	Hope Foundation's **Finolex Academy of Management and Technology, Ratnagiri** **Information Technology Department**		
Subject name: DevOps Lab			Subject Code: ITL803
Class	BE IT	Semester – VIII (CBCGS)	Academic year: 2019-20
Name of Student	**Kazi Jawwad A Rahim**	**QUIZ Score :** 10/10	
Roll No	**28**	Assignment/Experiment No.	04
Title: **Install and Configure Docker for creating containers of different operating systems image**			

1.Course objectives applicable

LOB3. To understand Docker to build, ship and run containerized images

2. Course outcomes applicable:

LO5 -Students understood the installion of Docker and managed the software applications running on Container

3. Learning Objectives:

1. Understand the docker technology
2. To know the building the images

4. Practical applications of the assignment/experiment: To automate the several tasks such as automatic building the code ,deploying the code and notifying the developer about build status via sms/email etc

5. Prerequisites:

1. Familiar with Linux os
2. Internet Access
3. Docker Hub account

6. Hardware Requirements:

1. Internet Access with Browser
2. Access to root privileges on fedora 30

7. Software Requirements:

Docker installed on fedora 30

8. Quiz Questions (if any): (Online Exam will be taken separately batchwise, attach the certificate/ Marks obtained)

1. What is docker?
2. What is the containerization?
3. What are the benefits of docker?

9. Experiment/Assignment Evaluation:

Sr. No.	Parameters	Marks obtained	Out of
1	Technical Understanding (Assessment may be done based on Q & A **or** any other relevant method.) Teacher should mention the other method used -		6
2	Neatness/presentation		2
3	Punctuality		2
Date of performance (DOP)		**Total marks obtained**	**10**
Date of checking (DOC)		**Signature of teacher**	

Theory:

Docker is a tool designed to make it easier to create, deploy and run applications by using containers. Containers allow a developer to package up an application with all of the parts it needs, such as libraries and other dependencies and deploy it as one package. By doing so, thanks to the container the developer can rest assured that the application will run on any other Linux machine regardless of any customized settings that machine might have that could differ from the machine used for writing and testing the code.

11. Installation Steps / Performance

Steps – $uname -r

```
4.16.5-300.fc28.x86_64
```

sudo dnf config-manager --add-repo
https://download.docker.com/linux/fedora/docker-ce.repo

```
sudo dnf makecache
```

```
$ sudo dnf install docker
```

To start the Docker service use:

```
$sudo systemctl start docker
```

```
sudo systemctl enable docker
```

Learning Outcomes Achieved:

1) Students understood the installation of docker on fedora 30.
2) Students understood the creating containers from downloaded base images.
3) Students understood the pushing the customized base images to Docker hub.
4) Students understood the running of Dockerfile.

Conclusion:

1. Applications of the studied technique in industry.
   a. Dockers are used in industry for removing the complexities of software installations.
   b. To write installations instructions only once and thereafter running of Dockerfile.
2. Engineering Relevance
   a. Quickly start using of any applications / services.
   b. To modify the base images and pushing it on Docker HUb
3. Skills Developed
   a. Installations of Docker and launching a containers.
   b. Making changes to the downloaded base images by adding applications using Dockerfile.