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1. Introduction to Django

- **What is Django?**

- **Why use Django?**

- **MVC vs MVT Architecture**

- **How Django works internally**

- **Installing Django**

- **Creating your first Django project**

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2. Django Project Structure

- **Understanding settings.py, urls.py, views.py, models.py**

- **What is an app in Django?**

- **Creating and managing Django apps**

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3. Django URLs & Views

- **URL routing**

- **Path and re_path**

- **Connecting URLs to views**

- **Function-based views (FBV)**

- **Class-based views (CBV)**

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4. Templates (Frontend in Django)

- **Creating HTML templates**

- **Using Template Inheritance**

- **Template tags and filters**

- **Static files (CSS, JS, Images)**

- **Using Django Template Language (DTL)**

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5. Models & Database

- **Introduction to Django ORM**

- **Creating models**

- **Making migrations**

- **QuerySet operations (filter, get, update, delete)**

- **Model relationships:**

    - **One-to-One**

    - **One-to-Many**

    - **Many-to-Many**

6. Forms in Django

- **Django forms**

- **ModelForm**

- **Form validation**

- **Handling GET and POST requests**

7. Django Admin Panel

- **Superuser creation**

- **Customizing admin**

- **Registering models in admin**

- **Admin filters and search**

8. Authentication & Authorization

- **Login, logout, signup system**

- **User model**

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- **Password hashing**

- **Permissions and Groups**

- **Access control (login_required, permission_required)**

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9. Django ORM (Advanced Concepts)

- **Aggregations**

- **Annotations**

- **Q objects**

- **F expressions**

- **Raw SQL queries**

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10. REST APIs with Django REST Framework (DRF)

- **Introduction to APIs**

- **Serializers**

- **API Views**

- **ViewSets & Routers**

- **Authentication in DRF**

- **Building CRUD APIs**

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11. Django Middleware

- **What is middleware**

- **Built-in middleware**

- **Creating custom middleware**

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12. Deployment

- **Deployment on:**

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  o **Heroku**

  o **PythonAnywhere**

  o **AWS / DigitalOcean**

- **Working with Gunicorn & Nginx**

- **Environment variables**

- **Debug vs Production mode**

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13. Additional Django Features

- **Django Signals**

- **Pagination**

- **Email sending**

- **File uploads (images, documents)**

- **Caching (Redis / Memcached)**

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14. Django + Frontend Integration

- **Using Bootstrap**

- **Using React / Vue (optional)**

- **API + Frontend integration**

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15. Final Projects

Examples:

- **Blog Website**

- **E-commerce Website**

- **Social Media App**

- **Job Portal**

- **Online Learning Platform**

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- **Inventory Management System**