

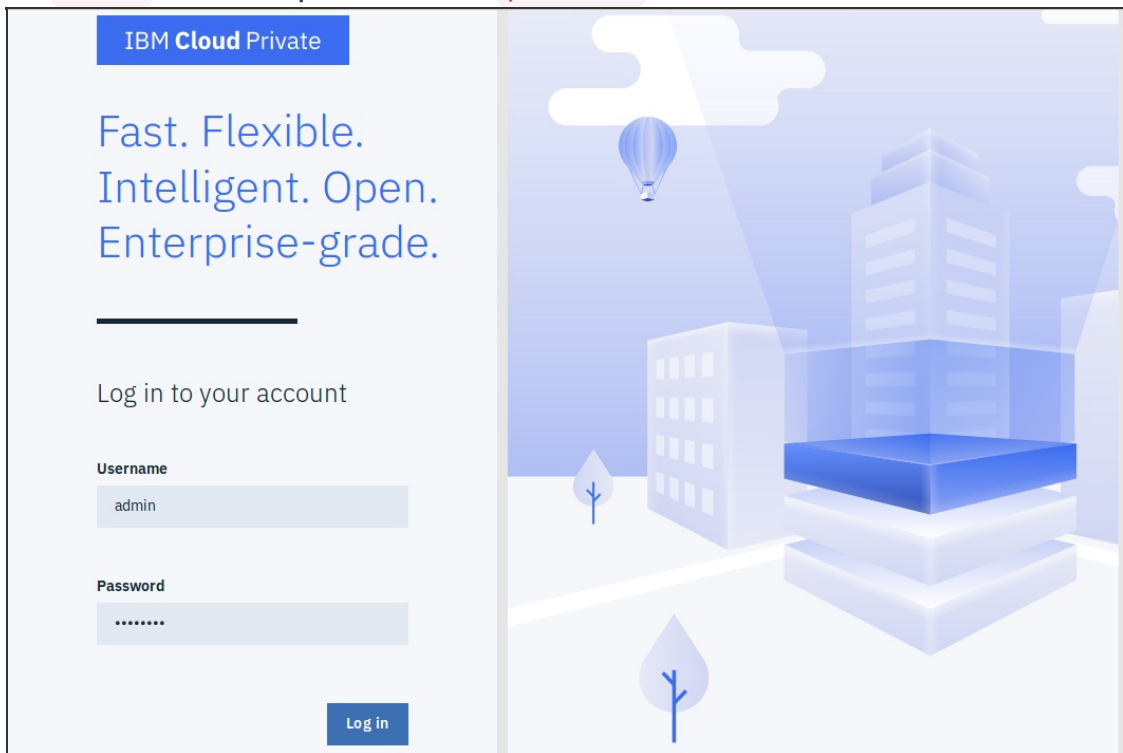


Initial Setup of IBM Cloud Private

Exercise 1: The Web User Interface

This exercise familiarizes you with the IBM Cloud Private Web User interface.

1. Open a Firefox Web browser and go to <https://10.10.1.10:8443> . Login as **admin** with the password of **passw0rd** .





2. Scroll down and hide the Welcome message.

IBM Cloud Private

Create resourceDocsSupport

Welcome to IBM Cloud Private

The Platform: The core platform is built on Kubernetes, a container orchestration platform that works across private, dedicated, and public clouds and can integrate open source application runtimes, Helm charts, and other apps in its containers.

The Catalog: You can discover new services to use in your applications and quickly deploy trusted IBM middleware to your private cloud from the catalog.

Managing your cloud: A core set of management services for the application runtime frameworks and the applications that you develop is included as part of the platform. These management services include logging, monitoring, access control, and event management. You can integrate these tools with other enterprise management service instances so that you access all of your management tools from one location.

