AMBIENT-IT

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Sign up

NestJS training

3 days (21 hours)

Presentation

NestJS is a Node.JS framework for creating efficient, scalable APIs. Nest.JS has grown enormously in popularity thanks to its excellent features. In 2021, NestJS exploded in popularity with over 40,000 stars on Github. It's easy to use and quick to learn.

This framework uses JavaScript and can also use TypeScript. It combines elements of OOP (object-oriented programming), FP (functional programming) and FRP (reactive functional programming).

It also helps you to progress by structuring your application correctly. NestJS brings together a set of technologies and features needed to build reliable and durable HTTP servers using Nodejs.

Nest.JS implements the Express framework by default, but also allows the use of Fastify. This framework is currently gaining ground on TypeScript in the Node.JS universe. With NestJS, you can write scalable, testable and loosely coupled applications.

NestJS is an excellent choice for starting a new Node.JS project, as it is based on a modular architecture. This means you can define controllers, services, middleware, pipes and even guards within them, just like Angular from which it takes its inspiration.

Like all our training courses, this one will introduce you to the latest stable version of the Nest.JS v10 framework and its new features.

Objectives

- Learn to master the NestJS platform
- Creating applications with NestJS

- Creating a progressive architecture for large-scale applications

Target audience

Web developers

Prerequisites

- Proficiency in JavaScript
- Knowledge of Node.JS
- Knowledge of TypeScript basics is a plus

Technical requirements

- NodeJS version 16+ installed
- Docker and Git installed
- **Visual Studio Code** or another text editor

NestJS training program

Introducing NestJs

- Context
- NodeJs/Express vs NestJs
- What's new in 2022
- Where to find documentation?

JavaScript and TypeScript

- What's new in ES2022
- Primitive and advanced types with TypeScript
- Introduction to decorators with TypeScript

Creating a REST API application

- Installing a NestJs application with NX and Insomnia
- Architectural overview
- NestJs CLI (command-line interface)
- Creating a controller
- Using route parameters
- Pagination with Query Parameters
- Creating an associated service

- Using Data Transfer Objects
- Data validation

Interacting with a PostgreSQL DB

- Docker installation
- Viewing the DB in PgAdmin
- Introduction to TypeORM
- Entity creation
- Creating a relationship between two entities
- Return an entity with its relations
- Use cascading inserts and updates
- Add pagination
- Using transactions
- Performance enhancement

Providers and dependency injection

- Understanding dependency injection in NestJs
- Creating a customized provider
- Mastering the scope of a provider
- Creating a dynamic module

Configuring a NestJs application

- Environment variables
- NestJs Config module
- NestJs Config service
- Application configuration by module
- Using partial registers

Advanced techniques

- Master binding techniques
- Use filters to control exceptions
- Protecting roads with Guards
- Creating custom interceptors
- Create customized pipes
- Create custom decorators
- Using middleware for logs

Generate documentation

- Introduction to OpenAPI / Swagger
- NestJs Swagger plugin
- Various decorators to generate documentation

Testing your NestJs application

- Introduction to Jest
- Understanding how a test is structured
- Add unit tests
- Add functional tests

Bonus: an example of NestJs architectureBonus: interaction with a front-end application

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.