Assignment no 2

Title

Project Workstation selection, Installations details with setup and Installation procedure.

Software Specification:

Operating System: Ubuntu –any distro

IDE: Pycharm

Programming Language: Python3

Framework : Django

Packages : Terminado ,Tornado Websocket,crispy_forms,

Scripting Language : Bash,CSS,Bootstrap4,HTML5

Database: MySql

Technologies Used: Docker,Kubernetes

Installation steps

1. Docker

i.   Set up the repository.
     Update the apt package index:

   a. $ sudo apt-get update

ii.   Install packages to allow apt to use a repository over HTTPS:

```
$ sudo apt-get install \
apt-transport-https \
ca-certificates \
curl \
gnupg2 \
```

```
software-properties-common
```

iii.   Add Docker's official GPG key:

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

    a. Verify that you now have the key with the fingerprint9DC8 5822 9FC7 DD38 854A E2D8 8D81 803C 0EBF CD88, by searching for the last 8 characters of the fingerprint.

```
$ sudo apt-key fingerprint 0EBFCD88
pub   4096R/0EBFCD88 2017-02-22
Key fingerprint = 9DC8 5822 9FC7 DD38 854A  E2D8 8D81 803C 0EBF CD88
uid            Docker Release (CE deb) <docker@docker.com>
sub   4096R/F273FCD8 2017-02-22
```

iv.   Use the following command to set up the stable repository. To add the nightly or test repository, add the word nightly or test (or both) after the word stable in the commands below.

    a. Note: The lsb_release -cs sub-command below returns the name of your Debian distribution, such as helium. Sometimes, in a distribution like BunsenLabs Linux, you might need to change $(lsb_release -cs) to your parent Debian distribution. For example, if you are using BunsenLabs Linux Helium, you could use stretch. Docker does not offer any guarantees on untested and unsupported Debian distributions.

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

v.   Install Docker CE
Note: This procedure works for Debian on x86_64 / amd64, Debian ARM, or Raspbian.

    o Update the apt package index.

```
$ sudo apt-get update
```

- Install the latest version of Docker CE and containerd, or go to the next step to install a specific version:

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

  - If you have multiple Docker repositories enabled, installing or updating without specifying a version in the apt-get install or apt-get update command always installs the highest possible version, which may not be appropriate for your stability needs.

- To install a specific version of Docker CE, list the available versions in the repo, then select and install:

- List the versions available in your repo:

```
$ apt-cache madison docker-ce

docker-ce | 5:18.09.1~3-0~debian-stretch |
https://download.docker.com/linux/debian stretch/stable amd64 Packages

docker-ce | 5:18.09.0~3-0~debian-stretch |
https://download.docker.com/linux/debian stretch/stable amd64 Packages

docker-ce | 18.06.1~ce~3-0~debian      |
https://download.docker.com/linux/debian stretch/stable amd64 Packages

docker-ce | 18.06.0~ce~3-0~debian      |
https://download.docker.com/linux/debian stretch/stable amd64 Packages
```

- Install a specific version using the version string from the second column, for example, 5:18.09.1~3-0~debian-stretch .

```
$ sudo apt-get install docker-ce=<VERSION_STRING> docker-ce-cli=<VERSION_STRING> containerd.io
```

- Docker CE is installed and running. The docker group is created but no users are added to it. You need to use sudo to run Docker commands. Continue to Linux postinstall to allow non-privileged users to run Docker commands and for other optional configuration steps.

Kubernetes installation

1.Installing kubeadm, kubelet

```
apt-get update && apt-get install -y apt-transport-https curl
curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-key add -
cat <<EOF >/etc/apt/sources.list.d/kubernetes.list
deb https://apt.kubernetes.io/ kubernetes-xenial main
EOF
apt-get update
apt-get install -y kubelet kubeadm kubectl
apt-mark hold kubelet kubeadm kubectl
systemctl daemon-reload
systemctl restart kubelet
```

2.Install kubectl on Linux:Ubuntu

```
sudo apt-get update && sudo apt-get install -y apt-transport-https
curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | sudo apt-key add -
echo "deb https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee -a
/etc/apt/sources.list.d/kubernetes.list
sudo apt-get update
sudo apt-get install -y kubectl
```