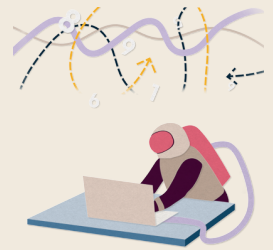# Introduction to SQL

Level: Foundation
Duration: 3 hours

The Structured Query Language (SQL) defines a standard for communicating with a relational database. In this half-day introductory course, participants will learn the basic SQL syntax for data extraction, filtering and insertion. We will then discuss some considerations for working with databases on the cloud, and finish by learning basic techniques for joining tables.

The course can be taken either independently or as a precursor to our Intro to SQL with R and Intro to SQL with Python courses.

Course Outline

- **Introduction to SQL**: An introduction to relational databases that implement the SQL standard and establishing database connections.
- **Data Extraction**: Using SELECT statements to extract filtered data and organising the output.
- **Database Modification**: Creating tables and inserting data.
- **Cloud Deployment**: An introduction to database services on AWS and setting up remote, shared access.
- **Multiple Tables**: Dealing with and joining data that resides in multiple tables that share common variables.

Learning Outcomes

By the end of the session participants will…

- understand the concepts of relational database management.
- be introduced to the PostgreSQL dialect.
- be comfortable working in the VS Code integrated environment.
- understand how to form a connection and view the database schema.
- have learned basic SQL syntax:
  - extracting data with SELECT statements
  - filtering and organising data
  - creating tables and inserting data
- be familiar with database services on AWS.
- understand the basic considerations for cloud storage and sharing.
- have learned how to join tables by matching variables.

This course does not include:

- S3 and data warehouse services on AWS.
- Connecting to databases through programming languages like R and Python, see our Intro to SQL with R and Intro to SQL with Python courses for this.

Prior Knowledge

There are no pre-requisites for this course.

Attendee Feedback

- "Environment was easy to access and set up, course materials were easy to follow and the instructor was knowledgeable & responsive to questions."

Contact

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