CATIA Customiztion
Language: VB.NET or CSharp

Training Structure

Module 1: VB.Net or CSharp In-depth
Module 2: CATIA Files and UI Automation
Module 3: Drawing Automation, Part Automation, Assembly Automation

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

Phone   **+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 3 Standard Dwg Views.

5. Modify Dimensions in Bulk.

6. Automatic Title Block Update.

7. Estimate Cutting Cost.

8. Estimate Machining Cost.

9. Parametric Parts.

10. Product Configurator.

Module 1: VB.Net or CSharp 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 : CATIA UI and Documents Automation

11. Getting Started

- ❖ Connect to CATIA
- ❖ Traversing the CATIA object model
- ❖ CATIA interface elements
- ❖ Start and stop CATIA
- ❖ Show and hide the CATIA main window
- ❖ Read-write various properties of the CATIA interface

12. CATIA Workbenches

- ❖ Detect active workbench
- ❖ Determine active document type

13. CATIA Documents:

- ❖ Create new CATIA files
- ❖ Open, Close, Save and SaveAs CATIA files
- ❖ Export CATIA documents to other formats
- ❖ Activate files in a session

14. File Handling

- ❖ Windows standard file Open/Save dialogs to select CATIA files.
- ❖ Setting CATIA file filters and validations
- ❖ Single and multiple file selection
- ❖ Invoke CATIA's standard file Open and Save dialogs.

15. Batch Processing

- ❖ Industry Project - Create a Batch Processor for Handling CATIA 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 DWG, STP, etc.

Module 3 : CATIA Drawing, Part and Assembly Automation

16. Managing Sheets In Drawings

- ❖ Creating drawing sheets
- ❖ Accessing all sheets in a drawing
- ❖ Counting and extracting sheet info
- ❖ Switching between sheets
- ❖ Deleting sheets
- ❖ Exporting sheets to DXF, etc.
- ❖ Industry Project - Estimating Paper Requirement for Printing Drawings

17. Drawing Views

- ❖ Create drawing views
- ❖ Determining view vectors for side and front views
- ❖ View scale and spacing between views
- ❖ Industry Project - Creating standard views of a model in CATIA

18. Dimensions in Drawings

- ❖ Learn to handle Dimensions In CATIA Drawings
- ❖ Dimension collection and dimension types
- ❖ Getting and setting properties of dimension like prefix and suffix
- ❖ Industry Project - Modifying Dimensions in Bulk

19. Handling Text In Drawings

- ❖ Access text objects in a drawing document
- ❖ Persistent text objects in drawing
- ❖ Industry Project - Automatic Title Block Update program

20. 2D objects in Drawings

- ❖ Creating 2D objects in a drawing document
- ❖ Accessing 2Delements and its geometrical properties
- ❖ Industry Project - Estimate Cutting Cost of a Milling Profile

21. Part Features

- ❖ Traversing the features of a CATIA model
- ❖ Part bodies and shapes
- ❖ Determine type of features like hole, pocket, draft, fillet, etc.
- ❖ Determine features sub-type like various hole types
- ❖ Industry Project - Estimate Machining Cost for a Plate with Various Holes

22. Parametric Parts

- ❖ Create and control parametric part in CATIA
- ❖ Industry Project - Create and Update Parametric Shaft, Keyway, TopPlate, etc.

23. Advanced Part Features

- ❖ Creating variations of a part by manipulating features
- ❖ Industry Project - Build a Part Configurator from Scratch

24. CATIA Products and Physical Properties

- ❖ Traverse through all components of a CATIA Product
- ❖ Extract physical properties like area, mass, volume, etc.
- ❖ Industry Project - Material Estimation for Spray Painting

25. CATIA Assembly Generation

- ❖ Inserting parts into a product
- ❖ Create and link library of components
- ❖ Create and modify the component matrix
- ❖ Move, rotate and scale components in an assembly using a matrix

26. Product Configurator

- ❖ Industry Project - Create a CATIA Product Configurator
- ❖ Automatically generate custom assemblies
- ❖ Create and set up a parts library
- ❖ Build a UI to choose parts from the library
- ❖ Traverse a CATIA product & build the product configuration as specified by the user.

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

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

- ❖ Machine Learning for Engineers with Python

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

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

- ❖ Fast track course in Python with Machine Learning for VB.Net experts
- ❖ Fast track course in Python with Machine Learning for CSharp experts

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