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| Student Name | |  | Student Number |  |
| Unit Code/s & Name/s | | ICTPRG604 Create cloud computing services | | |
| Assessment Type | | Written | | |
| Assessment Name | | Programming assignment | Assessment Task No. | AT1 |
| 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 DISCLAIMER:** TAFE Queensland is collecting your personal information for assessment purposes. The information will only be accessed by authorised employees of TAFE Queensland. Some of this information may be given to the Australian Skills Quality Authority (ASQA) or its successor and/or TAFE Queensland for audit and/or reporting purposes. Your information will not be given to any other person or agency unless you have given us written permission or we are required by law. | | | | |

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| Instructions to Student | **Learning Support**  Additional support is available to help you achieve your learning goals. Speak to your teacher or a Learning Skills Centre team member if you feel that you may benefit from some extra support. The Institute provides extra support through the Disability Support Unit and the Learning Skills Centre.  RPL (Recognition of Prior Learning) is available for this unit. Speak to your teacher/assessor to check if you qualify for RPL.  **Conditions of Assessment**  You will need to complete the learning and undertake all assessments satisfactorily to be deemed competent. You are responsible for complying with all assessment item instructions; submission and collection requirements; undertaking assessment tasks honestly and retaining a copy of all assessment items.  You must submit assessment items by the **due date**, unless an extension has been granted by your teacher. Failure to submit assessment items by the due date will result in a “did not submit” being recorded and depending on your circumstances, you may be granted one final resubmission.  To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the marking guide.  **The Classroom as a Simulated Work Environment**  Students must be aware and take responsibility for the problems of working in a shared IT environment. Problems such as noise levels, production flow, interruptions and time variances are common to workplaces. In the simulated environment provided in the classroom these problems can take the form of:  Other students who continually ask questions or talk aloud while thinking  Fire drills, projector not working, printers running out of paper or toner cartridge  Miscalculating how much work you can do in one day, missing classes and so on.  Some things are unavoidable and you must devise strategies to overcome them, for example, we cannot stop students from asking questions or entering at exiting the class. Other things are unpredictable (e.g. fire drills). You need to be aware and plan and organise your work allowing some extra time for unavoidable and unpredicted events. |
|  | **Assessment Criteria:**  To achieve a satisfactory result, your assessor will be looking for your ability to demonstrate key skills/tasks/knowledge to an acceptable industry standard.  Refer to the marking criteria document for a detailed list of items.  **Number of Attempts:**  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, with the exception of Apprentices or Trainees who are permitted an additional supplementary assessment. **For more information, refer to the Student Rules.** |
| Submission details | Submit your assessment to the allocated dropbox in **Connect** or to the allocated network folder.  Your teacher will provide all the details for the submission system or network.  Your assignment must be saved with your surname\_student number\_unit/cluster\_AssessmentNumber. For example:  **surname\_1234567890\_ICTPRG604\_1**  For re-submissions, an “R” must be added to the file name. For example:  **surname\_1234567890\_ ICTPRG604\_1\_R**  The Marking Criteria Sheet must be signed and submitted with your work. |
| Instructions for the Assessor | To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the Marking Guide.  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 programming and software development industry, and include access to:   * program specifications and gathered client requirements * determined or chosen integrated development environment (IDE) * the database server and server management tools to access data tables and create queries * the web server to host the cloud computing application * the Internet and a web browser to view and test cloud computing application. |
| Note to Student | An overview of all Assessment Tasks relevant to this unit is located in the Unit Study Guide. |

**Instructions to Students:**

In this assessment, you are required to participate in the development and deployment of web service and application on a software development project that you have completed or are currently completing within your course with database component.

The Software development project must meet the following criteria:

1. Web Application and Web Service must be separate applications
2. Project must include a Database component
3. Web Application must be able to communicate with the Web Service
4. Communication between the Web Application and Web Service must be secure
5. The Web Application should be constructed in such a way that it may be accessed from a variety of browsers / devices

*If using an existing or ongoing project, verify that the project meets the above criteria and confirm with your teacher before beginning the tasks below.*

You (the student) will be provided the following in order to allow completion of the required tasks:

1. Client and Functionality requirements for the Project (see Provided scenario document)
2. Access to Visual Studio Community (for developing with .NET Core / Framework) or other relevant IDE for chosen language/framework.
3. Access to a database server + cloud based database server.
4. Access to the relevant cloud platform.
5. Access to the internet and a web browser.

You are required to show clear evidence of due process – appropriate planning, appropriate communication and liaising with relevant stakeholders, gathering requirements, identification of development environment and tools to build web service, design, development, testing and deployment of the web service and cloud computing application, reporting to your project manager on updates required and appropriate closure of the publishing process.

**Your tasks:**

1. Create and send an email to your Project Manager to schedule an initial meeting to obtain program specifications and gather other requirements and review the document in preparation for the development of the web service and cloud computing application.
2. Attend the initial requirements meeting with your manager and use your listening and questioning skills to ensure your full understanding of the project requirements. Document specific instructions otherwise not covered in the program specifications.
3. Based on the scenario above and your interpretation of the program specifications, prepare a report for your Project Manager outlining the following:

* The development environment and tools required to build the web service and cloud computing application.
* Any requirements for a corresponding ‘Big Data’ application.
* The architecture and framework needed to implement the applications to the cloud.
* Lists of the required functionality of the web service.
* Lists of the required functionality of the cloud computing application.
* How you would test the web service and the cloud computing application.
* How you would deploy and publish the web service and the cloud computing application to the environment specified by your Project Manager.

1. Create and send an email to your Project Manager to schedule a follow-up meeting to confirm the technical details outlined in task 2 by presenting the report for sign-off.
2. Using the development environment and tools identified, build the web service according to the required functionalities that you have listed in task 2.
3. Using the development environment and tools identified, build the cloud computing application according to the required functionalities you have listed in task 2.
4. Based on the test approach you have outlined in task 2, perform the tests on both the web service and cloud computing application until the results meets the required functionalities. Prepare a test summary report and include it in your report to your Project Manager.
5. Organise a meeting with your manager and at least one other developer and present your deployment plan, the results of your testing, and explain how your application will fulfill the associated business process requirements. Listen to and record all feedback.
6. Based on the deployment strategy you have outlined in task 2, deploy and publish both the web service and cloud computing application to the desired environment capturing every step and include it in your report to your Project Manager.
7. Present your report to your Project Manager for sign-off.

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