

## Docker container

Submitted Docker image

lzjiangjeff/sap-tech-assignment:latest

Pull in the Docker image

Run Docker command: ***docker pull lzjiangjeff/sap-tech-assignment***

Run the Docker image

Run Docker command:

***docker run -d --rm -p 8080:8080 --name sap-tech-assignment lzjiangjeff/sap-tech-assignment***

Test the web application

Open ***http://localhost:8080*** if testing on local machine or ***http://SERVER\_NAME:8080*** in browser

## Source Code

Source code hosted on GitHub

***git clone https://github.com/lzjiangjeff/sap-tech-assignment.git***

Java Web Application

- It is a Maven project and uses Maven to build, package, and deploy application
- Run ***mvn clean package*** to generate ***tech-assignment.war*** in target folder
- Configuration Management Information
  - Maven version: 3.3 (other components e.g. plugins versions, see details in pom.xml file)
  - Java version: JDK-1.8.0
  - Docker version: 17.05.0-ce
  - Tomcat version: 7 and 8

Build Docker image

- Image created with dockerfile located in ***src/test/resources/docker-build*** folder
- Run ***mvn clean package*** command to generate ***tech-assignment.war*** in target folder
- Copy ***tech-assignment.war*** file into ***src/test/resources/docker-build*** folder

- Change working directory to *src/test/resources/docker-build* folder
- Run Docker command: ***docker build -t tech-assignment .***

## Improvement/To-Do List

Due to the time constraints, the following features/improvements are not implemented, and I would like to further improve/implement them if necessary

### For Java Web Application

- Proper exception handling and error pages redirection instead of printing stack trace directly
- Proper logging mechanism e.g. using log4j for application logging and error debugging

### For Docker container

- Refining Docker image build file to further customize Tomcat installation. Such as removing host-manager and app-manager application, adding proper and tight authentication methods, etc...
- Refine Docker image build file to customize and tighten Linux configuration