Team:-

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Shreya (Jenkins & Docker)

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Outline

- Problem Statement
- Objective
- Technology and Tools Used
- Project Architecture
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- Project Flow
- Terraform
- Ansible
- Docker Compose
- Kubernate Architecture
- Conclusion

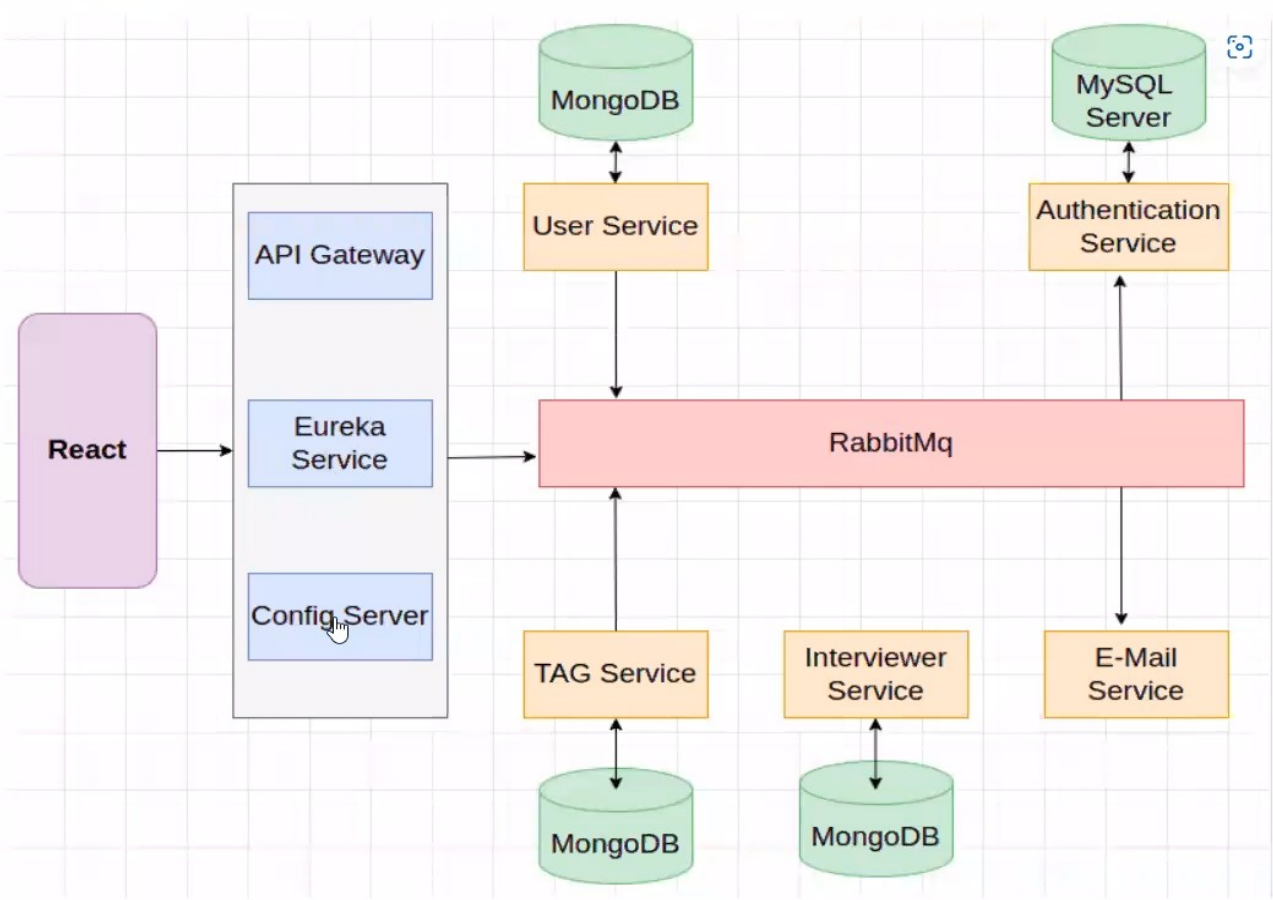
Problem Statement

Design and develop tasks required to build CICD pipeline using learned technologies to deploy *BookMySlot application* to cloud platform as a set of micro services on containerized platform such as docker and Kubernetes. Provision Infrastructure using terraform on aws, and configure same using Ansible.

