

# Installing CP4BA on a TechZone OpenShift VMware image

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## Introduction

This documentation will help you create your Cloud Pak for Business Automation (CP4BA) environment (starter pak configuration) to install the following Automation Platinum Demonstrations:

- Predictive decisioning
- Content management

This document will help you quickly install Cloud Pak for Business Automation on a blank OpenShift image provisioned from TechZone. It illustrates the setup from a Mac environment for IBMers. Microsoft users will have to install the corresponding tools (Docker/PowerShell) when necessary.

This is not intended to replace any setup instructions provided in the product documentation (see [related documentation](#)).

**NOTE:** IBMers are asked to avoid using package installer tools (e.g., Homebrew) and to use binary files. These instructions demonstrate how to access required files without using Homebrew.

## Audience

This documentation is targeted to:

- IBM tech sellers
- IBM business partners technical specialists

Some instructions related to accessing specific tools may differ between these two audiences.

## 1-Installing prerequisite tools

The CP4BA setup uses scripts to install required tools on your computer. These scripts use Docker and Kubernetes commands, as well as the OpenShift command line interface (CLI).

The client side requirements are detailed in the CP4BA setup instructions at:

[https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=deployment-preparing-starter#task\\_bhn\\_x3h\\_gmb\\_client](https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=deployment-preparing-starter#task_bhn_x3h_gmb_client).

The following instructions provide a summary of the required tools to set up CP4BA on your OpenShift VMware image.

1. [A macOS package installer \(business partners\): Homebrew](#)
2. [A powershell \(SZH\)](#)
3. [OpenShift command line interface \(CLI\)](#)
4. [Kubernetes CLI](#)

5. [Docker CLI or Podman](#)
6. htpasswd command

### 1.1 - Install Homebrew (Business partners on macOS)

Business partners can use Homebrew as an example to rapidly install the various required products on their macOS environment. You can get the Homebrew package installer from <https://brew.sh/>.

**NOTE:** IBMers are asked to avoid the use of package installers as much as possible and to proceed with the various installations using the binary files.

### 1.2 - Install a terminal shell

For Mac users, you can use **zsh** as your terminal. To validate that you have zsh installed, open a terminal window and type ‘**zsh –version**’:



A screenshot of a macOS terminal window titled 'Laurenttarin\_zsh 79x22'. The window shows the command 'zsh --version' being run and its output: 'zsh 5.9 (x86\_64-apple-darwin22.0)'. A red box highlights the command and its output. A red arrow points from a red circle containing an exclamation mark (!) towards the highlighted area.

```
laurenttarin@IBM-de-Laurent ~ % zsh --version
zsh 5.9 (x86_64-apple-darwin22.0)
laurenttarin@IBM-de-Laurent ~ %
```

For Microsoft users, you can install PowerShell (see [Microsoft documentation](#): <https://learn.microsoft.com/en-us/powershell/>) or zsh for Microsoft.

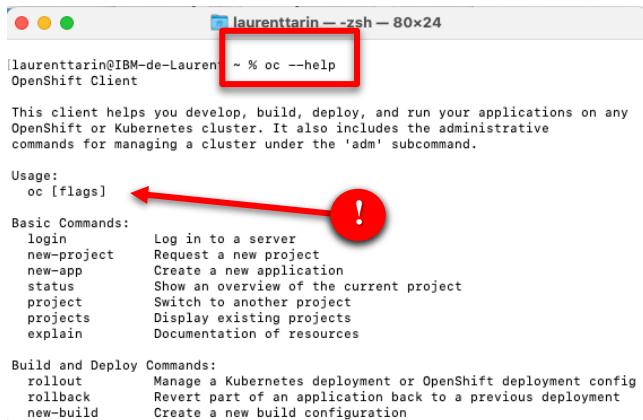
**NOTE:** You can find more information about how to install PowerShell on your environment on <https://github.com/ohmyzsh/ohmyzsh/wiki/Installing-ZSH>.

### 1.3 - Install OpenShift CLI

The ‘oc’ command is required to install CP4BA on your OpenShift environment. You can get the OpenShift CLI command and setup instructions for Mac and Microsoft Windows at: [https://docs.openshift.com/container-platform/4.8/cli\\_reference/openshift\\_cli/getting-started-cli.html](https://docs.openshift.com/container-platform/4.8/cli_reference/openshift_cli/getting-started-cli.html).

To validate that your **oc** command is correctly installed, type ‘**oc –help**’ from your terminal window:

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```
laurenttarin@IBM-de-Lauren ~ % oc --help
OpenShift Client

This client helps you develop, build, deploy, and run your applications on any
OpenShift or Kubernetes cluster. It also includes the administrative
commands for managing a cluster under the 'adm' subcommand.

Usage:
  oc [flags] !  

Basic Commands:
  login      Log in to a server
  new-project Request a new project
  new-app    Create a new application
  status     Show an overview of the current project
  project    Switch to another project
  projects   Display existing projects
  explain    Documentation of resources

Build and Deploy Commands:
  rollout   Manage a Kubernetes deployment or OpenShift deployment config
  rollback  Revert part of an application back to a previous deployment
  new-build Create a new build configuration
```

## 1.4 - Install Kubernetes CLI

You must install the Kubernetes CLI on your environment. Kubernetes setup instructions are available here: <https://kubernetes.io/docs/tasks/tools/>.

**NOTE:** The instructions require the ‘curl’ command line to be installed as well. Curl is installed by default on macOS. Please refer to this [documentation](https://developer.zendesk.com/documentation/api-basics/getting-started/installing-and-using-curl/#installing-curl) (<https://developer.zendesk.com/documentation/api-basics/getting-started/installing-and-using-curl/#installing-curl>) to validate and/or proceed with installing.

Setup example for IBMers on macOS:

**Step 1.4.1:** Create a TEMP folder on your local computer (e.g., under your home directory) and open your zsh terminal window.

**Step 1.4.2:** Type ‘`cd $HOME/TEMP`’ to move into your TEMP folder.



```
laurenttarin@IBM-de-Laurent ~ % cd $HOME/TEMP
```

**Step 1.4.3:** Get the latest version of the Kubernetes command by typing the following lines in your terminal window:

```
export KUBECTL_VERSION=`curl \
-s https://storage.googleapis.com/kubernetes-release/\
release/stable.txt`  
curl -LO "https://storage.googleapis.com/kubernetes-\
release/release/${KUBECTL_VERSION}/bin/linux/amd64/kubectl"
```

This will download the latest command version on your computer.

```
[laurenttarin@IBM-de-Laurent ~ % cd $HOME/TEMP  
laurenttarin@IBM-de-Laurent TEMP % export KUBECTL_VERSION='curl \  
-s https://storage.googleapis.com/kubernetes-release/\  
release/stable.txt'  
curl -LO "https://storage.googleapis.com/kubernetes-\  
release/release/${KUBECTL_VERSION}/bin/linux/amd64/kubectl"  
  
% Total    % Received % Xferd  Average Speed   Time     Time      Time  Current  
          Dload Upload Total   Spent   Left  Speed  
100 46.9M  100 46.9M    0     0  9300k      0  0:00:05  0:00:05  --:--:-- 10.0M  
laurenttarin@IBM-de-Laurent TEMP % ]
```

**Step 1.4.4:** Make the command executable all users by typing ‘`chmod a+x kubectl`’.

```
[laurenttarin@IBM-de-Laurent ~ % cd $HOME/TEMP  
laurenttarin@IBM-de-Laurent TEMP % export KUBECTL_VERSION='curl \  
-s https://storage.googleapis.com/kubernetes-release/\  
release/stable.txt'  
curl -LO "https://storage.googleapis.com/kubernetes-\  
release/release/${KUBECTL_VERSION}/bin/linux/amd64/kubectl"  
  
% Total    % Received % Xferd  Average Speed   Time     Time      Time  Current  
          Dload Upload Total   Spent   Left  Speed  
100 46.9M  100 46.9M    0     0  9300k      0  0:00:05  0:00:05  --:--:-- 10.0M  
laurenttarin@IBM-de-Laurent TEMP % chmod a+x kubectl  
laurenttarin@IBM-de-Laurent TEMP % ]
```

**Step 1.4.5:** Move the `kubectl` command into a folder pointed in your **PATH** environment variable (type ‘`echo $PATH`’ to see the possible location or add the current location of your `kubectl` command to your `PATH` environment variable).

**Step 1.4.6:** Type ‘`kubectl version –client`’ to validate that your `kubectl` command works:

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```
[laurenttarin@IBM-de-Laurent ~ % cd $HOME/TEMP
[laurenttarin@IBM-de-Laurent TEMP % export KUBECTL_VERSION='curl \
-s https://storage.googleapis.com/kubernetes-release/\
release/stable.txt'
curl -L0 "https://storage.googleapis.com/kubernetes-\
release/release/${KUBECTL_VERSION}/bin/linux/amd64/kubectl"
% Total    % Received % Xferd  Average Speed   Time   Time Current
          Dload  Upload   Total Spent  Left Speed
100 46.9M  100 46.9M    0      0  9300K  0:00:05  0:00:05 --:-- 10.0M
[laurenttarin@IBM-de-Laurent TEMP % chmod +x ./kubectl
[laurenttarin@IBM-de-Laurent TEMP % kubectl version --client
WARNING: This version information is deprecated and will be replaced with the output from kubectl version --short. Use --output=yaml|json to get the full version.
Client Version: version.Info{Major:"1", Minor:"26", GitVersion:"v1.26.3", GitCommit:"9e644106593f3f4aa98f8a8
4b23db5fa378900bd", GitTreeState:"clean", BuildDate:"2023-03-15T13:40:17Z", GoVersion:"go1.19.7", Compiler:"gc",
Platform:"darwin/amd64"}
Kustomize Version: v4.5.7
[laurenttarin@IBM-de-Laurent TEMP % ]
```



## 1.5 - Install the Docker CLI – Podman (IBMers)

The Docker CLI is required to proceed with the CP4BA installation.

- IBMers: Please refer to <https://w3.ibm.com/w3publisher/docker-desktop/podman>.
- Business partners: You can use the Docker CLI of your choice or use [Homebrew](#) () to install Docker on your environment by typing ‘brew install docker’ in your terminal window.

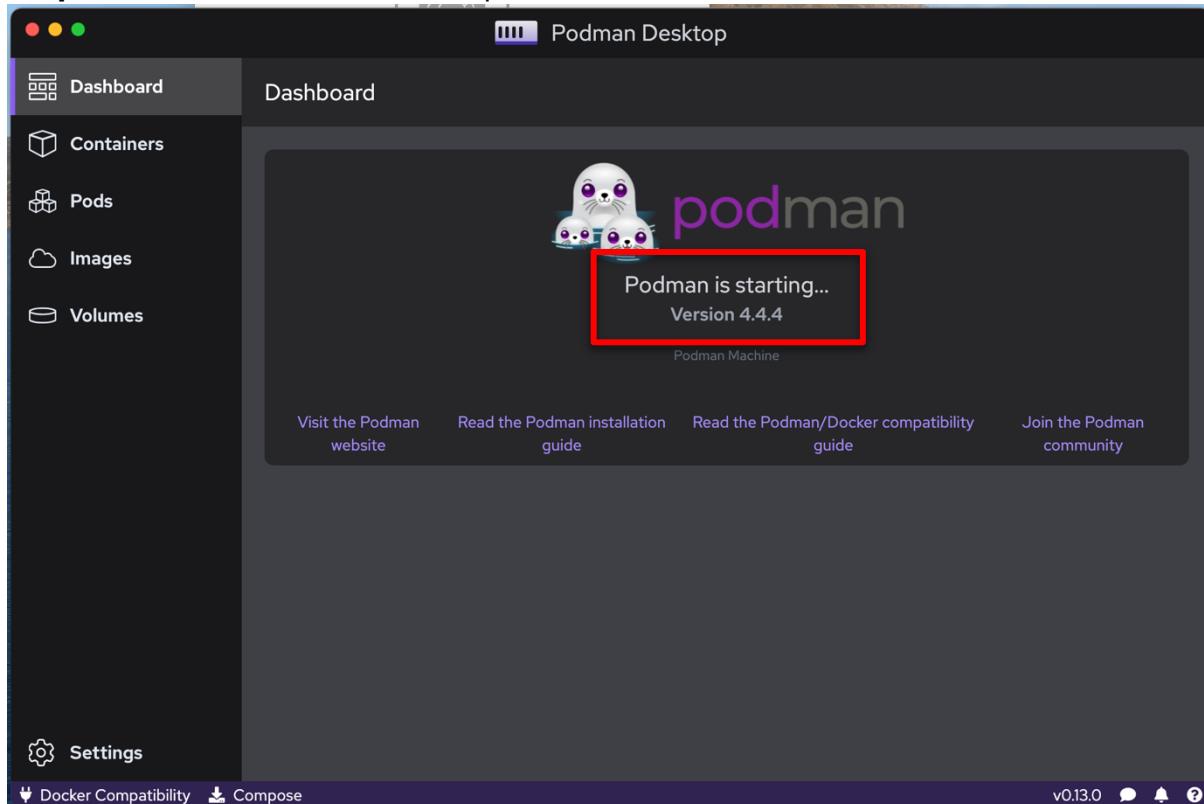
For IBMers, follow these steps to [create the Docker symbolic link for installing Podman](#):

**Step 1.5.1:** Go to <https://podman-desktop.io/> to access the Podman Desktop Installer.

**Step 1.5.2:** Click **Download Now** to install Podman Desktop onto your computer.

The screenshot shows the official Podman Desktop website. At the top, there's a navigation bar with links like 'Technology Zone...', 'BOX @IBM', 'IBM DAM Library', 'IPM Lab | Powere...', 'IBM Cloud Pak for...', 'DOC ODM 8.11.1', and 'Loan App'. Below the navigation is a search bar and a user profile icon. The main heading is 'Containers and Kubernetes for application developers'. A subtext below it says 'Podman Desktop is an open source graphical tool enabling you to seamlessly work with containers and Kubernetes from your local environment.' A large purple 'Download Now' button is centered, with a red box highlighting it. Below the button, it says 'For macOS (browser-detected)'. Underneath the button is a link 'Other downloads'. At the bottom, there's a preview of the Podman Desktop application interface, which shows a dashboard with sections for 'Containers', 'Pods', 'Images', 'Volumes', and 'Extensions'. The 'Containers' section lists a single container named 'mystifying\_mendelev' with status 'RUNNING', image 'quay.io/openshift/rhodsh/parksmap:latest', and age '1 minute'. There are also buttons for 'Create container' and 'Play Kubernetes YAML'.

