Creo Toolkit Programming
Language: VB.NET

Training Structure

Module 1: VB.Net In-depth.
Module 2: Creo Files, UI Automation and Industrial Techniques.
Module 3: Drawing Automation, Part Automation, Assembly Automation.

Fees Check website: **https://www.cadvertex.com/training.htm**

Phone/WhatsApp: **+91 9890611694**

eMail: **info@CADVertex.com**

Features:

- ✓ Personal coaching - no recorded videos.

- ✓ Flexible timings.

- ✓ Weekday batches.

- ✓ Weekend batches.

- ✓ CSharp or VB.Net programming - indepth training included.

- ✓ Unlimited support after training - at no extra cost!

- ✓ 10 industry projects – as listed on next page.

- ✓ Resume Preparation.

- ✓ Interview Preparation.

- ✓ Job referrals.

Training Highlights

Online Training Flexible Timings Trainer: 25 yrs Exp. Duration: 6 Wks 1 Hour Daily

Basic to Advanced 10 Industry Projs Certificate Support after Training CuttingEdge Tech

List of Projects

1. Geometric Calculator.

2. Batch Processor.

3. Paper Estimation.

4. Create Standard Dwg Views.

5. Title Block creation.

6. Estimate Machining Cost.

7. Estimate Material.

8. Parametric Parts.

9. Assembly Interference.

10. Build Assembly.

11. Writing Creo assembly info to Excel.

12. Writing batch processing log to Excel.

13. Parametric part from Excel.

14. Build Asesmbly from Excel.

Module 1: VB.Net In-depth

1. Installing Visual Studio

- Installing an older version.
- Setting the default language.
- Setting the environment and preferences.
- Customizing the layout.
- Solution Explorer, output and error windows.

2. Console applications and introduction to programming

- Selecting a project template.
- Setting up user interaction and collecting inputs.
- Mathematical libraries, calculations and display outputs.
- Using the .Net Math library functions.
- Various files and their meaning in the project structure.
- Separating source code from the executable.

3. Creating a Windows Forms Application

- Setting dialog box properties.
- Toolbox and the Properties window.
- Adding controls: Button, TextBox, Label, Checkbox, RadioButton.
- Adding images to PictureBox and other controls.
- Aligning text and images on controls.
- Composite controls: ListBox and ComboBox.
- Adjusting various properties for each type of control.
- Variable types - Double, Integer, String and Boolean.
- Acquiring user input from textboxes into variables.

4. File Open dialog and File Save dialogs

- Creating basic, compound and composite file filters.
- Dialog properties and startup paths.
- Reading single and multiple files from a file dialog.
- Opening various type of files using a file dialog.

5. Folder Selection Dialog

- Getting files from folder.
- Filtering file types in a folder dialog.
- IO.Directory functions.
- Anchoring controls to the Form.

6. Message Boxes

- Configuring single line and multiline messages.
- Button and icon selection.
- Using If-Then-Else statements.
- Checking message box responses.

7. Arrays

- Filling arrays and reading array elements.
- Filling ListBoxes with array elements.
- For Loop and ForEach loop.

8. Functions and Subroutines

- Arguments in functions.
- Return types in functions.
- ByRef or out arguments.
- Function overloading.

9. Object Oriented Programming

- Creating a class.
- Adding member functions.
- Public and Private methods.
- Encapsulation.
- Polymorphism and function overloading.
- Class libraries.
- Creating objects and invoking methods.
- DLL and EXE - differences and usage.

10. Multi-Form Projects

- Adding Forms to a Winforms project.
- Adding Forms to a console application.
- Form Objects and invoking Forms.
- Default Constructor and modified constructor.
- Exchanging data between Forms.

Module 2: Creo UI and Documents Automation

10. Getting Started

- ❖ Connect to Creo.
- ❖ Creo model and window objects.
- ❖ Creo interface elements - panels and message boxes.
- ❖ Read-write various properties of the Creo interface.
- ❖ Disconnect a Creo session.

11. Creo Documents

- ❖ Change the working directory.
- ❖ Determine active model type.
- ❖ Create new Creo files – Part and Assembly.
- ❖ Open, Close, Save, and SaveAs Creo files.
- ❖ Activate files in a session.
- ❖ Access all Creo models in session.

