

AZURE DATABRICKS ADMINISTRATION

Workspace | Compute | Unity Catalog | Security | Monitoring | Cost Optimization

About the Course

Master Azure Databricks Administration through real-world, hands-on training designed for SQL DBAs, Azure Administrators, Data Engineers, Cloud Engineers, and IT Professionals.
Learn to manage enterprise Databricks environments, configure compute resources, administer Unity Catalog, implement security, monitor workloads, optimize costs, and troubleshoot production issues.

No Advanced Programming Knowledge Required.

Key Learning Highlights

- Azure Databricks Workspace & Account Administration
- User, Group & Service Principal Management
- Compute, Cluster Policies & SQL Warehouses
- Unity Catalog Administration & Data Governance
- Security, Permissions & Access Control
- Azure Storage Integration & Managed Identities
- Databricks Jobs & Workflow Administration
- Monitoring, Audit Logs & Cost Optimization
- Production Troubleshooting & Automation
- Real-Time Enterprise Administration Project

Meet Your Trainer:

Mr. Sai Phanindra
20+ Years of IT Training & Industry Experience
Profile: https://www.linkedin.com/in/saiphanindra/
An experienced IT trainer and technology mentor specializing in Microsoft SQL Server, SQL Server Administration, Azure Data Engineering, Microsoft Fabric, Databricks, and modern cloud data platforms. Known for practical, scenario-based teaching that connects technical concepts with real-world enterprise requirements.

Training Specializations: Microsoft SQL Server | SQL DBA with Azure | Azure Data Engineering | Databricks | Microsoft Fabric | Cloud Data Platforms

TEACHING APPROACH:

- Concept-Based Learning with Live Demonstrations
- 80% Hands-On Practical Training
- Real-Time Administration Scenarios
- Production Troubleshooting & Best Practices
- Career Guidance & Interview Preparation

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WHY CHOOSE SQL SCHOOL?

Expert Training. Career Success.

- Established in 2009
- ISO 9001:2015 Certified
- MSME Registered Training Institute
- Experienced Industry Trainers
- Hands-On Labs & Real-Time Projects
- Resume, Interview & Career Support

COURSE INFORMATION

Duration: 20 Hours (4 Weekends)
Schedule: Saturday & Sunday – 2.5 Hours per day
Practical Training: 80% Hands-On
Target Audience: SQL DBAs, Azure Administrators, Data Engineers, Cloud Engineers & IT Professionals

TRAINING MODES:

- LIVE Online Training (20 Hours | 20 Chapters | 4 Weekends)
- Self-Paced Videos (Pre-recorded; 20 Hours of 80% Practical + 20% Theory Videos)

DETAILED COURSE CONTENT

Module 1 – Azure Databricks Administration Fundamentals

Chapter 1. Azure Databricks Architecture & Administration Overview

- ✓ Azure Databricks architecture and control plane versus compute plane
- ✓ Account-level versus workspace-level administration
- ✓ Azure Databricks versus Apache Spark administration
- ✓ Workspace architecture, compute, storage and Unity Catalog

Chapter 2. Azure Databricks Workspace Administration

- ✓ Workspace provisioning concepts and configuration
- ✓ Workspace settings and administrative controls
- ✓ Workspace folders, notebooks and permissions
- ✓ Workspace access and operational administration

Chapter 3. User, Group & Identity Management

- ✓ Users, groups and service principals
- ✓ Microsoft Entra ID integration
- ✓ Account identities versus workspace assignment
- ✓ Workspace roles and entitlements
- ✓ Assign test users and groups, configure entitlements and validate access

Chapter 4. Databricks Compute Administration

- ✓ All-purpose compute versus jobs compute
- ✓ Standard and dedicated access modes
- ✓ Databricks Runtime versions and node configurations
- ✓ Auto-termination and autoscaling
- ✓ Create compute, configure settings, monitor and terminate resources

Module 2 – Compute, SQL Warehouses & Cost Control

Chapter 5. Compute Policies & Resource Governance

- ✓ Compute policies and permission management
- ✓ Restricting node types and runtime configurations
- ✓ Auto-termination enforcement
- ✓ Compute creation privileges and usage controls

Chapter 6. SQL Warehouse Administration

- ✓ SQL warehouse architecture and types
- ✓ Warehouse sizing, scaling and auto-stop
- ✓ Serverless versus classic/pro warehouse considerations
- ✓ Warehouse access permissions
- ✓ Create a SQL warehouse, grant CAN USE and execute SQL queries

