

Project Development Phase
Delivery of Sprint-4

Date	19 November 2022
Team ID	PNT2022TMID24036
Project Name	Inventory Management System For Retailer

Deploying it on our Kubernetes services:

Step 1:

Open command prompt in the location where the project file is in.

Step 2:

Login to docker, ibmcloud and ibmcloud cr by using [docker login], [ibmcloud login] and [ibmcloud cr login] commands.

Step 3:

Build the image to docker hub.

Step 4:

Tag the docker image with our IBM container register namespaces.

Step 5:

Push to the namespaces of IBM container registry.

Step 6:

View the pushed image on IBM container registry.

Step 5:

Launch Kubernetes service and connect via CLI

Step 5:

Apply the yaml files using command prompt.

Step 5:

View the public IP and port number.

Step 5:

Go to the Public IP with the respected port number.

Login to the docker, ibmcloud & ibmcloud cr in Command Prompt:

Building, Tagging and Pushing the Image to Container Registry:

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Aman\Aman IBM\aman project final> docker login
Authenticating with existing credentials...
Login Succeeded

Logging in with your password grants your terminal complete access to your account.
For better security, log in with a limited-privilege personal access token. Learn more at https://docs.docker.com/go/access-tokens/

PS C:\Users\Aman\Aman IBM\aman project final> docker build -t aman-project .
[+] Building 20.4s (10/11)
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 32B 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/python:3.10.6 2.2s
=> [auth] library/python:pull token for registry-1.docker.io 0.0s
=> [internal] load build context 0.2s
=> => transferring context: 299.97kB 0.2s
=> [1/6] FROM docker.io/library/python:3.10.6@sha256:745efdfb7e4aac9a8422bd8c62d8bc35a693e8979a240d29677cb03e6aa 0.0s
=> CACHED [2/6] RUN apt-get update 0.0s
=> CACHED [3/6] RUN mkdir /app 0.0s
=> CACHED [4/6] WORKDIR /app 0.0s
=> CACHED [5/6] COPY . /app 0.0s
```

```
Windows PowerShell
8d51c618126f: Waiting
9ff6e4d46744: Waiting
a89d1d47b5a1: Waiting
655ed1b7a428: Waiting
unauthorized: The login credentials are not valid, or your IBM Cloud account is not active.
PS C:\Users\Aman\Aman IBM\aman project final> ibmcloud cr login
Logging 'docker' in to 'jp.icr.io'...
Logged in to 'jp.icr.io'.

