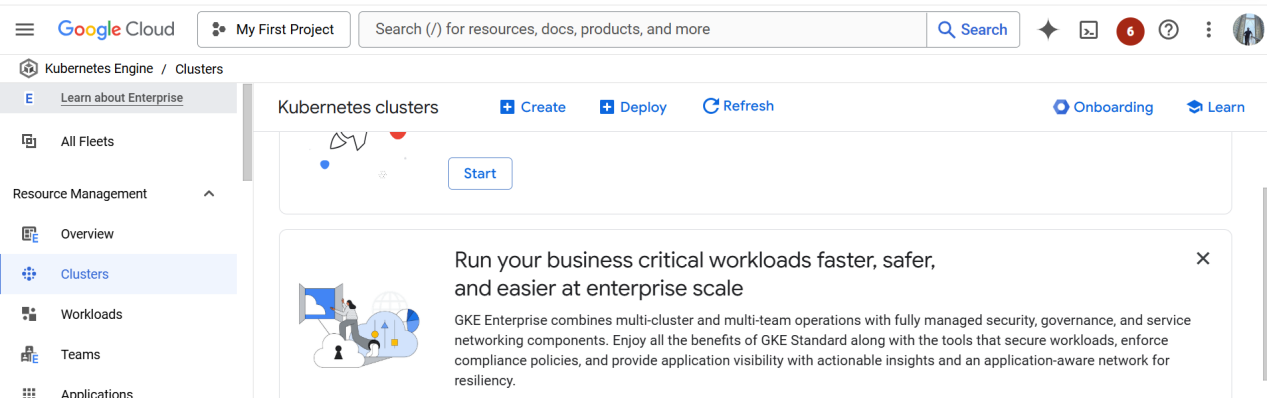
* Create the **google cloud console** free account
* It is a two step process
* It is deducting the 2 rupees from your account and it will give the 330$ free credit points.

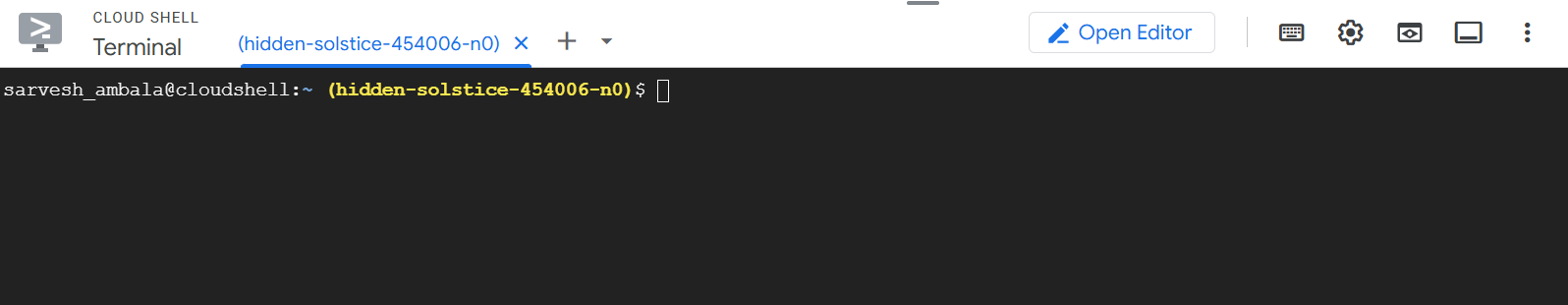
**NOTE: Don’t active the full account**

* Once the account is created u can login to google cloud console



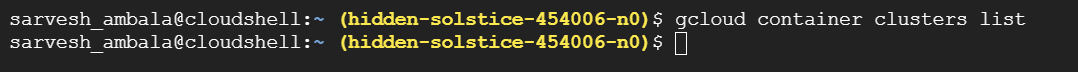
* NOW CREATE THE KUBERNETES CLUSTER

Open the cloud shell



To see the cluster list run the below command

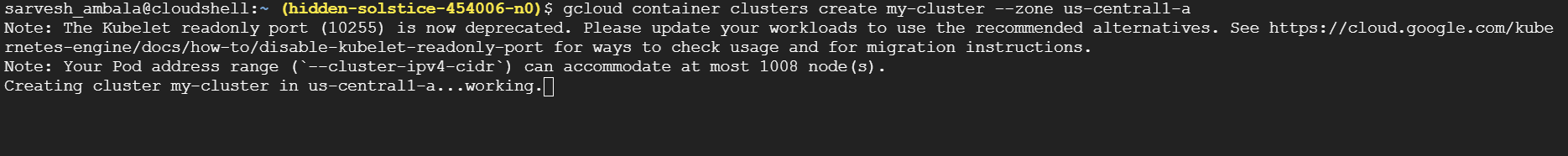
Gcloud container clusters list ( no clusters are there)



