

## Assignment 2: Broken Legacy Code

### Note:

This assignment focuses on bringing DevOps concepts together for an existing business in the process of transitioning from legacy systems to more modern practices. Best practice is required throughout. A class period will be allocated to initial discussion on the assignment to enable teamwork in teasing out the problem(s) at hand. The assignment due date is as shown in Blackboard.

### Learning Outcomes:

LO's covered by this assignment are:

1. Engage in practitioner-based research to compose solutions to deployment pipeline efficiency issues
2. Conceptualise, research and critique techniques and technologies to automate processes and job lifecycles
3. Undertake an analysis of incomplete, incorrect or contradictory solutions to a problem and communicate in a professional manner an alternative approach underpinned by justifications informed by clearly articulated research.
4. Critical awareness of the importance of coding best practice in disseminating information to enhance teamwork.
5. Analyse the impact of scripted pipelines on enhancing team work in delivering software across a pipeline.
6. Devise a scripted solution for a software delivery pipeline including design, implementation and test phases.
7. Review and refactor scripts via peer-review retrospective and refinement meetings.

### Scenario:

Shinty Software has been a provider of software services to organizations nationally for the past 20 years. However, the downturn in the economy left the company in dire straits. Many older staff to the opportunity to take redundancy. A radical new manager, Pat<sup>1</sup>, has taken over the company with ideas to modernise and streamline their products and services. They have correctly identified that it is essential to modernise their internal processes first. This will not only provide improvement internally but will also act as a showcase of their capabilities. The slight uptick in the economy has meant that many of the best staff left to work in other organizations.

You have been hired to bring DevOps to this organization. Due to shortage of staff this will only count for half of your time. You are also required to review their existing systems and modernise them with your team of staff. You have two staff members one (Jalen) who is a new graduate with no prior experience, the other (Ren) is only 5 years away from retirement. Ren began as a junior developer and worked on the one product for all of his working life. That product is no longer in existence, so he has been moved to your team.

To begin you have been provided code in Powershell to fix. You are not familiar with the programming language. This is one of many products you need to review and fix. They are in multiple languages and

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<sup>1</sup> Names used in this assignment are gender neutral.

for a variety of purposes. With this example you know that an intern was briefly taken on to review the code. They left comments on the document but it is still not working.

### Requirement:

You are now in charge of a significant part of the modernization process so this code is going to be looked at carefully as a measure of your success in the company. You are required to:

1. Design a simplified process or framework for implementing DevOps throughout the company. 15 marks
2. Design a process or framework for modernizing existing code. 15 marks
3. Review the code provided to demonstrate how your modernization processes would work. 10 marks
4. Write your final conclusion. 10 marks

### Time:

This assignment is purposely built with tight time bounds. This is considered in the marks allocated. When allocated work you are not always in the position to extend a project to the optimal length of time required. This can be due to external factors. For example, I am currently working on a project where we are limited to 3 months to complete work that is normally carried out in 18 months. This requires hard decisions and justification for each choice. This is the purpose of Assignment 2.

### Submission:

You are required to submit:

1. Your DevOps implementation strategy, process or framework.
2. Your code modernization strategy, process or framework.
3. A word/pdf document with:
4. A link to your github repo with all your work.
5. A maximum of 1 page conclusion.
6. An appendix of any desired images and another for references if needed.