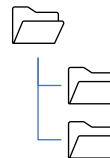# System Setup

System Setup

1. Install Python

Visual Studio Code   or   Cursor

2. Install IDE

3. Install git

4. Config &
Get Course Material

5. Set up Environment

gollnickdata.de

System Setup

Allows coding in the browser
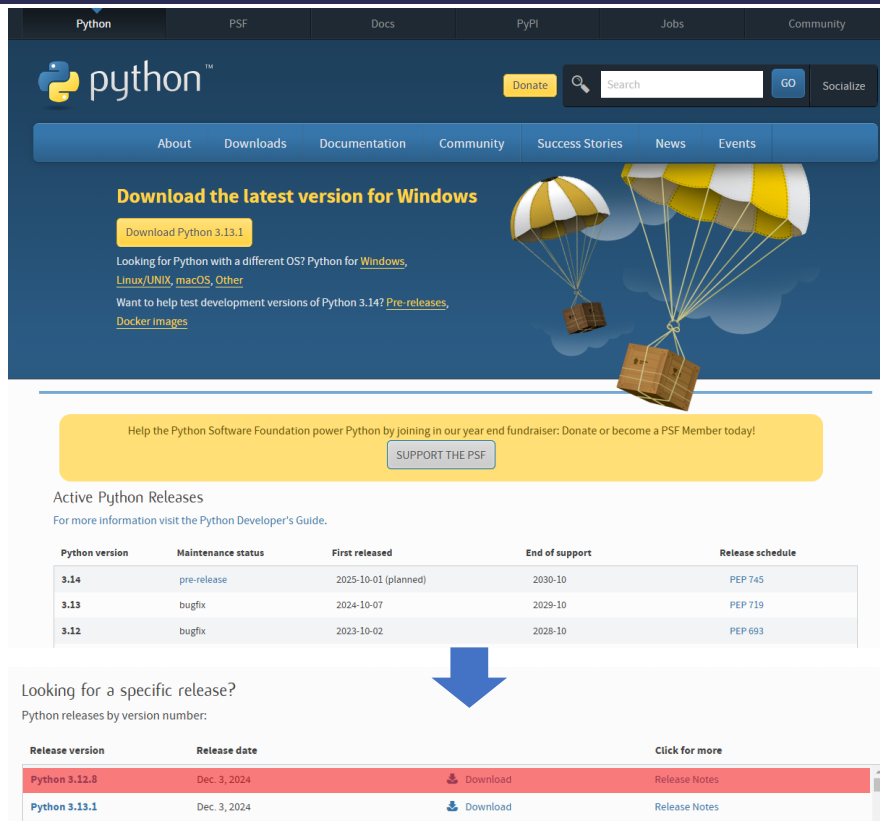
URL: https://studio.firebase.google.com/mypoetrytest-73499963

gollnickdata.de

System Setup

Python Installation

Source: https://www.python.org/downloads/

gollnickdata.de

System Setup

1. Download Git and Install: https://git-scm.com/downloads

2. Configure git

```
git config --global user.name "John Doe"

git config --global user.email johndoe@example.com
```

3. Clone Repo:
git clone https://github.com/DataScienceHamburg/Python_ML_DS_Material.git

Oder Download als ZIP:
https://github.com/DataScienceHamburg/Python_ML_DS_Material

gollnickdata.de

System Setup

VS Code Extension

Jupyter — 789ms
Jupyter notebook support, inte...
ms-toolsai

Pylance — 552ms
A performant, feature-rich lang...
ms-python

System Setup

Project A

Project B

requires package with version:
requires Python version:

