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Updated on 02/26/2026

Register

OpenHands Training: AI Agent Development

2 days (14 hours)

Overview

OpenHands is an open source project aimed at creating an AI agent capable of acting as an autonomous developer.

Unlike traditional completion assistants, this solution can read a repository, modify multiple files, execute commands, run tests, and automatically correct errors until a problem is resolved.

Our OpenHands training will enable you to understand, configure, and integrate a task-oriented AI agent into your development environments and DevOps workflows.

In two days, you will learn how to leverage an LLM coupled with a secure execution environment, supervise its actions, and industrialize its use in a CI/CD pipeline.

At the end of this training, you will be able to deploy an AI developer agent, automate issue resolution, generate large-scale tests, and orchestrate a workflow combining AI and human validation.

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

Objectives

- Understand how an autonomous AI agent works.
- Install and configure OpenHands.
- Automate the resolution of technical tickets.
- Integrate OpenHands into a CI/CD pipeline.

- Set up a secure and supervised framework.

Target audience

- Backend/frontend/full-stack developers
- DevOps engineers
- Tech leads
- Software architects

Prerequisites

- Proficiency in a programming language
- Knowledge of Git
- Basics of continuous integration

OpenHands training: AI Agent Development

[Day 1 - Morning]

Fundamentals of autonomous AI agents

- From Co-pilot to Autonomous Agent
- Task-Oriented Agent Architecture
- Role of LLM in decision-making
- Differences between Copilot, Auto-GPT, and OpenHands
- Plan/action/test/correction cycle
- Hands-on workshop: Installing OpenHands and executing a first task on a test repository.

[Day 1 - Afternoon]

Architecture and execution environment

- How the sandbox terminal works
- Automated file reading and writing
- Interaction with Git and branch management
- Unit test management
- Smart retry logic and auto-correction

AI agent applied to a real project

- Automatic analysis of an existing codebase
- AI-driven multi-file refactoring

- Massive generation of automated tests
- Error correction after execution failure
- Current limitations of AI developer agents
- Hands-on workshop: Fixing a complex bug until it's totally sorted.

[Day 2 - Morning]

Integration into a DevOps workflow

- Integration into a CI/CD pipeline
- Agent triggered after failed build
- Human supervision and intermediate validation
- Automation of repetitive tasks
- Optimization of LLM usage costs
- Hands-on workshop: Setting up an agent triggered after CI failure.

[Day 2 - Afternoon]

Security and governance of AI agents

- Securing the execution environment
- Access rights management and isolation
- Control of autonomous actions
- Implementing a human validation framework
- Best practices for industrialization

Industrialization and business strategy

- Automation of GitHub issue resolution
- Framework version migration
- Acceleration of developer productivity
- Positioning of AI Software Engineers
- Roadmap for gradual integration into the business
- Hands-on workshop: Building a complete AI Agent + CI + validation workflow.

Target companies

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

Positioning at the start of training

The positioning at the start of the training complies with Qualiopi quality criteria. Upon final registration, the learner receives a self-assessment questionnaire allowing us to

assess their estimated level of proficiency in different types of technology, their expectations and personal objectives 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 be problematic for the monitoring and smooth running of the training session.

Teaching methods

Practical training: 60% practical, 40% theory. Training materials distributed in digital format to all participants.

Organization

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

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been correctly acquired.

Certification

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