

Sprint-4

Deployment of app in IBM cloud

Date	15 November 2022
Team ID	PNT2022TMID40310
Project Name	Plasma Donor Application

The screenshot shows the Docker Desktop application window. The left sidebar contains navigation options: Containers, Images, Volumes, Dev Environments (marked BETA), Extensions (marked BETA), and Add Extensions. The main panel is titled 'Images on disk' and shows a list of 12 images. The table below represents the data shown in the 'Images' section.

NAME	TAG	IMAGE ID	CREATED	SIZE
au.icr.io/plasma-donor-namesp...	latest	7cc995bf82ca	about 4 hours ago	1.21 GB
docker/desktop-storage-provisi...	v2.0	99f89471f470	over 1 year ago	41.85 MB
docker/desktop-vpnkit-controller	v2.0	8c2c38aa676e	over 1 year ago	21.03 MB
hubproxy.docker.internal:5000...	kubernetes-v1.25.0-cni-v...	2042e761d17a	3 months ago	363.3 MB
k8s.gcr.io/coredns	v1.9.3	5185b96f0bec	6 months ago	48.8 MB
k8s.gcr.io/etcd	3.5.4-0	a8a176a5d5d6	6 months ago	299.52 MB
k8s.gcr.io/kube-apiserver	v1.25.0	4d2edfd10d3e	3 months ago	127.71 MB
k8s.gcr.io/kube-controller-man...	v1.25.0	1a54c86c03a6	3 months ago	117.1 MB
k8s.gcr.io/kube-controller-manager	v1.25.0	58a9a0c6d96f	3 months ago	61.68 MB
k8s.gcr.io/kube-scheduler	v1.25.0	bf02c7f11509	3 months ago	50.58 MB

At the bottom of the window, system statistics are displayed: RAM 2.63GB, CPU 0.09%, Connected to Hub, and version v4.12.0.

IBM Cloud

Container Registry

Quick start

Namespaces1

Repositories1

Images1

Trash0

Settings

Search resources and products...

CatalogManageDeepak G's Account

Namespaces

Location

Sydney

Resource group: Filter...Search

Create

Name	Resource group	Repository count	Image count	Retention policy
plasma-donor-namespace	Default	1	1	Retain all images

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IBM Cloud

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Namespaces1

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Search resources and products...

