Python Training - Workstation Setup Guide

Purpose:

Performing Python development requires a few components to be installed on your workstation. You can, of course, install whatever IDE you prefer, but I will be teaching the class using Visual Studio Code (the most popular IDE for Python development) and other convenience tools that you may find useful.

If you want to set up your development environment similar to mine, the instructions below will walk you through the setup process. If you're following these steps, it is best to do them in the order presented.

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Prerequisites

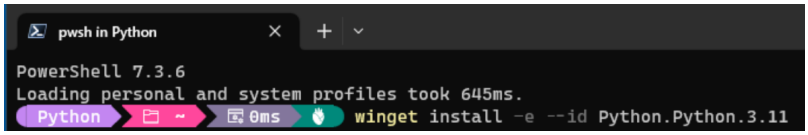
Prior to any of the steps listed below, please complete all tasks in the guide titled:

01 Setting Up Your Workstation for Development Training.pdf

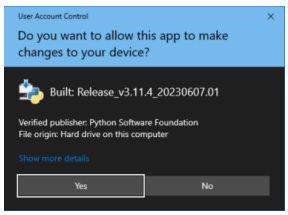
Install Python

Before we can write and execute Python, we need to install the Python interpreter itself. The current version of Python at the time of writing this document is v3.11. This version is compatible with the code examples we'll use in the course.

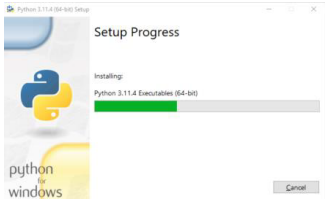
1. In the terminal, enter the following command
   `winget install Python.Python.3.11`

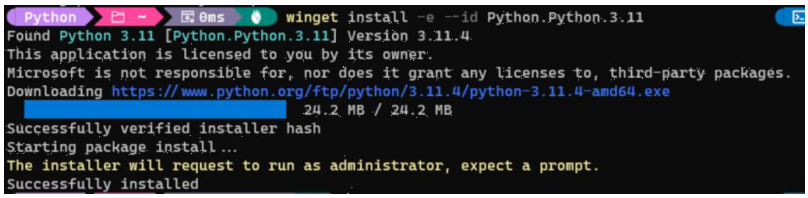


2. Select [Yes] at the UAC prompt

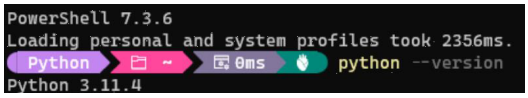


3. The installer will run and complete automatically





4. To verify that you have Python installed, enter the following in the terminal:
   `python --version`

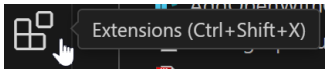


> Note: You may need to reboot before this command will work

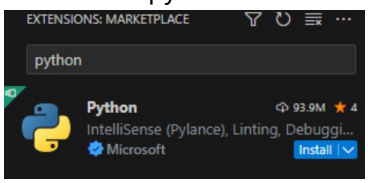
Customize Visual Studio Code

We need to set up VS Code and install a few add-ons before we're ready to start coding.

1. Click on the "Extensions" icon on the left nav-bar



2. Search for "python" and install the Python extension

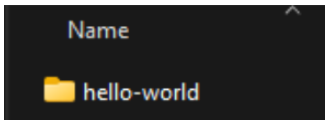


3. This also installs the Pylance component. You can install other add-ons if desired, but those are the only ones we need to get started with Python coding.

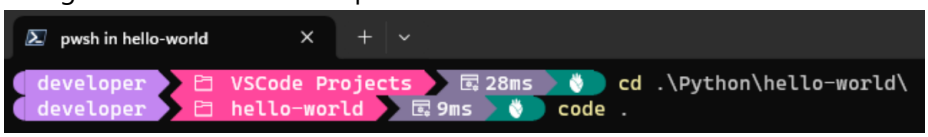
Create a Test Project in Python

Just to validate that we have all our components installed, we'll create a test project and verify that Python is working.

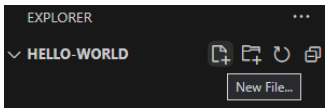
1. Create a folder Named "Python" and in it, create a subfolder called "hello-world"



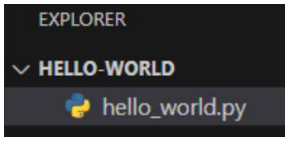
2. Navigate to the folder and open it in VS Code



