Java Crash Course

University of Glasgow - Glasgow International College

GIC PM-617 Module: Practical Training for Science and Engineering Research

This is a repository for materials used for a module on quantitative research resources, taught at Glasgow International College at The University of Glasgow.

Intro

Java is one of the top five programming languages, and is used for websites, embedded controllers, and Android app development. In this crash course we will cover all the basics: data types, strings, functions, and loops. Then, we'll go over how to control the flow and logic of your code, and debug your project to make sure it runs perfectly. Along the way, we'll see some real-world examples and introduce challenges to allow you to practice your new skills. This course assumes no previous knowledge and is good for beginning programmers who want their first taste of this popular language.

How to use

Visual Studio Code

To open the folder with the Workshop and exercise notebooks, you will need an IDE (Integrated Development Environment). There are many popular IDE environments for programming and development. But I use Visual Studio Code.

Why VS Code?

1. VSCode has support for most of the popular languages. 😎

2. The community is huge and has plugins for every kind of language. 🫶

3. It has integrated terminal for faster development and takes less storage and has low memory footprint. ☺

To install VS Code you will have take to follow some steps:

- If you use Windows, you can follow the instructions on how to install VS Code in your laptop or PC on this tutorial..

- If you use a Mac, you can follow this tutorial instead..

Download the materials into your local working environment (fancy way of saying your laptop!).

1. Download this repository (https://github.com/gracecarrillo/learn-java) as a zip file, save it in the folder you will be working on, and unzip it. If you're not sure how to do this, see this resource about how to

unzip a file in a Mac, and this resource for Windows.

Make sure you save this folder in a location you will remember.
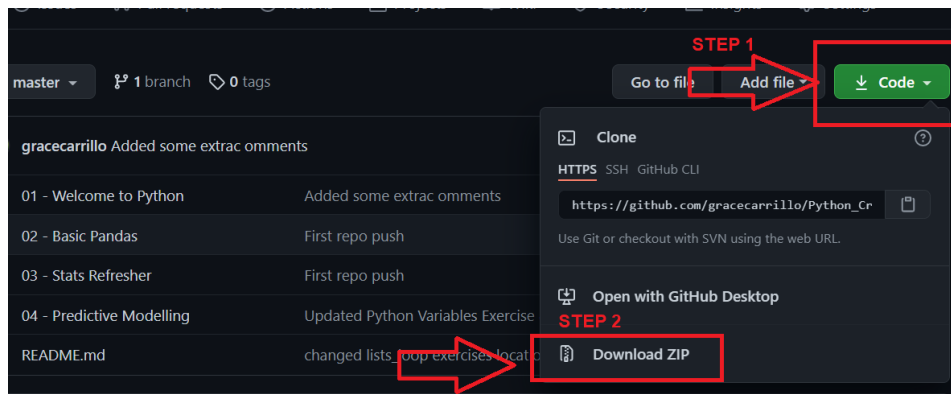
2. You also need to install the Jupyter Extension to work with the notebooks that we will use during this workshop. These notebooks are called Jupyter notebooks, and they are useful to combine python code and text in the same file. You can learn more about Jupyter noteboooks by following this link..

To begin adding the Jupyter Extension to your VS Code IDE, follow this link.. You will see the following window:
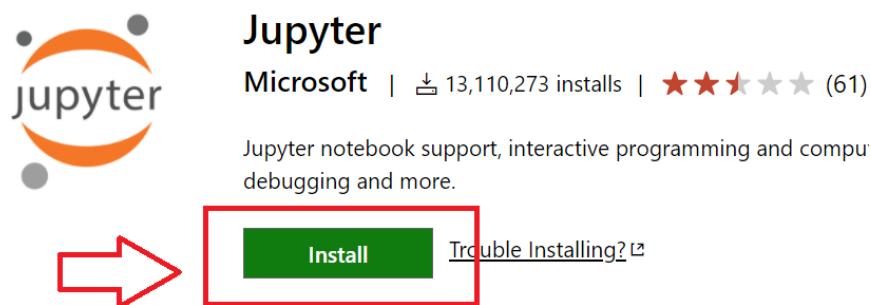
Click *Install*. When a pop-up window asks you if you want to open Visual Studio Code, just click the button to open it. This will take you to your VS Code. You will see the following, except that for you, the button will say *Install* instead of *Unistall*, like it does for me.
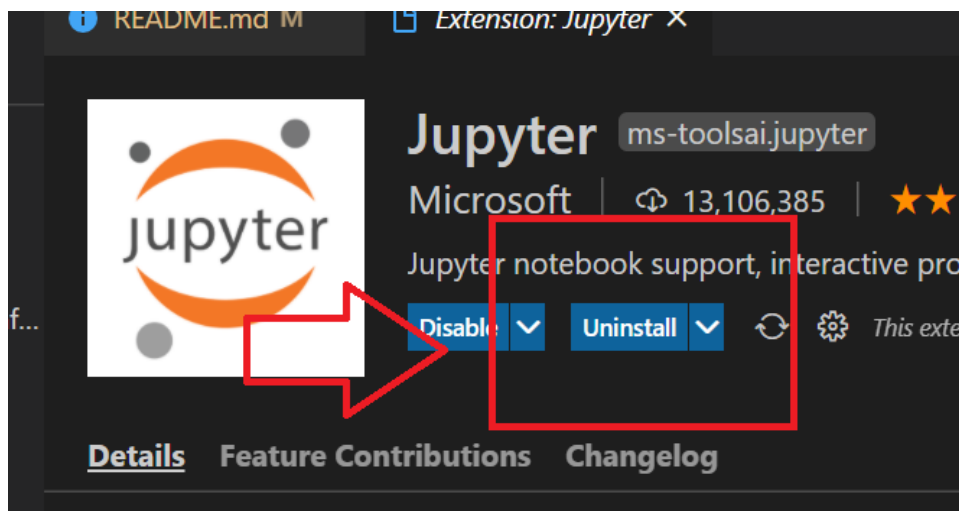
3. Once you have already installed VS Code and jupyter, add Java support to it with the Java Extension Pack, a collection of extensions suggested by Microsoft.

Note

VS Code is not the only available IDE. A more common one for Java is Eclipse IDE. You can check out this tutorial for Windows and this one for Mac.

Open the materials.

You should now be ready to get started! Verify this by navigating to the `learn_java` folder you downloaded. Go to *File -> Open Folder ...*

Select the folder and click *Open*. You should now be able to see all the folders for this course.

Happy learning!

WHAT TO DO AFTER THE SEMINAR

1. Complete the Workshops and Exercises in order. Do as many as you can

2. E-portfolio Evidence: Just focus on going through the exercise notebooks and finish as many as you possibly can. Then, write a short 500-1000 words reflection about the course and what you learned. If you finished all exercises, how was it? If you didn't, why? And this, accompanied by screenshots of your local setup with the exercises.

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Other Resources

Java Tutorial for Begginers 2020

Java Full Course 2021

Learn Java and Object Oriented Programming (8 hours course)