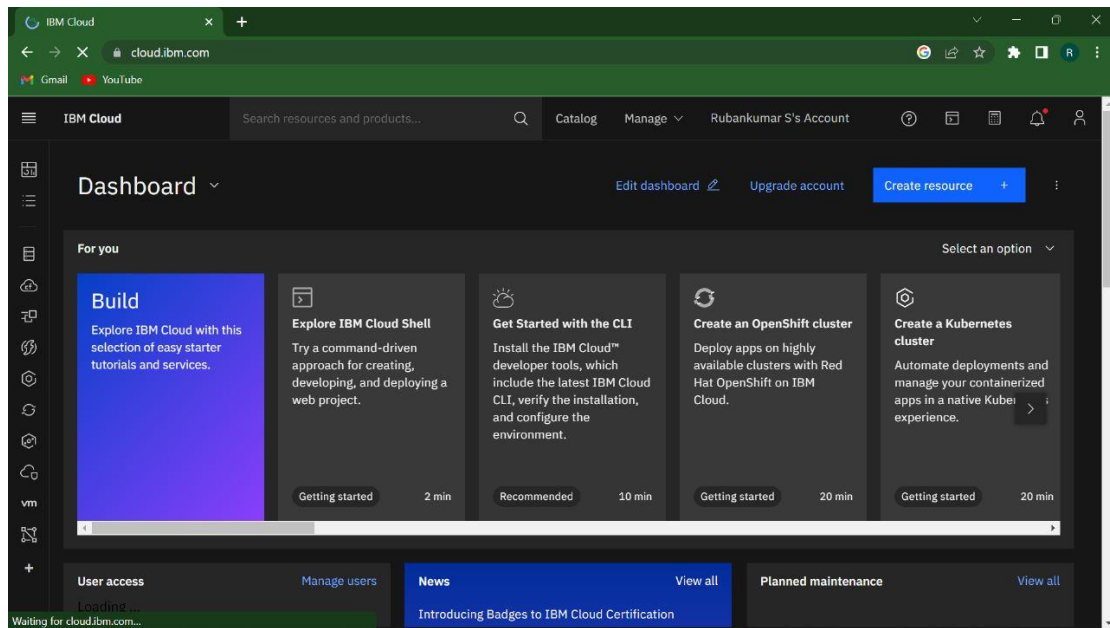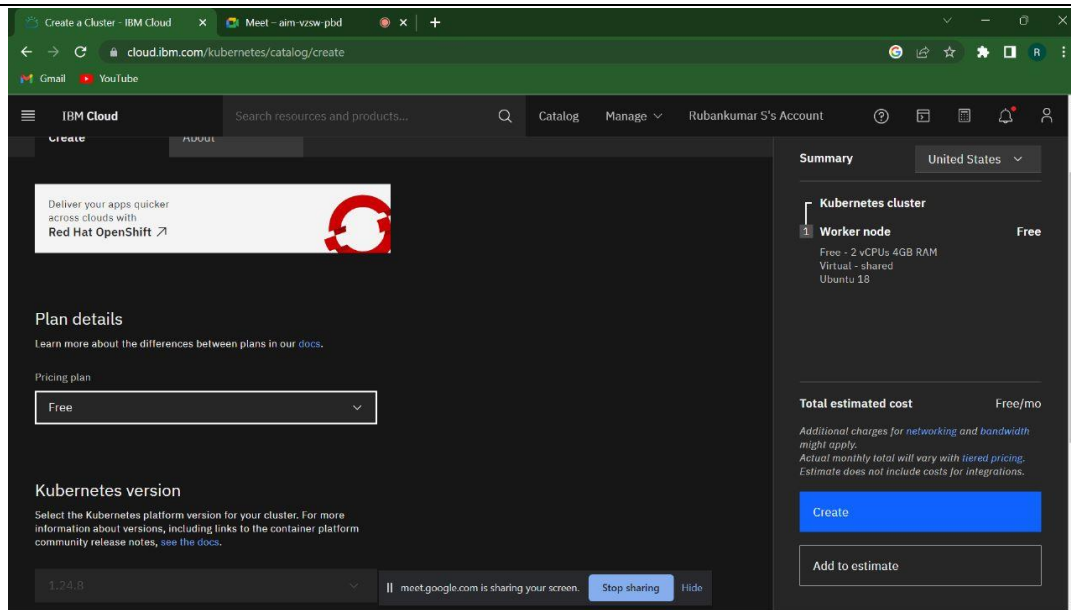# UPLOAD IMAGE TO IBM CONTAINER REGISTRY

