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Sign Up

Paradigm4 Training

3 days (21 hours)

Overview

Paradigm4 is a data analytics platform designed to leverage multimodal data at scale, accelerate scientific research, and ensure reliable collaborative analysis. With its scalability, provenance, and interactive exploration capabilities, Paradigm4 enables the creation of robust architectures for data teams and demanding research environments.

Our Paradigm4 training will help you move beyond introductory use cases to master key topics related to modeling, processing, and exploring complex data.

You'll learn to understand the platform's architecture, organize datasets, query information effectively, and design analysis workflows tailored to business needs.

By the end of the training, you'll be able to better leverage Paradigm4's capabilities to accelerate analyses, improve the quality of results, and enhance the reproducibility of your work.

This training also covers best practices for collaboration, governance, performance, and industrialization to ensure secure use in real-world environments.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand Paradigm4's role in advanced data architectures.
- Master the principles of modeling and organizing multimodal data.

- Design queries and explorations tailored to complex analytical use cases.
- Leverage collaboration, provenance, and reproducibility mechanisms.
- Identify best practices for performance and preparation for production use.

Target Audience

- Data Engineer
- Data scientist
- Data architect
- Bioinformatician
- Data Project Manager

Requirements

- Basic knowledge of SQL and data querying.
- General knowledge of data engineering or data science.
- Understanding of data modeling, data schemas, and data governance.
- Initial experience with analytical environments or data processing platforms.

Technical Requirements

- A recent computer with sufficient memory to handle analytical datasets.
- Stable Wi-Fi or Ethernet connection for remote sessions and workshops.
- An up-to-date web browser and access to a work environment provided by the publisher or organization.
- If necessary, installation of an SSH client or remote connection tools, depending on the chosen access method.
- A microphone and headset are recommended for remote training and discussions during workshops.

Paradigm4 Training Program

[Day 1 - Morning]

Platform Fundamentals

- Overview of Paradigm4's role in data architectures focused on analysis and research.
- Understanding use cases involving multimodal data and .
- Exploring the platform's functional components and their role in the analysis cycle.
- Overview of the concepts of scalability, collaboration, and reproducibility.
- Identifying best practices for structuring a long-term analytics project.

- Hands-on workshop: guided introduction to the environment, identification of workspaces and key objects.

[Day 1 - Afternoon] Data

Modeling

- Principles of data structuring for complex analytical uses.
- Organizing entities, attributes, and relationships with a focus on operational use.
- Managing heterogeneous datasets and associated metadata.
- Introduction to quality, consistency, and traceability requirements.
- Preparing data to facilitate future queries and analyses.
- Hands-on workshop: modeling a simple dataset and preparing it for analytical exploration.

[Day 2 - Morning]

Exploration and Querying

- Building a search logic suited to large volumes of data.
- Using query mechanisms to extract relevant information.
- Filtering, aggregating, and cross-referencing data in an analytical context.
- Reading and interpreting results according to business or scientific needs.
- Optimizing queries to reduce response times and improve efficiency.
- Hands-on workshop: writing and testing multiple queries to address a guided use case.

[Day 2 - Afternoon] Collaboration

and Governance

- Managing access and workspaces in a shared environment.
- Best practices for governance to secure data and usage.
- Traceability of processing and monitoring of transformations applied to datasets.
- Sharing results between technical and business roles.
- Organizing a reproducible workflow that can be used by multiple contributors.
- Hands-on workshop: Setting up a collaborative scenario with data sharing, tracking, and control.

[Day 3 - Morning]

Performance and Industrialization

- Understanding optimization strategies for faster and more robust processing.

- Selecting appropriate methods based on the volume, structure, and frequency of the analyses.
- Anticipating the need for scalability and maintaining performance.
- Structuring workflows to facilitate maintenance and evolution.
- Best practices for ensuring sustainable use in a production environment.
- Hands-on workshop: Analyzing a performance scenario and proposing concrete improvements.

[Day 3 - Afternoon] Use

Cases and Summary

- Applying what you've learned to a comprehensive use case.
- Selecting the right mechanisms based on analysis objectives and data constraints.
- Validating consistency between modeling, exploration, and reporting.
- Reviewing key considerations for a smooth deployment.
- Applying the best practices covered during the training.
- Hands-on workshop: conducting a mini end-to-end study, from raw data to actionable results.

Target Audience

This training is intended for both individuals and companies—large or small—that wish to train their teams in a new advanced IT technology or to acquire specific business knowledge or modern methods.

Assessment at the Start of Training

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency with various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth operation of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.