



Creating A Django Project, Views & URL Patterns.

What is a Django project ?

It is a container that hold all the files together.

It is a container to hold all our Django apps.

What is a Django app ?

An app is a part of a Django project.

There could be multiple apps in a single Django project.

A big Django project could be split into multiple small apps.

Example: An e-commerce website could be split into smaller apps like store, blog, forum etc.

Significance of project files.

`manage.py` : Allows you to manage or interact with your Django project.

For example, we will be using this file to run our Django project on local server.

`init.py` : It is an empty file and it tells Python that the current directory which the file is in is a Python package and not just a regular directory.

urls.py : It contains URL patterns which are to be matched with the incoming URL requests.

Running the local server

To run the app on local server we make use of a special command called runserver.

Here is how:

On windows

```
python manage.py runserver
```

On Mac

```
python3 manage.py runserver
```

We need to ensure that server is running to test our web application.

The above command starts a localhost server and to stop the server we need to press ctrl+c

Creating a Django app.

Once a project is created we need to create an app inside of it.

Always ensure that you navigate inside the project directory before creating an app.

```
cd mysite
```

There are two ways of creating an app.

One is via manage and other is via django-admin

Via manage py file:

```
python manage.py startapp myapp
```

Via django-admin

```
django-admin startapp myapp
```

Once an app is created, we need to add the app name to the `INSTALLED_APPS` inside `settings.py` file.

Views in Django

Views in Django are created in `views.py` file which is present in the app directory.

This file contains all the views associated with our app.

A view is nothing but a Python function which accepts the incoming request and returns some response.

This view should typically return an HTTP response as here we are referring to the client-server architecture which uses the HTTP protocol for communication.

In a view, you could return a simple string or return some HTML content as well.

This returned data could then be displayed on the webpage.

URL patterns

Once a view is created, it needs to be displayed on a webpage.

But a webpage must be associated with a web address and this is what exactly the URL patterns do.

The help us attach a view with a URL pattern, such that when we visit a URL which matches with the said pattern, the concerned view is rendered.

You can either directly attach the view from your app to URL patterns file of your project.

Or you can create a separate `URLs.py` file in your app, connect it to the `URLs.py` file of your main Project and then make use of the app's `URLs` file to create a URL pattern and then attach it to the view.