APPLIED TECHNOLOGY ACADEMY

800.674.3550
Info@AppliedTechAc.com
AppliedTechnologyAcademy.com

SQL Querying: Fundamentals Training

Microsoft Authorized Training · Applied Technology Academy

Organizations typically store their most critical information—the information used to manage day-to-day operations—within a database. The ability to retrieve and analyze this information is essential to the functioning of the organization. Structured Query Language (SQL) is the primary language used to accomplish such tasks. Essentially, SQL is the language you use to interact with a database.

LEVEL	DURATION	EXPERIENCE	AVERAGE SALARY	LABS
Beginner	**1 Day**	**1 year: IT business-level professionals**	**$85,866**	**Yes**

Course Overview

The ability to write SQL is an essential job skill for those who need to manage large volumes of data, produce reports, mine data, or combine data from multiple sources. Even if someone else on your team creates reports for you, having a fundamental understanding of SQL querying will help you ask the right questions and know what you're looking for in your data analysis tools.

In this course, you will compose SQL queries to retrieve desired information from a database. You will:

- Connect to the SQL Server database and execute a simple query.
- Include a search condition in a simple query.
- Use various functions to perform calculations on data.
- Organize the data obtained from a query before it is displayed onscreen.
- Retrieve data from multiple tables.
- Export the results of a query.

Course Outline

- **Lesson 1: Executing a Simple Query**
  - Topic A: Connect to the SQL Database
  - Topic B: Query a Database
  - Topic C: Save a Query
  - Topic D: Modify and Execute a Saved Query
- **Lesson 2: Performing a Conditional Search**
  - Topic A: Search Using One or More Conditions
  - Topic B: Search for a Range of Values and NULL Values
  - Topic C: Search Data Based on String Patterns
- **Lesson 3: Working with Functions**

800.674.3550
Info@AppliedTechAc.com
AppliedTechnologyAcademy.com

  - Topic A: Perform Date Calculations
  - Topic B: Calculate Data Using Aggregate Functions
  - Topic C: Manipulate String Values
- **Lesson 4: Organizing Data**
  - Topic A: Sort Data
  - Topic B: Rank Data
  - Topic C: Group Data
  - Topic D: Filter Grouped Data
  - Topic E: Summarize Grouped Data
  - Topic F: Use PIVOT and UNPIVOT Operators
- **Lesson 5: Retrieving Data from Multiple Tables**
  - Topic A: Combine the Results of Two Queries
  - Topic B: Compare the Results of Two Queries
  - Topic C: Retrieve Data by Joining Tables
- **Lesson 6: Exporting Query Results**
  - Topic A: Generate a Text File
  - Topic B: Generate an XML File

Intended Audience

This course is intended for individuals with basic computer skills, familiar with concepts related to database structure and terminology, who want to use SQL to query databases.

- Business Analysts
- Data Analysts
- Developers
- Those needing to know how to query in a SQL database.

Prerequisites

Basic end-user computer skills and some familiarity with database terminology and structure are required. Completion of one of the following courses or equivalent knowledge and skill is highly recommended:

- Using Microsoft® Windows® 10
- Microsoft® Windows® 10: Transition from Windows® 7
- Course-specific Technical Requirements

Hardware:

Each computer will need the following minimum hardware configurations:

- 2 GHz or faster 64-bit (x64) processor

- 4 gigabytes (GB) RAM
- 40 GB available hard disk space
- CD-ROM drive (if installing any software from a CD-ROM)
- Keyboard and mouse (or other pointing device)
- 1024 x 768 (or higher) resolution monitor recommended
- Network cards and cabling for local network access
- Internet access (contact your local network administrator)
- Printer (optional) or an installed printer driver
- Projection system to display the instructor's computer screen

Software:

To prepare a system for the class, install the following software according to the instructions provided. You will need the following:

Microsoft® Windows® 10 64-bit with sufficient licenses.

Windows 10 requires activation unless you have volume-licensing agreements. There is a grace period for activation. If the duration of your class will exceed the activation grace period (for example, if you are teaching the class over the course of an academic semester), you should activate the installations at some point before the grace period expires. Otherwise, the operating system may stop working before the class ends.

Microsoft® SQL Server® 2022 Express. (When this course was written, the installation file for this free software was available for download from https://www.microsoft.com/en-us/sql-server/sql-server-downloads .)

Microsoft® SQL Server® Management Studio (SSMS). (When this course was written, the installation file for this free software was available for download from https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio- ssms .)

Follow-On Courses

- Threat Hunting with Python Certified
- Python for Reverse Engineers

Ready to enroll? Call 800.674.3550 or email Info@AppliedTechAc.com — private team cohorts, GSA MAS purchasing, military credentialing funding, VA GI Bill and VR&E and student financing available.