



MLC CAD Systems

SolidWorks API Fundamentals 2010

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Length: 3 days

Prerequisites: SolidWorks Essentials, Visual Basic programming.

Description: API Fundamentals teaches you how to use the SolidWorks API (Application Programming Interface) to automate and customize SolidWorks.

Lesson 1: Using the Macro Recorder Macro Recording

Macro Toolbar
Understanding How Macro Code Works
Understanding How to Call Members on API
Passing Parameters
Cleaning Up Code
Adding Forms to a Macro

Lesson 2: The API Object Model

SolidWorks API Object Model
Application Objects
Case Study: Connecting to New Documents
Case Study: Connecting to Existing Documents

Lesson 3: Setting System Options and Document Properties

User Preferences - System Options
User Preferences - Document Properties
Locating the Correct APIs and Enumeration Values
UserPreference Tables For System Options
UserPreference Tables For Document Properties

Lesson 4: Automating Part Design

Case Study: Automation Tool for Parts

Lesson 5: Assembly Automation

Case Study: Automation Tool for Assemblies

Lesson 6: Drawing Automation

Case Study: Automating Drawing Creation

Lesson 7: Selection and Traversal Techniques

Case Study: Programming With a Selected Object
The SolidWorks BREP Model
Case Study: Body and Face Traversal
Case Study: Feature Manager Traversal

Lesson 8: Adding Custom Properties and Attributes

Case Study: Custom Properties
Case Study: Configurations With Custom Properties
Case Study: File Summary Information
Case Study: Document Attributes
The Attribute Objects
Case Study: Face Attributes

Lesson 9: The SolidWorks API SDK

The API SDK
Case Study: Creating a VB.NET Add-In
Case Study: Creating a C# Add-In
Case Study: C++ Add-Ins
Choosing a Programming Language

Lesson 10: Customizing the SolidWorks User Interface

Case Study: Customizing the UI With VB.NET
Understanding The Add-in Code
Property Pages
Property Page Groups and Controls
Removing Menus and Toolbars
Other Areas of Customization

Lesson 11: Notifications

Notifications
Notifications in VBA
Case Study: Simple Notification
Case Study: Using Notifications in .NET

Appendix

Macro Feature
Batch Conversion 1
Batch Conversion 2
Assembly Traversal
Custom Model View

