Python

Full stack Skills Bootcamp

Introduction to Django

■ **What is Django ?**

Django is a high-level Python web framework that handles both backend logic and frontend presentation.

- Built for rapid development and clean, pragmatic design.
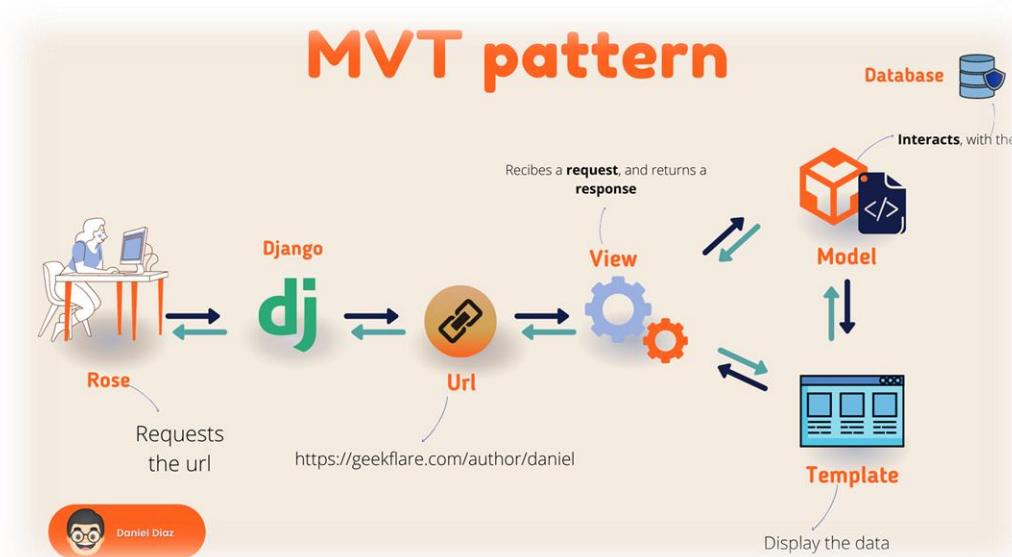- Follows the Model-View-Template (MVT) architectural pattern.

The MVT Pattern

■ **Understanding the MVT Pattern**

Model-View-Template architecture, otherwise known as MVT, is a software design pattern within Django that utilizes:

• **Model**: Manages the database structure and data (e.g., tables).

• **View**: Contains the business logic and interacts with the model.

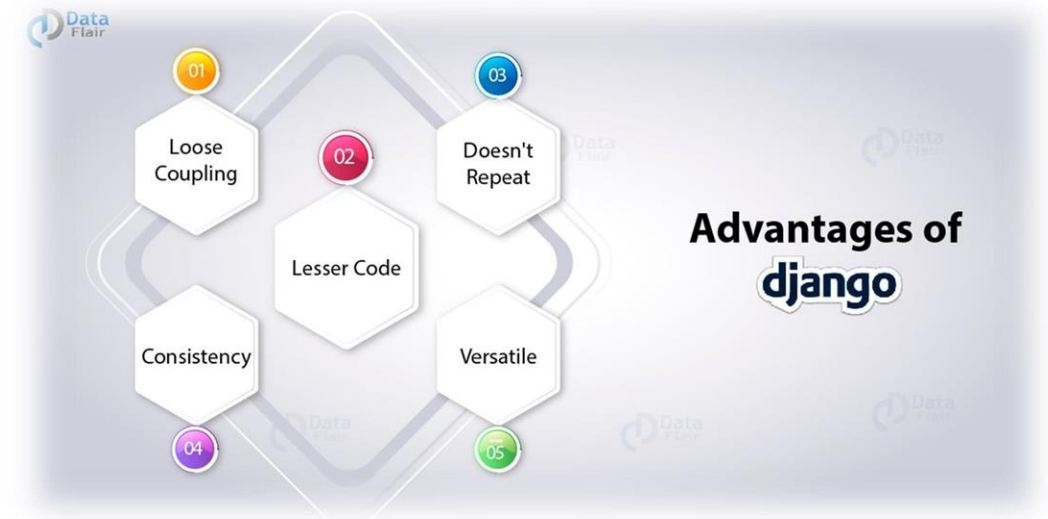• **Template**: Handles the frontend, rendering HTML pages for the user.

Benefits of Using Django

■ **Why choose Django ?**

Django's comprehensive features and robust framework make it an exceptional choice for web development that includes:

- **Rapid Development:** Build applications faster with pre-built components.

- **Scalability:** Easily handles traffic growth.

- **Security:** Includes built-in protection against common security threats.

- **Comprehensive Documentation:** Rich documentation and strong community support.

Setting Up Django

- **Install Django using pip** pip install Django

- **Start a new Django project**: django-admin startproject myproject

- **Running the server**: python manage.py runserver

- **Default Django development server URL:** http://127.0.0.1:8000/.

Setting up Python & Django environment

python ™   django

Project Structure Overview

Understanding Django Project Structure:

- **manage.py**: Script for running Django commands like starting the server.

- **mysite/**: The main Django app directory.

- **asgi.py**: ASGI configuration for asynchronous support.

- **__init__.py**: Marks this directory as a Python package.

- **settings.py**: Main configuration file for the project.

- **urls.py**: URL routing configuration.

- **wsgi.py**: WSGI configuration for deployment.

- **myvenv/**: Virtual environment directory (contains installed packages).

- **requirements.txt**: A list of dependencies required by the project.

```
exampleproject
├── manage.py
├── mysite
│   ├── asgi.py
│   ├── __init__.py
│   ├── settings.py
│   ├── urls.py
│   └── wsgi.py
├── myvenv
│   └── ...
└── requirements.txt
```