Alpha Presentation
Infinity Gauntlet

The Capstone Experience

Team Kohl’s
Andrew Gardner
Gary M. Service
John Foss
Kaiwen Jiang
Srikar Kante

Department of Computer Science and Engineering
Michigan State University
Fall 2023
Project Overview

• Kohl’s does lots of development
• Managing cloud service providers is hard
  ▪ Amazon Web Services
  ▪ Google Cloud Platform
• The Infinity Gauntlet aims to streamline this
• Creating one platform
• Devs can spin up server with as few clicks as possible
System Architecture
Home Screen
# Config Selection Screen

![Config Selection Screen](image-url)

<table>
<thead>
<tr>
<th>Name</th>
<th>System</th>
<th>Owner</th>
<th>Type</th>
<th>Lifecycle</th>
<th>Description</th>
<th>Tags</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>virtual-machine-cfg</td>
<td>tm-kohls</td>
<td>John</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>storage-bucket-cfg</td>
<td>tm-kohls</td>
<td>Andrew</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tpu-cfg</td>
<td>tm-kohls</td>
<td>Srikar</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sql-azure-cfg</td>
<td>tm-kohls</td>
<td>Gary</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>app-services-cfg</td>
<td>tm-kohls</td>
<td>Kaiwen</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>network-cfg</td>
<td>tm-kohls</td>
<td>John</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>settings-cfg</td>
<td>tm-kohls</td>
<td>Andrew</td>
<td>cfg</td>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Create Component from Template

Create a New Component

Available Templates

<table>
<thead>
<tr>
<th>Template</th>
<th>Description</th>
<th>Owner</th>
<th>User</th>
<th>Tags</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCP (Storage Bucket Template)</td>
<td>Template that creates a storage bucket in Google Cloud Provider</td>
<td>user:guest</td>
<td>user:guest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWS (Elastic Container Service)</td>
<td>Template that creates a storage bucket in Google Cloud Provider</td>
<td>user:guest</td>
<td>user:guest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azure (Windows Virtual Machine)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCP (Data Transfers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Create Component Configuration
What’s left to do?

• Backstage scripts in wrong directory
• Pass input to scripts
• Ensure scripts only run when invoked
  ▪ Scripts run on launch
  ▪ Pass parameter to only run in template
• Update Terraform to work with other providers
• Expand template functionality
• Handle server deployment
Questions?