

INSTALLATION GUIDE:

GIT REPOSITORY

<https://gitlab.gbar.dtu.dk/s192675/02267-microservices>

REQUIRED TOOLS FOR INSTALLATION

- Java 8 JDK (<https://adoptopenjdk.net/installation.html>):
 - o `wget -qO - https://adoptopenjdk.jfrog.io/adoptopenjdk/api/gpg/key/public | sudo apt-key add`
 - o `sudo add-apt-repository --yes https://adoptopenjdk.jfrog.io/adoptopenjdk/deb/`
 - o `apt-get install adoptopenjdk-8-hotspot`
- Maven
 - o Mac/Linux:
 - `sudo apt install maven`
 - If that does not work out of the box you have to update the contents of the apt repositories with `sudo apt update`
 - o Windows:
 - Maven can be installed here: <https://maven.apache.org/download.cgi>
- Docker
 - o On Linux:
 - 1. Update the repositories: `sudo apt update`
 - 2. Install docker: `sudo apt install docker.io`
 - 3. Install docker-compose: `sudo apt install docker-compose`
 - o On Windows/Mac (<http://www.docker.com>)
- Python
 - o On Linux:
 - `sudo apt-get install python3`
 - o On Mac:
 - `brew install pyenv`
 - `pyenv install -list | grep 3.8` (choose the version with "-dev")
 - `pyenv install 3.8-dev`
 - o On Windows (<https://datatofish.com/install-python/>)

JENKINS BUILD SCRIPT

The whole build script is inside a Jenkinsfile that has different stages to build and test all the different microservices.

- On the first stage, we start by building all the micro services.
- On the second stage, we build and run a docker image.

- Then, we wait and make sure the docker image is up before running our tests.
- After that, we run the JUnit and Cucumber tests for each of the services.
- And finally, we clean and take down image.

NEEDED SCRIPTS

Clone the repository:

```
git clone https://gitlab.gbar.dtu.dk/s192675/02267-microservices.git
cd 02267-microservices
```

The following script file runs the maven scripts for all the microservices:

```
mvn_install_all.sh
```

If not with the script, you can also run each of the microservices separately:

```
mvn -f CustomerMicroservice/pom.xml -D maven.test.skip=true install
mvn -f MerchantMicroservice/pom.xml -D maven.test.skip=true install
mvn -f TokenMicroservice/pom.xml -D maven.test.skip=true install
mvn -f TransactionMicroservice/pom.xml -D maven.test.skip=true install
mvn -f DTUPay/pom.xml -D maven.test.skip=true install
```

Generate the docker images for each of the microservices:

```
docker-compose build
docker-compose up -d
```

Run tests on all the services:

```
mvn -f CustomerMicroservice/pom.xml test
mvn -f MerchantMicroservice/pom.xml test
mvn -f TokenMicroservice/pom.xml test
```

Delete the docker images:

```
docker-compose down
docker-image prune -f
```

INFORMATION ON SOFTWARE TOOLS USED FOR DEVELOPMENT

- IntelliJ (2019.3.1)
- Maven (3.6.3)
- Cucumber (1.2.5)
- JUnit (4.12)
- MySQL (8.0.18)
- Thorntail (2.6.0.Final)
- Jersey (2.27)
- Org.json (20190722)