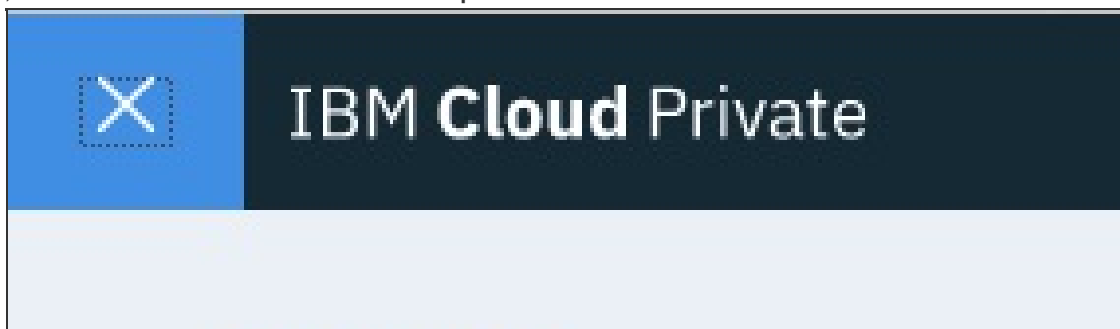
Tired of this top section? [Hide it](#)



3. Click on the menu icon (



) and look at the various components.





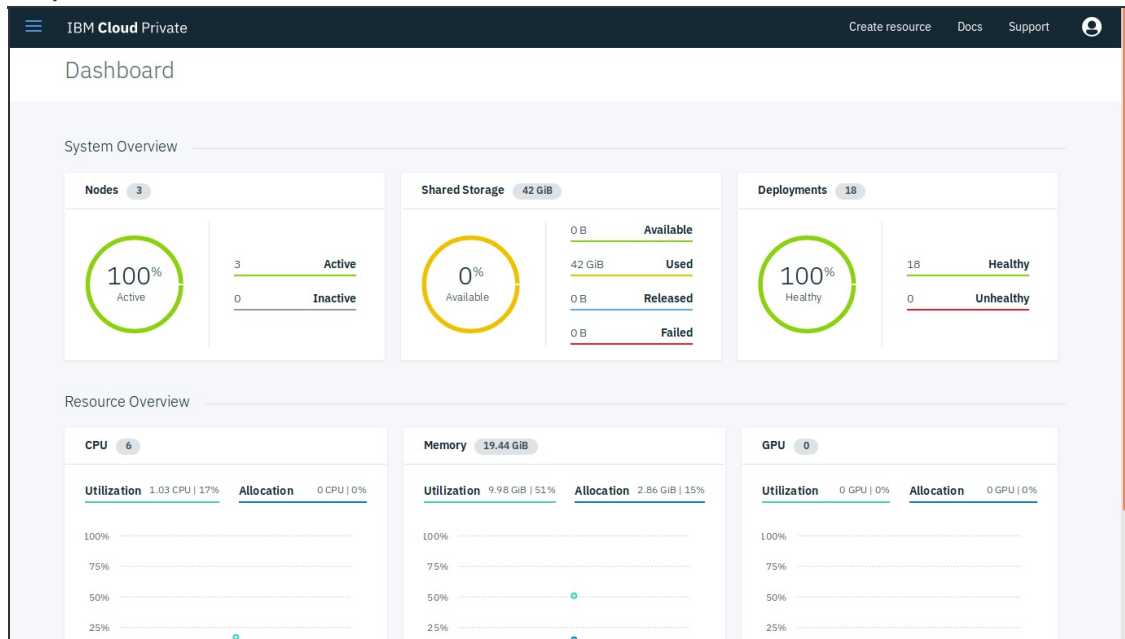
Dashboard

- ▶ **Catalog**
- ▶ **Workloads**
- ▶ **Network Access**
- ▶ **Configuration**
- ▶ **Platform**
- ▶ **Manage**
- ▶ **Command Line Tools**

Getting started



4. In the dashboard page, you can see the snapshot of the current status of your cluster.



5. Expand the **Workloads** menu. These are the various available workloads that can run in IBM Cloud Private.



▼ Workloads

Brokered Services

DaemonSets

Deployments

Helm Releases

Jobs

StatefulSets

ReplicaSets



6. Currently there are only system workloads (namespace of **kube-system**). As an example, open the deployments workload (**Workloads > Deployments**) to see the system applications.

