Solent University
Coursework Assessment Brief

Assessment Details

Module Title:	Module Title: DevOps (Development Operations)
Module Code:	COM619
Module Leader:	Dr Craig Gallen
Level:	6
Assessment Title:	Group Presentation
Assessment Number:	AE1 - Group Project
Assessment Type:	Presentation
Restrictions on Time/Word Count:	15 minutes
Consequence of not meeting time/word count limit:	There is no penalty for submitting below the word/count limit, but you should be aware that there is a risk you may not maximise your potential mark. Assignments should be presented appropriately in line with the restrictions stated above; if an assignment exceeds the time this will be taken in account in the marks given using the assessment criteria shown.
Individual/Group:	Group The same mark for the overall presentation will be allocated to all students in the group
Assessment Weighting:	50%
Issue Date:	27-09-2023
Hand In Date:	
Planned Feedback Date:	
Mode of Submission:	• Online submission of video on SOL • Documentation and code to be hosted on github. • Application is to be demonstrated running in cloud environment during assessment
Anonymous Marking	This assessment: is exempt from anonymous marking

Introduction

The purpose of this module is primarily to introduce Devops concepts and practices. As such, the technology stack your team chooses for your application will be a secondary consideration provided it allows you to meet the application's specification and also demonstrate good DevOps practice.

The class exercises will cover creating a microservice using Java technology (Springboot), Docker containers and Github actions. This will build upon work previously covered in second year. (Your group may choose to use a different technology stack for your application, but help will only be available for the technologies introduced in class).

There are two assessments. This assessment, AE1 (50%), will assess your group's performances in developing an application. You will need to demonstrate that you have worked together and successfully allocated tasks so that the whole team has made an effective contribution.

The second assessment, AE2 (50%), will be an individual report reflecting upon the experience. This will be your opportunity to individually demonstrate your understanding of the concepts covered in class.

AE1 Assessment Task

You are required to work within a team to develop and deploy a simple project demonstrating an appreciation and use of appropriate DevOps delivery practices. Your project will be assessed on its design, implementation, documentation and its effective use of test driven CI/CD delivery processes. The entire team will be allocated the same mark based on the overall grading of the project. This will be 50% of the overall module grading.

You are required to select a team of 4 colleagues to develop and deploy your application. Functional details of the application will be discussed in class. The following are core non-functional requirements for the project.

Development Practices

- You should plan to have a scrum session each week in class. You should use this opportunity to report progress, issues and if necessary request help.
- You should document the features and planned architecture of your project as part of the hosted online project documentation. This can use a Wiki, Markdown or a static indexed documentation system (e.g. ascidoc). Your project will in part be judged on its documentation.
- Your project should be licenced using the Apache licence and the licence should be applied appropriately to the code.
- You should create a feature list and project plan (Kamban) allocating tasks for delivery within your team.
- You should adopt good agile practices and git workflow to contribute work to your project. You should document your agreed contribution process.
- You should organise your work in 3 sprints, each sprint demonstrating incremental functionality until the final presentation.
- You should create a single GitHub repository to be shared by the team members. You should organise your work using branches, pull requests and issues to document progress.
- You should adopt a git flow process which allows parallel development and merging of work. Pull requests should be reviewed and tested before merging.
- Your application should have provision for internationalisation i18n

Operations Practices

- You should use github actions to create an automated test framework which builds and tests at least every commit to the master branch (CI/CD).

- You should create a cloud hosting environment using containers which can host your application. You should demonstrate a process for incrementally updating the hosted application on each sprint.
- You should create a monitoring environment for testing and assuring the operation of your hosted application. This should demonstrate testing of web actions, api's and also record metrics and logs for the running application.

Submission task

This assessment requires your team to create a screencast demonstrating your solution to the project scenario. The screencast should include each team member and be no longer than 15-minutes. We are being strict on this time limit. As such, you will need to carefully consider how to demonstrate your project in the best light. You should ensure you cover the following:

- Overall description of the solution
- Demo of your workflow
- Demo of your DevOps choices
- Features completed and featured not completed
- Your reflection and future work

You should submit a single video file for the whole team.

You should also submit links to your project and project documentation hosted on Github.

