Entry Level Plugin API Guide

This guide explains the very basics of our plugin API, how to develop your first plugin and how to build and deploy it.

- Prerequisites
- Maven Setup

Prerequisites

What you will need:

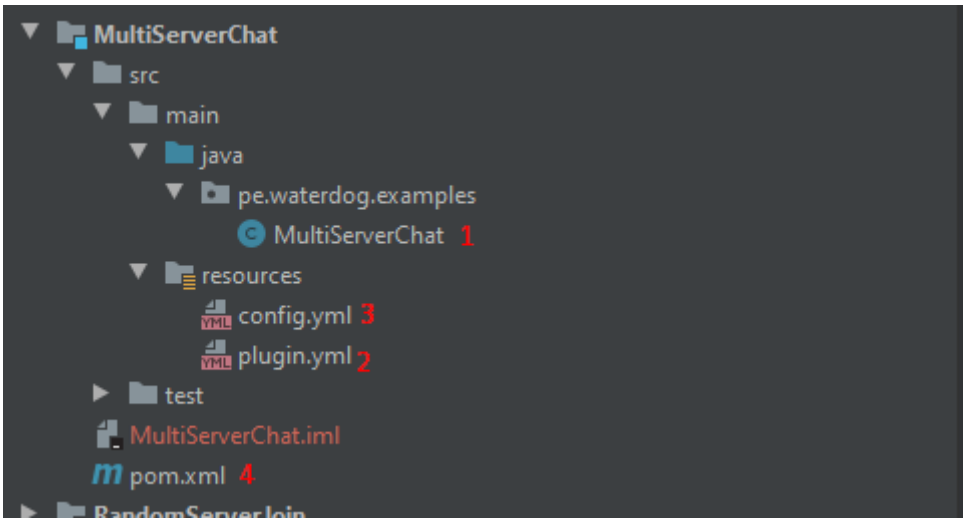
- An suitable IDE supporting maven. We recommend using either IntelliJ or Eclipse.
- An internet connection for downloading the Waterdog API Artifacts

Structure

The base structure of a plugin is really simple.

Required parts:

- a plugin.yml file located in the programs resources folder.
- a base class extending the `Plugin` class and overwriting it's onEnable() method



1 - The Base class of the Plugin, mostly named after the plugin itself or from what the plugin is supposed to do.

2 - The plugin.yml file containing very basic information on the plugin.

3 - A configuration file that the user can use to easily change plugin settings.

4 - The base maven file. required to build the plugin and compile it to a runnable file.

Maven Setup

Base Setup

Maven is our choice for building and compiling plugins to actually runnable .jar files.

An example Maven compile file would look something like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xmlns="http://maven.apache.org/POM/4.0.0"
         xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>

    <groupId>pe.waterdog.examples</groupId>
    <artifactId>MultiServerChat</artifactId>
    <version>1.0-SNAPSHOT</version>

    <repositories>
        <repository>
            <id>waterdog-repo</id>
            <url>https://repo.waterdog.dev/artifactory/main</url>
        </repository>
    </repositories>

    <dependencies>
        <dependency>
            <groupId>dev.waterdog.waterdogpe</groupId>
            <artifactId>waterdog</artifactId>
            <version>1.0.0-SNAPSHOT</version>
            <scope>provided</scope>
        </dependency>
    </dependencies>
    <build>
```

```
        <plugins>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-compiler-plugin</artifactId>
                <version>3.8.0</version>
                <configuration>
                  <release>11</release>
                  <encoding>UTF-8</encoding>
                </configuration>
            </plugin>
        </plugins>
    </build>
</project>
```

Explanation

There are three relevant parts in the pom.xml for the beginning:

- **project configuration**: the `groupId`, `artifactId` and `version` are base configuration variables for your own plugin.
- **dependencies**: The java frameworks / applications your plugin depends on. By default, only the Waterdog dependency is required there.
- **build configuration**: the configuration targetting the build / compile process. Here we set the java version the plugin should compile to and the encoding all files should have.
  If you use more dependencies, shading will be required.

Shading

When using more than just the default waterdog dependency and included libraries, you will be required to *shade* your artifact. What that basically means is that we are including all the dependencies your plugin uses in one artifact (jar). This requires modifying our pom.xml.

```
<plugin>
   <groupId>org.apache.maven.plugins</groupId>
   <artifactId>maven-shade-plugin</artifactId>
```

```
   <version>3.1.0</version>
      <executions>
        <execution>
          <phase>package</phase>
            <goals>
              <goal>shade</goal>
            </goals>
      <configuration>
        <createDependencyReducedPom>false</createDependencyReducedPom>
      </configuration>
    </execution>
  </executions>
</plugin>
```

Don't be surprised if your artifact file increases in size. As we are now including all the libraries in the artifact, the file size is of course a bit larger.