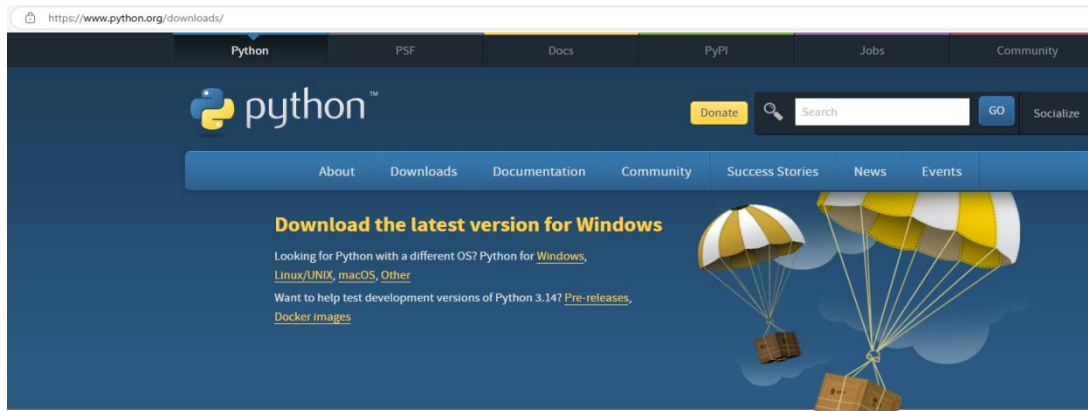


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COURSE: SOFTWARE DESIGN

Laboratory Activity No. 1

1. Install Python



The screenshot shows the Python.org website with the URL <https://www.python.org/downloads/>. The page features the Python logo, a search bar, and navigation links. The main heading is "Download the latest version for Windows". Below this, there are links for "Linux/UNIX, macOS, Other", "Pre-releases", and "Docker images". A graphic of two parachutes carrying boxes is also visible.

Active Python Releases

For more information visit the Python Developer's Guide.

Python version	Maintenance status	First released	End of support	Release schedule
3.14	pre-release	2025-10-01 (planned)	2030-10	PEP 745
3.13	bugfix	2024-10-07	2029-10	PEP 719
3.12	bugfix	2023-10-02	2028-10	PEP 693
3.11	security	2022-10-24	2027-10	PEP 664
3.10	security	2021-10-04	2026-10	PEP 619
3.9	security	2020-10-05	2025-10	PEP 596
3.8	end of life, last release was 3.8.20	2019-10-14	2024-10-07	PEP 569

2. Install pip

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\EB204_02\Desktop\LARONG> python -m ensurepip --upgrade
Looking in links: c:\Users\EB204_02\AppData\Local\Temp\tmph6850y8x
Requirement already satisfied: pip in c:\users\eb204_02\appdata\local\programs\python\python313\lib\site-packages (24.3.1)
PS C:\Users\EB204_02\Desktop\LARONG> |
```

3. Install Virtual Environment

```
PS C:\Users\EB204_02\Desktop\LARONG> pip install virtualenv
>>
Requirement already satisfied: virtualenv in c:\users\eb204_02\appdata\local\programs\python\python313\lib\site-packages (20.26.0)
Requirement already satisfied: distlib<1,>=0.3.7 in c:\users\eb204_02\appdata\local\programs\python\python313\lib\site-packages (0.3.7)
Requirement already satisfied: filelock<4,>=3.12.2 in c:\users\eb204_02\appdata\local\programs\python\python313\lib\site-packages (3.12.2)
Requirement already satisfied: platformdirs<5,>=3.9.1 in c:\users\eb204_02\appdata\local\programs\python\python313\lib\site-packages (3.9.1)

[notice] A new release of pip is available: 24.3.1 -> 25.0
[notice] To update, run: python.exe -m pip install --upgrade pip
PS C:\Users\EB204_02\Desktop\LARONG> |
```

Create a new virtual environment:

```
[notice] A new release of pip is available: 24.3.1 -> 25.0
[notice] To update, run: python.exe -m pip install --upgrade pip
PS C:\Users\EB204_02\Desktop\LARONG> python -m venv library_env
● >>
○ PS C:\Users\EB204_02\Desktop\LARONG> █
```

Activate the virtual environment on Windows:

```
● >>
● PS C:\Users\EB204_02\Desktop\LARONG> .\library_env\Scripts\activate
○ (library_env) PS C:\Users\EB204_02\Desktop\LARONG> █
```

Install Django:

```
● (library_env) PS C:\Users\EB204_02\Desktop\LARONG> pip install django
Collecting django
  Using cached Django-5.1.5-py3-none-any.whl.metadata (4.2 kB)
Collecting asgiref<4,>=3.8.1 (from django)
  Using cached asgiref-3.8.1-py3-none-any.whl.metadata (9.3 kB)
Collecting sqlparse>=0.3.1 (from django)
  Using cached sqlparse-0.5.3-py3-none-any.whl.metadata (3.9 kB)
Collecting tzdata (from django)
  Using cached tzdata-2025.1-py2.py3-none-any.whl.metadata (1.4 kB)
Using cached Django-5.1.5-py3-none-any.whl (8.3 MB)
Using cached asgiref-3.8.1-py3-none-any.whl (23 kB)
Using cached sqlparse-0.5.3-py3-none-any.whl (44 kB)
Using cached tzdata-2025.1-py2.py3-none-any.whl (346 kB)
Installing collected packages: tzdata, sqlparse, asgiref, django
Successfully installed asgiref-3.8.1 django-5.1.5 sqlparse-0.5.3 tzdata-2025.1