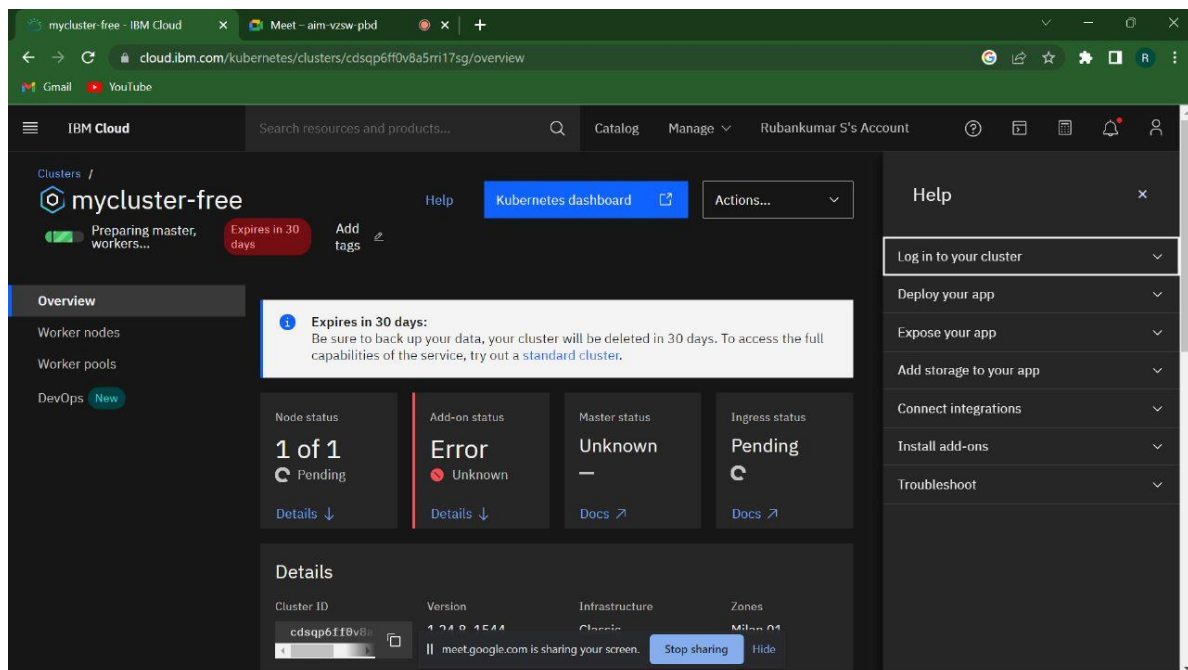| TEAM ID	PNT2022TMID23043
PROJECT NAME	SKILL AND JOB RECOMMENDER

Create a Kubernetes cluster

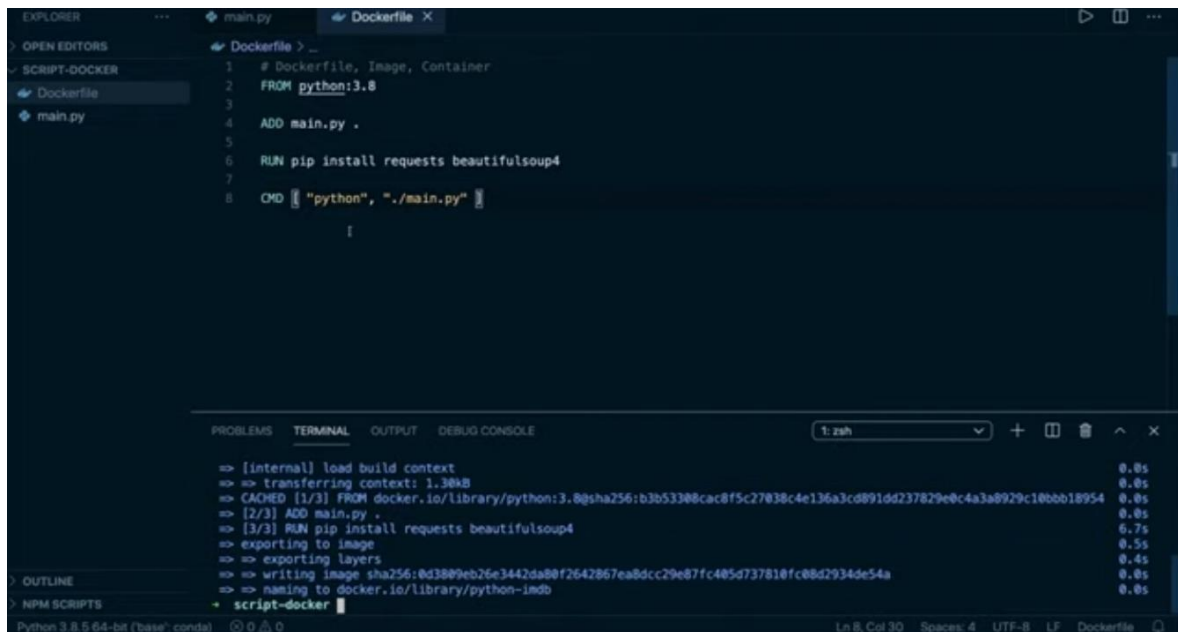- Sign