

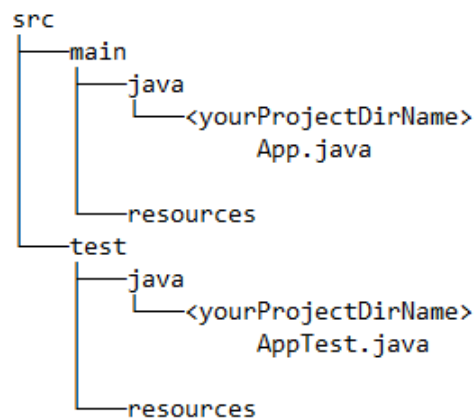
Guide: Testing w. Gradle and JUnit

Introductory Programming 2020

Create a new Gradle project

See how to create a new project [here](#).

Once you have created a new project you should have a `src` folder inside you new gradle project with a directory structure like this:



Open your Gradle project in VS Code

In the `src > main > java > yourProjectDirName` folder, you write your programme. You can see that a default class, `App.java`, is already in that folder.

In the `src > test > java > yourProjectDirName` folder, you write your test classes. Similarly, there is a default test class, `AppTest.java`, that tests the greeting in the `App.java`.

Have a look at the two classes (`App.java` and `AppTest.java`) and make sure you understand what the code does before moving on.

For how to write tests, see Mahsa's slides [here](#).

Running the Tests

There are multiple ways you can run your tests (here's 2):

1. Gradlew Test

Open your terminal and navigate to your project directory (or use the integrated terminal in VS Code), and run the following command: `gradlew test`

```
C:\Users\lkl-laptop\Dropbox\ITU\TA_IP\Test>gradlew test

BUILD SUCCESSFUL in 2s
3 actionable tasks: 3 up-to-date
```

If the build was successful, you can find the test report at:

`yourProjectDirName > build > reports > tests > test > index.html`.

Open the `index.html` in your web browser to see it.

Test Summary

1
tests

0
failures

0
ignored

0.077s
duration

100%
successful

Packages

Classes

Package	Tests	Failures	Ignored	Duration	Success rate
Test	1	0	0	0.077s	100%

2. Java Test Runner Extension

In VS Code, install the 'Java Test Runner' extension. This should make a 'Run Test | Debug Test' appear over every test and over every test class:

```
Run Test | Debug Test | ✓
class AppTest {
    Run Test | Debug Test | ✓
    @Test void appHasAGreeting() {
```

This enables you to run/debug tests individually or one test class at a time. If a test passes, a 'tick' will appear next to it. A cross will appear if it fails. You can see the entire test report by clicking the tick/cross.

Java Test Report ×

All 1 Passed 1

Test.AppTest

> appHasAGreeting Passed 0.07s

NB! For this to work, you might need to edit your **build.gradle** file. Inside dependencies, add these lines:

```
1 // For Java Test Runner
2 testImplementation 'junit:junit:4.13'
3 testRuntimeOnly 'org.junit.jupiter:junit-jupiter-engine:5.7.0'
```