

## EMPLOYEE-MANAGEMENT IMPLEMENTED FEATURES:

### PROJECT INFRA:

#### 1. GITLAB – CI Tool . (File - gitlab-ci.yml)

Stages are

- Mvn clean install
- Docker build and docker push
- Terraform validate
- Terraform plan
- Terraform force apply
- Deploy the docker image

#### 2. TERRAFORM for Provisioning Environment in GCP ( GKE Cluster) ( package – /terraform)

- Node count 3 ( High Availability)
- Kubernetes Deployment ( Blue-Green Deployment)
- Easy to maintain the environment

### APPLICATION FEATURES:

1. SpringBoot 2.1 and Java 8
2. Extensive use of Functional Programming.
3. Global Logging of Request and Response to output file. Package – com.employee.logmanager
4. Global Exception Handler.
5. JWT Authentication and Authorization. Package – com.employee.security
6. Actuator for application health management. Package – com.employee.health
7. Async Thread usage for lower latency. (Yet to fully implemented)
8. Scheduler to calculate salary for employees for every 30 days
9. Swagger document for all API and DTO and Controller documentation
10. Elastic search to maintain index of logs to debug the application easily
11. ELK is completely Dockerized with Docker application.
12. Docker File which generates Docker Image at Gitlab Docker Stage. Can also be manually triggered ( docker build -t employee .)
13. Docker compose file which builds single network bridge to run ELK and docker image of application and also other applications can be used by just adding proper image here ( docker-compose.yml)  
Manually can be triggered by ( docker-compose build, docker-compose up)
14. Kubernetes Deployment. (deployment.yaml)
15. ELK cluster K8's Deployment. ( Other Yaml files in parent folder)

16. Kubernetes Deployment in GCP with desired count 3. Make sure that it can handle Heavy load Spike up of request also.

17. Application can be scaled up Horizontally anytime by just increasing the node count and cluster in K8's . ( in Terraform folder main.tf )

18. Design Patterns and other SOLID and KISS principle are used wherever possible.