

# Introduction to SQL Databases

Learn via: **Classroom / Virtual Classroom / Online**

Duration: **3 Day**

<https://bilginc.com/en/training/introduction-to-sql-databases-338-training/>

## Overview

This three-day instructor-led course is aimed at people looking to move into a database professional role or whose job role is expanding to encompass database elements. The course describes fundamental database concepts including database types, database languages, and database designs.

## **Target Audience**

The primary audience for this course is people who are moving into a database role, or whose role has expanded to include database technologies.

This course provides an in-depth understanding of the design and structure of SQL databases and database objects. Delegates who are looking for a more practical course with a focus on searching and managing data in SQL databases are advised to look at our QATSQL 'Querying SQL Databases using T-SQL' and 'Advanced Querying SQL Databases using T-SQL' QATSQLPLUS or Microsoft official curriculum M20761 'Querying Data with Transact-SQL' courses

## Prerequisites

This is a foundation level course and therefore only requires general computer literacy.

## What You Will Learn

After completing this course, students will be able to:

- Describe key database concepts in the context of SQL Server 2016
- Describe database languages used in SQL Server 2016
- Describe data modelling techniques
- Describe normalization and denormalization techniques
- Describe relationship types and effects in database design
- Describe the effects of database design on performance
- Describe commonly used database objects

## Outline

### **Module 1: Introduction to databases**

This module introduces key database concepts in the context of SQL Server 2016.

#### Lessons

- Introduction to relational databases
- Other types of database
- Data analysis
- Database languages

Lab : Querying SQL Server

### **Module 2: Data Modelling**

This module describes data modelling techniques.

#### Lessons

- Data modelling
- ANSI/SPARC database model
- Entity relationship modelling

Lab : Entity relationship modelling

### **Module 3: Normalization**

This module describes normalization and denormalization techniques.

Lessons

- Why normalize data?
- Normalization terms
- Levels of normalization
- Denormalization

Lab : Normalizing raw data

### **Module 4: Relationships**

This module describes relationship types and effects in database design.

Lessons

- Schema mapping
- Referential integrity

Lab : Designing relationships

### **Module 5: Performance**

This module introduces the effects of database design on performance.

Lessons

- Indexing
- Query performance
- Concurrency

Lab : Query performance

### **Module 6: Database Objects**

This module introduces commonly used database objects.

Lessons

- Tables
- Views
- Stored procedures
- Other database objects

Lab : Using SQL Server in a hybrid cloud