goskills

Introduction to SQL

GoSkills online course syllabus

Friday, March 29, 2024

Skill level	Lessons	Pre-requisites
Beginner	33	None
Video duration	**Estimated study time**	**Instructor**
2h 01m	16h 30m for all materials	John Elder

Intro to Databases & SQL

1 ### What is a database?

We will discuss what a database is, the different types of databases and what they are used for

2 ### An Overview of SQL

We will discuss what SQL(Structured Query Language) is, what it is used for and some of the different systems that use SQL

3 ### RDBMS Concepts

We will look at the core concepts and structure of a relational database such as tables, columns, rows, etc

4 ### Working With Data Types

We will discuss some of the important data types that may be used in a relational database, including Integer, varchar, text and much more

Microsoft SQL Server & Management Studio Setup

5 ### Setting Up Microsoft SQL Server

We will install and setup Microsoft SQL Server

6 ### Setting Up Microsoft SQL Server Management Studio

We will install and setup SQL Server Management Studio.

7 ### Connecting to a Server

We will connect to a server and look at the Object Explorer

8 ### System Databases

We will take a look at the master and model databases as well as the msdb and tempdb Databases

9 Creating a New Database

We will create a new database within MS SQL Server 2016, and create a new table

10 Adding Data to a Table

We will add data to our Table

11 Backing Up & Restoring a Database

You will learn how to backup a database and how to restore a backup

Selecting & Filtering Data 1

12 Simple SELECT Statements

Here we will start to write SQL statements and queries, starting with basic SELECT statements

13 WHERE Clause

We can target specific columns using the WHERE clause along with a SELECT statement

14 AND & OR Clause

We can select data based on multiple conditions using the AND & OR clause

15 ORDER BY Clause

We will look at how we can sort returned data using the ORDER BY clause

16 GROUP BY Clause

We will look at how we can sort returned data using the GROUP_BY clause

Selecting & Filtering Data 2

17 HAVING Clause

The HAVING clause is similar to a WHERE clause but can use aggregation

18 TOP Clause

The TOP clause is used to limit the number of records that will be returned from a SELECT statement

19 SELECT DISTINCT

We can use DISTINCT to only return distinct or different values in a SELECT statement

20 UNION

The UNION operator is used to combine the result-set of two or more SELECT statements

21 Functions

We will look at some built in functions for performing calculations on data

Inserting, Updating & Deleting Data

22 INSERT Statement

We will insert our own records into a database using INSERT INTO

23 UPDATE Statement

The UPDATE statement can be used to change data that already exists in the SQL database

24 DELETE Statement

We can use DELETE FROM to remove data from the SQL database

25 ALTER TABLE

With ALTER TABLE, we can add, remove or change columns, data types and just about anything else

Combining & Joining Multiple Tables

26 Aliases

Aliases can be used to temporary rename columns and tables

27 INNER JOIN

We will discuss and write inner joins to combine more than one table in a specific way

28 OUTER JOIN

We will discuss and write outer joins to combine more than one table in a specific way

29 LEFT JOIN

We will discuss and write left joins to combine more than one table in a specific way

30 RIGHT JOIN

We will discuss and write right joins to combine more than one table in a specific way

Other SQL Concepts

31 Subqueries

We will discuss combining queries together in a subquery

32 Indexing

We will talk about what indexing is and how to do it within MS SQL Server

33 Primary Key

We will discuss the Primary Key and why it's so important

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