# Visual studio code

We need an integrated development environment. VSCode is a very good one.

* Go to <https://code.visualstudio.com/Download>
* Download the User Installer, 64 bit
* Double click and install

# Python

Apart from the IDE we’ll also need the actual Python interpreter.

* Go to <https://www.python.org/downloads/>
* Download the most recent installer
* Uncheck “Install launcher for all users (recommended)”

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* Click “Install now”
* Click close

# Hello world in VSCode

* Open VSCode
* Type “Ctrl-N” (new text file)
* Type “Ctrl-S” (save file)
* Save the file as “hello.py”
* VSCode suggests to install the recommended extensions. Do so.

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* While the extensions are installing add the following text to the file you just created:

print("hello world")

* When the installation has finished a play-button appears on the top right corner. Click it!
* Your terminal output should look like this:

Text

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* You can now code and run python scripts!

# Jupyter notebooks

* In explorer, create a new folder called “C:\Scripts”
  + Any other location or foldername should also work. In the rest of this manual this will be called the scripts-folder.
* In VSCode, click “File” – “Open folder”
* Select the scripts-folder
* Say that you trust the files in this folder
* In the top right corner, click the file with a little plus (the first button next to “SCRIPTS”)

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* Name this file “hello.ipynb”
  + Ipynb: interactive python notebook
* In the first square you see in your file, type “print(“hello world”)”
* Click the play button next to the square.

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* VSCode says the jupyter kernel needs to be installed. Click install to do so.
  + This installation will take quite a while.
* Once the installation is finished, the output of the code is displayed beneath.

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* You can now create and compile Jupyter notebooks!

# Virtual environment

A virtual environment is a folder that has its own Python-installation. This is especially useful if you want to run multiple versions of certain Python-libraries. It can also be used to make installing such libraries somewhat easier.

* Open a folder, and create a Python-file (hello.py).
  + See the steps before.
* Make the script display hello world. Run it.

Text

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* In the terminal window, type the up-arrow.
  + The line “& c:/Users…” will be displayed again
* Remove the text “c:/Scripts/hello.py” (only the yellow text and the & remain).
* Add “-m venv venv” to the yellow text.

Text

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* Type enter. VSCode says it noted a new virtual environment was created. Click yes to start using it.
  + If you missed the popup, click the interpreter below (the “3.10.5 64-bit”)

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* + A new command-windows appears on top. Select the recommended interpreter there.

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* Now when installing libraries, they are installed in this virtual environment.
  + For example:

Text

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