OBJECTIVE

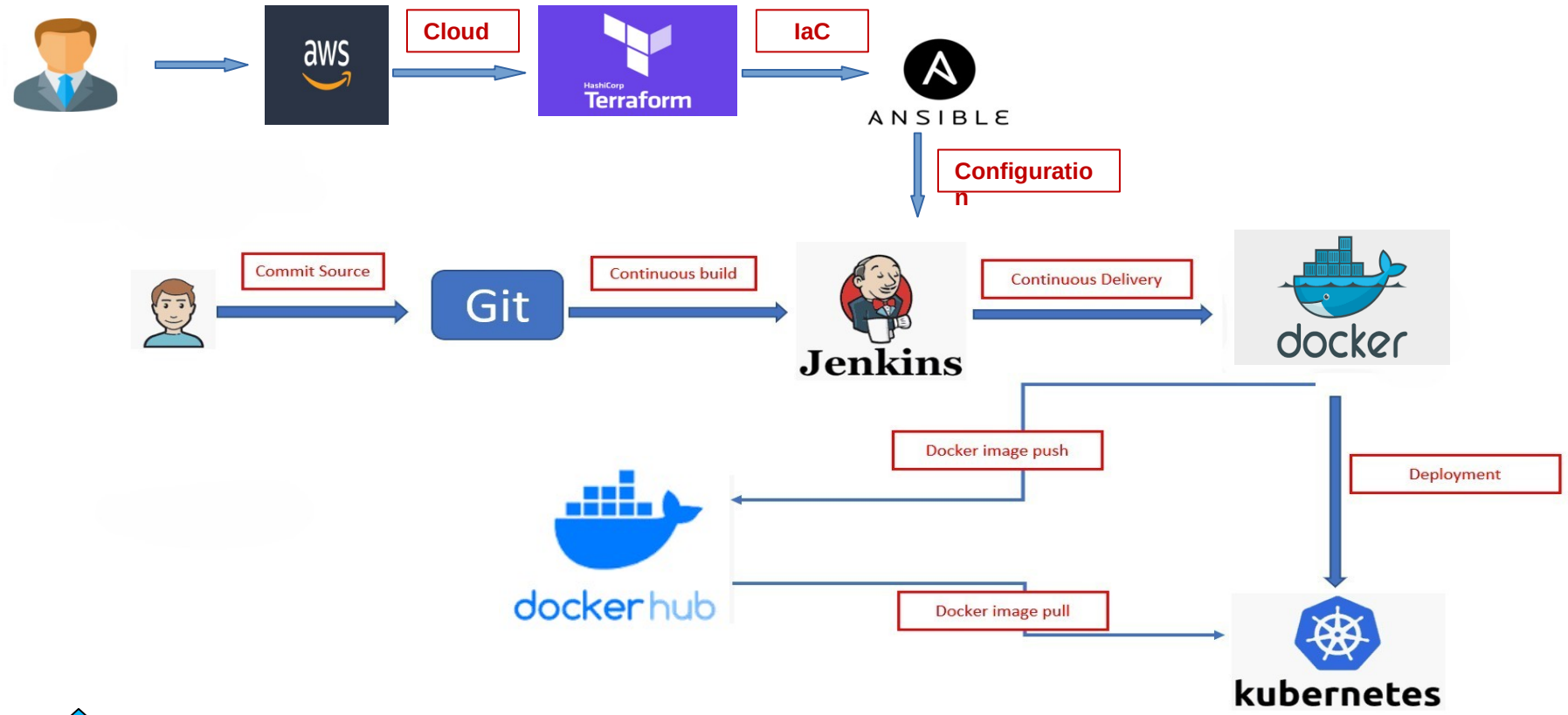
Our objective is to provide best online service for booking the slots for the interview so that Interviewer can book slot as per their schedule.

