

GRADLE ASSIGNMENT

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.

https://docs.gradle.org/current/userguide/idea_plugin.html

OUTPUT

```
File Edit View Search Terminal Tabs Help
Terminal
BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
ttn@ttn:gradleAssignment $ gradle build

> Configure project :
my first task!!
my second task

BUILD SUCCESSFUL in 0s
2 actionable tasks: 2 executed
ttn@ttn:gradleAssignment $ java -jar build/libs/gradleAssignment.jar
Hello World
ttn@ttn:gradleAssignment $ gradle clean

> Configure project :
my first task!!
my second task

BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
ttn@ttn:gradleAssignment $ gradle build

> Configure project :
my first task!!
my second task

BUILD SUCCESSFUL in 0s
2 actionable tasks: 2 executed
ttn@ttn:gradleAssignment $ java -jar build/libs/gradleAssignment.jar
Hello World
ttn@ttn:gradleAssignment $ gradle clean

> Configure project :
my first task!!
my second task
```

CODE

```
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
gradleAssignment - build.gradle
You can configure Gradle wrapper to use distribution with sources. It will provide IDE with Grad... Hide the tip OK, apply suggestion!
4  * This is a general purpose Gradle build.
5  * Learn how to create Gradle builds at https://guides.gradle.org/creating-new-gradle-builds/
6  */
7  apply plugin: "java"
8  apply from: "mytasks.gradle"
9
10 sourceSets {
11     main {
12         java {
13             srcDirs = ["src/main/java", "src/main/java2"]
14         }
15         resources {
16             srcDirs = ["src/main/resources"]
17             exclude "file1.txt"
18         }
19     }
20     test {
21         java {
22             srcDirs = ["src/test/java"]
23         }
24     }
25 }
jar()

Build: Sync
gradleAssignment: sync finished at 5/3/19 5:44 PM
Run build /home/ttn/Bootcamp/gradleAssignment
Load build 7 s 152 ms
Configure build 6 s 976 ms
Build model 'org.gradle.tooling.model.idea.IdeaProject' for root project 'gradleAssignment' 8 ms
Build model 'org.gradle.tooling.model.build.BuildEnvironment' for root project 'gradleAssignment' 69 ms
Build model 'org.jetbrains.kotlin.gradle.KotlinGradleModel' for root project 'gradleAssignment' 6 s 824 ms
Build model 'org.jetbrains.plugins.gradle.model.EarConfiguration' for root project 'gradleAssignment' 3 ms
Build model 'org.jetbrains.plugins.gradle.model.web.WebConfiguration' for root project 'gradleAssignment' 1 ms
Build model 'org.jetbrains.plugins.gradle.model.builder.GrailsModule' for root project 'gradleAssignment' 1 ms
'manifest' in 'org.gradle.api.tasks.bundling.Jar' cannot be applied to '(groovy.lang.Closure)' 31:6 LF UTF-8
```

CLASS WITH MAIN

The screenshot shows an IDE window for a project named **gradleAssignment**. The project structure on the left includes **src/main/java** with a package **Application** containing **Application.java**. The **Application.java** file is open in the editor, showing the following code:

```
1 import org.apache.commons.lang3.StringUtils;
2
3 public class Application {
4     public static void main(String[] args) {
5         System.out.println("Hello World");
6         NewApplication newApplication = new NewApplication();
7         String str = "Divya";
8         System.out.println(StringUtils.lowerCase(str));
9     }
10 }
11
```

