Python-Docs

– IDE Configurations –

Code Based Learning

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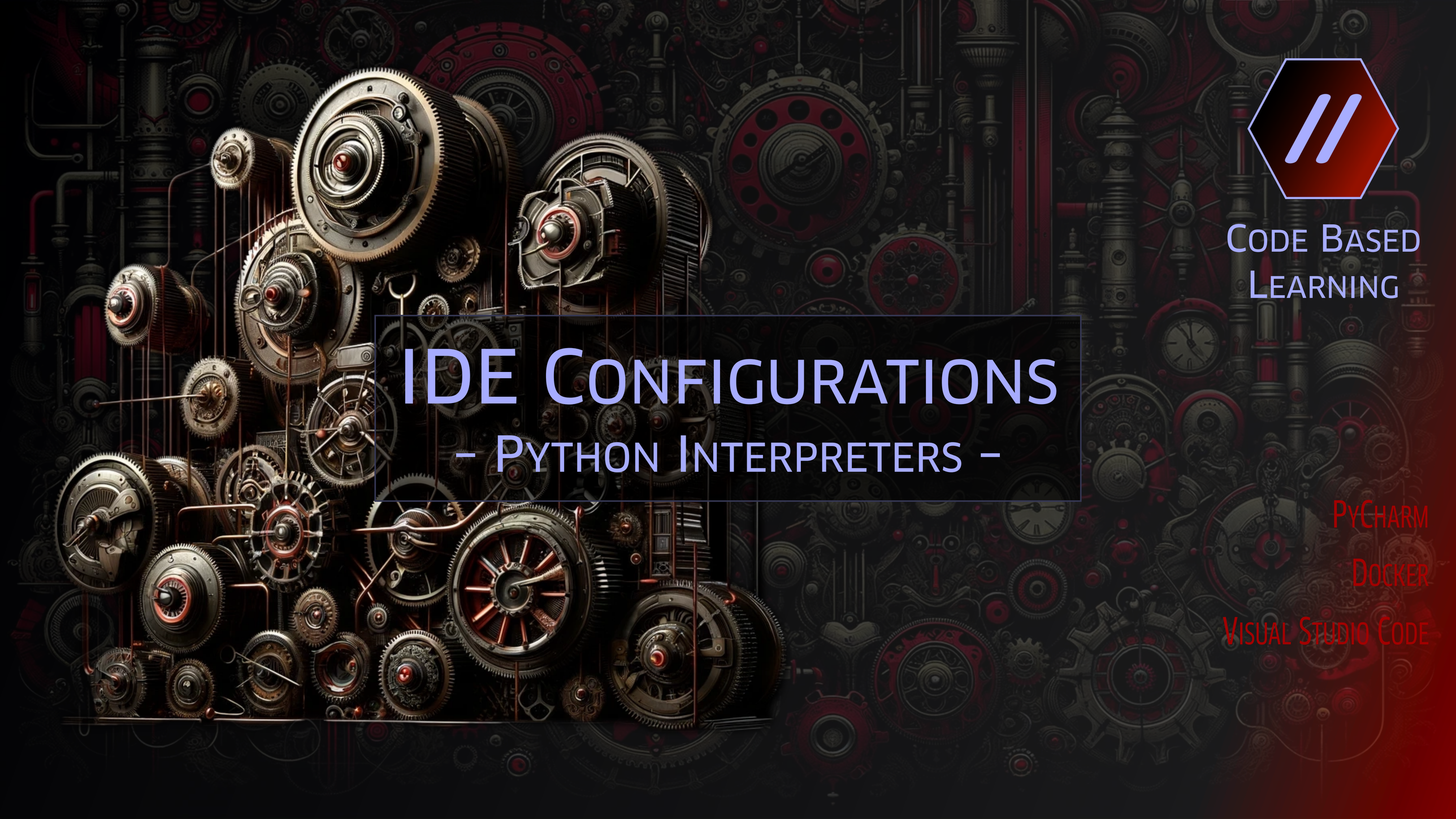


