

SE (M) 2018-2019 Lab 5 Build Systems (Gradle)

The aim of this lab is to introduce you to build automation system by going through a practical tutorial. Once you have completed the basic tutorial, we encourage you to try setting this up with some of your own code from e.g. programming or SE.

1) Install & Running Gradle in the Lab (Windows)

Gradle is easily installed (5 min) by...

- a) Download https://services.gradle.org/distributions/gradle-4.6-bin.zip?_ga=2.97905119.1560486001.1520087634-776118813.1519745587 (as zip file) to c:\local\ (typically called gradle-4.6-bin.zip.).
- b) Unzip the zip to c:\local\gradle-4.6\ (after unzipping make sure you have a folder called C:\local\gradle-4.6\bin)
- c) Open a windows terminal / command prompt (e.g. available in the start menu, search by typing "cmd")
- d) Add the folder to the path variable by typing:

```
set PATH=%PATH%;C:\Local\gradle-4.6\bin
```

...then press enter. Note: you need to do this every time you open a new terminal.

- e) Verify that Gradle starts up and builds (Should say something like "Welcome to Gradle 4.6... BUILD SUCCESSFUL")

... leave the terminal open.

2) Creating a trivial build

We follow this guide to create a trivial build (Note you may need to replace the command "gradlew" with "gradle" on Windows systems)

<https://guides.gradle.org/creating-new-gradle-builds/>

Do not be put off if all the output of the commands you enter is not the same as what is listed in the guide. Changes made between versions of Gradle mean that some behaviour is different from what is documented. Call a demonstrator if you need help.

At some point the above guide invites you to analyse your build using a build scan. This requires you to enter an email address. Do this if you wish.

3) Building a Jar file and testing Java code

The previous guide ends with links which show you how to build example projects in various languages. Follow the Building Java Libraries guide:

<https://guides.gradle.org/building-java-libraries/>

Again, the output of some commands won't be the same as the output listed in the text. Don't be put off by this if your builds are successful. Call a demonstrator if you need help.

4) What's next?

Check out what other things the Gradle Java plugin can do:

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

Gradle isn't the only build system available. You may have already used Maven or Ant with your Java projects. Another build automation tool is Make, which was first written in 1976. Software Carpentry have the following guide on Make:

<http://swcarpentry.github.io/make-novice/>