System Setup

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System Setup
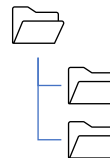
1. Install Python

Visual Studio Code   or   Cursor

2. Install IDE

3. Install git

4. Config &
Get Course Material

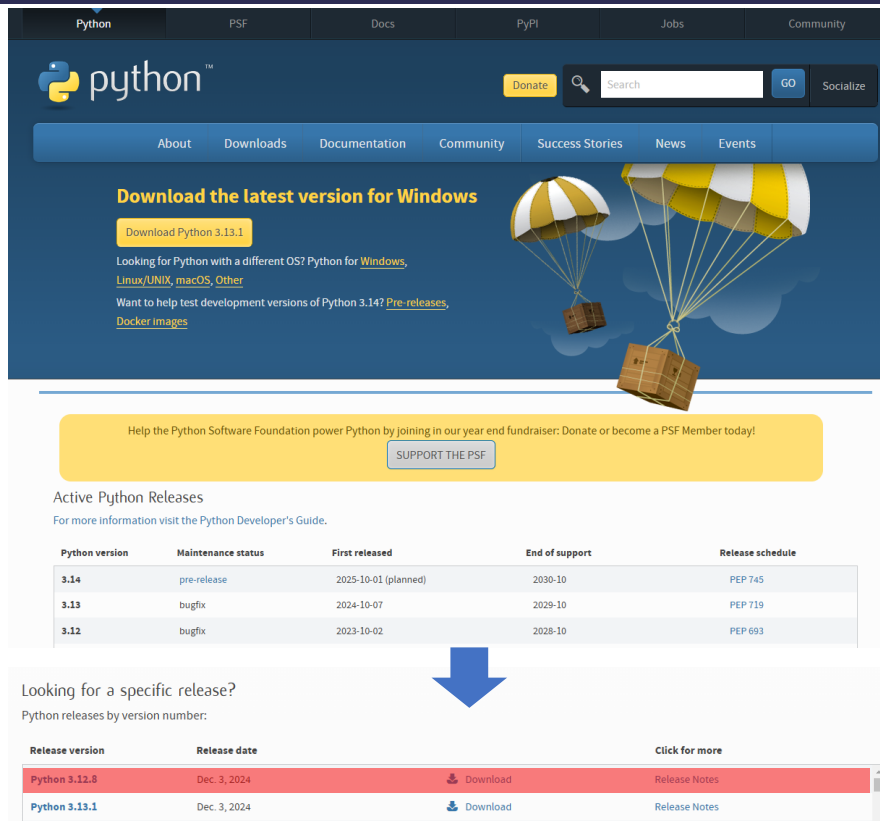5. Set up Environment

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Python Installation

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

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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/GenerativeKImitPython_Material.git

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VS Code Extension

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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
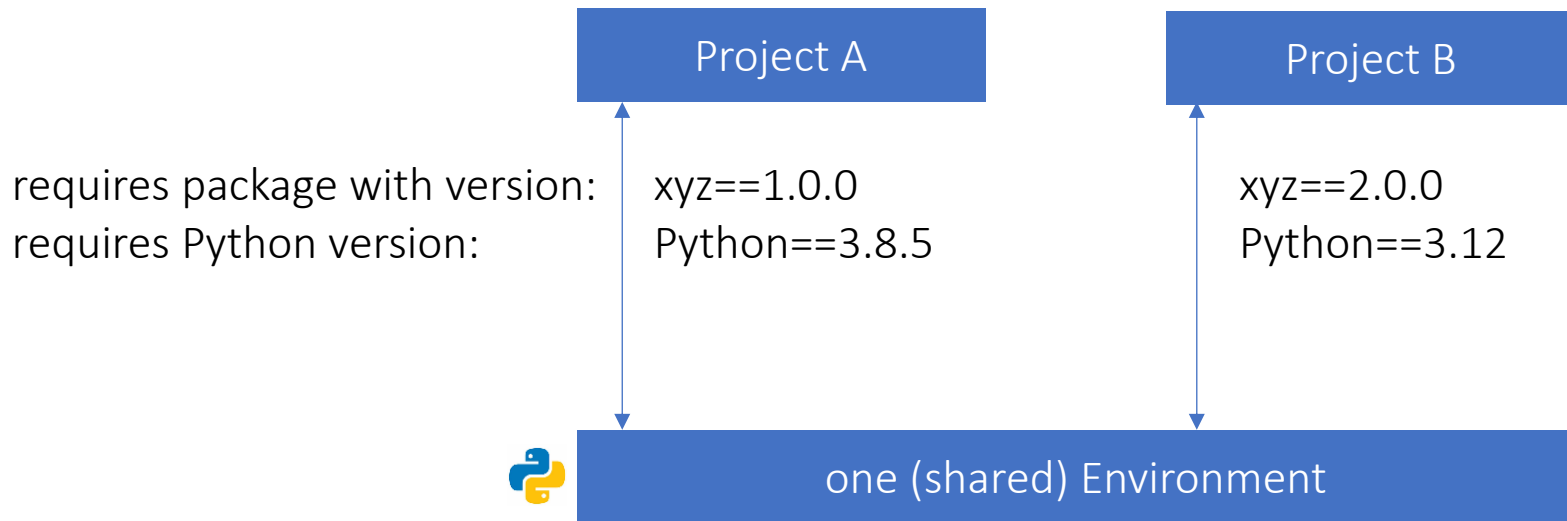
package xyz can be available only in one version
Python only available in one version

