

University of Gloucestershire

School of Business & Technology

Assessment Brief

Module Code: CT6049

Module Title: Database Design and Development

Assessment: Assignment 001 – Individual Project and Report

Weighting: 100%

Submission Deadline: Wednesday, 14 January 2026, 15:00

Submission Format: Electronic submission via Moodle

1. Assessment Overview

This assignment is an individual project requiring you to demonstrate your understanding of both NoSQL and relational database systems. You will design, develop, and evaluate two versions of the same Library Database Application: one implemented using MongoDB (NoSQL) and one using Oracle (Relational Database). Each application must implement identical functionality and share the same GUI design.

2. Functional Requirements

Your application interfaces must include:

- a) An input form for students to borrow or return books
- b) An input form for students to pay fines
- c) A report displaying the book loan history of a student for a specific month
- d) A report displaying the total fines paid by a student for a specific month

3. Report Requirements

Your written report (maximum 3000 words) must include the following sections:

- a) Comparative Evaluation – Critically evaluate NoSQL and relational database modelling, with examples from your implementations.
- b) Architectural Analysis – Provide an explanation and critical analysis of the 3-Tier Architecture, supported by examples from your application.
- c) Appendices – Include Java source code and Oracle database build script (not included in the word count).

4. Report Guidelines

Ensure your report is clear, concise, and well-supported. It should include:

- Style – Clear and professional.
- Content – Relevant and logically structured.
- Authority – Supported by credible evidence.
- Practical Understanding – Screenshots and examples.
- Technical Understanding – Awareness of alternatives.
- Business Insight – Reflection on real-world impact.

5. Submission Instructions

You must submit two files:

1. Project Source Code – Compressed ZIP file

Naming: CT6049_001_StudentNumber_SOURCECODE (e.g., CT6049_001_1608131_SOURCECODE.zip)

2. Written Report – Microsoft Word document

Naming: CT6049_001_StudentNumber_REPORT (e.g., CT6049_001_1608131_REPORT.docx)

7. Learning Outcomes Assessed

This assessment addresses the following learning outcomes:

1. Demonstrate understanding of database design and implementation in both NoSQL and relational paradigms.
3. Critically evaluate multi-tier system architecture.
4. Apply practical and theoretical knowledge to the design, development, and evaluation of database-driven systems.

8. Special Instructions

You must achieve a minimum of 40% overall to pass this assessment. The appendices do not count toward the word limit. The School of Business & Technology Assessment Criteria Grid will be applied when determining final marks.

6. Assessment Criteria

Grade Band	Project Requirements	Report Requirements
<30%	Minimal requirements met; incomplete or plagiarised work.	Unintelligible or no report submission.
<40%	Partial completion (e.g., incorrect models or missing components).	Basic report, limited understanding.
40–49%	Partial models (e.g., incorrect foreign keys). Limited explanation of data models.	Explanation of data models.
50–59%	One correct data model. 3-tier implementation using examples from implementation.	Examples from implementation.
60–69%	Correct models. Full 3-tier implementation in both NoSQL and relational paradigms.	Clear, detailed, and well-organized documentation.
70%+	Complete dual implementation with excellent documentation.	Critical evaluation of data models and architecture.