IDE Configurations

- Python Interpreters -

Code Based Learning

PyCharm

Docker

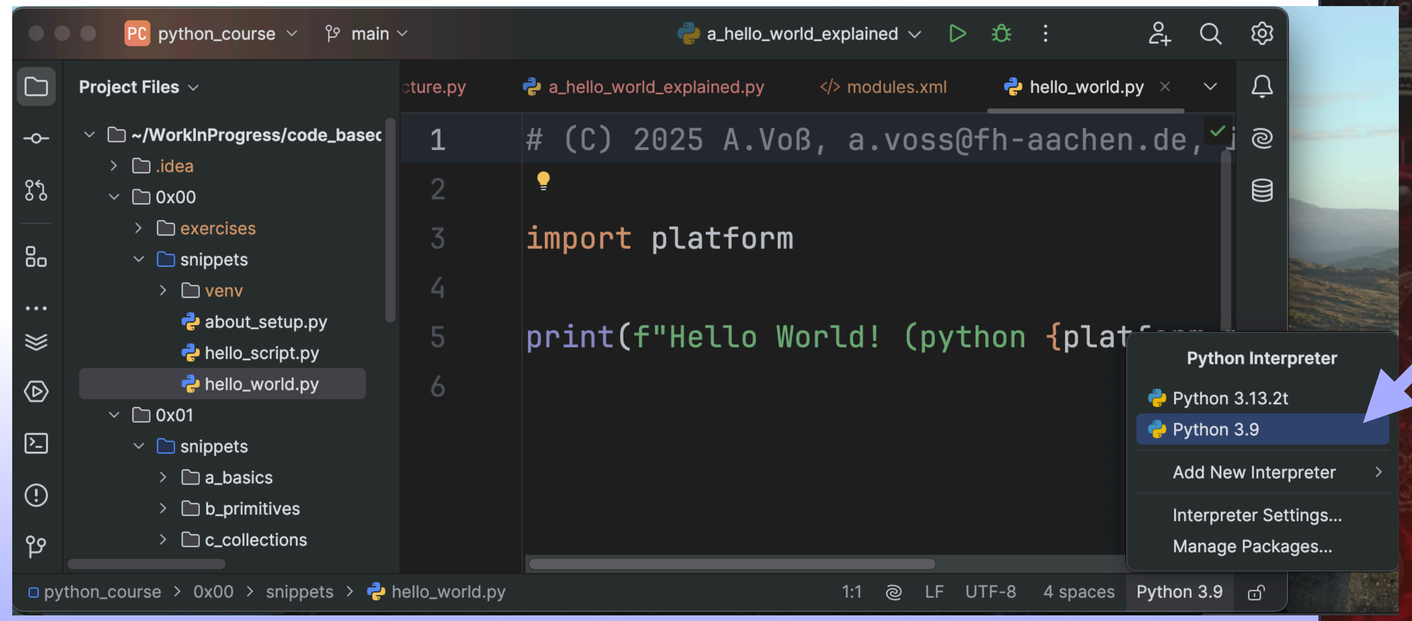
Visual Studio Code

Open python_course in PyCharm

There is no special project file, so open the **python_course** *directory* with **PyCharm** or choose **Open…** from the menu, if **PyCharm** is already open.

Assuming that there are global Python versions available you can select one at the bottom of the window.

