

# Windows Workflow Foundation

Course GWE6462A0: Two days; Instructor-Led  
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## Introduction

This two-day instructor-led course provides students with the knowledge and skills to build and configure a Windows Workflow Foundation (WF) solution.

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## Audience

This course is intended for application developers who know how to create applications in Visual Studio 2005 or 2008. The course does not require previous experience creating workflow-based solutions.

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## At Course Completion

After completing this course, students will be able to:

- Explain Windows Workflow Foundation concepts and features
- Create sequential workflows
- Create state machine workflows
- Modify workflows at run time
- Implement conditional branching in a workflow
- Define and execute rule sets
- Forward chain rules
- Change rules at run time
- Call methods on the host process
- Handle events from the host process
- Consume services from a workflow
- Publish a workflow as a service
- Create a custom activity
- Create a custom composite activity
- Define custom activity layout

- Customize activity serialization
- Create a custom runtime service
- Hydrate and dehydrate workflows
- Monitor workflows
- Track workflows
- Handle faults in a workflow
- Handle cancellations in a workflow
- Create and manage transactions in a workflow
- Create and handle compensations

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## Prerequisites

Before attending this course, students should have intermediate experience developing applications by using previous versions of Microsoft Visual Studio at level 200.

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## Course Outline

### Module 1: Creating and Hosting Workflows

This module explains how to create and host Windows Workflow Foundation (WF) workflows.

#### Lessons

- Overview of Windows Workflow Foundation
- Creating Sequential Workflows
- Creating State Machine Workflows
- Modifying Workflows at Runtime

#### Lab: Creating and Hosting Workflows

- Creating and hosting a simple sequential workflow
- Passing parameters into a workflow
- Creating a state machine workflow
- Hosting the state machine workflow

After completing this module, students will be able to:

- Explain Windows Workflow Foundation concepts and features.
- Create sequential workflows.
- Create state machine workflows.
- Modify workflows at run time.

### Module 2: Applying Conditions and Rules

This module explains how to apply conditions and rules in a workflow.

#### Lessons

- Implementing Flow Control
- Defining and Executing Rule Sets
- Forward Chaining of Rules

- Changing Rules at Run Time

#### **Lab: Applying Conditions and Rules**

- Making Decisions
- Performing Iteration
- Defining Policies

After completing this module, students will be able to:

- Implement conditional branching in a workflow.
- Define and execute rule sets.
- Forward chain rules.
- Change rules at run time.

#### **Module 3: Communicating with Workflows**

This module explains how to communicate between workflows, host processes, and services.

##### **Lessons**

- Calling Methods on the Host Process
- Handling Events from the Host Process
- Consuming Services from a Workflow
- Publishing a Workflow as a Service

#### **Lab: Communicating with Workflows**

- Invoking a Method on the Host Process
- Handling Events from the Host Process
- Consuming Services from a Workflow
- Publishing a Workflow as a Service

After completing this module, students will be able to:

- Call methods on the host process.
- Handle events from the host process.
- Consume services from a workflow.
- Publish a workflow as a service.

#### **Module 4: Creating and Configuring Custom Activities**

This module explains how to create and configure custom activities.

##### **Lessons**

- Creating Custom Activities
- Creating Custom Composite Activities
- Customizing Activity Serialization
- Defining Custom Activity Layout

#### **Lab: Creating and Configuring Custom Activities**

- Creating a Custom Activity
- Validating a Custom Activity
- Developing a Custom Activity Designer
- Creating a Custom Composite Activity

After completing this module, students will be able to:

- Create a custom activity.
- Create a custom composite activity.
- Define custom activity layout.
- Customize activity serialization.

### **Module 5: Creating and Managing Runtime Services**

This module explains how to create and manage runtime services.

#### **Lessons**

- Creating a Custom Runtime Service
- Hydrating and Dehydrating Workflows
- Monitoring Workflows
- Tracking Workflows

#### **Lab: Creating and Managing Runtime Services**

- Creating a Custom Runtime Service
- Hydrating and Dehydrating Workflows
- Monitoring Workflows
- Tracking Workflows

After completing this module, students will be able to:

- Create a custom runtime service.
- Hydrate and dehydrate workflows.
- Monitor workflows.
- Track workflows.

### **Module 6: Managing Faults, Cancellations, Transactions, and Compensations**

This module explains how to manage faults, cancellations, transactions, and compensations in a workflow.

#### **Lessons**

- Handling Faults
- Handling Cancellations
- Creating and Managing Transactions
- Creating and Handling Compensations

#### **Lab: Managing Faults, Transactions, and Compensations**

- Handling Faults
- Implementing Transactional Behavior
- Implementing Compensation Behavior

After completing this module, students will be able to:

- Handle faults in a workflow.
- Handle cancellations in a workflow.
- Create and manage transactions in a workflow.
- Create and handle compensations.