

**Q1.Add a gradle dependency and its related repository url.**

**Answer:**

In gradle we can add dependencies in the build.gradle file.

The syntax for adding dependencies will be like:

```
dependencies {  
    testCompile group: 'junit', name: 'junit', version: '4.12'  
    // Answer 1  
    // https://mvnrepository.com/artifact/com.google.code.gson/gson  
    compileOnly group: 'com.google.code.gson', name: 'gson', version: '2.8.6'  
}
```

A screenshot of an IDE showing the build.gradle file. The code is as follows:

```
26  
27 dependencies {  
28     testCompile group: 'junit', name: 'junit', version: '4.12'  
29     // Answer 1  
30     // https://mvnrepository.com/artifact/com.google.code.gson/gson  
31     compileOnly group: 'com.google.code.gson', name: 'gson', version: '2.8.6'  
32 }  
33 apply plugin : 'java'
```

The line numbers 26 through 33 are visible on the left. The dependencies block is expanded, showing the testCompile and compileOnly entries. The line containing the compileOnly entry has a yellow background highlight.

**The some other dependencies are:**

- 1.Junit: This dependency allows us to write unit-test cases.
- 2.lombok: This is another dependency which automatically adds getter setters in .class file.
- 3.gson:This is another dependency which defines the execution time of each task and other runtime parameters.

**Q2.Using java plugin, make changes in the manifest to make the jar executable. Using java -jar JAR\_NAME, the output should be printed as "Hello World".**

**Answer:**

```
sourceSets{  
    main{  
        java{  
            srcDirs= ['src/main/java']  
        }  
    }  
}  
jar {  
    manifest {  
        attributes(  

```

```

    "Main-Class": 'gradle_top',
    "Class-Path": configurations.compile.collect { it.getName() }.join(' ')
}
}

```



**Q3. Differentiate between the different dependency scopes: compile, runtime, testCompile, testRuntime using different dependencies being defined in your build.gradle.**

**Answer:**

**Compile:** is used for production, to be more clear compile is the group that is used to build the applications main file.

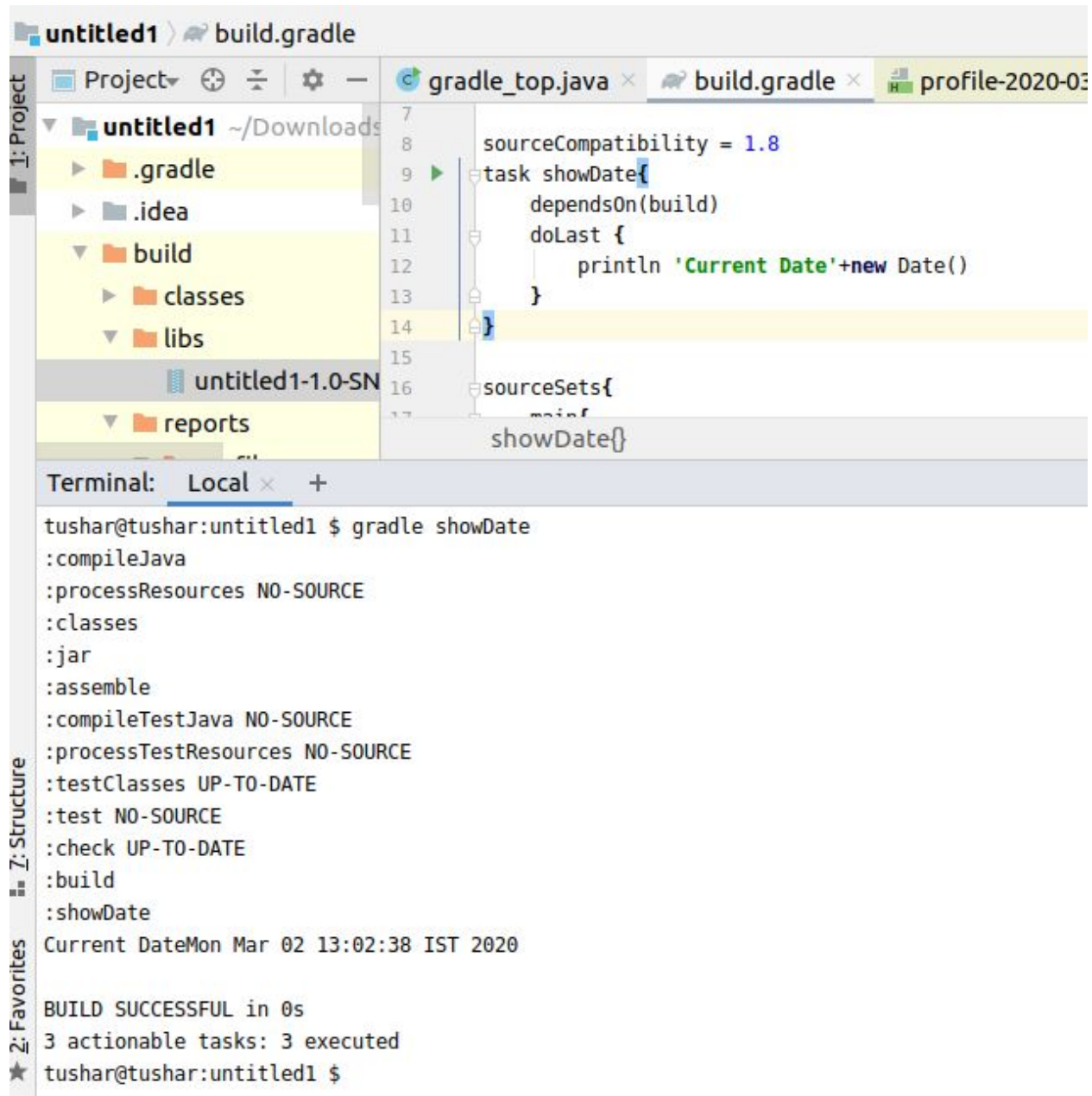
**testCompile:** is the group of dependencies used for testing. In short compile is for our main class and testCompile is for our testing classes.

