CloudML - A DSL for model-based realisation of applications in the cloud

Spring 2012

Abstract

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Contents

1 Introduction

Short about my problem, why it's important and whats to be found in the thesis

- Summarize the **problem**
  Challenges from CloudMDE
  - Information dependency at runtime
  - Technical competence/level expectations
  - Reproducibility
  - Robustness
  - Complexity
  - Shareable

- Short description of terms used
  - Cloud (computing)
  - Model-driven engineering
  - Provider (cloud provider)
- Why is it an important problem
  Ranting...
  - Cloud domain is state of the art
  - model driven approach with benefits (no special tooling)
  - Easier for businesses (especially SMBs) to reach out to Cloud
  - Easier for larger more time-constraint businesses to try out the cloud
  - Opening the eyes of big providers for a larger cross-cloud language
- Shortly mention CloudML
  Summary from chap 3 in CloudMDE
- Shortly mention cloudml-engine
  Copy/paste implementation paragraph from CloudMDE
- Summarize chapters of thesis

2 Background

Explain some of the topics in my thesis

- What is cloud computing and IaaS
  - Summarize nist definition of cloud
  - Short description of AWS
  - Short description of Rackspace
- What is model-based engineering and benefits.
  Core concepts
- Business viable perspective.
  Relevance to business...

3 State of the Art in Model-based Multicloud Provisioning

What have others done for multicloud provisioning

- Model driven

  - Amazon CloudFormation
  - CA Applogic
- APIs
  - libcloud
  - jclouds
  - Deltacloud
- Deployments
  - Amazon Beanstalk
  - simplifying-solution-deployment-on-a-cloud-through-composite-appliances
  - architecture-for-virtual-solution-composition-and-deployment

4 Problem

- Outline the problem
  - Challenges again - but more detailed
- State how the problem is not solved by any suggestions in my 'state-of-art' section
- Why is it important to solve the problem
  - Where can cloudml be used
  - Who would use it
- Introduce *BankManager*, case study
  - What it can do
  - Technologies used
  - Why it is relevant
    * Enterpriseish setup
    * Copy from CloudMDE chap 2

5 CloudML

- Templates (and account)
  - Copy chap 3 from CloudMDE
  - Weaknesses
- cloudml-engine

  - More info than CloudMDE
  - Technologies chosen
  - Why technologies were chosen
- Combination of cloudml-engine and *BankManager*
  - How BankManager proves concepts of the templates (subsection 1) with cloudml-engine

6 Conclusion

- Summary of CloudML
  - What subsection in solution solves what subsection in problem
- Templates (and account)
- cloudml-engine