

ASSIGNMENT 4

Date	20 November 2022
Student Name	Femima Shelly. A. T.
Roll No	962219104053
Maximum Marks	2 Marks

1) Pull an image from docker hub and run it in docker playground

The screenshot shows the Docker Playground interface in a web browser. The top bar includes tabs for 'IBM Cloud', 'alpine - Official', 'Docker Playgr...', and 'docker run | D...'. The address bar shows a URL from 'labs.play-with-docker.com'. On the left, there's a sidebar with a clock showing '03:42:13', a 'CLOSE SESSION' button, and an 'Instances' section with a list containing '192.168.0.13 node1'. The main area displays details for a container named 'cdvo8ae0_cdvo8d63tccg00csomvg', including its IP (192.168.0.13), memory usage (1.65%), CPU usage (0.01%), and an SSH command. Below this, a terminal window shows the following commands and output:

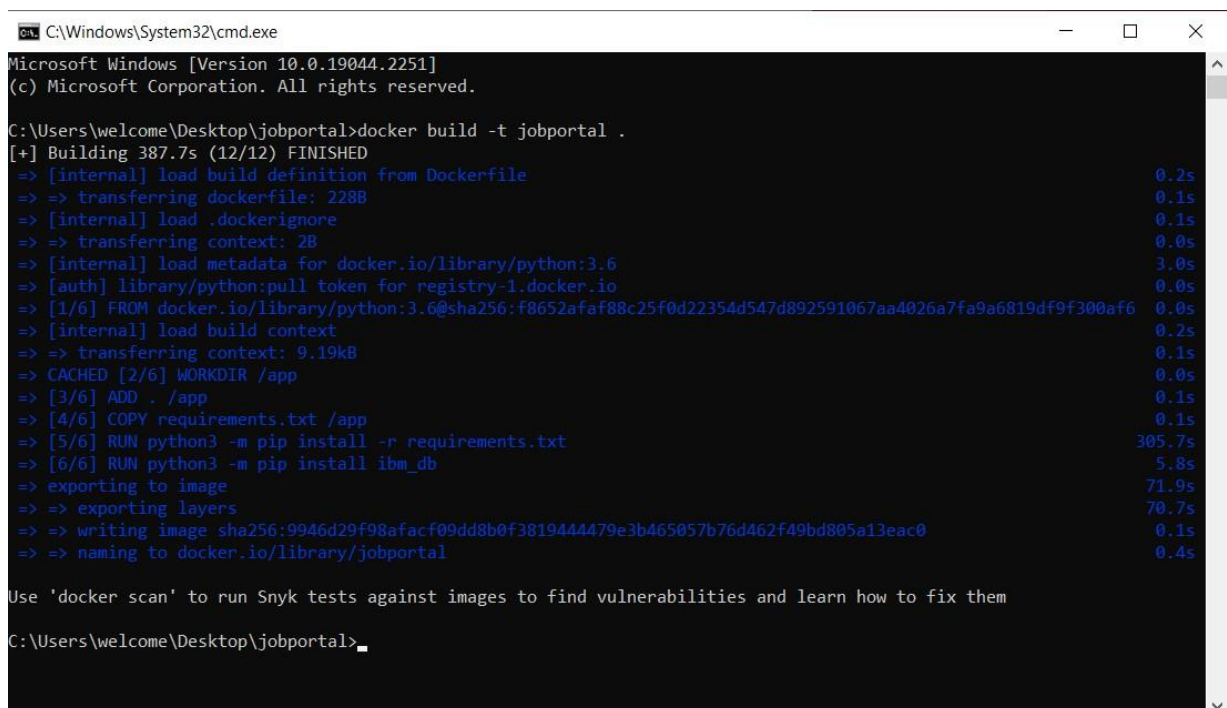
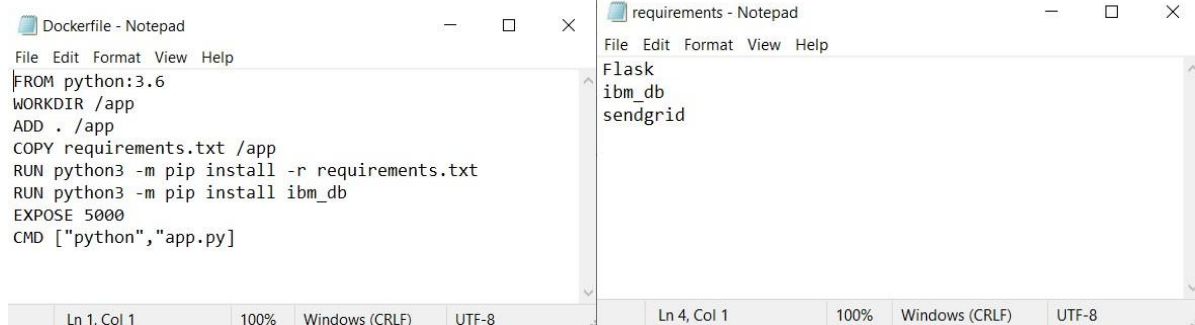
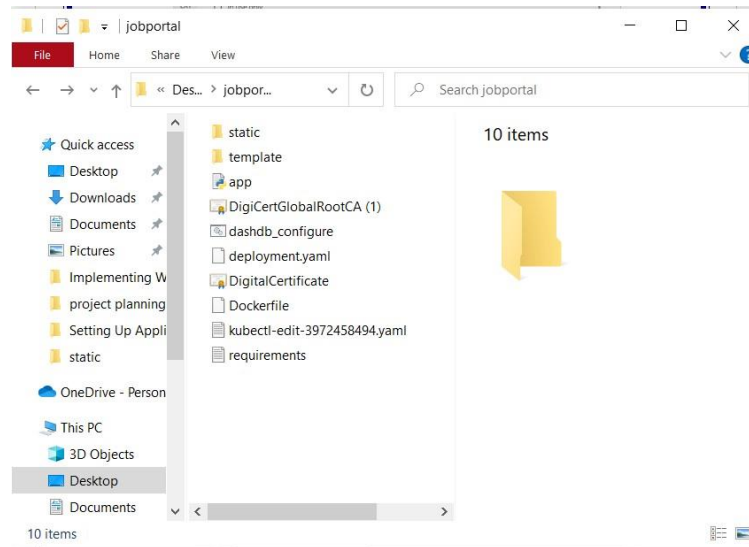
```
[node1] (local) root@192.168.0.13 ~
$ docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
femima/testjob      latest         49176f190c7e   41 hours ago   7.05MB
alpine              latest         49176f190c7e   41 hours ago   7.05MB
[node1] (local) root@192.168.0.13 ~
$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[node1] (local) root@192.168.0.13 ~
$ docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
Digest: sha256:8914eb54f968791faf6a8638949e480fef81e697984fba772b3976835194c6d4
Status: Image is up to date for alpine:latest
docker.io/library/alpine:latest
[node1] (local) root@192.168.0.13 ~
$
```