Project Overview

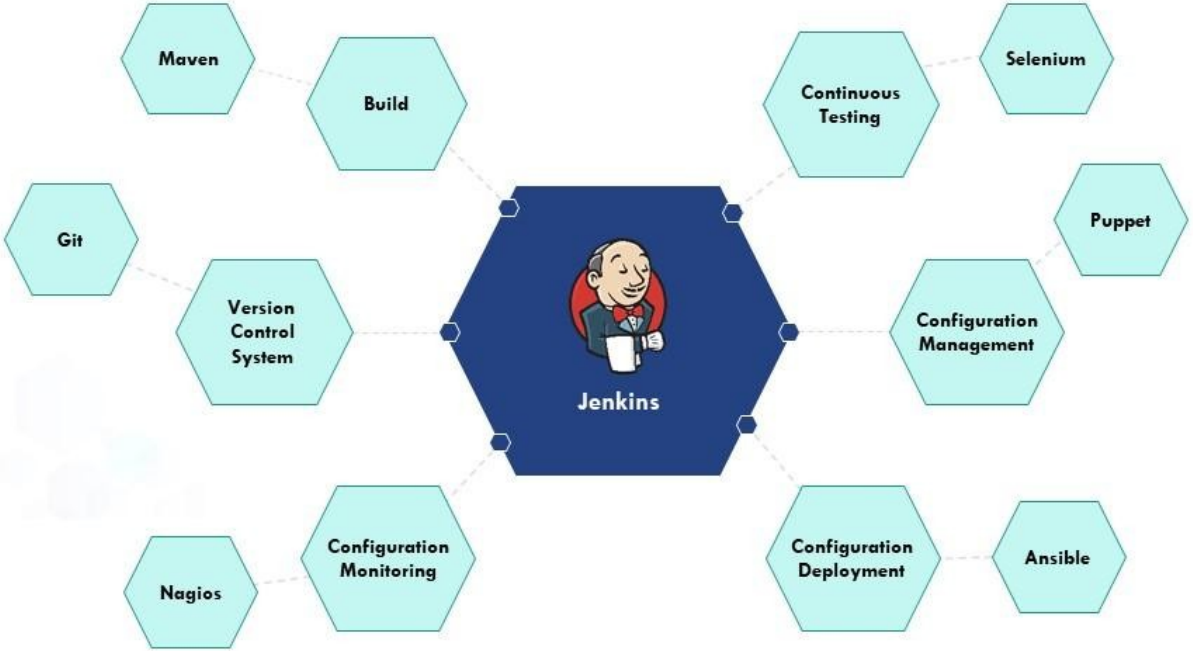


Technologies and Tools Used

Project Architecture



Continuous Integration in Jenkin



Project flow

Home

Sign In

Sign up

Interviewer

Tag Team

Interviewer

Tag Team

Availability

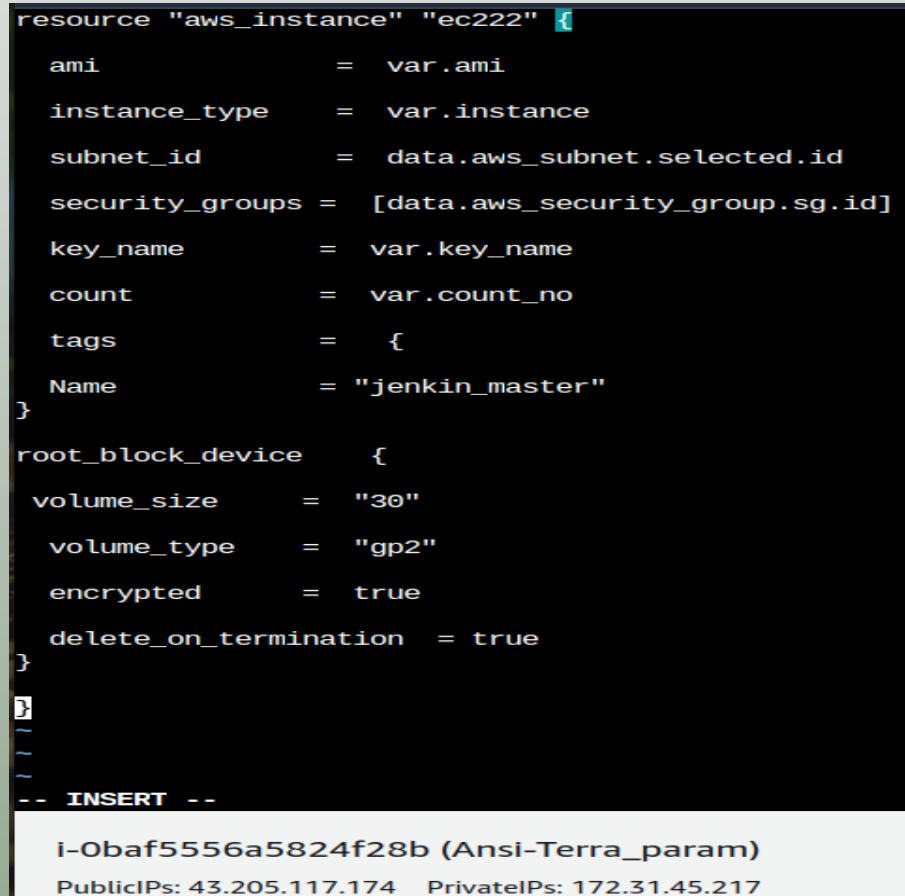
Add Slot

Department

Book Slot

TERRAFORM

- **Terraform has all necessary tooling for configuring servers and provisioning infrastructure.**
- **Terraform is an immutable infrastructure tool.**
- **It is a flexible tool.**