CatalogManageDeepak G's Account

Repositories

Location

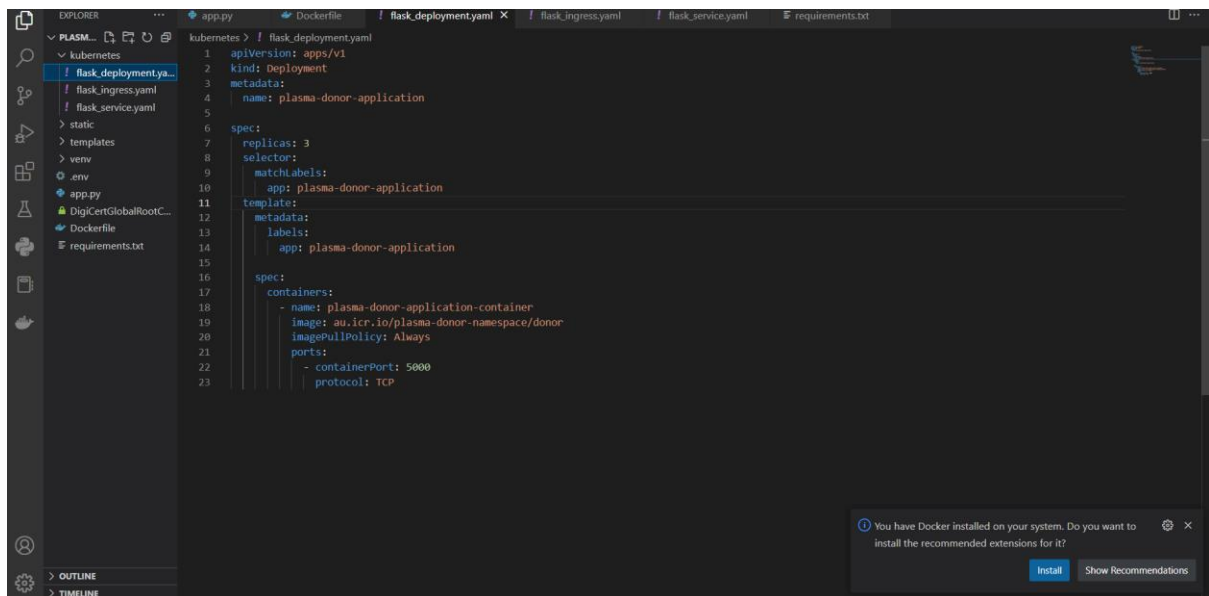
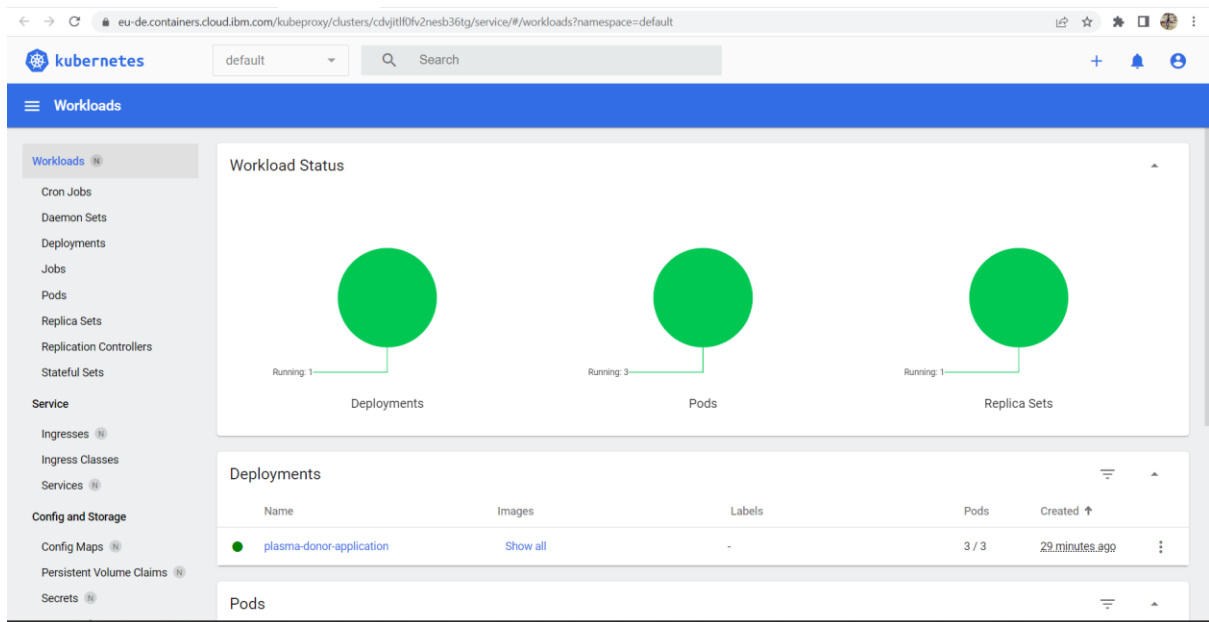
Sydney

Search

Create

Name	Image count	Namespace	Last updated
donor au.icr.io/plasma-donor-namespace/donor	1	plasma-donor-namespace	5 hours ago

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This screenshot shows the Visual Studio Code editor with the `flask_ingress.yaml` file open. The Explorer sidebar on the left shows the project structure, including `PLASM...`, `kubernetes`, `flask_deployment.ya...`, `flask_ingress.yaml` (selected), `flask_service.yaml`, `static`, `templates`, `venv`, `.env`, `app.py`, `DigiCertGlobalRootC...`, `Dockerfile`, and `requirements.txt`. The main editor area displays the following YAML content:

```
kubernetes > flask_ingress.yaml
1  apiVersion: networking.k8s.io/v1
2  kind: Ingress
3  metadata:
4    name: flask-app-ingress
5    annotations:
6      kubernetes.io/ingress.class: nginx
7      nginx.ingress.kubernetes.io/ssl-redirect: "false"
8
9
10 spec:
11   ingressClassName: nginx
12   rules:
13     - http:
14         paths:
15           - backend:
17             service:
18               name: flask-app-service
19               port:
20                 number: 5000
16         path: /
17         pathType: Prefix
```

The status bar at the bottom indicates the cursor is at line 20, column 29, with 2 spaces, UTF-8 encoding, CRLF line endings, and the file is a YAML document.

This screenshot shows the Visual Studio Code editor with the `flask_service.yaml` file open. The Explorer sidebar on the left shows the project structure, including `PLASM...`, `kubernetes`, `flask_deployment.ya...`, `flask_ingress.yaml`, `flask_service.yaml` (selected), `static`, `templates`, `venv`, `.env`, `app.py`, `DigiCertGlobalRootC...`, `Dockerfile`, and `requirements.txt`. The main editor area displays the following YAML content:

```
kubernetes > flask_service.yaml
1  apiVersion: v1
2  kind: Service
3  metadata:
4    name: flask-app-service
5  spec:
6    type: ClusterIP
7    ports:
8      - port: 5000
9    selector:
10     app: plasma-donor-application
```