Deployments

All namespaces

Search items

Create Deployment

20 Items per page | 1-18 of 18 items

1 of 1 pages

NAME	NAMESPACE	DESIRED	CURRENT	READY	AVAILABLE	CREATION TIME	ACTION
helm-api	kube-system	1	1	1	1	Mar 20th 2018 at 10:55 AM	⋮
helmrepo	kube-system	1	1	1	1	Mar 20th 2018 at 10:55 AM	⋮
monitoring-prometheus	kube-system	1	1	1	1	Mar 20th 2018 at 10:55 AM	⋮
monitoring-prometheus-kubestatemetrics	kube-system	1	1	1	1	Mar 20th 2018 at 10:55 AM	⋮
monitoring-exporter	kube-system	1	1	1	1	Mar 20th 2018 at 10:55 AM	⋮
monitoring-grafana	kube-system	1	1	1	1	Mar 20th 2018 at 10:55 AM	⋮

7. Other resources already defined are **Jobs**, **DaemonSet** and **StatefulSet**.
8. Under **Network Access > Services**, you can see the list of network endpoints for the workloads.

Services

All namespaces

Services Ingress

Search items

Create Service

20 Items per page | 1-20 of 36 items

1 of 2 pages

NAME	NAMESPACE	CREATION TIME	ACTION
helmrepo	kube-system	Mar 20th 2018 at 10:55 AM	⋮
helm-api	kube-system	Mar 20th 2018 at 10:55 AM	⋮
monitoring-prometheus	kube-system	Mar 20th 2018 at 10:55 AM	⋮
monitoring-prometheus-nodeexporter	kube-system	Mar 20th 2018 at 10:55 AM	⋮

9. Still in the services view, click on the **Ingress** tab. This tab lists the various external access endpoints provided for exposing access to the



cluster.

