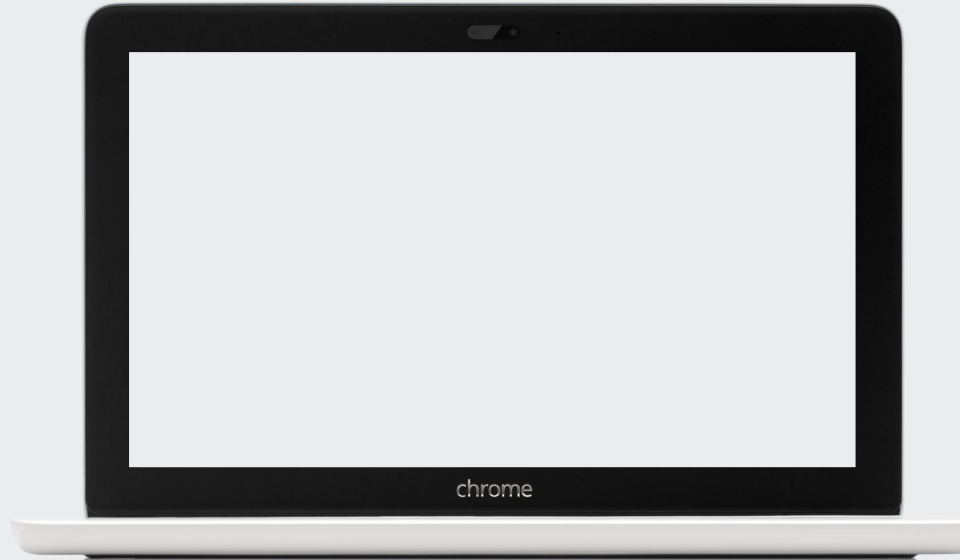




Infrastructure & Deployment

Solution & Demo
By Prasanna



Outline

- ★ Architecture
- ★ Demo
- ★ Other Features
- ★ Things to Improve

Architecture

Design Principles

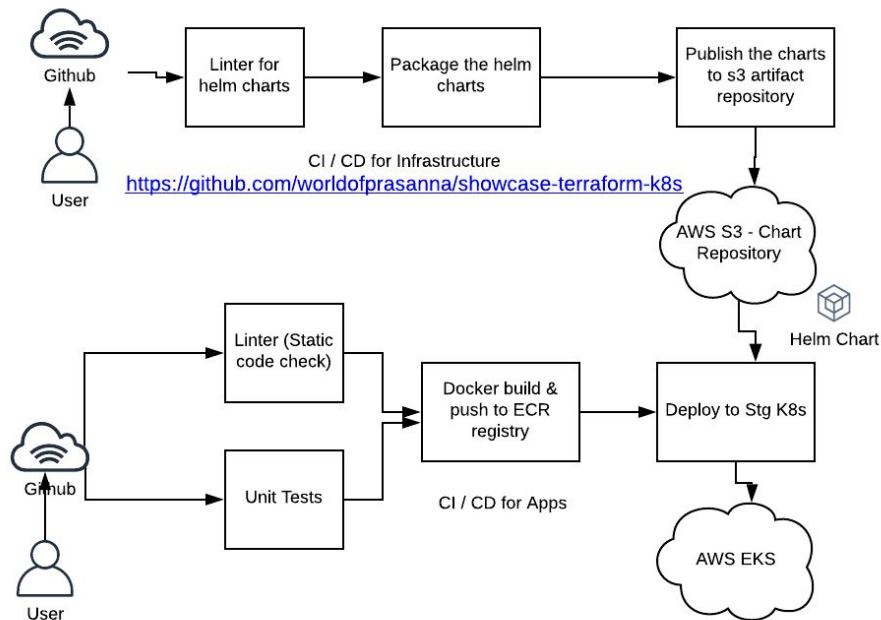
- Secure apps & Infra components
- Ease of use
- Scalable to large system
- Document it & Reproducible
- Test it out



Tech Stack

- Cloud provider: **AWS**
- Container Orchestrator: **AWS EKS (Managed Kubernetes)**
- Infrastructure Provisioner: **Terraform**
- Package Manager: **Helm**
- CI / CD tool: **CircleCI**
- Logging Solution - **Elasticsearch, Fluentd, Kibana**
- Monitoring: **Prometheus, Grafana**
- CDN: **AWS Cloudfront**

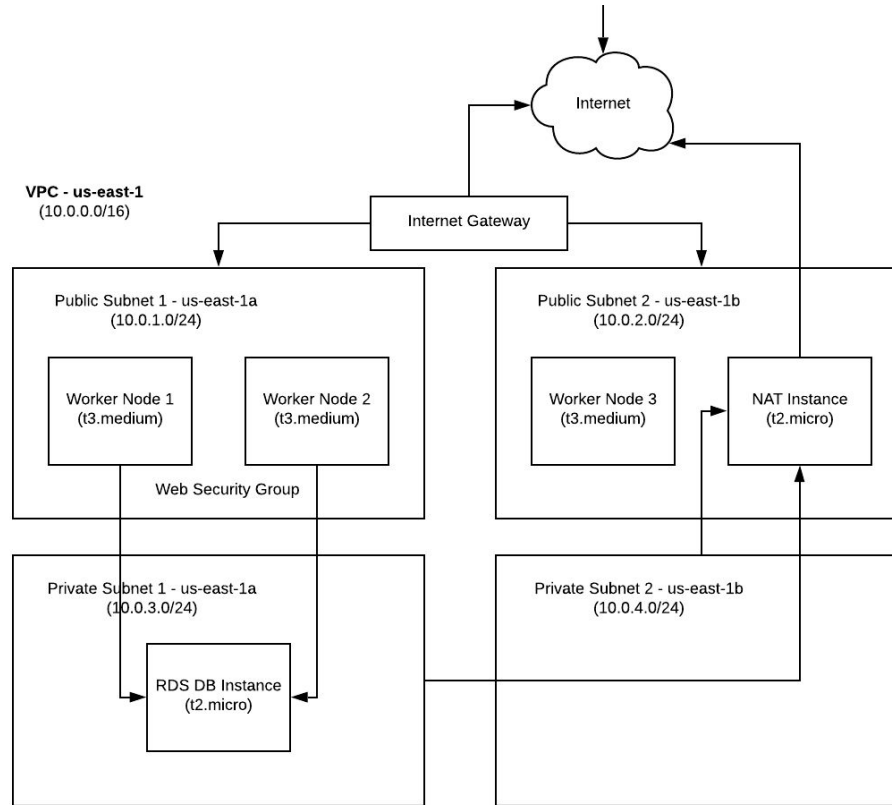
How to make a change to the system?



Few Information

App Version	Git Commit SHA
Docker Tags	Git Commit SHA
Helm chart Version	Manual increment
Terraform state	Maintained in S3 bucket
Chart repository	Maintained in S3 bucket

Network diagram for components





Demo

- CI / CD Pipelines
- Provisioning Infrastructure (Running Terraform scripts)
- Logging solution
- Monitoring solution



Other Features

- Pipeline for Helm charts
- Automation through shell script to provision Infrastructure
- Infrastructure cost report as a function
- Structured Logging using Fluentd
- Pipeline for Infrastructure provisioning
- Resource quota based on Namespace
- Unit testing for TF scripts using **terratest**
- Kube monkey to do chaos testing



Thanks