**Runtime:** This scope indicates that the dependency is not required for compilation, but is for execution. It is in the runtime and test classpaths, but not the compile classpath.

**testRuntime:** The dependencies required to run the tests. By default, it includes runtime and test compile dependencies.

**Q4.Create a custom plugin which contains a custom task which prints the current date-time. Using that plugin in your project, execute that task after the jar task executes.**

**Answer:**



The screenshot shows an IDE with a project named 'untitled1'. The 'build.gradle' file is open, showing a custom task 'showDate' defined as follows:

```
sourceCompatibility = 1.8
task showDate {
    dependsOn(build)
    doLast {
        println 'Current Date'+new Date()
    }
}
```

The terminal output shows the execution of the 'showDate' task, which prints the current date and time:

```
tushar@tushar:untitled1 $ gradle showDate
:compileJava
:processResources NO-SOURCE
:classes
:jar
:assemble
:compileTestJava NO-SOURCE
:processTestResources NO-SOURCE
:testClasses UP-TO-DATE
:test NO-SOURCE
:check UP-TO-DATE
:build
:showDate
Current DateMon Mar 02 13:02:38 IST 2020

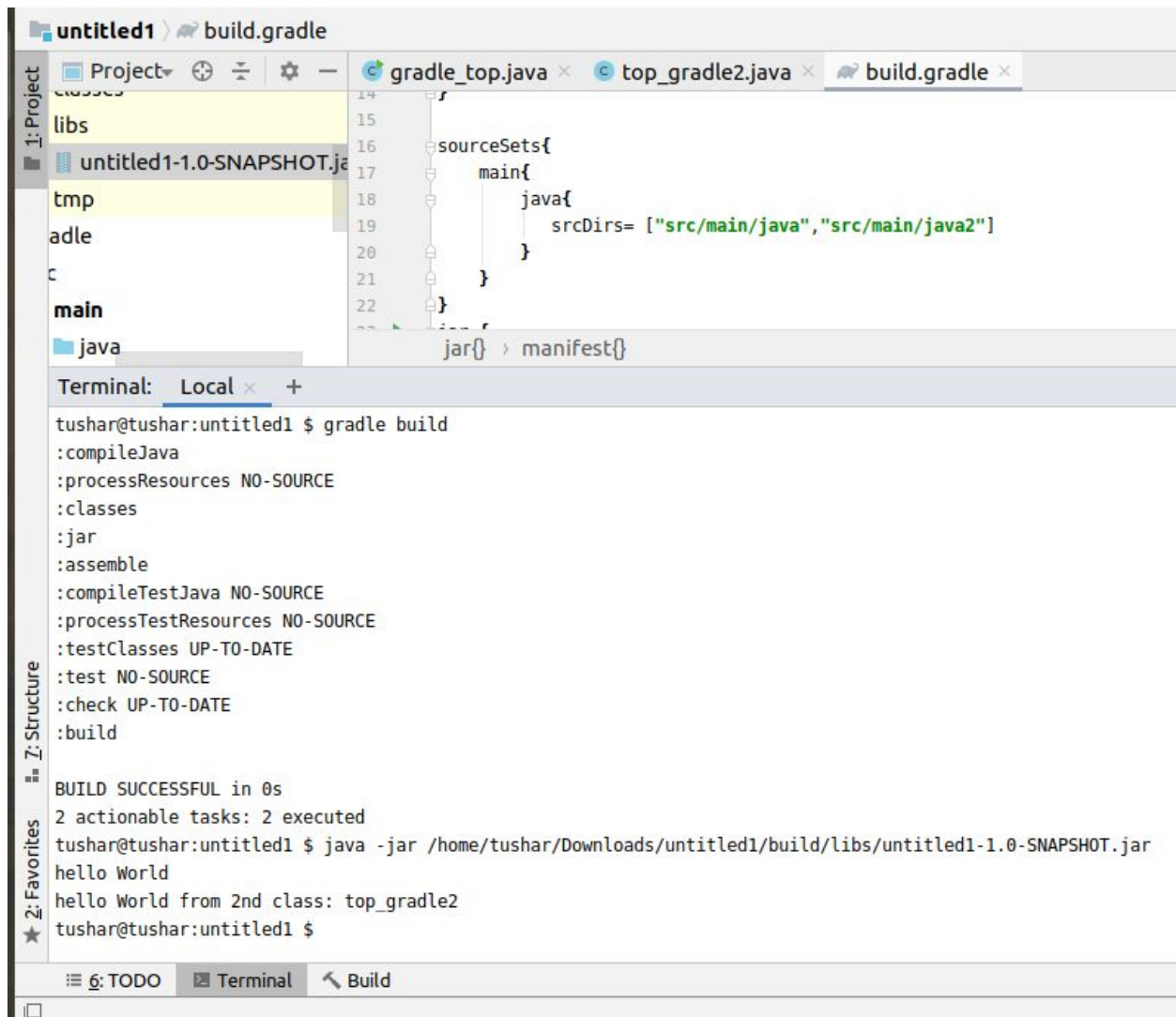
BUILD SUCCESSFUL in 0s
3 actionable tasks: 3 executed
tushar@tushar:untitled1 $
```

