

Task1

February 6, 2021

1 Task1 - Installing the Pre-requisites

In this task we will install the pre-requisite tools for completing our project.

1.1 Tools

The tools we will install are:

Tool	Description
kubectl	The Kubernetes CLI.
docker	The container runtime used by minikube.
Minikube	A single-node Kubernetes cluster inside a container.
Helm	The Kubernetes package manager.
kubectlx and kubens	Helper scripts for changing Kubernetes contexts and namespaces.
kubetail	Helper script to easily tail logs from Pods.

Notes

- kubectlx, kubens and kubetail only work on Mac or Linux systems.

1.1.1 Kubectl Installation

The Kubernetes Command-Line tool that allows to run commands against Kubernetes clusters. The instructions for installing kubectl can be found [here](#).

There are various ways to install kubectl but we will focus on how to do it using curl. Scroll down the page until you reach the section *Install kubectl binary via curl*. We will install the latest version of kubectl, so use the following commands.

```
curl -LO https://storage.googleapis.com/kubernetes-release/release/$(curl -s https://storage.g
```

Now, let's change the file permission for kubectl

```
chmod +x ./kubectl
```

Let's move it to the /usr/local/bin directory

```
sudo mv ./kubectl /usr/local/bin/kubectl
```

1.1.2 Docker Installation

Update the apt package index and install packages to allow apt to use a repository over HTTPS. Copu and Paste these **commands** one by one in the terminal. The official installation documentation page for docker can be found [here](#).

```
sudo apt-get update
```

Then this cmd:

```
sudo apt-get install \
  apt-transport-https \
  ca-certificates \
  curl \
  gnupg-agent \
  software-properties-common
```

Press **Y** and then Enter.

Then we have to add Docker's official GPG key:

```
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

Use the following command to set up the stable repository:

```
sudo add-apt-repository \
  "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
  $(lsb_release -cs) \
  stable"
```

Press **Y** and then Enter.

And install the latest version of Docker Engine and containerd ""

```
sudo apt-get install docker-ce docker-ce-cli containerd.io
```

Allowing Permission to the sock:

```
sudo chmod 666 /var/run/docker.sock
```

NOTE: The above command is only required for the Coursera Project Cloud Desktop. Do not use it locally.

1.1.3 Minikube Installation

Installing minikube using binary download option.

The releases for minikube can be found [here](#).

```
curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube
```

1.1.4 Snap Installation

Snap is a software deployment and package management system developed by Canonical.

```
sudo apt install snap
```

1.1.5 Helm Installation

Helm is a package manager for Kubernetes. “

```
sudo snap install helm --classic
```

1.1.6 Kubectl and Kubens Installation

Helper scripts for changing Kubernetes contexts and namespaces. The github repo for kubectl and kubens can be found [here](#). First Let's get Kubectl and Kubens from github using:

```
wget https://raw.githubusercontent.com/ahmetb/kubectl/master/kubectl
```

And then

```
wget https://raw.githubusercontent.com/ahmetb/kubectl/master/kubens
```

Now, let's change the file permission for kubectl and kubens

```
sudo chmod +x kubectl kubens
```

Let's move it to the /usr/local/bin directory

```
sudo mv kubectl kubens /usr/local/bin
```

1.1.7 Kubectl Installation

A helper script for easily tail logs from pods.

```
wget https://raw.githubusercontent.com/johanhaleby/kubetail/master/kubetail
```

Now, let's change the file permission for kubetail

```
sudo chmod +x kubetail
```

Let's move it to the /usr/local/bin directory

```
sudo mv kubetail /usr/local/bin
```