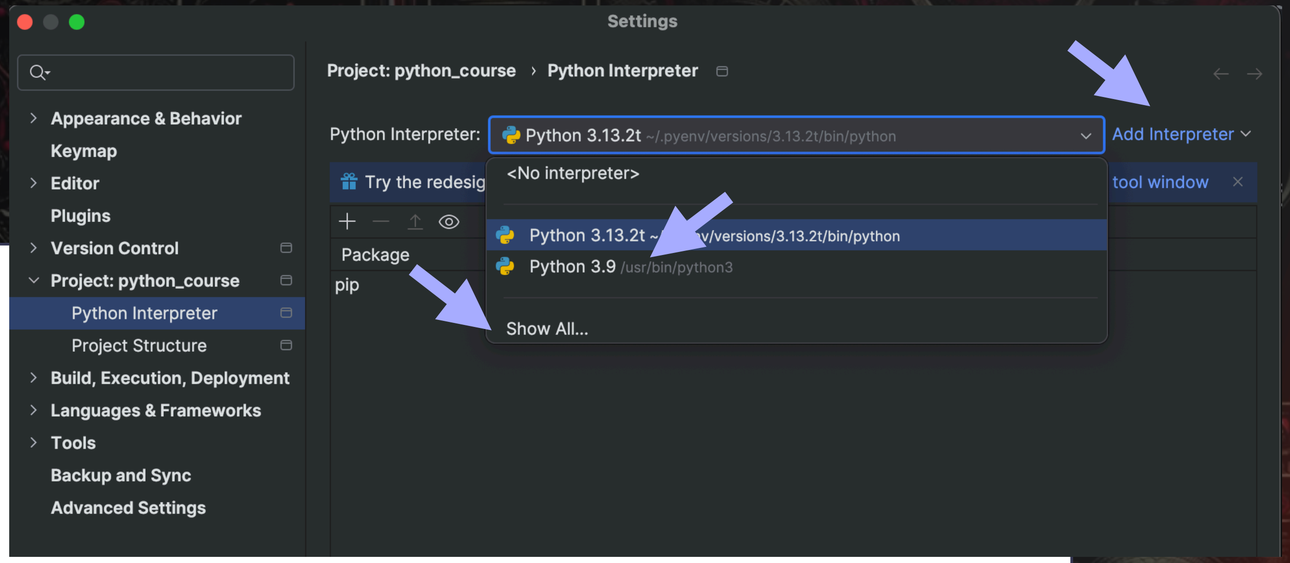
Open python_course with PyCharm



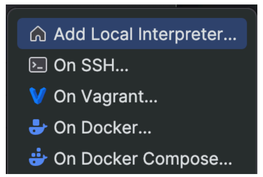
Configure Python in PyCharm

IDE Configurations

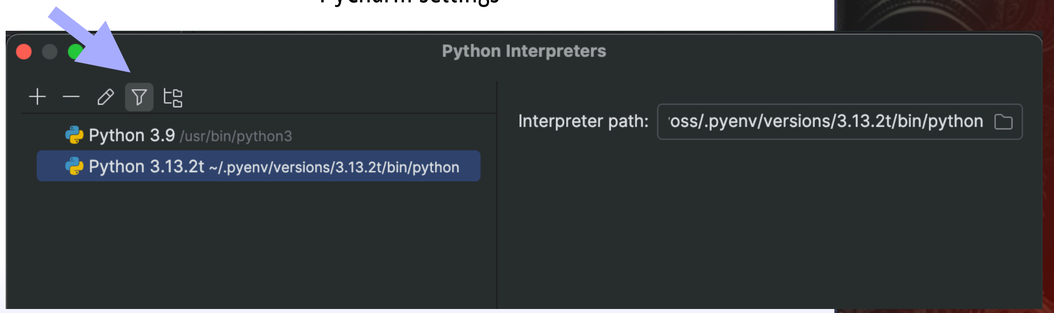
In **PyCharm settings**, you can also select the Python version/interpreter to be used or manage all interpreters via **Show All...** or **Add Interpreter**.



PyCharm settings



When you add *a local interpreter*, you can choose to select an existing interpreter, e.g. from any virtual environment (**venv**), or create a new virtual environment.



Show All...

This gives you great flexibility to organise your versions and packages according to your needs and projects.

Note: Make sure to remove the *filter* if you want to see interpreters associated to other projects as well. You can also rename an entry here.

