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# Apache Hop training

## 2 days (14 hours)

## Presentation

Apache Hop training is an immersive dive into the world of visual data integration.

Apache Hop is a powerful open source tool, offering a unique visual approach to integration flow design.

In this course, you'll explore the fundamentals of flow processing and discover how to design complex flows intuitively.

You'll be introduced to Apache Hop's visual data transformation language, for easy stream manipulation.

The use of graphical language simplifies the understanding of integration processes, offering a user-friendly approach for beginners and increased flexibility for experienced users.

Our training will be based on the latest version of the software, Apache Hop 2.7.

## Objectives

- Designing visual integration workflows
- Take advantage of Apache Hop's advanced features
- Create complex integration workflows

## Target audience

- Developers

- Data engineers

# Prerequisites

A basic understanding of data integration concepts would be an asset.

# Apache Hop training program

## Introduction to Apache Hop

- Introducing Apache Hop and its role in the integration process
- Understand the fundamentals of data integration
- Installation and initial configuration - first steps with Apache Hop
- Exploring the graphical user interface (GUI)
- [PRACTICE] Creating simple data flows

## Key concepts of Apache Hop

- Learning basic concepts
  - Transformations
  - The stages
  - Data flows
- In-depth exploration of flow design components
- Using metadata
- Practical examples of data manipulation with Apache Hop
- Develop advanced skills in complex flow design
- Creating reusable workflows with Apache Hop

## Database integration with Apache Hop

- Connection and data extraction
- Loading data into databases
- Performance optimization
- Practical workshops on common use cases
- Error handling and recovery in database flows
- Use of variables for greater flexibility

## Data flow management

- Introduction to data flow management concepts
- Planning and automating workflows with Apache Hop
- Real-time flow monitoring and debugging
- Efficient data flow management
- Creation of monitoring reports and dashboards
- Stream versioning

## Integration with other technologies

- Connection to cloud services
- Using REST APIs
- Integrating emerging technologies into data flows
- Case study in multi-technology integration
- Setting up secure connections
- Flow optimization

## Best practices and optimization

- Best practices in integration flow design
- Optimized performance for fast integration operations
- Data security in integration flows
- Case studies on the application of best practices
- Advanced use of Apache Hop performance options

# 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.