em4so

Installation and usage notes

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1   Requirements

In order to run the middleware, you need:

- A device running a Linux-based OS
- CouchDB, http://couchdb.apache.org/
- CouchAPP, https://github.com/couchapp/couchapp
- Gradle, https://gradle.org/gradle-download/
- Java Virtual Machine, https://java.com/fr/download/

For development, you also need:

- Eclipse, https://eclipse.org/downloads/

2   Importing the project for development

Before being able to open the project in Eclipse, you have to load the java file with **gradle**.

- Download the project from GitHub or clone it via git.
- Open a new command window and go in the directory **core**. Enter the command **gradle eclipse**.
- Repeat the operation for all the projects you want to import to .

After that, you can now open Eclipse and add, one by one, the projects: Eclipse → Import → Existing Project into Workspace

NOTE:

If you have some exclamation mark in the projects, you need to install the libraries (dependencies) in the *em4so* project. For that, go in the project and enter the command: *gradle install*. Then, if you are able to see **BUILD SUCCESSFUL**, you have to go in each project and enter: *gradle clean cleanEclipse eclipse* in order to clean each project and finally you will be able to refresh all projects and the exclamations mark should be disappeared.

For running applications using the middleware you will need to populate the couchdb database. There are two types of documents:

- *._design documents* (The pattern of the project),
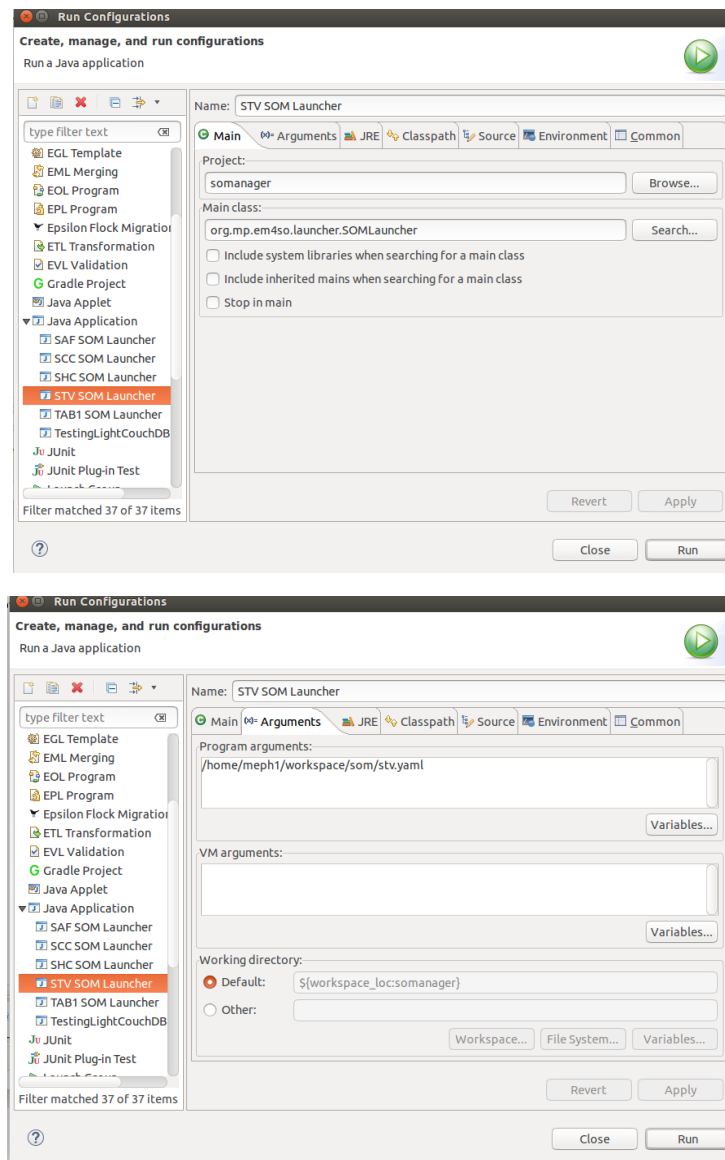- *.data documents*. (Specific documents for each particular SO application)

At this step, the project configuration works but you have to import the data in the database. Firstly, launch *couchApp* and *couchDB* on your device. Then, go to the **somanager directory** and launch the file **import-design.sh** which will import the database. Now you can import data with the file **import-all-data.sh**.

After all, the last step is to configure Eclipse in order to launch each Smart Object on the middleware.

3 Run the applications

3.1. Run from eclipse

Go to *Run* → *Run Configurations ...* and Create new configurations for *Java Application*, one for each SMART Object.

Now you can launch each SO on the Middleware.

3.2. Run from the terminal

In order to run the project from the terminal, you have to use *gradle*.

1. Go to the **em4so** directory and enter the following command:

gradle clean install

This command load all libraries useful for running the project.

2. Then go to the **somanager** directory and enter the following command:

gradle clean fatJar

This command load all the .jar files for the middleware.

3. Now, go on each other projects and enter the command:

gradle clean Jar

This command generates the .jar file for the project.

Now, your project is ready. Before launched the project, open the file *somanager.sh* :

```
#! /usr/bin/env bash

JAR_SOM="D:\workspace\java\somanager\build\libs\somanager-all-1.0.jar"

JAR_SO="D:\workspace\java\$1\build\libs\$1-1.0.jar"

java -cp $JAR_SO:$JAR_SOM org.mp.em4so.launcher.SOMLauncher $1.yaml
```

Check if the file **somanager-all-1.0.jar** is at the same place as specified (you can find this file in **somanager/build/libs/somanager-all-1.0.jar**).

Now, you can launched the SOs projects with the command:

./somanager.sh <NAME_OF_PROJECT>