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Sign up

Apache Jena Training: Semantic Web Application Builder

2 days (14 hours)

Presentation

The [Apache Jena](#) training course is an open source Java framework enabling you to build semantic web applications as well as semantic annotation applications.

You'll learn about the basic semantic web language Resource Description Framework (RDF), which is essential for using Apache Jena's features.

During this course, your team will learn how to use Apache Jena to create and manipulate RDF graphs. They will also learn about Jena's APIs and ontology languages.

Learning Apache Jena will enable you to process RDF data by interacting with several types of APIs.

Our training will be based on the latest version of the software, [Apache Jena 4.6.1](#).

Objectives

- Developing ontological models
- Exploiting data
- Creating and deploying a semantic web application
- How to use Fuseki
- Understanding SPARQL functionalities

Target audience

- Developers
- Data engineers

Prerequisites

Knowledge of Java.

Apache Jena training program

INTRODUCTION APACHE FLINK

- What is Apache Jena?
- RDF format overview
- Software installation
- Software configuration
- Case study : Live semantic Web applications
- Creating a Semantic Web Application

FUNDAMENTAL CONCEPTS

- Graphs and models
- Literals, empty nodes and resources
- Triple
- Properties
- Name spaces

Jena packs

- Creating and manipulating RDF graphs
- Reading and writing RDF
- Provide the main interfaces through which data types are described by Jena
- Practical abstractions and classes for accessibility and manipulation of ontologies represented in RDF
- Modifications to model declarations
- Support for a range of inference engines deriving information from an RDF model
- Class package containing predefined constant objects

Jena ontology API

- Prerequisites
- Overview
- Extra help

- Creating ontological models
 - RDFS inference
 - OWL language
 - Memory storage
- Ontology languages and the Jena ontology API
- Ontology and reasoning
- Polymorphism in RDF and Java
- ESWC ontology

A SPARQL processor for Jena

- Introduction to SPARQL
- Features
- Extensions
- SPARQL Update
- W3C Documents

Fuseki

- Contents
- Download Fuseki with user interface
- Getting started with Fuseki

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.

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.

[Training Program Web page](#) - Appendix 1 - Training sheet

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