



# Django 5 Made Easy: A Step-by-Step Guide to Web Development

Introduction

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# 01 WHAT IS DJANGO?

- Django is a **high-level Python web framework**.
- Released in 2005, Django focuses on reducing repetitive tasks for developers, allowing for faster project development..
- **Key Features:**
  - DRY (Don't Repeat Yourself) principle.
  - Batteries included: A wide array of built-in features to handle common web tasks.







## 02 Why Use Django

- **Speed:** Fast development process—turn ideas into reality quickly.
- **Security:** Django helps avoid many common security pitfalls (SQL injection, CSRF, XSS).
- **Scalability:** It's used by big companies like Instagram, Pinterest, Spotify, and Udemy.
- **Community Support:** Large, vibrant community with extensive documentation





## 03 Django Philosophy





## 04 Django's MTV Architecture

- What is MTV?: Django follows the Model-Template-View (MTV) pattern.

### **Model:**

Defines the structure of your data and handles interaction with the database.

### **Template:**

Defines how the data is presented to the user (HTML pages).

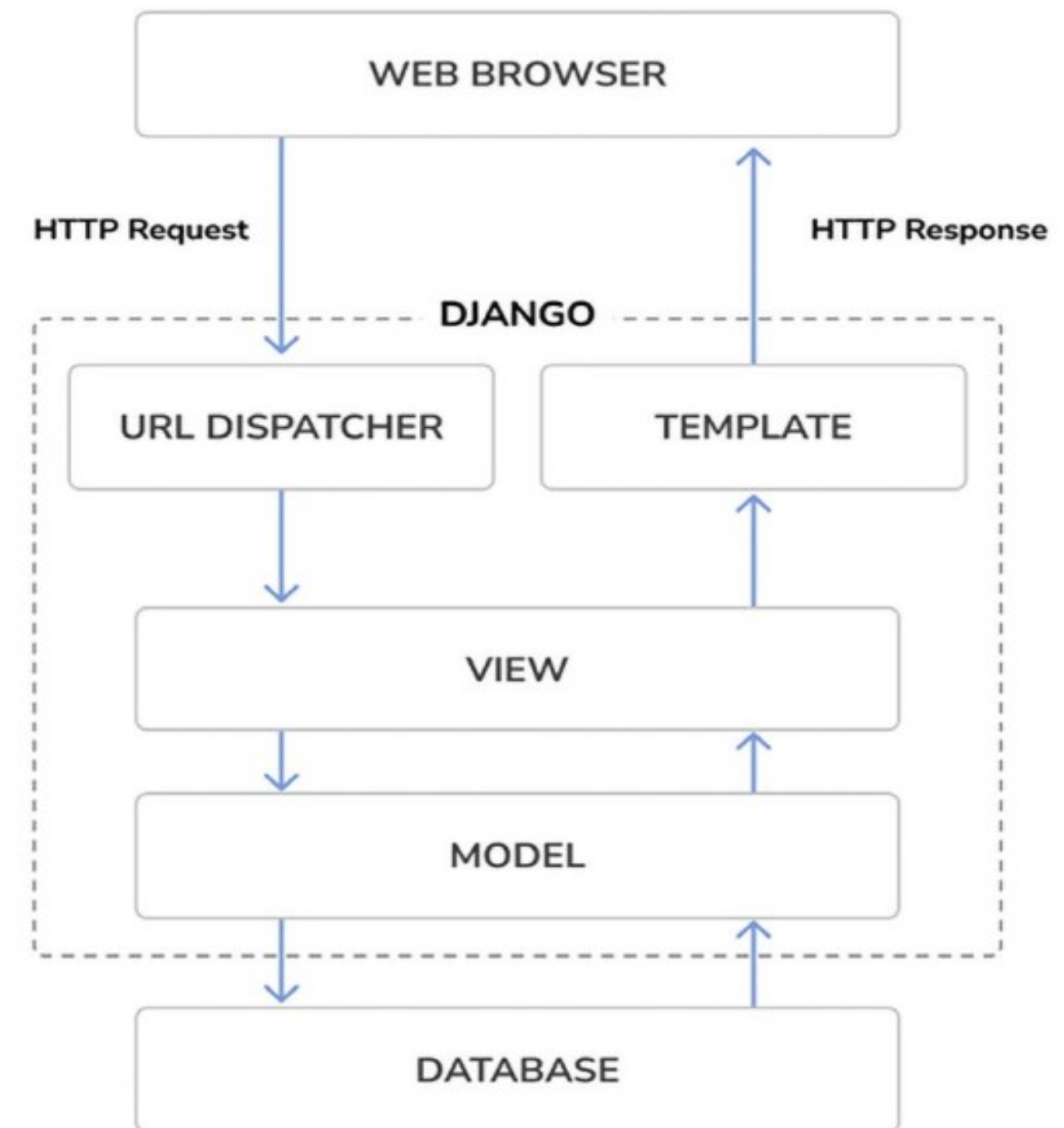
### **View:**

Contains the business logic and connects models with templates to return the final response.

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## How Django Works: Request-Response Cycle

- 1 The client (usually a browser) sends a request to a specific U
- 2 Django's URL routing takes that URL and matches it to a view
- 3 The view then gets the necessary data (for example, pulling a blog post from the database), processes it, and passes it to the template for rendering.
- 4 Finally, Django sends the HTTP response back to the client, which is usually an HTML page with the rendered data.







## 06 Who Uses Django?



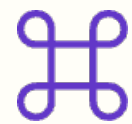
### Instagram

Handles massive amounts of data and user interaction.



### Spotify

Uses Django for their internal systems.



### Pinterest

Manages billions of pins and complex user engagement.



### Coursera

Is an online learning platform built entirely with Django.





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## Django Key Features

### Admin Interface

Django includes a built-in admin dashboard that allows you to easily manage site data without writing any code.

### ORM (Object-Relational Mapping)

Django's ORM makes it easy to interact with your database using Python code instead of writing raw SQL queries.

### URL Routing

Django provides an easy way to map URLs to views, so you can build dynamic URLs and control how they interact with your views.

### Forms

Django provides powerful tools to generate, validate, and process forms, which are essential for many web applications.

### Security

Django includes built-in security features to protect against common web vulnerabilities like SQL injection, XSS, and CSRF.



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## New Features in Django 5.0

### Facet Filters

Now available in the admin panel, making it easier to filter data.

### Simplified Form Field Rendering

This allows for better management of template rendering when working with forms.

### Database-Computed Fields:

This allows computed values to be calculated directly in the database, which can improve performance.

### Async Features

Django now has better support for asynchronous programming, which includes async authentication and ORM, making it more efficient for handling concurrent requests."



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## The Django Community and Ecosystem

- **Large Open Source Community:** Django is open source and supported by developers around the world.
- **Extensive Documentation:** Official documentation and tutorials are freely available.
- **Third-Party Packages:** Wide variety of reusable apps, from authentication to REST frameworks.

THANK YOU!

