

## Cours TestStand II : Techniques de personnalisation d'applications

### Résumé :

Le cours TestStand II : Techniques de personnalisation d'applications démontre comment personnaliser les fonctionnalités construites en TestStand. Les fonctions avancées de l'environnement TestStand comprennent le multi-threading et le test multi-unités (UUT), les techniques de rapport avancées et l'interface de programmation d'application (API) de TestStand. Vous apprendrez également comment intégrer la gestion de l'utilisateur ainsi que les différentes possibilités de construction de projets système et leur implémentation.

**Durée :** deux jours

### Public :

- Personnes ayant suivi le cours TestStand I
- Nouveaux utilisateurs de TestStand
- Utilisateurs et responsables techniques qui envisagent d'acheter TestStand

### Pré-requis :

- Cours TestStand I ou expérience équivalente
- Connaissance de logiciels de test
- Familier avec LabVIEW, LabWindows/CVI ou la programmation en C

### Produits NI utilisés pendant la formation :

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

### INSCRIPTION

Inscrivez-vous en ligne sur [ni.com/france](http://ni.com/france) ou appelez le 01 48 14 24 24

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Hors France métropolitaine, contactez-nous au (33)1 48 14 24 24.

Une formation sur site est disponible suivant vos besoins.

**Référence** 910621-0114

### À l'issue de cette formation, vous serez capable de :

- Utiliser l'API TestStand pour réaliser votre système de test
- Configurer les applications TestStand pouvant être utilisées par différents opérateurs
- Développer des applications TestStand personnalisées
- Gérer des systèmes de test multi-unités
- Comprendre les différents modèles de processus TestStand et comment les modifier
- Personnaliser la génération de rapport
- Développer et personnaliser l'interface utilisateur

## TestStand II: Customization Course Outline

### Day 1

#### Introduction to using the TestStand API

This discusses how to utilize the TestStand Application Programming Interface (API) when you are designing your test systems. The lesson discusses the TestStand API and what classes and object are available. It also explains some common uses of the TestStand API and where to find additional resources. Topics include:

- What the TestStand API
- Common uses of TestStand API
- Where to find additional TestStand API resources

#### Advanced User Management

This lesson explains how the user management features in TestStand work and how to utilize the more advanced user management features. You learn about the Login/Logout process and how to programmatically perform many of the user management procedures, such as creating and deleting users, getting user information, and setting various user privileges and properties. Topics include:

- Login/logout procedure
- Using the TestStand API to create or delete users
- Configuring user properties using the TestStand API

#### Multithreading and Multi-UUT Testing

This lesson discusses the meaning and advantages of performing multithreading and multi-UUT testing using TestStand. The lesson explains the functionality provided by the process models that TestStand provides for easily integrating these types of testing. You will learn how to use synchronization steps types in a multithreaded test environment. The lesson also covers TestStand's ability to perform remote executions. Topics include:

- Test system concepts
- Useful multithreading process models
- Test synchronization options
- Remote execution

#### Modifying the Process Models and Overriding the Callbacks

This lesson discusses how the various process models work, how to modify the process models, and how to use callbacks in your test sequences. Topics include:

- Structure of TestStand process models
- Modifying process models
- Creating and overriding callbacks

## Day 2

### Modifying the Operator Interface

This lesson describes how the operator interface works, the minimum programming required to build an operator interface, and how to modify the built-in operator interfaces. The lesson describes how to use the TestStand User Interface controls to simplify programming an operator interface. Topics include:

- Overview of the operator interface
- TestStand User Interface controls
- Posting and detecting custom UIMessages

### Modifying Result Collection and Report Generation

This lesson teaches you how to modify result collection, how to add extra result data, and how to customize report generation. Topics include:

- Modifying result collection
- Customizing report generation
- Automatic reporting flags
- Overriding report callbacks

### System Design Projects

This lesson presents a variety of open ended design project ideas for you to implement based on the knowledge you have gained from the TestStand II: Customization course. These exercises reinforce the topics covered in the course. Topics include:

- Dynamic sequence calling
- Creating a simple process model
- Storing LabVIEW references
- Passing arguments to new executions
- Time delay custom step type
- Creating a sequence builder tool
- Asynchronous report generation