3. Click on the "new file" icon in the explorer tab in VS Code

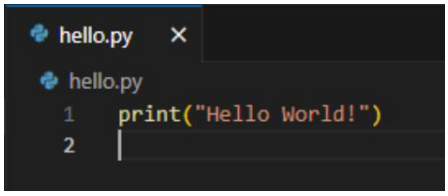


4. Title your file "hello_world.py"

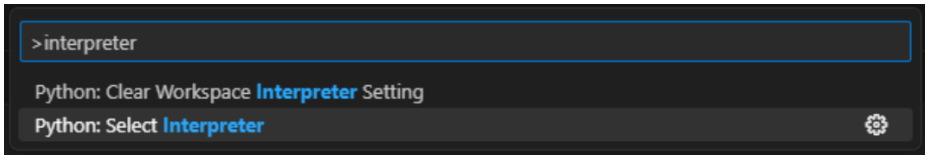


5. Enter the following code

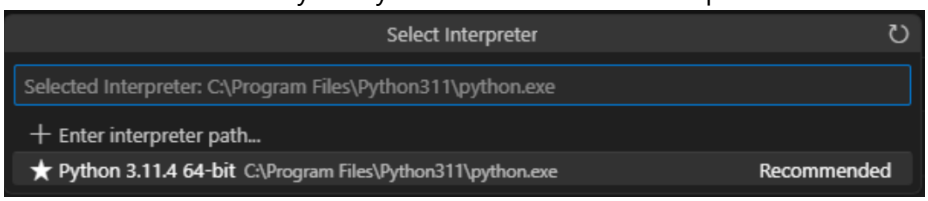
```
print("Hello World!")
```



6. Press `[CTRL]+[SHIFT]+[P]` to bring up the options menu. Search for "interpreter" and choose "Python: Select Interpreter"



7. Choose the version of Python you installed earlier in this process



8. Click the "Run" icon on the top toolbar

9. The terminal will launch and run your program. You will see "Hello World!"" in the terminal

Clone the Python Training Repository

Finally, you'll need to clone a copy of the repository to work with.

I have two different locations where this repository is stored:

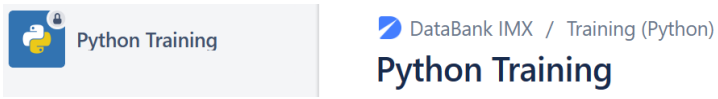
- Bitbucket (for my internal employees):
  https://bitbucket.org/databankimx/python-training
- GitHub (accessible to everyone):
  https://github.com/ZeroKlu/python-crash-course

1. For access to either repository, please email me at zeroklu@protonmail.com

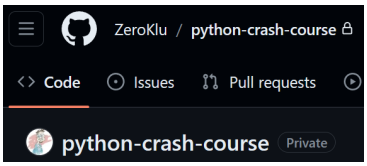
   Be sure to indicate whether you need access to Bitbucket or GitHub and provide the username you use on the selected source control system.

2. After I respond granting your access, navigate in your browser to the repository you selected and make sure you have access.

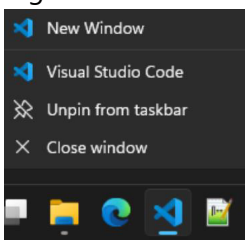
   - In Bitbucket, you should see this:

   - In GitHub, you should see this:

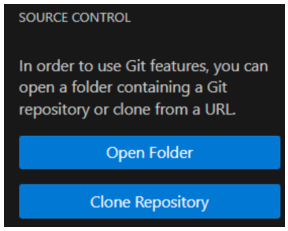
3. Right-click the VS Code icon and select "New Window" to open an empty VS Code instance.

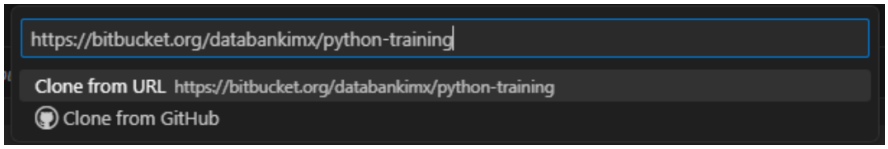
4. Click the Source Control icon on the sidebar

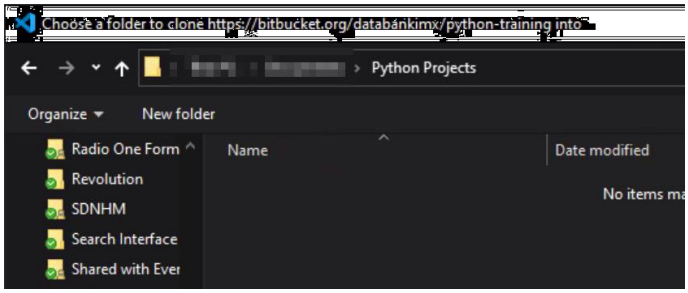
5. Click the button labeled [Clone Repository]

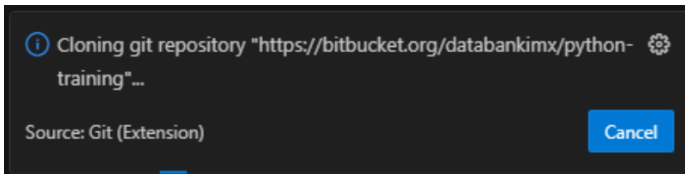
6. Enter the URL to the repository you selected



