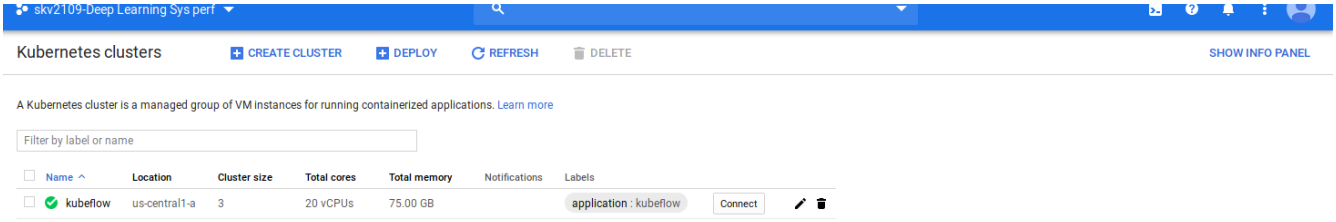
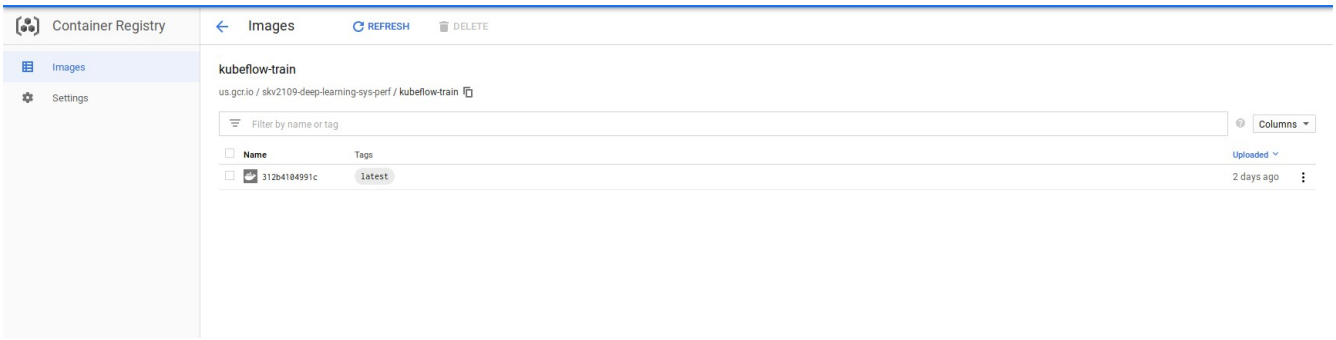
Problem 5:

1. Kubernetes cluster setup



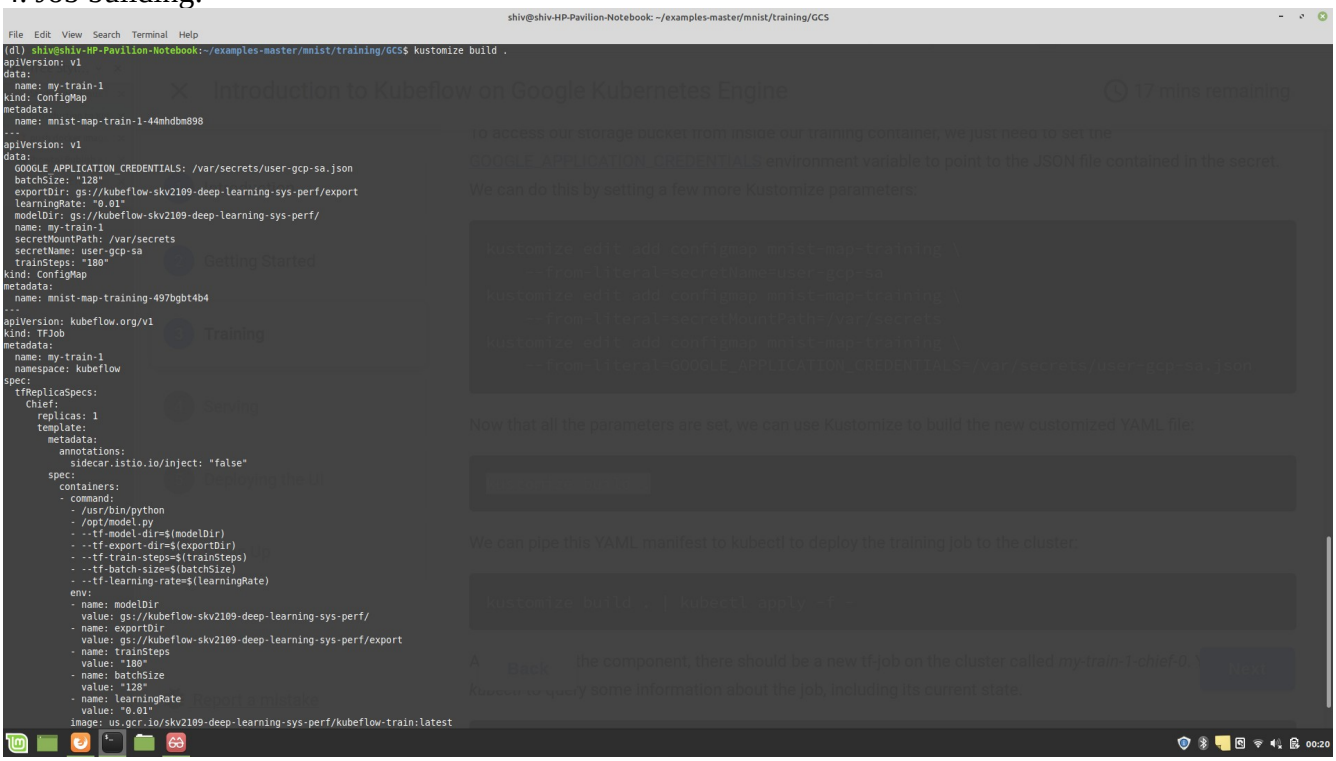
2. Container Registry Image prescence:



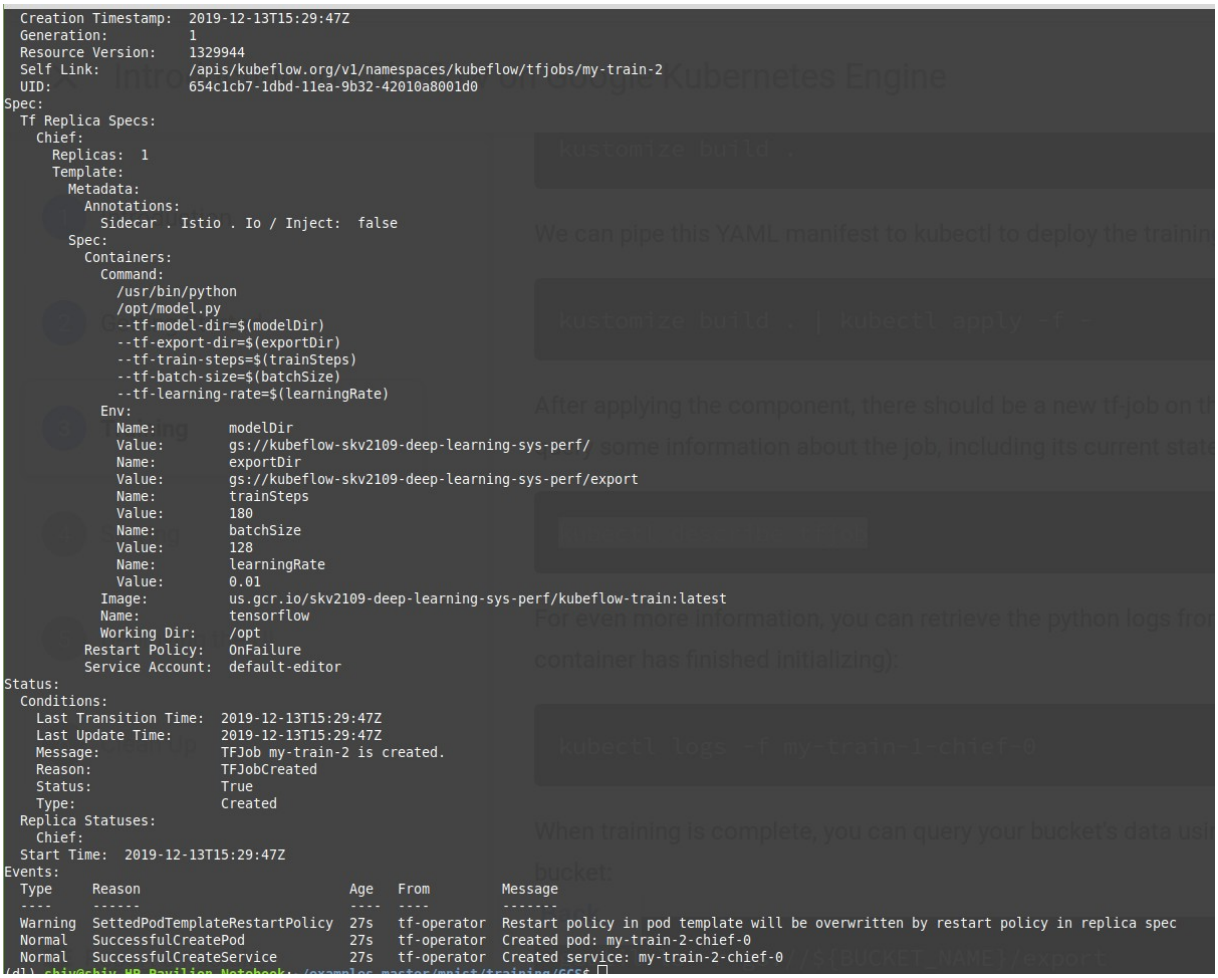
3. Job Parameters YAML file:

```
  name: mnist-map-training-2-mg58gthtg6
---
apiVersion: v1
data:
  GOOGLE_APPLICATION_CREDENTIALS: /var/secrets/user-gcp-sa.json
  batchSize: "128"
  exportDir: gs://kubeflow-skv2109-deep-learning-sys-perf/export
  learningRate: "0.01"
  modelDir: gs://kubeflow-skv2109-deep-learning-sys-perf/
  name: my-train-1
  secretMountPath: /var/secrets
  secretName: user-gcp-sa
  trainSteps: "180"
kind: ConfigMap
metadata:
  name: mnist-map-training-497bgbt4b4
---
apiVersion: kubeflow.org/v1
kind: TFJob
metadata:
  name: my-train-1
  namespace: kubeflow
spec:
  tfReplicaSpecs:
    Chief:
      replicas: 1
      template:
        metadata:
          annotations:
            sidecar.istio.io/inject: "false"
        spec:
          containers:
          - command:
            - /usr/bin/python
            - /opt/model.py
            - --tf-model-dir=$(modelDir)
            - --tf-export-dir=$(exportDir)
            - --tf-train-steps=$(trainSteps)
            - --tf-batch-size=$(batchSize)
            - --tf-learning-rate=$(learningRate)
            env:
            - name: modelDir
              value: gs://kubeflow-skv2109-deep-learning-sys-perf/
            - name: exportDir
              value: gs://kubeflow-skv2109-deep-learning-sys-perf/export
            - name: trainSteps
              value: "180"
            - name: batchSize
              value: "128"
            - name: learningRate
              value: "0.01"
            image: us.gcr.io/skv2109-deep-learning-sys-perf/kubeflow-train:latest
            name: tensorflow
            workingDir: /opt
          restartPolicy: OnFailure
          serviceAccount: default-editor
```

4. Job building:



5. Job submission details:



6. Error faced during cluster training, despite adding the required permissions, users and groups: