Live Classroom Curriculum Guide

- Workflow Administration of Windchill 10.2
- System Administration of Windchill 10.2
- Introduction to Windchill ProjectLink 10.2
Workflow Administration of Windchill 10.2

Overview

Course Code: TRN-4339-T
Course Length: 2 Days

In this course, you will learn about Windchill workflow features and how to design, configure, and test workflow processes. After completing this course, you will be able to plan and configure workflow automation features to support your company’s business processes. At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.

Course Objectives

- Describe the business objects that control and define the Windchill business process definition
- Identify the tools used to manage workflow templates
- Display, create, and modify workflow templates
- Determine the purpose and function of a pre-written workflow process
- Initiate, track, and manage workflow processes
- Define and configure assigned activities
- Use connectors in workflow templates
- Use links in workflow templates
- Group workflow nodes into block processes
- Create references to other workflow templates using proxy processes
- Send notifications from a workflow process
- Check an object in or out automatically in a workflow process
- Move a Windchill object through its life cycle using workflow processes
- Create a time delay in a workflow process
- Launch an external application from a workflow process
- Execute a Java expression within a workflow process
- Synchronize a workflow process with a system event
• Communicate with another server using a URL from a workflow process
• Configure basic and advanced life cycles
• Specify the workflows to be used in advanced life cycles
• Configure a promotion request
• Modify a workflow for use with promotion requests
• Use routing to reassign a life cycle in a project or program
• Create a life cycle and workflow for use with project routing

**Prerequisites**

• Business Administration of Windchill PDMLink 10.2

**Audience**

• This course is intended for Windchill business administrators and application developers. People in related roles will also benefit from taking this course.
## Agenda

### Day 1

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Using Workflow Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Defining Manual Tasks</td>
</tr>
</tbody>
</table>

### Day 2

<table>
<thead>
<tr>
<th>Module</th>
<th>3</th>
<th>Controlling Process Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>4</td>
<td>Simplifying Complex Templates</td>
</tr>
<tr>
<td>Module</td>
<td>5</td>
<td>Automating Tasks</td>
</tr>
<tr>
<td>Module</td>
<td>6</td>
<td>Using Workflow Templates</td>
</tr>
</tbody>
</table>
Course Content

Module 1. Using Workflow Tools
   i. Workflow Use in the Windchill Product Lines
   ii. Identifying Process Management Objects
   iii. Workflow Management Tools
   iv. Workflow Administrators
   v. Accessing Workflow Template Administration
   vi. Using the Workflow Template Administrator
   vii. Displaying Workflow Templates
   viii. Creating Workflow Templates
   ix. Validating and Checking In Workflow Templates
   x. Modifying Workflow Templates
   xi. Exporting and Importing Workflow Templates
   xii. Workflow Creation Best Practices
   xiii. Understanding Workflow Processes
   xiv. Initiating a Process from a Workflow Template
   xv. Workflow Process States
   xvi. Searching for Workflow Processes
   xvii. Browsing to Workflow Processes
   xviii. Viewing Process Information
   xix. Managing Workflow Processes With the Process Manager
   xx. Managing Workflow Processes With the Workflow Process Administrator
   xxi. Determining the Status of a Process Node
   xxii. Administratively Manipulating Processes
   xxiii. Manipulating Process Nodes
   xxiv. Testing Workflow Templates

Knowledge Check Questions

Module 2. Defining Manual Tasks
   i. Defining Workflow Template Properties
   ii. Understanding Assigned Activities
   iii. Defining Assigned Activities
   iv. Defining General Properties
   v. Defining Activity Properties
   vi. Defining Instructions
   vii. Defining Participants
   viii. Best Practices for Defining Participants
   ix. Defining Deadlines
   x. Defining Global Workflow Variables
   xi. Defining Assigned Activity Variables
   xii. Creating Assigned Activity and Global Variables
Granting Additional Access
xiv. Understanding Variable Scope
xv. Defining Routing
xvi. Defining Automatic Routing
xvii. Defining Transition Conditions
xviii. Defining Execution Options
xix. Defining Role Setup
xx. Defining Resource Pool

Knowledge Check Questions

Module 3. Controlling Process Flow
   i. Creating Complex Processes with Connectors and Links
   ii. Understanding Connectors and Terminals
   iii. Using Start, Ground, and End Connectors
   iv. Using And Connectors
   v. Using Or Connectors
   vi. Using Links
   vii. Setting Link Properties
   viii. Using Loop Links
   ix. Using Conditional Connectors
   x. Using Threshold Connectors

Knowledge Check Questions

Module 4. Simplifying Complex Templates
   i. Simplifying Complex Processes
   ii. Using Block Processes
   iii. Converting Nodes to a Block Process
   iv. Block Process Properties
   v. Using Proxy Processes
   vi. Proxy Process Properties: General

Knowledge Check Questions

Module 5. Automating Tasks
   i. Using Robots to Automate Tasks
   ii. Using Method Robots
   iii. Using Method Robots to Mature Objects
   iv. Using Method Robots: Set State
   v. Using Method Robots: Submit
   vii. Using Notification Robots
   viii. Notification Robot Properties: General/Recipients
   ix. Notification Robot Properties: Message/Attachments
x. Notification Message
xi. Checkpoint Robot
xii. Using Method Robots: Check Out/Check In
xiii. Using Timer Robots
xiv. Using Application Robots
xv. Using Synchronization Robots
xvi. Synchronization Robot Properties
xvii. Object Event Synchronization
xviii. Class Event Synchronization
xix. Expression Synchronization
xx. Using Expression Robots
xxi. Expression Robot Properties
xxii. Using the URL Robot
xxiii. URL Robot Error Handling Properties

Knowledge Check Questions

Module 6. Using Workflow Templates
  i. Understanding Windchill Life Cycles
  ii. Understanding Windchill Life Cycle Types
  iii. Using Workflows in Windchill
  iv. Life Cycle Association Rules
  v. Defining Object Life Cycle Resolution
  vi. Specifying Life Cycle Properties
  vii. Adding Life Cycle States
  viii. Defining States
  ix. Understanding Transitions
  x. Defining Transitions
  xi. Understanding Life Cycle Transition Types
  xii. Understanding Life Cycle Transition Types
  xiii. Understanding Life Cycle Transition Types
  xiv. Transition Examples
  xv. Defining Role Participation
  xvi. Defining Access Permissions using Life Cycles
  xvii. Selecting Workflow Templates
  xviii. Life Cycle and Workflow Template Relationships
  xix. Life Cycle and Workflow Template Relationships
  xx. Life Cycle Best Practices
  xxi. Managing Promotion Preferences
  xxii. Understanding the Promote Action in a Basic Life Cycle
  xxiii. The Promotion Request Approval Process
  xxiv. The Promotion Request Review Process
  xxv. Managing Promotion Preference Processes
Creating a New Promotion Process Preference
Changing a Promotion Preference
Creating Workflow Templates for Promotion Requests
Routing Objects in Projects and Programs
Creating a Workflow Template for Routing
Creating a Life Cycle Template for Routing

Knowledge Check Questions
System Administration of Windchill 10.2

Overview

Course Code: TRN-4340-T
Course Length: 3 Days

In this course, you will gain an understanding of how to perform routine Windchill system administration tasks, including how to manage Windchill services and optimize Windchill components for performance. You will focus on daily, weekly, and monthly system maintenance tasks required by the Windchill system administrators. You will also learn how to install and configure Windchill system components and how to implement file vaulting and content replication. Other topics that will be reviewed include managing an Oracle database, troubleshooting background queues, controlling system backup procedures, and setting up the client environment.

At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.

Note: Due to the subject matter of this class, simulated software is used for Windchill installation to provide an accurate, effective, and efficient training experience that could not otherwise be duplicated in a standard classroom environment.

Course Objectives

- Understand Windchill architecture
- Install and configure Windchill solutions
- Start and stop Windchill components
- Manage Windchill configuration properties
- Implement file vaulting and content replication
- Tune Windchill components for performance
- Tune Windchill workflows for performance
- Manage background queues
- Manage Oracle database
- Manage system backups
- Manage Windchill system logs and alerts
- Monitor daily, weekly, and monthly administration tasks
- Configure browser and JAVA settings for clients
Prerequisites

- Familiarity with the Windchill PDMLink 10.1 or Windchill ProjectLink 10.1 user interface
- Familiarity with the Windows command prompt and the ability to form and execute basic SQL statements

Audience

- This course is intended for System Administrators and Application Developers. People in related roles will also benefit from taking this course.
# Agenda

## Day 1

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>Introduction to the Windchill System Environment</td>
</tr>
<tr>
<td>Module 2</td>
<td>Installing Windchill Components</td>
</tr>
<tr>
<td>Module 3</td>
<td>Managing Windchill Services</td>
</tr>
<tr>
<td>Module 4</td>
<td>Managing Windchill Properties</td>
</tr>
<tr>
<td>Module 5</td>
<td>File Vaulting and Replication Overview</td>
</tr>
<tr>
<td>Module 6</td>
<td>Implementing File Vaults</td>
</tr>
<tr>
<td>Module 7</td>
<td>Implementing Content Replication</td>
</tr>
</tbody>
</table>

## Day 2

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 8</td>
<td>Tuning Windchill Server</td>
</tr>
<tr>
<td>Module 9</td>
<td>Managing Background Queues</td>
</tr>
<tr>
<td>Module 10</td>
<td>Tuning Workflow Processes</td>
</tr>
<tr>
<td>Module 11</td>
<td>Oracle Database Management</td>
</tr>
<tr>
<td>Module 12</td>
<td>Windchill Backup and Recovery</td>
</tr>
</tbody>
</table>

## Day 3

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 13</td>
<td>Managing Log Files and Alerts</td>
</tr>
<tr>
<td>Module 14</td>
<td>System Monitoring — Daily Tasks</td>
</tr>
<tr>
<td>Module 15</td>
<td>System Monitoring — Weekly Tasks</td>
</tr>
<tr>
<td>Module 16</td>
<td>System Monitoring — Monthly Tasks</td>
</tr>
<tr>
<td>Module 17</td>
<td>Setting up the Client Environment</td>
</tr>
</tbody>
</table>
Course Content

Module 1. Introduction to the Windchill System Environment
   i. Client Requirements
   ii. Windchill Architecture — Windchill Server
   iii. Windchill Architecture — Database
   iv. Windchill Architecture – Optional Servers
   v. Role of the System Administrator
   vi. Understanding Windchill Contexts
   vii. Windchill Product Characteristics
   viii. Windchill Library Characteristics
   ix. Using Folders
   x. Data Management Objects
   xi. Iteration and Revision Controls
   xii. Access Controls
   xiii. Process Controls
   xiv. Understanding the Windchill User Interface
   xv. Using the Navigator
   xvi. Navigating Products and Libraries
   xvii. Locating Information
   xviii. Understanding Information Pages
   xix. Accessing Help

Knowledge Check Questions

Module 2. Installing Windchill Components
   i. Windchill Software Matrices
   ii. Supported Virtualization Platforms
   iii. Sizing a Windchill System
   iv. Setting Application Name
   v. Software Downloads
   vi. Windchill Technical Documents
   vii. Windchill Required Components
   viii. Installing Oracle
   ix. Oracle Post Installation Activities
   x. The PTC Solution Installer (PSI)
   xi. Understanding Installation Types
   xii. Selecting the Database Size
   xiii. The Staging Area Options
   xiv. Installing Windchill Solution
   xv. Installing on Multiple Machines
   xvi. Installing Optional Components

Knowledge Check Questions
Module 3. Managing Windchill Services

i. Identifying Major Windchill Services
ii. Starting/Stopping Apache Web Server
iii. Starting/Stopping Windchill Directory Server
iv. Starting/Stopping Oracle
v. Starting/Stopping Windchill
vi. Running Apache as a Windows Service
vii. Windchill Directory Server Control Panel
viii. Running Windchill Directory Server as a Service
ix. Running Windchill as a Windows Service
x. Automating Windchill Startup
xi. Automating Windchill Shutdown

Knowledge Check Questions

Module 4. Managing Windchill Properties

i. System Administration Utilities
ii. The Windchill Command
iii. The Windchill Shell
iv. Windchill Configuration Properties Files
v. The site.xconf File
vi. The JMX Clients
vii. Using JConsole to Modify Property Values
viii. The xconfmanager Utility
ix. The xconfmanager — Options
x. The xconfmanager — Example
xi. The xconfmanager — Validate Changes
xii. Properties Managed by the Windchill Configuration Assistant
xiii. Creating a Custom XCONF File

Knowledge Check Questions

Module 5. File Vaulting and Replication Overview

i. File Vaulting
ii. File Storage Options
iii. Local File Vaulting Architecture
iv. Content Replication
v. Content Replication Architecture
vi. Windchill File Servers
vii. Centrally Vaulted Content
viii. Remotely and Centrally Vaulted Content
ix. File Vaulting Strategies
x. Types of File Vaults
xi. Checking an Object into a Windchill Main Server
Module 6. Implementing File Vaults
   i. Planning External File Storage
   ii. Multiple Vaults Configuration
   iii. Vaulting Rules
   iv. Single Vault Configuration
   v. Forcing Contents to a Single Vault — Implications
   vi. Single Vault vs. Multi Vault Configuration
   vii. Vaults with Automatic Folder Creation
   viii. The Central Cache Vault
   ix. Setting Up External Storage
   x. Managing Revaulting
   xi. Maintaining Vaults
   xii. Changing the Location of Files in Vaults
   xiii. The Default System Target Vault

Module 7. Implementing Content Replication
   i. Installing the File Server — Requirements
   ii. Enabling Remote File Server Support
   iii. Generating the Security Key
   iv. Using the File Server Management Utility
   v. Registering the File Server
   vi. Configuring Replica Vaults
   vii. Creating Replication Rules
   viii. Creating Replication Schedules
   ix. Replication Performance and Scalability
   x. Replication and Visualization Service
   xi. Setting the Preferred File Server
   xii. User-Initiated Replication

Module 8. Tuning Windchill Server
   i. Windchill Server Tuning Objectives
   ii. Monolithic Windchill Configuration
   iii. Multi-Tiered Windchill Configuration
   iv. Server Heap Size
v. Setting Windchill Cache Sizes — wt.properties
vi. Setting Windchill Cache Sizes — db.properties
vii. Viewing Windchill Cache Statistics
viii. Limiting Search Results
ix. Windchill Configuration Assistant (WCA)
x. Affected Files
xi. Running the Windchill Configuration Assistant
xii. Propagating Values from Intermediate Properties Files
xiii. Rolling Back Configuration Changes
xiv. Number of Method Servers
xv. Cleaning Windchill System Cache
xvi. Why Do Windchill Method Servers Stop Unexpectedly?
xvii. Using Anti-Virus Software
xviii. Server Cluster Configuration
xix. Server Status
xx. WAN Performance Optimizing Options
xxi. WAN Acceleration

Knowledge Check Questions

Module 9. Managing Background Queues
  i. Windchill Background Queues
  ii. Queue Manager
  iii. Queue Entry States
  iv. Out-of-the-Box Background Queues
  v. Single Method Server Configuration
  vi. Configuring a Background Method Server
  vii. Configuring Multiple Background Servers
  viii. Distributing Background Queues
  ix. Tuning Background Queues
  x. Performing Regular Queue Maintenance
  xi. Deleting a Queue

Knowledge Check Questions

Module 10. Tuning Workflow Processes
  i. Workflow Queues
  ii. Pool Queues
  iii. Monitoring Workflow Queue Entries
  iv. Configuring Queue Pooling
  v. After Queue Pooling
  vi. Configuring Dedicated Workflow Queues
  vii. Tagging Dedicated Workflow Queues
  viii. After Dedicated Queues
Knowledge Check Questions

Module 11. Oracle Database Management
   i. Reviewing Instance and Database
   ii. System Global Area (SGA)
   iii. Reviewing Background Processes
   iv. Understanding Oracle Storage Hierarchy
   v. Oracle Enterprise Manager Database Control
   vi. Oracle Initialization Parameters
   vii. Control Files
   viii. Oracle Tablespaces
   ix. Oracle Datafiles
   x. Redo Log Files
   xi. Automatic Memory Management (AMM)
   xii. Automatic Shared Memory Management (ASMM)
   xiii. Approximating Initial Memory Sizes
   xiv. Automatic Workload Repository (AWR)
   xv. Automatic Database Diagnostic Monitor (ADDM)

Knowledge Check Questions

Module 12. Windchill Backup and Recovery
   i. Windchill Backup Architecture
   ii. Windchill Data Repositories
   iii. Types of Backup
   iv. Performing a Cold Backup
   v. Recovering from a Cold Backup
   vi. Performing a Hot Backup
   vii. Recovering from a Hot Backup
   viii. Oracle Backup and Recovery — Enterprise Manager
   ix. Oracle Archive Log Mode
   x. Oracle Flash Recovery Area
   xi. Oracle Suggested Backup Strategy
   xii. Suspending Background Queues
   xiii. Read Only Mode for Vaults
   xiv. Generating Vault Backup Information
   xv. The WContentVerify Tool
   xvi. Mirroring the Local Cache Vault
   xvii. Rebuilding Replica Vaults
   xviii. Backing up the Windchill Directory Server
   xix. Backing Up LDAP Data using the Backup Command
   xx. Restoring Windchill Directory Server
  xxi. Backing Up LDAP Directory Data using Control Panel
xxii. Restoring LDAP Directory Data using Control Panel
xxiii. Exporting LDAP Data
xxiv. Importing LDAP Data

Knowledge Check Questions

Module 13. Managing Log Files and Alerts
   i. Windchill Logging Mechanism
   ii. Windchill Log Properties
   iii. Setting Windchill Log Levels
   iv. Populating JMX-Administrators
   v. Viewing Windchill Log Files
   vi. Managing Log Files using JConsole
   vii. System Error Reporting
   viii. Using the Persisted Log Events Page
   ix. The Log File Viewer Page
   x. The Log Event Details Page
   xi. Administration Actions After Receiving Error Reports
   xii. System Configuration Collector
xiii. Oracle Alerts
xiv. Oracle Alerts — Setting Up a Mail Server
xv. Setting Up Direct Oracle Alert Notifications
xvi. Oracle Alerts — Setting Metric Thresholds
xvii. Managing Directory Server Logs
xviii. Managing Web Server Logs

Knowledge Check Questions

Module 14. System Monitoring — Daily Tasks
   i. Daily System Monitoring Tasks — Checklist
   ii. Perform and Verify Scheduled System Backups
   iii. The Server Status Page
   iv. PTC System Monitor
   v. System Monitoring using JMX Clients
   vi. Monitoring CPU and Memory Usage by Windchill Processes
   vii. System Components Availability
   viii. Monitoring Queues using Queue Manager
   ix. Monitoring Queues using JMX Clients
   x. Monitoring Queues using Queue Analyzer
   xi. Queue and Workflow Health Check Script
   xii. Monitor File Vaults
   xiii. Monitoring Vaults using the System Configuration Collector
   xiv. Review Application Server Logs
   xv. Review Database Logs
xvi. Check Database Schema Statistics
xvii. Monitor Network Health
xviii. Review PTC Technical Support Subscription E-mails

Knowledge Check Questions

Module 15. System Monitoring — Weekly Tasks
i. Weekly System Monitoring Tasks — Checklist
ii. Monitor Disk Space Usage
iii. Identifying BLOBS That Have Not Been Vaulted
iv. Remove Unreferenced Files from File Vaults
v. The RemoveUnreferencedFiles Tool
vi. Automated Cleanup of Replica Vaults
vii. Generating Unreferenced Files Report
viii. Defragment Windows Disks
ix. Check Performance using Monitoring Tools
x. Perform Database Maintenance

Knowledge Check Questions

Module 16. System Monitoring — Monthly Tasks
i. Monthly System Monitoring Tasks — Checklist
ii. Execute Performance Benchmarks
iii. Windchill File Server Test
iv. Perform Database Diagnostics
v. Resolve Disconnected Principals
vi. Cleaning up Data for Deleted Users
vii. Evaluate System Settings using Windchill Configuration Assistant
viii. Generate Throughput and Security Audit Reports
ix. Perform Workgroup Manager Maintenance Tasks
x. Review Windchill and Creo Settings
xi. Purge Obsolete or Unused Data
xii. Apply Maintenance Patches and Updates
xiii. Clone Production Server to Test Server
xiv. Yearly Administrative Tasks

Knowledge Check Questions

Module 17. Setting up the Client Environment
i. Setting Up Your Browser
ii. Browser’s ActiveX Settings
iii. Pop-Up Blocker Interference
iv. Browser Locale Settings
v. Memory Allocation for Applets
vi. Installing Creo View
vii. Installing Desktop Integration
viii. Setting Your Preferred File Server Site
ix. Product Structure Explorer Preferences
x. Configuring the Windchill Home Page

Knowledge Check Questions
Introduction to Windchill Projectlink 10.2

Overview

Course Code: TRN-4270-T
Course Length: 1 Day

In this course, you will learn how to participate in and manage projects using Windchill ProjectLink 10.2. Emphasis will be placed on learning how to access and navigate the Windchill ProjectLink interface, including navigating and using your personal environment, the project environment, and project storage. You will also learn how to manage document information, the project plan, and assigned tasks. You will gain an understanding of creating and managing projects, which includes planning activities and milestones, assigning the project team, and setting up the folder storage structure. Finally, you will learn how to communicate with other team members using the collaboration tools of Windchill ProjectLink.

At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.

Course Objectives

- Access Windchill Help
- Browse and search for Windchill objects
- View the attributes, content, and relationships of Windchill objects
- Identify the project manager’s role
- Plan projects, project resources, and project storage
- Identify the differences between projects and programs
- Create projects in Windchill, including the plan objects required to support them
- Design an action item
- Create and manage project storage and access controls
- Modify and create documents
- View Windchill objects in Creo View
- Manage your Windchill notebook
- Create and manage subscriptions
• Complete Windchill assignments
• Reassign assignments to other team members
• Update the project status
• Monitor the project timeline
• Use Microsoft Project in conjunction with Windchill
• Discuss objects in forums
• Manage and schedule meetings
Prerequisites

• None

Audience

• This course is intended for project participants and project managers using the ProjectLink application. People in related roles will also benefit from taking this course.
## Agenda

### Day 1

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Introduction to the Windchill Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Introduction to Project Management</td>
</tr>
<tr>
<td>Module</td>
<td>3</td>
<td>Locating and Viewing Information</td>
</tr>
<tr>
<td>Module</td>
<td>4</td>
<td>Creating Documents and Links</td>
</tr>
<tr>
<td>Module</td>
<td>5</td>
<td>Implementing Projects</td>
</tr>
<tr>
<td>Module</td>
<td>6</td>
<td>Introduction to Visualization</td>
</tr>
<tr>
<td>Module</td>
<td>7</td>
<td>Modifying and Managing Documents</td>
</tr>
<tr>
<td>Module</td>
<td>8</td>
<td>Managing Projects</td>
</tr>
<tr>
<td>Module</td>
<td>9</td>
<td>Managing Your Work</td>
</tr>
</tbody>
</table>
Course Content

Module 1. Introduction to the Windchill Environment
  i. Integrated Windchill PDMLink and Windchill ProjectLink
  ii. Windchill PDMLink
  iii. Windchill ProjectLink
  iv. Pro/INTRALINK
  v. Arbortext Content Manager
  vi. Content Management
  vii. Windchill Environment
  viii. Data Management Objects
  ix. Change Management Objects
  x. Project Management Objects
  xi. Storage Locations
  xii. Iteration and Revision Controls
  xiii. Process Controls
  xiv. Access Controls
  xv. Collaboration Features
  xvi. Logging On to Windchill
  xvii. Understanding the Windchill User Interface
  xviii. Using the Home Page
  xix. Using Quick Links
  xx. Using the Navigator
  xxi. Using the Breadcrumb Trail
  xxii. Navigating Products and Libraries
  xxiii. Navigating Projects and Programs
  xxiv. Navigating Changes
  xxv. Accessing Help

Knowledge Check Questions

Module 2. Introduction to Project Management
  i. Project Management – Overview
  ii. Project Managers Responsibilities
  iii. Project Plan Objects
  iv. Planning Projects
  v. Project Components
  vi. Project Plan Views – Plan View
  vii. Project Plan Views – Timeline View
  viii. Project Plan Views – Gantt Explorer
  ix. Planning Project Storage
  x. Planning Project Resources
  xi. Programs – Making Programs Visible
Module 3. Locating and Viewing Information

i. Locating Information
ii. Using Simple Search
iii. Using Advanced Search
iv. Browsing
v. Using Mini Information Pages
vi. Using Windchill Tables
vii. Working with Table Columns
viii. Understanding Information Pages
ix. Viewing Structure
x. Understanding Object Capabilities
xi. Document Capabilities
xii. CAD Document Capabilities
xiii. Part and End Item Capabilities
xiv. Dynamic Document Capabilities
xv. Problem Report Capabilities
xvi. Change Request Capabilities
xvii. Change Notice Capabilities
xviii. Relationship Explorer

Module 4. Creating Documents and Links

i. Creating Documents and Links
ii. New Document: Set Attributes – Type
iii. New Document: Set Attributes – Template
iv. New Document: Set Attributes (Primary Content)
v. New Document: Set Attributes (Attributes)
vi. New Document: Set Attachments
vii. New Multiple Documents
viii. Creating Links

Module 5. Implementing Projects

i. Creating a Project
ii. Selecting a Project Team
iii. Configuring a Project
iv. Managing the Project Team
v. Managing Resources
vi. Starting Projects
vii. Project Activities and Summary Activities
viii. Creating An Activity – General Attributes
ix. Creating An Activity – Schedule Attributes
x. Creating An Activity – Advanced Attributes
xi. Scheduling Attributes
xii. Creating Multiple Activities
xiii. Creating a Summary Activity
xiv. Project Milestone
 xv. Creating A Milestone
xvi. Project Deliverables
 xvii. Creating a Project Deliverable
xviii. Action Items
xix. Resolving an Action Item
xx. Creating Action Items
xxi. Classic and Enhanced Projects

Knowledge Check Questions

Module 6. Introduction to Visualization
i. Identifying Readable Visualization Object Types
ii. Understanding Creo View's Basic Capabilities
iii. Understanding the Creo View User Interface
iv. Viewing Area User Interface
v. Understanding the Ribbon
vi. The Creo View File Menu User Interface
vii. Quick Access Toolbar User Interface
viii. Primary Panel User Interface
ix. Understanding the Upper Data Panel
x. Understanding the Lower Data Panel
xi. Starting Creo View from Windchill
xii. Loading Viewables
xiii. Opening Non-Model Files with Creo View
xiv. Viewing Drawings
xv. Viewing Images
xvi. Orienting Drawings and Images
xvii. Working with Pages and Sheets

Knowledge Check Questions

Module 7. Modifying and Managing Documents
i. Overview of Modifying Documents
ii. Modifying Documents — Check Out
iii. Modifying Documents — Edit
iv. Modifying Documents — Check In
v. Modifying Documents — Undo Checkout
vi. Modifying Documents — Replace Content
vii. Modifying Documents — Revise
viii. Associating Documents with Windchill Parts

Knowledge Check Questions

Module 8. Managing Projects
i. Managing Projects
ii. Project Status
iii. Project State
iv. Editing Plan Objects from Windchill Tables
v. Edit Plan Object Wizard
vi. Track Work Wizard
vii. Edit in Gantt Explorer
viii. Adding Objects to the Timeline
ix. Exporting Projects
x. Microsoft Project Plug-In
xi. Managing Projects using MS Project
xii. Importing, Exporting, and Syncing Plans with Microsoft Project

Knowledge Check Questions

Module 9. Managing Your Work
i. Managing Your Work
ii. Managing Tasks
iii. Managing the Notebook
iv. Managing Subscriptions
v. Creating Subscriptions
vi. Preference Manager
vii. Setting Attachment Preferences
viii. Setting Search Preferences
ix. Setting Display Preferences
x. Setting Table Preferences
xi. Setting Visualization Preferences
xii. Using the Windchill Clipboard
xiii. Software Downloads
xiv. Introduction to Communication Mechanisms
xv. E-mailing Team Members
xvi. E-mailing a Page
xvii. Holding Discussions

Knowledge Check Questions
Web Based Curriculum Guide

- System Administration of Windchill 10.2
- Introduction to Windchill ProjectLink 10.2
- Locate and View Information with Windchill ProjectLink 10.2
- Visualization with Creo View MCAD Lite 3.0 for Windchill ProjectLink 10.2
- Standard Document Management with Windchill ProjectLink 10.2
- Work Management with Windchill ProjectLink 10.2
- Project Data Management with Windchill ProjectLink 10.2
In this course, you will gain an understanding of how to perform routine Windchill system administration tasks, including how to manage Windchill services and optimize Windchill components for performance. You will focus on daily, weekly, and monthly system maintenance tasks required by the Windchill system administrators. You will also learn how to install and configure Windchill system components and how to implement file vaulting and content replication. Other topics that will be reviewed include managing an Oracle database, troubleshooting background queues, controlling system backup procedures, and setting up the client environment.

At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.

Note: Due to the subject matter of this class, simulated software is used for Windchill installation to provide an accurate, effective, and efficient training experience that could not otherwise be duplicated in a standard classroom environment.

Course Objectives

- Understand Windchill architecture
- Install and configure Windchill solutions
- Start and stop Windchill components
- Manage Windchill configuration properties
- Implement file vaulting and content replication
- Tune Windchill components for performance
- Tune Windchill workflows for performance
- Manage background queues
- Manage Oracle database
- Manage system backups
- Manage Windchill system logs and alerts
- Monitor daily, weekly, and monthly administration tasks
- Configure browser and JAVA settings for clients
Prerequisites

- Familiarity with the Windchill PDMLink 10.1 or Windchill ProjectLink 10.1 user interface
- Familiarity with the Windows command prompt and the ability to form and execute basic SQL statements

Audience

- This course is intended for System Administrators and Application Developers. People in related roles will also benefit from taking this course.
<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to the Windchill System Environment</td>
</tr>
<tr>
<td>2</td>
<td>Installing Windchill Components</td>
</tr>
<tr>
<td>3</td>
<td>Managing Windchill Services</td>
</tr>
<tr>
<td>4</td>
<td>Managing Windchill Properties</td>
</tr>
<tr>
<td>5</td>
<td>File Vaulting and Replication Overview</td>
</tr>
<tr>
<td>6</td>
<td>Implementing File Vaults</td>
</tr>
<tr>
<td>7</td>
<td>Implementing Content Replication</td>
</tr>
<tr>
<td>8</td>
<td>Tuning Windchill Server</td>
</tr>
<tr>
<td>9</td>
<td>Managing Background Queues</td>
</tr>
<tr>
<td>10</td>
<td>Tuning Workflow Processes</td>
</tr>
<tr>
<td>11</td>
<td>Oracle Database Management</td>
</tr>
<tr>
<td>12</td>
<td>Windchill Backup and Recovery</td>
</tr>
<tr>
<td>13</td>
<td>Managing Log Files and Alerts</td>
</tr>
<tr>
<td>14</td>
<td>System Monitoring — Daily Tasks</td>
</tr>
<tr>
<td>15</td>
<td>System Monitoring — Weekly Tasks</td>
</tr>
<tr>
<td>16</td>
<td>System Monitoring — Monthly Tasks</td>
</tr>
<tr>
<td>17</td>
<td>Setting up the Client Environment</td>
</tr>
</tbody>
</table>
Overview

In this course, you will learn how to participate in and manage projects using Windchill ProjectLink 10.2. Emphasis will be placed on learning how to access and navigate the Windchill ProjectLink interface, including navigating and using your personal environment, the project environment, and project storage. You will also learn how to manage document information, the project plan, and assigned tasks. You will gain an understanding of creating and managing projects, which includes planning activities and milestones, assigning the project team, and setting up the folder storage structure. Finally, you will learn how to communicate with other team members using the collaboration tools of Windchill ProjectLink.

At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.

Course Objectives

- Access Windchill Help
- Browse and search for Windchill objects
- View the attributes, content, and relationships of Windchill objects
- Identify the project manager’s role
- Plan projects, project resources, and project storage
- Identify the differences between projects and programs
- Create projects in Windchill, including the plan objects required to support them
- Design an action item
- Create and manage project storage and access controls
- Modify and create documents
- View Windchill objects in Creo View
- Manage your Windchill notebook
- Create and manage subscriptions
• Complete Windchill assignments
• Reassign assignments to other team members
• Update the project status
• Monitor the project timeline
• Use Microsoft Project in conjunction with Windchill
• Discuss objects in forums
• Manage and schedule meetings

Prerequisites

• None

Audience

• This course is intended for project participants and project managers using the ProjectLink application. People in related roles will also benefit from taking this course.
# Table of Contents

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Introduction to the Windchill Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Introduction to Project Management</td>
</tr>
<tr>
<td>Module</td>
<td>3</td>
<td>Locating and Viewing Information</td>
</tr>
<tr>
<td>Module</td>
<td>4</td>
<td>Creating Documents and Links</td>
</tr>
<tr>
<td>Module</td>
<td>5</td>
<td>Implementing Projects</td>
</tr>
<tr>
<td>Module</td>
<td>6</td>
<td>Introduction to Visualization</td>
</tr>
<tr>
<td>Module</td>
<td>7</td>
<td>Modifying and Managing Documents</td>
</tr>
<tr>
<td>Module</td>
<td>8</td>
<td>Managing Projects</td>
</tr>
<tr>
<td>Module</td>
<td>9</td>
<td>Managing Your Work</td>
</tr>
</tbody>
</table>
Locate and View Information with Windchill ProjectLink 10.2

Overview

Course Code: WBT-4221-0
Course Length: 2 Hours

In this course, you will learn basic skills required to access and view information, such as: logging on, accessing help, and locating and viewing product information. This course constitutes a comprehensive review of Windchill ProjectLink locate and view functionality. In addition, the content is built to support topic-based course configurations. You will complete Pro/FICIENCY skills assessment questions for each topic. These questions are used to help reinforce your understanding of the course topics.

Course Objectives

- Identify and describe the capabilities of Windchill's primary object types
- Identify Windchill storage locations, iteration and revision controls, process controls, access controls, and collaboration features
- Access Windchill
- Navigate within Windchill
- Access Help
- Execute simple and advanced searches
- Save searches
- Browse contexts
- Use, manage, and create Windchill table views
- View the attributes, content, and relationships of Windchill objects
Prerequisites

- Basic browser and Web navigation skills
- Basic understanding of product development processes and deliverables

Audience

- This course is intended for any user who needs to access product information residing within the Windchill ProjectLink system. People in related roles will also benefit from taking this course.
# Table of Contents

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Introduction to the Windchill Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Locating Information</td>
</tr>
<tr>
<td>Module</td>
<td>3</td>
<td>Viewing Information</td>
</tr>
</tbody>
</table>
Visualization with Creo View MCAD Lite 3.0 for Windchill ProjectLink 10.2

Overview

Course Code: WBT-4222-0
Course Length: 3.5 Hours

In this course, you will receive a comprehensive review of the Creo View Lite 3.0 functionality. In addition, the content is built to support topic-based course configurations. You will learn about Creo View Lite and its role as a visualization solution for Product Data Management systems. You will also learn how to visualize products and navigate through or query 3-D models, 2-D drawings, images, and documents. Additionally, you will learn how to deconstruct models to view how components fit together. Finally, you will learn how to create markups and save annotation sets to communicate design ideas and problems.

You will complete Pro/FICIENCY skills assessment questions for each topic. These questions are used to help reinforce your understanding of the course topics.

