

Assessment Task

Portfolio of Evidence



ICTDBS507_AT2_PE_TQM_v1.docx

Student Name		Student Number	
Unit Code/s & Name/s	ICTDBS507 Integrate databases with websites		
Cluster Name <i>If applicable</i>	N/A		
Assessment Name	Database Integration Portfolio	Assessment Task No.	2 of 2
Assessment Due Date		Date Submitted	/ /
Assessor Name			
Student Declaration: I declare that this assessment is my own work. Any ideas and comments made by other people have been acknowledged as references. I understand that if this statement is found to be false, it will be regarded as misconduct and will be subject to disciplinary action as outlined in the TAFE Queensland Student Rules. I understand that by emailing or submitting this assessment electronically, I agree to this Declaration in lieu of a written signature.			
Student Signature		Date	/ /
PRIVACY STATEMENT: TAFE Queensland is collecting your personal information on this form for the purpose of assessment. In accordance with the Information Privacy Act 2009 (Qld), your personal information will only be accessed by staff employed by TAFE Queensland for the purposes of conducting assessment. Your information will not be provided to any other person or agency unless you have provided TAFE Queensland with permission, if authorised under our Privacy Policy (available at https://tafeqld.edu.au/global/privacy-policy.html) or disclosure is otherwise permitted or required by law. Your information will be stored securely. If you wish to access or correct any of your information, discuss how it has been managed or have a concern or complaint about the way the information has been collected, used, stored, or disclosed, please contact the TAFE Queensland Privacy Officer at privacy@tafeqld.edu.au			

Instructions to Student	General Instructions: You are employed by Uptown IT's Software Department as a Software and Database Developer. Your manager has given you a new development and integration project. The client is Typical Tech Tools. Your teacher/assessor will take on the role of a manager for Uptown IT's Creative Department. Read the project documentation provided and familiarise yourself with the Project Scenario or Case Study before proceeding with project tasks. Confirm anything you are not sure about the project with your teacher. It is essential that you have a clear understanding of the scenario and tasks that you need to complete.
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This assessment instrument requires the student to complete a project portfolio that is divided into four (4) parts:

Part 1: Analyse and Plan

Analyse the requirements and organisational requirements, creating and seeking feedback on an integration plan

PART 2: Database Integration

Configure tools and create structure required to connect the database to the website before creating and verifying the connection.

PART 3: User Interface Integration

Update the user interface to align with the database integration, testing any modifications made to ensure correct reading and writing of required data

PART 4: Review

Review the process undertaken, documenting responses to questions relating to the integration of a database with a website

Materials Required:

- Students are required to provide their own storage device. The course general requirements for storage devices is an external Solid State Drive (SSD) with at least 500 GB capacity, if you need to store a copy of the Virtual Machine (VM). For assessment files only, a 64 GB thumb drive will be sufficient.
- PCs and peripherals – these may differ between classrooms
- Access to internet
- Access to a web server
- Access to a database server
- Access to a number of browsers
- Access to different tools and devices to test websites
- Access to Connect (LMS)
- Access to Word processing software, such as Microsoft Word.
- Access to special purpose tools, equipment and materials to complete the assessment

Documentation:

- Scenario or Case Study
- Organisational Requirements
- Documentation demonstrating the structure of the database
- Technical Report Template

Assessment Criteria:

To achieve a satisfactory result, your assessor will be looking for your ability to demonstrate the following key skills/tasks/knowledge to an acceptable industry standard. Demonstrated ability to:

- Analyse and document client business requirements
- Integrate a database with a website:
 - Connect to website
 - Insert data as per business requirements
 - Retrieve and display data in a variety of controls and formats
 - Update data from user input
 - Delete specific rows of data
- Answer knowledge questions related to HTTP, stateless nature of HTTP, sessions and programming control structures and design structures.

Refer to the marking criteria for specific details:

ICTDBS507_AT2_MC_TQM_V1**Details of location:**

Skills and knowledge in this competency unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

Research and project activities may be conducted in the classroom or at home.

If you are unable to attend a scheduled assessment activity, you must notify your teacher before the assessment is due and supply a doctor's certificate and approval from the team manager for an extension.

Time restrictions:

This assignment is designed to take place over 8 weeks or approximately 24 hours. The student is expected to attend classes as per timetable details and should be able to commit up to 3 hours per week of their own time to study or study related activities.

Interactions:

Teamwork skills are essential in the IT industry therefore you should work in teams to consult and collaborate on practical activities. However, each student must complete the assessment tasks individually (unless indicated).