Configure Docker in PyCharm

Having introduced the interpreter setting in **PyCharm**, we would like to complete our discussion of Python environments with the remaining, the *Docker* variant.

To run our scripts in Docker, we will first create a *Docker image* with a specific Python version, including our **cbl** module.

All the files we need are in the **docker** folder, namely **Dockerfile** and the **requirements.txt**.
The latter contains the **cbl** module (see **pip freeze**).

```
# (C) 2024 A.Voß, a.voss@fh-aachen.de, python@codebasedlearning.dev

FROM python:3.12.2

# Create user to prevent installation of dependencies at root level.
RUN useradd -m pythonista

WORKDIR /home/pythonista/app
ADD . /home/pythonista/app
USER pythonista

# install dependencies from requirements
RUN pip install --no-cache-dir --user -r requirements.txt
```

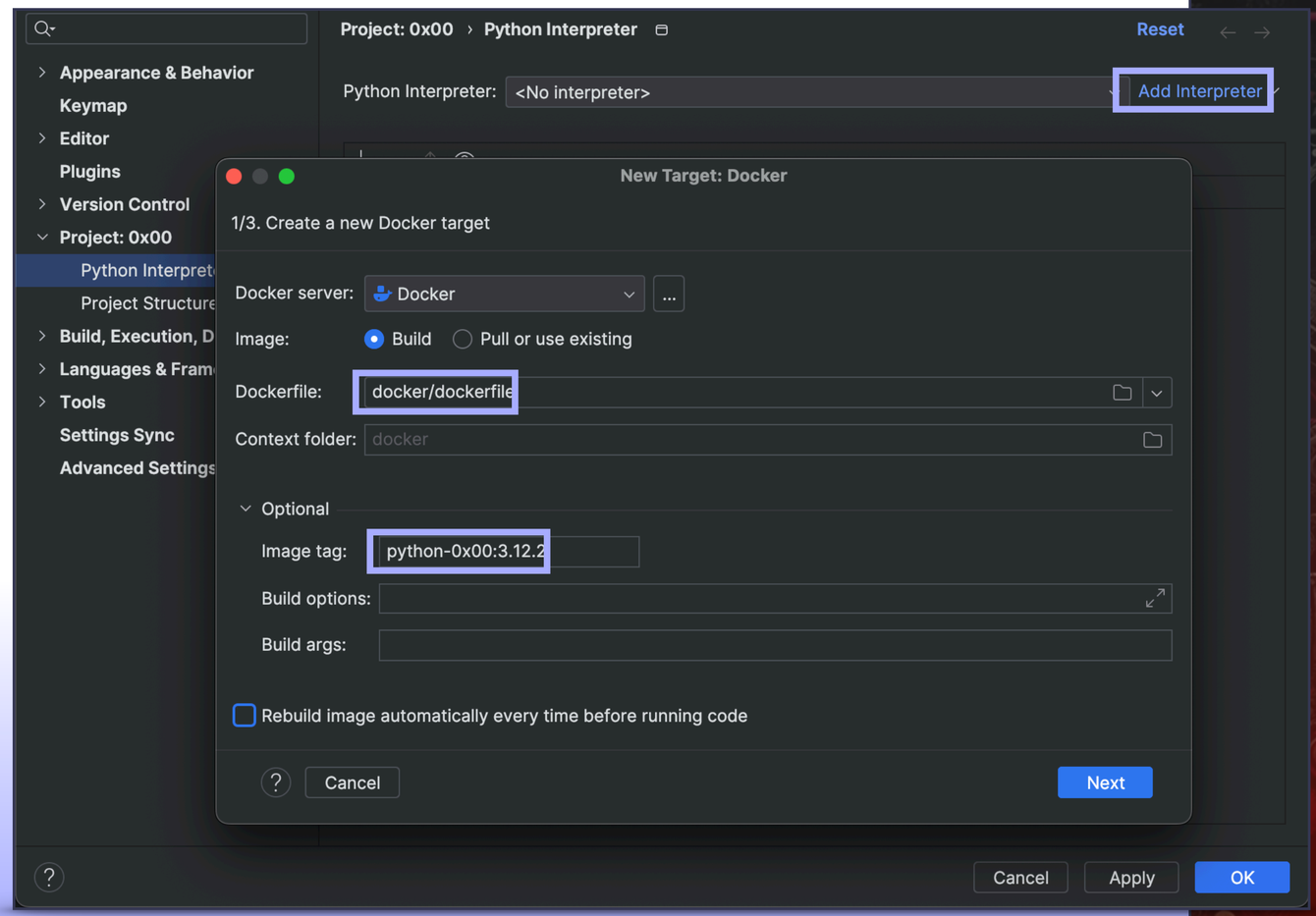
Dockerfile (or similar)

