

Backend course

Expected Language: TypeScript

Expected Framework: Express.js

Expected RDBMS: PostgreSQL

Expected ORM: TypeORM

Expected Hosting: render

Expected Schedule: Every Saturday or Sunday

Expected Each Lesson: 2 to 4 hours

Expected Duration: 9 sessions (12 days or 6 weeks)

Expected PowerPoint: Yes

Expected Git Repository: Yes (GitHub)

No.	Title	Expect time	description	Content
1	Intro to Backend	1 day (4 hours)	Just an introduction to provide an overview of backend development. No code required, just a discussion about backend development and best practices.	<ul style="list-style-type: none">- What is backend development- Pilar of the Backend development- Backend Architecture- Backend Technology- Typescript-express in the industry- What this course is trying to focus- Basic to advance of that tool- OOP- First API- First API with Database- MVC architecture- Domain driven development- git- Project in this course
2	Basic to advance of typescript	1 day (4 hours)	The basic to advanced concepts of the language used for backend development.	<ul style="list-style-type: none">- Input/Output- Operation- Variable- Control Structure- Function- Recursive- Exception- File package- Package management

				<ul style="list-style-type: none"> - Leetcode for fun
3	OOP	2 day (8 hours)	One of the Pillars of the backend development	<ul style="list-style-type: none"> - Abstraction - Encapsulation - Inheritance - Polymorphism - Todo list - Pokedex - Shopping cart
4	First API	1 day (4 hours)	Summarize the 2-week lesson into 3 coding projects with mock data: a Todo list, a Pokedex, and a shopping cart.	<ul style="list-style-type: none"> - Project setup - Project Structure - Model - Service - Controller - API - Handler - Todo list API - Pokedex API - Shopping cart API
5	First API with DB part 1	1 day (4 hours)	From the 'First API' lesson, integrating with the database. This lesson intended to use raw SQL execution to demonstrate why it is problematic.	<ul style="list-style-type: none"> - DB type - Project Setup - Project Config - Project Structure - Model - Repository - DAO (if necessary) - Service - Controller - Todo list API with DB - Pokedex API with DB - Shopping cart API with DB
6	First API with DB part 2	2 day (4 hours)	From 'First API with DB Part 1': Moving from raw SQL to ORM and adding multipart type	<ul style="list-style-type: none"> - ORM - Query builder - Query optimizer - Multimedia type - TodoList with ORM - Pokedex with ORM - Shopping cart with ORM
7	MVC/Domain driven development	2 day (8 hours)	From 'First API with DB Part 2': Create a practical backend application using domain-driven development.	<ul style="list-style-type: none"> - Backend Architecture - Domain driven development - Model - Repository - DAO - Service - DTO - Controller - Hosting

				<ul style="list-style-type: none"> - Todolist with DDD - Pokedex with DDD - Shopping cart with DDD
8	Security	2 days 14(hours)	Basic auth, JWT, JWT with refresh token, Oauth	<ul style="list-style-type: none"> - Basic - Express Middleware - JWT - Oauth
9	The project	-	Final project	<ul style="list-style-type: none"> - Imdb movie review clone - E-commerce