### Step 1.5.3: Start Podman Desktop.



**Step 1.5.4:** Type ‘`which podman`’ to get your Podman command location on your computer.

```
laurenttarin@IBM-de-Laurent scripts % which podman
/opt/podman/bin/podman
laurenttarin@IBM-de-Laurent scripts % !
```

**Step 1.5.5:** Note your Podman command location (i.e., ‘`/opt/podman/bin/podman`’).

**Step 1.5.6:** Type ‘`sudo ln -s /opt/podman/bin/podman /opt/podman/bin/docker`’ to create the symbolic link to Podman (1). Then, type your local computer admin password (2).

```
bash-3.2$ sudo ln -s /opt/podman/bin/podman /opt/podman/bin/docker
Password:
```

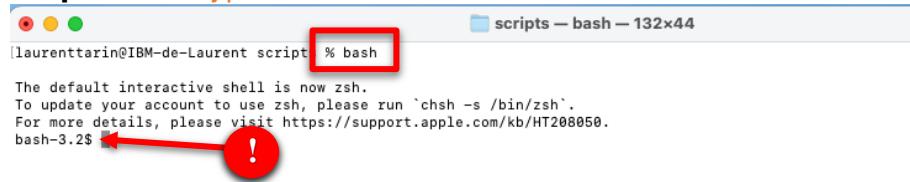
**Step 1.5.7:** Type ‘`which docker`’ to verify the symbolic link.

```
laurenttarin@IBM-de-Laurent scripts % which docker
/opt/podman/bin/docker
laurenttarin@IBM-de-Laurent scripts % !
```

**NOTE:** You can also validate the link by typing ‘`ls -l /opt/podman/bin`’.

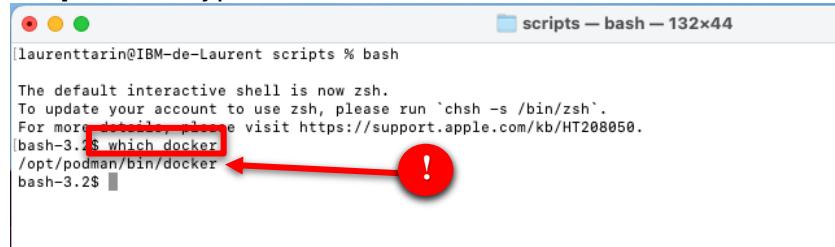
```
laurenttarin@IBM-de-Laurent scripts % ls -l /opt/podman/bin
total 133512
lrwxr-xr-x 1 root wheel 22 Apr 13 13:36 docker -> /opt/podman/bin/podman
-rw-r--r-- 1 root wheel 22017984 Mar 28 01:44 gvpProxy
-rw-r--r-- 1 root wheel 41560192 Mar 28 01:44 podman
-rw-r--r-- 1 root wheel 4774832 Mar 28 01:44 podman-mac-helper
laurenttarin@IBM-de-Laurent scripts % !
```

**Step 1.5.8:** ‘**type bash**’ to test Docker in a bash shell.



```
laurenttarin@IBM-de-Laurent script % bash
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
bash-3.2$ !
```

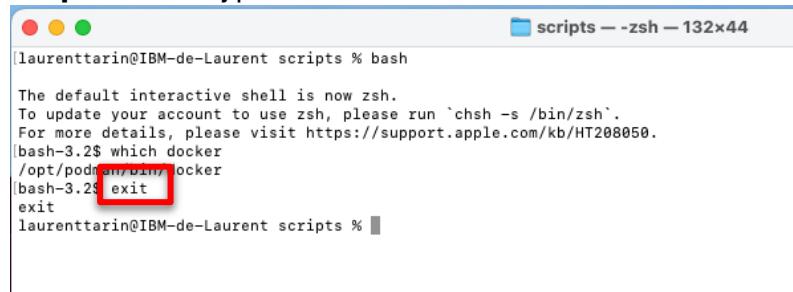
**Step 1.5.9:** Type ‘**which docker**’ to check the link under bash.



```
laurenttarin@IBM-de-Laurent scripts % bash
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
bash-3.2$ which docker
/opt/podman/bin/docker
bash-3.2$ !
```

Your docker command is now accessible for the scripts working with bash shell.

**Step 1.5.10:** Type ‘**exit**’ to return to zsh.



```
laurenttarin@IBM-de-Laurent scripts % bash
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
bash-3.2$ which docker
/opt/podman/bin/docker
bash-3.2$ exit
exit
laurenttarin@IBM-de-Laurent scripts %
```

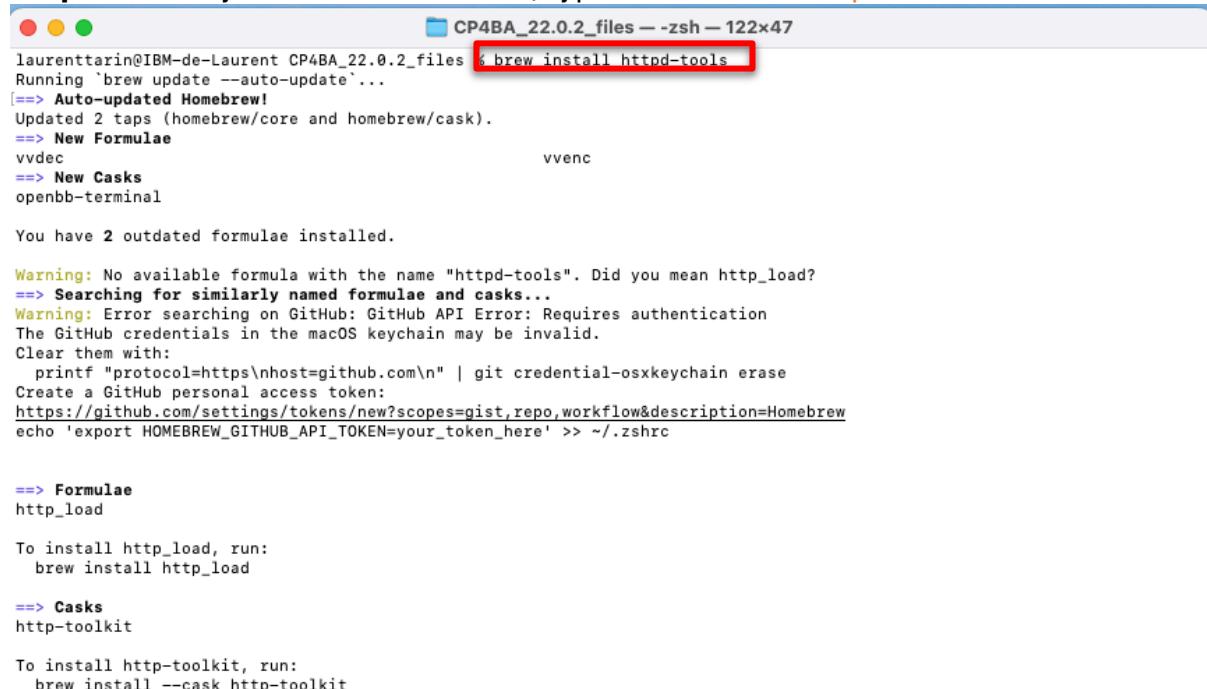
## 1.6 - Install the htpasswd command

To install the htpasswd, we will use Homebrew.

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### Step 1.6.1: In your terminal window, type ‘ brew install httpd-tools ’.



```
laurenttarin@IBM-de-Laurent CP4BA_22.0.2_files --zsh -- 122x47
Running `brew update --auto-update`...
[==> Auto-updated Homebrew!
Updated 2 taps (homebrew/core and homebrew/cask).
==> New Formulae
vvdec                                vvenc
==> New Casks
openbb-terminal

You have 2 outdated formulae installed.

Warning: No available formula with the name "httpd-tools". Did you mean http_load?
==> Searching for similarly named formulae and casks...
Warning: Error searching on GitHub: GitHub API Error: Requires authentication
The GitHub credentials in the macOS keychain may be invalid.
Clear them with:
printf "protocol=https\nhost=github.com\n" | git credential-osxkeychain erase
Create a GitHub personal access token:
https://github.com/settings/tokens/new?scopes=gist\_repo,workflow&description=Homebrew
echo 'export HOMEBREW_GITHUB_API_TOKEN=your_token_here' >> ~/.zshrc

==> Formulae
http_load

To install http_load, run:
brew install http_load

==> Casks
http-toolkit

To install http-toolkit, run:
brew install --cask http-toolkit
```

## 2- Provisioning a VMWare Image on TechZone

You must now provision a VMWare image containing Openshift on TechZone. This documentation explains how to install CP4BA on that VMware image.

### Step 2.1: Log into TechZone using your IBM ID and go to the IBM VMware with OpenShift UPI or IPI reservation pages:

OpenShift Cluster (VMware on IBM Cloud) – UPI – Public image	Apr 9, 2023 OpenShift Cluster (VMware on IBM Cloud) - UPI - Public  Ibmcloud 2: us-east, jp-tok, eu-de  Self-Managed UPI OpenShift cluster (VMware on IBM Cloud) with ODF (OCS) support.	<a href="https://techzone.ibm.com/m/y/reservations/create/63a3a25a3a4689001740dbb3">https://techzone.ibm.com/m/y/reservations/create/63a3a25a3a4689001740dbb3</a>
OpenShift Cluster (VMware on IBM Cloud) – IPI – Public image	Apr 9, 2023 OpenShift Cluster (VMware on IBM Cloud) - IPI - Public  Ibmcloud 2: us-south, us-east, eu-de, jp-tok  Self-Managed IPI OpenShift cluster (VMware on IBM Cloud) with ODF (OCS) support. <small>Environment details:</small>	<a href="https://techzone.ibm.com/m/y/reservations/create/63dba359cc19150018af084f">https://techzone.ibm.com/m/y/reservations/create/63dba359cc19150018af084f</a>

**NOTE:** The same setup instructions detailed in this document applies to both of these 2 images.

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### Step 2.2: Click Reserve now.

The screenshot shows the 'Create a reservation' page. At the top, there are four tabs: 'Select a environment/infrastructure' (radio button), 'Select a reservation type' (radio button, highlighted with a red box), 'Fill out your reservation' (radio button), and 'Complete' (radio button). Below these tabs, there is a section titled 'Single environment reservation option' with two radio buttons: 'Reserve now' (selected) and 'Schedule for later'. A note below says: 'Leverage workshop manager to request multiple environments for your upcoming hands-on workshop and manage them all in one place. All workshop requests must be submitted 72-hours before the intended workshop start date/time. Any request before the 72-hour time frame will not be able to submit this request form.' At the bottom of the page are 'Cancel', 'Reset', and 'Submit' buttons, along with a small illustration of a hand pointing at a city skyline.

### Step 2.3: Select Customer demo in the purpose and enter the customer opportunity number. Otherwise, select Practice/Self education (1). Enter a description (2).

The screenshot shows the 'Create a reservation' page. At the top, there are four tabs: 'Select a environment/infrastructure' (radio button), 'Select a reservation type' (radio button), 'Fill out your reservation' (radio button, highlighted with a red box), and 'Complete' (radio button). Below these tabs, there is a 'Name' field containing 'OpenShift Cluster (VMware on IBM Cloud) - UPI - Public'. A note below says: 'Name this reservation. This will help identify it in your reservation list.' In the 'Purpose' section, there are three options: 'Customer Demo' (disabled), 'Practice / Self-Education' (selected, highlighted with a red box and circled with a red circle labeled '1'), and 'Test' (disabled). A note below says: 'Please ensure to select the correct purpose as this **NOT** be updated or changed after this reservation has been created. Review the [Reservation Duration Policy](#) to understand default durations allowed for specific infrastructure based on purpose.' In the 'Description' section, there is a large text area with a red border, which is circled with a red circle labeled '2'. A note below says: 'Providing an [IBM Sales Cloud opportunity number](#), [Gainsight Relationship ID](#), or a [Project Work ID](#) will allow you to extend your reservation date.' At the bottom right, there is a 'Submit' button and a 'Cookie Preferences' link.

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**Step 2.4:** Select a location (1) the select **500GB** (2) for the storage size. Select **5** work nodes count (3). Select **8xCPU 32GB-100GB** for the worker node flavor (4).

IBM Technology Zone | My library | Help

EUROPE - eu-gb region - Ion06 datacenter

End date and time  
Select a date: 08/05/2023 | Select a time: 2:05 PM | Europe/Paris

OCP/Kubernetes Cluster Network: 10.128.0.0/14

Enable FIPS Security: No

OpenShift Version: 4.12

OCS/ODF Size: 500 GB

OCP/Kubernetes Service Network: 172.30.0.0/16

Worker Node Count: 5

Worker Node Flavor: 8 vCPU x 32 GB - 100 GB ephemeral storage

Notes: Enter any notes you would like to attach to this reservation

Optimized by IBM Turbonomic  
 I agree to IBM Technology Zone's Terms & Conditions and End User Security Policies

Submit | Cookie Preferences

**Step 2.4 bis** Read and accept the Terms and conditions (1) – Click **Submit** (2)

IBM Technology Zone | My library | Help

Preferred Geography: EUROPE - eu-gb region - Ion06 datacenter

End date and time  
Select a date: 08/05/2023 | Select a time: 2:05 PM | Europe/Paris

Reservation policy: Recommended 2 days, but can be reserved up to 2 days on this reservation form. Extend later for 2 days increments up to 4 days total. Max time 6 days total.

OCP/Kubernetes Cluster Network: 10.128.0.0/14

Enable FIPS Security: No

OpenShift Version: 4.12

OCS/ODF Size: 500 GB

OCP/Kubernetes Service Network: 172.30.0.0/16

Worker Node Count: 5

Worker Node Flavor: 8 vCPU x 32 GB - 100 GB ephemeral storage

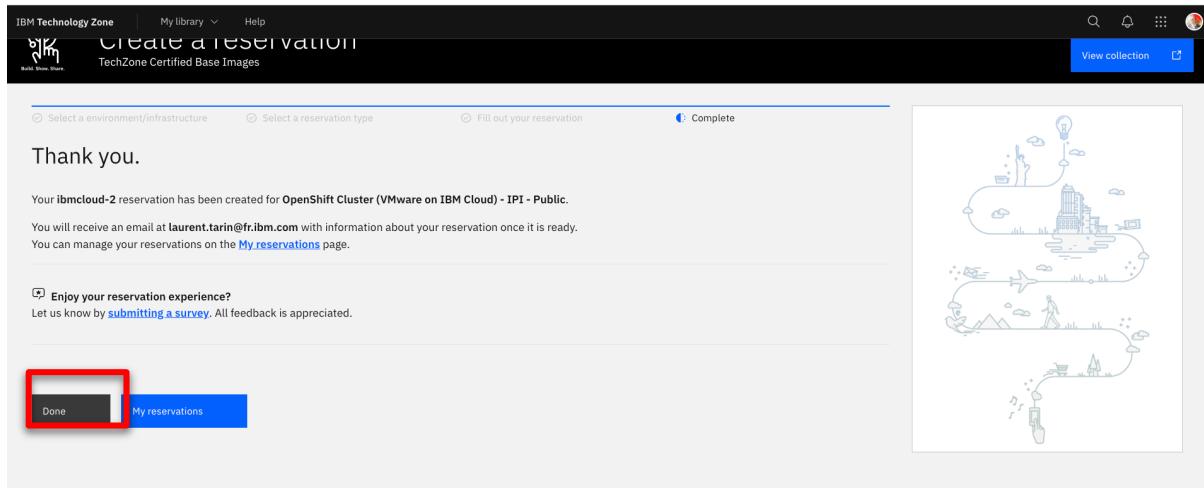
Notes: Enter any notes you would like to attach to this reservation

Optimized by IBM Turbonomic  
 I agree to IBM Technology Zone's Terms & Conditions and End User Security Policies

Submit | Cookie Preferences

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**Step 2.5:** Click **Done** and wait for the ‘Your environment is ready’ notification email.  
The reservation should last between 30 minutes to 2 hours maximum.

