

School of Business, Arts, Social Sciences, and Technology (BASST)
University of Suffolk

MSc Computer Science

Level: 7

Module: DevOps

Assessment: Case Study
Module Leader: Dr. Godwin Dzvapatsva
Weighting in Module: **Total 100%** (Component 1: **40%**)
Handed out: **October 7, 2025**
Deadline: **on or before 12 noon Friday 14th of November 2025**
Submission via Brightspace module pages at [TBD]

Required:

The assignment consists of two parts:

Part A) Discussing the software process models (20%)

Part B) Discussion on the practical work carried out as part of the DevOps labs (80%).

a) A **2,000-word portfolio of practical work**.

Component number	Form of assessment	Assessment size	Weighting (%)	Learning outcomes assessed	Late Sub ⁿ	Core or non-core
1	Portfolio of Practical Work	2,000 words	40%	3	Yes	Core

Learning outcomes to be assessed:

1. A systematic and comprehensive knowledge and understanding of the DevOps approach and techniques
2. Ability to critically evaluate DevOps techniques for appropriateness in a particular setting
3. **Skill in using a variety of industry-standard software tools used to implement DevOps**

Assessment & Grading Criteria:

1. Discussion on software process models paving way for DevOps
2. The ability to choose from appropriate DevOps techniques and tools, and articulate any major limitations
3. The ability to design a DevOps pipeline
4. The ability to implement aspects of the designed DevOps solution
5. The ability to draw some relevant major conclusions and reflect on any major limitations on their implementation and design.

ASSESSMENT BRIEF

PART A: SOFTWARE PROCESS MODELS (20% of the total grade)

Discuss any ONE software process model, summarising its main features, strengths and weaknesses. Critically analyse how the DevOps approach aligns with/ differs or extends from the selected model. (Approximately 500 words)

PART B: PORTFOLIO OF PRACTICAL WORK (80% of total grade)

For this component, you are asked to complete the following labs assigned at each lecture and compile a portfolio of approximately 1500 words outlining:

- a) how you completed the lab (include screenshots and notes that you recorded as you practised)
- b) what has this lab taught you about DevOps
- c) what aspects of DevOps is this tool good for and what are its limitations

You can use a repository to record your lab notes (via a wiki or a series of issues where you are making notes of your findings) - if so, please make this repository public and submit a link to that repository as well in addition to your .docx file.

This will include code and a notebook recording the student's practical labs throughout the DevOps modules. See section on [LISTS OF LABS TO SELECT FROM](#) in this document for a list of the Labs that you will need to include in your portfolio.

The list of labs you need to include in your submission is below. You will need to include **4 of your best labs assigned throughout the module** in your portfolio as below:

LISTS OF LABS TO SELECT FROM

- Lab 1: Version Control
- Lab 2: Planning using Trello
- Lab 3: CI/CD with GitHub Actions
- Lab 4: CI/CD with GitLab
- Lab 5: CI/CD with Ansible
- Lab 6: Containerisation using Docker
- Lab 7: Automating Application Deployment using a CI/CD Pipeline (using Render/Vercel/Docker/PythonAnywhere)
- Lab 8: Continuous documentation using bots (including ChatGPT, Slack Integration)
- Lab 9: Monitoring and Logging using Prometheus and Grafana

SUBMISSION INSTRUCTIONS:

- a. Please submit your reports and code as appropriate.
- b. If your report exceeds the word count by up to 10% then there will be no penalty applied. Submissions that exceed the word count by more than 10% will be applied a fixed penalty of 5 percentage points (i.e., 5 marks). In all cases, the penalised mark will not be reduced below a pass level, assuming the work merits a pass. Tables, diagrams (including associated legends), appendices, reference lists, tables of contents, footnotes, and endnotes are excluded from the word count however should be used appropriately. It is for the Module Leader to decide if there is an excessive or inappropriate use of components excluded from the word count.
- c. Ensure that your work (submitted electronically via the online submission portal) is bundled into a suitable file (Word, pdf, or zipped collection of documents) with the filename matching the pattern **sXXXXXX-DevOps** where sXXXXXX is your UoS user_id.

Ensure that all documents are marked with your UoS user_id.

Your name should not appear in/on any of the files.

