

Installing Kubeflow on Docker for Desktop

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Pre-Requisites

Docker for Desktop

Install Docker for Desktop v2.3.0.5 for your OS

Windows:

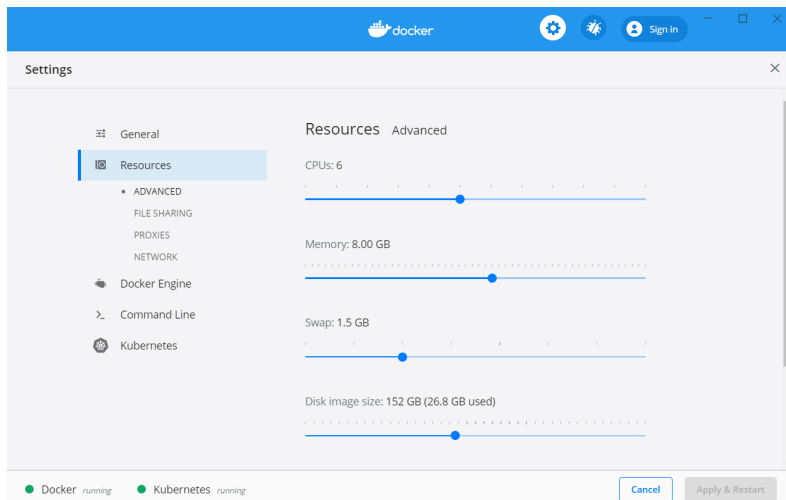
<https://desktop.docker.com/win/stable/48029/Docker%20Desktop%20Installer.exe>

Mac:

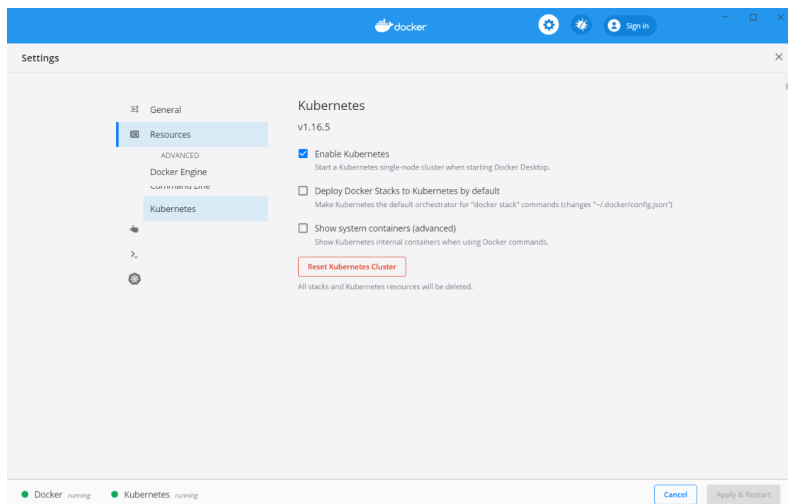
<https://desktop.docker.com/mac/stable/48029/Docker.dmg>

Configure the resources for Docker

You'll want to have at least 4-6 cpus and about 8-16Gb of ram if you can spare it.



Enable Kubernetes



Installation

On Windows

For windows, we are going to use a Ubuntu docker container to install Kubeflow into our Kubernetes running in Docker for Desktop.

From a Command Prompt:

```
> docker run -it --rm -v C:\Users\<USER>\.kube:/root/.kube ubuntu:20.04 bash

apt-get update
apt-get install -y
curl
apt-get install -y
git
apt-get install -y wget

#install kubect1
curl -LO "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubect1"
install -o root -g root -m 0755 kubect1 /usr/local/bin/kubect1

#install kfctl
wget https://github.com/kubeflow/kfctl/releases/download/v1.0.2/kfctl_v1.0.2-0-ga476281_linux.tar.
gz
tar xvfz kfctl_v1.0.2-0-ga476281_linux.tar.
gz
cp kfctl /usr/local
/bin

#install kubeflow
export KF_NAME=kubeflow
export BASE_DIR=/opt
/ubuntu/
export KF_DIR=${BASE_DIR}
/${KF_NAME}
export CONFIG_URI="https://raw.githubusercontent.com/kubeflow/manifests/v1.0-branch/kfdef/kfctl_k8s_istio.v1.
0.2.yaml"
mkdir -p
${KF_DIR}
cd
${KF_DIR}

kfctl apply -V -f ${CONFIG_URI}
```

On Mac and Windows

Install kfctl

On Windows

```
#install kfctl
wget https://github.com/kubeflow/kfctl/releases/download/v1.0.2/kfctl_v1.0.2-0-ga476281_linux.tar.gz
tar xvfz kfctl_v1.0.2-0-ga476281_linux.tar.gz
cp kfctl /usr/local/bin
```

On Mac

```
wget https://github.com/kubeflow/kfctl/releases/download/v1.2.0/kfctl_v1.2.0-0-gbc038f9_darwin.tar.gz
tar xvfz kfctl_v1.2.0-0-gbc038f9_darwin.tar.gz
sudo cp kfctl /usr/local/bin/.
```