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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

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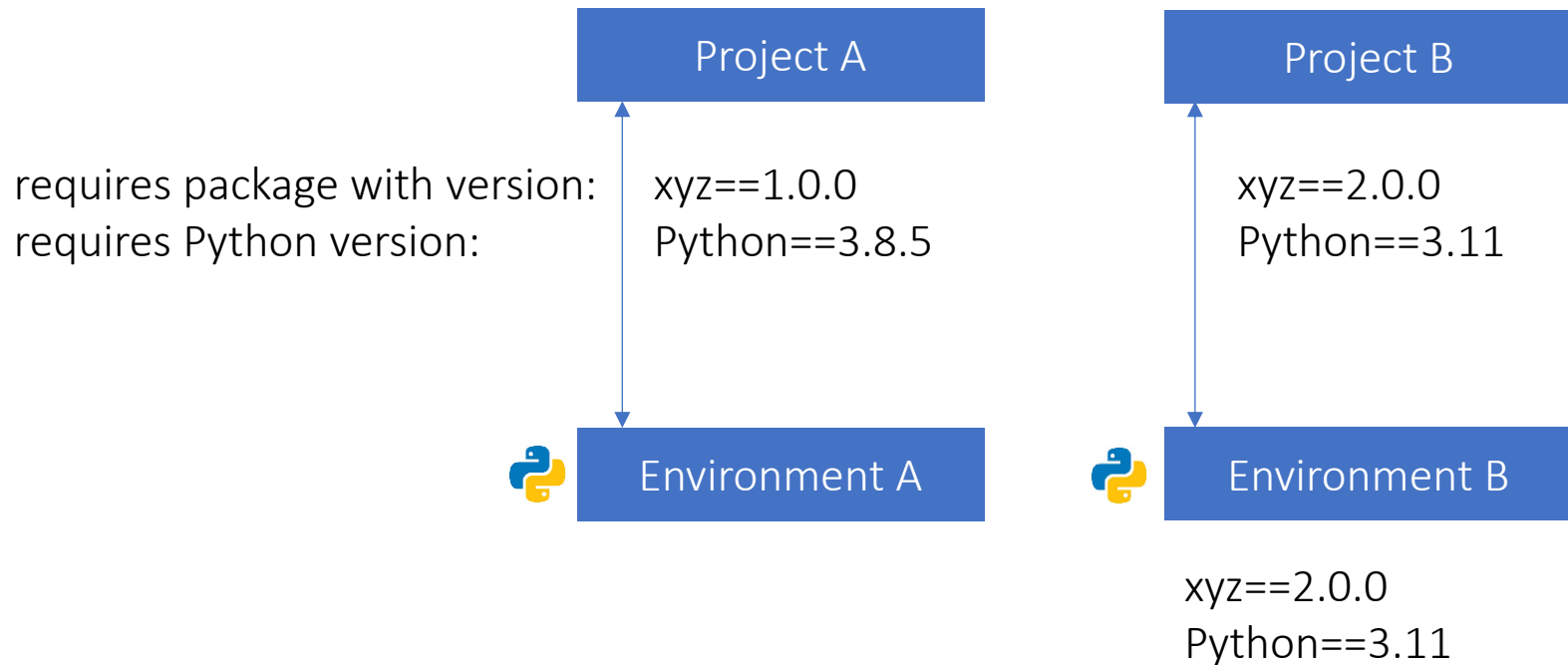
An Environment is an isolated bundle of packages and Python versions.

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

- Available Environments:

| Conda (requires Anaconda installation) | venv | Poetry | uv |

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System Setup

- Setting up a new environment with venv:

```
python -m venv venv
```

- Activate environment
  - Navigate to subfolder Scripts and run activate.bat (windows cmd) or activate.ps1 (Powershell)

```
\venv\Scripts>activate.bat
```

- Check that environment is active (environment shown in brackets):

```
(venv) C:\Temp\
```

- Install packages with pip install into this new environment, e.g.

```
pip install openpyxl
```

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- Check installed packages: `pip freeze`
    - Sample output:
      ```
      et-xmlfile==1.1.0
      openpyxl==3.0.10
      ```

- Write packages to file: `pip freeze > requirements.txt`
    - Sample:
      ```
      requirements.txt
      1    et-xmlfile==1.1.0
      2    openpyxl==3.0.10
      ```

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- Follow the steps on how to "create" an environment

```
python -m venv venv
```

```
\venv\Scripts>activate.bat
```

- Install packages from requirements.

```
pip install -r requirement.txt
```

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- use **uv** as environment
- set up from scratch

pip install uv   or

uv init

uv python install 3.12

uv venv

.venv\Scripts\activate

uv add langchain

```
powershell –ExecutionPolicy ByPass –c "irm
https://astral.sh/uv/install.ps1 | iex"
```

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OpenAI API Key