xyz==1.0.0
Python==3.8.5

xyz==2.0.0
Python==3.12

one (shared) Environment
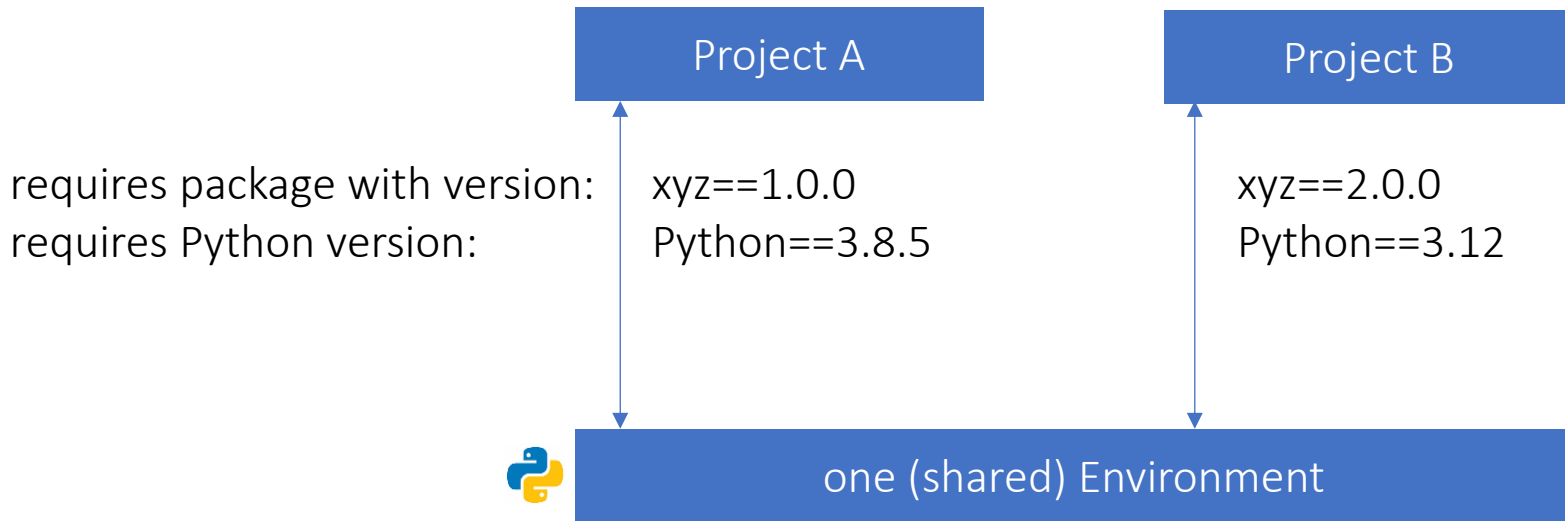
package xyz can be available only in one version
Python only available in one version

gollnickdata.de

System Setup

Project A	Project B

requires package with version:
requires Python version:

