

Updated on 17/02/2025

Sign up

LabVIEW training

3 days (21 hours)

Presentation

Our Labview (Laboratory Virtual Instrument Engineering Workbench) training for beginners will give you a thorough understanding of the Labview programming language.

You'll learn all the skills you need to design your own instrumentation software.

LABVIEW is a graphical program environment that provides unique gas pedals for test system development, such as an intuitive approach to productivity programming, connectivity to any instrument and fully integrated user interfaces.

Whether you're a beginner or an experienced coder, learning Labview is an excellent way to upgrade your skills and master one of the most powerful graphical programming languages for industry and the laboratory.

Our training is punctuated by practical workshops, enabling you to familiarize yourself with the concepts covered in the course and to apply them in your day-to-day tasks and become fully operational.

Our training will take place on the latest version of LabVIEW, LAbVIEW 2024 Q3.

Objectives

- Learn the fundamental concepts of programming
- Developing Labview skills
- Understand and build a simple Python architecture
- Be able to build a stand-alone GUI executable

Target audience

• Novice developers

Public

Prerequisites

• Be comfortable with acquisition and management issues.

LabVIEW training program

NI acquisition equipment management

- Using NI Max
- NI acquisition equipment management
- Virtual map creation for simulation

Navigating in LabVIEW, introduction to the IDE

- IDE presentation
- Virtual Instrument (VI)
- VI components (front panel, diagram, connector)
- VI creation
- Project Explorer
- Diagram tools
- Data flow
- Quizzes

The debugger

- LabVIEW help utilities
- Correction of broken screws
- Focusing technique
- Undefined or unexpected data
- Error detection and management

Implementing a function (VI)

- Front panel design
- Data types in LabView
- Code documentation
- While loops
- For loop
- VI timing
- Iterative data transfer

- Data plotting
- Structure condition

Data grouping

- Tables
- Cluster
- Type definitions

Software I/O

- Introduction to file-based I/O
- Introduction to high-level file I/O
- Introduction to high-level file I/O
- DAQ programming
- Programming for instrument control
- Using instrument drivers

Sub-function creation

- Introduction to modularity
- Icon and connector
- Using sub-VIs

Design model

- Using sequential programming
- State programming
- State machine

Variables and memory access

- Parallelism
- Variables
- Functional global variables
- Competitive situation

Main design models

- Design models
- Single-loop design models
- Multi-loop design models
- Timing of a design model

Asynchronous program

- Notifiers
- Queues
- Data flow

Event Programming

- Event
- Events program
- warnings and recommendations
- Event design templates

Advanced error handling

- Importance of error handling
- Error detection and reporting
- Errors and warnings
- Error code ranges
- Error handlers

Advanced interface control

- Property nodes
- Method nodes
- VI Server architect
- Ordering information

Refactoring technique

- Refactoring legacy code
- Typical refactoring problems
- VI comparison

Create and distribute applications

- File preparation
- Construction specifications
- Building the application and installer

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.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

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, 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.