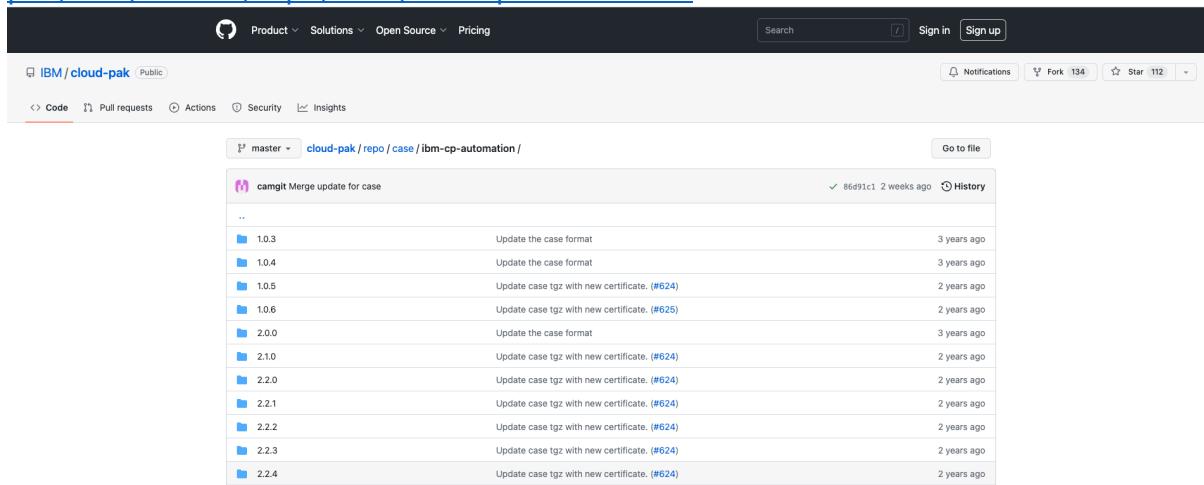


**NOTE:** you can proceed with step 3 waiting for your environment to be ready.

### 3- Download the CP4BA Setup archive

To proceed with the CP4BA install, you first must download an archive containing different commands and scripts that you will need to set up on your OpenShift environment.

**Step 3.1:** Go to the packages download site: <https://github.com/IBM/cloud-pak/tree/master/repo/case/ibm-cp-automation>



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**Step 3.2:** Scroll down(1) and click the version your need (2).

The screenshot shows a GitHub repository interface for 'ibm-cp-automation'. The left sidebar lists various projects like 'ibm-blockchain', 'ibm-bts-bundle', etc. The main area shows a list of commits for the 'ibm-cp-automation' branch. Commit 5.0.1 is highlighted with a red box and a red circle labeled '2'. A large red box labeled '1' covers the right edge of the screen, indicating where to scroll.

Commit	Message	Date
3.2.22	Merge update for case	2 months ago
3.2.23	Merge update for case	last week
3.2.3	Merge update for case	2 years ago
3.2.4	Merge update for case	2 years ago
3.2.5	Merge update for case	last year
3.2.6	Merge update for case	last year
3.2.7	Merge update for case	last year
3.2.8	Merge update for case	last year
3.2.9	Merge update for case	last year
4.0.0	Merge update for case	last year
4.0.1	Merge update for case	last year
4.0.2	Merge update for case	last year
4.0.3	Merge update for case	last year
4.0.4	Merge update for case	10 months ago
4.0.5	Merge update for case	9 months ago
4.0.6	Merge update for case	8 months ago
4.1.0	Merge update for case	8 months ago
4.1.1	Merge update for case	7 months ago
4.1.2	Merge update for case	6 months ago
4.1.3	Merge update for case	5 months ago
4.1.4	Merge update for case	4 months ago
4.1.5	Merge update for case	2 months ago
4.1.6+20230713.011847	Merge update for case	last week
4.1.6	Merge update for case	2 months ago
4.1.6+00000000.00000000	Merge update for case	2 months ago
5.0.1	Merge update for case	last week
resources/index.yaml	Merge update for case	last week

Note CP4BA 23.0.1 starts in 5.0.0

**Step 3.3:** Click **ibm-cp-automation-5.0.X.tgz**.

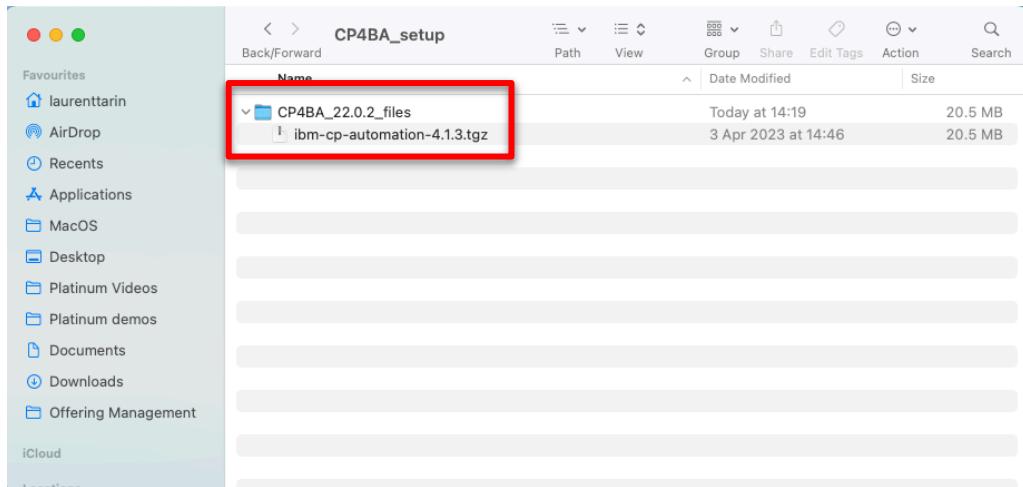
The screenshot shows a GitHub commit page for commit 5.0.1. The commit message is 'Merge update for case'. The commit details show a file named 'ibm-cp-automation-5.0.1.tgz' which is highlighted with a red box.

**Step 3.4:** Click the Download icon.

The screenshot shows a GitHub file page for 'ibm-cp-automation-5.0.1.tgz'. The file size is listed as 23.2 MB. The top right corner features a download icon, which is highlighted with a red box.

**Step 3.5:** Move the archive file in a local folder (ie \$HOME/CP4BA\_23.0.1\_files).

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**Step 3.6:** Type ‘`cd $HOME/<your install dir>`’ (ie `$HOME/CP4BA_23.0.1_files`) in your Terminal window.

```
CP4BA_23.0.1_files_IF1 -- zsh -- 80x24
Last login: Mon Jul 31 10:43:55 on ttys000
laurenttarin@IBM-de-Laurent ~ % cd $HOME
laurenttarin@IBM-de-Laurent ~ % pwd
/Users/laurenttarin
laurenttarin@IBM-de-Laurent ~ % cd Technical_stuff
laurenttarin@IBM-de-Laurent Technical_stuff % cd CP4BA_setup
laurenttarin@IBM-de-Laurent CP4BA_setup % cd CP4BA_23.0.1_files_IF1
laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 %
```

**Step 3.7:** Type ‘`ls`’ to make sure your archive is there.

```
CP4BA_22.0.2_files -- zsh -- 108x24
[laurenttarin@IBM-de-Laurent ~ % cd $HOME/TEMP
laurenttarin@IBM-de-Laurent TEMP % export KUBECTL_VERSION=`curl \
-s https://storage.googleapis.com/kubernetes-release/\
release/stable.txt` \
curl -LO "https://storage.googleapis.com/kubernetes-\
release/release/${KUBECTL_VERSION}/bin/linux/amd64/kubectl"
% Total    % Received % Xferd  Average Speed   Time     Time      Time  Current
          Dload  Upload Total Spent   Left Speed
100 46.9M 100 46.9M    0     0  9300k      0  0:00:05  0:00:05  --:--:-- 10.0M
[laurenttarin@IBM-de-Laurent TEMP % chmod a+x kubectl
[laurenttarin@IBM-de-Laurent TEMP % kubectl version --client
WARNING: This version information is deprecated and will be replaced with the output from kubectl version --short. Use --output=yaml|json to get the full version.
Client Version: version.Info{Major:"1", Minor:"26", GitVersion:"v1.26.3", GitCommit:"9e644106593f3f4aa98f8a8
4b23db5fa378900bd", GitTreeState:"clean", BuildDate:"2023-03-15T13:40:17Z", GoVersion:"go1.19.7", Compiler:"gc",
Platform:"darwin/amd64"}
Kustomize Version: v4.5.7
[laurenttarin@IBM-de-Laurent TEMP % cd $HOME/Technical_stuff/CP4BA_setup/CP4BA_22.0.2_files
[laurenttarin@IBM-de-Laurent CP4BA_22.0.2_files % ls
ibm-cp-automation-4.1.3.tgz
laurenttarin@IBM-de-Laurent CP4BA_22.0.2_files %
```

**Step 3.8:** Un-archive the file by typing:

```
' tar -xvf ibm-cp-automation-5.0.1.tgz
cd ibm-cp-automation/inventory
cd cp4aOperatorSdk/files/deploy/crs
tar -xvf cert-k8s-23.0.1.tar '
```

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```
laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % tar -xvf ibm-cp-automation-5.0.1.tgz
cd ibm-cp-automation/inventory
cd cp4aOperatorSdk/files/deploy/crs
tar -xvf cert-k8s-23.0.1.tar

x ibm-cp-automation/
x ibm-cp-automation/LICENSE
x ibm-cp-automation/README.md
x ibm-cp-automation/case.yaml
x ibm-cp-automation/certifications/
x ibm-cp-automation/certifications/files/
x ibm-cp-automation/certifications/files/ExternalSecurityReport.pdf
x ibm-cp-automation/certifications/ibmcpp.yaml
x ibm-cp-automation/digests.yaml
x ibm-cp-automation/inventory/
x ibm-cp-automation/inventory/cp4aOperatorSdk/
x ibm-cp-automation/inventory/cp4aOperatorSdk/README.md
x ibm-cp-automation/inventory/cp4aOperatorSdk/actions.yaml
x ibm-cp-automation/inventory/cp4aOperatorSdk/files/
x ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/
x ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs/
x ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs/cert-k8s-23.0.1.tar
x ibm-cp-automation/inventory/cp4aOperatorSdk/inventory.yaml
x ibm-cp-automation/inventory/cp4aOperatorSdk/resources.yaml
x ibm-cp-automation/inventory/cp4aOperatorSetup/
x ibm-cp-automation/inventory/cp4aOperatorSetup/README.md
x ibm-cp-automation/inventory/cp4aOperatorSetup/actions.yaml
x ibm-cp-automation/inventory/cp4aOperatorSetup/files/
x ibm-cp-automation/inventory/cp4aOperatorSetup/files/airgap.sh
x ibm-cp-automation/inventory/cp4aOperatorSetup/files/launch.sh
x ibm-cp-automation/inventory/cp4aOperatorSetup/files/launch-impl.sh
v ibm-cp-automation/inventory/cp4aOperatorSetup/files/onrc1/
```

**NOTE:** Make sure you have the correct archive version in your tar -xvf command.

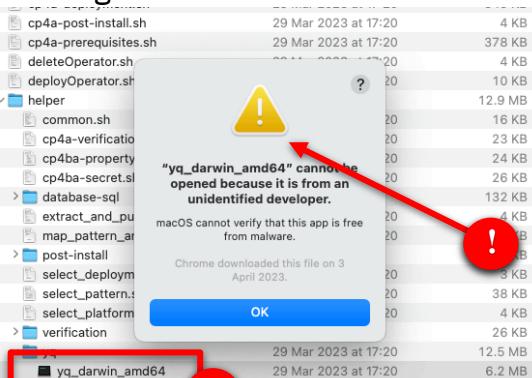
**Step 3.9:** The setup scripts will use the ‘yq’ command. This is a command-line YAML processor, based on jq.

The ‘yq’ command binary file is provided in the CP4BA archive you have just extracted. The binaries are located in \$HOME/<You install directory>/ /ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs/cert-kubernetes/scripts/helper/yq

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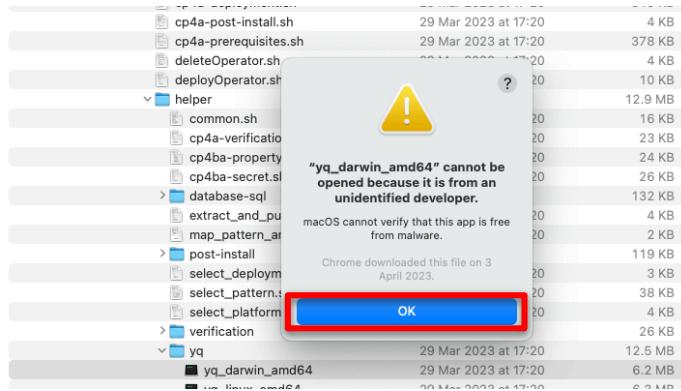
Name		Date Modified	Size
CP4BA_22.0.2_files		Today at 14:26	71.9 MB
ibm-cp-automation		Today at 14:26	51.4 MB
case.yaml		30 Mar 2023 at 20:50	2 KB
certifications		30 Mar 2023 at 20:50	470 KB
digests.yaml		30 Mar 2023 at 20:50	83 KB
inventory		Today at 14:26	50.7 MB
cp4aOperatorSdk		Today at 14:29	43.9 MB
actions.yaml		30 Mar 2023 at 20:50	3 KB
files		Today at 14:29	43.8 MB
deploy		Today at 14:29	43.8 MB
crs		Today at 14:29	43.8 MB
cert-k8s-22.0.2.tar		30 Mar 2023 at 20:50	17 MB
cert-kubernetes		Today at 14:29	26.8 MB
ACA		29 Mar 2023 at 17:20	175 KB
BAI		29 Mar 2023 at 17:20	1 KB
BAN		29 Mar 2023 at 17:20	2 KB
descriptors		Today at 14:29	1.8 MB
FNCM		29 Mar 2023 at 17:20	40 KB
LICENSE		29 Mar 2023 at 17:20	42 KB
ODM		29 Mar 2023 at 17:20	20 KB
README.md		29 Mar 2023 at 17:20	521 bytes
scripts		Today at 14:29	24.7 MB
ADP		29 Mar 2023 at 17:20	185 KB
baw-std		29 Mar 2023 at 17:20	51 KB
cp4a-clusteradmin-setup.sh		29 Mar 2023 at 17:20	110 KB
cp4a-deployment.sh		29 Mar 2023 at 17:20	349 KB
cp4a-post-install.sh		29 Mar 2023 at 17:20	4 KB
cp4a-prerequisites.sh		29 Mar 2023 at 17:20	378 KB
deleteOperator.sh		29 Mar 2023 at 17:20	4 KB
deployOperator.sh		29 Mar 2023 at 17:20	10 KB
helper		Today at 14:29	12.9 MB
common.sh		29 Mar 2023 at 17:20	16 KB
cp4a-verification.sh		29 Mar 2023 at 17:20	23 KB
cp4ba-property.sh		29 Mar 2023 at 17:20	24 KB
cp4ba-secret.sh		29 Mar 2023 at 17:20	26 KB
database-sql		Today at 14:29	132 KB
extract_and_push_images.sh		29 Mar 2023 at 17:20	4 KB
map_pattern_and_CR.sh		29 Mar 2023 at 17:20	2 KB
post-install		Today at 14:29	119 KB
select_deployment_type.sh		29 Mar 2023 at 17:20	3 KB
select_pattern.sh		29 Mar 2023 at 17:20	38 KB
select_platform.sh		29 Mar 2023 at 17:20	4 KB
verification		Today at 14:29	26 KB
yq		29 Mar 2023 at 17:20	12.5 MB
yq_darwin_amd64	!	29 Mar 2023 at 17:20	6.2 MB
yq_linux_amd64		29 Mar 2023 at 17:20	6.3 MB
jdbc		29 Mar 2023 at 17:20	10.6 MB
loadPrereqImages.sh		29 Mar 2023 at 17:20	7 KB
update_subscription.sh		29 Mar 2023 at 17:20	14 KB
upgradeOperator.sh		29 Mar 2023 at 17:20	22 KB
inventory.yaml		30 Mar 2023 at 20:50	190 bytes

**Step 3.10:** Mac users - Double click on the **yq\_darwin\_amd64** file. You should get a warning message:

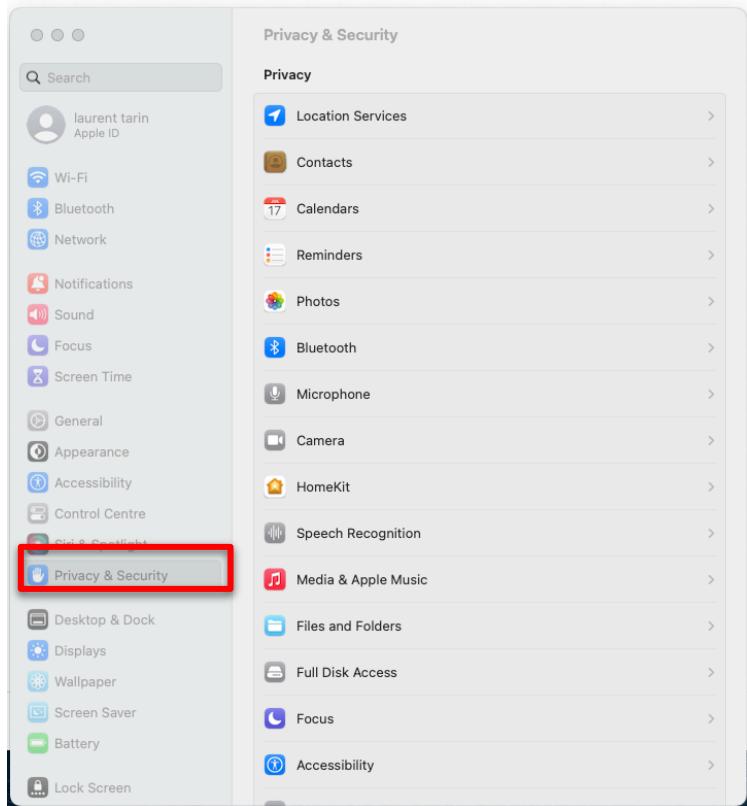


**Step 3.11:** Click **OK**.

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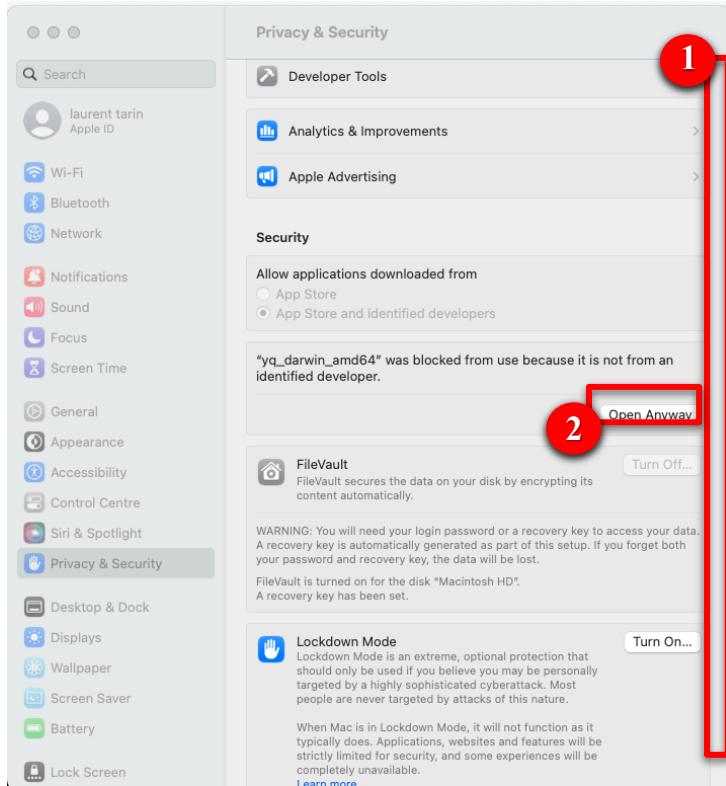


**Step 3.12:** Open your Mac System Settings panel/ Privacy and security section.



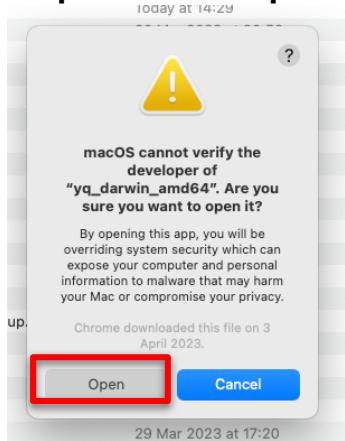
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**Step 3.13:** Scroll down to the security section (1) and click **Open Anyway** (2) for the "yq\_darwin\_amd64" to unblock the command.



**Step 3.14:** Enter your **username** and **password** to authorize the action.

**Step 3.15:** Click **Open**.



A terminal window will appear and show that the command is now accessible to the script:

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## Installing Cloud Pak for Business Automation 23.0.1 on an OpenShift VMware image



