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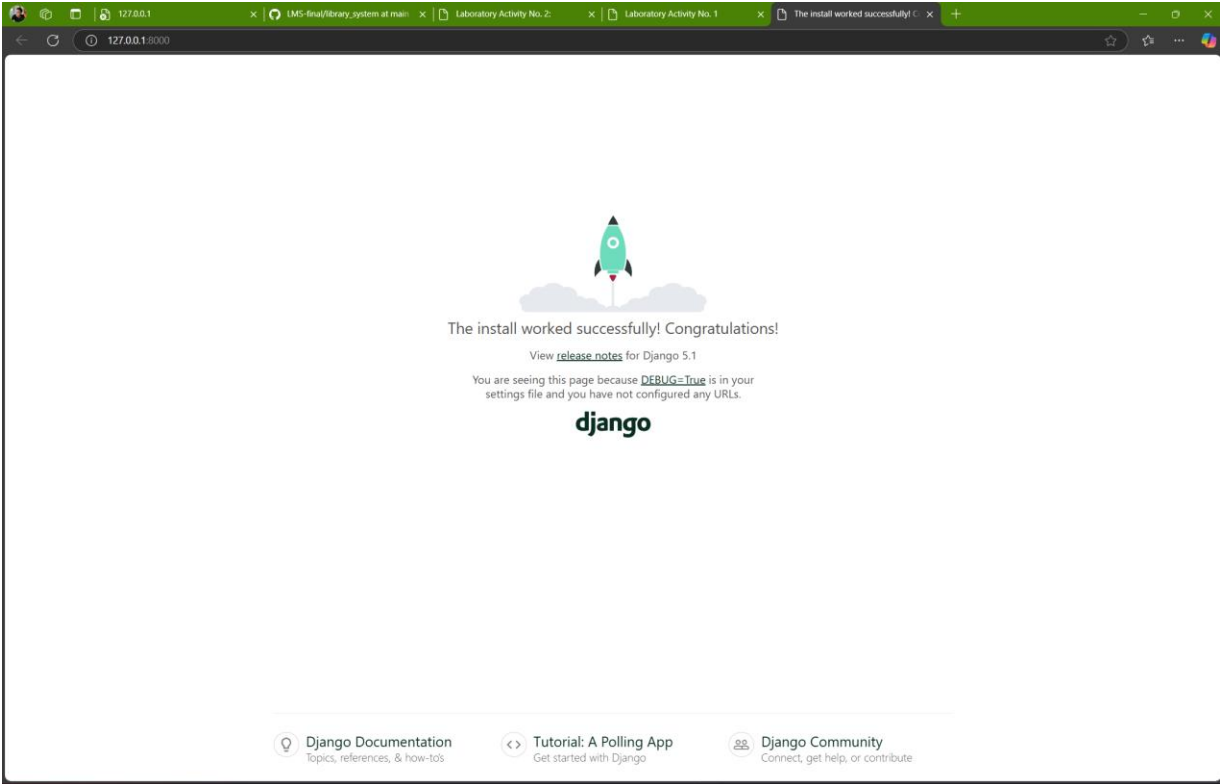
BSCpE-4B2

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)



Link: [LMS-final/library_system at main · Darylsilva500/LMS-final](https://github.com/Darylsilva500/LMS-final)

Follow-Up Questions:

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

Answer: A virtual environment isolates dependencies for a Django project, preventing conflicts with system-wide or other project dependencies. It ensures a consistent development environment across different setups.

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

Answer: Advantages of Using Django for Web Development

- Rapid Development – Built-in features like authentication, ORM, and admin panel speed up development.
- Scalability – Handles small to large applications efficiently.
- Security – Protects against SQL injection, XSS, and CSRF attacks.
- Batteries-Included – Comes with essential tools like forms, session management, and caching.
- ORM & Database Flexibility – Supports multiple databases with a powerful ORM.

Findings:

- A virtual environment is essential for isolating dependencies and preventing conflicts between different projects.
- Installing Django via pip ensures access to the latest stable version.
- The `django-admin startproject` command initializes a structured Django project.
- Running the development server (`python manage.py runserver`) allows testing the application locally.
- Database migrations (`python manage.py migrate`) are necessary to set up the initial database schema.

Summary:

Setting up a Django development environment involves creating a virtual environment, installing Django, initializing a project, and configuring the database. These steps ensure a stable and organized development process, allowing developers to build and test applications efficiently.

Conclusion:

A well-configured development environment is crucial for Django projects. It enhances project organization, prevents dependency issues, and simplifies development. By following best practices, developers can ensure a smooth workflow and maintain scalable applications.