**AIOPS Assignment 4**

1. What is Docker, and why is Docker used?

*Docker is a tool that encapsulates the process of creating a distributable application so that it can be deployed in any environment.*

*Compatibility: The application we build may have compatibility issues in different environments.*

*Dependency: Dependency on different packages when building applications.*

*Long setup Time: When working with different services, we may take long time to setup the environment.*

*Different Environments: In the test environment and production environment, dependencies may differ.*

*In order to encounter the above hurdles, Docker encapsulates all the requirements for an application so that it can run in any environment.*

1. Explain the Docker architecture?

*Docker uses a client-server model and consists of the Docker’s Client, Docker Host, Network and Storage components, and the Docker Registry**.*

*Docker’s Client: Docker users can interact with Docker through a client. When any docker commands runs, the client sends them to docker daemon, which carries them out.*

*Docker Host: The Docker host provides a complete environment to execute and run applications. It comprises of the Docker daemon, Images, Containers, Networks, and Storage.*

1. What do you mean by a Dockerfile?

*Dockerfile is a text documentation that contains all the commands a user requires to call on the command line to assemble an image.*

1. What do you mean by Docker Images?

*Docker images are a read-only binary template that can build containers. They also contain metadata that describe the container’s capabilities and needs. Images are used to store and ship applications.*

1. What do you mean by Docker Hub?

*Docker Hub is a hosted repository service provided by Docker for finding and sharing container images.*

1. Which command can be used to check Docker Client and Docker Server Version?

*To check docker client version:*

*docker –v*

*To check docker server version as well:*

*docker version*

1. How to create a Docker container from an Image?

*Container has container layer and multiple image layer. Container has to be in the read and write mode. Image layers are in the read only mode.*

*From Dockerfile we create docker image. Dockerfile contains the instructions to create the image.*

*Create image using command - docker build*

*Create container from image using the command docker create*

