

Gradle

March 05, 2019

Question 1:

Look up java plugin documentation. Make changes in manifest to make it executable with correct class. When run using `java -jar JAR_NAME_HERE` the output should be text "Hello World" on the console.

java plugin documentation: https://docs.gradle.org/current/userguide/java_plugin.html

```
sourceSets {
    main {
        java {
            srcDirs = ['src/main/java']
        }
    }
    test {
        java {
            srcDirs = ['src/test/java']
        }
    }
}

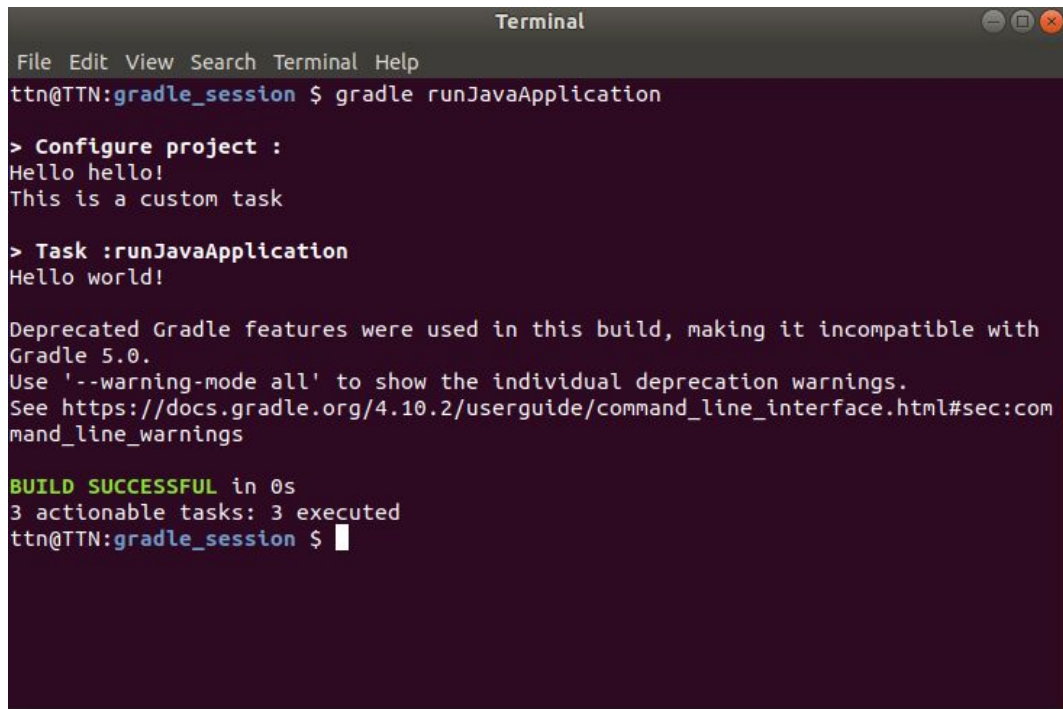
jar {
    manifest {
        attributes 'Implementation-Title': 'Gradle Tutorial',
                  'Implementation-Version': version,
                  'Main-Class': 'Application'
    }
}

task runJavaApplication(type: JavaExec, dependsOn: 'classes') {
    main = "Application"
    classpath = sourceSets.main.runtimeClasspath
}
```

Execution:

Method 1:

```
gradle runJavaApplication
```

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is "ttn@TTN:gradle_session". The command "gradle runJavaApplication" is entered. The output shows the configuration of the project with "Hello hello!" and "This is a custom task". Then, the task ":runJavaApplication" is executed, showing "Hello world!". A deprecation warning follows, stating that deprecated Gradle features were used, making it incompatible with Gradle 5.0, and providing a link to the documentation. The build is successful in 0s, with 3 actionable tasks, all of which were executed. The prompt returns to "ttn@TTN:gradle_session".

```
Terminal
File Edit View Search Terminal Help
ttn@TTN:gradle_session $ gradle runJavaApplication

> Configure project :
Hello hello!
This is a custom task

> Task :runJavaApplication
Hello world!

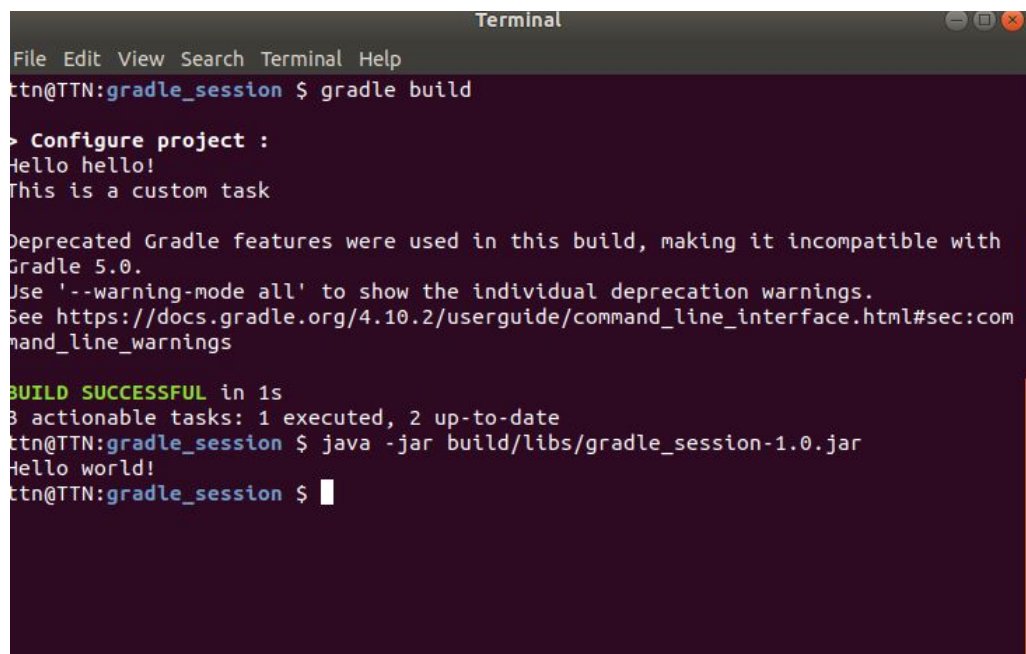
Deprecated Gradle features were used in this build, making it incompatible with
Gradle 5.0.
Use '--warning-mode all' to show the individual deprecation warnings.
See https://docs.gradle.org/4.10.2/userguide/command_line_interface.html#sec:com
mand_line_warnings

BUILD SUCCESSFUL in 0s
3 actionable tasks: 3 executed
ttn@TTN:gradle_session $
```

Method 2:

```
gradle build
```

```
java -cp build/classes/java/main Application
```

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is "ttn@TTN:gradle_session". The command "gradle build" is entered. The output shows the configuration of the project with "Hello hello!" and "This is a custom task". Then, the build is successful in 1s, with 3 actionable tasks: 1 executed and 2 up-to-date. The prompt returns to "ttn@TTN:gradle_session". The user then enters the command "java -jar build/libs/gradle_session-1.0.jar", which outputs "Hello world!". The prompt returns to "ttn@TTN:gradle_session".

```
Terminal
File Edit View Search Terminal Help
ttn@TTN:gradle_session $ gradle build

> Configure project :
Hello hello!
This is a custom task

Deprecated Gradle features were used in this build, making it incompatible with
Gradle 5.0.
Use '--warning-mode all' to show the individual deprecation warnings.
See https://docs.gradle.org/4.10.2/userguide/command_line_interface.html#sec:com
mand_line_warnings

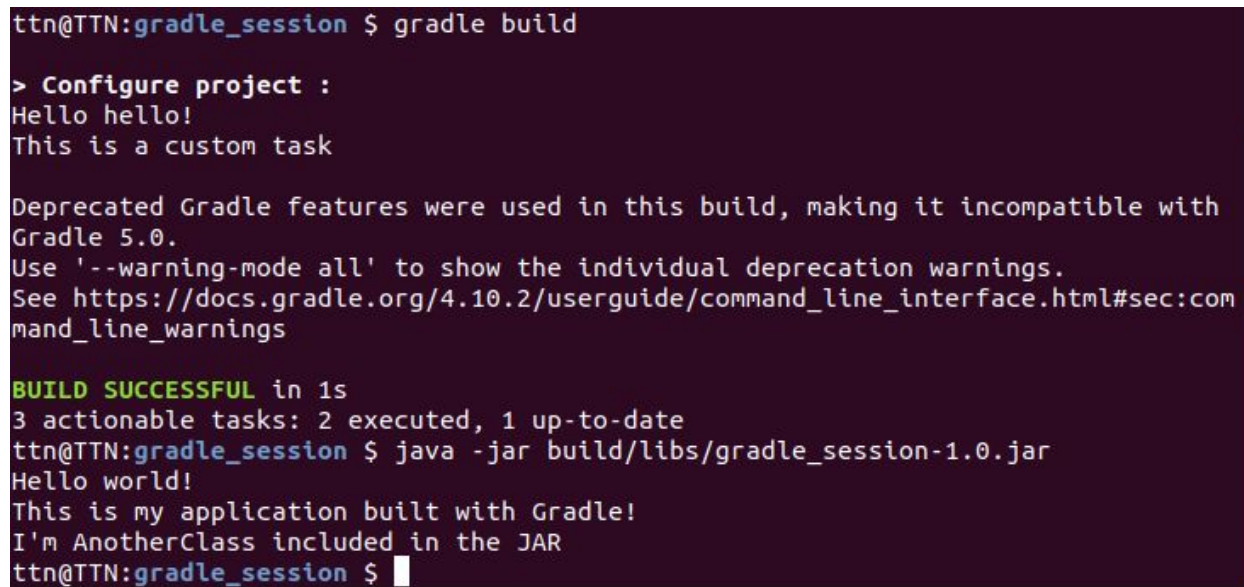
BUILD SUCCESSFUL in 1s
3 actionable tasks: 1 executed, 2 up-to-date
ttn@TTN:gradle_session $ java -jar build/libs/gradle_session-1.0.jar
Hello world!
ttn@TTN:gradle_session $
```

Question 2:

Look up idea plugin. make changes in build.gradle so that the sources of src/main/java as well as src/main/java2 are taken as sources. Ensure that when you make JAR file class files in both are added to the JAR. This will teach you how projects with non-conventional structure can be used with gradle.

IDEA plugin documentation; https://docs.gradle.org/current/userguide/idea_plugin.html

```
sourceSets {
    main {
        java {
            srcDirs = ['src/main/java', 'src/main/java2']
        }
    }
    test {
        java {
            srcDirs = ['src/test/java']
        }
    }
}
```



```
ttn@TTN:gradle_session $ gradle build

> Configure project :
Hello hello!
This is a custom task

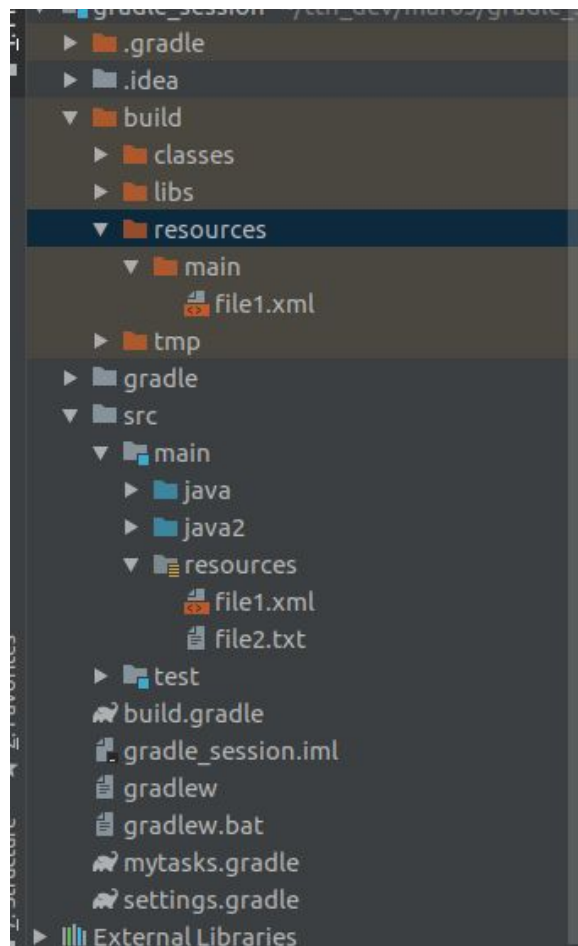
Deprecated Gradle features were used in this build, making it incompatible with
Gradle 5.0.
Use '--warning-mode all' to show the individual deprecation warnings.
See https://docs.gradle.org/4.10.2/userguide/command_line_interface.html#sec:com
mand_line_warnings

BUILD SUCCESSFUL in 1s
3 actionable tasks: 2 executed, 1 up-to-date
ttn@TTN:gradle_session $ java -jar build/libs/gradle_session-1.0.jar
Hello world!
This is my application built with Gradle!
I'm AnotherClass included in the JAR
ttn@TTN:gradle_session $
```

Question 3:

Add 2 files file1.xml and file1.txt in src/main/resources manually. make changes so that when creating jar only file1.xml is added to the jar.

```
sourceSets {
    main {
        java {
            srcDirs = ['src/main/java', 'src/main/java2']
        }
        resources {
            srcDirs = ['src/main/resources']
            exclude 'file2.txt'
        }
    }
    test {
        java {
            srcDirs = ['src/test/java']
        }
    }
}
```



Question 4:

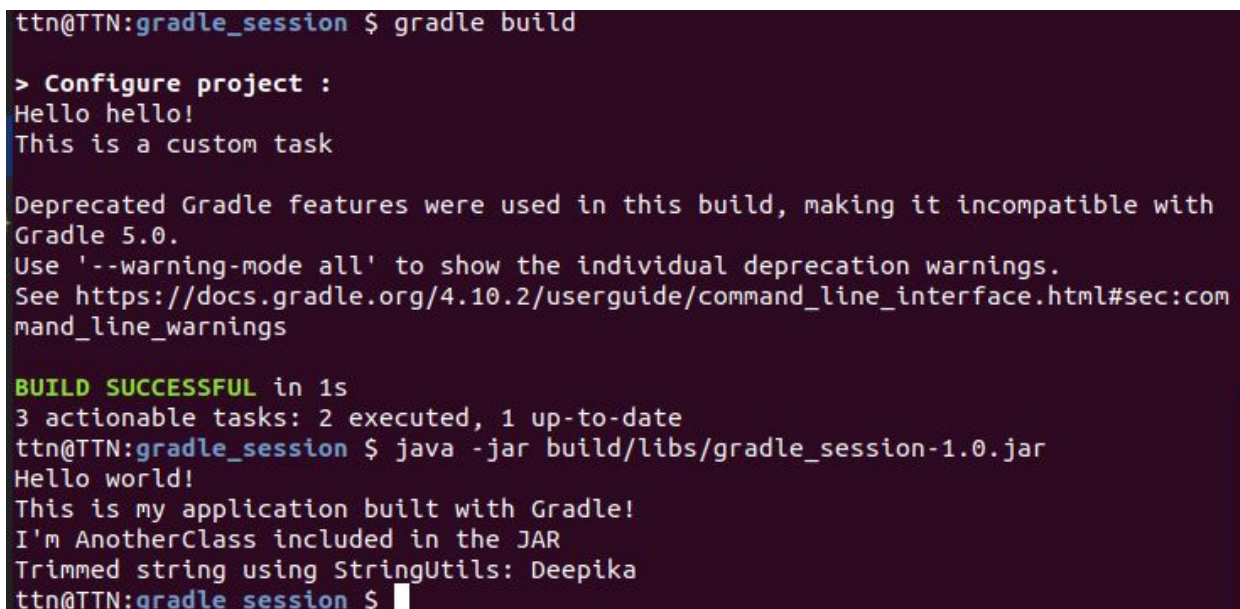
Find out what an uberjar is. Make changes so you can use commons lang3 StringUtil in your jar. Make this uber jar executable. The output should be text but that should be using the StringUtils class of commons lang3.

Fat/uber jar: <https://www.baeldung.com/gradle-fat-jar>

```
dependencies {
    compile group: 'org.apache.commons', name: 'commons-lang3',
    version: '3.8.1'
}

jar {
    manifest {
        attributes 'Implementation-Title': 'Gradle Tutorial',
                  'Implementation-Version': version,
                  'Main-Class': 'Application'
    }

    from { (configurations.compile).collect { it.isDirectory() ? it
: zipTree(it) } }
}
```

A terminal window with a dark purple background and light blue text. It shows the output of a Gradle build. The first part shows a custom task being executed, printing 'Hello hello!' and 'This is a custom task'. Then, a deprecation warning is shown about Gradle 5.0 compatibility. The build is successful, and the next command runs 'java -jar build/libs/gradle_session-1.0.jar', which prints 'Hello world!', 'This is my application built with Gradle!', 'I'm AnotherClass included in the JAR', and 'Trimmed string using StringUtils: Deepika'.

```
ttn@TTN:gradle_session $ gradle build

> Configure project :
Hello hello!
This is a custom task

Deprecated Gradle features were used in this build, making it incompatible with
Gradle 5.0.
Use '--warning-mode all' to show the individual deprecation warnings.
See https://docs.gradle.org/4.10.2/userguide/command_line_interface.html#sec:com
mand_line_warnings

BUILD SUCCESSFUL in 1s
3 actionable tasks: 2 executed, 1 up-to-date
ttn@TTN:gradle_session $ java -jar build/libs/gradle_session-1.0.jar
Hello world!
This is my application built with Gradle!
I'm AnotherClass included in the JAR
Trimmed string using StringUtils: Deepika
ttn@TTN:gradle_session $
```

Question 5:

Find a maven repository and add it as a repository. You can use bintray, jcenter.

```
repositories {  
    mavenCentral()  
    jcenter()  
    maven { url "https://repo.maven.apache.org/maven2" }  
}
```

Question 6:

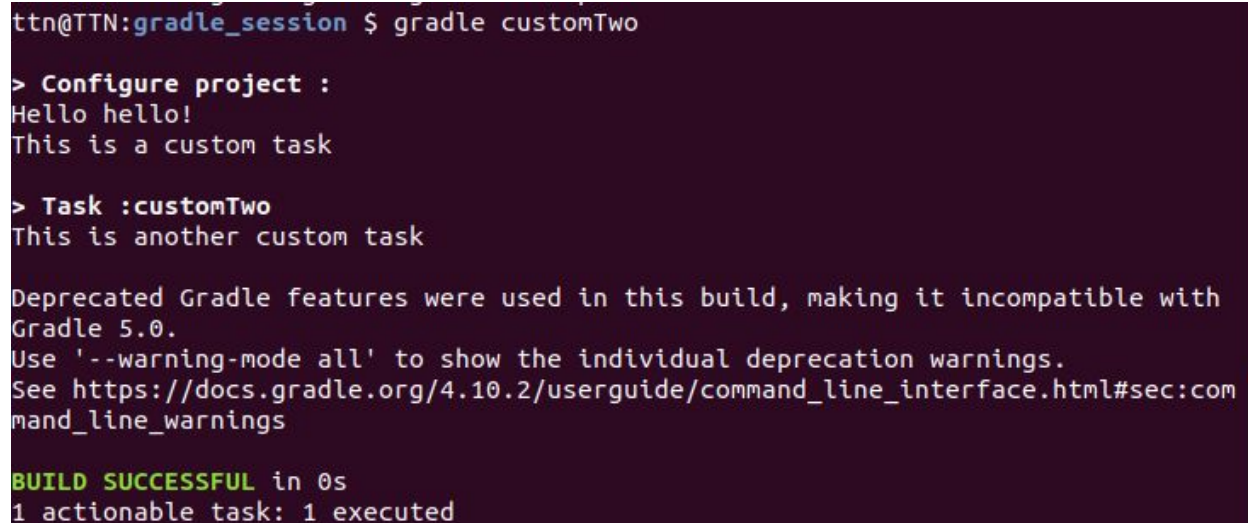
Write a task in file "mytasks.gradle" and use it in your build.gradle

In mytasks.gradle

```
task customOne {  
    println "This is a custom task"  
}  
  
task customTwo << {  
    println "This is another custom task"  
}
```

In build.gradle

```
apply from: 'mytasks.gradle'
```

A terminal window with a dark purple background and light blue text. The prompt is 'ttn@TTN:gradle_session \$'. The command 'gradle customTwo' has been executed. The output shows the configuration phase with 'Hello hello!' and 'This is a custom task'. Then the task phase shows 'Task :customTwo' and 'This is another custom task'. A deprecation warning is displayed, followed by a successful build message: 'BUILD SUCCESSFUL in 0s' and '1 actionable task: 1 executed'.

```
ttn@TTN:gradle_session $ gradle customTwo  
  
> Configure project :  
Hello hello!  
This is a custom task  
  
> Task :customTwo  
This is another custom task  
  
Deprecated Gradle features were used in this build, making it incompatible with  
Gradle 5.0.  
Use '--warning-mode all' to show the individual deprecation warnings.  
See https://docs.gradle.org/4.10.2/userguide/command_line_interface.html#sec:com  
mand_line_warnings  
  
BUILD SUCCESSFUL in 0s  
1 actionable task: 1 executed
```