

Accuknox Assignment

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Task 3:

Problem Statement 3 (Technical):

Step #1:

- Create a GoLang Program which reflects the current date & time and host it on GitHub
- Push that code to DockerHub
- In other words: Use docker to create a web application with date & time as the only content

Step #2:

Using the declarative approach to deploy the container with 2 replicas to k8s

Step #3:

Expose the app to the Internet (on WAN)

Resource Hint/Help:

- For k8s resources, you can use Qwiklabs (<https://www.qwiklabs.com/> (<https://www.qwiklabs.com/>)) it gives you around 30 to 60 mins of k8s resources or you can use your own GCP account or any online available platform like <https://labs.play-with-k8s.com> (<https://labs.play-with-k8s.com>), etc

Solution:

- Created a GoLang Program which reflects the Current date and Time and Hosted it on Github.

```
1  package main
2
3  import (
4      "fmt"
5      "net/http"
6      "time"
7  )
8
9  func handler(w http.ResponseWriter, r *http.Request) {
10     currentTime := time.Now().Format("2006-01-02 15:04:05")
11     fmt.Fprintf(w, "Current Date & Time: %s", currentTime)
12 }
13
14 func main() {
15     http.HandleFunc("/", handler)
16     fmt.Println("Server started on port 8080")
17     http.ListenAndServe(":8080", nil)
18 }
19
```

GitHub link: https://github.com/prakashravi5/Accuknox_Assignment

- Pushed the code to docker.

Docker Link:

<https://hub.docker.com/repository/docker/prakashravi7483/go-datetime-app>

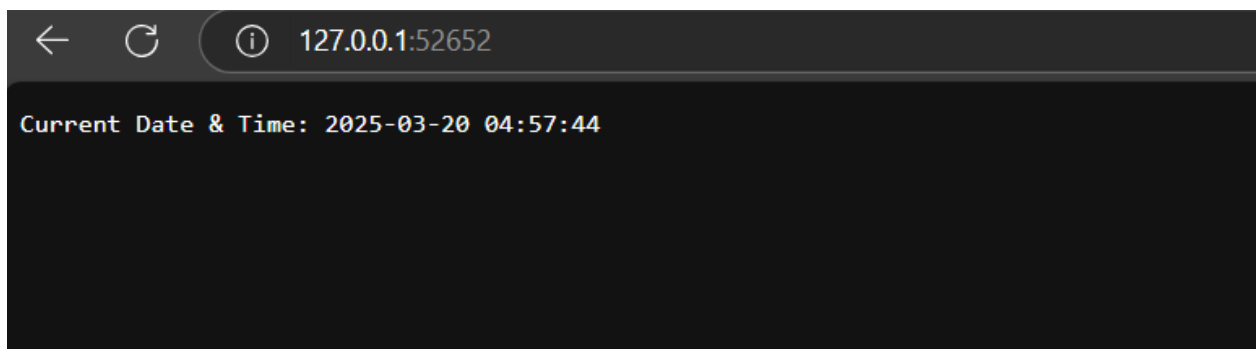
- Deployed the container with two replicas to a Kubernetes (K8s) cluster using the declarative approach. All files added to github, Deployment.yaml file for 2 replicas and Service.yaml
- Screenshot running on local machine using minikube

```
PS C:\Users\ravi0\go-datetime-app> kubectl apply -f service.yaml
service/go-datetime-service created
PS C:\Users\ravi0\go-datetime-app> kubectl get svc

```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
go-datetime-app	LoadBalancer	10.111.131.34	127.0.0.1	8080:32541/TCP	8h
go-datetime-service	LoadBalancer	10.104.70.165	<pending>	80:30982/TCP	33s
kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	26h

```
PS C:\Users\ravi0\go-datetime-app> minikube service go-datetime-service --url
http://127.0.0.1:57206
? Because you are using a Docker driver on windows, the terminal needs to be open to run it.
```

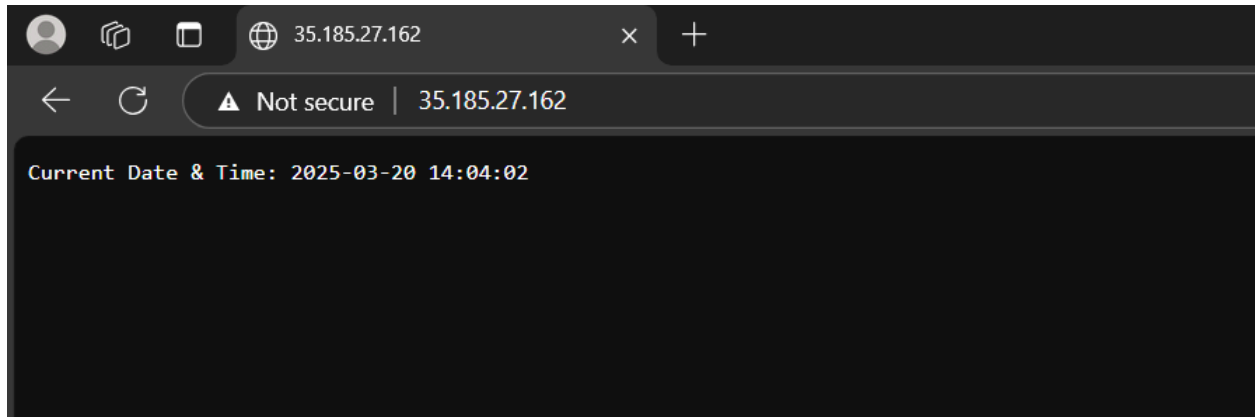


- Used Qwiklabs and got the cluster --zone=us-east1-d for 45 min.
- Deployed on GCP.

```
student_03_2bd3b5f59a15@cloudshell:~ (qwiklabs-gcp-04-f9b12d2acb6a)$ kubectl apply -f deployment.yaml
error: the path "deployment.yaml" does not exist
student_03_2bd3b5f59a15@cloudshell:~ (qwiklabs-gcp-04-f9b12d2acb6a)$ kubectl apply -f deployment.yaml
deployment.apps/go-datetime-app created
student_03_2bd3b5f59a15@cloudshell:~ (qwiklabs-gcp-04-f9b12d2acb6a)$ kubectl apply -f service.yaml
service/go-datetime-service created
```

```
student_03_2bd3b5f59a15@cloudshell:~ (qwiklabs-gcp-04-f9b12d2acb6a)$ kubectl get svc
NAME                                TYPE                CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
go-datetime-service                LoadBalancer       34.118.225.201  35.185.27.162   80:30252/TCP     52s
kubernetes                         ClusterIP           34.118.224.1    <none>           443/TCP          8m18s
```

- Our App is running on GCP Successfully.



All the files uploaded on git repo.