

Bootcamp with SQL

Course Duration: 40 Hours (5 Days)

Overview

The Bootcamp with SQL course is designed to provide learners with a comprehensive understanding of SQL Server, from basic setup to advanced data manipulation and management. This course is structured to build foundational knowledge, offering hands-on experience with real-world applications of SQL. Starting with setting up the SQL Server environment, participants will learn to install and configure Microsoft SQL Server and SQL Server Management Studio (SSMS) and understand both Windows and SQL Server authentication methods. As the course progresses, learners will delve into the essentials of SQL Server, including Database creation, understanding Data types, and the significance of Primary and foreign keys. The curriculum then advances through SQL's core commands, covering Data Manipulation Language (DML), Data Definition Language (DDL), and Data Control Language (DCL), ensuring a well-rounded skill set for performing various database operations. Practical exercises in Data filtering, Aggregate functions, Query statements, and the use of JOINS for combining data from multiple tables will solidify learners' command of SQL. Moreover, the course addresses Constraints, Views, Advanced SQL commands, and Stored procedures, equipping participants with the tools to handle complex database tasks efficiently. Finally, the bootcamp emphasizes crucial administrative skills such as Data import/export, as well as Backup and restoration of databases, preparing learners for real-world scenarios and enhancing their employability in the tech industry. By the end of the course, participants will be proficient in SQL and ready to tackle database challenges in their professional careers.

Audience Profile

This SQL Bootcamp course is designed for beginners and IT professionals seeking to master [SQL Server](#) databases. Target audience for the Bootcamp with SQL course includes

- Aspiring Data Analysts
- Junior Database Administrators
- IT Professionals looking to enhance their database management skills
- Students pursuing a degree in Computer Science or Information Technology
- Software Developers needing to integrate SQL into their applications
- Business Analysts requiring data manipulation and query skills
- System Administrators tasked with database maintenance and backups
- Professionals transitioning to roles involving data management
- Quality Assurance Testers who need to validate data
- Report Developers who must create complex reports
- Data Scientists beginning to work with SQL databases
- BI (Business Intelligence) Consultants and Specialists

- Project Managers overseeing IT projects with a data component
- Non-technical roles, such as Marketing Managers, who need to understand data structures for decision-making purposes

Course Syllabus

Module 1: SQL Server setting up

- Introduction
- Microsoft SQL Server Installation
- SQL Server Management Studio (SSMS) Installation
- How to connect MS SQL (Windows Authentication)
- How to connect MS SQL (SQL Server Authentication)
- Download and Restore Sample Database

Module 2: Understanding the basics of SQL Server

- Introduction
- Overview of Databases
- Creating Database
- SQL Data Types
- Column Data Types on SSMS
- Creating Table
- Overview of Primary Key and Foreign Key
- Primary Key
- Foreign Key
- Creating Temporary tables

Module 3: SQL DML (Data Manipulation Language)

- Introduction
- Insert statement
- Update statement
- Delete statement

Module 4: SQL DDL (Data Definition Language)

- Introduction
- CREATE table statement
- DROP statement
- ALTER statement

- TRUNCATE statement
- COMMENT in query
- RENAME

Module 5: SQL DCL (Data Control Language)

- Introduction
- Create Database user
- GRANT permissions
- REVOKE permissions

Module 6: SQL Statement Basic

- Introduction
- SQL Statement basic
- SELECT Statement
- SELECT DISTINCT
- SELECT with column heading
- Column AS statement

Module 7: Filtering Data rows

- SELECT WHERE Clause – theory
- SELECT WHERE Clause – practical

Module 8: Aggregate functions

- Introduction
- Count()
- Sum()
- Min()
- Max()
- AVG()

Module 9: SQL Query statements

- Order By statement
- SELECT TOP clause in SQL
- BETWEEN command
- IN operator
- Wildcard Characters and LIKE

Module 10: SQL Group by statement

- Introduction
- Group by – theory
- Group by – practical
- HAVING statement

Module 11: JOINS

- Introduction
- Inner join
- Left outer join
- Right outer join
- Full outer join
- Union
- Cross join
- Query Exercise
- Solution for Query Exercise

Module 12: SQL Constraints

- Introduction
- Check constraint
- NOT NULL constraint
- UNIQUE constraint

Module 13: Views

- Introduction
- Creating Views
- Reporting with multiple tables

Module 14: Advanced SQL commands

- Introduction
- Timestamp
- Extract from timestamp
- Mathematical scalar functions
- String functions
- Subquery
- SELECT with calculations

Module 15: SQL Stored procedures

- Introduction
- Create stored procedure
- Stored procedure with parameter

Module 16: Import & Export data

- Introduction
- Import Flat File
- Import .csv or excel file
- Export Data to Excel or any format

Module 17: Backup and Restore Database

- Introduction
- Creating Database backup
- Restoring Database backup