PostgreSQL

Duration – 40 Hours

Program Description
This program provides a comprehensive introduction to PostgreSQL, an advanced open-source relational database system. Participants will learn SQL, database design, and administration techniques, as well as performance optimization and real-world application integration. Hands-on exercises ensure practical skills for enterprise-grade projects.

Learning Goals
- Understand relational database concepts and PostgreSQL architecture
- Gain proficiency in SQL and advanced PostgreSQL features
- Design and implement efficient database schemas
- Manage transactions, concurrency, and security
- Optimize performance using indexing and query tuning
- Work with procedural programming using PL/pgSQL
- Gain hands-on experience with real-world PostgreSQL projects

Course Topics
- Introduction to PostgreSQL and Architecture
- SQL Basics: Queries, Joins, and Aggregations
- Data Definition and Manipulation (DDL & DML)
- Database Design and Normalization
- Transactions, Concurrency, and Locking
- Advanced Features: Views, Indexes, and Functions
- PL/pgSQL Programming
- Security, Backup, and Recovery
- Performance Tuning and Optimization
- Hands-on Projects and Case Studies

Modules can be customized to suit client's specific needs and duration accordingly