



Supervisor's statement of a final thesis

Supervisor: Ing. Jakub Žitný
Student: Ilya Ryabukhin
Thesis title: Cluster infrastructure for LearnShell: monitoring and logging
Branch / specialization: Web and Software Engineering
Created on: 9 June 2021

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

The assignment was to configure a generic Kubernetes cluster for LearnShell services, with a focus on logging and monitoring, and connect the cluster to GitLab repositories via GitLab CI. Some parts of the current LearnShell architecture do not work inside Docker containers, which is a prerequisite to be compatible with Kubernetes. So additionally, part of the assignment was to adapt the services in order to move them to the cluster as well. Ilya did configure a cluster in Azure, but did not connect it with GitLab and did not adapt the remaining services for containers. These parts were crucial for the whole thesis to be easily built upon and used to actually run the LearnShell platform for the next semester.

2. Main written part 70/100 (C)

The written part is solid and well-structured, the theoretical part shows that the student understands the problem well, although it is not written in an academic voice which would be preferred. The practical part describes a basic working cluster in Azure but is apparent that the student did not spend a lot of time with it.

3. Non-written part, attachments 60/100 (D)

The technology and services used are adequate (helm, Azure, GitHub, ELK).

4. Evaluation of results, publication outputs and awards 50/100 (E)

This work is very hard to build upon and is almost impossible to integrate it with the rest of the work that has been done for improving LearnShell platform.

5. Activity of the student

- [1] excellent activity
- [2] very good activity
- [3] average activity
- ▶ **[4] weaker, but still sufficient activity**
- [5] insufficient activity

6. Self-reliance of the student

- [1] excellent self-reliance
- [2] very good self-reliance
- [3] average self-reliance
- ▶ **[4] weaker, but still sufficient self-reliance**
- [5] insufficient self-reliance

The overall evaluation

55 /100 (E)

As mentioned above, the work is not exactly what was expected. Nevertheless, the student showed that he understands the technologies, and he did create a working cluster that updates with the changes in code (on GitHub), is monitored, and is being logged in services that are currently very popular in the industry. Given the complexity of the whole platform and the assignment itself, I propose to accept this work.

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. 26/2017, 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.

Activity of the student

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations.

Self-reliance of the student

From your experience with the course of the work on the thesis and its outcome, assess the student's ability to develop independent creative work.

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.