Assignment 1

An organization XYZ Private Limited has recently transformed their IT application from Monolithic to Microservice Architecture. Now they have been struggling with deployment in such a complex infrastructure and inconsistency across the system. The organization has hired you to help them with simplifying their deployment process by containerizing their applications.

You are requested to do following task :

1. Take the addressbook application.
2. Deploy that application on to tomcat server and access it.
3. Write a docker file to containerize the application.
4. Build the docker image for the application.
5. Push it to your docker hub repository.
6. Run the docker image of your application with proper port binding.
7. Verify the containerize application is running and Accessible

Assignment 2

An organization XYZ Private Limited is developing a blogging platform using WordPress and MySQL. They have containerized their application. Now they are seeking your help in writing a docker-compose file to manage both the application together.

You are requested to do following task :

1. Install docker-compose.
2. Write a docker-compose file for running MySQL and WordPress application.
3. Configure the db connection and volumes for data persistence in the compose file.
4. Run both the containers by running docker-compose command.
5. Verify WordPress application is accessible.
6. Verify MySQL db is accessible.
7. Stop both the containers by running docker-compose Command

Containerizing Spring boot Application

Assignment 3

An organization XYZ Private Limited has recently transformed their IT application from Monolithic to Microservice Architecture. Now they have been struggling with deployment in such a complex infrastructure and inconsistency across the system. The organization has hired you to help them with simplifying their deployment process by containerizing their applications. They are using spring boot to develop their microservices.

You are requested to do following tasks :

1. Create and download a Spring Boot application with Spring initializr.
2. Import the application into Eclipse.
3. Add an index.html to the main/resources/static folder.
4. Run and verify the application.
5. Write a Dockerfile to containerize the application
6. Build the docker image.
7. Push the docker image to Docker Hub
8. Run on application as container in detached mode and on system port 8089

Assignment 4

Data Persistence using Docker Volume

An organization XYZ Private Limited has recently transformed their IT application from Monolithic to Microservice Architecture. The organization has started using Docker as a Containerization technology to deploy their application as containers. While working with containers, organization has observed that as the containers gets destroyed, the data get lost. After investigation, the organization has figured out that the container data needs to be persisted using Docker Volume.

The organization has request you to implement same. You are required to do following tasks :

1. Create a Docker Volume.
2. Launch an Ubuntu container by mounting the created volume.
3. Attach the terminal to the running ubuntu container.
4. Create some dummy files into the persisted directory.
5. Exit from the Container

6. Stop the container.
7. Verify that the files created in container are available in Docker volume