Ansible

- Ansible is an open source IT Configuration Management tool.
- It aims to provide large productivity gains to a wide variety of automation challenges.
- Very simple to use.
- Flexible and Agent less.

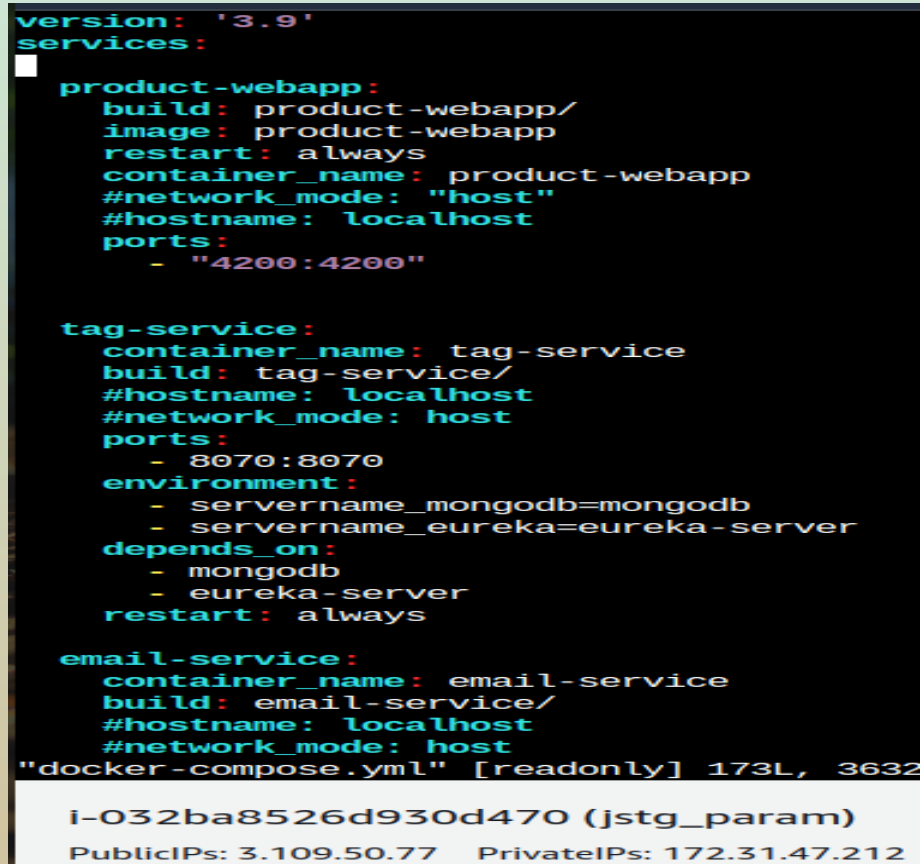
```
---
- hosts: jenkin_master
  become: yes
  #remote_user: ec2-user
  #become_user: root
  tasks:
  - name: Download Long Term Jenkins release
    get_url:
      url: https://pkg.jenkins.io/redhat-stable/jenkins.repo
      dest: /etc/yum.repos.d/jenkins.repo

  - name: Import jenkins key from url
    ansible.builtin.rpm_key:
      state: present
      key: https://pkg.jenkins.io/redhat-stable/jenkins.io.key

  - name: yum update
    yum:
      name: '*'
      state: latest

  - name: Install java
    yum:
      name: java
      state: latest

  - name: Install jenkins
    yum:
      name: jenkins
      state: latest

  - name: daemon-reload to pick up config changes
    ansible.builtin.systemd:
      daemon_reload: yes
```

i-0baf5556a5824f28b (Ansi-Terra_param)

