

Backend Intern Training Plan

Python + Django + Django REST Framework

Total Sessions: 5 | Duration: 1–2 hours per session

Session 1 – Python Core for Backend Engineers

Topics

- 1 Python execution basics and indentation
- 2 Core data types and mutability
- 3 Control flow and loops
- 4 Functions and arguments
- 5 Exception handling
- 6 Input parsing and validation hands-on

Session 2 – Advanced Python for Backend & APIs

- 1 Comprehensions and generators
- 2 Iterators and lazy evaluation
- 3 Important built-in functions
- 4 Modules and imports
- 5 File and JSON handling
- 6 Python performance basics
- 7 Debugging and logging

Session 3 – Django Core + API Fundamentals

- 1 Django architecture and request lifecycle
- 2 API-oriented project structure
- 3 Models for APIs
- 4 Migrations and schema safety
- 5 Introduction to Django REST Framework
- 6 Basic API walkthrough

Session 4 – Django ORM & API Performance

- 1 QuerySet fundamentals
- 2 Model relationships
- 3 ORM optimization techniques
- 4 Bulk operations and transactions
- 5 Filtering, sorting, pagination
- 6 Debugging slow APIs

Session 5 – Django REST Framework in Production

- 1 Serializers deep dive

- 2 Validation and business logic
- 3 DRF views and viewsets
- 4 Routing and API design
- 5 Authentication and permissions
- 6 Error handling standards
- 7 Caching, throttling, and production practices