Fundamentals of Data Management

Credit Tasks 9.2.3: Transactions and Concurrency

Overview

You'll learn how to implement transactions in practice and how to investigate the concurrency behavior of your database.

Purpose

Gain practical experience of the effects of concurrency in different isolation levels using MySQL. You are free to use any other relational database management system.

Task

Download the MySQL Workbench (mentioned in CANVAS/Software) **OR** Ubuntu virtual machine in the VMWare Player. Follow the instructions to open two connections to the MySQL server from the MySQL Workbench. Work through the tasks below.

Time

This task should be completed in your lab class and submitted for feedback in lab 9 or at the beginning of lab 10.

Resources

- Book Chapters, e.g.
  - Database Systems, Connolly & Begg (http://goo.gl/cQ9vJr), chapter 22
  - Fundamentals of Database Systems, Elmasri & Navathe, chapters 21, 22
- MySQL (on FDM virtual machine) and MySQL Workbench (or other RDBMS and suitable client).

Feedback

Discuss your solutions with the tutorial instructor.

Next

End of week 9. Get started on Week 10.

Credit Tasks 9.2.3 — Submission Details and Assessment Criteria

Document your solutions to the tasks using a Word processor. Upload the Pass level work to Doubtfire. The tutors will discuss them with you in the lab.

Subtask 9.2.3

Read Committed Isolation level promises higher throughput, so it may be useful to use even though you now know the dangers of lost updates.

How are lost updates prevented in MySQL using Read Committed isolation level? Investigate using the online MySQL documentation.

Refer: https://dev.mysql.com/doc/refman/5.7/en/innodb-consistent-read.html