Configure Docker in PyCharm

In the **PyCharm** settings, we **Add Interpreter** and select **On Docker**.

Then we have to specify the **dockerfile** (**docker** folder) and supply a **tag** to label the image.

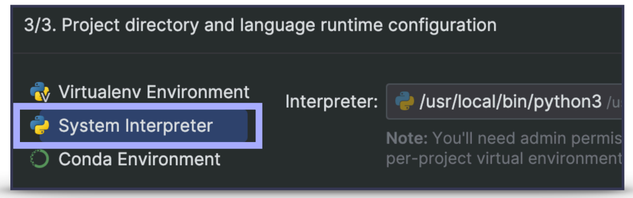
After that the image will be built and Python and the modules from **requirements.txt** will be installed.



PyCharm settings

Configure Docker in PyCharm

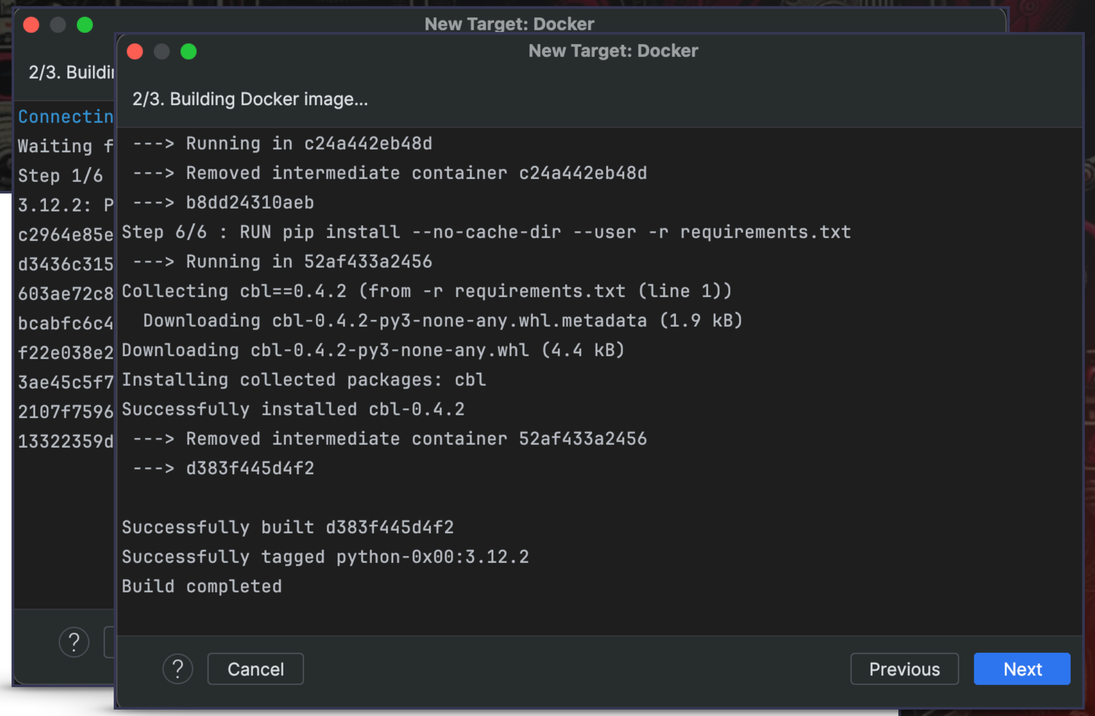
After building the image, we select the *Docker System Interpreter*.



select Python

You can also use virtual environments here, but as we are already isolated inside the Docker container, we skip this.

