

# Introduction to SQL

GoSkills online course syllabus

Saturday, July 12, 2025

**Skill level**

Beginner

**Lessons**

33

**Pre-requisites**

None

**Video duration**

2h 01m

**Estimated study time**

16h 30m for all materials

**Instructor**

John Elder

## Intro to Databases & SQL

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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

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### 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

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## 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

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## 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

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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

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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

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## 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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