```
validate    yq v sample.yaml
write      yq w [--inplace/-i] [--script/-s script_file] [--doc/-d index] sam
ple.yaml 'b.e(name==fr*).value' newValue

Flags:
-C, --colors      print with colors
-H, --help        help for yq
-I, --indent int  sets indent level for output (default 2)
-P, --prettyPrint pretty print
-J, --tojson      output as json. By default it prints a json document in on
e line, use the prettyPrint flag to print a formatted doc.
-V, --verbose     verbose mode
-v, --version     Print version information and quit

Use "yq [command] --help" for more information about a command.

Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

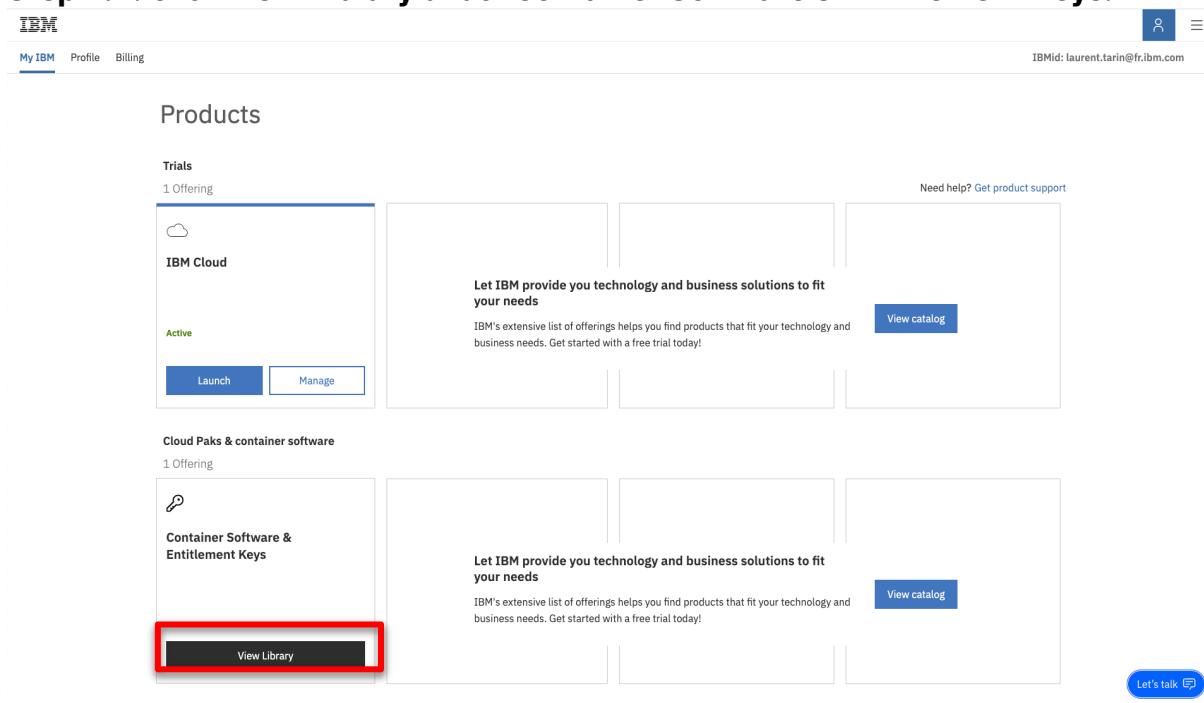
## 4- Get your IBM Software Entitlement key

The IBM Entitlement key describes what IBM software you are entitled to install and use. It is attached to your IBMid.

To access your IBM entitlement key:

**Step 4.1:** Log in <http://MyIBM.ibm.com> using your IBMid.

**Step 4.2:** Click **View Library** under **Container Software & Entitlement Keys**.



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Let's talk 

**Step 4.3:** Click **Add a new key** if you have not created an Entitlement key yet.

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## Installing Cloud Pak for Business Automation 23.0.1 on an OpenShift VMware image

The screenshot shows the 'Entitlement keys (1)' page in the myIBM portal. The left sidebar includes 'Container Software and Cloud Pak Access Management' and 'Entitlement keys'. The main content area has sections for 'Access your container software' and 'Active entitlement keys'. It states that you can have a maximum of 5 entitlement keys and once deleted, they are no longer valid. At the bottom, it shows an issue date of March 27, 2023, followed by a separator line and a row of actions: 'Copy', 'Delete', and 'Edit'. The 'Copy' button is highlighted with a red box.

## 5- Installing CP4BA on your image

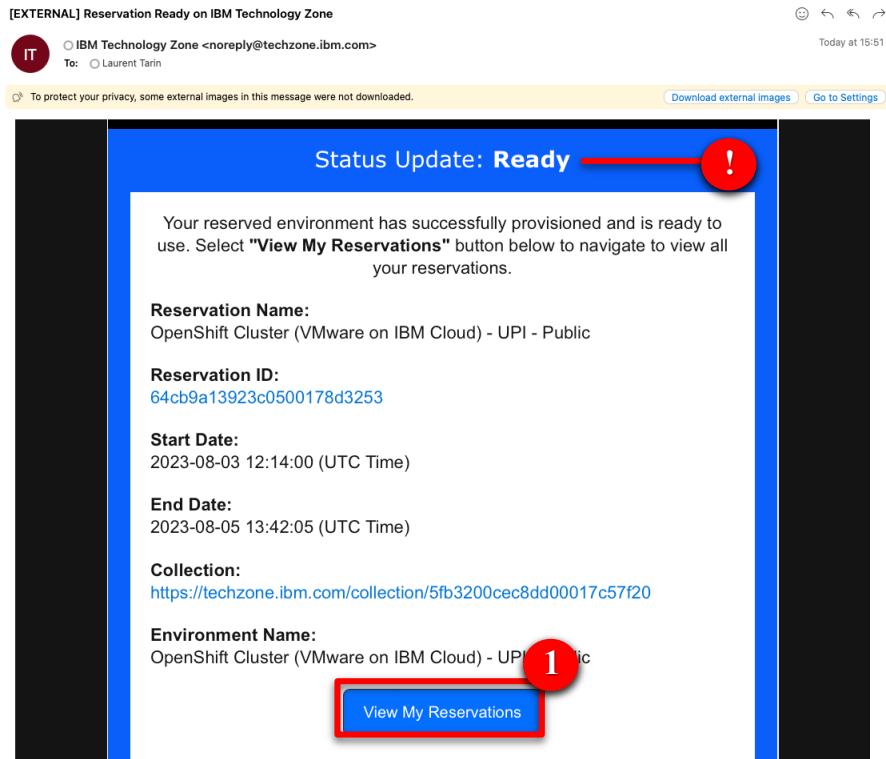
### 5.1 - Access your VMWare image

You can start the CP4BA deployment on your VMWare image as soon as you receive the notification email “Your environment is ready” sent by IBM Technology Zone:

#### Step 5.1.1 Click on View My Reservation (1)

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## Installing Cloud Pak for Business Automation 23.0.1 on an OpenShift VMware image



### Step 5.1.2 Click on your Reservation tile.

The screenshot shows a reservation tile for an 'OpenShift Cluster (VMware on IBM Cloud) - UPI - Public' environment. The tile includes the following details:

- Created:** Aug 3, 2023 2:14 PM
- Expires in:** 1 days, 23 hours, 43 minutes
- Extend limit:** 2
- Username:** kubeadmin
- Password:** Wnecs-vnLSj-6VXy3-LE7PT
- Status:** Ready

A blue cloud icon is at the bottom right of the tile.

### Step 5.1.3 Scroll down to the credential section

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## Installing Cloud Pak for Business Automation 23.0.1 on an OpenShift VMware image

IBM Technology Zone | My library | Help

My reservations / Collection

OpenShift Cluster (VMware on IBM Cloud) - UPI - Public

Date: Aug 3, 2023 2:14 PM Aug 5, 2023 3:42 PM Expires in: 1 days, 23 hours, 42 minutes Extend limit: 2

Status: Ready

Desktop

Open your IBM Cloud environment

Desktop url: <https://console-openshift-console.apps.ocp-270002541s-73ve.cloud.techzone.ibm.com>

Shared Reservation

Username: kubeadmin Password: Wnecs-vnLSj-6VXy3-LE7PT

For full desktop access, connect to: <https://console-openshift-console.apps.ocp-270002541s-73ve.cloud.techzone.ibm.com>

Purpose

Purpose / Self-Education Opportunity ID(s)

Opportunity Product(s) Opportunity description: demo

Customer(s)

Environment

Note: Optimized by [IBM Turbonomic](#)

Reservation ID: 64cb9a13923c0500178d3253 Type: IBM Cloud

Reservation method: vmware-openshift-upi Transaction ID: a61fe5bb-13cd-43dc-b77a-f9eca818064c

Cloud Account: ITZSQUAD Geo: europe

Region: eu-gb Datacenter: lon02

Region: vmware-openshift-upi Customer data: false

Environment: ocp-270002541s-73ve Idle runtime limit: 10800

Timeout action

API URL: <https://api.ocp-270002541s-73ve.cloud.techzone.ibm.com:6443>

Bastion Password: m3G9M7CI

Bastion RDP address: api.ocp-270002541s-73ve.cloud.techzone.ibm.com:43389

Bastion SSH connection: ssh admin@api.ocp-270002541s-73ve.cloud.techzone.ibm.com -p 40222

Bastion Username: admin

Cluster Admin Username: kubeadmin

Cluster Admin Password: Wnecs-vnLSj-6VXy3-LE7PT

OCP Console: <https://console-openshift-console.apps.ocp-270002541s-73ve.cloud.techzone.ibm.com>

