**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

1. Set up the repository.

Update the apt package index:

* 1. $ sudo apt-get update

1. 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

1. Add Docker’s official GPG key:

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

* 1. 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

1. 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.
   1. **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"

1. **Install Docker CE**

**Note**: This procedure works for Debian on x86\_64 / amd64, Debian ARM, or Raspbian.

* + 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](https://docs.docker.com/install/linux/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