You create the cluster with below command

gcloud container clusters create my-cluster --zone us-central1-a

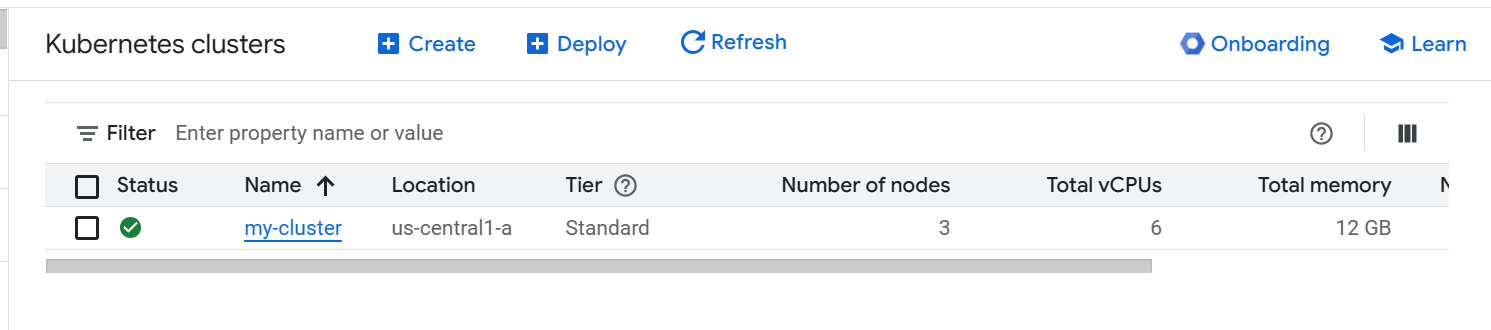
Cluster creation is taking 5 to 10 mints time



Once the cluster is created u can see the below message automatically

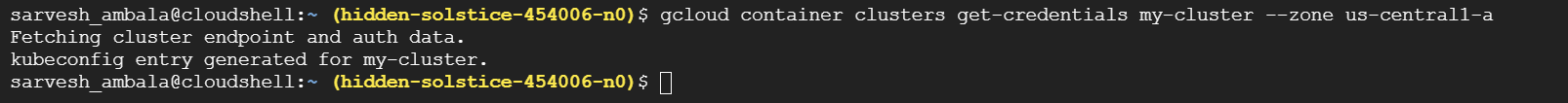


Now u go and check kubernetes engine--->cluster , you can see the my-cluster is running