**Q5.Instead of using default source set, use src/main/javaCode1, src/main/javaCode2 to be taken as code source. Make sure that the JAR created contains files from both the directories and not from src/main/java.**

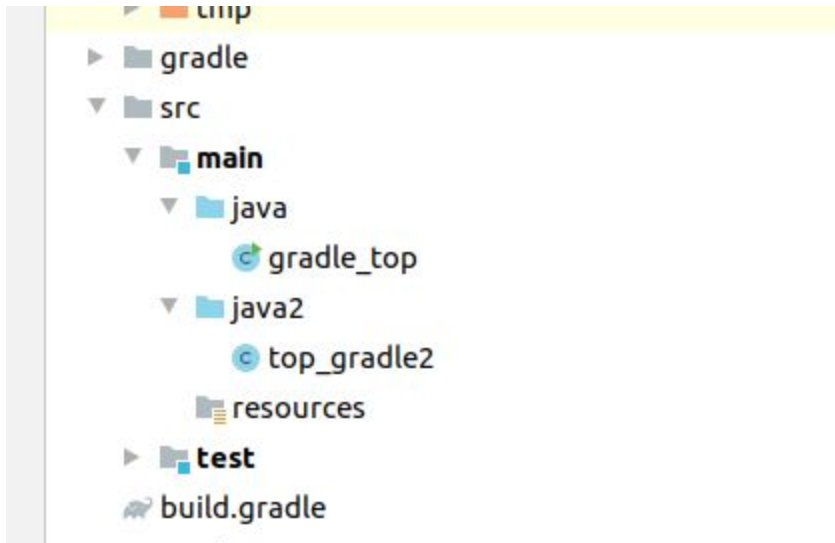
**Answer:**

### Code for defining path of two files.

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



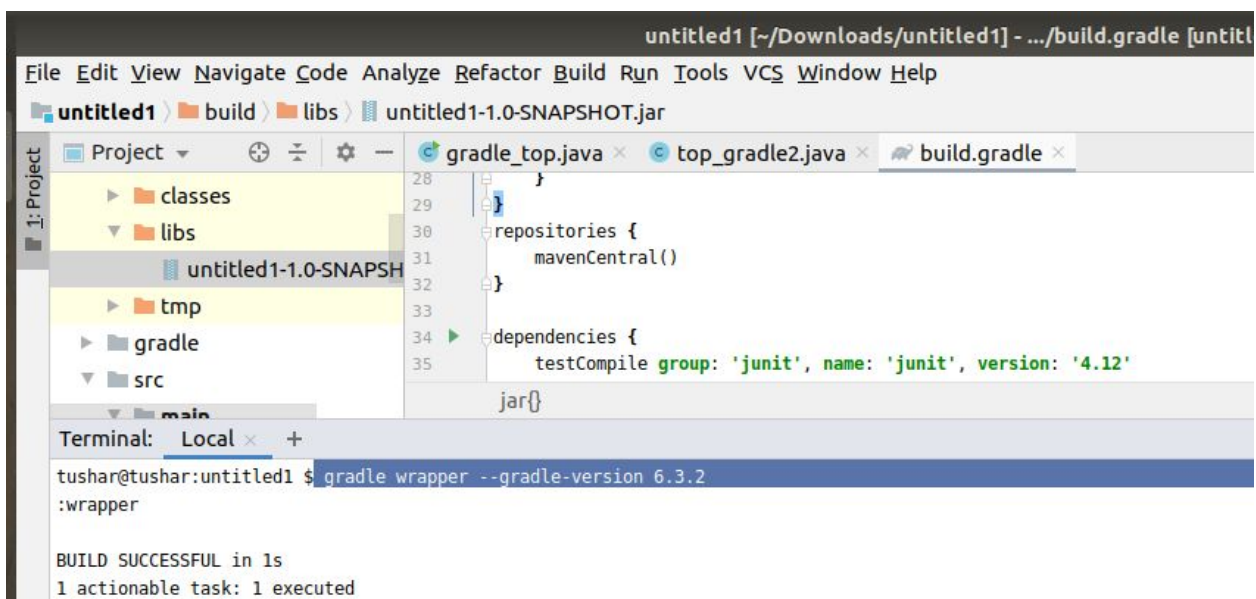
Screenshot of gradle project structure to show the two java files has been created.



**Q6. Override the Gradle Wrapper task to install a different version of gradle. Make sure that the task written in Q4 also executes with it.**

**Answer:**

**1st changing the version of the gradle.**



**Now after the version name has changed , so now we perform the another task , which is to perform the same functionality of the q-4. So,**

```
testCompile group: 'junit', name: 'junit', version: '4.12'
jar{}

Terminal: Local x +
tushar@tushar:untitled1 $ gradle wrapper --gradle-version 6.3.2
:wrapper

BUILD SUCCESSFUL in 1s
1 actionable task: 1 executed
tushar@tushar:untitled1 $ gradle showDate
:compileJava UP-TO-DATE
:processResources NO-SOURCE
:classes UP-TO-DATE
:jar UP-TO-DATE
:assemble UP-TO-DATE
:compileTestJava NO-SOURCE
:processTestResources NO-SOURCE
:testClasses UP-TO-DATE
:test NO-SOURCE
:check UP-TO-DATE
:build UP-TO-DATE
:showDate
Current DateMon Mar 02 14:13:04 IST 2020
```

