

TestStand I: Introduction Course

Overview

The TestStand I: Introduction course teaches you to use features provided in the TestStand environment. The course introduces you to the basics of customizing items (such as the operator interface, users, reports, and process model) which allows you to build applications to match your test needs. Upon completion of this course, you can develop practical test applications using the built-in tools supplied with TestStand.

Duration – Three Days

Audience

- New TestStand users
- Engineers and developers tasked with maintaining already-built test sequences
- Users and technical managers evaluating TestStand in purchasing decisions
- TestStand users pursuing the Certified TestStand Developer certification

Prerequisite

- Familiarity with LabVIEW, or LabWindows/CVI
- Recommended – depending on your development application
 - LabVIEW Basics I and Basics II
 - LabWindows/CVI Basics I and Basics II

NI Products Used During the Course

- TestStand Version 3
- LabVIEW Version 7
- LabWindows/CVI Version 7

REGISTRATION

Register online at ni.com/china/events or call (800) 820-3622 • Fax: 021-65556244
china.events@ni.com

Worldwide Contact Info: ni.com/global

NI can also hold this class onsite at your facility.

Ordering Information 910555-XX

-01 NI Corporate or Branch, -11 Regional, -21 Onsite

After attending this course you will be able to:

- Develop practical test applications in the TestStand environment and distribute them to test stations
- Build test code and interface it to TestStand
- Use TestStand debugging tools
- Configure TestStand using the configuration dialog boxes and customize user privileges
- Share data between TestStand and LabVIEW or LabWindows/CVI
- Understand how a test executive functions
- Log test results to a database and use the Database Viewer to view logged data

Suggested Next Courses:

- TestStand II: Customization
- TestStand Advanced System Design

TestStand I: Introduction Course Outline

Day 1

Introduction to TestStand

This lesson introduces TestStand. You learn the basic concepts of test management software and the components of the TestStand architecture. Topics include:

- Benefits of using TestStand
- Understanding the TestStand architecture
- Lowering test costs with TestStand

The TestStand Environment

This lesson discusses TestStand sequence files, sequences and their step groups. You will learn about the debugging tools available in TestStand. The lesson defines the concept of a process model and explains how TestStand can use the different default process models to execute tests. Test file management tools are also discussed. Topics include:

- TestStand sequences and sequence files
- Debugging tools
- Understanding the process model
- Process models
- Workspaces and source control

Creating Sequences

This lesson describes the steps involved in creating a TestStand sequence. You learn how to create a new TestStand sequence, specify the test modules for each step, and configure the step properties. Topics include:

- Creating test sequences
- Specifying the module
- Configuring step properties
- NI Switch Executive demonstration

TestStand Parameters, Variables, and Expressions

This lesson describes TestStand parameters and the three types of TestStand variables: locals, sequence file globals, and stations globals. This lesson also describes the RunState property object and how to utilize the TestStand Expression Browser dialog box to use variables and properties in expressions throughout the TestStand environment. Topics include:

- TestStand variables
- Creating local and sequence file global variables
- RunState properties
- Using the expression browser

Creating Test Modules in External Environments

This lesson describes how to create code modules in external environments for use in TestStand and how data is transferred from TestStand to other environments. This lesson also describes the LabVIEW and LabWindows/CVI test development environments, how to pass data to TestStand from these environments, and how to debug these code modules directly from TestStand. Topics include:

- Data transfer in TestStand
- ActiveX automation
- Lookup strings
- Using TestStand code templates

Day 2

Importing and Exporting Properties

This lesson describes how to import and export variables and properties for sequences using the Import/Export Properties tool and the Property Loader step type. Topics include:

- Importing and Exporting sequence properties
- Using the Property Loader step type

Configuration

This lesson describes the modifications that can be made using the TestStand configuration dialog boxes. Topics include:

- Station options dialog box
- Report configuration options
- Search directories

User Management

This lesson introduces user management in TestStand. You will learn how to use the User Manager window to add users and customize their privileges. Topics include:

- TestStand user manager
- Default user profiles

TestStand Types

This lesson describes the various TestStand types, including step types and data types. You will learn how to use them, and how to create and use your own custom types. Topics include:

- TestStand data types and step types
- How types are stored and used
- How to create custom types

Day 3

Database Interaction

This lesson describes the database interaction features in TestStand. You will learn how to enable TestStand to log results to a database and use the Database Viewer to view data that TestStand has logged to the database. Topics include:

- Database concepts
- Default logging to databases

Database Configuration

This lesson describes how to customize the database logging features in TestStand. The lesson covers how to modify the various components of database logging to meet your requirements. Topics include:

- Database concepts and SQL
- Database logging schemas
- Logging additional data to a database
- Using database step types

Distribution of TestStand Applications

This lesson describes how to distribute your TestStand test environment once you are ready to deploy it.