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Windmill Dev Training

2 days (14 hours)

Overview

Windmill is an open-source development platform for creating scripts, workflows, endpoints, and internal applications. By combining code, orchestration, and interfaces, it accelerates the design of reliable and maintainable automations.

Our Windmill Dev training will help you master the platform's essential mechanisms so you can design business automations, asynchronous tasks, and internal tools tailored to your needs.

You'll learn to develop scripts in Python or TypeScript, define their parameters, utilize resources and variables, and then expose them as APIs, scheduled tasks, or automatically generated interfaces.

The training will also guide you in building workflows with sequences, branches, loops, error handling, and validations. You'll learn to structure readable, testable, and reusable automations for technical or operational processes.

Finally, you'll learn about deployment practices, access control, and collaboration to prepare usable deliverables. You'll be able to organize your projects, secure access to secrets, and ensure a reliable transition between development and production environments.

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

Objectives

- Develop and run reusable scripts in Windmill
- Build flows to orchestrate business and technical processes
- Configure the resources, variables, and secrets required for integrations
- Expose scripts as APIs, scheduled tasks, and internal interfaces
- Manage permissions, deployments, and collaboration across environments

Target Audience

- Backend developer
- Full-stack developer
- DevOps engineer
- Data Engineer
- System Administrator

Requirements

- Proficiency in the fundamentals of programming with Python or TypeScript
- Knowledge of API interactions and JSON formats
- Basic understanding of version control with Git in a software project
- Understanding of the basic principles of databases and web services

Technical Requirements

- Computer running Windows 10 or 11, macOS, or Linux with at least 8 GB of RAM
- A modern web browser such as Google Chrome, Mozilla Firefox, or Microsoft Edge
- Visual Studio Code or an equivalent development environment
- Local environment with Python 3 or Node.js LTS, depending on the chosen language
- Stable internet connection allowing access to a Windmill instance and the API services used

Windmill Dev Training Curriculum

[Day 1 - Morning]

Getting Started and Script Development

- Windmill's role in an automation architecture, including scripts, workflows, tasks, and internal interfaces
- Exploring the workspace, folders, paths, executions, and job logs
- Creating a script in Python or TypeScript: structure, main function, and dependencies
- Defining input and output parameters, typing, validation, and generating launch interfaces
- Running, debugging, and analyzing script results from the Windmill interface
- Hands-on workshop: Create a script to collect and transform data, then test it with multiple sets of parameters

[Day 1 - Afternoon]

Integrations, resources, and triggers

- Using resources to centralize connections to services, databases, and APIs
- Managing variables, secrets, and configuration settings based on execution contexts
- HTTP API calls, processing JSON responses, and handling communication errors
- Exposing a script as an endpoint and principles for securing external calls
- Scheduling tasks and an introduction to event-driven triggers
- Hands-on workshop: Connecting a script to an API, securing its configuration, and programming a recurring execution

[Day 2 - Morning]

Orchestrating workflows with flows

- Principles of flows, graph representation, and composition of existing scripts
- Designing sequential steps, passing data between steps, and reusing results
- Implementing conditions, branches, loops, and parallel executions
- Handling failures, retries, timeouts, approvals, and notifications
- Organizing a maintainable workflow, naming conventions, documentation, and testing key scenarios
- Hands-on workshop: building a request-processing flow with validation, business logic branching, and error handling

[Day 2 - Afternoon]

Internal applications, security, and deployment

- Creating internal interfaces using scripts and flows, forms, tables, and result displays
- Choosing between automatically generated interfaces, low-code applications, and full-code applications
- Managing roles, access rights, shared folders, and running applications on behalf of a user
- Lifecycle of deliverables, drafts, deployed versions, and preparation of acceptance and production environments
- Best practices for collaboration with Git, synchronization, review, and change tracking
- Hands-on Workshop: Deploying an internal mini-application that triggers a workflow, configuring permissions, and preparing for deployment

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 methodologies.

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 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 problems for the monitoring and 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.