Install Kubeflow

On Windows in Container

```
#install kubeflow
export KF_NAME=kubeflow
export BASE_DIR=/opt/ubuntu/
export KF_DIR=${BASE_DIR}/${KF_NAME}
export CONFIG_URI="https://raw.githubusercontent.com/kubeflow/manifests/v1.0-branch/kfdef/kfctl_k8s_istio.v1.0.2.yaml"
mkdir -p ${KF_DIR}
cd ${KF_DIR}

kfctl apply -V -f ${CONFIG_URI}
```

On Mac

```
#install kubeflow
export KF_NAME=kubeflow
export BASE_DIR=/Users/<USERNAME>/kfctlinstall
export KF_DIR=${BASE_DIR}/${KF_NAME}
export CONFIG_URI="https://raw.githubusercontent.com/kubeflow/manifests/v1.0-branch/kfdef/kfctl_k8s_istio.v1.0.2.yaml"
mkdir -p ${KF_DIR}
cd ${KF_DIR}

kfctl apply -V -f ${CONFIG_URI}
```

Wait for containers to all start. This could take a while... up to 30 minutes.

```
$ kubectl get pods --all-namespaces

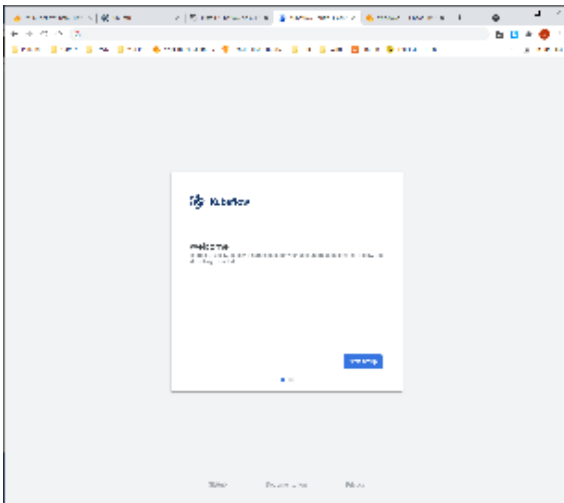
$ kubectl get pods --all-namespaces |grep -v Running |grep -v Completed |wc -l
```

**** From a WINDOWS CMD PROMPT (Windows) or terminal (MAC), enable port forwarding:

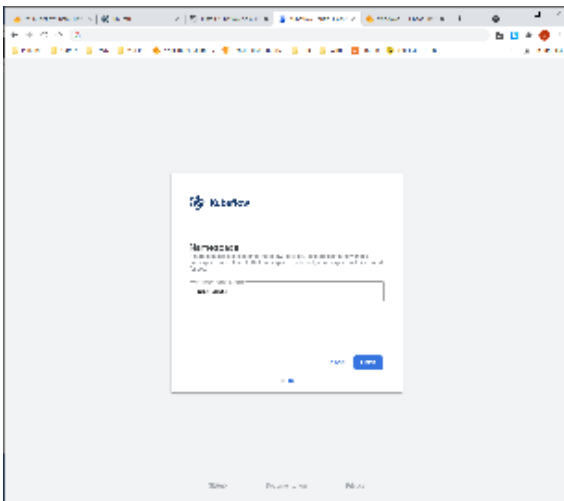
```
$ kubectl port-forward -n istio-system svc/istio-ingressgateway 8080:80
```

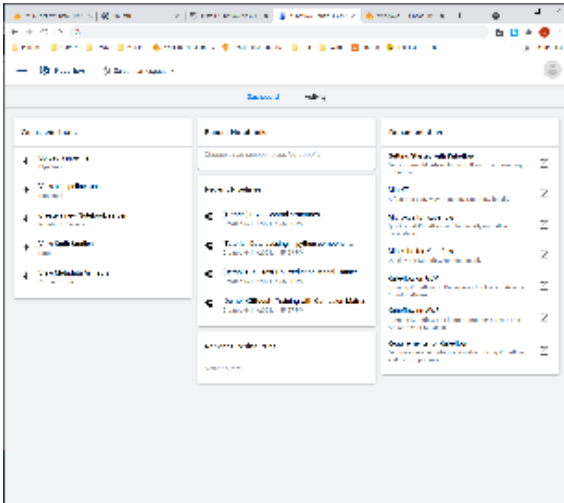
Use it

Navigate to <http://localhost:8080/>



For namespace, type **default** and click **Finish**.





References

Reference	URL
Install Kubeflow on a single-node Kubernetes v1.18.2 cluster	https://illya13.github.io/RL/tutorial/2020/05/03/install-kubeflow-on-single-node-kubernetes-v1.18.2.html
How to use Docker Desktop for Mac or Windows to run Kubeflow	https://morioh.com/p/7c45a5df9034
Kubeflow: How to Install and Launch Kubeflow on your Local Machine	https://towardsdatascience.com/kubeflow-how-to-install-and-launch-kubeflow-on-your-local-machine-e0d7b4f7508f