**Q7.Run the gradle profile command and attach the resulting files.**

**Answer:**

```
main
java
dependsOn(build)
jar{}

Terminal: Local x +
tushar@tushar:untitled1 $ gradle -profile
:help

Welcome to Gradle 4.4.1.

To run a build, run gradle <task> ...

To see a list of available tasks, run gradle tasks
To see a list of command-line options, run gradle --help
To see more detail about a task, run gradle help --task <task>

BUILD SUCCESSFUL in 0s
1 actionable task: 1 executed
See the profiling report at: file:///home/tushar/Downloads/untitled1/build/reports/profile/profile-2020-03-02-14-19-24.html
tushar@tushar:untitled1 $
```



And the web output will be:

The screenshot shows a Chromium web browser window titled "Profile report - Chromium". The address bar displays the file path: `File | /home/tushar/Downloads/untitled1/build/reports/profile/profile-2020-03-02-14-19-24.html`. The page content is a "Profile report" generated by Gradle. It includes a sidebar with navigation tabs: "Summary" (selected), "Configuration", "Dependency Resolution", and "Task Execution". The main content area shows a table with build metrics.

Profiled build: help  
Started on: 2020/03/02 - 14:19:24

Description	Duration
Total Build Time	0.564s
Startup	0.531s
Settings and BuildSrc	0.001s
Loading Projects	0.002s
Configuring Projects	0.020s
Task Execution	0s

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