OCP Version: 4.12

Download kubeconfig

**Step 5.1.4** Copy the Cluster admin username and password

Timeout action

API URL

<https://api.ocp-270002541s-73ve.cloud.techzone.ibm.com:6443>

Bastion Password  
m3G9M7CI

Bastion RDP address  
api.ocp-270002541s-73ve.cloud.techzone.ibm.com:43389

Bastion SSH connection  
ssh admin@api.ocp-270002541s-73ve.cloud.techzone.ibm.com -p 40222

Bastion Username  
admin

Cluster Admin Username  
kubeadmin

Cluster Admin Password  
Wnecs-vnLSj-6VXy3-LE7PT

OCP Console  
<https://console-openshift-console.apps.ocp-270002541s-73ve.cloud.techzone.ibm.com>

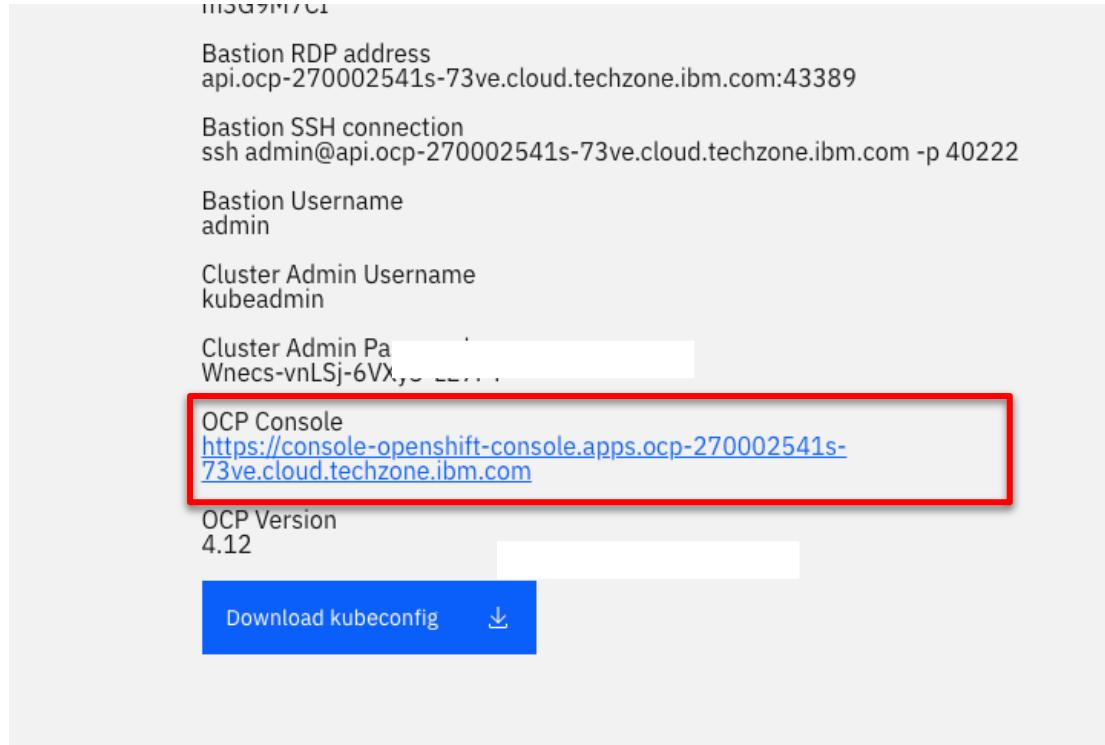
OCP Version  
4.12

Download kubeconfig

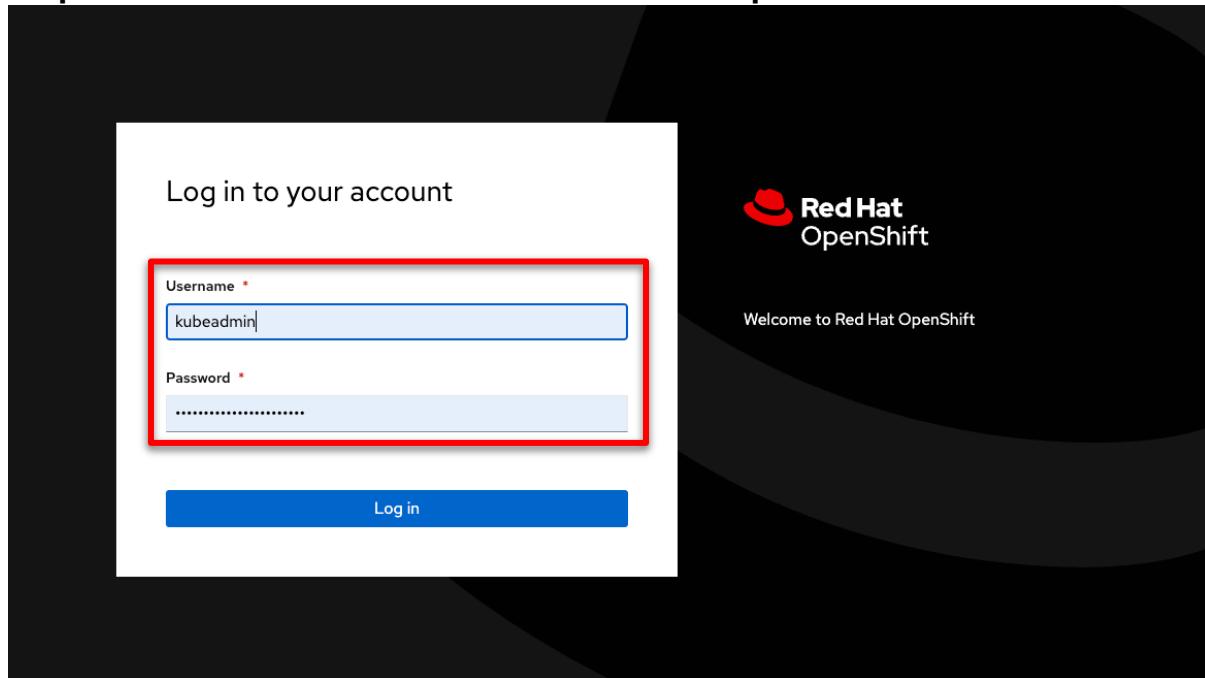
**Step 5.1.5:** Copy the **cluster URL** and **admin password** on your **Note** to have it handy.

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**Step 5.1.6:** Click the **OCP Console URL** to access the console.

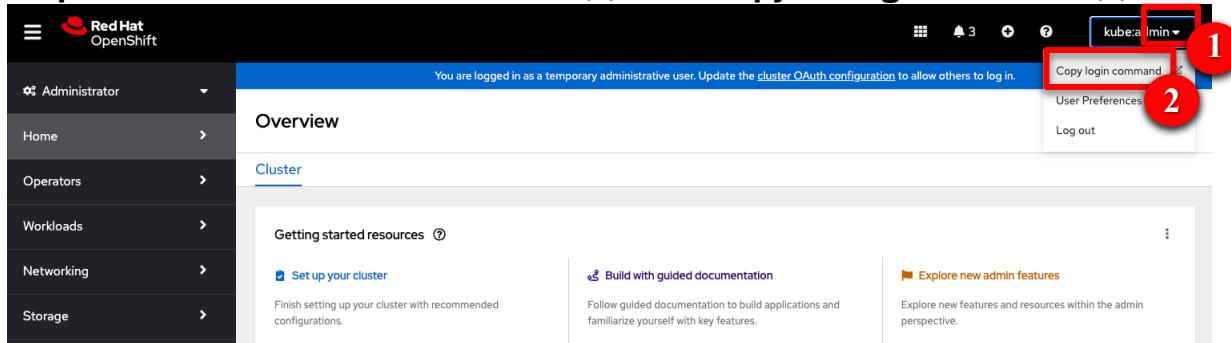


**Step 5.1.7:** Enter the cluster **Admin username** and **password** from the email.

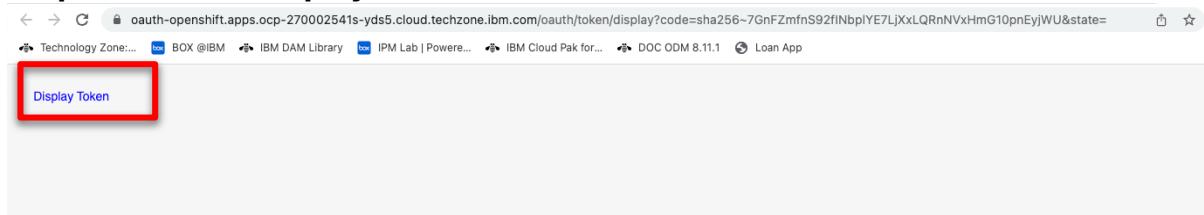


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**Step 5.1.8:** Click the **kubeadmin** menu (1). Click **Copy the login command** (2).



**Step 5.1.9:** Click **Display Token**.



**Step 5.1.10:** Copy the **Log in with this token** command into your **Note**.

The screenshot shows the Red Hat OpenShift kubeadmin interface. A red box highlights the command 'oc login --token=sha256~KRvgqae0fbT2fVhxSY3QLce5qXRN084qCx2cv-nkn-4 --server=https://api.ocp-270002541s-yds5.cloud.techzone.ibm.com:6443' in the 'Log in with this token' section. This command is also copied to the clipboard.

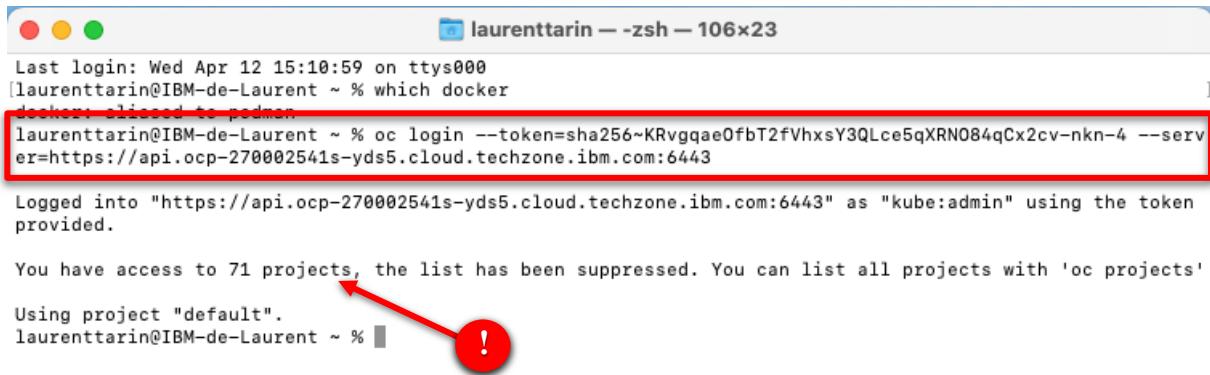
## 5.2 - Execute the server side requirements

The server side detailed requirements are documented in the CP4BA documentation at [https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=deployment-preparing-starter#task\\_bhn\\_x3h\\_gmb\\_server](https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=deployment-preparing-starter#task_bhn_x3h_gmb_server)

We have already performed many of these steps. Let's now create a namespace (project) in our cluster called 'cp4ba-starter'.

**Step 5.2.1:** Copy your OpenShift login command from your **Note** in your terminal window.

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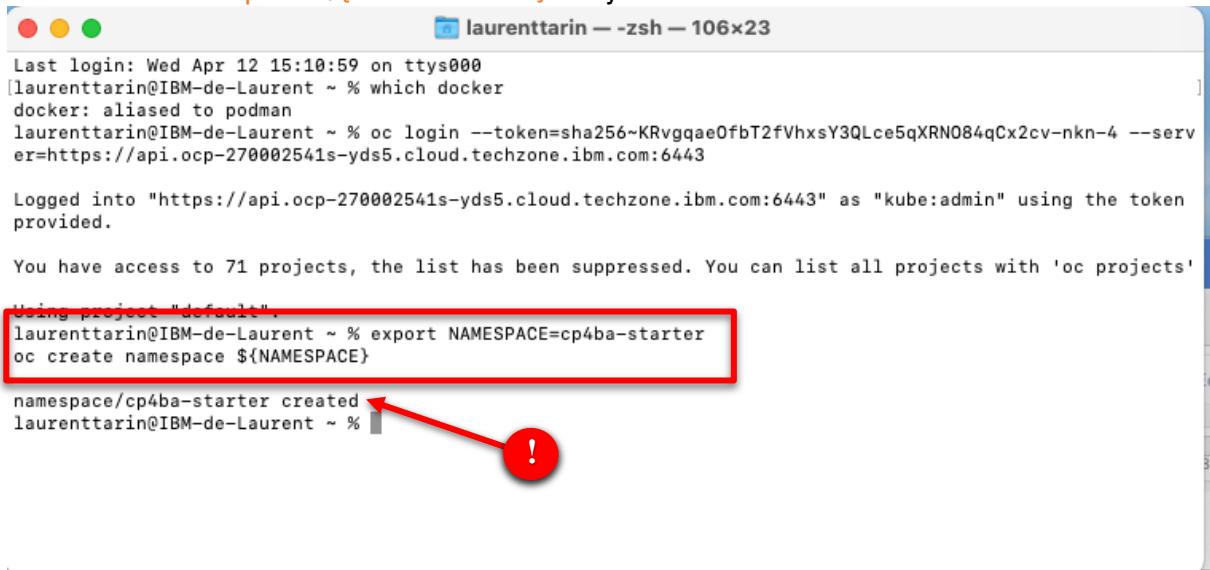


```
laurenttarin -- zsh -- 106x23
Last login: Wed Apr 12 15:10:59 on ttys000
[laurenttarin@IBM-de-Laurent ~ % which docker
docker: aliased to podman
laurenttarin@IBM-de-Laurent ~ % oc login --token=sha256~KRvgqaeOfbT2fVhx5Y3QLce5qXRN084qCx2cv-nkn-4 --server=https://api.ocp-270002541s-yds5.cloud.techzone.ibm.com:6443
Logged into "https://api.ocp-270002541s-yds5.cloud.techzone.ibm.com:6443" as "kube:admin" using the token provided.

You have access to 71 projects, the list has been suppressed. You can list all projects with 'oc projects'

Using project "default".
laurenttarin@IBM-de-Laurent ~ % !
```

**Step 5.2.2:** Type ‘`export NAMESPACE=cp4ba-starter`  
`oc create namespace ${NAMESPACE}`’ in your Terminal.



```
laurenttarin -- zsh -- 106x23
Last login: Wed Apr 12 15:10:59 on ttys000
[laurenttarin@IBM-de-Laurent ~ % which docker
docker: aliased to podman
laurenttarin@IBM-de-Laurent ~ % oc login --token=sha256~KRvgqaeOfbT2fVhx5Y3QLce5qXRN084qCx2cv-nkn-4 --server=https://api.ocp-270002541s-yds5.cloud.techzone.ibm.com:6443
Logged into "https://api.ocp-270002541s-yds5.cloud.techzone.ibm.com:6443" as "kube:admin" using the token provided.

You have access to 71 projects, the list has been suppressed. You can list all projects with 'oc projects'

Using project "default".
laurenttarin@IBM-de-Laurent ~ % export NAMESPACE=cp4ba-starter
oc create namespace ${NAMESPACE}

namespace/cp4ba-starter created !
laurenttarin@IBM-de-Laurent ~ % !
```

**Step 5.2.3:** In your local folder (ie `$HOME/CP4BA_23.0.1_files`), create a file called ‘`service-account-for-starter.yaml`’.