12. File Handling

- ❖ Windows standard file Open/Save dialogs to select Creo files.
- ❖ Setting Creo file filters and validations.
- ❖ Single and multiple file selection.
- ❖ Exporting Creo models to other 3D formats.
- ❖ Extracting raster images from Creo models.

13. Batch Processing

- ❖ Industry Project - Create a Batch Processor for Handling Creo Documents
- ❖ Use the Windows 'Browse for Folder' dialog, gather all files of a specified type into a .Net collection, selectively remove unwanted files from the list
- ❖ Export the batch of documents to formats like STP, etc.

Module 3: Creo Drawing, Part and Assembly Automation

14. Managing Sheets In Drawings

- ❖ List Sheets.
- ❖ Create new sheets.
- ❖ Extract sheet information, width, height, units.
- ❖ Display drawing info in the default Creo Browser.
- ❖ Industry Project - Estimating Paper Requirements for Printing Drawings

15. Drawing Views

- ❖ Create drawings using templates
- ❖ Create drawing views side view and top view.
- ❖ Industry Project - Creating standard views of a model in Creo.

16. Handling Texts and Geometric Entities

- ❖ Create 2D entities like lines and points.
- ❖ Industry Project - Creating a Title Block with Notes.

17. Part Features

- ❖ Traversing the features of a Creo model.
- ❖ Determine the name and type of features.
- ❖ Selection and selection filters.
- ❖ Features by name and by Id.
- ❖ Industry Project - Estimate Machining Cost for a Plate with Various Holes

18. Part Physical Properties

- ❖ Determine the physical properties of a model in Creo.
- ❖ Extract mass, volume, and other information.
- ❖ Industry Project - Material estimation for spray painting

19. Parametric Parts

- ❖ Control parametric part in Creo.
- ❖ Parameter description and types.
- ❖ Accessing existing parameters.
- ❖ Modify parameters.
- ❖ Model regeneration options.
- ❖ Model Dimensions.
- ❖ Access and modify model dimensions.
- ❖ Industry Project - Update Parametric Shaft, Keyway, TopPlate, etc.

20. Creo Assembly Components

- ❖ List components of a Creo assembly.
- ❖ Industry Project – Determine interference in assemblies.

21. Build Assembly

- ❖ Industry Project - Create a Creo assembly from scratch.
- ❖ Assemble parts.

Bonus Module: Creo Integration with Excel Automation

22. Custom Properties, External Data

- ❖ Accessing custom properties from models.

23. Exel Automation

- ❖ Invoking Excel from VB.Net
- ❖ Creating a new workbook.
- ❖ Connecting to Excel application.
- ❖ Connecting to existing worksheets.
- ❖ Accessing range and cells.
- ❖ Writing and reading values from cells.
- ❖ Formulas and reults.
- ❖ Formatting cells - font and layout.
- ❖ Excel Macro recording and integration.

24. Bonus Excel-Creo Integration Projects

- ❖ Industry Project - Writing Creo assembly info to Excel.
- ❖ Industry Project - Writing batch processing log to Excel.
- ❖ Industry Project – Parametric part from Excel.
- ❖ Industry Project – Build Asesmbly from Excel.

Other eBooks and Training Programs from CADVertex:

- ❖ CATIA Automation: VB.Net or CSharp or Python
- ❖ SolidWorks Automation: VB.Net or CSharp or Python
- ❖ Solid Edge Automation: VB.Net or CSharp or Python
- ❖ Inventor Automation: VB.Net or CSharp or Python
- ❖ NX Open: VB.Net or CSharp with Win Forms
- ❖ NX Open: VB.Net or CSharp with Block UI Styler
- ❖ Knowledge Fusion
- ❖ Knowledge Fusion with Block UI Styler

- ❖ Revit Automation using CSharp.Net
- ❖ Tekla Automation using CSharp.Net

- ❖ cMayoCAD: Learn to build a new CAD program
  from scratch using a Geometric Modeling Kernel and CSharp

- ❖ Machine Learning for Engineers with Python

- ❖ CATIA Automation with Python and Machine Learning
- ❖ Solid Edge Automation with Python + Machine Learning
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