	<p>Level of assistance permitted:</p> <p>Staff cannot directly show students answers or solutions but support and guide them to complete tasks individually. Teachers and tutors should be available in class, and accessible by email for students working from home.</p> <p>Reasonable Adjustments:</p> <p>Reasonable adjustments is available to students for a variety of reasons, including: disability, language, literacy and numeracy (LLN) problems or extenuating circumstances. Talk to your teacher, counsellor or disability officer if you require extra support or an extension based on the conditions identified.</p> <p>Work, Health and Safety:</p> <p>The work environment should be assessed for safety prior to class. Special consideration should be taken regarding potential ICT related hazards such as tripping hazards, electromagnetic radiation, ergonomics and posture. TAFE Queensland health and safety policies and procedures should be followed at all times.</p> <p>Number of Attempts:</p> <p>You will receive up to two (2) attempts at this assessment task. Should your 1st attempt be unsatisfactory (U), your teacher will provide feedback and discuss the relevant sections / questions with you and will arrange a due date for the submission of your 2nd attempt. If your 2nd submission is unsatisfactory (U), or you fail to submit a 2nd attempt, you will receive an overall unsatisfactory result for this assessment task. Only one re-assessment attempt may be granted for each assessment task.</p> <p><i>For more information, refer to the Student Rules.</i></p>
<p>Submission details (if relevant)</p>	<p>Evidence Required to be Submitted:</p> <p>The submission for this assessment requires the following to be provided:</p> <ul style="list-style-type: none"> • The modified source code of the application involved in the integration project • A Technical Report providing supporting documentation • This document, with the student declaration section completed

	<p>Submission via Connect:</p> <p>Insert your details on page 1 and sign the Student Declaration. Include this form with your submission.</p> <p>Upload a single file into Assessment 2 (AT2) Assignment folder in Connect</p> <p>Multiple files can be compressed into a single zipped file</p> <p>Name the file:</p> <p>ICTDBS507_AT2_Surname_Student Number.zip</p> <p>Assessment to be submitted via:</p> <ul style="list-style-type: none"> • TAFE Queensland Learning Management System (Connect): https://connect.tafeqld.edu.au/d2l/login • Username: 9 digit student number <p>For Password: Reset password go to: https://passwordreset.tafeqld.edu.au/default.aspx</p>
<p>Instructions to Assessor</p>	<p>Online Delivery:</p> <p>Please revise and modify the Instructions to Student section if you are delivering online.</p> <p>Specifications of assessment:</p> <p>To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the marking guide.</p> <p>Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the web development field of work and include access to:</p> <ul style="list-style-type: none"> • Web development environment • Project requirements <p>Ensure that students read and familiarise themselves with the Project Scenario and the Client provided relevant files and/or resources before attempting the assessment.</p> <p>This assessment has been provided with a scenario and an example application, if an alternate web application is to be provided or utilised with this assessment, it must meet the following requirements:</p> <ul style="list-style-type: none"> • Does not have an existing database component, <i>or</i> will benefit from being upgraded to a new database technology • Must be a web-based application

- Must not have all of the required functionality for database interaction in place
- Must suit a provided scenario, and require updates to the user interface to complete database integration

Assessment Conditions:

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Storage Devices:

Students are required to provide their own storage device. The recommendation for this qualification is an external SSD drive with at least 500 GB capacity, if you need to store a copy of the Virtual Machine (VM). For assessment files only, a 64 GB thumb drive will be sufficient.

Assessor to Provide:

- Access to lab PCs and peripherals – these may differ between classrooms
- Access to internet
- Access to a web server
- Access to a database server
- Access to a number of browsers
- Access to different tools and devices to test websites
- Access to Connect (LMS)
- Access to Word processing software, such as Microsoft Word.
- Access to special purpose tools, equipment and materials to complete the assessment
- Access to the source code for a web application

Documentation:

- Uptown IT Scenario or Case Study
- Organisational Requirements
- Documentation demonstrating the structure of the database
- Technical Report Template