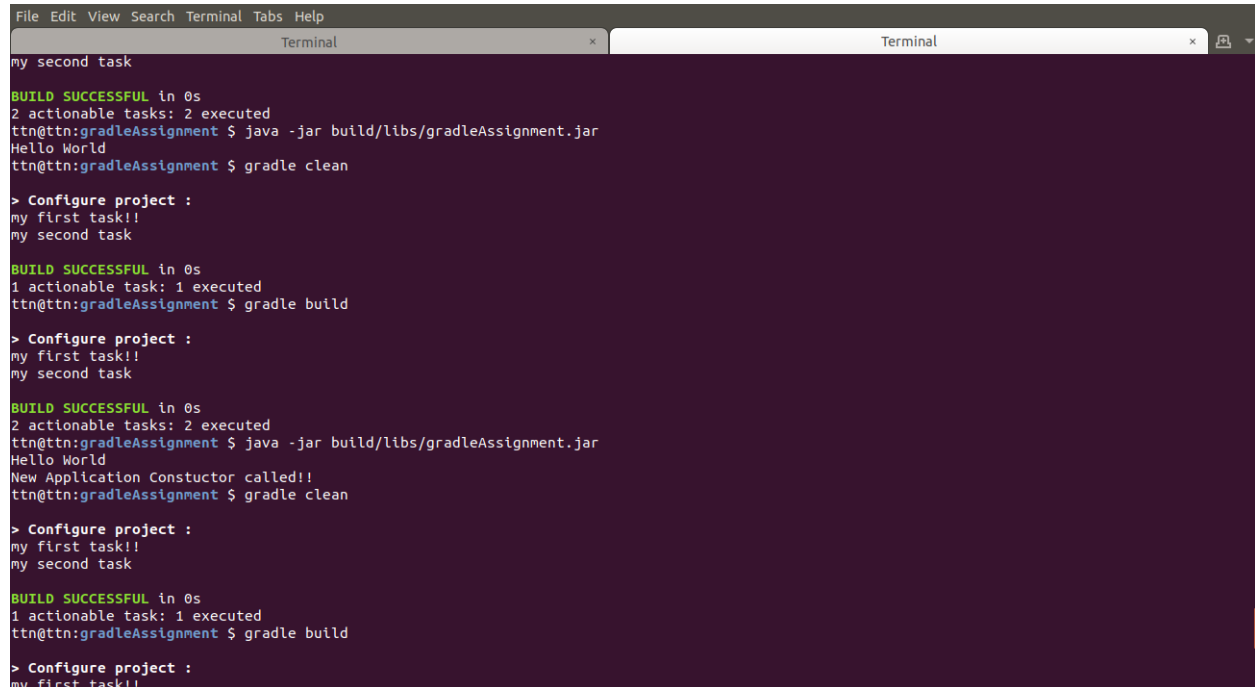
The **Build** tab at the bottom shows a failure for **gradleAssignment: sync failed** at 5/3/19 6:43 PM. The error message is: **Could not find method leftShift() for arguments [mytasks_b9bl7dcdh53nrj2sgv7qbzi]**. The build log also shows the following steps and durations:

Task	Duration
Run build /home/ttn/Bootcamp/gradleAssignment	58 ms
Load build	19 ms
Configure build	34 ms

The status bar at the bottom indicates the time is 11:11, the file encoding is UTF-8, and there are 6 TODO items.

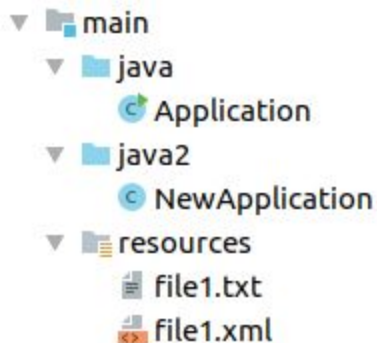
2) look up idea plugin. make changes in build.gradle so that the sources of src/main/java as well as src/main/java2 are taken as sources. Ensure that when you make JAR file class files in both are added to the JAR. This will teach you how projects with non-conventional structure can be used with gradle.