In the Docker Dashboard we can see our new image and the output shows the correct Python interpreter.



building the image

Docker images

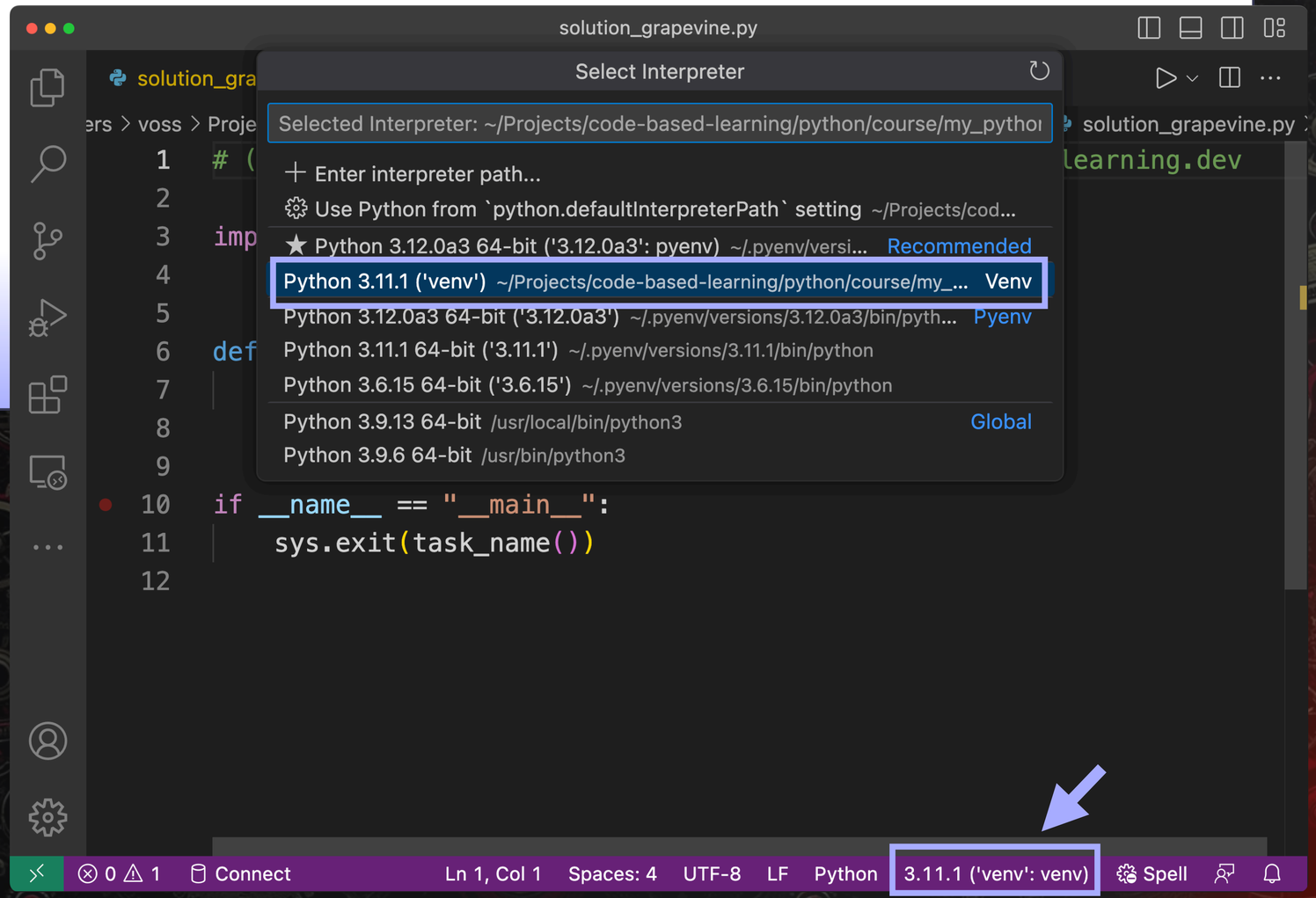
```
/usr/local/bin/python3 /opt/project/snippets/about_setup.py
python 3.12.2 /usr/local/bin/python3
cbl 0.4.2 ~/.local/lib/python3.12/site-packages/cbl
```