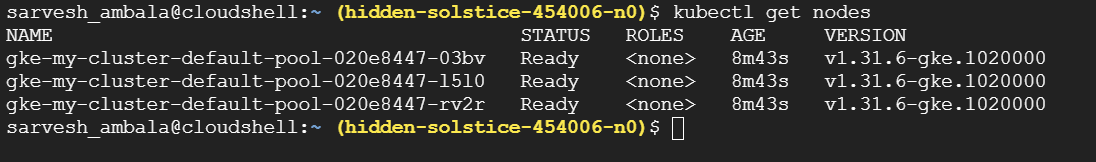


Run the below command

gcloud container clusters get-credentials my-cluster --zone us-central1-a



To see the list of nodes

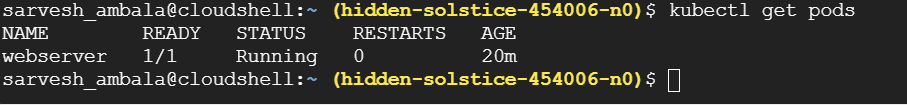


Create the pods

Kubectl run --image tomcat webserver

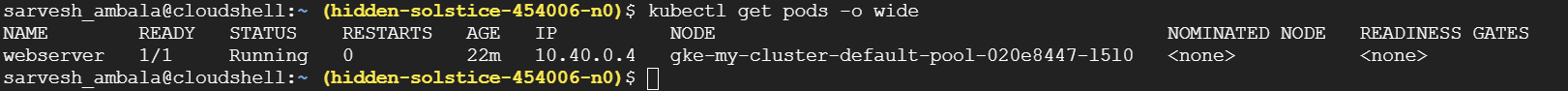


To see the pods list



To get the list of pods along with ip address and which node the pod is running

Kubectl get pods -o wide



Actually u can create the pod using definition file

Create pd-df1.yaml

Vim pd-df1.yaml

apiVersion: v1

kind: Pod

metadata:

name: jenkins-pod

spec:

containers:

- name: myjenkins

image: jenkins/jenkins

ports:

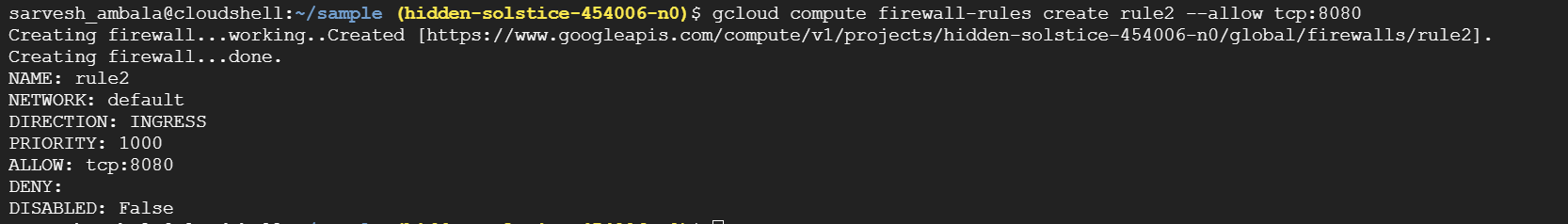
- containerPort: 8080

hostPort: 8080

for accessing the application u need to open the port

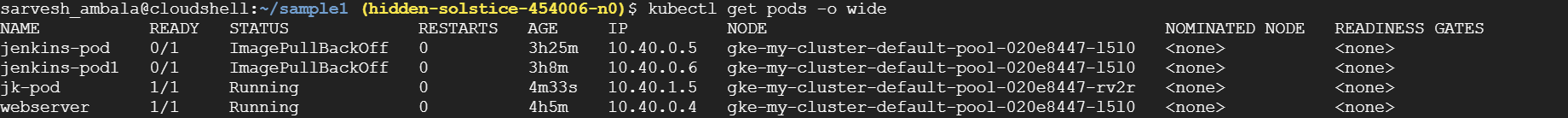
How to open the port

gcloud compute firewall-rules create rule2 --allow tcp:8080

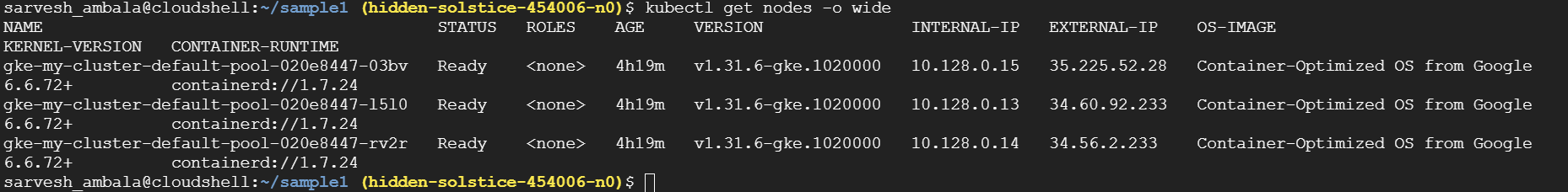


Kubectl create -f pd-df1.yaml

Kubectl get pods -o wide



Kubectl get nodes -o wide

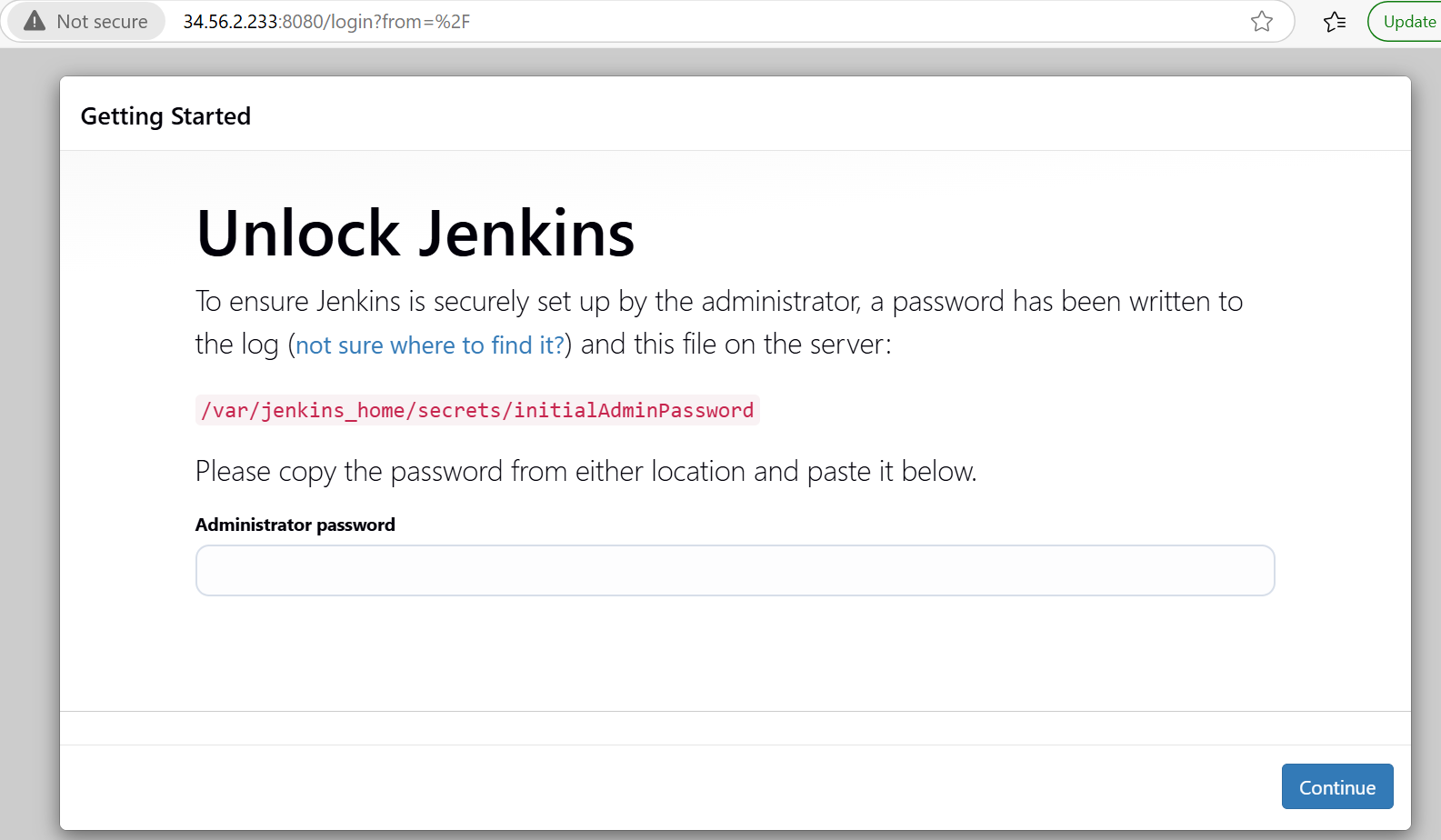


How can we access the pod

