

# Developer Manual

## Build and Deploy with Maven and Wildfly

This manual will provide detailed instructions on how to build modules using Maven and how to deploy .war files with Wildfly. Below, you will find detailed instructions for two common scenarios:

### 1. Source Code-Based Scenario:

For working directly with the application's source code, detailed instructions on composing and deploying projects directly from the command line with a properly configured Wildfly Server are provided. This scenario is beneficial for a more granular and customized approach to the build and deploy process.

### 2. Docker Container-Based Scenario:

Instructions are provided on managing the build and deploy using Docker Compose. This approach is advantageous when isolating the application and its dependencies in a containerized environment.

## Steps for Building Modules

For working directly with the application's source code, the link to the Source Code repository can be found at the provided [link](#).

### 1. Modules' structure:

Ensure that the module structure is as follows:

```
sourceCode/  
├── stlab-modules/  
├── empedocle/  
│   ├── empedocle-viewers/  
│   └── empedocle/
```

### 2. Building Modules with Maven

- stlab-modules

Open the terminal or command prompt and navigate to the folder:

`sourceCode/stlab-modules.`

Execute the following command:

```
mvn clean install -DskipTests
```

- empedocle-viewers

Navigate to the folder `sourceCode/empedocle/empedocle-viewers` via the terminal.

Execute the command:

```
mvn clean install -DskipTests
```

- empedocle

Access to the folder `sourceCode/empedocle/empedocle` via the terminal.

Use the command:

```
mvn clean install -DskipTests
```

### 3. Database Setup

Use the `empedocle_initialized.sql` script provided in the folder to create the database schema. Ensure you have an empty database called `emp_db` on the system and execute the script inside it to create tables and populate the initial data.

Pre-set data:

- nome utente: administrator
- password: adminpass

### 4. Deploying .war file with Wildfly

- Once the above steps are completed, a `.war` file will be created in the directory `sourceCode/empedocle/empedocle/target`.
- Copy `empedocle-1.0.0.war` file, generated in the directory `sourceCode/empedocle/empedocle/target`, into the `wildfly-16.0.0.Final/standalone/deployments` folder.
- Navigate to the `wildfly-16.0.0.Final/bin` folder.
- Execute the command: `./standalone.sh`
- Once Wildfly is successfully started, the `empedocle.war` file will be automatically deployed from the `deployments` folder.

## Passaggi per il Build dell'immagine Docker

In cases where the use of a preconfigured Docker image is desired, the link to the container repository can be found at the following [link](#).

### 1. Directory structure:

Ensure that the folder and file structure is as follows:

root/

```
|— container-repo/
|   |— workdir/
|   |— docker-compose.yml
```

## 2. Starting the Containers

- a. Navigate to the directory containing the `docker-compose.yml` file. Use the command `cd` to navigate to the desired directory:

```
cd container-repo
```

- b. Start the Docker containers defined in the `docker-compose.yml` file with the command:

```
docker-compose up
```

To start the container in detached mode (in background), use the `-d` flag:

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

An instance of the application will be launched, connected to a DB already populated with test information.

- c. Verify the status of the started containers by executing the command:

```
docker-compose ps
```

- d. To stop and remove the containers, networks, and volumes associated with the definitions in the `docker-compose.yml` file, use the command:

```
docker-compose down
```