

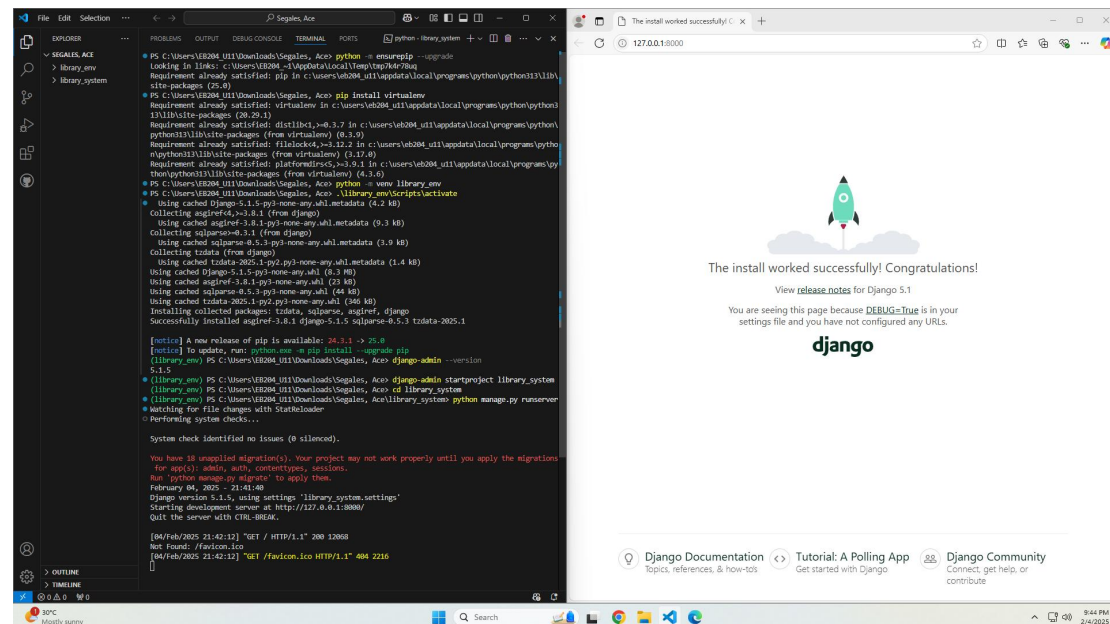
SEGALES, ACE NIÑO B. BSCPE 2A

Laboratory Activity No. 1:

Topic: Introduction to Software Design, History, and Overview

Title: Setting Up the Development Environment for Django Project

Results: (print screen the result and provide the github link of your work)



```
PS C:\Users\VB204\UI\Downloads\Segales_Ace_Niño_B\library_system> python -m ensurepip --upgrade
Looking in links: c:\users\vb204\ui\appdata\local\temp\pip7467nq
Requirement already satisfied: pip in c:\users\vb204\ui\appdata\local\programs\python\python11\lib\
site-packages (23.0)
PS C:\Users\VB204\UI\Downloads\Segales_Ace> pip install virtualenv
Requirement already satisfied: virtualenv in c:\users\vb204\ui\appdata\local\programs\python\pytho
n\python11\lib\site-packages (from virtualenv) (0.3.0)
Requirement already satisfied: filelock<4, >=1.12.2 in c:\users\vb204\ui\appdata\local\programs\pytho
n\python11\lib\site-packages (from virtualenv) (3.17.0)
Requirement already satisfied: platformdirs<5, >=2.4 in c:\users\vb204\ui\appdata\local\programs\py
thon\python11\lib\site-packages (from virtualenv) (4.3.6)
PS C:\Users\VB204\UI\Downloads\Segales_Ace> python -m venv library_env
Collecting django<5.1.5, >=5.1.5
Using cached django-5.1.5-py3-none-any.whl.metadata (4.2 kB)
Collecting asgiref<4, >=3.8.1
Using cached asgiref-3.8.1-py3-none-any.whl.metadata (9.3 kB)
Collecting sqlparse<0.5, >=0.3.1
Using cached sqlparse-0.5.1-py3-none-any.whl.metadata (3.9 kB)
Collecting tzdata (from django)
Using cached tzdata-2025.1-py3-none-any.whl.metadata (1.4 kB)
Using cached Django-5.1.5-py3-none-any.whl (12.3 MB)
Using cached asgiref-3.8.1-py3-none-any.whl (23 kB)
Using cached sqlparse-0.5.1-py3-none-any.whl (44 kB)
Using cached tzdata-2025.1-py3-none-any.whl (346 kB)
Installing collected packages: tzdata, sqlparse, asgiref, django
Successfully installed asgiref-3.8.1 django-5.1.5 sqlparse-0.5.1 tzdata-2025.1

[notice] A new release of pip is available: 23.0.1 -> 25.0
[notice] To update, run: python.exe -m pip install --upgrade pip
(library_env) PS C:\Users\VB204\UI\Downloads\Segales_Ace> django-admin startproject library_system
(library_env) PS C:\Users\VB204\UI\Downloads\Segales_Ace> cd library_system
(library_env) PS C:\Users\VB204\UI\Downloads\Segales_Ace\library_system> python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 38 unapplied migration(s). Your project may not work properly until you apply the migration(s)
for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
February 04, 2025 - 21:41:40
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-C (Beware: Windows Ctrl+C hits the shell, not the server).

[04/feb/2025 21:42:12] "GET / HTTP/1.1" 200 12008
Hit from: /favicon.ico
[04/feb/2025 21:42:12] "GET /favicon.ico HTTP/1.1" 404 2216
```

The install worked successfully! Congratulations!

View [release notes](#) for Django 5.1

You are seeing this page because `DEBUG=True` is in your settings file and you have not configured any URLs.

django

Django Documentation
Topics, references, & how-tos

Tutorial: A Polling App
Get started with Django

Django Community
Connect, get help, or contribute

Follow-Up Questions:

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

Answer: A virtual environment in Django development creates an isolated workspace that allows you to manage project-specific dependencies separately from the system-wide Python installation, ensuring compatibility, version control, and a cleaner development workflow.

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

Answer: Django offers advantages for web development over other frameworks due to its scalability, comprehensive toolset, robust community support, built-in security features, rapid development capabilities, and an efficient Object-Relational Mapping (ORM) system, making it an ideal choice for both simple and complex applications.

Findings: Django is a powerful web framework that facilitates rapid development and scalability, offers strong security features, includes comprehensive documentation and active community support, provides a built-in admin interface, simplifies database interactions through its Object-Relational Mapping (ORM), supports SEO-friendly practices, ensures cross-platform compatibility, and promotes a modular structure for maintainable and reusable applications.

Summary: Using Django provides developers with a robust framework that accelerates web application development through its "batteries-included" approach, which includes built-in features and tools. It supports scalability for projects of all sizes while ensuring strong security against common vulnerabilities. The extensive documentation and active community enhance usability and provide valuable resources for troubleshooting. Additionally, Django's built-in admin interface simplifies data management, and its Object-Relational Mapping (ORM) streamlines database interactions. Overall, Django is an excellent choice for developers seeking a versatile, secure, and efficient framework for building web applications.

Conclusion: Django stands out as a leading web framework that combines speed, security, and scalability, making it an ideal choice for developers looking to create high-quality web applications. Its comprehensive features, strong community support, and emphasis on best practices not only streamline the development process but also ensure that applications are robust and maintainable. Whether for small projects or large-scale systems, Django's versatility and efficiency empower developers to bring their ideas to life effectively and securely.