



**SKYPARK
ITECH**
"The Future of Innovation"

Enterprise Application & API Development Internship

(15 Days | Practical-Oriented | Industry Ready)

INTERNSHIP SYLLABUS

DAY 1 – Enterprise Application Fundamentals

- What is an Enterprise Application?
 - Monolithic vs Microservices Architecture
 - Real-world enterprise use cases
 - Understanding APIs in enterprise systems
- Practical:**
Analyze APIs of Amazon / Swiggy / Banking apps
Architecture discussion

DAY 2 – Backend Technology Stack Overview

- Backend frameworks overview
 - Node.js / Spring Boot / Django / .NET
 - REST API basics
 - Client–Server communication
- Practical:**
Setup development environment
First backend server run

DAY 3 – REST API Design Principles

- REST architecture
 - HTTP methods (GET, POST, PUT, DELETE)
 - Status codes & headers
 - API naming conventions
- Practical:**
Design API endpoints on paper
API flow diagram

DAY 4 – Building First API

Creating routes/controllers

Request & response handling

JSON data handling

Practical:

Create simple CRUD API

Test using browser/Postman

DAY 5 – Database Integration

- SQL vs NoSQL (MySQL / MongoDB)
- ORM / ODM concepts
- Database schema design

Practical:

Connect API to database

Perform CRUD operations

DAY 6 – Advanced CRUD & Validation

- Data validation
- Error handling
- API response standards

Practical:

Input validation middleware

Error response handling

DAY 7 – Authentication & Authorization

- JWT authentication
- Role-based access control
- Secure APIs

Practical:

Login & Register API

Token-based authentication

DAY 8 – API Testing & Documentation

- API testing using Postman
- Writing test cases

- Swagger / OpenAPI documentation

Practical:

Create Postman collections
Generate Swagger API docs

DAY 9 – Enterprise-Level Features

- Pagination & filtering
- Search APIs
- File upload/download

Practical:

Implement pagination
Upload files via API

DAY 10 – Microservices Introduction

- What are microservices?
- Service-to-service communication
- API Gateway concept

Practical:

Split monolithic API into services
Inter-service API calls

DAY 11 – Logging, Monitoring & Security

- Logging strategies
- Rate limiting
- API security best practices

Practical:

Implement logging
Add API rate limits

DAY 12 – Deployment & Cloud Basics

- Server deployment concepts
- Environment variables
- Cloud overview (AWS / Azure)

Practical:

Deploy API on cloud / server
Environment config

DAY 13 – Mini Project Development

Project Examples:

- Enterprise Employee Management API
- Billing & Invoicing System API
- Student ERP Backend

Practical:

Project planning
API structure creation

DAY 14 – Project Completion & Testing

- Full API integration
- Testing all endpoints
- Performance check

Practical:

End-to-end API testing
Fix bugs & optimize

DAY 15 – Presentation & Evaluation

- Project demo
- Architecture explanation
- Interview-level questions

Assessment:

Project evaluation
Viva + certification

