



Review report of a final thesis

Reviewer: Mgr. Jan Palášek
Student: Aleš Sršeň
Thesis title: Cloud deployment using MLOps tools
Branch / specialization: Software Engineering 2021
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Evaluation criteria

1. Fulfillment of the assignment

- ▶ [1] assignment fulfilled
- [2] assignment fulfilled with minor objections
- [3] assignment fulfilled with major objections
- [4] assignment not fulfilled

I consider the assignment fulfilled.

2. Main written part 97 /100 (A)

The text of this thesis is very well written. It is well structured, understandable and relatively easily readable, given the complexity of the subject matter. I did not find any typographical or language errors. Claims are supported by a lot of sources, where most of them are internet pages with timestamps attached to them. No licensing problems were found.

3. Non-written part, attachments 93 /100 (A)

The complexity of the submitted program is very large, approaching even a complexity suitable for diploma theses. There are a lot of technologies, where each plays a vital role in the final MLOps architecture and cannot be simply extracted. The final program is installable, runnable and deployable. The quality of the code is adequate. The solution is modularized and flexible and can be easily extended. The documentation is incomplete, however the code contains comments.

4. Evaluation of results, publication outputs and awards 97 /100 (A)

The final program submitted in this thesis can be deployed in practice. In case of a need to decrease the cloud infrastructure cost, the flexibility of the program also allows it to be

scaled down to a less demanding infrastructure, while retaining a very similar technological stack, avoiding complexities of difficult rewrites.

The overall evaluation

96 /100 (A)

I consider this thesis to be very well made. The subject matter is new and very difficult. It requires the author to understand concepts from Data Science, Software development and DevOps. The author demonstrates, how concepts from these fields of study can be applied on a real, existing program provided by Profinit EU. The text has a logical structure that can be easily followed and is easily readable. The program is an installable, runnable and deployable piece of software. The quality of the code is adequate, only its documentation is slightly lacking.

Questions for the defense

- Why did you choose Argo Workflows as the underlying workflow orchestrator instead of Apache Airflow?
- How do you handle secrets used in the workflows?

Instructions

Fulfillment of the assignment

Assess whether the submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.

Main written part

Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies?

Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 52/2021, Art. 3.

Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.

Non-written part, attachments

Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.

Evaluation of results, publication outputs and awards

Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.

The overall evaluation

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.