

# Using Java in JavaScript Adapters

## Overview

When JavaScript is not sufficient to implement required functionality, or if a Java class already exists, you can use Java code as an extension for the JavaScript adapter.

**Prerequisite:** Make sure to read the JavaScript Adapters (../) tutorial first.

## Adding custom Java classes



To use an existing Java library, add the JAR file as a dependency to your project. For more information on how to add a dependency, see the Dependencies section in the Creating Java and JavaScript Adapters (../creating-adapters/#dependencies) tutorial.

To add custom Java code to your project, add a folder named **java** to the **src/main** folder in your adapter project and put your package in it. The sample in this tutorial uses a `com.sample.customcode` package and a Java class file named `Calculator.java`.

**Important:** The package name must start with either `com`, `org`, or `net`.

Add methods to your Java class.

Here are an examples of a static method (that does not require a new instance) and an instance method:

```

public class Calculator {

    // Add two integers.
    public static int addTwoIntegers(int first, int second){
        return first + second;
    }

    // Subtract two integers.
    public int subtractTwoIntegers(int first, int second){
        return first - second;
    }
}

```

## Invoking custom Java classes from the adapter

After your custom Java code is created and any required JAR files are added, you can call it from the JavaScript code:

- Invoke the static Java method as shown, and use the full class name to reference it directly:

```

function addTwoIntegers(a,b){
    return {
        result: com.sample.customcode.Calculator.addTwoIntegers(a,b)
    };
}

```

- To use the instance method, create a class instance and invoke the instance method from it:

```

function subtractTwoIntegers(a,b){
    var calcInstance = new com.sample.customcode.Calculator();
    return {
        result : calcInstance.subtractTwoIntegers(a,b)
    };
}

```

## Sample adapter

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/Adapters/tree/release80>) the Maven project.

## Sample usage

- Use either Maven, MobileFirst CLI or your IDE of choice to build and deploy the JavaScriptHTTP adapter (../creating-adapters/).
- To test or debug an adapter, see the testing and debugging adapters (../testing-and-debugging-adapters) tutorial.

When testing, the adapter expects an array with numbers to add or subtract, for example: `[1, 2]`.