

Django Learning Roadmap

Phase 1: Django Basics

- Introduction to Django
- Installing Django and setting up the environment
- Django project vs. app
- URL routing
- Views and HttpResponse
- Templates and static files
- Template inheritance
- Template filters and tags

Phase 2: Models and Database

- Django ORM basics
- Creating models
- Django model fields
- Migrations (makemigrations, migrate)
- Django admin customization
- QuerySets (filter, exclude, get, all)
- Relationships: OneToOne, ForeignKey, ManyToMany
- Model methods and Meta options

Phase 3: Forms and User Input

- Django forms
- ModelForm
- Form validation
- Handling GET and POST requests
- Messages framework (flash messages)
- File uploads

Phase 4: Authentication and Authorization

- Django's built-in User model
- Login, logout, signup
- Password hashing
- Django authentication backends
- Permissions and groups
- Custom user models

Phase 5: Advanced Django

- Class-based views (ListView, DetailView, CreateView, UpdateView, DeleteView)
- Mixins
- Pagination
- Signals

- Middleware
- Context processors
- Custom template tags and filters

Phase 6: REST APIs with Django REST Framework (DRF)

- Installing and setting up DRF
- Serializers
- ViewSets and Routers
- API authentication (Token, JWT)
- Permissions in DRF
- Filtering and pagination
- Nested serializers
- Versioning

Phase 7: Deployment and Production

- Settings for production
- Environment variables
- Static and media files in production
- Using Gunicorn / uWSGI
- Deploying to platforms like Heroku, Railway, or VPS
- Database setup in production (PostgreSQL, MySQL)
- Security best practices

Phase 8: Extras for Real-World Projects

- Caching (Redis, Memcached)
- Celery for background tasks
- Django channels for WebSockets
- Third-party integrations (payment gateways, email services)
- Testing (Unit tests, pytest, Django TestCase)
- Performance optimization