Services

All namespaces

Services Ingress

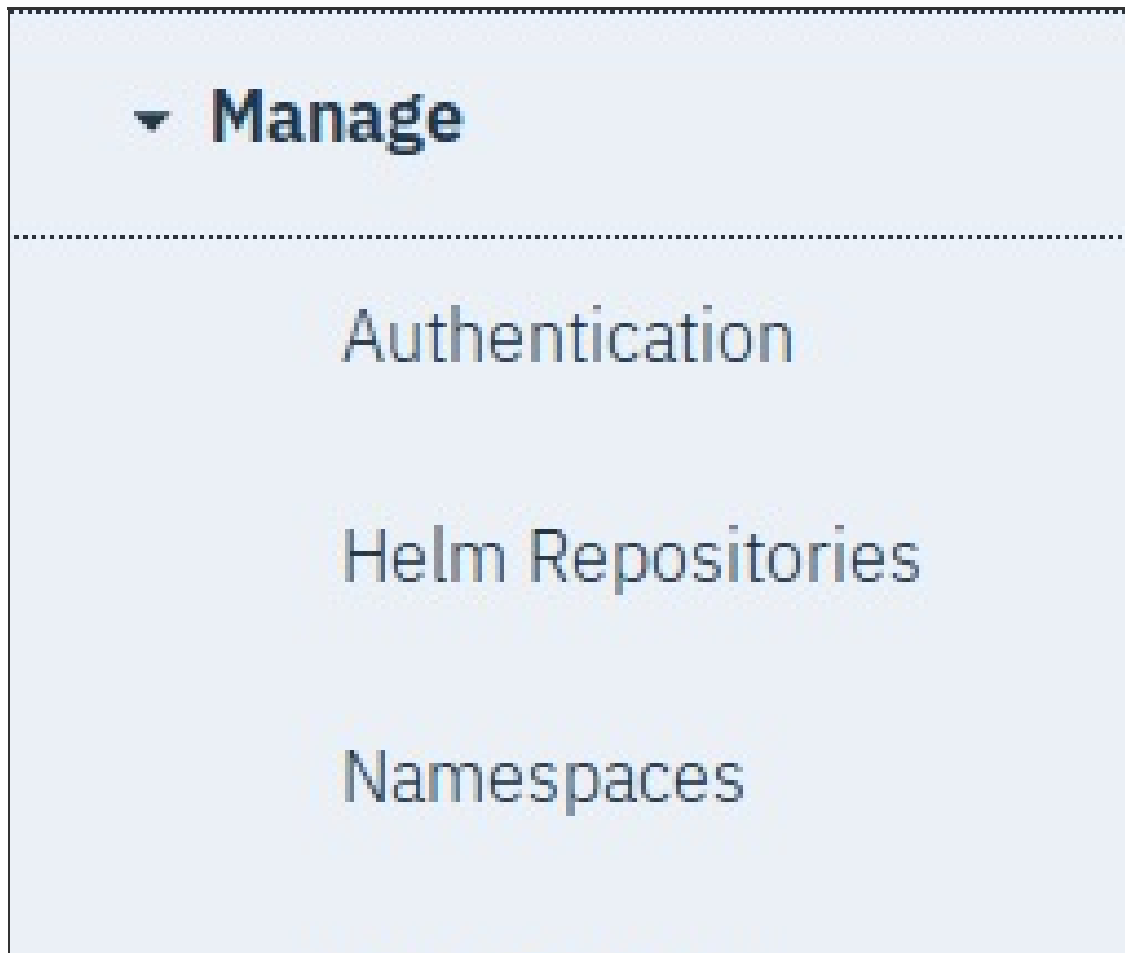
Search items

Create Ingress

20 Items per page | 1-20 of 28 items 1 of 2 pages < 1 >

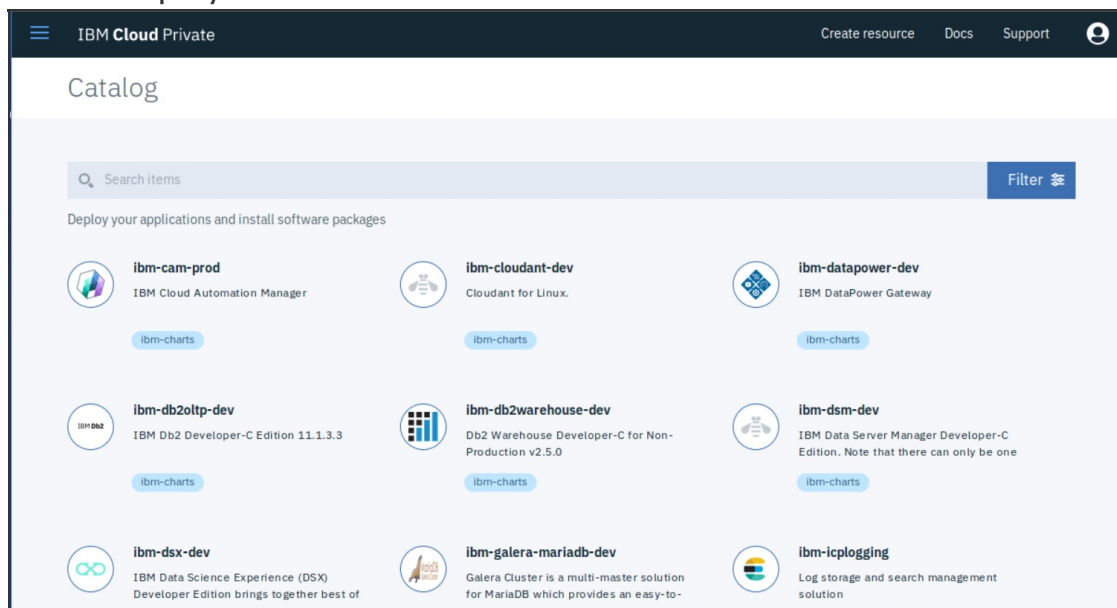
NAME	NAMESPACE	HOSTNAMES	ADDRESS	CREATION TIME	ACTION
helm-repo	kube-system		10.10.1.10	Mar 20th 2018 at 10:55 AM	⋮
helm-api	kube-system		10.10.1.10	Mar 20th 2018 at 10:55 AM	⋮
prometheus	kube-system		10.10.1.10	Mar 20th 2018 at 10:55 AM	⋮
prometheus-graph	kube-system		10.10.1.10	Mar 20th 2018 at 10:55 AM	⋮
alertmanager	kube-system		10.10.1.10	Mar 20th 2018 at 10:55 AM	⋮
grafana	kube-system		10.10.1.10	Mar 20th 2018 at 10:55 AM	⋮
metering-ui	kube-system		10.10.1.10	Mar 20th 2018 at 10:51 AM	⋮
unified-router	kube-system		10.10.1.10	Mar 20th 2018 at 10:50 AM	⋮

10. Under the **Manage** menu, you can see various cluster management related resources.





11. Click on **Catalog** > **Helm Charts**. Listed here are the applications that can be deployed into IBM Cloud Private.



