Installation Guide

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| Place in the OPO | Setting up the coding environment   * Install Java and Visual Studio Code * Download demo code * Download starting code as GitHub Assignment |
| Documentation | Course Notes:  Section 1.1 Java as Compiled language  Section 1.2 Integrated Development Environment |
| Prerequisites | You have a GitHub account. |
| Learning Goals |  |
| Product Goals | * Your coding environment is set up as asked below * You can run the main method of the demo 01\_users\_model * You have created repo’s for labo User and Project Book (GitHub Assignment). |

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## Install Java

To be able to write and execute Java code you need to install a JDK (Java Development Kit). We need minimum version 17. Depending on your operating system you can use the following tutorials:

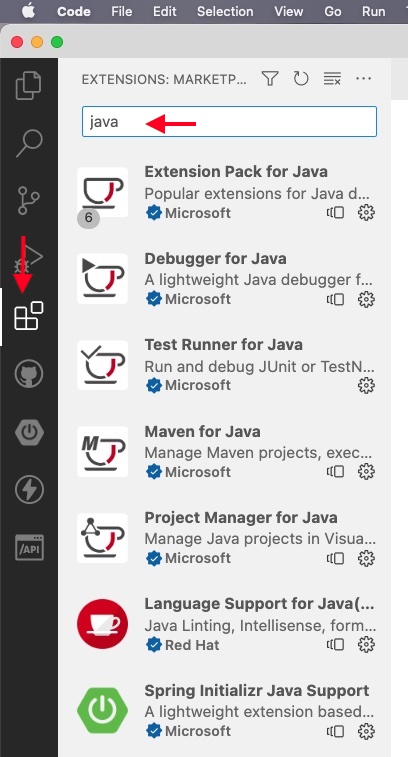
* Mac: <https://java.tutorials24x7.com/blog/how-to-install-java-17-on-mac>
* Windows: <https://java.tutorials24x7.com/blog/how-to-install-java-17-on-windows>

## Install Visual Studio Code

We use Visual Studio Code as IDE (Integrated Development Environment). If you don’t have installed Visual Studio Code (VSC), install it now.

<https://code.visualstudio.com/download>

You also need to install some plugins. Open VSC, open the Extension Toolbar and search for the required plugins (see list below the figure).



* *Afbeelding met Lettertype, logo, Graphics, ontwerp

  Automatisch gegenereerde beschrijving Java Platform Support (Oracle Java Platform Extension)*
* *Afbeelding met logo, symbool, Lettertype, ontwerp

  Automatisch gegenereerde beschrijvingExtension pack for Java (pack with several extensions)*
* *Afbeelding met clipart

  Beschrijving automatisch gegenereerd met gemiddelde betrouwbaarheidSpring Boot Extension Pack*
* Afbeelding met symbool, cirkel

  Automatisch gegenereerde beschrijving*GitLens – Git supercharged*
* Afbeelding met logo, symbool, clipart, Graphics

  Automatisch gegenereerde beschrijving*GitHub Pull Requests and Issues*
* Afbeelding met symbool, logo, Graphics, cirkel

  Automatisch gegenereerde beschrijving*Thunder Client*

## Download and run Demo Code

The demo code for this course is available from GitHub <https://github.com/UCLL-AO-BackEnd-CourseMaterial/AO-demo>. **Download** the code (do not clone!). The GitHub repo contains several projects that must be run individually.

Afbeelding met tekst, nummer, Lettertype, software

Automatisch gegenereerde beschrijving

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**1**

Try your coding environment:

* Open in Visual Studio Code a new window with the first demo (folder 01\_users-model, *not the parent directory*).
* Open the file “src/main/java/be/ucll/backend/users/MainMethod.java”.
* Run the file (see also syllabus section 1.4, figure 1.4).

Afbeelding met tekst, schermopname, software, Webpagina

Automatisch gegenereerde beschrijving

## Accept GitHub Assignment for Labo User

Sometimes students want to share code with the lecturer. To facilitate this in a uniform way, we work with a GitHub assignment. This has several advantages:

* the lecturer can easily provide starter code;
* each student creates his own repository accessible only to himself and the lecturer;
* the student can take regular backups of his code;
* the student can easily share the code with the lecturer;
* through versioning, the result can be easily marked and submitted.

Although we strongly recommend it, it is not mandatory to use the provided repos (unless for downloading starter code). You can always submit your result as a zip.

We provide two assignments: one for the lab user and a second for the project Book.

**Labo User:** [**https://classroom.github.com/a/mdHc6tel**](https://classroom.github.com/a/mdHc6tel)

Click on the link and accept the assignment.

Afbeelding met tekst, schermopname, software, Webpagina

Automatisch gegenereerde beschrijving

After accepting the assignment, a repository within the classroom will be created. An URL to this repository will be presented (you might need to refresh the page).

Afbeelding met tekst, schermopname, Lettertype, software

Automatisch gegenereerde beschrijving

The assignment Labo User contains some demo code so that you are ready to start the first exercises.

Afbeelding met tekst, nummer, software, Lettertype

Automatisch gegenereerde beschrijving

Copy the URL of your repo (here: https://github.com/UCLLBackEnd-Afstand/user-2324-grjon). Open Visual Studio Code. Open a new window. Click on the link “Clone Git Repository”.

Afbeelding met tekst, schermopname, software, Lettertype

Automatisch gegenereerde beschrijving

A small window opens. Paste the url of the repo.

Afbeelding met tekst, schermopname, software, Lettertype

Automatisch gegenereerde beschrijving

Click on the blue line. Select the directory where you want to save your code. The repo will be cloned to your device.

**Project Book:** [**https://classroom.github.com/a/HVsevDM7**](https://classroom.github.com/a/HVsevDM7)

The Project Book is an empty repository. We advise the reader to wait with initializing this repo until you start Project Book. Instructions can be found in the manual “create-and-share-a-project” (see starter code, folder 00\_installation-guide).

Afbeelding met tekst, schermopname, Lettertype

Automatisch gegenereerde beschrijving

We advise to [create a release](https://docs.github.com/en/repositories/releasing-projects-on-github/managing-releases-in-a-repository) when a module is finished. That way, you can easily go back to a particular point in the lab and (re)practice the material from there. In Labo User, when module 1 is finished, you find screenshots how to make a release.

## Download Starter code for labo User and project Library

Some labo exercises require additional code. You can find those in the repo <https://github.com/UCLL-AO-BackEnd-CourseMaterial/AO-startercode>. Each exercise tells you which files you need and what to do with it.

## Understanding your Coding Environment

1. What does it mean when we say that Java is a compiled language?
2. What is the difference between JDK, JRE and JVM?