



SolidWorks API Fundamentals

Pre-Requisites:

- SolidWorks Essentials
- SolidWorks Drawings
- Experience with the Visual Basic programming environment.

Daily Schedule: Begin at 8:30 a.m., End at 4:30 p.m., 1 hour lunch

Length: 3 Days

Description: This course introduces students to the SolidWorks Application Programming Interface (API). The course focuses on the fundamental skills and concepts central to building automation tools.

Lessons include:

- Macro Recording
- VB Foundations
- Part and Drawing Automation
- Creating Utility Scripts

Users will actually create routines to serve as examples they can take back for their own projects.

This course is taught from the official course curriculum from SolidWorks Corporation, with additional information from Graphics Systems instructors.

Introduction

About This Course
Windows® XP
Use of Color
Getting Started
Macro Recording Tips

Lesson 1: Using the Macro Recorder

Macro Toolbar
Understanding How Macro Code Works
Understanding How to Call Members on API Interfaces
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





GRAPHICS/SYSTEMS

Your Source for SolidWorks

2010 SolidWorks Training

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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

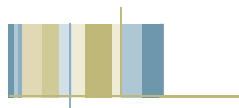
Macro Feature

Batch Conversion 1

Batch Conversion 2

Assembly Traversal

Custom Model View



Milwaukee

Chicago

Madison

Green Bay

