



IBM DB2



e-Learning Course

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COURSE MODULES

1. Introduction to IBM DB2

- Overview of IBM DB2
- Features and Benefits
- DB2 Editions (LUW, z/OS, iSeries)
- DB2 Architecture and Components
- DB2 Client and Server Installation

2. DB2 Database & Instance Management

- Understanding DB2 Instances
- Creating and Configuring Instances
- Creating and Managing Databases
- Buffer Pools and Tablespaces
- Storage Groups and Containers

3. DB2 SQL Basics

- Introduction to SQL and DB2 Syntax
- Data Types in DB2
- Creating and Managing Tables
- Constraints (Primary Key, Foreign Key, etc.,)
- Inserting, Updating, and Deleting Data
- Querying Data with SELECT
- Joins, Subqueries, and Set Operations

4. Advanced SQL and Performance Optimization

- Indexing Strategies
- Views, Sequences, and Synonyms
- Stored Procedures and User-Defined Functions (UDFs)
- Triggers and Event Monitors
- Query Optimization Techniques
- Analyzing Query Execution Plans
- Performance Tuning and Monitoring

5. DB2 Security and User Management

- Authentication and Authorization
- Creating and Managing Users & Roles
- Granting and Revoking Permissions
- Row and Column-Level Security
- DB2 Auditing

6. Backup and Recovery

- DB2 Logging and Recovery Methods
- Backup Strategies (Full, Incremental, Delta)
- Restoring Databases and Tablespaces
- Crash Recovery and Rollforward Recovery

7. DB2 High Availability and Replication

- DB2 High Availability Disaster Recovery (HADR)
- DB2 PureScale for Scalability
- Database Clustering
- Replication Methods (Q & SQL Replication, CDC)

8. DB2 Application Development

- Developing Applications using DB2
- Embedded SQL in Java, Python, and C
- JDBC and ODBC Connectivity
- NoSQL Capabilities in DB2
- JSON and XML Support in DB2

9. DB2 and Cloud Integration

- DB2 on Cloud (IBM Cloud, AWS, Azure)
- DB2 with Kubernetes and Containers
- DB2 and Big Data Integration
- DB2 REST API and Microservices

10. Tshootng & Performance Monitoring

- Using DB2 Diagnostic Logs
- DB2 Problem Determination Tools
- Monitoring Database Performance
- Resolving Deadlocks and Locking Issues
- DB2 Fix Packs and Updates