

vert.x Maven Plugin

Kamesh Sampath, Roland Huß, Clement Escoffier

Version 0.1-SNAPSHOT, 2016-12-05

Vert.X Maven Plugin

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Chapter 1. Introduction

This is a Maven plugin for packaging and running [vert.x](#) applications. The plugin tries to add some intelligence to build in adding some common options automatically based on conventions, for an example if you add file called *application.json* or *application.yml* or *application.yml* in your `src/main/conf` folder of the maven sources, the file gets automatically added as `vertx -conf` option during [vertx:package](#) or [vertx:start](#) goals.

1.1. Packaging

The `vert.x` application needs to be packaged as fat or uber jar, which can then be executed using `java -jar <my-app-fat.jar>`. The packaging also need to add certain **MANIFEST.MF** entries that controls the `vert.x` application launching. The plugin takes care of adding the required entries to the **MANIFEST.MF** with values configured using the [Common Configuration](#)

The following are the Manifest entries that will be added based on the configuration elements:

Table 1. Package configuration

| Property | Manifest Attribute | Remarks |
|-----------------------------|--------------------|--|
| <code>vertx.verticle</code> | Main-Verticle | |
| <code>vertx.launcher</code> | Main-class | If custom launcher is used the Main-Class is always defaulted to <code>io.vertx.core.Launcher</code> |

To package the project as `vert.x` application, execute the following maven command

```
mvn clean package vertx:package
```

For more information on packaging refer to [vertx:package](#)

1.2. Running

The plugin allows running `vert.x` applications in following ways:

1.2.1. In foreground using [vertx:run](#)

The `vert.x` application could also be run without building the fat jars, typically during the development mode. The [vertx:run](#) goal helps in running the application. The application will be run in as forked process with additional configurations based on the goals.

To run the application `vert.x` application in foreground, execute the following maven command

```
mvn clean install vertx:run
```

For more information on configuration options refer to [vertx:run](#)

1.2.2. As a daemon using [vertx:start](#)

This allows the application be run using the uber or fat jar as background process. This option also attaches a configurable id or an autogenerated id which could be used to stop the process using [vertx:stop](#)

To start the application vert.x application in background, execute the following maven command

```
mvn clean install vertx:start
```

For more information on configuration options refer to [vertx:start](#)

To stop the application vert.x application running in background, execute the following maven command

```
mvn vertx:stop
```

For more information on configuration options refer to [vertx:stop](#)

Chapter 2. Common Configurations

All goals share the following configuration:

Table 2. Package configuration

| Element | Description | Default | Property |
|----------|---------------------------|------------------------|----------------|
| verticle | Main verticle to start up | | vertx.verticle |
| launcher | Vert.x launcher to use | io.vertx.core.Launcher | vertx.launcher |

Chapter 3. Common Run Configurations

These are the common configuration shared by the run based goals such as **run**, **start** and **stop**.

Table 3. Run configuration

| Element | Description | Property | Default |
|-------------------|---|-----------------|--|
| classes Directory | The project classes directory where the sources will be compiled in to. | | <code>\${project.build.outputDirectory}</code> |
| config | the application configuration file path that will be passed to the vertx launcher as -conf . If a yaml file is configured then it will be converted to json by the plugin. The converted file will be saved in <code>\${project.outputDir}/conf</code> directory | vertx.config | <code>\${basedir}/src/main/\${project.artifactId}.json</code> or <code>\${basedir}/src/main/\${project.artifactId}.yaml</code> or <code>\${basedir}/src/main/\${project.artifactId}.yml</code> |
| redeploy | controls whether vertx redeploy is enabled | | false |
| redeployPatterns | The ant based pattern for scanning changes for redeployment. If redeploy is true and redeployPatterns is empty then a default value is will be applied. This is list of values following standard maven list/array configuration | | all compile source paths and project resource paths will be watched for changes |
| workDirectory | The working directory of the running process of the application | vertx.directory | <code>\${project.basedir}</code> |



Right now the plugin supports only file based vert.x configuration

Chapter 4. Maven Goals

This plugin supports the following goals which are explained in detail in the next sections.

Table 4. Plugin Goals

| Goal | Description |
|-------------------------------|--|
| vertx.package | Package Vert.x applications |
| vertx:run | Run a Vert.x application in foreground |
| vertx:start | Run a Vert.x application in daemon mode with specific id |
| vertx:stop | Stops the vert.x applicaiton running in daemon mode |

4.1. vertx.package

This goal will package a vert.x application as fat or uber jar with its dependencies bundled as part of the jar

4.1.1. Configuration

The package goal has the following parameters apart from the ones mentioned in [Common Configuration](#)

Table 5. Package Configuration

| Element | Description | Property | Default |
|-----------------------------|--|----------|---------|
| service ProviderCombination | The Service Provider combining mode that need to be used, you can either specify combine or none | | combine |

4.1.2. How to add this goal my maven project ?

You can see [Examples](#) on how to to add the start goal to your maven project

4.2. vertx:run

This goal allows to run the vert.x application as part of the maven build. The application is always run the vert.x application as a forked process.

The goal does not have any exclusive configuration, [Common Run Configuration](#) defines all the applicable configurations for the goal

4.2.1. How to add this goal my maven project ?

You can see [Examples](#) on how to to add the start goal to your maven project



Currently redeploy pattern is added, but redeploy compilation is work in progress

4.3. vertx:start

This goal allows to start the vert.x application as a background process from maven build. This goal triggers the vert.x **start** command, passing the configuration values as mentioned below.

Table 6. Run configuration

| Element | Description | Property | Default |
|-----------|---|---------------------|---|
| timeout | The time in seconds that will be used to check if the application has started | vertx.start.timeout | 10 |
| startMode | The property to decide how the vert.x application will be started in background. The application can be started in jar mode in which the application will be packaged as fat jar and started, or can be run in exploded mode where the application will be launched with exploded <i>classesDirectory</i> and maven dependencies to the classpath | vertx.start.mode | jar |
| appId | The application id that will added as -id option to the vert.x start command | vertx.app.id | If this is not passed a default uuid will be generated and set as appId |
| jvmArgs | The Java Options that will be used when starting the application, these are the values that are typically passed to vert.x applications using <code>--java-opts</code> | vertx.jvmArguments | |

Apart from the above list of exclusive start configuration, the goal shares the common **Common Run Configuration** with the following configuration ignored by the goal,

- redeploy
- redeployPatterns
- classesDirectory - if run in jar mode
- fork - by default every start is a forked process

4.3.1. How to add this goal my maven project ?

You can see **Examples** on how to to add the start goal to your maven project

4.4. vertx:stop

This goal allows to stop the vert.x application running as background process from maven build. This goal triggers the vert.x **stop** command, passing the configuration values as mentioned below.

Table 7. Run configuration

| Element | Description | Property | Default |
|---------|---|--------------------|--|
| timeout | The time in seconds that will be used to check if the application has stopped | vertx.stop.timeout | 10 |
| appIds | The application id's that will stopped using the vert.x stop command | | If this is not passed, the vertx-start-proc.id file present workingDirectory will be read for the application id |

Apart from the above list of exclusive start configuration, the goal shares the common **Common Run Configuration** with the following configuration ignored by the goal,

- redeploy
- redeployPatterns
- fork - by default every stop is a forked process

4.4.1. How to add this goal my maven project ?

You can see **Examples** on how to to add the start goal to your maven project

Chapter 5. Example Configurations

The following sections shows example plugin snippets for the goals provided by the plugin.



please update the plugin version as needed

5.1. vert.x:package Examples

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>package</goal>
      </goals>
    </execution>
  </executions>
</plugin>
---
```

5.1.1. package goal with vert.x serviceRelocator

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>package</goal>
      </goals>
      <configuration>
        <serviceProviderCombination>combine</serviceProviderCombination> ①
      </configuration>
    </execution>
  </executions>
</plugin>
---
```

① enabling services relocation in combine mode

5.2. vert.x:run Examples

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>run</goal>
      </goals>
    </execution>
  </executions>
</plugin>
---
```

5.2.1. run goal with vert.x redeploy enabled

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>run</goal>
      </goals>
      <configuration>
        <redeploy>true</redeploy> ①
      </configuration>
    </execution>
  </executions>
</plugin>
---
```

① enabling vert.x redeploy

5.2.2. run goal with vert.x redeploy enabled with custom pattern

```

---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>run</goal>
      </goals>
      <configuration>
        <redeploy>true</redeploy> ①
        <redeployPatterns> ②
          <redeployPattern>src/main/java/*.java</redeployPattern>
          <redeployPattern>src/resources/webroot/*.html</redeployPattern>
        </redeployPatterns>
      </configuration>
    </execution>
  </executions>
</plugin>
---

```

① enabling vert.x redeploy

② patterns that will be watched for changes and trigger redeploy

5.3. vert.x:start Examples

5.3.1. start goal with defaults

```

---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>start</goal>
      </goals>
    </execution>
  </executions>
</plugin>
---

```

5.3.2. start goal with custom application id

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>start</goal>
      </goals>
      <configuration>
        <appId>my-app-id</appId> ①
      </configuration>
    </execution>
  </executions>
</plugin>
---
```

① Custom unique application id

5.3.3. start goal with custom java options

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>start</goal>
      </goals>
      <configuration>
        <jvmArgs> ①
          <jvmArg>-Xms512m</jvmArg>
          <jvmArg>-Xmx1024m</jvmArg>
        </jvmArgs>
      </configuration>
    </execution>
  </executions>
</plugin>
---
```

① The jvm arguments that gets passed as `--java-opts` to the vert.x application

5.4. vert.x:stop Examples

5.4.1. stop with no additional configuration

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>stop</goal>
      </goals>
    </execution>
  </executions>
</plugin>
---
```

5.4.2. stopping one or more application

When you have configured to [start goal with custom application id](#) or know the application ids, then you can add list of application ids as shown below to trigger stop of the those applications

```
---
<plugin>
  <groupId>org.workspace7.maven.plugins</groupId>
  <artifactId>vertx-maven-plugin</artifactId>
  <version>1.0.0-SNAPSHOT</version>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>start</goal>
      </goals>
      <configuration>
        <appIds> ①
          <appId>my-app-id-1</appId>
          <appId>my-app-id-2</appId>
        </appIds>
      </configuration>
    </execution>
  </executions>
</plugin>
---
```

① List of custom unique application ids

5.5. References

[Maven Properties](#)