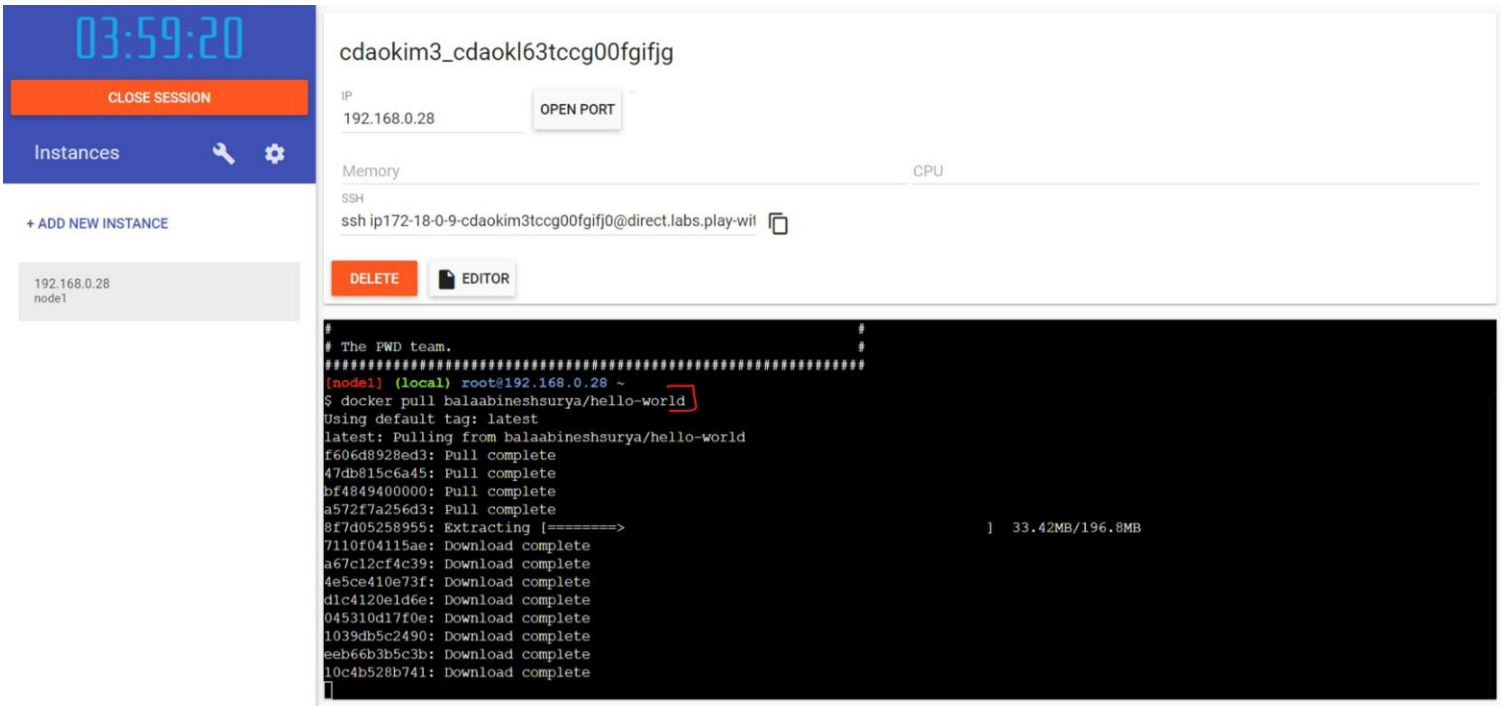