- d. If you prefer to submit links to public GitHub repositories with any code or notes, you can include that link to your report. You **must** submit a word file with your report text at all times.
- e. Submit your document to the Brightspace module for this course (link at the top of this document) under 'Assessment' > 'Submission Folder for Report' or similar. Please note that this folder will become available a couple of weeks prior to the deadline.
- f. Note that whilst you will need to be as thorough in terms of your research as with any academic piece, the target reader of this report (especially the case study report) is a chief executive or manager of the company, so remember to adjust your tone accordingly.
- g. All bibliographies must be formatted according to the University of Suffolk Harvard Style. More information about citation and referencing is available here: <https://libguides.uos.ac.uk/academic/referencing/Harvard>
- h. Cite your references carefully – remember that the University of Suffolk has strict rules dealing with **plagiarism** and the university reserves the right to call any student to a viva examination of any piece of assessed work. Generating any aspects of your work with Generative AI models is not your work and will be treated as per the academic misconduct policies.
- i. **Avoid the unethical use of AI**, such as generating reports with platforms like ChatGPT. If you do use AI, be sure to **disclose** it and clearly state the purpose for which it was applied

Notes:

- Remember to take screenshots as you are implementing the labs, especially if you are configuring a part of the DevOps process.
- Make sure you demonstrate advanced, critically justified DevOps practices throughout your report.
- Feel free to compare with other tools that you have used in your practice or have tried during the module this term. This could be for example on aspects of scalability, open source, flexibility and interoperability, etc.

TENTATIVE REPORT STRUCTURE

1. Title Page - including your S number **NOT** your name.
2. Contents Page
3. Introduction:
 - A short overview of the project and the outcomes.
4. Discussion on software process model and how this aligns with/ differs or extends with DevOps
5. Identification of the FOUR labs- All four best labs selected from the given list NB, Git and GitHub its classified as one
6. DevOps workflow: An explanation and justification of the DevOps tool selected and its use. You should consider:
 - Highlight aspects/stages for the DevOps for the selected lab. Make sure you include screenshots of the major steps of the implementation of the tool.
 - Demonstrate how the selected tool supports DevOps practices.
7. Reflection and future work @ An honest, reflective account of the overall process. Make sure to include
 - Limitations of the selected tool(s) - An exhaustive presentation of the limitations of the selected tools were presented.
 - comparisons or references to alternative tools that you could have included if necessary
8. Conclusion- The conclusion is very clear with impressive insights
9. References
 - Include them for all the works that you have cited in your report

Grading Grid – School of Business, Arts, Social Science, and Technology (BASST) - University of Suffolk	LEVEL 7
In accordance with the FHEQ, at the end of Level 7 students should have a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice. They will be able to demonstrate originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline. They should have a conceptual understanding that enables them to evaluate critically current research and advanced scholarship in the discipline and to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses. They will also be able to deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences. In addition, they will be able to demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level.	

First Name	Last Name	Student Number	Module Name	Module Leader	Block	Academic Year
			DevOps – (Component 1)	Dr Dzvapatsva	BLOCK 1	2025-2026

General Feedback					Overall mark (%)				
					%				
		Assessment category							
		Introduction (maximum marks = /5)	Discussion of a software process model (Maximum marks = /20)	Aspects of the DevOps for the lab selected (Maximum marks = /20)	Balance of benefits and limitations of the created pipeline (Maximum marks = 20)	Lessons learnt from the lab/Alternative tools/ Future of DevOps (Maximum marks = 20)	Presentations/Structure: Labelling of screenshots or diagrams (Maximum marks = 5)	Conclusion (Maximum marks = 5%)	Reading and Referencing (Maximum marks = 5%)
Feedback for Assessment Category									
First (1:1)	70% – 100%	The introduction is clear, engaging, and highly effective in setting the DevOps in software development and operations. The student exceptionally introduces software process models and tooling in DevOps with demonstrating awareness of the subject.	An outstanding discussion has been provided for the selected software process model. Solid discussion on strength and weaknesses and how DevOps fits in has been provided	An exceptional account of FOUR labs has been provided detailing mastery of DevOps tools and their use	The report demonstrates an exceptional balance in the assessment, presenting an exceptional understanding of the interplay between the benefits and limitations of the created pipeline.	The report demonstrates exceptional experience implemented on the Proof of Concept with solid application of principles and tools. Future directions are clearly articulated with a focus on continuous improvement.	The report demonstrates high-quality presentation, with well-labelled visuals, clear organization, and correct referencing.	The conclusion is very clear with impressive insights on the overall practice and reflections originality, and is strongly supported by the learner experience.	Referencing style is consistently accurate and applied correctly as per UoS guide.
Upper Second (2:1)	60% – 69%	The introduction is clear and relevant, outlining software process models and DevOps tooling with a sound understanding. Some further depth and critical context would strengthen it.	The report gave a sound discussion on the selected software process model and how it differs/aligns/extends to DevOps.	The portfolio has provided good discussion of the FOUR labs with some room for improvement	The report provides a good assessment of the benefits and limitations of the selected labs demonstrating above average consideration of both aspects but with room for improvements.	The report provided a strong evaluation of lessons learnt in the implementation but could benefit from more depth or specificity in principles/tools.	The report is well-presented but may have minor areas that need improvement in clarity, organisation, or referencing.	The conclusion is well formulated, insightful, and supported by the results, but with room for improvement.	Referencing is good but other citations are not in the bibliography, or some sources are not referenced as per university criteria.

