

# INFOSOFT IT SOLUTIONS

**Training | Projects | Placements**

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## **IBM DB Course Content**

### **Introduction to IBM DB**

- Overview of IBM Database Solutions
- History and Evolution
- Differentiating IBM DB Products (e.g., Db2, Db2 Warehouse)
- Use Cases and Applications

### **IBM DB Installation and Configuration**

- Installing IBM DB Products
- Configuring Database Instances
- Setting Up Database Connections
- Security Considerations

### **SQL Basics**

- Introduction to SQL (Structured Query Language)
- Data Types and Operators
- Querying Data with SELECT Statement
- Manipulating Data (INSERT, UPDATE, DELETE)

### **Advanced SQL Concepts**

- Joins and Subqueries
- Aggregation Functions

- Window Functions
- Common Table Expressions (CTEs)

## **Database Design and Modeling**

- Database Design Principles
- Entity-Relationship Diagrams (ERDs)
- Normalization and Denormalization
- Data Integrity Constraints

## **Data Management and Administration**

- Data Loading and Exporting
- Backup and Recovery Strategies
- Monitoring and Performance Tuning
- Managing Database Users and Permissions

## **Stored Procedures and Functions**

- Introduction to Stored Procedures
- Writing and Executing Stored Procedures
- User-Defined Functions (UDFs)
- Triggers and Events

## **Indexing and Optimization**

- Understanding Indexes
- Creating and Managing Indexes
- Query Optimization Techniques
- Analyzing Execution Plans

## **High Availability and Scalability**

- Replication Strategies
- Failover and Disaster Recovery
- Partitioning and Sharding

- Clustering and Load Balancing

## **Advanced Topics in IBM DB**

- Advanced Security Features
- In-Memory Database Technology
- Columnar Storage
- Advanced Analytics and Machine Learning Integration

## **Data Warehousing and Analytics**

- Introduction to Data Warehousing
- Designing Data Warehouses
- Analytical Queries and OLAP
- Integration with Business Intelligence Tools

## **Cloud Deployment and Management**

- Cloud Deployment Options (e.g., IBM Cloud)
- Database as a Service (DBaaS)
- Migrating On-Premises Databases to the Cloud
- Security and Compliance in the Cloud

## **Integration with Other Systems**

- Integrating IBM DB with Applications
- Data Integration Techniques
- API Integration
- ETL (Extract, Transform, Load) Processes

## **Best Practices and Optimization**

- Best Practices for IBM DB Development
- Performance Optimization Strategies
- Data Security Best Practices
- Disaster Recovery Planning

## **Case Studies and Real-World Examples**

- Industry Use Cases
- Customer Case Studies
- Project Implementation Examples

## **Certification Preparation**

- Overview of IBM DB Certifications
- Tips for Exam Preparation
- Sample Questions and Practice Exams

## **\ Community and Resources**

- IBM DB Community Resources
- Online Forums and Communities
- Recommended Books and Tutorials
- Continuing Education Opportunities