OK
PS C:\Users\Aman\Aman IBM\aman project final> docker push jp.icr.io/ns-project/aman-project
Using default tag: latest
The push refers to repository [jp.icr.io/ns-project/aman-project]
2515d6344c34: Layer already exists
72517d960819: Layer already exists
5f70bf18a086: Layer already exists
ad02e4ab118b: Layer already exists
8488b33b6249: Layer already exists
bfc1deb8136e: Layer already exists
1f123186824c: Layer already exists
3d6eb1152931: Layer already exists
100796cdf3b1: Layer already exists
54acb5a6fa0b: Layer already exists
8d51c618126f: Layer already exists
9ff6e4d46744: Layer already exists
a89d1d47b5a1: Layer already exists
655ed1b7a428: Layer already exists
denied: You have exceeded your storage quota. Delete one or more images, or review your storage quota and pricing plan.
For more information, see https://ibm.biz/BdPdFA.
PS C:\Users\Aman\Aman IBM\aman project final> |
```

Viewing the Pushed Image on Container Registry:

The screenshot shows the IBM Cloud Container Registry web interface. The left sidebar contains a navigation menu with options: Container Registry, Quick start, Namespaces (1), Repositories (2), Images (2), Trash (5), and Settings. The main content area is titled 'Repositories' and shows a list of repositories. The location is set to 'Tokyo'. The table lists two repositories:

Name	Image count	Namespace	Last updated
aman-project jp.icr.io/ns-project/aman-project	1	ns-project	1 day ago
hello-helm-20221123174827700 jp.icr.io/ns-project/hello-helm-20221123174827700	1	ns-project	3 days ago

At the bottom of the table, it shows 'Items per page: 25' and '1-2 of 2 items'. There is also a 'Create' button in the top right corner of the repository list.

Launch Kubernetes Service and Connect Via CLI:

The screenshot shows the IBM Cloud Kubernetes Service overview page for a cluster named 'mycluster-free'. The cluster is in a 'Normal' state and has a warning that it 'Expires in 15 days'. The page displays various status metrics and details.

Cluster Overview:

- Cluster ID: `cdn8jusf0eg28bp5jeog`
- Version: `1.24.8_1544`
- Infrastructure: `Classic`
- Zones: `Milan 01`
- Created: `11/11/2022, 11:14 PM`
- Resource group: `Default`
- Image security enforcement: `Disable`

Node Status:

- 1 of 1 nodes are Normal.

Add-on Status:

- 0 of 0 add-ons are Normal.

Master Status:

- Normal

Ingress Status:

- Healthy

Node Health:

- 1 total nodes
- 100% Normal, 0% Warning, 0% Critical, 0% Pending

The screenshot shows the same IBM Cloud Kubernetes Service overview page, but with a 'Connect via CLI' modal open. The modal provides instructions on how to connect to the cluster using the CLI.

Connect via CLI

Cluster status: `Normal`

If this is your first time connecting to an IBM Cloud cluster, see the [full setup directions](#).

- Log in to your IBM Cloud account. Include the `--sso` option if using a federated ID.
`ibmcloud login -a cloud.ibm.com -r eu-de -g Default`
- Set the Kubernetes context to your cluster for this terminal session. For more information about this command, see the [docs](#).
`ibmcloud ks cluster config --cluster cdn8jusf0eg28bp5jeog`
- Verify that you can connect to your cluster.
`kubectl config current-context`

Now, you can run `kubectl` commands to manage your cluster workloads in IBM Cloud! For a full list of commands, see the [Kubernetes docs](#).

Tip: Plan to use multiple clusters? Repeat these steps for each cluster. Then, you can use the `kubectl config use-context` command to switch your context to a different cluster.

```
Windows PowerShell
Password>
Authenticating...
OK

Targeted account Sheik Amanullah's Account (7fc6415feba6437dacf1be78d3f82695)

Targeted resource group Default

Targeted region eu-de

API endpoint:      https://cloud.ibm.com
Region:            eu-de
User:              sheikaman63@gmail.com
Account:           Sheik Amanullah's Account (7fc6415feba6437dacf1be78d3f82695)
Resource group:    Default
CF API endpoint:
Org:
Space:
PS C:\Users\Aman\Aman IBM\aman project final> ibmcloud ks cluster config --cluster cdn8jusf0eg28bp5jeog
OK
The configuration for cdn8jusf0eg28bp5jeog was downloaded successfully.