Lower Second (2:2)	50% – 59%	The introduction is adequate but lacks depth, giving only limited coverage of software process models and DevOps tooling. The context of development and operations has not been clearly set.	The discussion provides a simplistic overview on the selected software process model and how it differs/aligns/extends to DevOps.	A fair discussion of the FOUR selected labs has been provided. However, the execution is average, with some steps missing. The work demonstrates a basic understanding but lacks sufficient depth and detail for a higher grade.	The report provides a fairly balanced assessment of the benefits and limitations of the selected labs, demonstrating a fair consideration of both aspects.	The report includes basic reflections but lacks depth. There are limited discussion of alternative tools, principles or future trends and the lessons learned are general or surface-level. The future of DevOps has not been explored sufficiently.	The report meets the basic requirements, but it lacks clarity or structure in some areas and may have citation inconsistencies.	The conclusion is moderately insightful and is only partially supported by the results.	Referencing is inconsistent, with around half of the required citations missing OR incorrectly formatted OR omitted from the bibliography. There is just average evidence of reading.
Third (3 rd)	40% – 49%	The introduction is weak, providing minimal context and very limited coverage of software process models and DevOps tooling OR the subject.	The discussion lacks clarity on the selected software process model and how it differs/aligns/extends to DevOps.	A limited discussion of the four selected labs has been provided. The work shows some understanding, but the execution is weak, with several important steps missing. Greater clarity and depth are required to reach a satisfactory standard. Not enough labs have been selected.	The report is unbalanced and focuses heavily on either the benefits or limitations with limited discussion of the other side and minimal critical analysis.	The presented reflections are below average, and they are not related to the case study and Proof of concept. The report does not detail the future trends of DevOps this could be on tools/practices.	Significant improvement is needed in presentation, organisation and referencing.	The conclusion has a lot of gaps and is misleading especially on future directions of DevOps	Referencing is weak, with many citations missing and or incorrectly formatted or omitted from the bibliography. References provided are very few for the length of the report, showing limited engagement with wider reading
Fail	0% - 39%	The introduction is poor, offering little context and almost no coverage of software process models or DevOps tooling	The report provided a very weak/absent discussion on the selected software process model and how it differs/aligns/extends to DevOps.	There is an inadequate discussion of the FOUR selected labs. There is very little evidence of engagement, with major steps not being taken and little evidence that the work is understood. Significant improvement is required to meet the basic standards. Only few labs selected.	Not provided or is unacceptably poor for the expected academic standards at level 7.	Very limited or no evidence of lessons learnt from the lab is demonstrated. Reflections are minimal, superficial, or missing, showing little understanding or engagement with the practical work	The presentation lacks clarity and coherence, making it difficult to follow. The organisation of ideas is disjointed. A thorough review and revision of these areas are necessary to meet academic standards for level 7.	The conclusion is very weak or absent failing to summarise key take-aways and future of tooling in DevOps as a practice.	Very limited evidence of reading is shown, with few or no appropriate sources used to support the report suggesting very little/no engagement with academic sources.

* If your essay submission exceeds the word count limit (3000-word) by up to 10% then there will be no penalty applied. Submissions that exceed the word count by more than 10% will be applied a fixed penalty of 5 percentage points (i.e., 5 marks). In all cases, the penalised mark will not be reduced below a pass level, assuming the work merits a pass. Tables, diagrams (including associated legends), appendices, reference lists, tables of contents, footnotes, and endnotes are excluded from the word count however should be used appropriately.