



FELCO Solutions, Inc.

**Windchill API
Info*Engine**

**JAVA
JSP
SOAP
XML
WSDL**

```

rmiArgs[4]=group;
codebase url = new URL("http://tc-training001a.co/Windchill/");
RemoteMethod rmi = RemoteMethodServer.getRemoteMethodInstance(codebase url, "com.ptc.windchill.ExTask");
rms.setUserName("admin");
rms.setPassword("admin");
System.out.println("authentication done");

String name = ie.getName();
rmiArgs[1]="user"+ name + "!!!";
ie.addGroup((Group)rms.invoke ("xTask", "com.ext.windchill.ExTask"));
System.out.println("\n"+ie.getGroupXML(group));
Group gr = ie.getGroup();
for (int i = 0; i < gr.getElementCount(); i++) {
String number = (String)gr.getAttributeValue(i, "number");
String ver = (String)gr.getAttributeValue(i, "version");
String containerName = (String)gr.getAttributeValue(i, "containerName");
System.out.println("Number: " + number + "; " + ver);
if (!containerName.equals("Requirements Planning")){
allItems.addElement(number.toLowerCase());
}
}
} //End of for loop
catch (ArrayIndexOutOfBoundsException e) {
System.err.println("\n");
}

```

Automating Windchill Configuration Using the Windchill Java API and Info*Engine

Release Windchill 10.X/11.0

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Atlanta, Georgia

FELCO Solutions, Inc. has used their best efforts in preparing this training manual. These efforts include the development, research, and testing of the theories to determine their effectiveness.

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This course teaches the fundamentals of the Windchill Java API and introduces Info*Engine tasks and webjects using practical applications. It provides students the understanding of how to automate workflow processes, administrative duties, user actions, and Info*Engine tasks. The student will also learn how to create and debug Windchill applications, using the Windchill Java API in the Eclipse IDE. The course explains the Windchill objects in depth in a programming perspective. In addition, the course teaches the following:

- Understanding Java Queries
- Understanding the CAD Documents API
- Containers and Folders API
- Understanding Change Objects API
- Workflow Expression Robots
- Action Listeners
- J-Link and Windchill Integration
- Info*Engine Tasks and Webjects
- Info*Engine JSP
- Info*Engine Action Tasks

This course may be taken independently, but we recommend students also take our Introduction to Windchill user training in either instructor-led or web-based formats to round out their Windchill capabilities understanding.

After completing this course, students should be able to successfully automate and customize Windchill processes. The course is taught using a Windchill AWS image on the cloud.

Prerequisites: This course is intended for experienced Java programmers or Object-oriented programmers.

Training Agenda

Automating Windchill Configuration

Day One (24 Tasks)

Welcome and Introduction

Introduction to the Windchill Java API

- Introduction
- Java Programming
- What is the Windchill Java API
- Installation and Setup
- Locating the Windchill Client Java API
- Using and Setup of Firefox
- Managing User scripts
- Codebase Directory

Eclipse – Using a Java IDE

- Introduction of Eclipse
- Downloading and Setup of Eclipse
- Creating and Working with Windchill Projects
- Creating a Package
- ✓ *3 Tasks will be completed*

Creating Applications – Windchill Java Applications

- Connecting to Windchill
- Creating Windchill Classes
- Debugging Applications
- ✓ *6 Tasks will be completed*

Understanding Java Queries

- Using Persistence Management
- Using Java Query Methods
- Search Conditions
- EPMDocument Query Methods
- Debug the Query
- ✓ *3 Tasks will be completed*

Understanding CAD Documents

- CAD Document Hierarchy
- Retrieving EPM Documents
- Version Control Services
- Life Cycles Services
- EPMDocumentMaster Query
- Renaming CAD data
- Data Service Status
- Retrieve Related WTPart from EPMDocument
- ✓ *12 Tasks will be completed*

Day Two (30 Tasks)**Containers and Folders**

- Understanding Containers Java methods
- Creating Folders
- Retrieving Checkout Objects from Containers
- Creating and renaming Parameters
- ✓ *3 Tasks will be completed*

Understanding Change Objects

- Introduction of Change Objects
- ✓ *1 Task will be completed*

Workflow Expression Robots

- Introduction of Workflows and Robots
- Java Method Robot
- Create JAR files
- Setup Robot Server Classes
- Create Expression Robots
- Calling Classes
- ✓ *6 Tasks will be completed*

Action Listeners

- Introduction to Action Listeners
- Creating and Registering Action Listeners
- Create JAR files
- ✓ *4 Tasks will be completed*

Introduction to Info*Engine

- Info*Engine Components and Architecture
- Understanding Info*Engine Tasks
- Structure of Webjects
- Creating and Running Info*Engine Tasks
- Creating Various Webjects
- Calling Info*Engine Tasks from a Workflow
- ✓ *9 Tasks will be completed*

Understanding Info*Engine JSP

- Introduction to Info*Engine JSP
- Creating Info*Engine JSP
- Reloading JSP page
- Mixing HTML and Webjects
- Review the SetRevision JSP
- ✓ *4 Tasks will be completed*

Day Three (33 Tasks)**Info*Engine Action Webjects**

- Understanding Info*Engine Action Webjects
- Creating Action Webjects
- Update and Modify Windchill Objects
- Creating and renaming Parameters
- ✓ 3 Tasks will be completed

Calling Info*Engine JSP from HTML

- Using Info*Engine Scriptlets in a JSP
- Retrieving HTML parameters in a JSP
- Use Action Webjects with Scriptlets
- Handling Exceptions
- ✓ 2 Tasks will be completed

Client to Server Remote Applications

- Understand the Client Side Library
- Create a Java Client Application
- Create a Server Side Application
- Create a Dynamic Info*Engine Task
- Returning arguments to client
- ✓ 11 Tasks will be completed

Windchill Web Services

- Introduction to Windchill Web Services
- Web Service Tools
- Create a Web Service Project
- Create Eclipse Project on Server
- Web Service Deployment
- Build Client JAR files
- Create Client Project
- Create a WSDL
- ✓ 8 Tasks will be completed

Client Remote Debugging

- Introduction to Remote Debugging
- Method Server JVM configuration
- Debugger Verification
- Configuring Eclipse
- Configuring Workflow with Robot
- Debug project on client
- ✓ 9 Tasks will be completed