Patrick Hoolboom Interview

Agenda

- Kick Off The Demo
- Introduction
- Scenario
- Solution
- Testing
- Challenges
- Roadmap

First, Let’s Kick Off The Demo!

Introduction

Patrick Hoolboom

- 15 Years Industry Experience
- 9 Years DevOps Experience
- Former Amazon Web Services Professional Services Consultant
- AWS Certified DevOps Engineer - Professional

Scenario

Problem Statement

A potential client, XYZ, is a traditional on prem infrastructure shop that is interested in moving to the cloud. Developers have been complaining about kickstarting new environments, long lead times and cycles for development, and lack of consistency between their environments. Management has also been complaining about downtime during deployments and code quality being released into production.
Liatrio has been tasked with showing XYZ how to potentially do this. They want to migrate to the cloud and they've recently been interested in containerization (and maybe k8s?).

Requirements

Commit all code to a public git repository.

Include a README.md containing detailed directions on how to run, what is running, and how to cleanup.

Provide a single command to launch the environment and deploy the application.

Some prerequisites are OK as long as they are properly documented.

Requirements Cont.

We should be able to deploy and run the application in our own public cloud accounts.

Include some form of automated tests to validate the environment.

Presentation (deck or medium of your choice)

Demo prep call with one of the Liatrio engineers

Solution

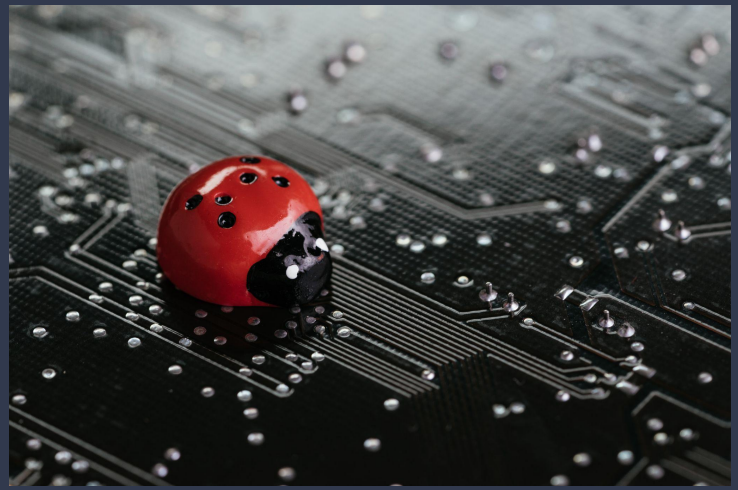
HashiCorp Terraform

- VPC Module
- EKS Module
- IRSA Module
- Kubernetes Provider
- Helm Provider
- Terratest

- Flask Application
- Pytest

- v1.25
- One EKS managed node group

Infrastructure Testing - Terratest



Prerequisites

- deploy_app = false

VPC

- VPC Name
- Verify Public Subnets are Public
- Verify Private Subnets are not Public

EKS

- Verify Node Group Size
- Verify *k8s.io/cluster-autoscaler/enabled* Tag on Node Group Instances

Kubernetes

- Verify All Nodes Are Ready
- Create Deployment & Service, Then Verify Service Is Available

Challenges

- EKS Provisioning Time
- Initially Believed EKS Was Deployed With The Load Balancer Controller
- Permissions Issues With Load Balancer Controller
- Time Outs Removing ALB Ingresses

Roadmap

- Fix Terraform Destroy Issue
- Remote Terraform State
- Support Additional Node Groups
- DNS
- Research Fargate
- Additional Infrastructure Testing

Thank You!