# CA1 – Lab Portfolio

## Overview

The purpose of the labs is to get you acquainted with some of the tools that are used in DevOps and give you the opportunity to become familiar and comfortable using them, as well as understanding how/where the fit in an overall DevOps project.

The labs are designed to help you in investigate the common tools that are used in DevOps and help you to learn about software engineering in a DevOps environment. You will have to do some research yourself, to learn more about the tools, **simply repeating the labs that I give you is not sufficient.**

## Lab Instructions:

You must choose the tools that you want to work with yourself. Choosing new tools may take some time and effort, so allow for time to be spent on identifying and learning new tools/technologies.

**Lab 1**  
This lab must describe the use of a **source code (version control) management tool** as part of a DevOps pipeline. Note: Github and any One other sample should be mentioned in the conclusions

The lab must focus on higher level aspirations rather than the detailed step by step. The conclusions section must be 2-4 pages. The page count does not include references or images which must be included in the appendices.

**Lab 2**   
This lab must describe the use of **Test** **Frameworks** and supporting software as part of a DevOps pipeline. Note: Any 2 test frameworks should be discussed/contrasted in the conclusions

The Postman or a. n. other tool should be used to assist with automated testing

The lab must focus on higher level aspirations rather than the detailed step by step. The conclusions section must be 2-4 pages. The page count does not include references or images which must be included in the appendices.

**Lab 3:**  
This lab must describe the use of a **continuous integration (CI) tool with automated** **Pipelines** and **supporting** **software** as part of a DevOps pipeline.  
Note: The practical implementation must include steps for build, test, package, deploy.

The tool must perform an automated test on code pushed to the repository

Any 2 tools (e.g. GitHub Actions, Jenkins, Circle CI) should be contrasted in the conclusions section.

Tools should be utilized in practice for the purposes of experimentation. (not just described or reported)

The lab must focus on higher level aspirations rather than the detailed step by step. The conclusions section must be 2-4 pages. The page count does not include references or images which must be included in the appendices.

## Submission and Deadlines

* All the work on the lab will be submitted through Blackboard
* The labs must be submitted in **one** document at the end of the module.
  + Final Date: **Sunday 20th November 2022 @ 23:59pm**
* NOTE: Lab 1 may be submitted any time before Sunday 23rd October, for formative feedback only.

## Formatting

Please use following formatting throughout your paper.

* Word Doc **ONLY**
* 12pt font
* Justified text (no ragged edges)
* Headers have a maximum size of 16pt font
* Tables & Figures must be numbered starting at 1 going through the whole document.
* Tables and figures must have their caption below the table/figure
* **References should use the Harvard UL Referencing system.**

**See:** [**https://library.lyit.ie/wp-content/uploads/2020/05/Harvard-Reference-Quick-Guide.pdf**](https://library.lyit.ie/wp-content/uploads/2020/05/Harvard-Reference-Quick-Guide.pdf)

## Submission and Grading Details

This is the first part of your CA and the 3 labs together are worth 60% of your overall mark.

* Lab 1 (20%)
* Lab 2 (20%)
* Lab 3 (20%)

Each Lab will be marked as follows:

|  |  |
| --- | --- |
| **Section** | **Marks** |
| Aims/Description | 10 |
| Method | 15 |
| Practical Implementation | 20 |
| Results | 20 |
| Conclusion | 35 |
| **Total** | **100** |

## **Plagiarism**

Stealing someone else's writing will not be tolerated. Do not copy text from other sources. For example, do not simply copy the project website's description into your description. **You must reference your work.**