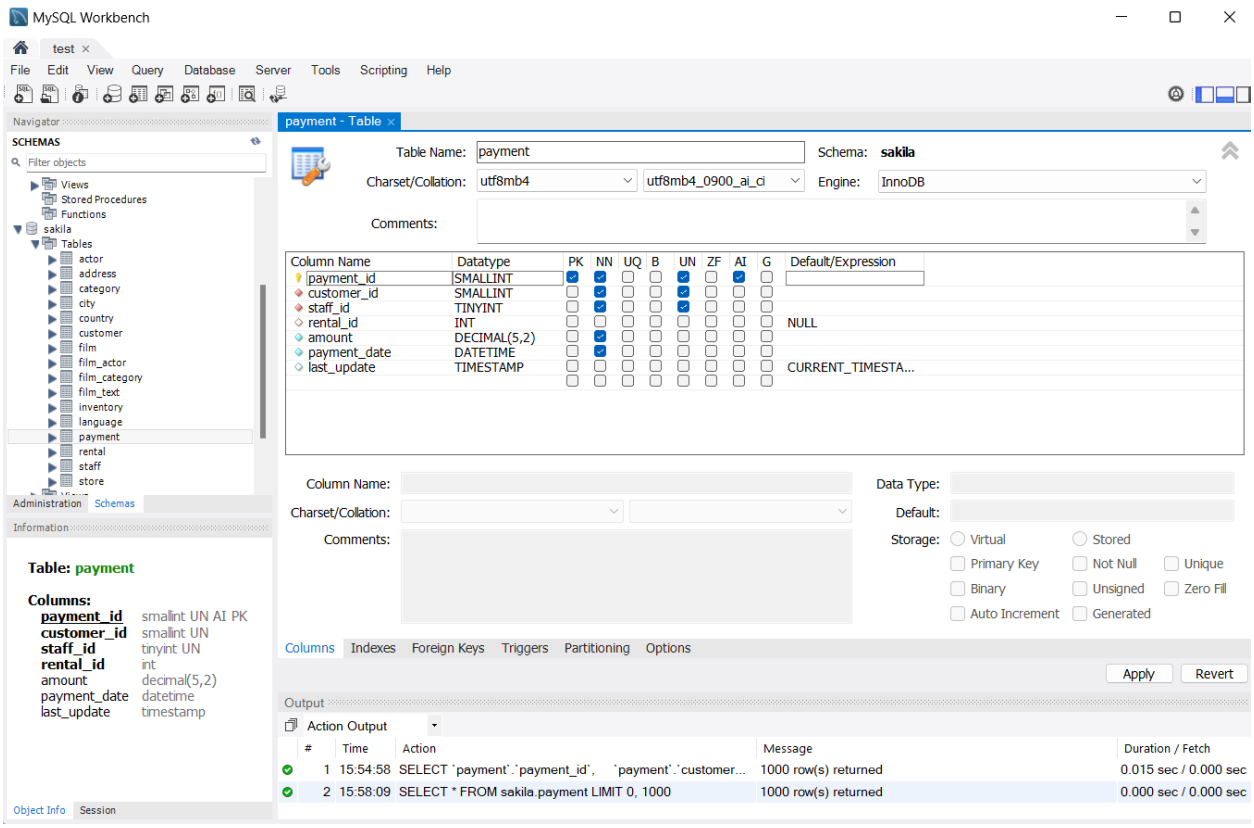
B Robert Carmel
Course: Database Warehouse Design & Implementation
Introduction and Course Outline



Introduction

The Database Warehouse Design and Implementation course is an introductory data engineering course that includes 10 lessons. The course is designed for students with little or no technical background.

The cost of this 10-lesson course is $1,295. Students may be eligible for a 20% discount.

This course is designed to teach students the key concepts and terminology for relational database and data warehouse systems. Students will learn most of the critical aspects of relational database systems and how they are used. Students will also build a small database warehouse using MySQL and/or SQL Server.