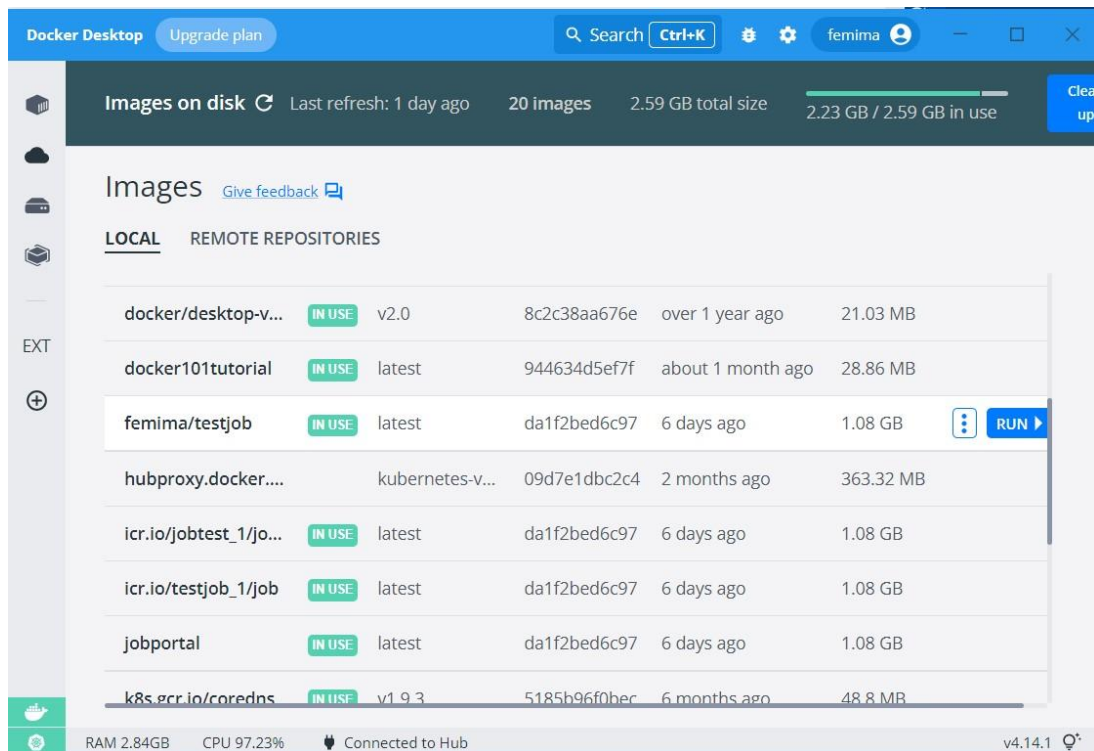
The screenshot shows the Docker Desktop interface. The top bar includes a search bar, a 'Ctrl+K' shortcut, and a user profile 'femima'. The main section is titled 'Images on disk' and shows '20 images' with a total size of '2.59 GB'. Below this, there's a list of local images with columns for NAME, TAG, IMAGE ID, CREATED, and SIZE. The images listed are:

NAME	TAG	IMAGE ID	CREATED	SIZE
<none>	<none>	5468aafc04c9	5 days ago	1.08 GB
alpine/git	latest	b80d2cac43e4	about 2 months ago	43.6 MB
au.icr.io/femi/job	latest	da1f2bed6c97	5 days ago	1.08 GB
docker/desktop-s...	v2.0	99f89471f470	over 1 year ago	41.85 MB
docker/desktop-v...	v2.0	8c2c38aa676e	over 1 year ago	21.03 MB

The bottom status bar shows 'RAM 2.85GB', 'CPU 7.80%', and 'Connected to Hub'.

2) Create a docker file for the jobportal application and deploy it in Docker desktop application





3) Create a IBM container registry and deploy helloworld app or jobportal app

```

C:\Users\welcome>ibmcloud plugin install container-registry
Looking up 'container-registry' from repository 'IBM Cloud'...
Plug-in 'container-registry[cr] 1.0.2' found in repository 'IBM Cloud'
Plug-in 'container-registry 1.0.2' was already installed. Do you want to update it with 'container-registry[cr] 1.0.2' or not? [y/N] > y
Attempting to download the binary file...
 11.90 MiB / 11.90 MiB [=====] 100.00% 2s
12476416 bytes downloaded
Installing binary...
OK
Plug-in 'container-registry 1.0.2' was successfully installed into C:\Users\welcome\.bluemix\plugins\container-registry.
Use 'ibmcloud plugin show container-registry' to show its details.

C:\Users\welcome>ibmcloud login
API endpoint: https://cloud.ibm.com
Region: au-syd

Email> femimashelly2@gmail.com

Password>
Authenticating...
OK
Targeted account Femima Shelly's Account (96ca4bacb2684e1cad1d021d7b8a25c1)

API endpoint: https://cloud.ibm.com
Region: au-syd
User: femimashelly2@gmail.com
Account: Femima Shelly's Account (96ca4bacb2684e1cad1d021d7b8a25c1)
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:

C:\Users\welcome>

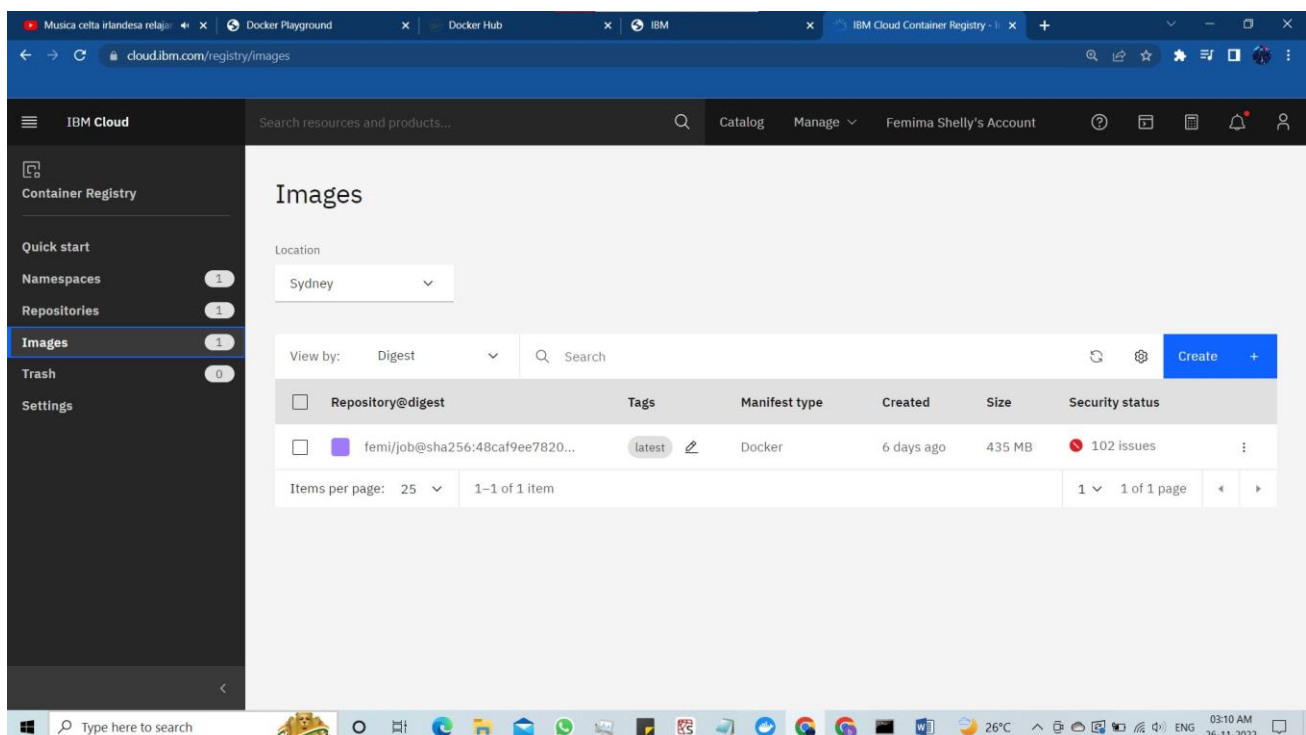
```

```
C:\Windows\System32\cmd.exe

API endpoint:      https://cloud.ibm.com
Region:           au-syd
User:             femimashelly2@gmail.com
Account:          Femima Shelly's Account (96ca4bacb2684e1cad1d021d7b8a25c1)
Resource group:   No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:

C:\Users\welcome\Desktop\jobportal>docker tag jobportal au.icr.io/femi/rep

C:\Users\welcome\Desktop\jobportal>docker push au.icr.io/femi/rep
Using default tag: latest
The push refers to repository [au.icr.io/femi/rep]
bd2acf7d8acc: Preparing
4a645a6f0daa: Preparing
30feaab3d4f0: Preparing
79dd3c78ecdd: Preparing
81fbac41123b: Preparing
aa4c808c19f6: Waiting
8ba9f690e8ba: Waiting
3e607d59ef9f: Waiting
1e18e7e1fcc2: Waiting
c3a0d593ed24: Waiting
26a504e63be4: Waiting
8bf42db0de72: Waiting
31892cc314cb: Waiting
11936051f93b: Waiting
```



- 4) Create a kubernetes cluster in IBM cloud and deploy helloworld image or jobportal image and expose the same app to run in node port

Musica celta irlandesa relaje x Docker Playground x Docker Hub x IBM x Create a Cluster - IBM Cloud x

cloud.ibm.com/kubernetes/catalog/create

IBM Cloud Search resources and products... Catalog Manage Femima Shelly's Account

Kubernetes cluster

Author: IBM Docs API docs

Create About

Deliver your apps quicker across clouds with Red Hat OpenShift

Plan details

Learn more about the differences between plans in our docs.

