AMBIENT-IT

+33 (0)1 48 10 09 46
formation@ambient-it.net
140 Avenue Jean Lolive 93500 Pantin - France

Updated on 02/10/2025

Sign up

Ts.ED training

2 days (14 hours)

Presentation

Ts.ED is a Node.js framework written in TypeScript. Designed to structure modern backends with decorators and dependency injection, it relies on Express or Koa and facilitates OpenAPI security, testing and documentation.

Our Ts.ED training course will enable you to master the framework's architecture, create robust REST APIs, integrate a database with TypeORM/Prisma/Mongoose, set up validation and authentication, and automate testing and CI/CD.

At the end of the course, you'll be able to deliver a production-ready application: secure, documented, observed and deployable on different environments.

Like all our training courses, this one is based on the latest stable release and a resolutely practical and operational approach.

Objectives

- Master Ts.ED architecture and decorators
- Design secure, documented REST APIs
- Integrate TypeORM/Prisma/Mongoose as required
- Implement tests, CI/CD and observability
- Explore GraphQL, WebSocket and optimizations

Target audience

- Node.js / TypeScript developers
- Backend teams looking for a standardized architecture

Prerequisites

- Notions in Node.js, REST and databases
- Practical knowledge of JavaScript/TypeScript

Our Ts.ED training program

[Day 1 - Morning]

Getting started with Ts.ED and its architecture

- Positioning Ts.ED in the Node.js / TypeScript ecosystem
- Concepts: decorators, DI, controllers and services
- Express / Koa platform, project structure
- Ts.ED CLI: scaffolding and configuration
- Code organization: modules and conventions
- Practical workshop: project init & first controller

[Day 1 - Afternoon]

Routing, middleware and the request/response cycle

- Routes: prefixes, versioning, HTTP verbs
- Global/specific middleware
- Pipes, interceptors, error handling
- DTO & JSON Schema mapping
- REST best practices
- Practical workshop: mini-API + errors & middleware

Validation, security and documentation

- Validation (class-validator / class-transformer)
- Authentication (Passport, JWT)
- CORS best practices, headers, rate-limit

- Doc OpenAPI/Swagger
- Quick integration tests
- Practical workshop: securing endpoints & generating docs

[Day 2 - Morning]

Data persistence (TypeORM / Prisma / Mongoose)

- ORM/ODM selection, modeling
- Migrations, transactions, relationships
- Data access services, repository patterns
- DB error management, retries
- Pagination / filtering / sorting
- Hands-on workshop: complete connected CRUD

[Day 2 - Afternoon]

Testing, CI/CD and deployment

- Unit & integration testing (Jest, Supertest)
- Docker: Dockerfile, env variables
- CI/CD pipelines (GitHub Actions / GitLab CI)
- Observability: logs, metrics
- On-prem, cloud and serverless deployment
- Practical workshop: automated pipeline + tests

Advanced functions: GraphQL, WebSocket and performance

- GraphQL and WebSocket integration
- Advanced decorators, shared modules
- Caching, compression, Node.js tuning
- Config management by environment
- Microservices architecture
- Practical workshop: real time & performance measurement

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced IT 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 forthcoming training course, 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 training: 60% hands-on, 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.

Certification

A certificate will be awarded to each trainee who has completed the entire course.