**Step 5.2.4:** With the editor of your choice, edit the file and copy/paste the following text :

```
apiVersion: v1
kind: ServiceAccount
metadata:
  name: ibm-cp4ba-anyuid
imagePullSecrets:
- name: "ibm-entitlement-key"
```

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The `ibm-entitlement-key` is your entitlement key you copied in your [Note](#) in step 4.4.

```
! service-account-for-starter.yaml
Users > laurenttarin > Desktop > ! service-account-for-starter.yaml
1 apiVersion: v1
2 kind: ServiceAccount
3 metadata:
4   name: ibm-cp4ba-anyuid
5 imagePullSecrets:
6     - name: "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3Mi0iJJQk0gTwFya2VvSGxhY2UiLCJpYXQiOjE2Nzk5MjYxODIsImp0aSI6ImFiMGNjNmZjNr"
```

**Step 5.2.5:** Save and close the file.

**Step 5.2.6:** Go in the folder containing your local yaml file in your terminal window (ie type `cd $HOME/CP4BA_23.0.1_files` ).

**Step 5.2.7:** Type ‘`ls`’ to check the yaml file is there.

```
tar: Error opening archive: Failed to open 'ibm-cp-automation-5.0.1.tgz'
cd: no such file or directory: ibm-cp-automation/inventory
cd: too many arguments
zsh: bad pattern: [D
[laurenttarin@IBM-de-Laurent crs % oc login --token=sha256-1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk --server=https://api.ocp-270002]
541s-73ve.cloud.techzone.ibm.com:6443
Error: unknown command "login@u00a0--token=sha256-1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk@u00a0--server=https://api.ocp-270002541
s-73ve.cloud.techzone.ibm.com:6443" for "oc"
Run 'oc --help' for usage.
[laurenttarin@IBM-de-Laurent crs % oc login --token=sha256-1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk --server=https://api.ocp-270002]
541s-73ve.cloud.techzone.ibm.com:6443
Logged into "https://api.ocp-270002541s-73ve.cloud.techzone.ibm.com:6443" as "kube:admin" using the token provided.

You have access to 70 projects, the list has been suppressed. You can list all projects with 'oc projects'

Using project "default".
laurenttarin@IBM-de-Laurent crs % export NAMESPACE=cp4ba-starter
oc create namespace ${NAMESPACE}

namespace/cp4ba-starter created
[laurenttarin@IBM-de-Laurent crs % pwd
/Users/laurenttarin/Technical_stuff/CP4BA_setup/CP4BA_23.0.1_files_IF1/ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs
[laurenttarin@IBM-de-Laurent crs % cd $HOME
[laurenttarin@IBM-de-Laurent ~ % ls
Applications           IBM                  Pictures          Technical_stuff      javasharedresources
Desktop                Library             Platinum Demo workspace Test workspace    users.htpasswd
Documents              Movies              Public            Wave1.wav
DownloadDirector        Music               TechDemos       dlmpr..pro
Downloads              OpenShift           Technical        eclipse-workspace
[laurenttarin@IBM-de-Laurent ~ % cd Technical_stuff
[laurenttarin@IBM-de-Laurent Technical_stuff % cd CP4BA_setup
[laurenttarin@IBM-de-Laurent CP4BA_setup % cd CP4BA_23.0.1_files_IF1
[laurenttarin@IBM-de-Laurent ~ % ls
ibm-cp-automation      service-account-for-starter.yaml
ibm-cp-automation-5.0.1.tgz  users.htpasswd
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % ]]
```

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**Step 5.2.8:** Type ‘`oc apply -f service-account-for-starter.yaml -n ${NAMESPACE}`’ in your terminal.

```
cd: too many arguments
zsh: bad pattern: [D
laurenttarin@IBM-de-Laurent crs % oc login --token=sha256~1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk --server=https://api.ocp-270002541
541s-73ve.cloud.techzone.ibm.com:6443
Error: unknown command "login\u00a0--token=sha256~1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk\u00a0--server=https://api.ocp-270002541
s-73ve.cloud.techzone.ibm.com:6443" for "oc"
Run 'oc --help' for usage.
laurenttarin@IBM-de-Laurent crs % oc login --token=sha256~1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk --server=https://api.ocp-270002541
541s-73ve.cloud.techzone.ibm.com:6443
Logged into "https://api.ocp-270002541s-73ve.cloud.techzone.ibm.com:6443" as "kube:admin" using the token provided.

You have access to 70 projects, the list has been suppressed. You can list all projects with 'oc projects'

Using project "default".
laurenttarin@IBM-de-Laurent crs % export NAMESPACE=cp4ba-starter
oc create namespace ${NAMESPACE}

namespace/cp4ba-starter created
[laurenttarin@IBM-de-Laurent crs % pwd
/Users/laurenttarin/Technical_stuff/CP4BA_setup/CP4BA_23.0.1_files_IF1/ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs
[laurenttarin@IBM-de-Laurent crs % cd $HOME
[laurenttarin@IBM-de-Laurent ~ % ls
Applications IBM Pictures Technical_stuff javasharedresources
Desktop Library Platinum Demo workspace Test workspace users.htpasswd
Documents Movies Public Wave1.wav
DownloadDirector Music TechDemos dlmgr_.pro
Downloads OpenShift Technical eclipse-workspace
[laurenttarin@IBM-de-Laurent ~ % cd Technical_stuff
[laurenttarin@IBM-de-Laurent Technical_stuff % cd CP4BA_setup
[laurenttarin@IBM-de-Laurent CP4BA_setup % cd CP4BA_23.0.1_files_IF1
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % ls
ibm-cp-automation service-account-for-starter.yaml
ibm-cp-automation-5.0.1.tgz users.htpasswd
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % oc apply -f service-account-for-starter.yaml -n ${NAMESPACE}
serviceaccount/ibm-cp4ba-anyuid created
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % ] !
```

**Step 5.2.9:** Type ‘`oc adm policy add-scc-to-user anyuid -z ibm-cp4ba-anyuid -n ${NAMESPACE}`’ in your terminal.

```
541s-73ve.cloud.techzone.ibm.com:6443
Error: unknown command "login\u00a0--token=sha256~1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk\u00a0--server=https://api.ocp-270002541
s-73ve.cloud.techzone.ibm.com:6443" for "oc"
Run 'oc --help' for usage.
laurenttarin@IBM-de-Laurent crs % oc login --token=sha256~1niJAvtnmNiv1POIk4Pli24c2iw5fxlk2FlrIWhnnWk --server=https://api.ocp-270002541
541s-73ve.cloud.techzone.ibm.com:6443
Logged into "https://api.ocp-270002541s-73ve.cloud.techzone.ibm.com:6443" as "kube:admin" using the token provided.

You have access to 70 projects, the list has been suppressed. You can list all projects with 'oc projects'

Using project "default".
laurenttarin@IBM-de-Laurent crs % export NAMESPACE=cp4ba-starter
oc create namespace ${NAMESPACE}

namespace/cp4ba-starter created
[laurenttarin@IBM-de-Laurent crs % pwd
/Users/laurenttarin/Technical_stuff/CP4BA_setup/CP4BA_23.0.1_files_IF1/ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs
[laurenttarin@IBM-de-Laurent crs % cd $HOME
[laurenttarin@IBM-de-Laurent ~ % ls
Applications IBM Pictures Technical_stuff javasharedresources
Desktop Library Platinum Demo workspace Test workspace users.htpasswd
Documents Movies Public Wave1.wav
DownloadDirector Music TechDemos dlmgr_.pro
Downloads OpenShift Technical eclipse-workspace
[laurenttarin@IBM-de-Laurent ~ % cd Technical_stuff
[laurenttarin@IBM-de-Laurent Technical_stuff % cd CP4BA_setup
[laurenttarin@IBM-de-Laurent CP4BA_setup % cd CP4BA_23.0.1_files_IF1
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % ls
ibm-cp-automation service-account-for-starter.yaml
ibm-cp-automation-5.0.1.tgz users.htpasswd
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % oc apply -f service-account-for-starter.yaml -n ${NAMESPACE}
serviceaccount/ibm-cp4ba-anyuid created
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % oc adm policy add-scc-to-user anyuid \
-z ibm-cp4ba-anyuid -n ${NAMESPACE}
clusterrole.rbac.authorization.k8s.io/system:openshift:scc:anyuid added: "ibm-cp4ba-anyuid"
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % ] !
```

**Step 5.2.10:** Type ‘`htpasswd -c -B -b users.htpasswd [username] [password]`’ to create a new non admin user called `username` (ex: `non-admin-user1`) with the password (ex: `abcd1234$`).

```
[laurenttarin@IBM-de-Laurent ~ % htpasswd -c -B -b users.htpasswd non-admin-user1 abcd1234$
Adding password for user non-admin-user1
[laurenttarin@IBM-de-Laurent ~ % ] !
```

**Step 5.2.11:** Type ‘`htpasswd -b -v users.htpasswd [username] [password]`’ to verify it has worked.

```
[laurenttarin@IBM-de-Laurent ~ % htpasswd -b -v users.htpasswd non-admin-user1 abcd1234$
Password for user non-admin-user1: correct.
[laurenttarin@IBM-de-Laurent ~ % ] !
```

**Step 5.2.12:** Type ‘`oc create secret generic htpass-secret --from-file=htpasswd=./users.htpasswd -n openshift-config`’ to create the secret in OpenShift.

```
[laurenttarin@IBM-de-Laurent ~ % oc create secret generic htpass-secret --from-file=htpasswd=./users.htpasswd -n openshift-co] nfig
secret/htpass-secret created ! [laurenttarin@IBM-de-Laurent ~ % ]
```

**Step 5.2.13:** Type the following to create a config file with the htpasswd identity provider settings:

```
' cat <<EOF | kubectl apply -f -
apiVersion: config.openshift.io/v1
kind: OAuth
metadata:
  name: cluster
spec:
  identityProviders:
    - name: admins_htpasswd_provider
      mappingMethod: claim
      type: HTPasswd
      htpasswd:
        fileData:
          name: htpass-secret
EOF'
```

```
laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % cat <<EOF | kubectl apply -f -
apiVersion: config.openshift.io/v1
kind: OAuth
metadata:
  name: cluster
spec:
  identityProviders:
    - name: admins_htpasswd_provider
      mappingMethod: claim
      type: HTPasswd
      htpasswd:
        fileData:
          name: htpass-secret
EOF
Warning: resource OAuth/cluster is missing the kubeconfig.openshift.io/last-applied-configuration annotation which is required by kubectl apply. kubeconfig can only be used on resources created declaratively by either kubectl create --save-config or kubectl apply. The missing annotation will be patched automatically by oauth.config.openshift.io/cluster configured
[laurenttarin@IBM-de-Laurent CP4BA_23.0.1_files_IF1 % ]
```

**Step 5.2.14:** After a few minutes, type ‘`oc logout`’ and ‘`oc login -u non-admin-user1 -p abcd1234$`’ using the new user credential to verify that it has worked.

```
laurenttarin@IBM-de-Laurent ~ % oc logout
[oc login -u non-admin-user1 -p abcd1234$]
Logged "kube:admin" in on "https://api.oepl-270002541s-yds5.cloud.techzone.ibm.com:6443"
Login successful.

You don't have any projects. You can try to create a new project, by running
  oc new-project <projectname>
[laurenttarin@IBM-de-Laurent ~ % ]
```

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**NOTE:** You should now be able to see the user in your OpenShift Console / User Management / Users menu on the LHS.

The screenshot shows the Red Hat OpenShift User Management interface. On the left, there is a navigation sidebar with a 'User Management' section highlighted by a red box. Under 'User Management', the 'Users' option is selected. The main area displays a table titled 'Users' with one row. The row contains the name 'non-admin-user1', a 'Full name' column with a placeholder, and an 'Identities' column showing 'admins\_htpasswd\_provider:non-admin-user1'. A red arrow points from the 'User Management' section in the sidebar to the 'non-admin-user1' entry in the table. A red circle with an exclamation mark is overlaid on the table area.

### 5.3 - Execute the cluster configuration script

In this section you are going to run a script to setup the cluster. This section corresponds to this part of the CP4BA documentation:

<https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-option-2a-setting-up-cluster-admin-script>

**Step 5.3.1:** Make sure you are logged in your cluster from your Terminal window (using the login command you copied into your Note).

**Step 5.3.2:** Type ‘`oc project cp4ba-starter`’ to move in the starter project.

```
[laurenttarin@IBM-de-Laurent scripts % oc project cp4ba-starter
Now using project "cp4ba-starter" on server "https://api.ocp-27002541s-yds5.cloud.techzone.ibm.com:6443".
laurenttarin@IBM-de-Laurent scripts % ]
```

**Step 5.3.3:** Type ‘`cd $HOME/<your install dir>/ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs/cert-kubernetes/scripts/`’ to go in the folder containing the scripts.

```
[laurenttarin@IBM-de-Laurent CP4BA_22.0.2_files % cd ./ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs/cert-kube
[...]
laurenttarin@IBM-de-Laurent scripts % ]
```

**Step 5.3.4:** Type ‘`ls`’ to check that your scripts are there.

```
[laurenttarin@IBM-de-Laurent scripts % ls
ADP cp4a-prerequisites.sh loadPrereqImages.sh
baw-std deleteOperator.sh update_subscription.sh
cp4a-clusteradmin-setup.sh deployoperator.sh upgradeOperator.sh
cp4a-deployment.sh helper
cp4a-post-install.sh jdbc
laurenttarin@IBM-de-Laurent scripts % ]
```

**Step 5.3.5:** Type ‘`./cp4a-clusteradmin-setup.sh`’ to execute the cluster configuration script.

**Step 5.3.6:** Type ‘**2**’ and hit [RETURN].

```
Select the cloud platform to deploy:  
1) RedHat OpenShift Kubernetes Service (ROKS) - Public Cloud  
2) Openshift Container Platform (OCP) - Private Cloud  
3) Other ( Certified Kubernetes Cloud Platform / CNCF)  
Enter a valid option [1 to 3]: 
```

**Step 5.3.7:** Type ‘**1**’ and hit [RETURN].

```
This script prepares the OLM for the deployment of some Cloud Pak for Business Automation capabilities  
What type of deployment is being performed?  
1) Starter  
2) Production  
Enter a valid option [1 to 2]: 
```

**Step 5.3.8:** Type ‘**No**’ and hit [RETURN].

```
This script prepares the OLM for the deployment of some Cloud Pak for Business Automation capabilities  
What type of deployment is being performed?  
1) Starter  
2) Production  
Enter a valid option [1 to 2]: 1  
Do you want CP4BA Operator support 'All Namespaces'? (Yes/No, default: No) 
```

**Step 5.3.9:** Type ‘`cp4ba-starter`’ and hit [RETURN].

```
● ● ● scripts — cp4a-clusteradmin-setup.sh — 124x36  
This script prepares the OLM for the deployment of some Cloud Pak for Business Automation capabilities  
What type of deployment is being performed?  
1) Starter  
2) Production  
Enter a valid option [1 to 2]: 1  
Do you want CP4BA Operator support 'All Namespaces'? (Yes/No, default: No) No  
Where do you want to deploy Cloud Pak for Business Automation?  
Enter the name for a new project or an existing project (namespace) cp4ba-starter 
```

**Step 5.3.10:** Type ‘**1**’ and hit [RETURN].

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```
scripts — cp4a-clusteradmin-setup.sh — 124x36
This script prepares the OLM for the deployment of some Cloud Pak for Business Automation capabilities

What type of deployment is being performed?
1) Starter
2) Production
Enter a valid option [1 to 2]: 1

Do you want CP4BA Operator support 'All Namespaces'? (Yes/No, default: No) No

Where do you want to deploy Cloud Pak for Business Automation?
Enter the name for a new project or an existing project (namespace): cp4ba-starter

The Cloud Pak for Business Automation Operator (Pod, CSV, Subscription) not found in cluster
Continue.....