12. You can continue to explore various options in the Web UI.



Exercise 2: Set up CLI tools

In this exercise, you install and configure the CLI environments that you will need for IBM Cloud Private:

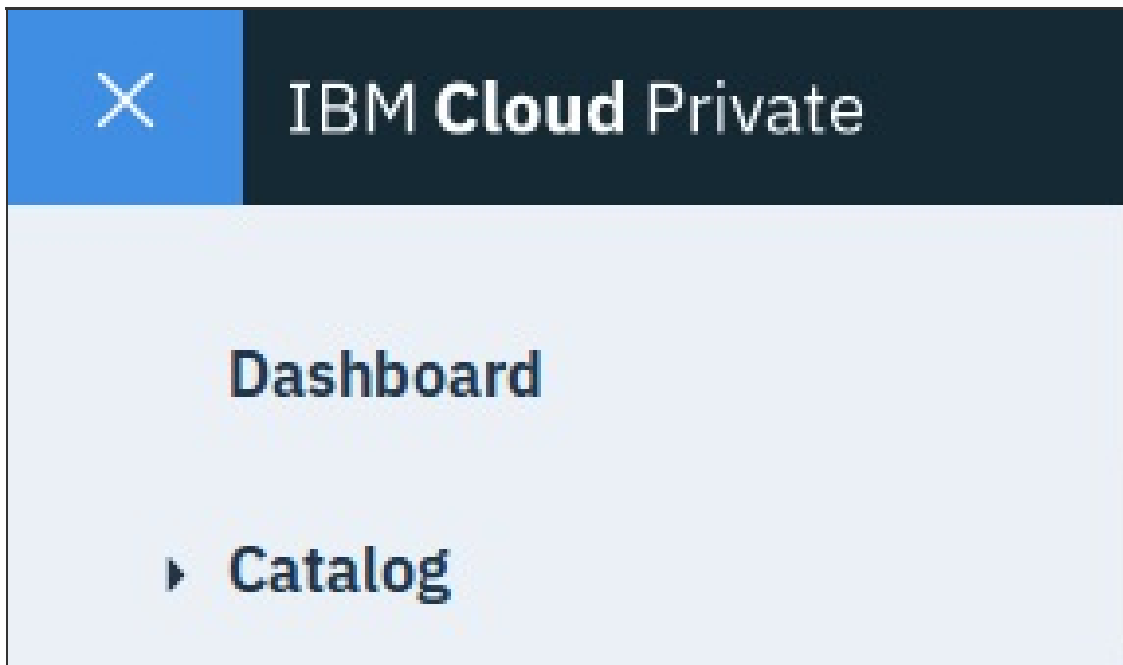
1. Open a terminal window.
2. Run the following command to download the Linux 64-bit binary `helm` binary for IBM Cloud Private.

```
docker run -e LICENSE=accept --net=host -v /usr/local/bin:/data  
ibmcom/icp-helm-api:1.0.0 cp /usr/src/app/public/cli/linux-  
amd64/helm /data
```

3. Set the `HELM_HOME` environment variable and move the `helm` executable into a directory in your `PATH`. The `sudo` password is `password`.

```
export HELM_HOME=~/.helm  
sudo mv helm /usr/local/bin
```

4. In your browser, get the IBM Cloud Private CLI plugin from the menu icon and select **Command Line Tools > Cloud Private CLI**.