PublicIPs: 43.205.117.174 PrivateIPs: 172.31.45.217

Docker-Compose

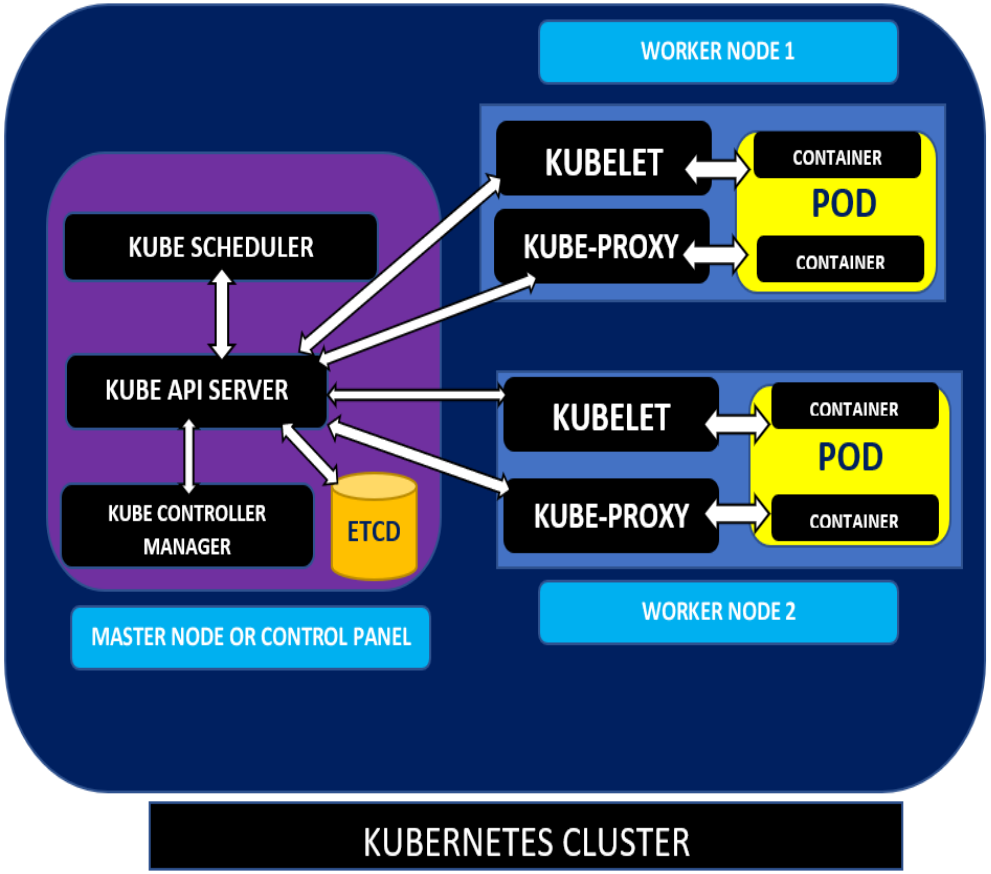
- Compose is a tool for defining and running multi-container Docker applications.
- With Compose, you use a YAML file to configure your application's deployment and services.



Kubernetes Architecture

Advantages of Kubernetes:-

- Kubernete Automates Containerized Environments.
- Scaling Up and Down.
- Strong Open Source Communities.
- Improve Developer Productivity.



Errors faced

1) ApiGatewayApplicationTests.contextLoads » Failed to load Application.
Soln: Maven Plug-in added into pom.xml of Api_Gateway

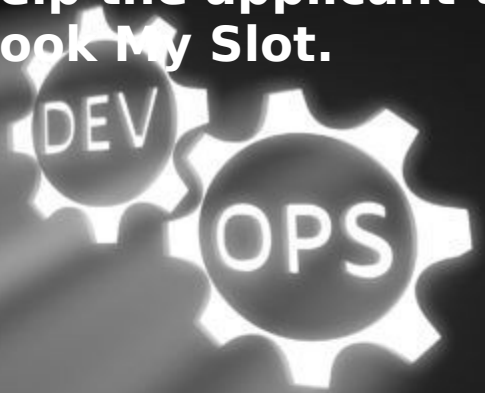
2) Cross-Origin error while sign Up
Soln: this appln deployed with diff domain name we changed that domain with our domain(IP).

3) Containerd-shim-runC-v2 file was missing
Soln: installed the containerd package once again using (yum reinstall container docker)

4) permission denied to *var*/run/docker.sock
Soln: permission given to docker.sock using (chmod a=rwx cmd)

Conclusion

This Web Application is designed to help the applicant to book interview slot from the Book My Slot.




Thank You...