Project "cp4ba-starter" already exists! Continue...

Here are the existing users on this cluster:
1) Cluster Admin
2) non-admin-user1
Enter an existing username in your cluster, valid option [1 to 2], non-admin is suggested: 1
```

**Step 5.3.11:** Type ‘**Yes**’ and hit [RETURN].

```
scripts — cp4a-clusteradmin-setup.sh — 132x44
This script prepares the OLM for the deployment of some Cloud Pak for Business Automation capabilities

What type of deployment is being performed?
1) Starter
2) Production
Enter a valid option [1 to 2]: 1

Do you want CP4BA Operator support 'All Namespaces'? (Yes/No, default: No) No

Where do you want to deploy Cloud Pak for Business Automation?
Enter the name for a new project or an existing project (namespace): cp4ba-starter

The Cloud Pak for Business Automation Operator (Pod, CSV, Subscription) not found in cluster
Continue.....

Project "cp4ba-starter" already exists! Continue...

Here are the existing users on this cluster:
1) Cluster Admin
2) non-admin-user1
Enter an existing username in your cluster, valid option [1 to 2], non-admin is suggested: 1
ATTENTION: When you run cp4a-deployment.sh script, please use cluster admin user.

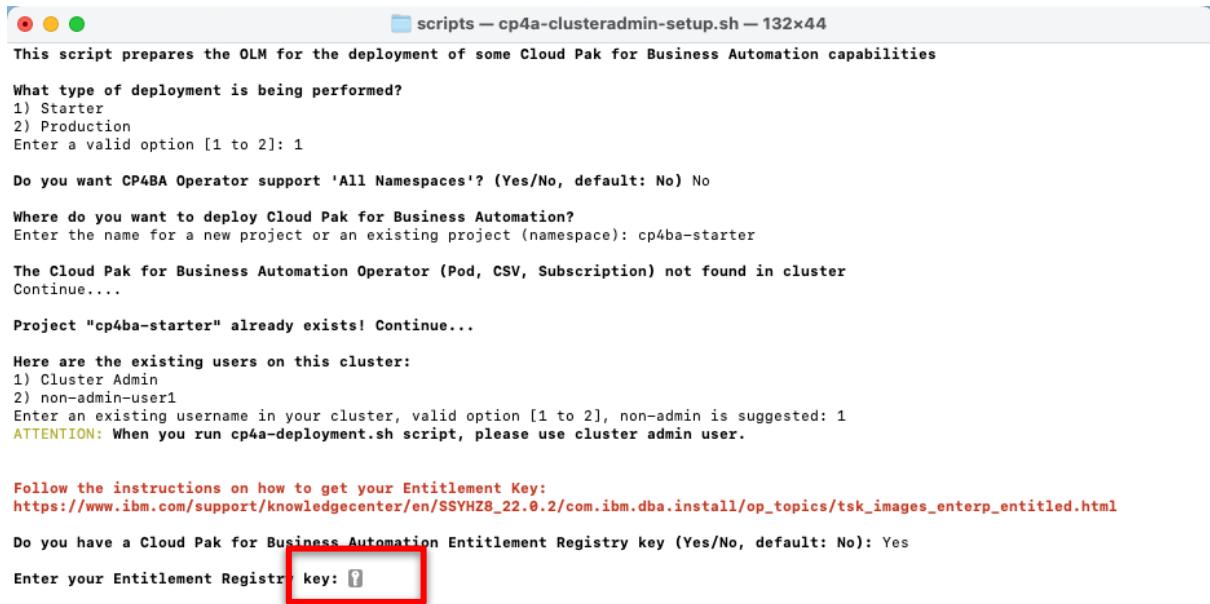
Follow the instructions on how to get your Entitlement Key:
https://www.ibm.com/support/knowledgecenter/en/SSYHZ8\_22.0.2/com.ibm.dba.install/op\_topics/tsk\_images\_entitled.html

Do you have a Cloud Pak for Business Automation Entitlement Registry key? (Yes/No, default: No):
```

**Step 5.3.12:** Copy and paste the IBM Software entitlement key you copied in your **Note** and hit [RETURN].

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```

scripts — cp4a-clusteradmin-setup.sh — 132x44
This script prepares the OLM for the deployment of some Cloud Pak for Business Automation capabilities

What type of deployment is being performed?
1) Starter
2) Production
Enter a valid option [1 to 2]: 1

Do you want CP4BA Operator support 'All Namespaces'? (Yes/No, default: No) No

Where do you want to deploy Cloud Pak for Business Automation?
Enter the name for a new project or an existing project (namespace): cp4ba-starter

The Cloud Pak for Business Automation Operator (Pod, CSV, Subscription) not found in cluster
Continue...

Project "cp4ba-starter" already exists! Continue...

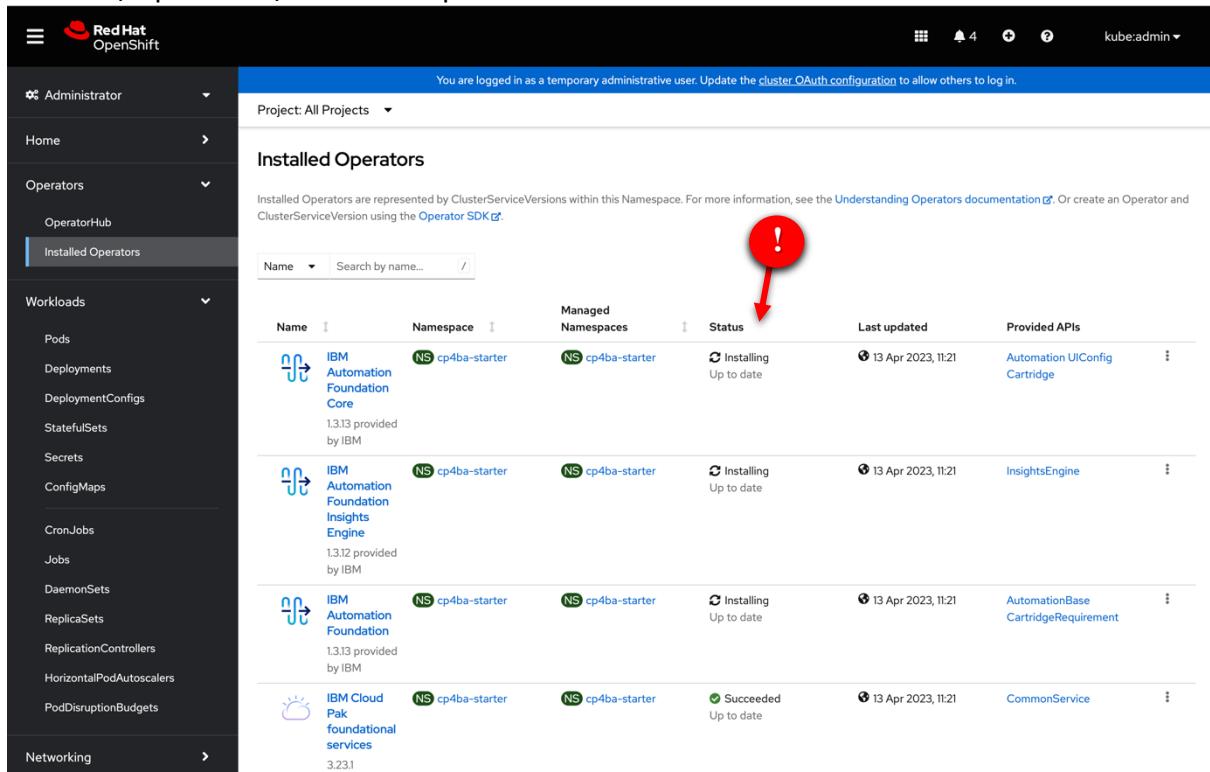
Here are the existing users on this cluster:
1) Cluster Admin
2) non-admin-user1
Enter an existing username in your cluster, valid option [1 to 2], non-admin is suggested: 1
ATTENTION: When you run cp4a-deployment.sh script, please use cluster admin user.

Follow the instructions on how to get your Entitlement Key:
https://www.ibm.com/support/knowledgecenter/en/SSYHZ8\_22.0.2/com.ibm.dba.install/op\_topics/tsk\_images\_enterp\_entitled.html

Do you have a Cloud Pak for Business Automation Entitlement Registry key (Yes/No, default: No): Yes
Enter your Entitlement Registry key: 

```

**Step 5.3.13:** Wait for the script to finish, which should take approximately 15 minutes. You can monitor the Operator install from the OpenShift console/Operators/Installed operators:



Name	Namespace	Managed Namespaces	Status	Last updated	Provided APIs
IBM Automation Foundation Core	NS cp4ba-starter	NS cp4ba-starter	Up to date	13 Apr 2023, 11:21	Automation UIConfig Cartridge
IBM Automation Foundation Insights Engine	NS cp4ba-starter	NS cp4ba-starter	Up to date	13 Apr 2023, 11:21	InsightsEngine
IBM Automation Foundation	NS cp4ba-starter	NS cp4ba-starter	Up to date	13 Apr 2023, 11:21	AutomationBase CartridgeRequirement
IBM Cloud Pak foundational services	NS cp4ba-starter	NS cp4ba-starter	Succeeded	13 Apr 2023, 11:21	CommonService

The cluster configuration is done when all operators are in the ‘succeeded status’:

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The screenshot shows the Red Hat OpenShift web interface. On the left, there's a sidebar with navigation links like Home, Operators, Workloads, and Networking. The main area is titled 'Project: All Projects' and shows a list of installed operators. One operator, 'IBM Cloud Pak foundational services', is highlighted with a red box and a red exclamation mark. The status for this operator is 'Succeeded Up to date'. Other operators listed include 'IBM Automation Foundation Core', 'IBM Automation Foundation Insights Engine', 'IBM Cert Manager', and 'IBM CP4BA FileNet Content Manager'. Each operator entry includes its name, namespace, version, and last update time.

```
scripts -- zsh -- 132x44
Waiting for CP4BA operator pod initialization
CP4BA operator is running...
ibm-cp4a-operator-7df6b8b675-s2qnz           1/1  Running   0          8m11s

Waiting for CP4BA Content operator pod initialization
CP4BA Content operator is running...
ibm-content-operator-86f46547b6-44lpw         1/1  Running   0          8m15s

! Label the default namespace to allow network policies to open traffic to the ingress controller using a namespaceSelector...namespace/default labeled
Done

Storage classes are needed to run the deployment script. For the Starter deployment scenario, you may use one (1) storage class. For a Production deployment, the deployment script will ask for three (3) storage classes to meet the slow, medium, and fast storage for the configuration of CP4BA components. If you don't have three (3) storage classes, you can use the same one for slow, medium, or fast. Note that you can get the existing storage class(es) in the environment by running the following command: oc get storageclass. Take note of the storage classes that you want to use for deployment.
NAME          PROVISIONER          RECLAIMPOLICY    VOLUMEBINDINGMODE    ALLOWVOLUMEEXPANSION
AGE
ocs-storagecluster-ceph-rbd  openshift-storage.rbd.csi.ceph.com  Delete          Immediate          true
20h
ocs-storagecluster-ceph-rgw  openshift-storage.ceph.rook.io/bucket  Delete          Immediate          false
20h
ocs-storagecluster-cephfs   openshift-storage.cephfs.csi.ceph.com Delete          Immediate          true
20h
openshift-storage.noobaa.io  openshift-storage.noobaa.io/obc      Delete          Immediate          false
20h
thin (default)              kubernetes.io/vsphere-volume        Delete          Immediate          false
20h
thin-csi                   csi.vsphere.vmware.com            Delete          WaitForFirstConsumer  true
20h
laurenttarin@IBM-de-Laurent scripts %
```

### 5.4 - Execute the deployment script

It is now time to install the CP4BA capabilities using the deployment script. At this stage we are in this part of the CP4BA documentation:

<https://www.ibm.com/docs/en/cloud-paks/cp-biz->

[automation/23.0.1?topic=scripts-installing-capabilities-by-running-deployment-script](#)

**Step 5.4.1:** Make sure you are logged in your cluster using the `oc login` command copied from your OpenShift environment.

**Step 5.4.2:** Type ‘`oc project cp4ba-starter`’ to go to the right project.

```
[laurenttarin@IBM-de-Laurent scripts % oc project cp4ba-starter
Already on project "cp4ba-starter" on server "https://api.ocp-270002541s-yds5.cloud.techzone.ibm.com:6443".
laurenttarin@IBM-de-Laurent scripts % ]
```

**Step 5.4.3:** Type ‘`./cp4a-deployment.sh`’ to run the deployment script.

**Step 5.4.4:** Hit [RETURN].

```
scripts — cp4a-deployment.sh — 132x44
IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D
Press any key to continue[ ]
```

**Step 5.4.5:** Type ‘`Yes`’ and hit [RETURN].

```
scripts — cp4a-deployment.sh — 132x44
IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D
Press any key to continue
Do you accept the IBM Cloud Pak for Business Automation license (Yes/No, default: No): Yes[ ]
```

**Step 5.4.6:** Type ‘`No`’ and hit [RETURN].

```
scripts — cp4a-deployment.sh — 132x44
IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D
Press any key to continue
Do you accept the IBM Cloud Pak for Business Automation license (Yes/No, default: No): Yes
Did you deploy Content CR (CRD: contents.icp4a.ibm.com) in current cluster? (Yes/No, default: No): No[ ]
```

**Step 5.4.7:** Type ‘`1`’ and hit [RETURN].

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```
scripts — cp4a-deployment.sh — 132x44

IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D

Press any key to continue

Do you accept the IBM Cloud Pak for Business Automation license (Yes/No, default: No): Yes

Did you deploy Content CR (CRD: contents.icp4a.ibm.com) in current cluster? (Yes/No, default: No): No
Continuing...

Starting to Install the Cloud Pak for Business Automation Operator...

Is this a new installation or an existing installation?
1) New
2) Existing
Enter a valid option [1 to 2]: 1
```

**Step 5.4.8:** Type ‘1’ and hit [RETURN].

```
scripts — cp4a-deployment.sh — 132x44

IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D

Press any key to continue

Do you accept the IBM Cloud Pak for Business Automation license (Yes/No, default: No): Yes

Did you deploy Content CR (CRD: contents.icp4a.ibm.com) in current cluster? (Yes/No, default: No): No
Continuing...

Starting to Install the Cloud Pak for Business Automation Operator...

