



Back-End Development and Django



What is Back-End Development?

It means working on the server side, focusing on everything that user doesn't see.

Working with databases, logic, architecture, servers and application programming interfaces (API).



What is Django?

“The web framework for perfectionists with deadlines “

A back-end web development framework based on python that helps to build web apps with less coding.



Key philosophies

- Loose coupling (clear interfaces between different layers)
- Less code (using python's dynamic capabilities)
- Quick development (focus on outcome, not details)
- Don't repeat yourself (reusability and pluggability)
- MVT structure



MVT Structure

Similar to MVC structure which means model-view-controller.

MVT means model-view-template which is a little different. Views in django work as controllers with help from forms or serializers and templates work as views in MVC.



Key features

- Object-relational-mapper or ORM (dynamic data access)
- Admin interface
- Elegant URL design
- Template system
- Built-in web applications such as authentication and authorization
- Translation support
- Cache support
- Built-in test framework



What is a Database?

A database is an organised collection of data or a data store.

Two types of databases: relational and non-relational.



ORM

ORM in django connects the framework with relational databases.

Relational databases provide access to data points which are related to each other.



PostgreSQL

PostgreSQL or postgres is a relational database management system(RDBMS).

It has higher data consistency and integrity and goes with the term ACID.

It comes with pgadmin which helps to control or datas.



ACID

- Atomicity (all or nothing)
- Consistency (only valid data)
- Isolation (don't affect each other)
- Durability (no lost data)



Rest API

APIs that go with REST principles that means representational state transfer.

Transfers a representation of the state of the resource to the request as response in several forms such as JSON.

JSON or javascript object notation is a file format which is both readable for machines and humans and is a bit similar to dictionaries in python.



Django Rest Framework

A powerful and flexible toolkit based on python and django to build web apis.

Simplifies the process of building apis and doesn't need to implement templates.

Focus on the back-end and let front-end build templates and interact with apis.

Uses serializers instead of forms.



Serializers

A bridge between complex data types such as model instances or querysets and simple and easily renderable data types such as JSON.



Virtual Environment

Isolates your project and its requirements from other projects and files.

Helps to have less bugs over installation of multiple frameworks and libraries.

Let's do a project!

