Openshift Container platform (OCP)by Redhat

Openshift container platform = Openshift

Reference links

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| --- | --- |
| <https://gitlab.com/practical-openshift/labs> | Clone the code of udemy trainer here |

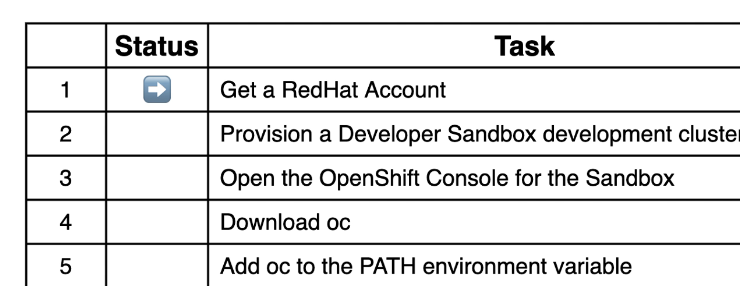
Installation

Install docker for desktop software

Install WSL software (windows subsystem for linux)

Then to test run a command called “docker run hello-world” here hello-world is the image name in “windows power shell” and docker desktop should open correctly

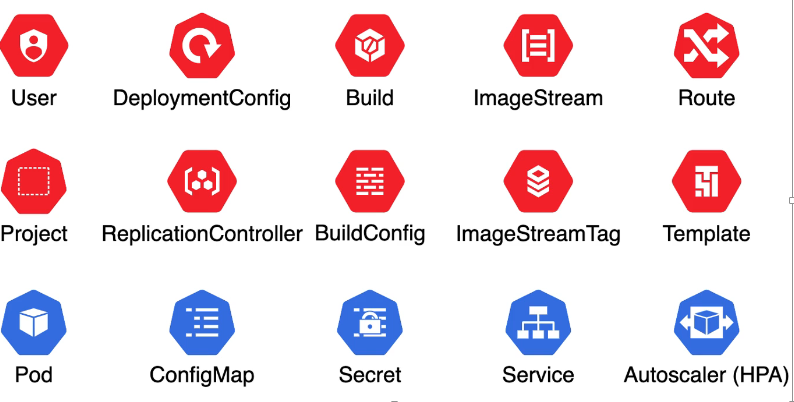
Unlike minikube u cant install the Openshift in ur windows machine, bec it needs 9GB RAM, 30 GB harddisk, 4 virtual cpu, so that’s why better use the Redhat developer sand box version



Similarities and differences

Same like kubernetes

* Openshift also have a cluster (bunch of server machines)
* Openshift also have objects/resources (among 15, 10 are Openshift exclusive, 5 are common in both)



Openshift architecture

Ocp primary job is to run containers

Here host is nothing but some worker node

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Here plane means category, in ocp total servers are categorized into 2 –

Control plane- the servers under this category are responsible for running core Openshift processes - REST API, Data persistence, monitoring processes

Data plane – the servers in this category are responsible for running our custom apps like java programs

Developer will interact with REST api present in control plane

Containerization

Container is nothing but some isolated process space inside a hard disk where our app can run

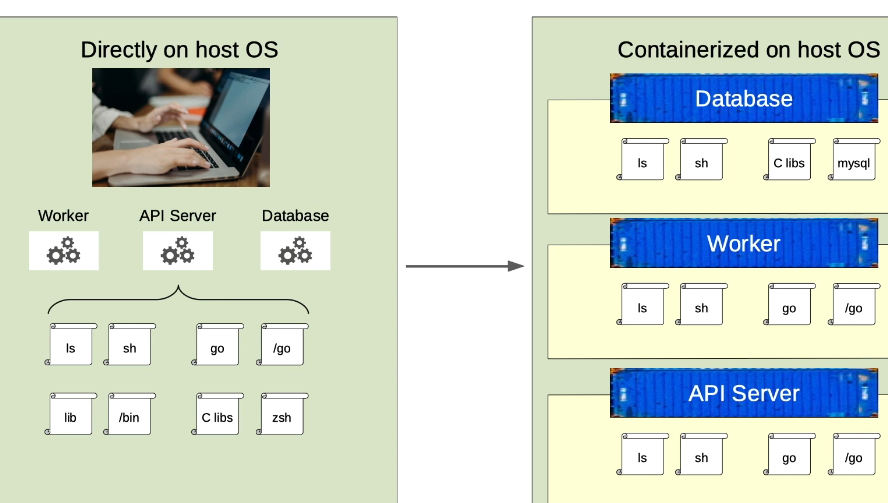
Why containers are needed?

Ex:- if spring needs java 11 , and python needs java 17 , in same machine or os u cant have 2 java versions,

so if u use containerization, an isolated space will be created inside a hard disk

container is bundled with all of its dependencies

docker daemon is something that runs container



OS uses project object to divide applications/ segregate apps

User quota represents upper bound of RAM,cpu and all other resources , for that quota it will reserve the space

Commands

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| --- | --- |
| Login to oc server cluster | oc login –-token=<your token here > --server=cluster url  (you can get this command from oc browser login and right top right corner – click on ur pic – select – copy login command)  oc login –u developer  # Uses the pre-configured OpenShift cluster  oc login  # Allows you to log in to any OpenShift cluster  oc login <cluster address>  # Log out  oc logout |
| To see who am I (to get user id) | Oc whoami |
| To see project | |  |  | | --- | --- | | To see on which project u are | oc project | | To create a new project | oc new-project <new proj name here > | | To switch to another project” (like switching to another cluster) | oc project <target project name here> | | To see all the available projects | oc projects | |  |  | |

OS objects

Projects

OS uses projects to group related resources

### Pods

Generally pod means group of whales,

In ocp 1 pod is nothing but group of containers, in real world, too much tightly inter-dependent applications (one can’t live without other) stay in same pod, if pod goes down both will be down, else both will be up na

Additional containers are called side car containers

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