



DIPLOMA IN DATABASE DEVELOPMENTS WITH ORACLE, MS SQL & MY SQL

Nature of the Course: Theory + Practical

Total Hours per Day: 2 Hours

Course Duration: 2.5 Months + 1.5 Months (Internship)

Course Summary

A Diploma in Database Development with Oracle, MS SQL, and MySQL provides comprehensive training in designing, developing, and managing databases using these three popular database management systems. Students learn concepts such as data modeling, SQL querying, stored procedures, and database administration. This diploma program equips learners with the necessary skills to work with diverse database platforms and prepares them for careers as database developers, administrators, or data analysts in various industries.

Completion Criteria

After fulfilling all of the following criteria, the student will be deemed to have finished the Module:

- Has attended 90% of all classes held.
- Has received an average grade of 80% on all assignments
- Has received an average of 60% in assessments.
- The tutor believes the student has grasped all of the concepts and is ready to go on to the next module.

Required Textbooks

- "Oracle Database 12c: The Complete Reference" by Bob Bryla and Kevin Loney
- "Microsoft SQL Server 2019: A Beginner's Guide" by Dusan Petkovic

- "MySQL Crash Course" by Ben Forta

Prerequisites

- Fundamental understanding of programming, bits/bytes, procedures, classes, and computer architecture. It's absolutely acceptable if you only have a theoretical understanding of programming, but you should be certain about what programming is and what you intend to gain from this session.
- If you are only interested in theory and have no interest/patience in spending at least 10 hours every week throughout the duration of the course, then this course might not be for you.
- If you have absolutely no idea about programming or do not see yourself doing programming in the next six -odd months, then this class may not be for you.

Course Details

Week I

Introduction To Database Development

- Overview of database and database management system
- Relational database concepts
- Data modeling and ER diagrams

Oracle Database Development

- Installation and configuration of oracle database
- SQL and PL/SQL programming
- Advanced SQL and data manipulation techniques
- Oracle data dictionary and system tables
- Oracle performance tuning and optimization

Ms Sql Database Development

- Installation and configuration of MS SQL Server
- T-SQL programming
- Advanced T-SQL and data manipulation techniques
- MS SQL Server management and administration

- MS SQL Server performance tuning and optimization

Mysql Database Development

- Installation and configuration of MySQL
- MySQL Programming
- Advanced MySQL and data manipulation techniques
- MySQL management and administration
- MySQL performance tuning and optimization

Database Design And Normalization:

- Database design principle
- Database normalization
- Database schema design
- Database optimization

Data Warehousing And Business Intelligence

- Overview of data warehousing and business
- Data warehousing design and architecture
- Data warehousing technologies
- Data warehousing and business intelligence reporting

Database Security And Backup

- Database security concepts
- Database encryption and decryption
- Database backup and recovery
- Data disaster recovery

Hands-On Project And Practical Exercise

Capstone Project Or Final Exam

Labs

Lab assignments will focus on the practice and mastery of contents covered in the lectures; and

introduce critical and fundamental problem-solving techniques to the students.

Learning Outcomes

- Improve overall database analysis and design expertise and understanding.
- Improve overall understanding of SQL and PL/SQL database development and administration processes.
- Using SQL and PL/SQL, improve programming and software engineering skills and approaches.
- Preparation of technical foundation materials and documents.