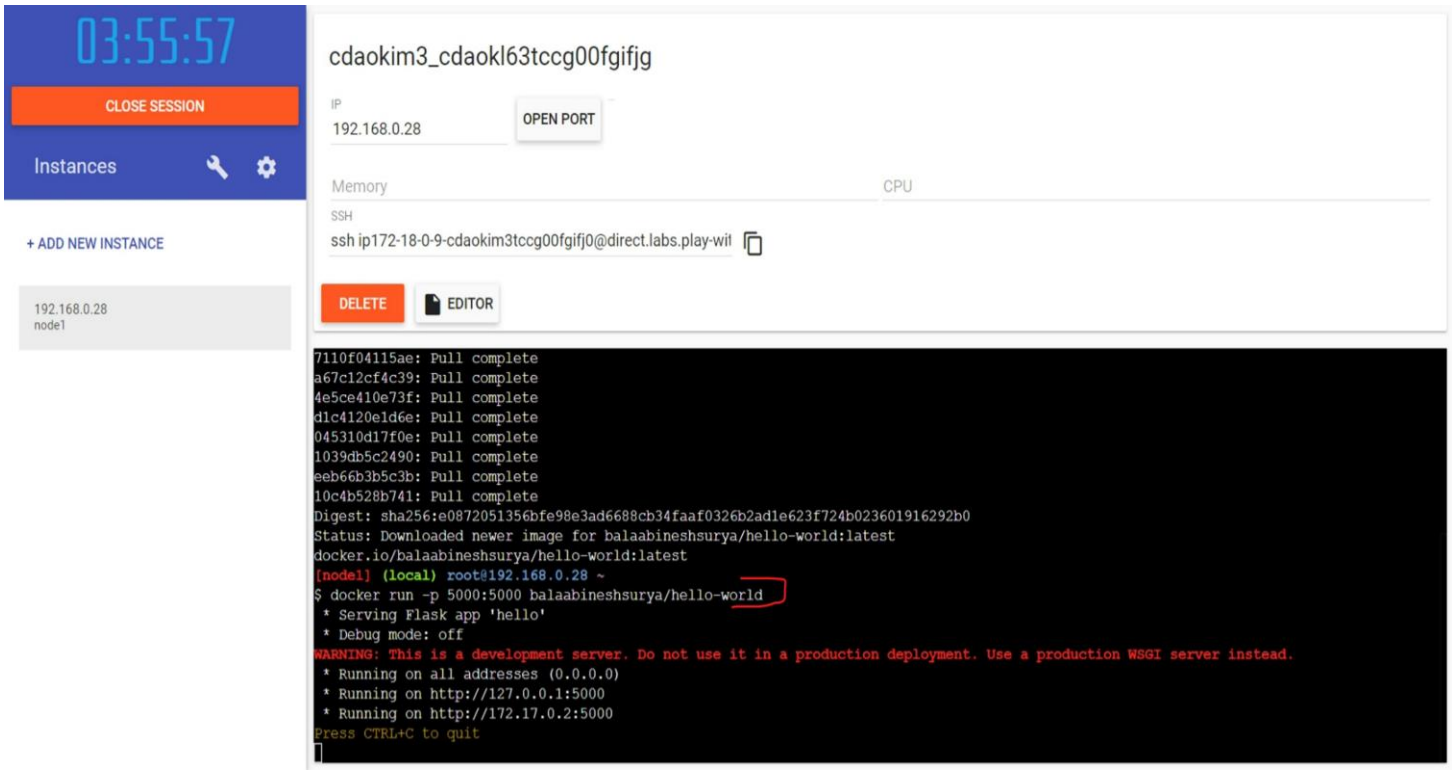
ASSIGNMENT - 4