xyz==1.0.0
Python==3.8.5

xyz==2.0.0
Python==3.11

Environment A	Environment B

xyz==2.0.0
Python==3.11

gollnickdata.de
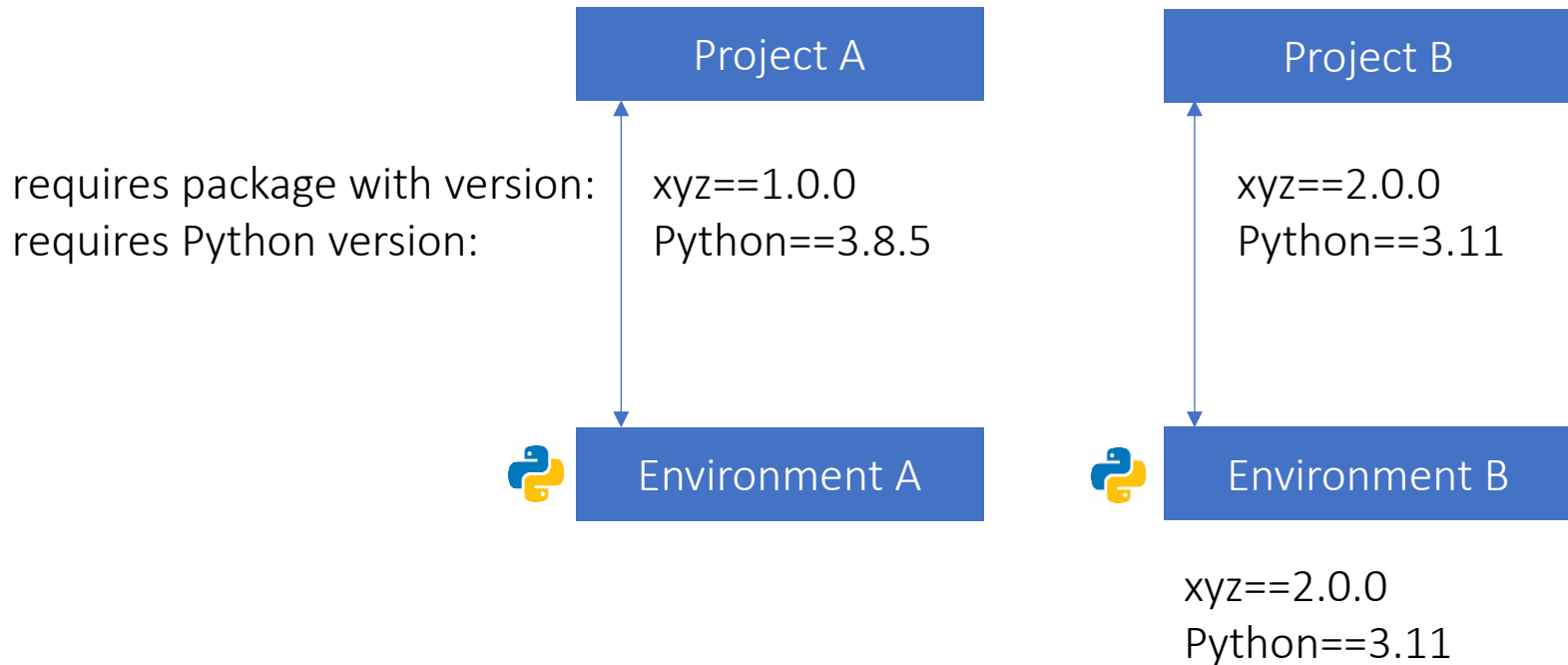
System Setup

An Environment is an isolated bundle of packages and Python versions.

It allows to
- avoid conflicts of packages
- easy setup for a project on another computer

- Available Environments:
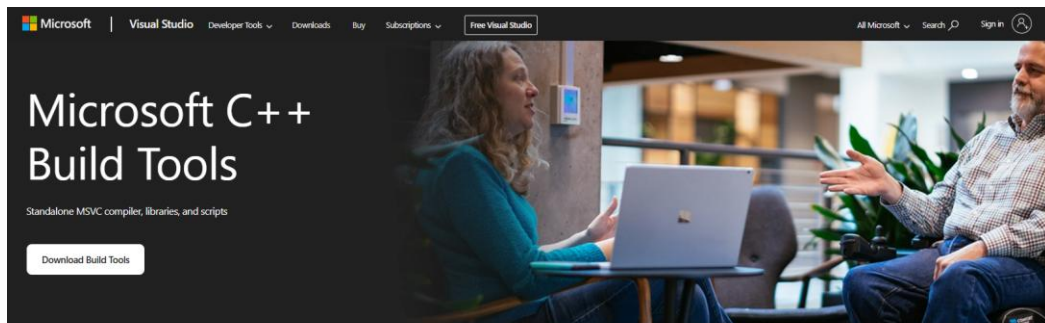
| Conda (requires Anaconda installation) | venv | Poetry | uv |

gollnickdata.de

System Setup

Windows: install C++ Build Tools

How you can use the Build Tools

https://visualstudio.microsoft.com/visual-cpp-build-tools/

gollnickdata.de

System Setup

- use **uv** as environment
    1. pip install uv
    2. uv sync

- set up from scratch

    uv init

    uv python install 3.12

    uv venv

    .venv\Scripts\activate

    uv add langchain

gollnickdata.de