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* [Groovy DSL Reference](http://docs.google.com/dsl/)
* [Gradle API Javadoc](http://docs.google.com/javadoc/)
* [Core Plugins](http://docs.google.com/userguide/plugin_reference.html)
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### Extending Gradle

* [Writing Custom Plugins](http://docs.google.com/userguide/custom_plugins.html)
* [Plugin Development Guides](https://gradle.org/guides/?q=Plugin+Development)

[Edit this page](https://github.com/gradle/gradle/edit/master/subprojects/docs/src/docs/userguide/)

# Gradle Plugin Development Plugin

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| **✨** | The Java Gradle plugin development plugin is currently [incubating](http://docs.google.com/feature_lifecycle.html#feature_lifecycle). Please be aware that the DSL and other configuration may change in later Gradle versions. |
| --- | --- |

The Java Gradle Plugin development plugin can be used to assist in the development of Gradle plugins. It automatically applies the [Java](http://docs.google.com/java_plugin.html#java_plugin) plugin, adds the gradleApi() dependency to the compile configuration and performs validation of plugin metadata during jar task execution.

The plugin also integrates with [TestKit](http://docs.google.com/test_kit.html#test_kit), a library that aids in writing and executing functional tests for plugin code. It automatically adds the gradleTestKit() dependency to the test compile configuration and generates a plugin classpath manifest file consumed by a GradleRunner instance if found. Please refer to [Automatic classpath injection with the Plugin Development Plugin](http://docs.google.com/test_kit.html#sub:test-kit-automatic-classpath-injection) for more on its usage, configuration options and samples.

[Usage](#4d34og8)

To use the Java Gradle Plugin Development plugin, include the following in your build script:

[Example: Using the Java Gradle Plugin Development plugin](#2s8eyo1)

**build.gradle**

plugins {  
 id 'java-gradle-plugin'  
}

Applying the plugin automatically applies the [Java](http://docs.google.com/java_plugin.html#java_plugin) plugin and adds the gradleApi() dependency to the compile configuration. It also adds some validations to the build.

The following validations are performed:

* There is a plugin descriptor defined for the plugin.
* The plugin descriptor contains an implementation-class property.
* The implementation-class property references a valid class file in the jar.
* Each property getter or the corresponding field must be annotated with a property annotation like @InputFile and @OutputDirectory. Properties that don’t participate in up-to-date checks should be annotated with @Internal.

Any failed validations will result in a warning message.

For each plugin you are developing, add an entry to the gradlePlugin {} script block:

[Example: Using the gradlePlugin {} block.](#17dp8vu)

**build.gradle**

gradlePlugin {  
 plugins {  
 simplePlugin {  
 id = 'org.gradle.sample.simple-plugin'  
 implementationClass = 'org.gradle.sample.SimplePlugin'  
 }  
 }  
}

The gradlePlugin {} block defines the plugins being built by the project including the id and implementationClass of the plugin. From this data about the plugins being developed, Gradle can automatically:

* Generate the plugin descriptor in the jar file’s META-INF directory.
* Configure the [Maven](http://docs.google.com/publishing_maven.html#publishing_maven) or [Ivy Publish Plugins](http://docs.google.com/publishing_ivy.html#publishing_ivy) publishing plugins to publish a [Plugin Marker Artifact](http://docs.google.com/plugins.html#sec:plugin_markers) for each plugin.
* Moreover, if the [Plugin Publishing Plugin](https://plugins.gradle.org/docs/publish-plugin) is applied, it will publish each plugin using the same name, plugin id, display name, and description to the Gradle Plugin Portal (see [Publishing Plugins to Gradle Plugin Portal](https://guides.gradle.org/publishing-plugins-to-gradle-plugin-portal/) for details).

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