in to your IBM Cloud Dashboard.
- Open **IBM Kubernetes Service**.
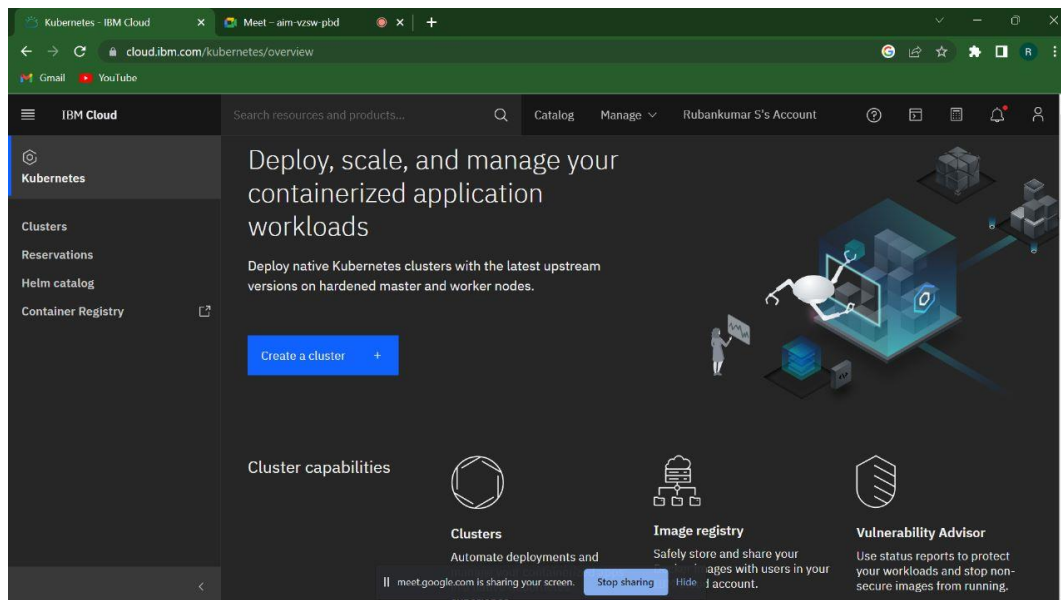
- Click on the **Worker Nodes** tab to note the cluster's Public IP.