https://docs.gradle.org/current/userguide/java_plugin.html

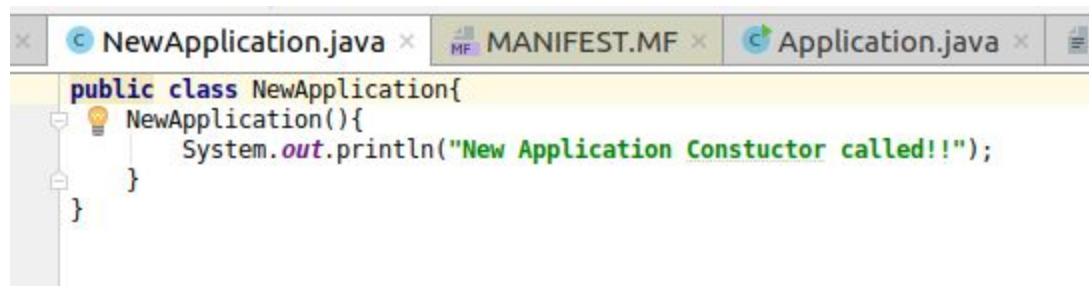


```
File Edit View Search Terminal Tabs Help
Terminal
my second task
BUILD SUCCESSFUL in 0s
2 actionable tasks: 2 executed
ttn@ttn:gradleAssignment $ java -jar build/libs/gradleAssignment.jar
Hello World
ttn@ttn:gradleAssignment $ gradle clean
> Configure project :
my first task!!
my second task
BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
ttn@ttn:gradleAssignment $ gradle build
> Configure project :
my first task!!
my second task
BUILD SUCCESSFUL in 0s
2 actionable tasks: 2 executed
ttn@ttn:gradleAssignment $ java -jar build/libs/gradleAssignment.jar
Hello World
New Application Constuctor called!!
ttn@ttn:gradleAssignment $ gradle clean
> Configure project :
my first task!!
my second task
BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
ttn@ttn:gradleAssignment $ gradle build
> Configure project :
my first task!!
```

