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Sign up

gRPC training

1 day (7 hours)

Presentation

Our gRPC training course will enable you to master a modern, high-performance inter-departmental communication framework.

gRPC is designed to provide fast, efficient communication between distributed services in a microservices architecture, with native support for [HTTP/2](#) and Protocol Buffers for data serialization. It's an ideal solution for systems requiring high performance and low latency.

In this hands-on training course, you'll learn how to implement gRPC services in different programming languages and manage synchronous and asynchronous communications between microservices.

You'll discover how to create gRPC services and clients, define proto files, and take advantage of advanced features such as data streaming and error handling.

You'll also learn how to integrate gRPC into an existing microservices infrastructure, and discover the benefits of using [Protocol Buffers](#) for fast, lightweight data exchange.

As with all our training courses, we offer up-to-date training with the latest versions and new features of gRPC (at the time of writing: [gRPC 1.66](#)).

Objectives

- Understand gRPC architecture and its RPC-based operating mode
- Know the concepts and best practices of interdepartmental communication
- Configure and use Proto files to define service interfaces

- Master the use of bidirectional streaming and asynchronous RPC calls
- Integrate gRPC in a microservices environment and manage complex scenarios
- Optimize the performance of your interdepartmental communications with gRPC

Target audience

- Developers
- Software architects
- System administrators
- DevOps

Prerequisites

- Basic knowledge of a development language (Java, Go, Python, C++)
- Fundamentals of microservice architectures
- Familiarity with distributed systems

gRPC TRAINING PROGRAM

INTRODUCTION TO gRPC

- gRPC features and architecture overview
- Importance and applications of gRPC in modern systems
- Comparison with other inter-departmental communication technologies
- Advantages of using gRPC for microservices
- Overview of the gRPC development tools ecosystem

basic principles and implementation of gRPC

- Introduction to the basic concepts and life cycle of gRPC calls
- Creation and management of Protocol Buffers (.proto) files
- Installation of gRPC dependencies and plugins
- Defining services and message types in gRPC
- Generate code from Protocol Buffers for clients and servers

gRPC SERVICES DEVELOPMENT AND INTEGRATION

- gRPC server implementation: definition, creation of secure connections, server-side streaming
- gRPC client implementation: sending metadata, handling unary calls, streaming client-side
- Bidirectional streaming techniques and their use cases
- Error and exception handling in gRPC applications
- gRPC integration with other applications and services, and deployment techniques

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, 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.