

University of Windsor | School of Computer Science
COMP 8157 | Advanced Database Topics
Assignment 1
Score 7.5% and Due Oct 24, 11:30 PM (Strict deadline)

This assignment is to create and design a MongoDB based backend system for a **blogging platform** (you can customize it to different one). You will create a database schema to store blog posts, user accounts, and comments, and then build a basic RESTful API to interact with the database.

Database Schema Design: (3 points)

Design a MongoDB schema to store the following entities: (can create minimum of 3 schema as per you define the platform)

- ☞ User: Information about registered users, including username, email, password (hashed for security), and registration date.
- ☞ BlogPost: Details of individual blog posts, including title, content, author (reference to a user), creation date, and optional tags or categories.
- ☞ Comment: Comments made on blog posts, including the commenter's name, comment text, creation date, and reference to the associated blog post.

API Development: (3 Points)

Implement a RESTful API (e.g., Express.js) that allows users to perform the following operations:

- ☞ User registration and authentication.
- ☞ Create, read, update, and delete blog posts.
- ☞ List all blog posts, optionally filtered by tags or categories.

Data Population: (1.5 points)

Create a script to populate the database with sample users, blog posts, and comments. Add, read, and delete comments on blog posts.

Submission:

1. Meeting with GA:
 - ☞ Schedule a meeting with the GA to showcase your work.
 - ☞ The GA will review all the tasks listed above directly from your laptop.
 - ☞ If the GA suggests changes to any concept, ensure that you make those changes in all dependent files and provide a demonstration of the updated concept.
2. PDF Document Submission: Prepare a PDF document for submission that includes the following elements:
 - ☞ A screenshot of the MongoDB schema.
 - ☞ The file name(s) of the backend code followed by the actual code.
 - ☞ A screenshot of the populated database.

Please make sure your PDF document is well-organized and effectively presents the required information for evaluation.

NOTE: You may use any resources to prepare your assignments. However, you should cite them properly.