Is this a new installation or an existing installation?
1) New
2) Existing
Enter a valid option [1 to 2]: 1

What type of deployment is being performed?
1) Starter
2) Production
Enter a valid option [1 to 2]: 1
```

**Step 5.4.9:** Type ‘2’ and hit [RETURN].

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```
scripts — cp4a-deployment.sh — 132x44
IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D
Press any key to continue
Do you accept the IBM Cloud Pak for Business Automation license (Yes/No, default: No): Yes
Did you deploy Content CR (CRD: contents.icp4a.ibm.com) in current cluster? (Yes/No, default: No): No
Continuing...
Starting to Install the Cloud Pak for Business Automation Operator...
Is this a new installation or an existing installation?
1) New
2) Existing
Enter a valid option [1 to 2]: 1
What type of deployment is being performed?
1) Starter
2) Production
Enter a valid option [1 to 2]: 1
Select the cloud platform to deploy:
1) Redhat OpenShift Kubernetes Service (ROKS) - Public Cloud
2) Openshift Container Platform (OCP) - Private Cloud
Enter a valid option [1 to 2]: 2
```

**Step 5.4.10:** Type ‘cp4ba-starter’ and hit [RETURN].

```
scripts — cp4a-deployment.sh — 132x44
IMPORTANT: Review the IBM Cloud Pak for Business Automation license information here:
http://www14.software.ibm.com/cgi-bin/weblap/lap.pl?li_formnum=L-ASAY-CJ9F4D
Press any key to continue
Do you accept the IBM Cloud Pak for Business Automation license (Yes/No, default: No): Yes
Did you deploy Content CR (CRD: contents.icp4a.ibm.com) in current cluster? (Yes/No, default: No): No
Continuing...
Starting to Install the Cloud Pak for Business Automation Operator...
Is this a new installation or an existing installation?
1) New
2) Existing
Enter a valid option [1 to 2]: 1
What type of deployment is being performed?
1) Starter
2) Production
Enter a valid option [1 to 2]: 1
Select the cloud platform to deploy:
1) Redhat OpenShift Kubernetes Service (ROKS) - Public Cloud
2) Openshift Container Platform (OCP) - Private Cloud
Enter a valid option [1 to 2]: 2
Where do you want to deploy Cloud Pak for Business Automation?
Enter the name for an existing project (namespace): cp4ba-starter
```

**Step 5.4.11:** Type ‘1’ and hit [RETURN] to select FileNet Content Manager.

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```
Select the Cloud Pak for Business Automation capability to install:  
1) FileNet Content Manager (Selected)  
2) Operational Decision Manager  
3) Automation Decision Services  
4) Business Automation Application  
5) Business Automation Workflow Authoring and Automation Workstream Services  
6) IBM Automation Document Processing  
  
Info: Except pattern (4/5), Business Automation Navigator will be automatically installed in the environment as it is part of the Cloud Pak for Business Automation foundation platform.  
  
Tips: After you make your first selection you will be able to make additional selections since you can combine multiple selections.  
  
IBM Automation Document Processing (6) does NOT support a cluster running a Linux on Z (s390x)/Power architecture.  
  
Tips:Press [ENTER] when you are done  
Enter a valid option [1 to 6]:
```

**Step 5.4.12:** Repeat the previous step selecting 2 ↴, 3 ↴, 4 ↴ until you get to this selection:

```
Select the Cloud Pak for Business Automation capability to install:  
1) FileNet Content Manager (Selected)  
2) Operational Decision Manager (Selected)  
3) Automation Decision Services (Selected)  
4) Business Automation Application (Selected)  
5) Business Automation Workflow Authoring and Automation Workstream Services  
6) IBM Automation Document Processing  
  
Info: Except pattern (4/5), Business Automation Navigator will be automatically installed in the environment as it is part of the Cloud Pak for Business Automation foundation platform.  
  
Tips: After you make your first selection you will be able to make additional selections since you can combine multiple selections.  
  
ATTENTION: IBM Automation Document Processing (6) does NOT support a cluster running a Linux on Z (s390x)/Power architecture.  
  
Tips:Press [ENTER] when you are done  
Enter a valid option [1 to 6]:
```

**Step 5.4.13:** Hit [RETURN].

**Step 5.4.14:** In the same way, select options 1 ↴, 2 ↴, 6 ↴ to select the following items:

```
Pattern "FileNet Content Manager": Select optional components:  
1) Content Search Services (Selected) ←  
2) Content Management Interoperability Services (Selected) ←  
3) IBM Enterprise Records  
4) IBM Content Collector for SAP  
5) Business Automation Insights  
6) Task Manager (Selected) ← !  
  
ATTENTION: IBM Content Collector for SAP (4) does NOT support a cluster running a Linux on Power architecture.  
  
Tips: Press [ENTER] when you are done  
Enter a valid option [1 to 6 or ENTER]:
```

**Step 5.4.15:** Hit [RETURN] to validate.

**Step 5.4.16:** Hit [RETURN] again.

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scripts — cp4a-deployment.sh — 132x44

Pattern "Operational Decision Manager": Select optional components:  
1) Business Automation Insights

Tips: Decision Center, Rule Execution Server and Decision Runner will be installed by default.

Tips: Press [ENTER] if you do not want any optional components or when you are finished selecting your optional components  
Enter a valid option [1 to 1 or ENTER]:

**Step 5.4.17:** Hit [RETURN] again.

scripts — cp4a-deployment.sh — 132x44

Pattern "Automation Decision Services": Select optional components:  
1) Business Automation Insights

Tips: Decision Designer is typically required if you are deploying a development or test environment.  
This feature will automatically install Business Automation Studio, if not already present.

Decision Runtime is typically recommended if you are deploying a test or production environment.

You should choose at least one these features to have a minimum environment configuration.

Tips: Press [ENTER] if you do not want any optional components or when you are finished selecting your optional components  
Enter a valid option [1 to 1 or ENTER]:

**Step 5.4.18** Copy and paste 'ocs-storagecluster-cephfs' and hit [RETURN].

scripts — cp4a-deployment.sh — 132x44

Pattern "Business Automation Application": Select optional components:  
1) IBM Content Navigator (Selected)

Tips: Application Designer is typically required if you are deploying a development or test environment.  
This feature will automatically install Business Automation Studio, if not already present.

Make your selection or press enter to proceed.

Tips: Press [ENTER] when you are done  
Enter a valid option [1 to 1 or ENTER]:

To provision the persistent volumes and volume claims, enter the file storage classname(RWX): ocs-storagecluster-cephfs



**Step 5.4.20:** Copy and paste 'ocs-storagecluster-ceph-rbd' and hit [RETURN].

scripts — cp4a-deployment.sh — 132x44

Pattern "Business Automation Application": Select optional components:  
1) IBM Content Navigator (Selected)

Tips: Application Designer is typically required if you are deploying a development or test environment.  
This feature will automatically install Business Automation Studio, if not already present.

Make your selection or press enter to proceed.

Tips: Press [ENTER] when you are done  
Enter a valid option [1 to 1 or ENTER]:

To provision the persistent volumes and volume claims, enter the file storage classname(RWX): ocs-storagecluster-cephfs  
To provision the persistent volumes and volume claims, enter the block storage classname(RWO): ocs-storagecluster-ceph-rbd

**Step 5.4.21:** Type 'Yes' and hit [RETURN].

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**Pattern "Automation Decision Services": Select optional components:**  
1) Business Automation Insights

**Tips:** Decision Designer is typically required if you are deploying a development or test environment. This feature will automatically install Business Automation Studio, if not already present.

Decision Runtime is typically recommended if you are deploying a test or production environment.

You should choose at least one these features to have a minimum environment configuration.

**Tips:** Press [ENTER] if you do not want any optional components or when you are finished selecting your optional components  
Enter a valid option [1 to 1 or ENTER]:

To provision the persistent volumes and volume claims, enter the file storage classname(RWX): ocs-storagecluster-cephfs  
To provision the persistent volumes and volume claims, enter the block storage classname(RWO): ocs-storagecluster-ceph-rbd

\*\*\*\*\*  
Summary of input

\*\*\*\*\*

**1. Cloud Pak capability to deploy:**

- \* FileNet Content Manager
  - \* Operational Decision Manager
  - \* Automation Decision Services
  - \* Business Automation Application
- 2. Optional components to deploy:**
- \* Content Management Interoperability Services
  - \* Content Search Services
  - \* Task Manager

**3. File storage classname(RWX):** ocs-storagecluster-cephfs

**4. Block storage classname(RWO):** ocs-storagecluster-ceph-rbd

\*\*\*\*\*

Verify that the information above is correct.

To proceed with the deployment, enter "Yes".

To make changes, enter "No" (default: No): Yes

**Step 5.4.24:** The script is now deploying the CP4BA selected capabilities. It will take from **4 to 6 hours** before all the capabilities are ready on your cluster.

This feature will automatically install Business Automation Studio, if not already present.

Decision Runtime is typically recommended if you are deploying a test or production environment.

You should choose at least one these features to have a minimum environment configuration.

**Tips:** Press [ENTER] if you do not want any optional components or when you are finished selecting your optional components  
Enter a valid option [1 to 1 or ENTER]:

To provision the persistent volumes and volume claims, enter the file storage classname(RWX): ocs-storagecluster-cephfs

To provision the persistent volumes and volume claims, enter the block storage classname(RWO): ocs-storagecluster-ceph-rbd

\*\*\*\*\*  
Summary of input

\*\*\*\*\*

**1. Cloud Pak capability to deploy:**

- \* FileNet Content Manager
  - \* Operational Decision Manager
  - \* Automation Decision Services
  - \* Business Automation Application
- 2. Optional components to deploy:**
- \* Content Management Interoperability Services
  - \* Content Search Services
  - \* Task Manager

**3. File storage classname(RWX):** ocs-storagecluster-cephfs

**4. Block storage classname(RWO):** ocs-storagecluster-ceph-rbd

\*\*\*\*\*

Verify that the information above is correct.

To proceed with the deployment, enter "Yes".

To make changes, enter "No" (default: No): Yes

Installing the selected Cloud Pak capability...

ipcacluster.ipca4.ibm.com/ipp4adeploy created

Done

The custom resource file used is: "/Users/laurenttarin/Technical\_stuff/CP4BA\_setup/CP4BA\_23.0.1\_files\_IF1/ibm-cp-automation/inventory/cp4aOperatorSdk/files/deploy/crs/cert-kubernetes/scripts/generated-cr/ibm\_cp4a\_cr\_final.yaml"

To monitor the deployment status, follow the Operator logs.

For details, refer to the troubleshooting section in Knowledge Center here:

<https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=automation-troubleshooting>

## 6- Validate your correct deployment

After a few hours, your Cloud Pak for Business Automation deployment should be ready.

The setup is completed when the cp4ba access information config map is created, with all the URL and credentials to log in the various installed components.

**Step 6.1:** Log into your OpenShift console using the credentials provided in the 'environment ready email'.

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**Step 6.2:** Expand the **Workloads** (1), then click **ConfigMaps** (2).

**Step 6.3:** Expand the **projects** menu (1) and click **cp4ba-starter** (2).

Name	Namespace	Size	Created	Actions
cp4ba-starter	shift-marketplace	5	13 Apr 2023, 11:20	⋮
cs-control	shift-marketplace	0	13 Apr 2023, 11:26	⋮
open-cluster-management-agent	shift-marketplace	3	13 Apr 2023, 11:20	⋮
open-cluster-management-agent-addon	shift-marketplace	2	13 Apr 2023, 11:57	⋮
turbo	shift-marketplace	2	13 Apr 2023, 11:54	⋮
	openshift-storage	0	12 Apr 2023, 15:01	⋮
	openshift-marketplace	3	13 Apr 2023, 11:20	⋮

**Step 6.4:** Type ‘access’ (1). Check that **icp4adeploy-cp4ba-access-info** (2) config map is visible.

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The screenshot shows the Red Hat OpenShift web interface. On the left, a sidebar menu includes 'Administrator', 'Home', 'Operators', 'Workloads' (with sub-options like 'Pods', 'Deployments', 'DeploymentConfigs', 'StatefulSets', 'Secrets', 'ConfigMaps', and 'CronJobs'), and 'Create ConfigMap'. The main content area is titled 'ConfigMaps' under the project 'cp4ba-starter'. A search bar at the top has 'access' typed into it. Below the search bar, there is a 'Clear all filters' button. The table lists two entries: 'CM icp4adeploy-cp4ba-access-info' (Size: 10, Created: 13 Apr 2023, 16:23) and 'CM icp4adeploy-odm-certificates-checksum' (Size: 1, Created: 13 Apr 2023, 13:06). A red box surrounds the search bar, and a red arrow with the number '1' points to it. A red arrow with an exclamation mark points to the first entry in the table.

**NOTE:** If the file is not listed, wait a little bit more for the CP4BA deployment to be completed.

### Step 6.5: Click **icp4adeploy-cp4ba-access-info**.

The screenshot shows the Red Hat OpenShift web interface. The sidebar and project selection are identical to the previous screenshot. The 'ConfigMaps' table now shows the 'icp4adeploy-cp4ba-access-info' entry highlighted with a red box. The entry details are visible: Name: 'CM icp4adeploy-cp4ba-access-info', Size: 10, Created: 13 Apr 2023, 16:23. The second entry, 'CM icp4adeploy-odm-certificates-checksum', is also present but not highlighted.

**Step 6.6:** Scroll down (1) and check that all that the ADS access info is there.

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## Installing Cloud Pak for Business Automation 23.0.1 on an OpenShift VMware image

The screenshot shows the Red Hat OpenShift web interface. On the left, a sidebar menu includes 'Administrator', 'Home', 'Operators', 'Workloads' (with sub-options like 'Pods', 'Deployments', 'DeploymentConfigs', 'StatefulSets', 'Secrets', and 'ConfigMaps'), 'CronJobs', 'Jobs', 'DaemonSets', 'ReplicaSets', 'ReplicationControllers', and 'HorizontalPodAutoscalers'. The 'ConfigMaps' option is highlighted with a blue bar. The main content area displays a 'Data' section with two sections: 'ADS-designer-access-info' and 'ADS-runtime-access-info'. The 'ADS-runtime-access-info' section contains a warning icon (!) and sensitive information including a runtime URL and user credentials (username: drs, password: fmb4szcv6k8j1j6p, manager username: tklz9k8x8cdpkjl, manager password: xj4c5f8k5fv1klj6, monitor username: vvvxvc8sg9ztL5sw, monitor password: k72dd5nfh8xvmq2k). A red arrow points to this section. A red box highlights the right side of the page, and a red circle with the number '1' is in the bottom right corner.

Once ADS is installed, your CP4BA setup is completed.

You can now proceed with the demonstration setup instructions following the ‘Prepare instructions’ tab.

## Related documentation

### Podman documentation

IBMer Only: <https://w3.ibm.com/w3publisher/docker-desktop/podman>  
Partners: <https://podman-desktop.io/>

### Cloud Pak for Business Automation set-up documentation:

The previous instructions are based on the following product documentation chapters:

<b>Preparing for a starter deployment</b>	<a href="https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=deployment-preparing-starter">https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=deployment-preparing-starter</a>
<b>Option 2: Installing a starter deployment by running scripts</b>	<a href="https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=icmpsdc-option-2-installing-starter-deployment-by-running-scripts">https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=icmpsdc-option-2-installing-starter-deployment-by-running-scripts</a>
<b>Option 2a: Setting up the cluster with the admin script</b>	<a href="https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-option-2a-setting-up-cluster-admin-script">https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-option-2a-setting-up-cluster-admin-script</a>
<b>Installing the capabilities by running the deployment script</b>	<a href="https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-installing-capabilities-by-running-deployment-script">https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-installing-capabilities-by-running-deployment-script</a>
<b>Validating your starter deployment</b>	<a href="https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-validating-your-starter-deployment">https://www.ibm.com/docs/en/cloud-paks/cp-biz-automation/23.0.1?topic=scripts-validating-your-starter-deployment</a>