Take the external ip add the port no 8080

Open the browser paste ipaddress:8080

Now u can able to see the jenkins

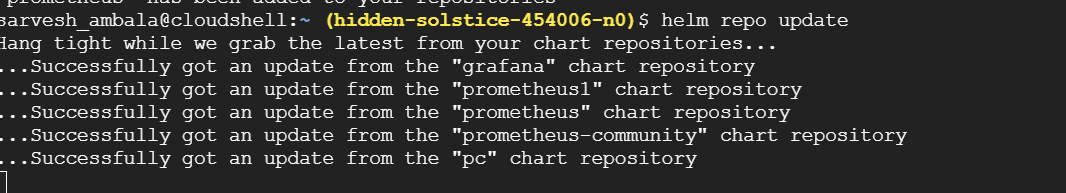


**PROMETHEUS SETUP:**

helm repo add prometheus <https://prometheus-community.github.io/helm-charts>

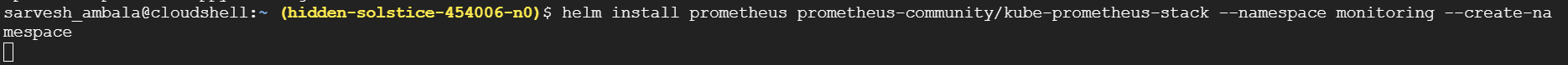


helm repo update



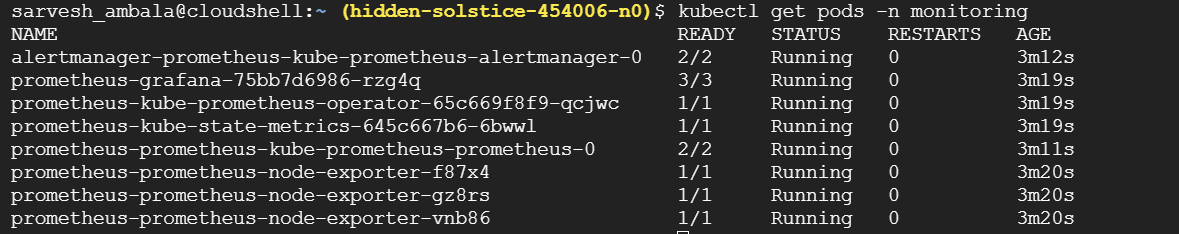
helm install prometheus prometheus-community/kube-prometheus-stack --namespace monitoring --create-namespace