Question 1:

Pull an image from docker hub and run in docker playground.





Question 2:
Create a docker file for the jobportal application and deploy it in Docker desktop application.

FROM helloworld:latest
WORKDIR ~/Desktop/
ADD . helloworld/
WORKDIR ~/Desktop/htmlfile
RUN pip install -r requirements
RUN chmod +x app.sh
CMD

Docker File:

```
FROM python:3.10-buster

WORKDIR /app

COPY . .

RUN pip install --no-cache-dir -r requirements.txt

CMD ["ibm_db2", "--bind", "0.0.0.0:5000", "app:app"]
```

Question 3:
Create a IBM container registry and deploy helloworld app or jobportalapp.

Base.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title> FlaskApp</title>
    <style>
        .message {
            padding: 10px;
            margin: 5px;
            background-color: #656362
        }
        h1{
            color: #1d78cd;

        }
        nav a {
            color: #1d78cd;
            font-size: 25px;
            margin-left: 50px;
            text-decoration: none;
            text-transform: uppercase;
        }

        .alert {
            padding: 20px;
            margin: 5px;
            color: #977c30;
            background-color: #dda1ae;
        }
        .button {
  background-color:#977c30; /* red */
  border: none;
  color: white;
  padding: 16px 32px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
  font-size: 16px;
  margin: 4px 2px;
  transition-duration: 0.4s;
  cursor: pointer;
}

.button1 {
  background-color: white;
  color: black;
  border-radius: 10px;
  border: 2px solid #036523;
}
```

```
.button1:hover {
  background-color: #00971e;
  color: rgb(47, 41, 51);
}
input[type=text],textarea {
  width: 50%;
  padding: 12px 20px;
  margin: 8px 0;
  box-sizing: border-box;
  border: 2px solid;
  border-radius: 4px;
}

    </style>
</head>
<body>
    <nav>
        <a href="#">Home</a>
        <a href="{{ url_for('index') }}">FlaskApp</a>
        <a href="{{ url_for('create') }}">Create</a>

    </nav>
    <hr>
    <div class="content">
        {% for message in get_flashed_messages() %}
            <div class="alert">{{ message }}</div>
        {% endfor %}
        {% block content %} {% endblock %}
    </div>

</body>
</html>
```

Create.html:

```
{% extends 'base.html' %}


{% block content %}

    <center>
    <h1>{% block title %} <u>Add a New Message</u> {% endblock %}</h1></center><br><br>
    <form method="post" style="text-align: center;">
        <label for="title"><b>TOPIC TITLE</b></label>

        <br>
        <input type="text" name="Message content" placeholder="Topic title" value="{{ request.form['title'] }}"></input>
        <br><br>

        <label for="content"><b>TOPIC CONTENT</b></label>
        <br>
        <textarea name="content"
                  placeholder="Title content"
                  rows="6"
                  cols="25"
```

```
            >{{ request.form['content'] }}</textarea>
        <br><br>
        <button type="submit" class="button button1">Submit</button> <a href="{{ url_for('index') }}" class="button button1">Home</a>

    </form>

{% endblock %}
```

Index.html:

```
{% extends 'base.html' %}

{% block content %}
    <h1 style="text-align: center;">WELCOME!</h1>
    <h1>  {% block title %} <span style="color: rgb(29, 11, 166);">WRITE YOUR MESSAGES</span> {% endblock %}</h1>
    {% for message in messages %}
        <div class='message'>
            <h3><span style="color: rgb(255, 255, 255);">TITLE : </span> {{ message['title'] }}</h3>
            <p><span style="color: rgb(255, 255, 255);">MESSAGE : </span>{{ message['content'] }}</p>
        </div>
    {% endfor %}
{% endblock %}
```

Question 4:
Create a Kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and also expose the same app to run in nodeport.

Deployment.yaml:

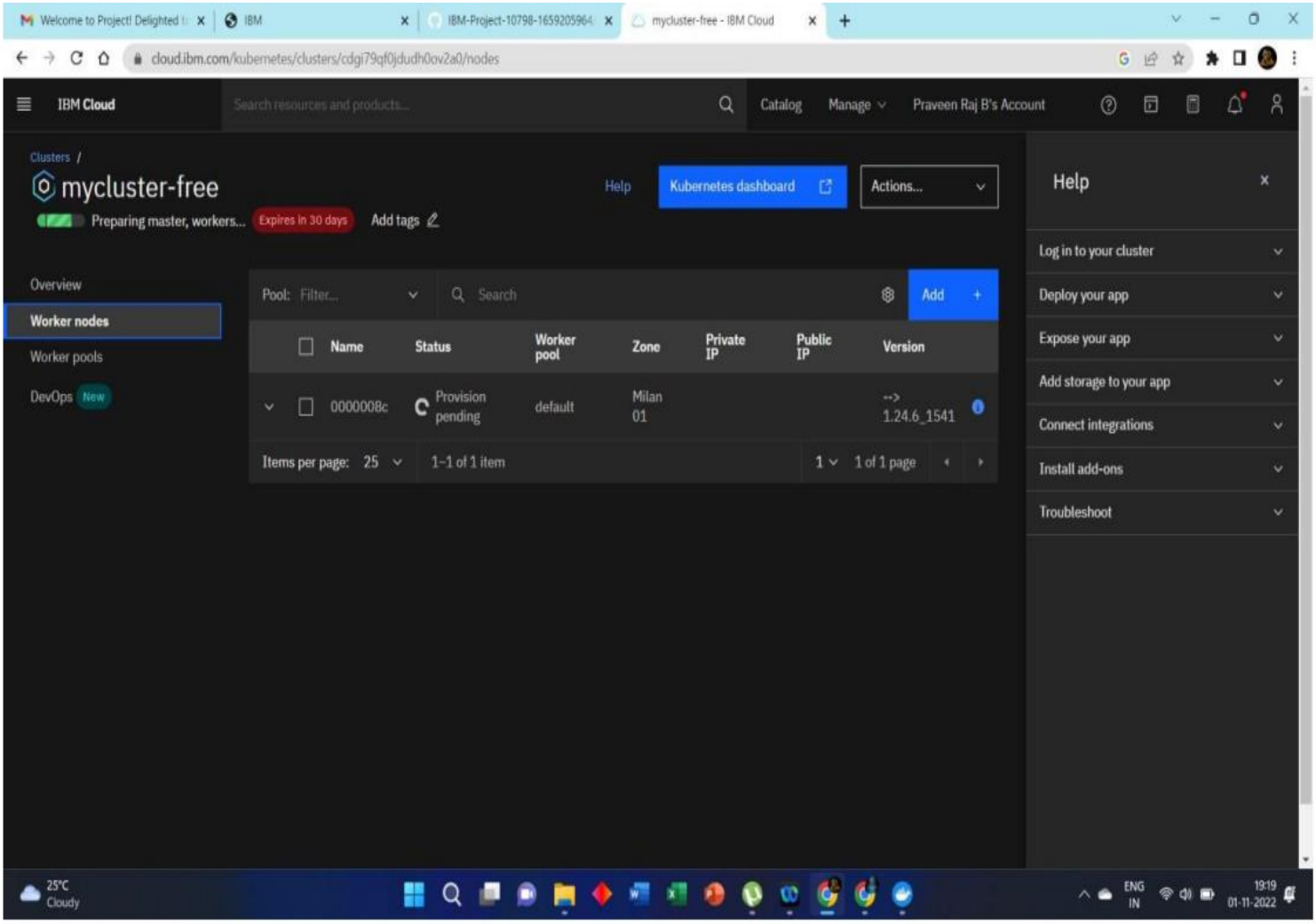
```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: flask-app

spec:
  replicas: 3
  selector:
    matchLabels:
      app: flask-app
  template:
    metadata:
      labels:
        app: flask-app

    spec:
      containers:
        - name: webpage
          image: Assignment/flask
          imagePullPolicy: Never
          ports:
            - containerPort: 5000
              protocol: TCP
```

Service.yaml:

```
apiVersion: v1
kind: Service
metadata:
  name: flask-app-service
spec:
  type: ClusterIP
  ports:
    - port: 5000
  selector:
    app: flask-app
```


Welcome to Project! Delighted t
IBM
IBM-Project-10798-1659205964
mycluster-free - IBM Cloud
cloud.ibm.com/kubernetes/clusters/cdgi79qf0jdudh0ov2a0/nodes
IBM Cloud
Search resources and products...
Catalog
Manage
Praveen Raj B's Account
Clusters /
mycluster-free
Preparing master, workers...
Expires in 30 days
Add tags
Help
Kubernetes dashboard
Actions...
Overview
Worker nodes
Worker pools
DevOps
New
Pool: Filter...
Search
Add
Name
Status
Worker pool
Zone
Private IP
Public IP
Version
0000008c
Provision pending
default
Milan 01
--> 1.24.6_1541
Items per page: 25
1–1 of 1 item
1 of 1 page
Help
Log in to your cluster
Deploy your app
Expose your app
Add storage to your app
Connect integrations
Install add-ons
Troubleshoot
25°C
Cloudy
ENG
IN
19:19
01-11-2022