FOLDER STRUCTURE

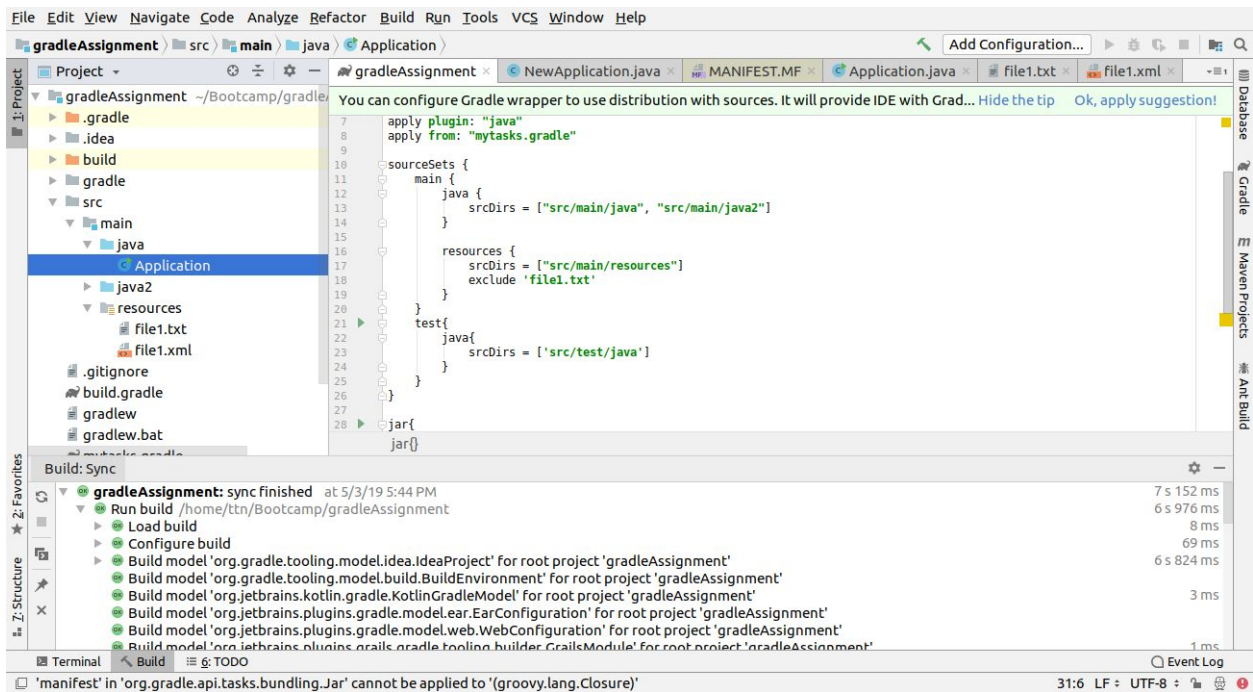


NEW JAVA CLASS INSIDE JAVA2 FOLDER



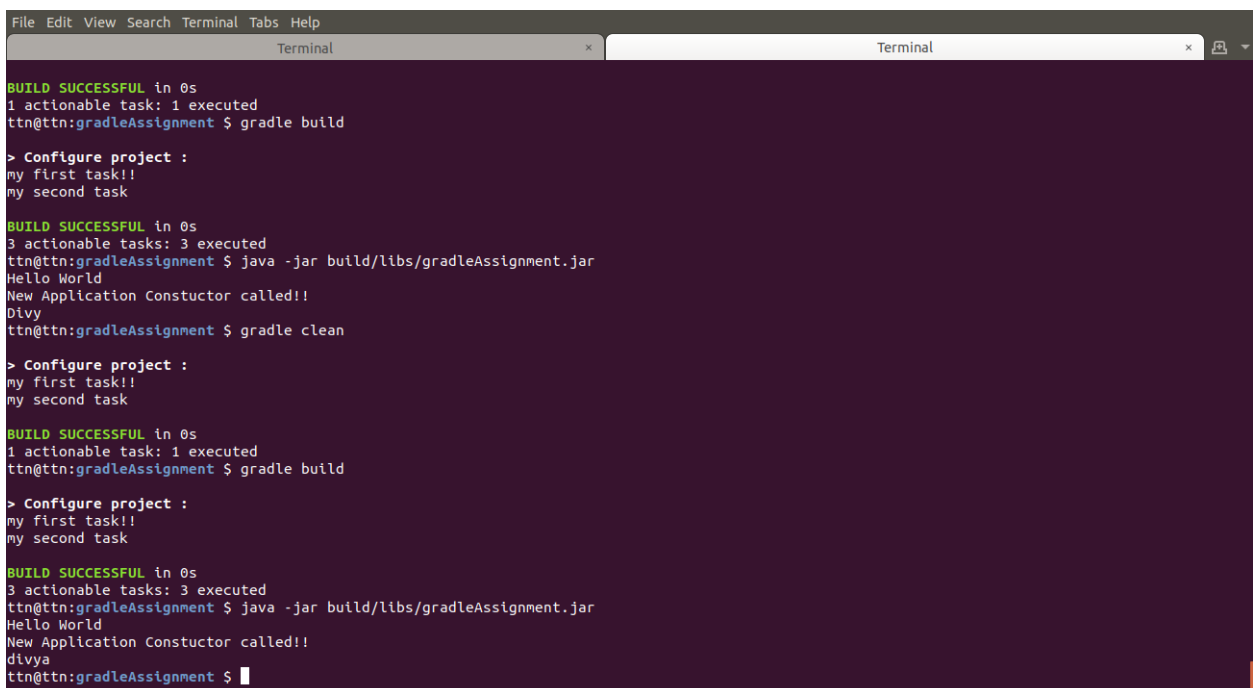
```
NewApplication.java x MANIFEST.MF x Application.java x
public class NewApplication{
    NewApplication(){
        System.out.println("New Application Constuctor called!!");
    }
}
```

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.



