Course Description: This complete Python Django course equips students with the skills to build robust, scalable web applications. Starting with Python fundamentals, the course progresses through Django's powerful features, including models, views, templates, and the ORM. Participants will learn to create dynamic websites, implement user authentication, customize the admin interface, and develop RESTful APIs. The curriculum covers essential web development concepts, database management, and modern best practices. By the end of the course, students will be able to design, develop, test, and deploy full-featured Django applications, preparing them for real-world web development challenges.

Python Django Web Backend Development

1. **Introduction to Python**

    - Basic syntax and data types
    - Control structures and functions
    - Object-oriented programming in Python

2. **Django Basics**

    - Django project structure
    - Django app creation
    - MVT (Model-View-Template) architecture

3. **Models and Databases**

    - Creating models
    - Database migrations
    - QuerySets and ORM

4. **Views and URL Configurations**

    - Function-based views
    - Class-based views
    - URL patterns and routing

5. **Templates and Forms**

    - Django template language
    - Template inheritance
    - Form handling and validation

6. **Authentication and Authorization**

    - User authentication
    - Permissions and groups
    - Custom user models

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7. **Admin Interface**

- ➢ Customizing the admin site
- ➢ Adding models to admin

8. **Static Files and Media Handling**

- ➢ Managing CSS, JavaScript, and images
- ➢ File uploads and storage

9. **Django REST Framework**

- ➢ Building RESTful APIs
- ➢ Serializers and viewsets

10. **Testing and Deployment**

- ➢ Unit testing in Django
- ➢ Deployment options (e.g., Heroku, AWS)

11. **Advanced Topics**

- ➢ Caching strategies
- ➢ Asynchronous tasks with Celery
- ➢ Django security best practices

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