7. Select a local path for the parent folder where the repository will be copied

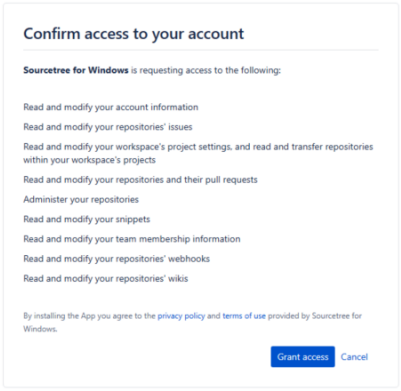


8. The repository will be copied locally to the path you selected

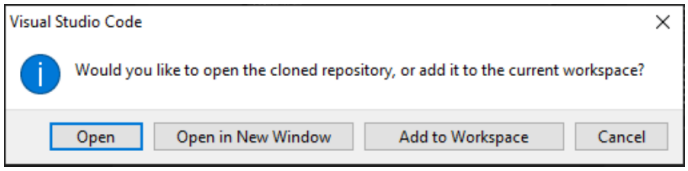


9. If you are using GitHub, skip to step 11

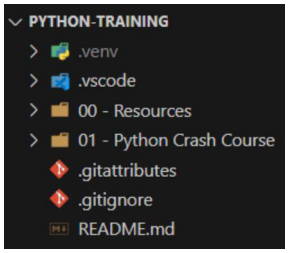
10. If you're using Bitbucket, you'll be prompted to log in again.
Grant access again in the web page that opens



11. When asked if you want to open the repository, click [Open]



12. The repository will open, and you should see a number of folders containing sample code from the textbook (with samples and commentary from me).



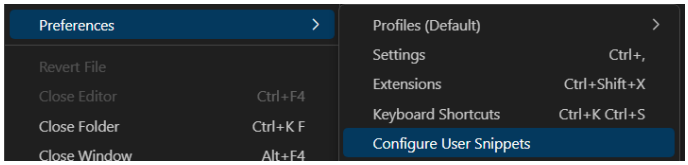
Import Snippets (optional)

Visual Studio Code includes a built-in system that allows you to save snippets (small pieces of frequently-used code) for each of its many supported languages.

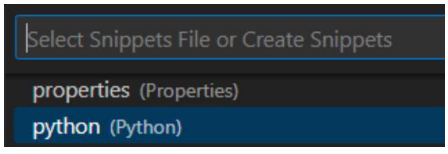
I have included a file for Python (python.json) in the repository containing this snippet, that you can add to VS Code if you wish:

```
{
    "Basic Script Template": {
        "prefix": "&template",
        "body": [
            "def my_function(*args: any, **kwargs: any) -> None:",
            "    \"\"\"Doc string for function\"\"\"",
            "    pass",
            "",
            "def main() -> None:",
            "    \"\"\"Main process\"\"\"",
            "    my_function()",
            "",
            "if __name__ == \"__main__\":",
            "    main()",
            ""
        ],
        "description": "Basic Script Template"
    }
}
```

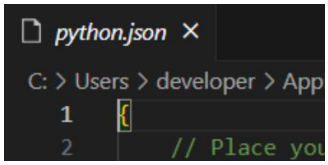
1. In VS Code, under the "File" menu, click on "Preferences" > "Configure User Snippets"



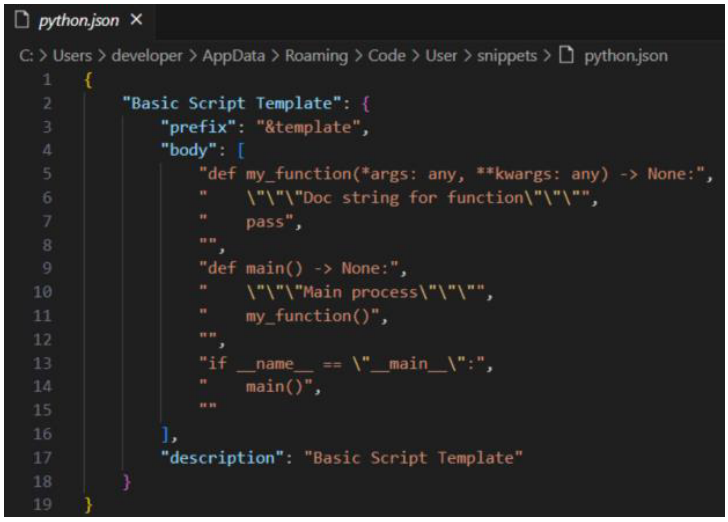
2. From the languages list, select "python"



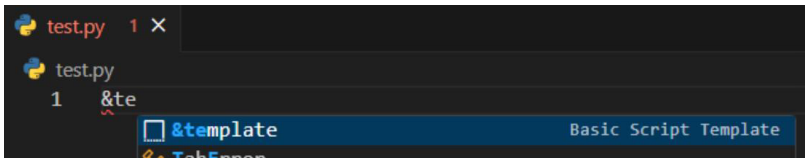
3. This will open a snippets file called "python.json"



4. Copy the JSON provided above into the snippet file, then save the file.



5. In any Python (*.py) file, you can now start typing "&template" and the snippet will be available.



6. Once you select the snippet, the following template code will be added to your file automatically:

```
def my_function(*args: any, **kwargs: any) -> None:
    """Doc string for function"""
    pass

def main() -> None:
    """Main process"""
    my_function()

if __name__ == "__main__":
    main()
```

Congratulations! Your system is set up for Python training.

Happy Coding!