Assessment criteria

	A1 – A4 Substantially exceeds expectations.	B1 – B3 Exceeds expectation in some aspects.	C1-C3 Meets expectation in most aspects, sometimes exceeding expectations.	D1-D3 Meets expectation	F1-F3 Does not meet threshold
Quality of Demonstrated Solution (35%)	Excellent understanding of abstract concepts, theories and/or cutting edge practice, their implications, and applications.	Thorough understanding of abstract concepts, theories and/or cutting edge practice and several of their implications and applications.	Satisfactory understanding of the concepts, theories and/or practice that have been show in class.	Adequate understanding of the main concepts, theories and/or practice	Does not meet threshold.
Quality of Demonstrated DevOps Practices. (35%)	Advanced, critically justified DevOps practices demonstrated.	Advanced, well justified DevOps practices demonstrated.	Techniques, mostly shown in class, have been applied.	Some techniques, mostly shown in class, have been applied.	Does not meet threshold.
Quality of documentation (30%)	Hi quality documentation provided within the GitHub project and generated as a full indexed web site.	Good Documentation provided as part of the GitHub project and generated as a full indexed web site.	Good user and developer documentation created as markdown on GitHub	Basic user and developer documentation created as markdown on GitHub	Does not meet threshold.


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Learning Outcomes

This assessment will enable you to demonstrate in full or in part your fulfilment of the following learning outcomes identified in the Module Descriptor:

Living CV

As part of the University's Work Ready, Future Ready strategy, you will be expected to build a professional, Living CV as you successfully engage and pass each module of your degree.

The Living CV outputs evidenced on completion of this assessment are:

1. provide a link to your team's github repository and documentation
2. describe your contribution to the project

Please add these to your CV via the Living CV builder platform on Solent Futures Online Solent Futures Online

Important Information

Solent University Academic Regulations 2023-24

Late Submissions

You are reminded that:

i. If this assessment is submitted late i.e. within 7 calendar days of the submission deadline, the mark will be capped at 40% if a pass mark is achieved;
ii. If this assessment is submitted later than 7 calendar days after the submission deadline, the work will be regarded as a non-submission and will be awarded a zero;
iii. If this assessment is being submitted as a referred piece of work, then it must be submitted by the deadline date; any Refer assessment submitted late will be regarded as a non-submission and will be awarded a zero.

Assessment regulations

Extenuating Circumstances

The University's Extenuating Circumstances (EC) procedure is in place if there are genuine short term exceptional circumstances that may prevent you submitting an assessment. You are able to self-certify for up to two assessment dates in any semester without supporting evidence for an extension of up to seven calendar days for coursework or to defer an exam to the resit period.

Alternatively, if you are not 'fit to study' (or you have used up your two self-certification opportunities), you can request:

- an extension to the submission deadline of 7 calendar days, or
- a request to submit the assessment at the next opportunity, i.e. the resit period (as a Defer without capping of the grade).

In both instances you must submit an EC application with relevant evidence. If accepted under the university regulations there will be no academic penalty for late submission or non-submission dependent on what is requested. You are reminded that EC covers only short-term issues (20 working days) and that if you experience longer term matters that impact on your learning then you must contact the Student Hub for advice.

Please find a link to the EC policy below:

Extenuating Circumstances

Academic Misconduct
Any submission must be your own work and, where facts or ideas have been used from other sources, these sources must be appropriately referenced. The University's Academic Regulations includes the definitions of all practices that will be deemed to constitute academic misconduct. You should check this link before submitting your work.

Procedures relating to student academic misconduct are given below:

Academic Misconduct

Ethics Policy
The work being carried out must be in compliance with the university Ethics Policy. Where there is an ethical issue, as specified within the Ethics Policy, then you will need an ethics release or ethics approval prior to the start of the project.

The Ethics Policy is contained within Section 2S of the Academic Handbook:

Ethics Policy

Grade marking
The University uses an alpha numeric grade scale for the marking of assessments. Unless you have been specifically informed otherwise your marked assignment will be awarded a letter/number grade. More detailed information on grade marking and the grade scale can be found on the portal and in the Student Handbook.

Grade Marking Scale

Guidance for online submission through Solent Online Learning (SOL)

Online Submission