# Creating Java and JavaScript Adapters

#### **Overview**

This tutorial demonstrates how to create either Java or JavaScript adapter using the Maven Archetype "adapter-maven-archetype". The "adapter-maven-archetype" is based on the Maven archetype toolkit (https://maven.apache.org/guides/introduction/introduction-to-archetypes.html) in order to create the adapter as a Maven project.

Prerequisite: Make sure that you read the Adapters Overview (../adapters-overview) tutorial first.

#### **Install Maven**

In order to create an adapter, you first need to download and install Maven. Go to the Apache Maven website (https://maven.apache.org/) and follow the instructions how to download and install Maven.

## **Creating an Adapter**

To create an adapter Maven project, use the archetype: generate command. You can choose to run the command interactively or directly.

#### In Interactive Mode

1. Run:

\$ mvn archetype:generate -DarchetypeGroupId=com.ibm.mfp -DarchetypeArtifa
ctId=<adapter type artifact ID> -DarchetypeVersion=8.0.0

- The Archetype Group Id and Archetype Version are required parameters to identify the archetype.
- The Archetype Artifact Id is a required parameter to identify the adapter type:
  - Use adapter-maven-archetype-java to crate a Java adapter
  - Use adapter-maven-archetype-http to create a JavaScript HTTP adapter
  - Use adapter-maven-archetype-sql to create a JavaScript SQL adapter adapter-maven-archetype-jms-JavaScript JMS adapter adapter-maven-archetype-sap-JavaScript SAP adapter adapter-maven-archetype-cast-iron-JavaScript Cast Iron adapter
- 2. You will be asked to enter the Group Id of the Maven project to be build:

```
Define value for property 'groupId': : sample.group.id
```

3. You will be asked to enter the Artifact Id of the Maven project which will later be used also as the adapter name:

```
Define value for property 'artifactId': : SampleAdapter
```

4. You will be asked to enter the Maven project version (the default is 1.0-SNAPSHOT):

```
Define value for property 'version': 1.0-SNAPSHOT: : 1.0
```

5. You will be asked to enter the Java adapter package name (the default is the groupId):

```
Define value for property 'package': sample.group.id: : com.sample.adapt er
```

6. Enter y to confirm:

```
[INFO] Using property: archetypeVersion = 7.2.0.0
Confirm properties configuration:
groupId: sample.group.id
artifactId: Sample
version: 1.0
package: com.sample.adapter
adapter-name: TestAdapter
archetypeVersion: 7.2.0.0
Y: : y
```

#### In Direct Mode

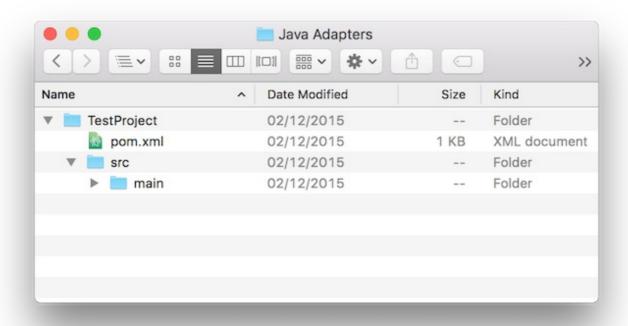
Replace the placeholders with the actual values and run:

```
$ mvn archetype:generate -DarchetypeGroupId=com.ibm.mfp -DarchetypeArtifactId=
<adapter type artifact ID> -DarchetypeVersion=8.0.0 -DgroupId=<maven_project_g
roupid> -DartifactId=<maven_project_artifactid> -Dversion=<maven_project_versi
on> -Dpackage=<java_adapter_package_name>
```

For more information about the archetype: generate command see the Maven documentation.

#### File Structure

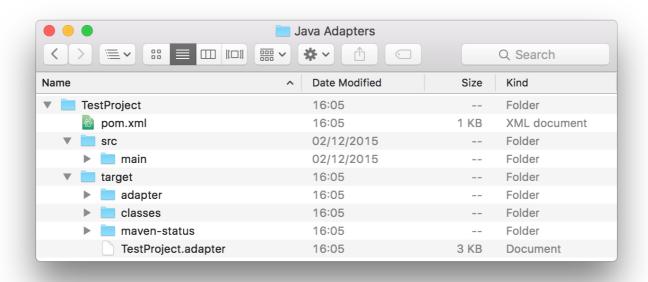
The result will be a Maven project containing a src folder and a pom.xml file:



## **Building and Deploying Java Adapter**

#### Build

The adapter will be built every time you run the mvn install command to build your Maven project. The end result is the .adapter file in the project target folder:



## Deploy

**NOTE:** The deploy command is available only during development.

1. Edit the pom.xml file with the following configuration parameters:

```
...
<configuration>
  <!-- parameters for deploy adapter -->
  <serverUrl>http://<IP>:<PORT>/mfpadmin</serverUrl>
  <user>ADMIN_USER</user>
  <password>ADMIN_PASSWORD</password>
</configuration>
```

- o Replace the IP and PORT with the MobileFirst Server IP and port.
- Replace the ADMIN\_USER and ADMIN\_PASSWORD with the MobileFirst admin user and password.
- 2. Open the project's root folder in terminal and run the mvn:adapter command:

```
$ mvn adapter:deploy
```

\*\*\* You can also deploy the Java adapter using Ant tasks. For more information see the topic about Deploying applications and adapters in the user documentation.

## Grouping adapters in a single maven project

## **Dependencies**

Unlike using the Studio or the CLI lib folder to put your dependencies, in the Java adapter Maven project you'll put them under the dependencies element in the Maven project pom.xml file.

For more information about dependencies see the Maven documentation.

# Migrating an Existing Java Adapter

In order to migrate an existing Java adapter to Java adapter Maven project you need to:

- Create a new Maven project using the existing adapter name and adapter package name.
- Overwrite the adapter .xml file (under src/main/resources) with the existing Java adapter .xml file.
- Overwrite the adapter application and resource Java files (under src/main/java/adapterpackagename)
   with the existing Java adapter application and resource Java files.
- To add dependencies from the existing Java adapter lib folder see the Dependencies section.