	<p>Level of Assistance Permitted:</p> <p>Teachers and tutors should be available in class, and accessible by email for students working from home. Staff cannot directly show students answers but guide them to where to go to complete tasks individually. Students with disability will receive reasonable adjustments.</p> <p>Interactions:</p> <p>Teamwork skills are essential in the IT industry therefore you should work in teams to consult and collaborate on practical activities. However, each student must complete the assessment tasks individually (unless indicated).</p> <p>Contingencies:</p> <p>Reasonable adjustments is available to students for a variety of reasons, including: disability, language, literacy and numeracy (LLN) problems or extenuating circumstances.</p> <p>Work, Health and Safety:</p> <p>The work environment should be assessed for safety prior to class. Special consideration should be taken regarding potential ICT related hazards such as tripping hazards, electromagnetic radiation, ergonomics and posture. TAFE Queensland health and safety policies and procedures should be followed at all times.</p>
Note to Student	<p><i>An overview of all Assessment Tasks relevant to this unit is located in the Unit Study Guide.</i></p>

General Instructions

Using the provided scenario and either an existing web application, or a web application provided by your assessor, complete the following tasks, ensuring that all required evidence is recorded and provided alongside the finished source code in your submission.

An existing web application to be used with this project must first be approved by your assessor, and meet the following requirements:

- Does not have an existing database component, *or* will benefit from being upgraded to a new database technology
- Must be a web-based application or website
- Must not have all of the required functionality for database interaction in place
- Must suit a provided scenario, and require updates to the user interface to complete database integration

Part 1: Analyse and Plan

1. Review the provided scenario, organisational requirements and any other provided documentation, providing a brief summary of your understanding of the requirements of the integration project
2. Complete an Integration plan, utilising the organisation requirements and your understanding of the project requirements, the Integration plan must include the following detail:
 - a) Any existing data to be integrated into the new database and website project
 - b) The method of interaction between the user and the web application that will provide data to, and utilise data from a database
 - c) The purpose and intended outcomes of the integration project
 - d) All tools and technologies required to perform the integration including licensing and other cost
 - e) Technical Upgrades to hardware, software or systems required for this project
 - f) The method or process required to integrate existing data into the new database and website project
 - g) The intended methods of testing the integration and verifying that the project meets the identified requirements
 - h) Planned validation and sanitisation of data
3. Organise a meeting with your manager, providing a mock email detailing the request for a time and date and the purpose of the meeting
4. Attend a brief meeting with your manager to review the completed integration plan, ensuring that the project requirements and intended solution are understood.
5. Record all feedback provided in the meeting, actioning any feedback provided by your manager
6. Create a requirements checklist that clearly lists all the requirements of the finished project. Include this in a technical report.

Part 2: Database Integration

1. Define and configure the methods of connection between the website and the database, providing screenshots of the configured connection string, the creation of the database and any further configuration required to connect the application and the database.
2. Create the structure and methods required to access and manipulate data in the database as per the requirements identified in the integration plan in Task 1, this must include Retrieving, Creating, Updating and Deleting data on at least one occasion utilising a Structured Query Language (SQL) this can include the use of an Object Relationship Mapper.
3. Migrate data from the existing data store to the project's database utilising the strategy determined in the integration plan, providing a screenshot of the data in the projects database at the completion of the migration.

Part 3: User Interface Integration

1. Connect the methods responsible for retrieving data from the database to the user interface, testing that data can be correctly retrieved and displayed as per the requirements determined in Task 1. Provide a screenshot in the technical report as evidence of this.
2. Connect the methods responsible for modifying data in the database to the user interface, testing that existing data can be modified, new data can be created, and existing data can be deleted as per the requirements determined in Task 1. Provide screenshots each of these tests in the technical report as evidence of this.
3. Update the User Interface to ensure that the data presented by the Web Application from the database is correctly formatted as per organisational requirements, providing a description of any changes made in a Technical Report.
4. Update and test the User Interface to ensure that any data entered into the application is validated and sanitised before entering the database, providing detail of the testing in a Technical Report
5. Utilise the requirements checklist created in Task 1 to test the web application and database, ensuring that the required functionality is present **across multiple browsers**, providing a summary of the testing performed and the completed checklist in a technical report.

Part 4: Review

Answers to the following questions should be included in a technical report under the heading 'Project Review' and should be professionally written and formatted.

1. Describe at least 2 other database tools that could have been used in this project, or other web based projects, including the pros and cons of those specific tools.
2. Describe how this project may have been approached or implemented differently if a NoSQL data provider was used in place of a SQL data provider.
3. Describe how statelessness factored into this integration project, what, if any steps had to be taken to work with or around the statelessness of your project.
4. Describe the role of session management in your project, or the role it could have played in the implementation of this integration project.
5. Describe an issue encountered in the integration and development process, including the process used to solve the issue.

End of Assessment