▶ **Workloads**

▶ **Network Access**

▶ **Configuration**

▶ **Platform**

▶ **Manage**

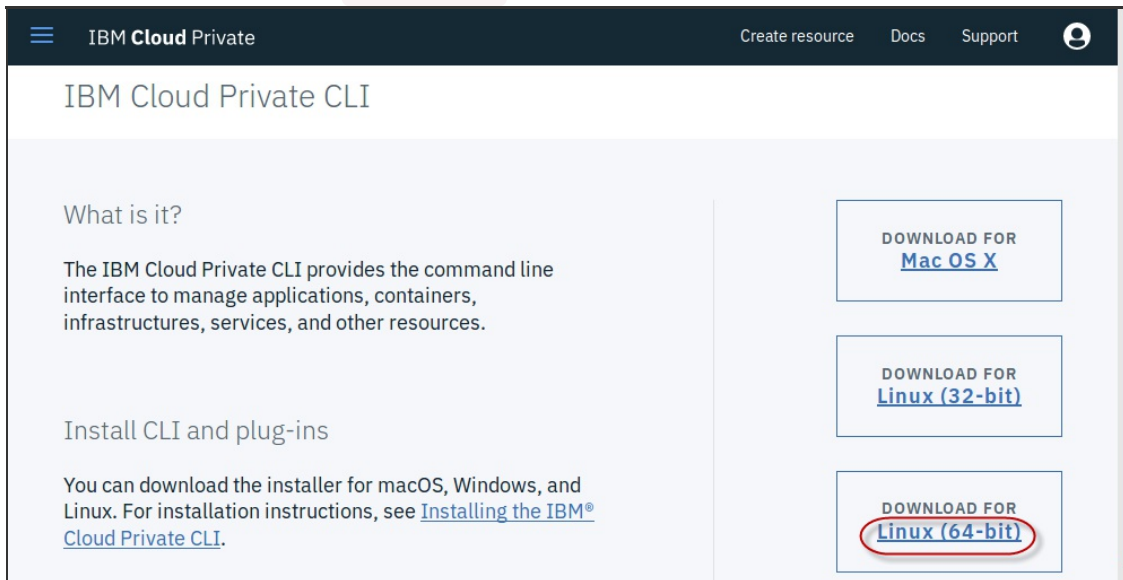
▼ **Command Line Tools**

Cloud Private CLI

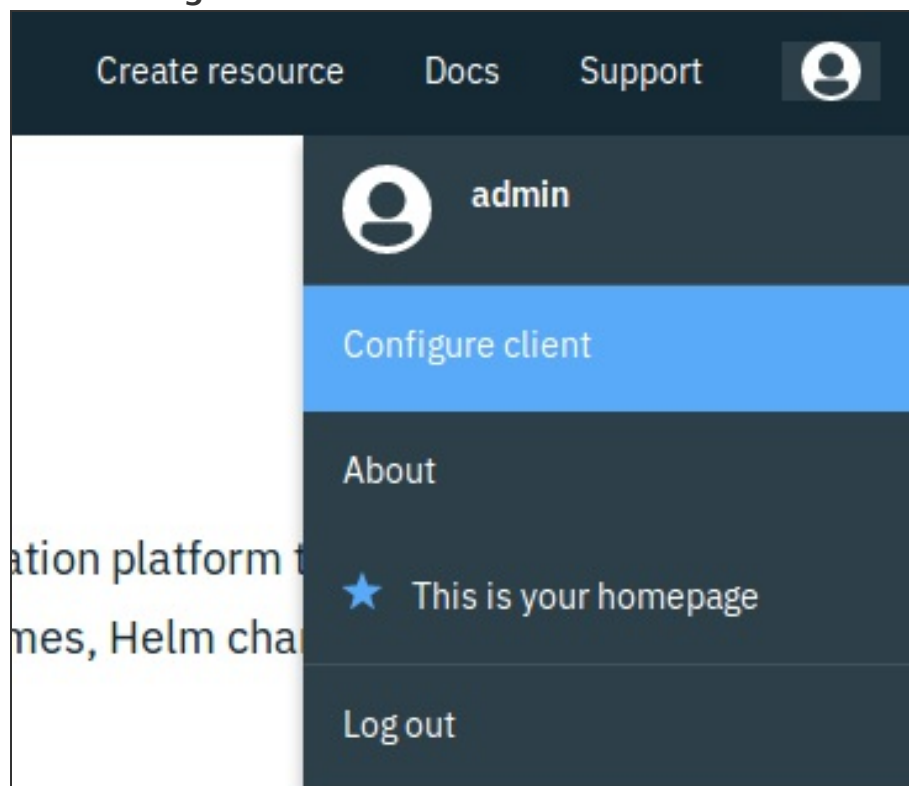
Getting started



- Click the Download link for **Linux (64-bit)** and click **Save file**. The file is downloaded to the **Downloads** folder.