4) find how to what is an uberjar. 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

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



CODE

The screenshot shows an IDE with the `build.gradle` file open. The file contains the following code:

```
25 }
26 }
27 }
28 jar {
29     manifest {
30         attributes 'Main-Class': 'Application'
31     }
32     from {
33         configurations.compile.collect { it.isDirectory() ? it : zipTree(it) }
34     }
35 }
36 }
37 repositories {
38     mavenCentral()
39     jcenter()
40     maven { url "https://repo.maven.apache.org/maven2/" }
41 }
42 }
43 dependencies {
44     compile group: 'org.apache.commons', name: 'commons-lang3', version: '3.8.1'
45 }
46 }
```

The IDE shows a build error in the console:

```
Build: Sync
- gradleAssignment: sync failed at 5/3/19 6:43 PM 118 ms
- Run build /home/ttn/Bootcamp/gradleAssignment 58 ms
- Load build 19 ms
- Configure build 34 ms
```

The error message is: `Could not find method leftShift() for arguments [mytasks_b9bl7dcdh53nrj2sgv7qbz]`.

CODE FROM MAIN CLASS

The screenshot shows an IDE with the `Application.java` file open. The file contains the following code:

```
1 import org.apache.commons.lang3.StringUtils;
2
3 public class Application {
4     public static void main(String[] args) {
5         System.out.println("Hello World");
6         NewApplication newApplication = new NewApplication();
7         String str = "Givya";
8         System.out.println(StringUtils.toLowerCase(str));
9     }
10 }
11 }
```

The IDE shows a build error in the console:

```
Build: Sync
- gradleAssignment: sync failed at 5/3/19 6:43 PM 118 ms
- Run build /home/ttn/Bootcamp/gradleAssignment 58 ms
- Load build 19 ms
- Configure build 34 ms
```

The error message is: `Could not find method leftShift() for arguments [mytasks_b9bl7dcdh53nrj2sgv7qbz]`.

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

The screenshot shows an IDE window with the following components:

- Project Explorer:** Shows the project structure for 'gradleAssignment' located at '~/Bootcamp/gradle'. It includes folders for '.gradle', '.idea', 'build', 'gradle', 'src', and 'main'. The 'main' folder contains 'java' and 'resources' subfolders. 'resources' contains 'file1.txt' and 'file1.xml'. Other files include '.gitignore', 'build.gradle', 'gradlew', and 'gradlew.bat'.
- Editor:** Displays the 'build.gradle' file. The code includes a 'jar' task with a 'manifest' block and a 'from' block. The 'repositories' block has been updated to include 'mavenCentral()', 'jcenter()', and a new 'maven' repository at 'https://repo.maven.apache.org/maven2/'. The 'dependencies' block contains 'compile group: 'org.apache.commons', name: 'commons-lang3', version: '3.8.1'.
- Build Log:** Shows the output of the 'Build: Sync' command. It indicates that the sync finished at 5/3/19 6:37 PM. The log lists various build models being loaded and configured, such as 'org.gradle.tooling.model.idea.IdeaProject' and 'org.gradle.tooling.model.build.BuildEnvironment', along with their respective execution times in milliseconds.
- Terminal:** Shows the command 'g: TODO'.

```
25 }
26 }
27
28 jar {
29     manifest {
30         attributes 'Main-Class': 'Application'
31     }
32     from {
33         configurations.compile.collect { it.isDirectory() ? it : zipTree(it) }
34     }
35 }
36
37 repositories {
38     mavenCentral()
39     jcenter()
40     maven { url "https://repo.maven.apache.org/maven2/" }
41 }
42
43 dependencies {
44     compile group: 'org.apache.commons', name: 'commons-lang3', version: '3.8.1'
45 }
46 }
```