This will install prometheus,alermanager and grafana

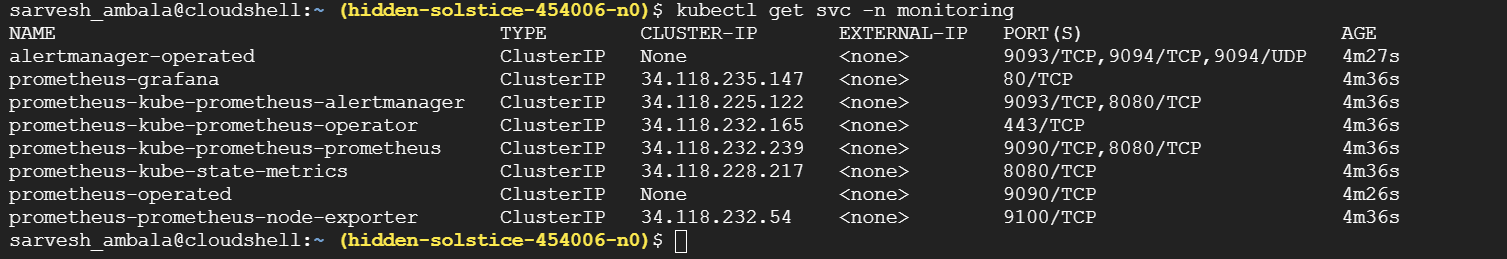


Check the prometheus pods and services

kubectl get pods -n monitoring

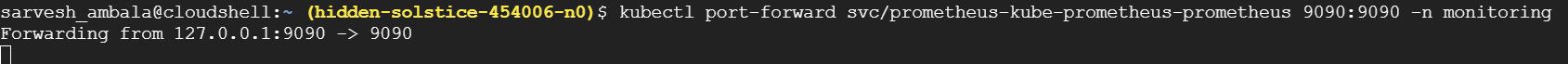


kubectl get svc -n monitoring



Access prometheus and port forwarding

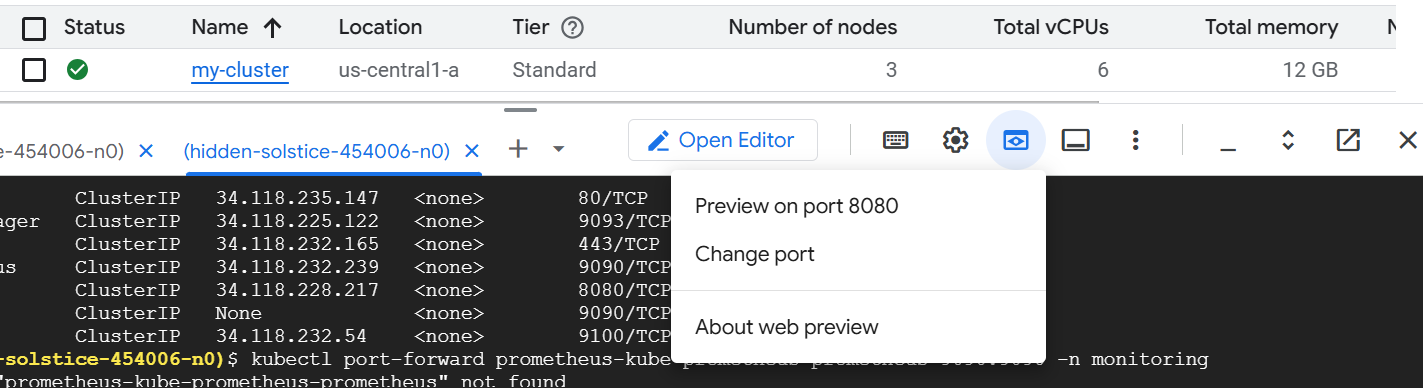
kubectl port-forward svc/prometheus-kube-prometheus-prometheus 9090:9090 -n monitoring