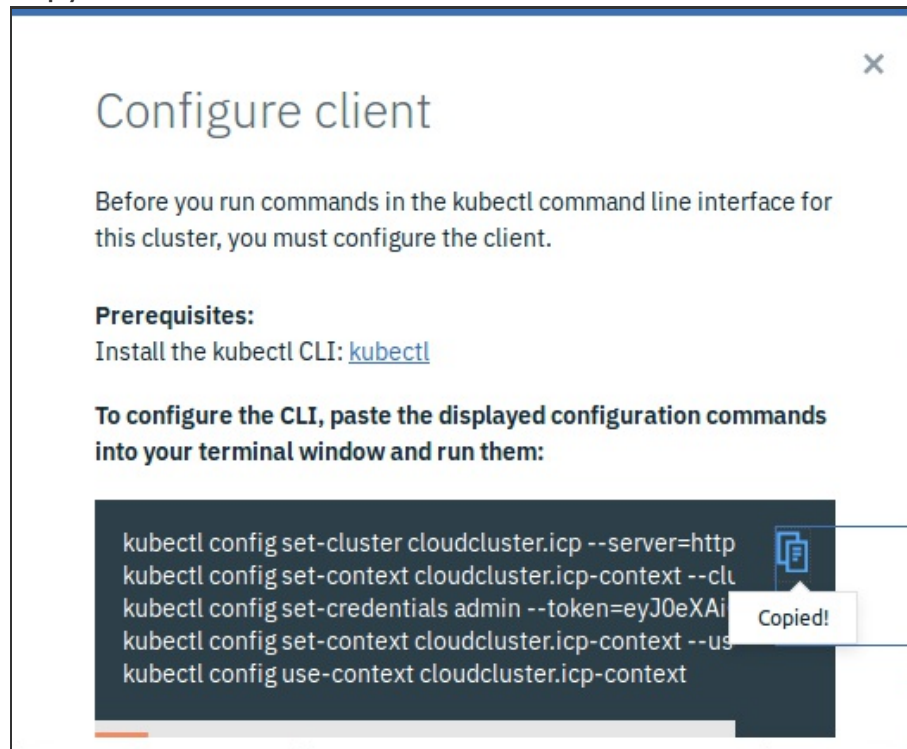


- Set up the **kubectl** configuration. Click the "head" icon in the top-right corner of your browser window.
 - Click **Configure Client**.





- o In the configure client pop-up, click the Copy icon to copy the CLI commands.



- o Paste the commands into the terminal window to initialize kubectl.

```
localuser@ibmcloudacademy:~  
File Edit View Search Terminal Help  
localuser@ibmcloudacademy:~$ kubectcl config set-cluster cloudcluster.icp --server=https://10.10.1.10:8001 --insecure-skip-tls-verify=true  
Cluster "cloudcluster.icp" set.  
localuser@ibmcloudacademy:~$ kubectcl config set-context cloudcluster.icp-context --cluster=cloudcluster.icp  
Context "cloudcluster.icp-context" created.  
localuser@ibmcloudacademy:~$ kubectcl config set-credentials admin -token=e70eXAlO1JqKlQVCIGChbbCtOIJSUZiINLj9.eYjdHd9oYNxiTojbDQScZnRnjDzlkzi6FWBgWctTiiLCjZWfSbuShBWUOL1jdXNb0z1SZWFbs5isInVuaXFI2VNVL3vyaXRSTmfTzSi6EfkbkbluiIwAXNc3JiaohARCMheLmylgB9J2GNsdXNZGXiuanWNwojKBNDMuWbzktMygPbwrb2Ludc9PUPIciwiFnFZCi6IHobDSUNTQ5TZjMNT15OT1YWMWyzk30THjNmNMDC3r14izXwhmiJoxyNTitX0y2lqeX02E12CdJCpXYQlloIE2MDZSYniIYiIEfnfbklutuliWbvJVbGVNYXBwaW5ncyIiOWI19.4q41IZIt1TvBY85huqYrhZhvgE.YNW2duZFz34-dWEsbQkkx4Qasr04oyEm_qnuWS_HWCBAZH03UEANbgj79gpFPaAJxLKNAks3_Ghmur_ETGRKTCS-SuAhtXuivEKgczzJPFl4TL0LDZ4EHNPMDooIncs58MbURgtRLGo3ccv18W9rdCqqVDV7oZjr6LjzqEQhtqvTzFK7epcbchjaZtcHLTYviIEQCDFxlXS1NapysWHMcAnn2KOEsy2WA-fLnlnCFPKtiTd8napquLU8pjGncJGrPhix8EGESBGGL1LYtlcg2Umqw96BV8UAVxpSkwyhpzc-OHH48bk4cq  
User "admin" set.  
localuser@ibmcloudacademy:~$ kubectcl config set-context cloudcluster.icp-context --user=admin --namespace=default  
Context "cloudcluster.icp-context" modified.  
localuser@ibmcloudacademy:~$ kubectcl config use context cloudcluster.icp-context  
Switched to context "cloudcluster.icp-context".  
localuser@ibmcloudacademy:~$
```