Build: Sync

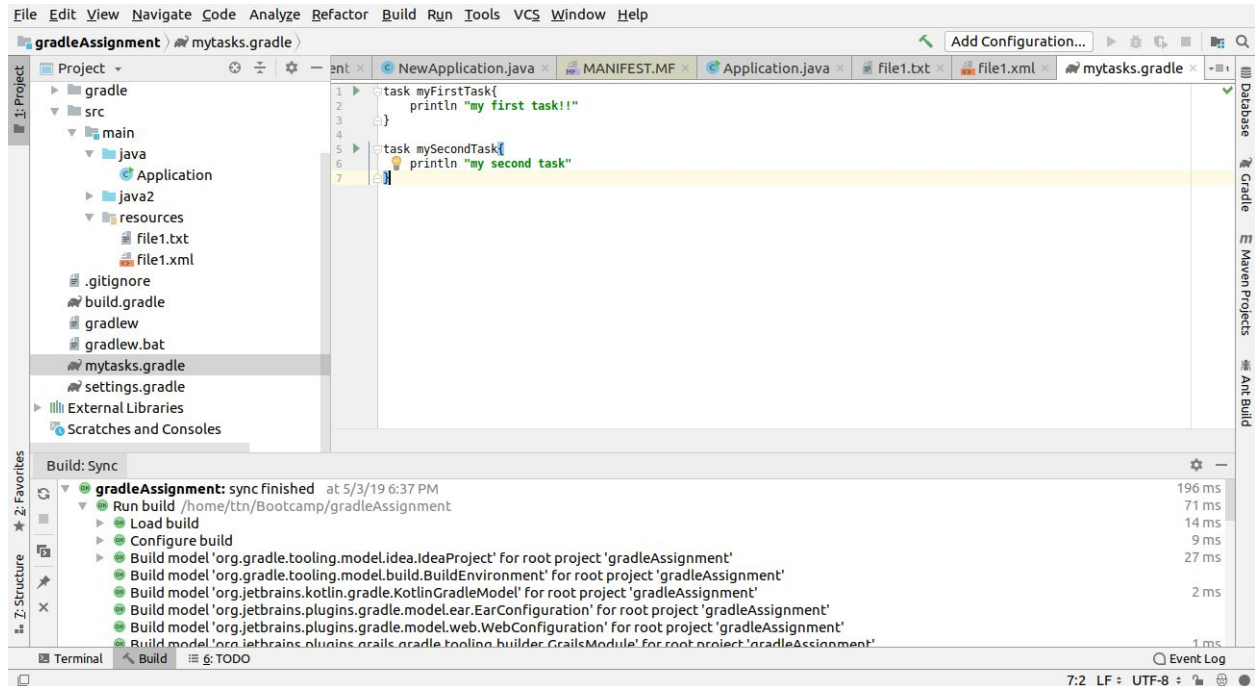
- gradleAssignment: sync finished at 5/3/19 6:37 PM 196 ms
- Run build /home/ttn/Bootcamp/gradleAssignment 71 ms
- Load build 14 ms
- Configure build 9 ms
- Build model 'org.gradle.tooling.model.idea.IdeaProject' for root project 'gradleAssignment' 27 ms
- Build model 'org.gradle.tooling.model.build.BuildEnvironment' for root project 'gradleAssignment' 2 ms
- Build model 'org.jetbrains.kotlin.gradle.KotlinGradleModel' for root project 'gradleAssignment'
- Build model 'org.jetbrains.plugins.gradle.model.ear.EarConfiguration' for root project 'gradleAssignment'
- Build model 'org.jetbrains.plugins.gradle.model.web.WebConfiguration' for root project 'gradleAssignment'
- Build model 'org.jetbrains.plugins.gradle.model.builder.GrailsModule' for root project 'gradleAssignment'

Terminal: g: TODO

108 chars, 7 line breaks 43:1 LF : UTF-8

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

TASKS DEFINED IN "mytasks.gradle"



OUTPUTS RETURNED BY TASKS

```
File Edit View Search Terminal Tabs Help
Terminal
> Configure project :
my first task!!
my second task

BUILD SUCCESSFUL in 0s
ttn@ttn:gradleAssignment $ gradle mySecondTask

> Configure project :
my first task!!
my second task

BUILD SUCCESSFUL in 0s
ttn@ttn:gradleAssignment $ gradle myFirstTask

> Task :myFirstTask
my first 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:command_line_warnings

BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
ttn@ttn:gradleAssignment $ gradle mySecondTask

> Task :mySecondTask
my second 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:command_line_warnings

BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
ttn@ttn:gradleAssignment $
```