[notice] A new release of pip is available: 24.3.1 -> 25.0
[notice] To update, run: python.exe -m pip install --upgrade pip
○ (library_env) PS C:\Users\EB204_02\Desktop\LARONG> █
```

```
● (library_env) PS C:\Users\EB204_02\Desktop\LARONG> django-admin --version
>>
5.1.5
○ (library_env) PS C:\Users\EB204_02\Desktop\LARONG> █
```

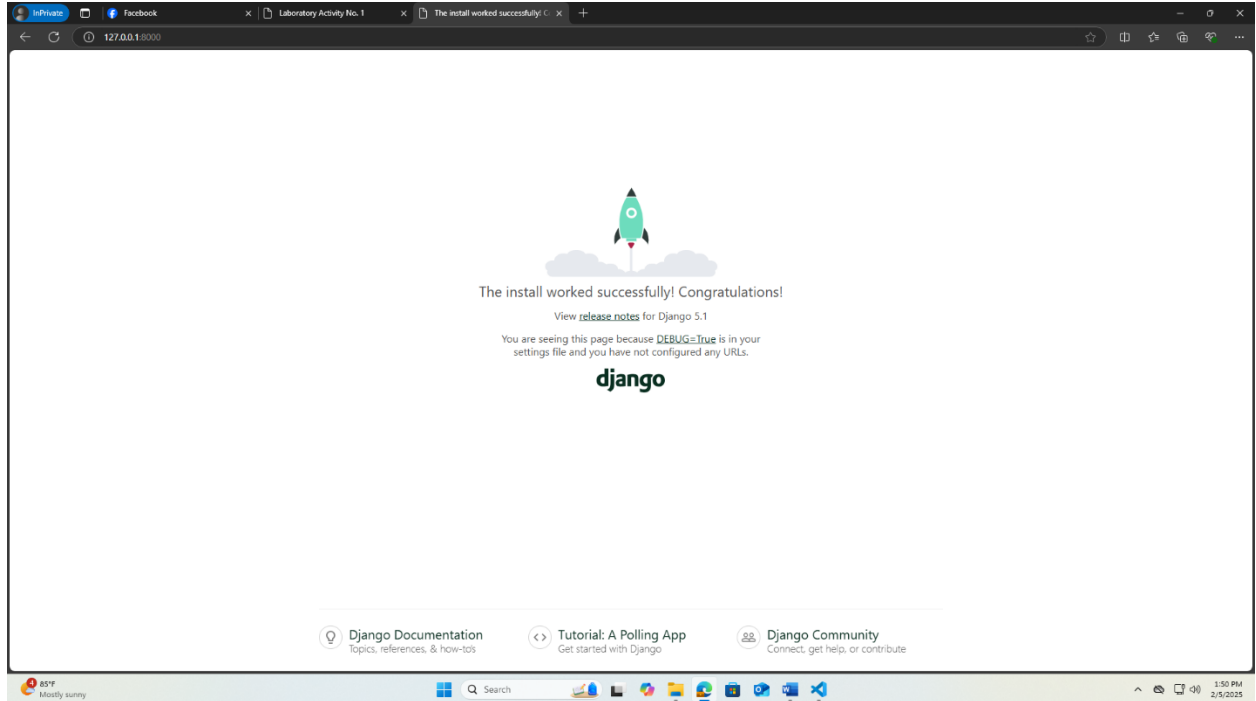
```
● (library_env) PS C:\Users\EB204_02\Desktop\LARONG> django-admin startproject library_system
>>
○ (library_env) PS C:\Users\EB204_02\Desktop\LARONG> █
```

```
● (library_env) PS C:\Users\EB204_02\Desktop\LARONG> cd library_system
○ (library_env) PS C:\Users\EB204_02\Desktop\LARONG\library_system> █
```

```
(library_env) PS C:\Users\EB204_02\Desktop\LARONG\library_system> python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
February 05, 2025 - 13:49:06
Django version 5.1.5, using settings 'library_system.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```



Follow-Up Questions:

1. What is the role of a virtual environment in Django development?

Answer: It acts as a separate location in order for us to prevent conflicts with our global packages.

2. What are the advantages of using Django for web development over other frameworks?

Answer: Django uses Python as its main programming language, which is very versatile and easy to learn, providing efficient usage for Django.

Findings:

-I find web development entertaining and easy at the same time with the amount of resources available at our disposal.

Summary:

-Laboratory activity 1 is intended for us to be introduced to how to design a web domain and teaches us the steps on how to create and develop a web domain using Django.

Conclusion:

-In conclusion, Django is a go to web development application for beginners, intermediate and professional web developers as it is very versatile and has a friendly user interface.