Containerize your Flask application

```dockerfile
# Dockerfile, Image, Container
FROM python:3.8

ADD main.py .

RUN pip install requests beautifulsoup4

CMD [ "python", "./main.py" ]
```

```
=> [internal] load build context                                                                          0.0s
=> => transferring context: 1.30kB                                                                        0.0s
=> CACHED [1/3] FROM docker.io/library/python:3.8@sha256:b3b53308cac8f5c27038c4e136a3cd891dd237829e0c4a3a8929c10bbb18954   0.0s
=> [2/3] ADD main.py .                                                                                    0.0s
=> [3/3] RUN pip install requests beautifulsoup4                                                          6.7s
=> exporting to image                                                                                     0.5s
=> => exporting layers                                                                                    0.4s
=> => writing image sha256:0d3809eb26e3442da80f2642867ea8dcc29e87fc405d737810fc08d2934de54a               0.0s
=> => naming to docker.io/library/python-imdb                                                             0.0s
```

```
tep 1/8 : FROM python:2.7
 ---> 6c76e39e7cfe
tep 2/8 : LABEL maintainer="Kunal Malhotra, kunal.malhotra1@ibm.com"
 ---> Using cache
 ---> d8b57d41591c
tep 3/8 : RUN apt-get update
 ---> Using cache
 ---> 6262a134e40e
tep 4/8 : COPY . /app
 ---> f07f7377099f
tep 5/8 : WORKDIR /app
emoving intermediate container f9010b99d2fe
 ---> 0bcc6af20e3d
tep 6/8 : RUN pip install -r requirements.txt
 ---> Running in 8153040b00b7
ollecting click==6.7 (from -r requirements.txt (line 1))
 Downloading https://files.pythonhosted.org/packages/34/c1/8806f99713ddb993c5366c362b2f908f18269f8d792aff1abfd700775a77/click-6.7-py2.py3-none-any.whl (71kB)
ollecting Flask==1.0.2 (from -r requirements.txt (line 2))
 Downloading https://files.pythonhosted.org/packages/7f/e7/08578774ed4536d3242b14dacb4696386634607af824ea997202cd0edb4b/Flask-1.0.2-py2.py3-none-any.whl (91kB)
ollecting itsdangerous==0.24 (from -r requirements.txt (line 3))
 Downloading https://files.pythonhosted.org/packages/dc/b4/a60bcdba945c00f6d608d897S131ab3f25b22f2bcfe1dab2211651S94b2d4/itsdangerous-0.24.tar.gz (46kB)
ollecting Jinja2==2.10 (from -r requirements.txt (line 4))
 Downloading https://files.pythonhosted.org/packages/7f/ff/ae64bacdfc95f27a016a7bed4e8686763ba4d277a78ca76f32659220a731/Jinja2-2.10-py2.py3-none-any.whl (126kB)
ollecting MarkupSafe==1.0 (from -r requirements.txt (line 5))
 Downloading https://files.pythonhosted.org/packages/4d/de/32d741db316d8fdb7680822dd37001ef7a448255de9699ab4bfcbdf417Zb/MarkupSafe-1.0.tar.gz
ollecting Werkzeug==0.14.1 (from -r requirements.txt (line 6))
 Downloading https://files.pythonhosted.org/packages/20/c4/12e3e56473e57375aa29c4764e70d1b8f3efa6682bef8d0aae04fe335243/Werkzeug-0.14.1-py2.py3-none-any.whl (322kB)
uilding wheels for collected packages: itsdangerous, MarkupSafe
 Running setup.py bdist_wheel for itsdangerous: started
 Running setup.py bdist_wheel for itsdangerous: finished with status 'done'
 Stored in directory: /root/.cache/pip/wheels/2c/4a/61/5599631c15547680c6298b08c02c72d7317910374ca602ff1e5
 Running setup.py bdist_wheel for MarkupSafe: started
 Running setup.py bdist_wheel for MarkupSafe: finished with status 'done'
 Stored in directory: /root/.cache/pip/wheels/33/56/20/ebe49a5c612fffe1c5a632146b16596f3e64676768661e4e46
uccessfully built itsdangerous MarkupSafe
nstalling collected packages: click, itsdangerous, MarkupSafe, Jinja2, Werkzeug, Flask
uccessfully installed Flask-1.0.2 Jinja2-2.10 MarkupSafe-1.0 Werkzeug-0.14.1 click-6.7 itsdangerous-0.24
emoving intermediate container 8153040b00b7
 ---> 66d2636b97bc
tep 7/8 : ENTRYPOINT [ "python" ]
 ---> Running in bdc1c83815e1
emoving intermediate container bdc1c83815e1
 ---> 73cefc38ac1c
tep 8/8 : CMD [ "app.py" ]
 ---> Running in a784d430dd6f
emoving intermediate container a784d430dd6f
 ---> d8b6b83763a5
```

Create configuration files for Kubernetes

deployment.yaml

```yaml
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: flask-node-deployment
spec:
  replicas: 1
  selector:
    matchLabels:
      app: flasknode
  template:
    metadata:
      labels:
        app: flasknode
    spec:
      containers:
      - name: flasknode
        image: registry.ng.bluemix.net/flask-node/app
        imagePullPolicy: Always
        ports:
        - containerPort: 5000
```

service.yaml

```yaml
apiVersion: v1
kind: Service
metadata:
  name: flask-node-deployment
spec:
  ports:
  - port: 5000
    targetPort: 5000
  selector:
    app: flasknode
```