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LangSmith Training

3 days (21 hours)

Overview

LangSmith is a tracing, evaluation, and observability platform designed to ensure the reliability of LLM applications and agents in production.

Our LangSmith training will help you move beyond basic instrumentation to a comprehensive approach to quality management, debugging, and continuous improvement of your AI use cases.

You'll learn how to structure traces, analyze runs, leverage datasets, and set up reproducible evaluations to compare multiple versions of a prompt, model, or agent.

This training will also guide you in using feedback, metrics, evaluators, and best practices for monitoring to better understand the actual behavior of your applications and reduce regressions.

By the end of the course, you'll be able to use LangSmith to accelerate your testing cycles, document your experiments, secure your deployments, and sustainably improve the quality of your AI assistants and workflows.

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

Objectives

- Understand LangSmith's role in the LLM application lifecycle.
- Implement a tracing and observability strategy that can be used by your team.
- Create and manage datasets to test representative use cases.

- Design evaluations that allow for comparisons across multiple versions of an AI system.
- Analyze the results to improve quality, robustness, and reproducibility.
- Apply best practices for monitoring during the development and pre-production phases.

Target Audience

- AI Developer
- LLM Engineer
- Data Scientist
- Prompt Engineer
- Software Architect

Requirements

- Basic knowledge of Python or TypeScript.
- Understanding of LLM, prompt, and agent concepts.
- Previous experience with an AI-oriented API or SDK.
- Basic understanding of software testing and validation.
- Experience working on web or back-end applications.

Technical Requirements

- A recent computer with at least 8 GB of RAM and an up-to-date browser.
- Stable Wi-Fi or Ethernet connection for online workshops.
- Development environment with Python 3.x or Node.js, depending on the demonstration context.
- Code editor such as VS Code or equivalent.
- Headset recommended for remote sessions and live discussions.

Our LangSmith Training Program

[Day 1 - Morning]

Exploring the platform and its concepts

- LangSmith's position within the LLM application ecosystem.
- Differences between observability, evaluation, and deployment.
- Concepts of project, trace, run, and thread.
- Tracing an end-to-end execution and understanding the key steps.
- Typical use cases for debugging, measurement, and continuous improvement.
- Hands-on workshop: getting started with the interface, exploring an initial trace, and identifying the main runs.

[Day 1 - Afternoon]

Instrumenting an application

- Principles of automatic and manual tracing.
- Adding metadata useful for diagnostics and product monitoring.
- Organizing execution logs to facilitate analysis.
- Best practices for naming, structuring, and providing context.
- Reading response times, errors, and intermediate steps.
- Hands-on workshop: Instrumenting a simple workflow and logging traces in a dedicated project.

[Day 2 - Morning]

Building and Using Datasets

- The role of datasets in validating assistants and agents.
- Creating representative examples based on business cases.
- Managing inputs, expected outputs, and test variants.
- Preparing a corpus to compare multiple behaviors.
- Strategies for selecting edge cases and critical scenarios.
- Hands-on workshop: Creating a test dataset and structuring usable examples for evaluation.

[Day 2 – Afternoon]

Setting up evaluations

- Understanding the principles of offline evaluations and experiments.
- Choosing between automatic evaluators, LLM-as-a-judge, and business rules.
- Compare multiple prompts, models, or parameters on the same dataset.
- Define criteria for quality, relevance, and consistency.
- Interpret the results, scores, and differences between versions.
- Hands-on workshop: Run a comparative experiment and interpret the scores obtained.

[Day 3 - Morning]

Analyze, correct, and monitor quality

- Use trace views to identify anomalies.
- Analyzing feedback, tags, and metadata.
- Detecting regressions and prioritizing fixes.
- Monitoring performance across multiple iterations of the same workflow.
- Implementation of a process for continuous review and validation.
- Hands-on workshop: diagnosing a flawed case based on the evidence and proposing a well-reasoned correction.

[Day 3 - Afternoon]

Scaling up the use of LangSmith

- Organizing a sustainable observability approach as a team.
- Best practices for documenting experiments and sharing results.
- Integrating LangSmith into a testing and deployment cycle.
- Tracking metrics that are useful for product and technical teams.
- Recommendations for ensuring secure usage and standardizing quality controls.
- Hands-on workshop: Building a mini-validation process prior to deployment based on a complete use case.

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 upon enrollment

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 level across 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 running 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.