- Now you can invoke `kubectl`. Try to run `kubectl get pod -n kube-system` to list all pods related to the Kubernetes system.
- Install the IBM Cloud CLI plugin.

```
ibmcloud plugin install ./Downloads/icp-linux-amd64
```



```
localuser@ibmcloudacademy: ~  
File Edit View Search Terminal Help  
localuser@ibmcloudacademy:~$ bx plugin install ./Downloads/icp-linux-amd64  
Installing binary...  
OK  
Plug-in 'icp 2.1.182' was successfully installed into /home/localuser/.bluemix/plugins/icp.  
Use 'bx plugin show icp' to show its details.  
localuser@ibmcloudacademy:~$
```

9. Initialize helm using the IBM Cloud Private CLI.

- Initialize the helm client.

```
helm init --client-only
```

- Login to the IBM Cloud Private CLI. Select the `cloudcluster` account.

```
ibmcloud pr login -a https://master:8443 -u admin -p  
passw0rd --skip-ssl-validation
```

- Check helm to tiller connectivity.

```
helm version --tls
```

```
localuser@ibmcloudacademy: ~  
File Edit View Search Terminal Help  
localuser@ibmcloudacademy:~$ helm init --client-only  
SHOULD have been configured at /home/localuser/.helm.  
Not installing Tiller due to 'client-only' flag having been set  
Happy Helming!  
localuser@ibmcloudacademy:~$ ibmcloud pr login -a https://master:8443 -u admin -p passw0rd --skip-ssl-validation  
API endpoint: https://master:8443  
Authenticating...  
OK  
Select an account:  
1. mycluster Account (id-mycluster-account)  
Enter a number> 1  
Targeted account mycluster Account (id-mycluster-account)  
Configuring helm and kubectl...  
Configuring kubectl: /home/localuser/.bluemix/plugins/icp/clusters/mycluster/kube-config  
Property "clusters.mycluster" unset.  
Property "users.mycluster-user" unset.  
Property "contexts.mycluster-context" unset.  
Cluster "mycluster" set.  
User "mycluster-user" set.  
Context "mycluster-context" created.  
Switched to context "mycluster-context".  
Cluster mycluster configured successfully.  
Configuring helm: /home/localuser/.helm  
Helm configured successfully  
OK  
localuser@ibmcloudacademy:~$ helm version --tls  
Client: &version.Version{SemVer:"v2.7.3+icp", GitCommit:"27442e4cfd324d8f82f935fe0b7b492994d4c289", GitTreeState:"dirty"}  
Server: &version.Version{SemVer:"v2.7.3+icp", GitCommit:"27442e4cfd324d8f82f935fe0b7b492994d4c289", GitTreeState:"dirty"}  
localuser@ibmcloudacademy:~$
```

10. In your terminal window, use the following commands to view some details about your cluster.



ibmcloud pr clusters

```
ibmcloud pr masters mycluster
```

```
ibmcloud pr workers mycluster
```

```
localuser@ibmcloudacademy: ~  
File Edit View Search Terminal Help  
localuser@ibmcloudacademy:~$ ibmcloud pr clusters  
OK  
Name ID State Masters Workers Proxies  
mycluster 00000000000000000000000000000001 deployed 1 1 1  
localuser@ibmcloudacademy:~$ ibmcloud pr masters mycluster  
ID Private IP Machine Type State  
mycluster-00000000-m1 10.10.1.10 - deployed  
localuser@ibmcloudacademy:~$ ibmcloud pr workers mycluster  
ID Private IP Machine Type State  
mycluster-00000000-w1 10.10.1.30 - deployed  
localuser@ibmcloudacademy:~$
```

*** End of exercises ***