uCertify

Course Outline

SQL for Data Analytics, Third Edition

20 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 2: Understanding and Describing Data

   Chapter 3: The Basics of SQL for Analytics

   Chapter 4: SQL for Data Preparation

   Chapter 5: Aggregate Functions for Data Analysis

   Chapter 6: Window Functions for Data Analysis

   Chapter 7: Importing and Exporting Data

   Chapter 8: Analytics Using Complex Data Types

   Chapter 9: Performant SQL

   Chapter 10: Using SQL to Uncover the Truth: A Case Study

   Videos and How To

9. Practice Test

   Here's what you get

   Features

10. Live labs

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    Here's what you get

11. Post-Assessment

1. 📖 Course Objective

Unlock the power of SQL in the world of Data Analytics with our SQL for Data Analytics, third edition course. Whether you're a beginner or looking to enhance your data analysis skills, this course is designed to provide you with practical knowledge and hands-on experience in leveraging SQL for effective data analysis. By the end of this course, you'll be equipped with the skills to leverage SQL for efficient data analysis.

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.
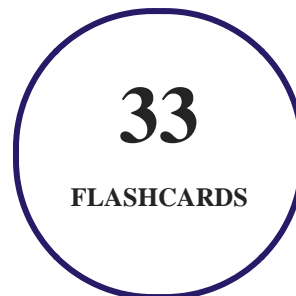
150
EXERCISES

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.

80
QUIZ

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.

33
FLASHCARDS

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.

33
GLOSSARY OF 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: Preface

- About the Course

- Audience

- About the Lessons

- Introduction

- The World of Data

- Relational Databases and SQL

- PostgreSQL Relational Database Management System (RDBMS)

- Creating Tables

- Basic Data Types of SQL

- Data Structures: JSON and Arrays

- Column Constraints

- Updating Tables

- SQL and Analytics

- Summary

Chapter 4: SQL for Data Preparation

- Introduction

- Assembling Data

- Cleaning Data

- Transforming Data

- Summary

Chapter 5: Aggregate Functions for Data Analysis

- Introduction

- Aggregate Functions

- Aggregate Functions with the GROUP BY Clause

- Aggregate Functions with the HAVING Clause

- Using Aggregates to Clean Data and Examine Data Quality

- Summary

Chapter 6: Window Functions for Data Analysis

- Introduction

- Window Functions

- Statistics with Window Functions

- Window Frame

- Summary

Chapter 7: Importing and Exporting Data

- Introduction

- The COPY Command

- Using Python with your Database

- Going Passwordless

- Summary

Chapter 8: Analytics Using Complex Data Types

- Introduction

- Date and Time Data types for Analysis

- Performing Geospatial Analysis in PostgreSQL

- Using Array Data types in PostgreSQL

- Using JSON Data types in PostgreSQL

- Text Analytics Using PostgreSQL

- Summary

Chapter 9: Performant SQL

- Introduction

- The Importance of Highly Efficient SQL

- Database Scanning Methods

- Killing Queries

- Functions and Triggers

- Summary

Chapter 10: Using SQL to Uncover the Truth: A Case Study

- Introduction

- Case Study

- Summary

12. ⊚ Practice Test

Here's what you get

67 PRE-ASSESSMENTS QUESTIONS	**67** 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

Understanding and Describing Data

- Creating a Histogram in Excel
- Exploring Dealership Sales Data

The Basics of SQL for Analytics

- Running the SELECT Query
- Creating and Modifying Tables

SQL for Data Preparation

- Generating a List Using the UNION Query
- Building a Sales Model

Aggregate Functions for Data Analysis

- Analyzing Sales Data Using Aggregate Functions

Window Functions for Data Analysis

- Analyzing Sales Using Window Frames and Window Functions

Importing and Exporting Data

- Reading, Visualizing, and Saving Data in Python

Analytics Using Complex Data Types

- Performing Text Analytics
- Searching and Analyzing Sales

Performant SQL

- Implementing Hash Indexes
- Creating Functions with Arguments
- Creating a Trigger to Track Average Purchases

Using SQL to Uncover the Truth: A Case Study

- Using SQL Techniques to Collect Preliminary Data
- Analyzing the Difference in the Sales Price Hypothesis
- Analyzing the Performance of the Email Marketing Campaign

Here's what you get

17	**17**	**01:51**
LIVE LABS	VIDEO TUTORIALS	HOURS

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.

GET IN TOUCH:

3187 Independence Drive
Livermore, CA 94551,
United States

+1-415-763-6300

support@ucertify.com

www.ucertify.com