



Day 1: Introduction to NoSQL Databases 1.1. What is NoSQL? 1.2. Evolution of NoSQL Databases 1.3. Key Characteristics and Benefits 1.4. Types of NoSQL Databases 1.5. Use Cases and Applications

Day 2: Document-Oriented Databases 2.1. Overview of Document-Oriented Databases 2.2. MongoDB: A Leading Document Store 2.3. Data Modeling in Document-Oriented Databases 2.4. Querying and Indexing 2.5. Hands-On MongoDB Exercises

Day 3: Key-Value Stores and Column-Family Databases 3.1. Key-Value Stores Explained 3.2. Apache Cassandra: A Column-Family Database 3.3. Data Modeling in Column-Family Databases 3.4. Consistency and Availability in NoSQL 3.5. Practical Cassandra Use Cases

Day 4: Graph Databases 4.1. Introduction to Graph Databases 4.2. Neo4j: A Popular Graph Database 4.3. Data Modeling in Graph Databases 4.4. Querying Graph Data 4.5. Graph Database Applications

Day 5: Distributed Systems and Scalability 5.1. Scaling NoSQL Databases Horizontally 5.2. CAP Theorem and Its Implications 5.3. High Availability and Fault Tolerance 5.4. Case Studies in Scalability 5.5. Performance Tuning and Optimization

Day 6: NoSQL in Practice 6.1. Real-World NoSQL Implementation 6.2. Data Migration and Integration 6.3. Security and Compliance in NoSQL 6.4. Monitoring and Management Tools 6.5. Course Recap, Best Practices, and Future Trends