output

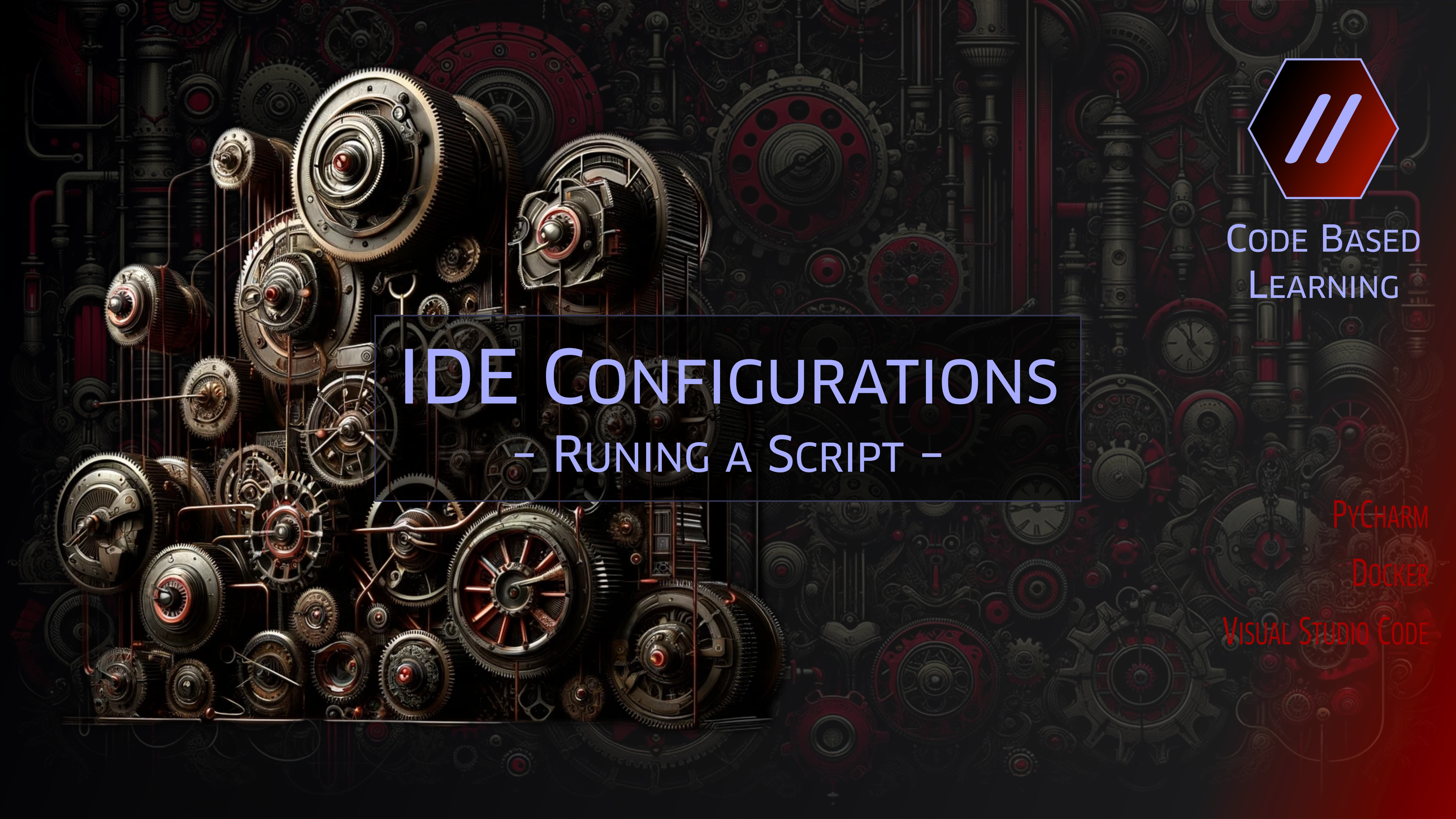
Configure Python in Visual Studio Code

The situation is very similar in Visual Studio Code.

The selection shows the variants known to the system.



Visual Studio Code



IDE Configurations

- Runing a Script -

Code Based Learning

PyCharm

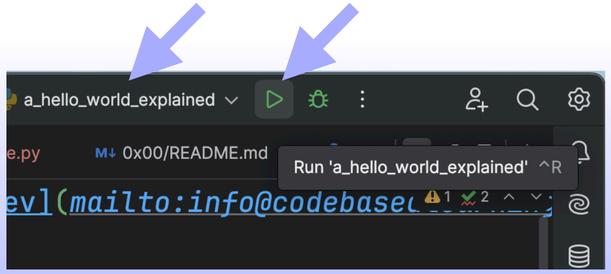
Docker

Visual Studio Code

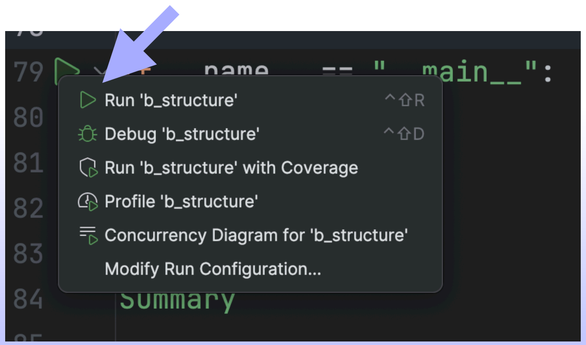
Run | Project Selection