Added context for cdn8jusf0eg28bp5jeog 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.
PS C:\Users\Aman\Aman IBM\aman project final> kubectl config current-context
mycluster-free/cdn8jusf0eg28bp5jeog
PS C:\Users\Aman\Aman IBM\aman project final> |
```

Apply the yaml Files Using Command Prompt:

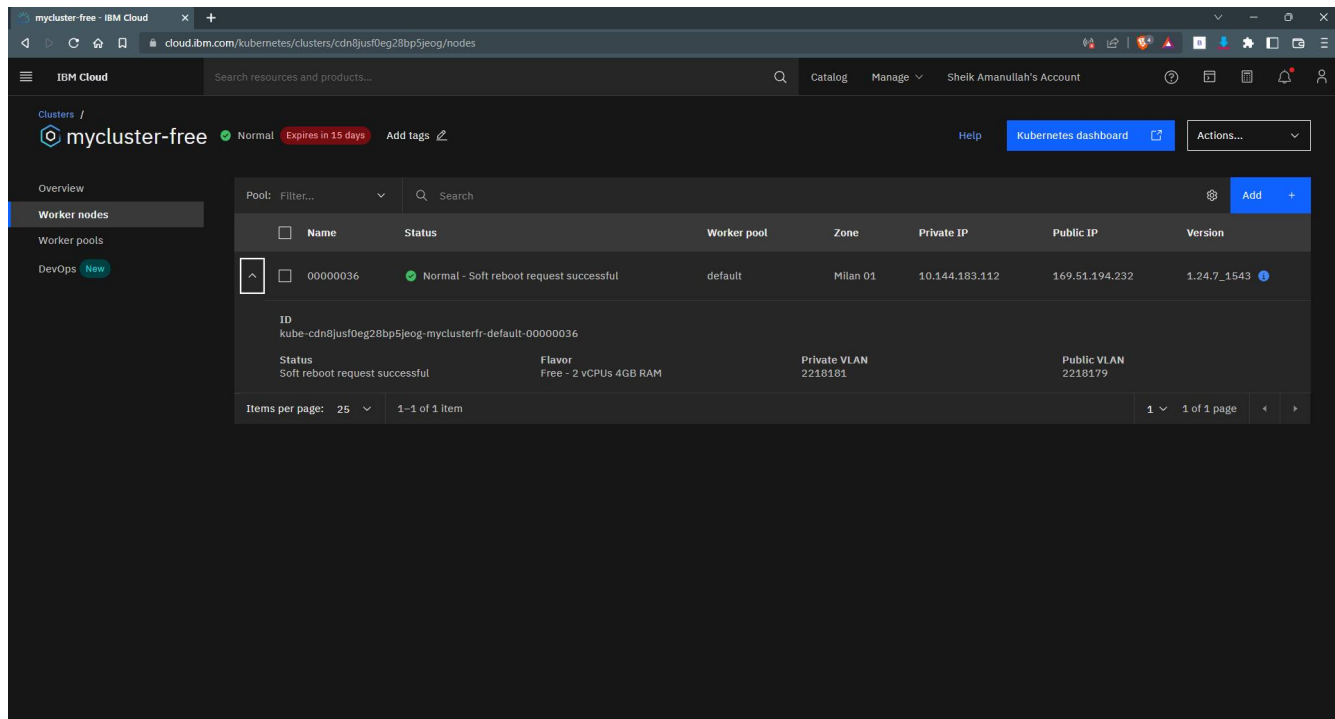
```
Windows PowerShell

Targeted region eu-de

API endpoint:      https://cloud.ibm.com
Region:            eu-de
User:              sheikaman63@gmail.com
Account:           Sheik Amanullah's Account (7fc6415feba6437dacf1be78d3f82695)
Resource group:    Default
CF API endpoint:
Org:
Space:
PS C:\Users\Aman\Aman IBM\aman project final> ibmcloud ks cluster config --cluster cdn8jusf0eg28bp5jeog
OK
The configuration for cdn8jusf0eg28bp5jeog was downloaded successfully.

