Master thesis at Imentum spring 2016:

System solution compatibility on different cloud platforms

1 Introduction

1.1 What’s Imentum?
Imentum AB is an IT consultant business with approximately 40 employees with expert skills in the fields system and business development and project management with approximately 40 employees. Offices exist in Uppsala, Stockholm and Linköping. Details are found at http://www.imentum.se/index.php/om-imentum/foeretagsfakta.

1.2 Why master thesis at Imentum?
Imentum will from beginning of year 2016 set the ambition to host two master students each term at the Uppsala office. The reasons are several:
- Imentum considers about the connections between the Uppsala University and the IT businesses in Uppsala.
- Imentum is a growing business and is actively looking to get new influences from enthusiastic students.
- Imentum strongly believes that students can contribute as eye-opener for new techniques.

1.3 Objective
The objective of the master thesis is to investigate how extensive and to what level a software solution can be ported from one cloud platform to another.

1.4 Time plan
The master thesis is carried out at Imentum’s premises in Uppsala during January to June year 2016. Interviews will commence at 2016-01-18.
1.5  Contact
Supervisor and contact for the master thesis is Petter Lönnstedt, petter.lonnstedt@imentum.se, phone 0725-19 96 59.

2  How the objective is achieved
The master thesis objective are achieved on basis of the following:

- Gain knowledge of how a cloud platform works and which services are provided by different suppliers.
- Gain knowledge of how a full-scale software system works with respect to distribution, communication, re-use and functionality.
- Implement a simple software system in ASP.NET and deploy it on Microsoft Azure.
- Port the software system to another cloud platform (free of choice, but Google App Engine is one of the options) and analyze which steps are required. How do the cloud platforms differ with respect to usability, technique, implementation support, reliability, cost etc?
- Result presentation and a quick workshop with the Imentum employees to share the knowledge.

3  Prerequisites
Below is a list of prerequisites that will make the master thesis easier. Skills about details are not required, but a brief knowledge about the concept is needed:
- Understanding of the cloud concept and cloud engines like Azure and for example Google App Engine
- Ability to compare software platforms and frameworks
- Object oriented analysis and design
- C#, .NET, ASP.NET and Java, Visual Studio and some Java development environment
- Relational databases
- A strong passion to learn new techniques
- Ability to work independently

3.1 Overview
The following image presents a simple overview.
Portable from Azure?

WCF?

Database manager (portable from Azure?)

Database (generated through code first?)

Client (browser)

GOOGLE APP ENGINE OR OTHER EQUIVALENT CLOUD PLATFORM

Portable from Azure?

Database manager (portable from Azure?)

Database (generated through code first?)

Client (browser)