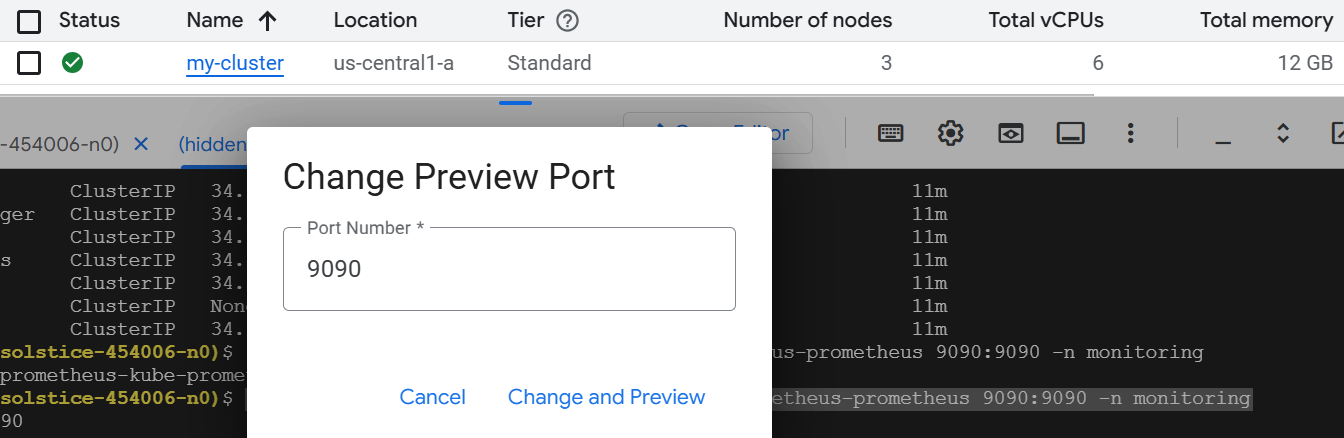
Click on the webpreview



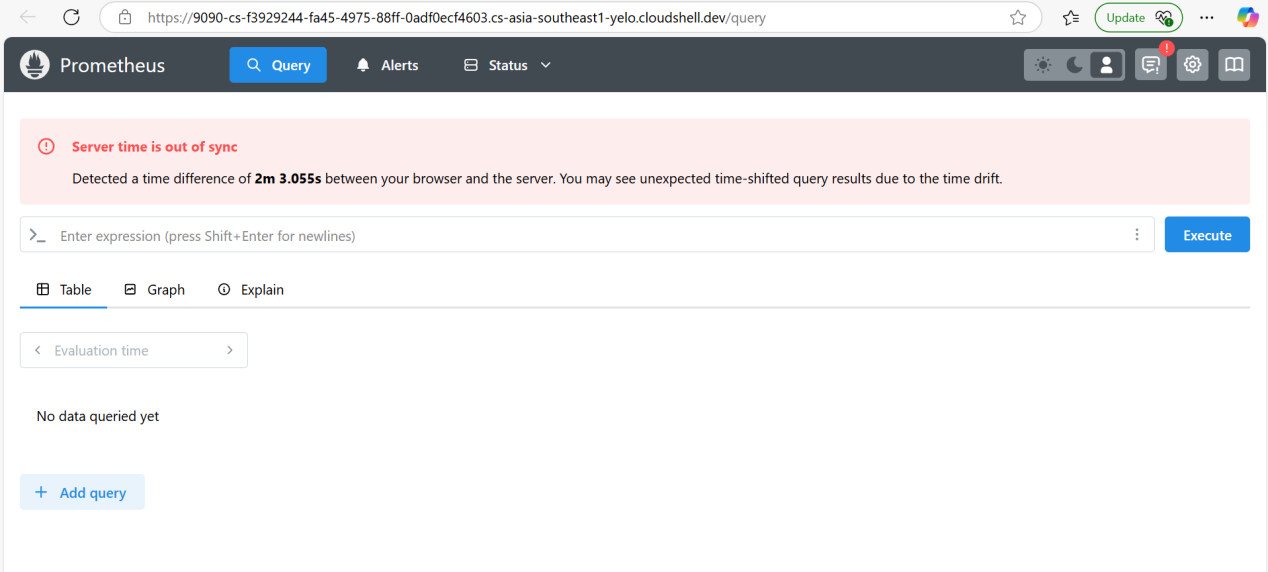
Change port no to 9090



Click on change and preview



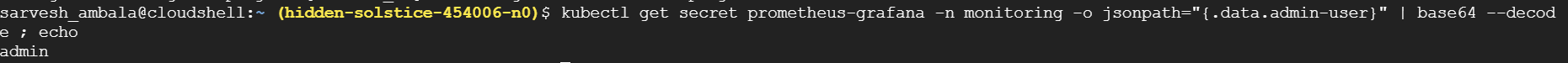
Now u can able to see prometheus in the browser



**ACCESS GRAFANA :**

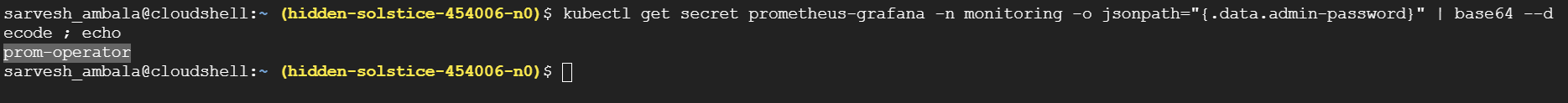
kubectl get secret prometheus-grafana -n monitoring -o jsonpath="{.data.admin-user}" | base64 --decode ; echo

If you run the above command u can see the username for grafana (**admin**)



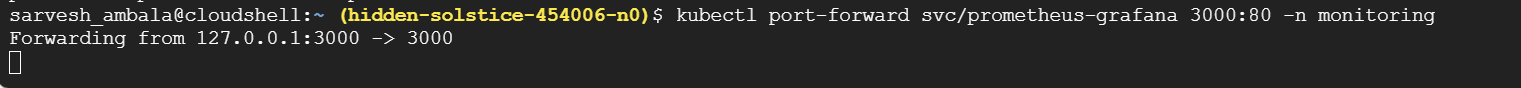
kubectl get secret prometheus-grafana -n monitoring -o jsonpath="{.data.admin-password}" | base64 --decode ; echo

If you run the abvoe command u can see the password for grafana (**prom-operator**)