Added context for cdn8jusf0eg28bp5jeog 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.
PS C:\Users\Aman\Aman IBM\aman project final> kubectl config current-context
mycluster-free/cdn8jusf0eg28bp5jeog
PS C:\Users\Aman\Aman IBM\aman project final> kubectl apply -f .\service.yaml
service/aman-project-service unchanged
PS C:\Users\Aman\Aman IBM\aman project final> kubectl apply -f .\deployment.yaml
deployment.apps/aman-project unchanged
PS C:\Users\Aman\Aman IBM\aman project final> kubectl get svc
NAME                                TYPE        CLUSTER-IP      EXTERNAL-IP  PORT(S)          AGE
aman-project-service               NodePort    172.21.186.32   <none>       5000:30658/TCP   14h
kubernetes                         ClusterIP   172.21.0.1      <none>       443/TCP          14d
PS C:\Users\Aman\Aman IBM\aman project final> |
```

View the Public IP and Port Number:



mycluster-free - IBM Cloud

cloud.ibm.com/kubernetes/clusters/cdn8jusf0eg28bp5jeog/nodes

IBM Cloud

Search resources and products...

Clusters / mycluster-free Normal Expires in 15 days Add tags

Help Kubernetes dashboard Actions...

Overview

Worker nodes

Worker pools

DevOps New

Pool: Filter... Search

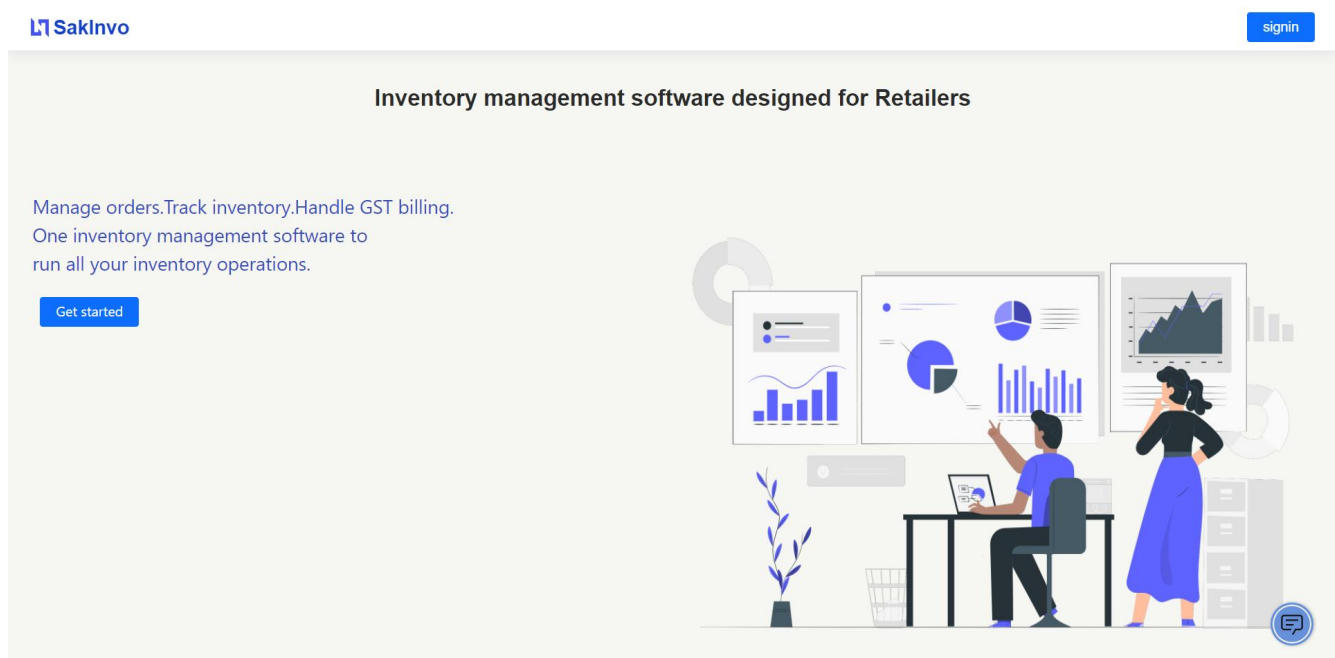
Name	Status	Worker pool	Zone	Private IP	Public IP	Version
00000036	Normal - Soft reboot request successful	default	Milan 01	10.144.183.112	169.51.194.232	1.24.7_1543

ID kube-cdn8jusf0eg28bp5jeog-myclusterfr-default-00000036

Status Soft reboot request successful Flavor Free - 2 vCPUs 4GB RAM Private VLAN 2218181 Public VLAN 2218179

Items per page: 25 1-1 of 1 item 1 1 of 1 page

Visit the Public IP and Port Number of Project:



SakInvo

signin

Inventory management software designed for Retailers

Manage orders.Track inventory.Handle GST billing.
One inventory management software to
run all your inventory operations.

Get started