Pricing plan

Free

You have already created your one free cluster
Ready to create more clusters? Choose the Standard cluster type.

Summary

Brazil

Kubernetes cluster

Worker node Free

Free - 2 vCPUs 4GB RAM
Virtual - shared
Ubuntu 18

Total estimated cost Free/mo

Additional charges for networking and bandwidth might apply.
Actual monthly total will vary with tiered pricing
Estimate does not include costs for integrations.

Create

Add to estimate

Type here to search 26°C 03:13 AM 26-11-2022

Musica c x Docker Playground x Docker Hub x IBM x mycluster: x

cloud.ibm.com/kubernetes/clusters/cduhnm1f059665k24ilg/overview

IBM Cloud Catalog Manage Femima Shelly's Account

mycluster-portal

Normal Expires in 27 days Add tags

Overview

Worker nodes

Worker pools

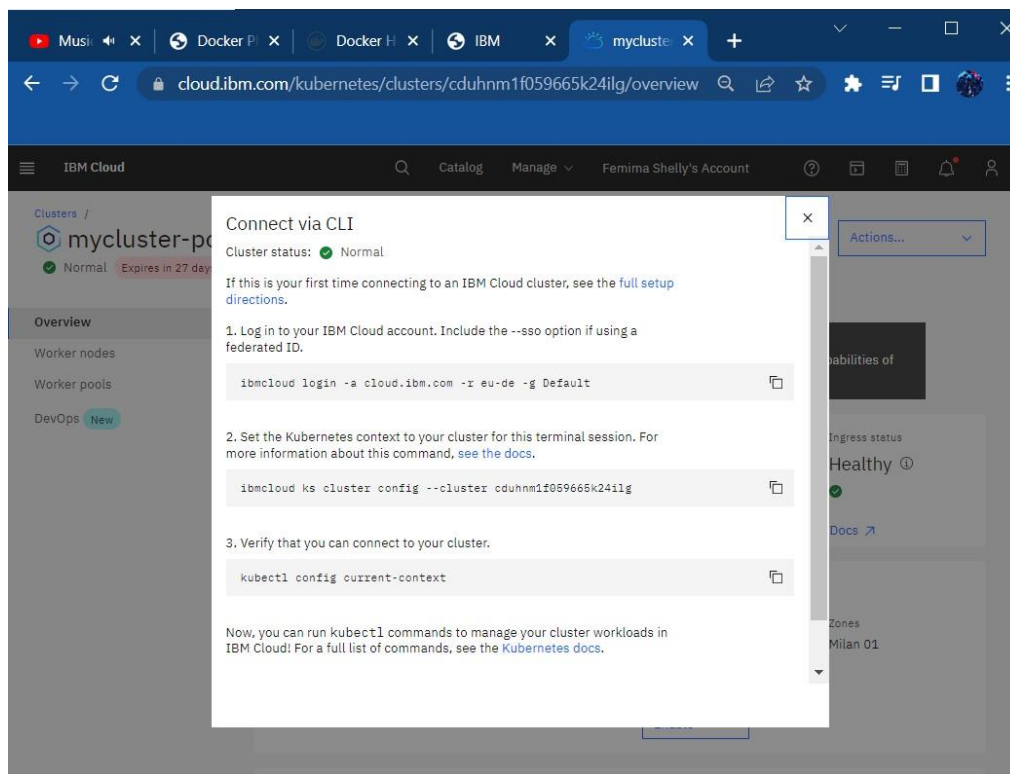
DevOps New

Expires in 27 days:
Be sure to back up your data, your cluster will be deleted in 27 days. To access the full capabilities of the service, try out a standard cluster.