I will be working closely with students during the entire course to ensure that they understand the material and complete the lesson's hands-on training.

Note: Students should have a Windows 64bit computer with a minimum of 8GB memory.

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This course lessons will include:

- Reviewing and discussing the key concepts and terminology for relational database systems.
- Reviewing the course's case study database warehouse.
- Downloading and installing MySQL and SQL Server database management system.
- Downloading and installing MySQL Workbench and/or SQL Server Management Studio (SSMS) database development environments using the Microsoft Windows platform.
- Understanding and using MySQL Workbench and/or SSMS.
- Implementing the case-study's database warehouse tables, columns, indexes, and foreign keys.
- Reviewing some advanced database concepts including views and stored procedure.
- Finally, students will learn some key database utilities including backing up databases, restoring databases, and importing and exporting data.

About Instructor B Robert Carmel

I have more than 25 years of experience as a senior software and data engineer, solutions architect and technical trainer. I worked for several multi-national Fortune 500 companies in the USA:

Company	Industry	Position(s)
Texaco Inc.	Oil & Gas	Programmer Analyst
Lockheed Inc	Aerospace	Senior Analyst
Price Waterhouse Coopers	Management Consulting	Senior Information Systems Consultant
Roche Inc.	Pharmaceuticals	Senior Systems Consultant
Boulder County Mental Health Dept.	Government	Lead Programmer, Technical Trainer
Century Link Inc	Telecommunications	Lead Programmer Analyst
Wipro Inc	IT Consulting	Senior Solutions Architect, Technical Trainer

I am an excellent teacher and mentor. I have the patience and dedication to support new students who take on difficult challenges.

Lesson 1: Relational Database Concepts & Terminology

Lesson 1 introduces essential database concepts and terminology, and the course's case study database warehouse.

- Key concepts and terminology for relational databases.
- Online Transaction Processing (OLTP) & Online Analytical Processing (OLAP) databases.
- The course's case-study database (Colorado Covid) and dimensional modeling in an OLAP database warehouse.

Lesson 2: Database Schemas

Lesson 2 is a presentation and in-depth discussion of database schemas including:

- Key Database Schema Concepts
- Database Relationships
- Database Normalization
- Data Models
- Schema Best Practices
- Advanced Topics

Lessons 3 & 4: Creating the Database Development Platform

In lessons 3 and 4, the MySQL and SQL Server database servers, and MySQL Workbench and SSMS will be installed on the student's computer.

Option 1: Download & Install Databases on Windows Platform

- MySQL

  MySQL and the MySQL workbench will be downloaded and then installed on the student's Windows computer.

  AND/OR

- Microsoft SQL Server

  SQL Server and the SQL Server Management Studio (SSMS) will be downloaded and installed on the student's Windows computer.

Students will become familiar with the database development platform's features and functionality.

Lessons 5 & 6: Building the Case Study Database Schemas: Tables & Indexes

In Lessons 5 & 6 students will do the hands-on build of the course's case-study database warehouse schemas: tables, table columns, column data types, constraints and the required indexes. Students will use MySQL Workbench /or SSMS to create the course's schemas.

Lesson 7: Creating the Database Foreign Keys (Relationships)

Lesson 7 will cover the fundamentals of database foreign keys and relationships. The lesson will review the foreign keys and relationships for the Colorado Covid case-study database warehouse. Students will then implement the foreign keys and their relationships using MySQL Workbench and/or SSMS.

Lesson 8: Advanced Practices: Views, Stored Procedures & Functions

Lesson 8 will cover database views and stored procedures. Students will be introduced to Structured Query Language (SQL) and see how it is used to create views that are logical representations of the database, and database stored procedures and functions that are SQL programs maintained in the database and used to perform a variety of specific functions.

Lesson 9: Database Utilities (Backup, Restore, Data Import and Export)

In Lesson 9, students will practice using the database utilities to backup and restore databases, and utilities to export and import data from the database to external flat files.

Lesson 10: Review & Questions

Lesson 10 will offer students a review of the material covered in the course, and to review any questions.