloudtech.com



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COURSE OVERVIEW

This enterprise-focused training program is designed to help professionals master Databricks architecture, enterprise Lakehouse implementation, Delta Lake optimization, Spark performance tuning, governance, security, CI/CD integration, and real-world solution architecture. The program emphasizes practical implementation through enterprise case studies and a capstone project while preparing learners for Solution Architect interviews.



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TRAINING MODULES

1. Databricks Architecture Fundamentals

Understand the Databricks platform, workspace architecture, compute clusters, jobs, notebooks, Databricks SQL, and enterprise deployment models.

2. Lakehouse & Medallion Architecture

Learn modern Lakehouse concepts, Bronze-Silver-Gold architecture, data ingestion, refinement, serving layers, and enterprise data lifecycle.

3. Unity Catalog

Study governance using catalogs, schemas, tables, metadata management, access control, data lineage, and security.

4. Multi-Workspace Architecture

Implement Dev, QA, and Production workspaces, deployment strategies, and environment isolation.



TRAINING MODULES

5. Delta Lake & Performance Optimization

Work with Delta Tables, ACID transactions, Time Travel, Optimize, Vacuum, Z-Ordering, Auto Optimize, and file management.

6. Data Engineering Pipelines

Build batch and streaming pipelines using Delta Live Tables, workflow orchestration, scheduling, and error handling.

7. Security & Governance

Implement authentication, authorization, RBAC, data masking, audit logging, and compliance.

8. Cost Optimization

Optimize cluster sizing, autoscaling, serverless compute, job clusters, and cost monitoring.

9. CI/CD & Git Integration

Integrate Git repositories, branching strategies, Azure DevOps/GitHub, and automated deployment pipelines.



TRAINING MODULES

10. Monitoring & Troubleshooting

Monitor jobs, clusters, logs, performance, failures, and debugging techniques.

11. Spark Performance Tuning

Improve Spark applications using Broadcast Join, Partitioning, Caching, AQE, query optimization, shuffle reduction, and execution planning.

12. Data Skew Optimization

Handle skew using salting, skewjoins, repartition vs coalesce, and partition balancing.

13. Real-Time Enterprise Architecture Scenarios

Design enterprise solutions for Banking, Retail, Healthcare, IoT, streaming platforms, and end-to-end architectures.



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14. Capstone Project

Design and implement a complete enterprise Lakehouse solution covering ingestion, transformation, governance, optimization, and reporting.

15. Solution Architect Interview Preparation

Practice interview questions, architecture casestudies, scenario discussions, resume improvement, and mock interviews.