In PyCharm and Visual Studio Code you can run a script from the IDE without going into a terminal. The IDE will take care of using the associated Python interpreter.

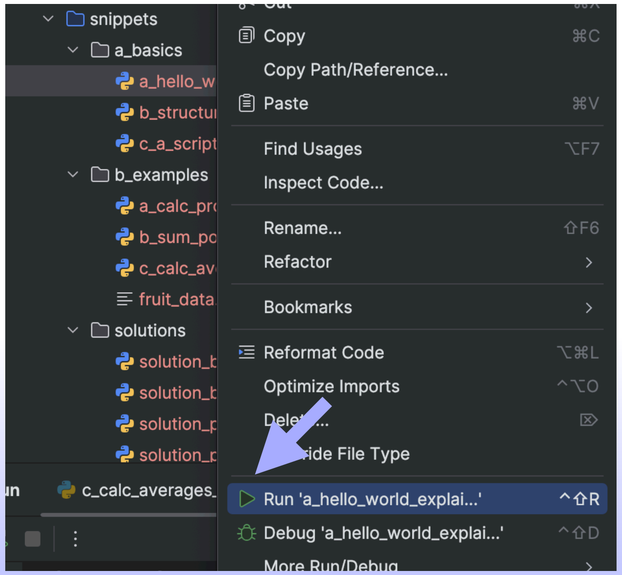
Note that just clicking the run button ▷ may run a previous project, so you need to make sure that the project you are working on is selected. In PyCharm it looks like this.



run from top menu



run from main-guard



run from context menu

CODE BASED LEARNING

If you are missing something or have suggestions for improvement, please send me an E-Mail.