Masaryk University
Faculty of Informatics

Monitoring Extension for Microservices Platform SilverWare

Diploma Thesis

Bc. Jaroslav Dufek

Brno, 2017

Declaration

Hereby I declare, that this paper is my original authorial work, which I have worked out by my own. All sources, references and literature used or excerpted during elaboration of this work are properly cited and listed in complete reference to the due source.

Bc. Jaroslav Dufek

Advisor: Mgr. Martin Večeřa

Acknowledgement

Doplnit podekovani.

Abstract

The aim of this thesis is to design and implement monitoring extension for microservices platform Silverware. At the beginning I study current most known microservices platforms and research how they implemented their monitoring part. Then I come up with possible monitoring solution for SilverWare that would be appropriate for the scope of this thesis. Lastly I implement this solution using Hawtio platform as a front-end.

Keywords

microservices, SilverWare, monitoring, JMX, Java, Hawtio, OpenShift

Contents

1 Introduction

1.1 Goals

1.2 Structure of the Thesis

2 Microservices

2.1 What and why

2.2 Existing solutions

2.2.1 Spring Boot

2.2.2 Wildfly Swarm

2.2.3 Dropwizard

3 Microservice activity monitoring

3.1 What, why, how

3.2 Existing solutions

3.2.1 Spring Boot

3.2.2 Wildfly Swarm

3.2.3 Dropwizard

3.2.4 Hystrix Dashboard

3.2.5 Prometheus

4 Design of suggested solution

4.1 Monitored attributes

4.2 Means of monitoring

4.3 Charts

5 Implementation

5.1 What is implemented

5.2 Code

5.3 Tests

5.4 Performance

6 Quickstart demo

7 Conclusion