Chapter 7. Compute Troubleshooting & Performance

- ✓ Compute startup and configuration failures
- ✓ Driver and executor logs, Cluster events and metrics
- ✓ Library installation and runtime compatibility issues
- ✓ Diagnose a failed compute configuration and review logs

Chapter 8. Databricks Cost Management

- ✓ DBUs, infrastructure charges and cost drivers
- ✓ Billing usage system tables
- ✓ Compute utilization and cost optimization
- ✓ Tags, budgets and usage monitoring
- ✓ Analyze sample billing data and identify cost-saving opportunities

Module 3 – Unity Catalog & Data Governance

Chapter 9. Unity Catalog Architecture & Administration

- ✓ Metastore, catalog, schema and table hierarchy
- ✓ Workspace-catalog relationships
- ✓ Managed versus external data
- ✓ Administrative roles and ownership
- ✓ Explore the metastore and create a catalog and schema

Chapter 10. Unity Catalog Permissions & Security

- ✓ Unity Catalog privileges and inheritance
- ✓ GRANT, REVOKE and SHOW GRANTS
- ✓ Catalog and schema ownership
- ✓ Role-based access through groups
- ✓ Configure read-only and developer access to a catalog

Chapter 11. Storage Credentials & External Locations

- ✓ Azure Data Lake Storage Gen2 integration
- ✓ Azure Databricks Access Connector and managed identities
- ✓ Storage credentials and external locations
- ✓ Storage access permissions
- ✓ Configure a storage credential and external location in a sandbox

Chapter 12. Advanced Data Governance

- ✓ Row filters and column masks
- ✓ Dynamic views
- ✓ Data lineage and auditing
- ✓ Managed versus external table governance
- ✓ Apply a column mask and inspect data lineage

Module 4 – Security, Jobs & Monitoring

Chapter 13. Databricks Security Administration

- ✓ Workspace access controls
- ✓ Service principal authentication
- ✓ OAuth and token governance
- ✓ Secret scopes and secure credential handling
- ✓ Configure secure access for an automation identity

Chapter 14. Jobs & Workflow Administration

- ✓ Lakeflow Jobs administration
- ✓ Job permissions and run identities
- ✓ Scheduling, retries and notifications
- ✓ Job compute and execution history
- ✓ Create, schedule, monitor and troubleshoot a job

Chapter 15. Audit Logs & System Tables

- ✓ Databricks audit events
- ✓ System table architecture
- ✓ Workspace and account activity monitoring
- ✓ Security event investigation
- ✓ Query audit records and investigate permission changes

Chapter 16. Production Monitoring & Troubleshooting

- ✓ Jobs monitoring and failure analysis
- ✓ Compute and SQL warehouse monitoring
- ✓ Query history and performance metrics
- ✓ Operational incident investigation
- ✓ Troubleshoot a simulated failed job and prepare an incident report

Module 5 – Advanced Administration & Real-Time Project

Chapter 17. Azure Databricks Networking & Security Architecture

- ✓ VNet injection fundamentals
- ✓ Secure cluster connectivity
- ✓ Azure Private Link concepts
- ✓ Network security and storage connectivity
- ✓ Inspect workspace networking and troubleshoot a sample connectivity scenario

Chapter 18. Databricks CLI, REST API & Automation

- ✓ Databricks CLI setup and authentication
- ✓ Workspace automation
- ✓ Jobs and permissions APIs
- ✓ Infrastructure as Code introduction
- ✓ List workspaces, manage jobs and inspect permissions using CLI/API

Chapter 19. Backup, Recovery & Operational Best Practices

- ✓ Workspace object export and source control
- ✓ Recovery considerations for jobs and notebooks
- ✓ Unity Catalog metadata and data recovery concepts
- ✓ Disaster recovery planning
- ✓ Export workspace artifacts and demonstrate recovery of a Delta table

Chapter 20. Real-Time Azure Databricks Administration Project

- ✓ Enterprise administration scenario
- ✓ User and group onboarding
- ✓ Compute policies and cost controls
- ✓ Unity Catalog permissions
- ✓ Job monitoring and audit investigation
- ✓ Build and demonstrate a governed Databricks environment

Course Completion Project

Project title: Enterprise Azure Databricks Administration & Governance

Students will configure a simulated company environment with developer, analyst and administrator groups, controlled compute access, Unity Catalog permissions, scheduled jobs and monitoring.

Expected deliverables: workspace configuration checklist, permission matrix, compute policy, job monitoring report, cost analysis and troubleshooting runbook.



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