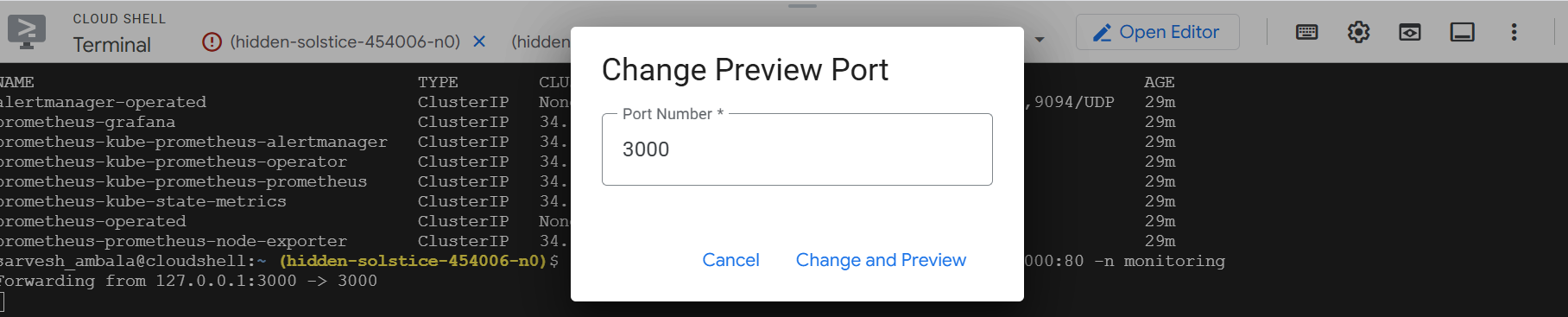


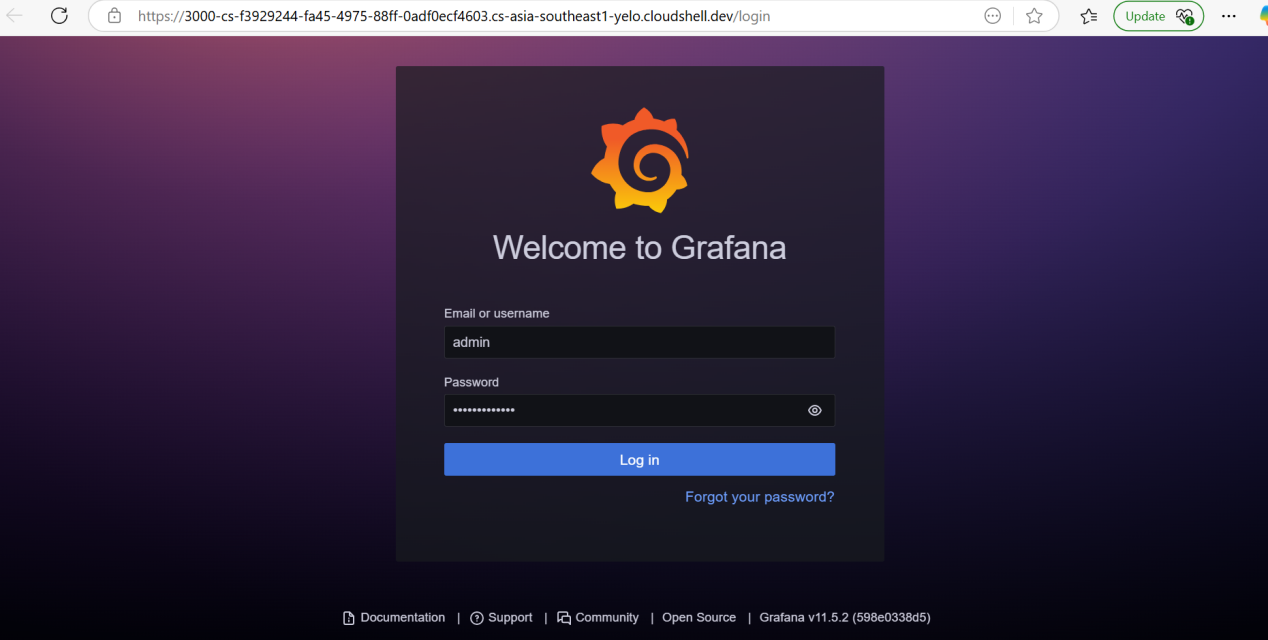
PORT FORWARDING

kubectl port-forward svc/prometheus-grafana 3000:80 -n monitoring



Click on the web preview give the port no 3000 and click on change and preview u can see the grafana





You can login with admin and prom-operator