Node status 1 of 1 Normal Details	Add-on status 0 of 0 Normal Details	Master status Normal Docs	Ingress status Healthy Docs
---	---	--	--

Details

Cluster ID cduhnm1f059665k24ilg	Version 1.24.8_1544	Infrastructure Classic	Zones Milan 01
Created 11/23/2022, 12:28 AM	Resource group Default	Image security enforcement Enable	



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\welcome> ibmcloud login -a cloud.ibm.com -r eu-de -g Default
API endpoint: https://cloud.ibm.com

Email> femimashelly2@gmail.com

Password>
Authenticating...
OK

Targeted account Femima Shelly's Account (96ca4bacb2684e1cad1d021d7b8a25c1)

Targeted resource group Default

Targeted region eu-de

API endpoint: https://cloud.ibm.com
Region: eu-de
User: femimashelly2@gmail.com
Account: Femima Shelly's Account (96ca4bacb2684e1cad1d021d7b8a25c1)
Resource group: Default
CF API endpoint:
Org:
Space:
PS C:\Users\welcome> ibmcloud ks cluster config --cluster cduhnm1f059665k24ilg
OK
The configuration for cduhnm1f059665k24ilg was downloaded successfully.

Added context for cduhnm1f059665k24ilg to the current kubeconfig file.
You can now execute 'kubect1' commands against your cluster. For example, run 'kubect1 get nodes'.
If you are accessing the cluster for the first time, 'kubect1' commands might fail for a few seconds while RBAC synchronizes.
PS C:\Users\welcome> kubect1 config current-context
mycluster-portal/cduhnm1f059665k24ilg
PS C:\Users\welcome>
```

```

Use "kubectl <command> --help" for more information about a given command.
Use "kubectl options" for a list of global command-line options (applies to all commands).
PS C:\Users\welcome> kubectl get nodes
NAME                STATUS    ROLES    AGE    VERSION
10.144.216.198      Ready    <none>   3d2h   v1.24.8+IKS
PS C:\Users\welcome> kubectl get pod
No resources found in default namespace.
PS C:\Users\welcome> kubectl get services
NAME                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)    AGE
kubernetes          ClusterIP   172.21.0.1    <none>         443/TCP    3d2h
PS C:\Users\welcome> kubectl create deployment femima-depl --image=femima
deployment.apps/femima-depl created
PS C:\Users\welcome> kubectl get replicaset
NAME                DESIRED    CURRENT    READY    AGE
femima-depl-7b997dcb45 1           1           0        22s
PS C:\Users\welcome> kubectl get pods
NAME                READY    STATUS    RESTARTS    AGE
femima-depl-7b997dcb45-szmlm 0/1      ErrImagePull 0            33s
PS C:\Users\welcome> kubectl get pods
NAME                READY    STATUS    RESTARTS    AGE
femima-depl-7b997dcb45-szmlm 0/1      ErrImagePull 0            57s
PS C:\Users\welcome> kubectl proxy
Starting to serve on 127.0.0.1:8001
PS C:\Users\welcome> kubectl create -f deployment.yaml
error: the path "deployment.yaml" does not exist

```

The screenshot shows the Kubernetes dashboard interface. The 'Workloads' section is active, displaying a 'Workload Status' overview with three large red circles for Deployments, Pods, and Replica Sets, each indicating a 'Failed: 2' status. Below this, the 'Deployments' table is visible:

Name	Images	Labels	Pods	Created
joba	Show all	-	0 / 1	10 minutes ago
femima-depl	Show all	Show all	0 / 1	13 minutes ago

This screenshot provides a more detailed view of the Kubernetes dashboard. It shows the 'Deployments' table with two entries: 'joba' and 'femima-depl'. Below it, the 'Pods' table lists individual pods, including 'joba-66547584df-tmxdw' and 'femima-depl-7b997dcb45-szmlm', both of which are in an 'ErrImagePull' status. The 'Replica Sets' table at the bottom shows 'joba-66547584df' and 'femima-depl-7b997dcb45'.

Name	Images	Labels	Pods	Created
joba	Show all	-	0 / 1	12 minutes ago
femima-depl	Show all	Show all	0 / 1	15 minutes ago

Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created
joba-66547584df-tmxdw	Show all	Show all	10.144.216.198	ErrImagePull	0	-	-	12 minutes ago
femima-depl-7b997dcb45-szmlm	Show all	Show all	10.144.216.198	ImagePullBackoff	0	-	-	15 minutes ago

Name	Images	Labels	Pods	Created
joba-66547584df	Show all	Show all	0 / 1	12 minutes ago
femima-depl-7b997dcb45	Show all	Show all	0 / 1	15 minutes ago