Course Objectives

• Introduction to visualization
• Introduction to the Creo View Lite user interface
• Navigating and orienting 3-D models
• Finding and selecting model components
• Changing model appearances
• Working with model annotations
• Exploding model components
• Sectioning models
• Working with components and groups
• Viewing 2-D drawings, images, and documents
• Creating markups and annotation sets
• Taking measurements
Prerequisites

- Locate and View Information with Windchill ProjectLink 10.2

Audience

- This course is intended for any user who needs to view and manipulate product information in Windchill ProjectLink. People in related roles will also benefit from taking this course.
# Table of Contents

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Introduction to Visualization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Getting Around in Creo View</td>
</tr>
<tr>
<td>Module</td>
<td>3</td>
<td>Viewing and Interrogating Models</td>
</tr>
<tr>
<td>Module</td>
<td>4</td>
<td>Deconstructing a Creo View Model</td>
</tr>
<tr>
<td>Module</td>
<td>5</td>
<td>Working with Components</td>
</tr>
<tr>
<td>Module</td>
<td>6</td>
<td>Viewing Drawings, Images, and Documents</td>
</tr>
<tr>
<td>Module</td>
<td>7</td>
<td>Working with Markups and Annotation Sets</td>
</tr>
<tr>
<td>Module</td>
<td>8</td>
<td>Working with Construction Geometry</td>
</tr>
</tbody>
</table>
Overview

Course Code: WBT-4223-0
Course Length: 1 Hour

In this course, you will learn the basic skills necessary to perform typical document management tasks using Windchill ProjectLink 10.2. You will also learn document management skills such as creating and modifying documents. This course constitutes a comprehensive review of the Standard Document Management functionality. In addition, the content is built to support topic-based course configurations. You will complete Pro/FICIENCY skills assessment questions for each topic. These questions are used to help reinforce your understanding of the course topics.

Course Objectives

- Identify the capabilities of a standard document
- Set document preferences
- Create documents
- Create documents from templates
- Modify documents
- Create document relationships
Prerequisites

• Locate and View Information with Windchill ProjectLink 10.2

Audience

• This course is intended for any user who manages documents within Windchill ProjectLink.
<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Creating Documents and Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Modifying and Managing Documents</td>
</tr>
</tbody>
</table>
Work Management with Windchill ProjectLink 10.2

Overview

Course Code: WBT-4224-0
Course Length: 2 Hours

In this course, you will learn how to manage your work, and explore the Windchill communication and collaboration mechanism including packages. This course constitutes a comprehensive review of common Windchill tasks. In addition, the content is built to support topic-based course configurations. You will learn how to participate in Windchill processes and how to manage your tasks. Other miscellaneous topics include managing user preferences and performing common tasks, such as Move, Save As, and Rename. After completing the course, you will be prepared to perform common Windchill tasks, as well as have a better understanding of the Windchill system implementation at your company.

You will complete Pro/FICIENCY skills assessment questions for each topic. These questions are used to help reinforce your understanding of the course topics.

Course Objectives

- Manage your work environment
- Identify Windchill communication and collaboration tools
- Manage Windchill packages
- Participate in workflow processes
- Manage user preferences
- Perform Common Windchill tasks
Prerequisites

- Basic Windchill 10.1 understanding

Audience

- This course is intended for any user who needs to learn about common tasks performed in Windchill.
**Table of Contents**

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Managing Your Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Communication and Collaboration</td>
</tr>
<tr>
<td>Module</td>
<td>3</td>
<td>Participating in Processes</td>
</tr>
<tr>
<td>Module</td>
<td>4</td>
<td>Performing Common Tasks</td>
</tr>
<tr>
<td>Module</td>
<td>5</td>
<td>Managing Windchill Packages</td>
</tr>
</tbody>
</table>
Project Data Management with Windchill ProjectLink 10.2

Overview

Course Code: WBT-4225-0
Course Length: 1.5 Hours

In this course, you will learn how to operate as a project manager within the Windchill ProjectLink environment. You will learn about creating projects and you will create activities and milestones that define the project timeline. Additionally, you will learn how to assign ownership responsibility of the activities and milestones to your project's team members as well as update the project phase, status, and timeline. Finally, you will learn how to manage data using Windchill ProjectLink and Microsoft Project. After completing this course, you will be prepared to complete basic Windchill ProjectLink management tasks and activities, and have a greater understanding of Windchill ProjectLink data management processes.

You will complete Pro/FICIENCY skills assessment questions for each topic. These questions are used to help reinforce your understanding of the course topics.

Course Objectives

- Identify steps involved in project management
- Plan projects
- Create projects in Windchill
- Create activities, milestones, and summary activities
- Create project deliverables
- Create and managing action items
- Update projects
- Monitor project timelines
- Use Microsoft Project with Windchill
Prerequisites

- Locate and View Information with Windchill ProjectLink 10.2

Audience

- This course is intended for project managers. People in related roles will also benefit from taking this course.
# Table of Contents

<table>
<thead>
<tr>
<th>Module</th>
<th>1</th>
<th>Introduction to Project Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>2</td>
<td>Implementing Projects</td>
</tr>
<tr>
<td>Module</td>
<td>3</td>
<td>Managing Projects</td>
</tr>
</tbody>
</table>