The status bar at the bottom indicates the cursor is at line 10, column 34, with 2 spaces, UTF-8 encoding, CRLF line endings, and the file is a YAML document.

```
C:\Windows\System32\cmd.exe
D:\Plasma Donor Application>ibmcloud plugin install container-service
Looking up 'container-service' from repository 'IBM Cloud'...
Plug-in 'container-service[kubernetes-service/ks] 1.0.459' found in repository 'IBM Cloud'
Attempting to download the binary file...
26.86 MiB / 26.86 MiB [=====] 100.00% 31s
28168192 bytes downloaded
Installing binary...
Plug-in 'container-service 1.0.459' was successfully installed into C:\Users\rishi\.bluemix\plugins\container-service. Use 'ibmcloud plugin show container-service' to show its details.

D:\Plasma Donor Application>ibmcloud plugin install observe-service
Looking up 'observe-service' from repository 'IBM Cloud'...
Plug-in 'observe-service 1.0.82' found in repository 'IBM Cloud'
Attempting to download the binary file...
13.38 MiB / 13.38 MiB [=====] 100.00% 16s
14024704 bytes downloaded
Installing binary...
Plug-in 'observe-service 1.0.82' was successfully installed into C:\Users\rishi\.bluemix\plugins\observe-service. Use 'ibmcloud plugin show observe-service' to show its details.

D:\Plasma Donor Application>ibmcloud plugin list
Listing installed plug-ins...

Plugin Name          Version  Status  Private endpoints supported
container-registry    1.0.2    true    true
container-service[kubernetes-service/ks]  1.0.459  false   false
observe-service[ob]    1.0.82   false   false
```

cloud.ibm.com/kubernetes/clusters/cdvjtlf0fv2nesb36tg/nodes

IBM Cloud

Search resources and products...

Catalog

Manage

Deepak G's Account

Help

Kubernetes dashboard

Actions...

Clusters /

mycluster-free

Normal

Expires in 30 days

Add tags

Overview

Worker nodes

Worker pools

DevOps

Pool: Filter...

Search

Add

<input type="checkbox"/>	Name	Status	Worker pool	Zone	Private IP	Public IP	Version
<input checked="" type="checkbox"/>	00000029	Normal	default	Milan 01	10.144.214.89	159.122.183.112	1.24.8_1545

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```
C:\Windows\System32\cmd.exe
D:\Plasma Donor Application>kubectl config current-context
docker-desktop
D:\Plasma Donor Application>ibmcloud ks cluster config -c cdvjitlf0fv2nesb36tg
The configuration for cdvjitlf0fv2nesb36tg was downloaded successfully.
Added context for cdvjitlf0fv2nesb36tg to the current kubeconfig file.
You can now execute 'kubectl' commands against your cluster. For example, run 'kubectl get nodes'.
If you are accessing the cluster for the first time, 'kubectl' commands might fail for a few seconds while RBAC synchronizes.
D:\Plasma Donor Application>ibmcloud plugin list
Listing installed plug-ins...
^C
D:\Plasma Donor Application>kubectl config current-context
mycluster-free/cdvjitlf0fv2nesb36tg
D:\Plasma Donor Application>kubectl apply -f kubernetes/flask_deployment.yaml
'kubectl' is not recognized as an internal or external command,
operable program or batch file.
D:\Plasma Donor Application>kubectl apply -f kubernetes/flask_deployment.yaml
deployment.apps/plasma-donor-application created
D:\Plasma Donor Application>kubectl apply -f kubernetes/flask_service.yaml
service/flask-app-service created
D:\Plasma Donor Application>kubectl apply -f kubernetes/flask_ingress.yaml
ingress.networking.k8s.io/flask-app-ingress created
D:\Plasma Donor Application>kubectl apply -f kubernetes/flask_ingress.yaml
ingress.networking.k8s.io/flask-app-ingress unchanged
D:\Plasma Donor Application>kubectl get nodes -o wide
NAME          STATUS    ROLES    AGE   VERSION   INTERNAL-IP   EXTERNAL-IP   OS-IMAGE             KERNEL-VERSION   CONTAINER-RUNTIME
10.144.214.89 Ready     <none>    14m   v1.24.8+IKS  10.144.214.89  159.122.183.112 Ubuntu 18.04.6 LTS   4.15.0-197-generic   containerd://1.6.10
D:\Plasma Donor Application>kubectl expose deployment plasma-donor-application --type=NodePort --name=plasma-donor-application
service/plasma-donor-application exposed
D:\Plasma Donor Application>kubectl get svc plasma-donor-application
NAME                                TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
plasma-donor-application            NodePort    172.21.206.81 <none>        5000:30940/TCP   9s
D:\Plasma Donor Application>
```

Deployment link: <http://159.122.183.112:30940>