Assignment 2: Database Automation and CI/CD Pipeline

Course: PROG8850 – Database Automation

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Assignment: Automating Database Schema Changes and Implementing CI/CD

# Section 1: Local Testing (Automating Schema Changes)

This section demonstrates how the local database schema changes were performed using Python and MySQL.

## Step 1: Start Apache and MySQL using XAMPP

Screenshot showing XAMPP control panel with both Apache and MySQL services running.

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## Step 2: Create Database "companydb" in phpMyAdmin

Screenshot of phpMyAdmin showing the "companydb" database created.

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## Step 3: Execute schema\_update.sql via schema\_executor.py

Screenshot of terminal running the Python script and confirming successful execution.

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## Step 4: Verify "projects" Table

Screenshot from phpMyAdmin showing the "projects" table with correct columns.

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# Section 2: Azure MySQL Setup

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## Step 1: Azure MySQL Server Creation

Screenshot of the Azure portal showing MySQL server creation steps.A screenshot of a computer

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## Step 2: Database Creation in Azure

Screenshot showing the "companydb" database created within the Azure MySQL instance.

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# Section 3: GitHub Actions CI/CD Pipeline

This section documents the creation of a GitHub Actions workflow to deploy SQL scripts to Azure MySQL.

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## Step 1: GitHub Repository Setup and Secrets

Screenshot of GitHub secrets for DB\_HOST, DB\_USER, DB\_PASSWORD, DB\_NAME.

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## Step 2: Workflow Execution

Screenshot showing the GitHub Actions workflow running after a push to the main branch.

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