uCertify

# Course Outline

## SQL Queries

17 May 2024

1. Course Objective
2. Pre-Assessment
3. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
4. Expert Instructor-Led Training
5. ADA Compliant & JAWS Compatible Platform
6. State of the Art Educator Tools
7. Award Winning Learning Platform (LMS)
8. Chapter & Lessons

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   Chapter 1: Executing a Simple Query

   Chapter 2: Performing a Conditional Search

   Chapter 3: Working with Functions

   Chapter 4: Organizing Data

   Chapter 5: Retrieving Data from Multiple Tables

   Chapter 6: Exporting Query Results

   Chapter 7: Using Subqueries to Perform Advanced Querying

   Chapter 8: Manipulating Table Data

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## 1. Course Objective

SQL Queries will help you learn to retrieve, manipulate and manage data in databases. Explore the power of SQL queries, from basic SELECT statements to advanced operations like JOINs and subqueries. Understand how to organize and analyze data effectively, laying the foundation for efficient database management. With hand-on lab and practical examples, you'll gain the confidence to tackle real-world scenarios.

## 2. Pre-Assessment

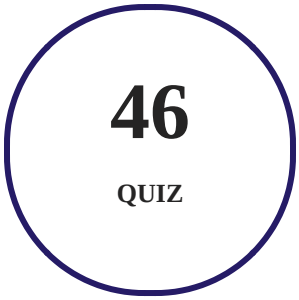
Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

## 3. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

## 4. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.




## 5. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

## 6. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

## 7. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

## 8. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

## 9. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

## 10. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been

recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution
    2. Best Virtual Learning Solution
    3. Best Student Assessment Solution
    4. Best Postsecondary Learning Solution
    5. Best Career and Workforce Readiness Solution
    6. Best Instructional Solution in Other Curriculum Areas
    7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform

2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**
  1. Best Virtual Learning Solution
  2. Best Content Authoring Development or Curation Solution
  3. Best Higher Education Learning Management Solution (LMS)

- **2020**
  1. Best College and Career Readiness Solution
  2. Best Cross-Curricular Solution
  3. Best Virtual Learning Solution

## 11. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

## Syllabus

### Chapter 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
- Summary

## Chapter 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 Patterns
- Summary

## Chapter 3: Working with Functions

- TOPIC A: Perform Date Calculations
- TOPIC B: Calculate Data Using Aggregate Functions
- TOPIC C: Manipulate String Values
- Summary

## Chapter 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
- Summary

## Chapter 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
- Summary

## Chapter 6: Exporting Query Results

- TOPIC A: Generate a Text File
- TOPIC B: Generate an XML File
- Summary

## Chapter 7: Using Subqueries to Perform Advanced Querying

- TOPIC A: Search Based on Unknown Values
- TOPIC B: Compare a Value with Unknown Values

- TOPIC C: Search Based on the Existence of Records
- TOPIC D: Generate Output Using Correlated Subqueries
- TOPIC E: Filter Grouped Data Within Subqueries
- TOPIC F: Perform Multiple-Level Subqueries
- Summary

## Chapter 8: Manipulating Table Data

- TOPIC A: Insert Data
- TOPIC B: Modify and Delete Data
- Summary

## Chapter 9: Manipulating the Table Structure

- TOPIC A: Create a Table
- TOPIC B: Create a Table with Constraints
- TOPIC C: Modify a Table's Structure
- TOPIC D: Back Up Tables
- TOPIC E: Delete Tables
- Summary

## Chapter 10: Working with Views

- TOPIC A: Create a View
- TOPIC B: Manipulate Data in Views
- TOPIC C: Create Aliases
- TOPIC D: Modify and Delete Views
- Summary

## Chapter 11: Indexing Data

- TOPIC A: Create Indexes
- TOPIC B: Drop Indexes
- Summary

## Chapter 12: Managing Transactions

- TOPIC A: Create Transactions
- TOPIC B: Commit Transactions
- Summary

## Chapter 13: Appendix A

- The FullerAckerman Database

- Schema

## 12. Practice Test

### Here's what you get

| 62 | 4 | 65 |
|---|---|---|
| PRE-ASSESSMENTS QUESTIONS | FULL LENGTH TESTS | POST-ASSESSMENTS QUESTIONS |

### Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

#### Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

## 13. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

# Lab Tasks

**Executing a Simple Query**

- Connecting to a Database
- Saving a Query and Modifying and Executing the Saved Query

**Performing a Conditional Search**

- Comparing Column Values in a Table
- Searching Using Simple and Multiple Conditions
- Searching for a Range of Values and NULL Values
- Retrieving Data Based on Patterns

**Working with Functions**

- Performing Date Calculations
- Using Aggregate Functions
- Manipulating String Values in a Table

**Organizing Data**

- Sorting Data in a Table
- Ranking Data in a Table
- Grouping Data in a Table
- Filtering Grouped Data in a Table
- Summarizing Grouped Data
- Using the PIVOT and UNPIVOT Operators

**Retrieving Data from Multiple Tables**

- Combining the Results of Two Queries
- Comparing the Results of Two Queries
- Retrieving Data by Joining Tables

**Exporting Query Results**

- Saving the Query Results in CSV Format
- Generating an XML File

**Using Subqueries to Perform Advanced Querying**

- Searching for Records Based on Unknown Values
- Searching for Records by Comparing Them with Unknown Values
- Searching for Records Based on Their Existence in Another Table
- Generating Output Using Correlated Subqueries
- Filtering Grouped Data Within a Subquery
- Generating Output Using Nested Subqueries

**Manipulating Table Data**

- Inserting, Modifying, and Deleting Data

**Manipulating the Table Structure**

- Creating a Table
- Creating a Table with Constraints
- Adding and Dropping Columns in a Table

- Adding and Dropping Constraints in a Table
- Modifying the Column Definition in a Table
- Backing Up a Table
- Deleting a Table

**Working with Views**

- Creating Views
- Creating Views with Schema Binding
- Manipulating Data in Views
- Creating Aliases
- Modifying and Deleting Views

**Indexing Data**

- Creating Indexes
- Dropping Indexes

**Managing Transactions**

- Creating and Committing Transactions

## Here's what you get

| 42 | 36 | 40 |
|---|---|---|
| LIVE LABS | VIDEO TUTORIALS | MINUTES |

## 14. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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