Updated 05/02/2025

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GraphQL training

2 days (14 hours)

Presentation

GraphQL has been developed by Facebook since 2012, to overcome the shortcomings of REST, and has been available as open-source since 2015. Strongly typed, this language avoids problems such as under-fetching and over-fetching.

With this solution, you can provide robust, high-performance APIs. It offers an alternative to the REST API, whose storage may be distributed. The client formulates the data structure in the request, and the server returns the same structure.

In this GraphQL training course, you'll discover the advantages of this technology compared with its main competitor, REST. You'll also learn how to manipulate data, optimize queries and more.

As with all our training courses, this one will introduce you to the latest GraphQL-JS 16.10 version.

Objectives

- Understanding the difference between a REST API and a GraphQL API
- Discover all the features offered by GraphQL through the creation of a client and server application.

Target audience

- Developers
- Architects

Prerequisites

- Knowledge of HTML5, CSS3 and JavaScript
- Basic knowledge of Node.js, React and ES6

Software requirements

Nodejs installed.

GraphQL Training Program

Discover GraphQL

- What is it? What's it for?
- Why GraphQL?
- Case studies
- Advantages / Disadvantages

API REST vs API GraphQL

- The limits of REST APIs
- Difference of opinion between the 2 solutions

Understanding GraphQL SDL

- Create your data schema with schema definition language (SDL)
- Design your own scalar objects
- Using interfaces and unions

Reading data in GraphQL

- Creating an HTTP server with Express
- Creating your first Query
- Understanding resolvers
- Using GraphQL Playground to debug queries

Creating or modifying data in GraphQL

- Using input types
- Create your first mutation
- Using GraphQL context

GraphQL in your JavaScript application with Apollo

- Communicate easily with your GraphQL API
- Taking advantage of the Apollo cache

Optimize

- Avoid n+1 queries with DataLoader
- Using persistent queries
- Using the cache
- Scaling your application within a microservices architecture via federation

Going further with GraphQL

- Create your guidelines
- Managing authentication in GraphQL
- Using subscriptions

Companies concerned

This 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, 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.