

SOLIDWORKS API Fundamentals

Course Outline

 DURATION/TIME 3 Days 9:00 am - 5:00 pm	 METHODOLOGY Practical hands-on with using computers, lecturing, discussions and case studies.
 PREREQUISITES Experience with the Windows™ Operating System. Attended SOLIDWORKS Essentials training course. Experience with Visual Basic Programming.	 TARGET Application Engineer, R&D Engineer, Product Designer or Engineer, and Industrial Engineer

INTRODUCTION

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

OBJECTIVE

At the end of this program participants are expected to:

- Obtain fundamental skills and concept central to successfully build tools with SOLIDWORKS API.
- Know how to automate parts, assemblies, and drawings creation or modification using API.
- Able to use SOLIDWORKS API SDK to create Add-Ins.

CONTACT

IME CADCAM RESOURCE CENTRE SDN BHD 200301003284 (605704-H)
formerly known as IME CADCAM TRAINING CENTRE SDN. BHD. | A Member of IME Group of Companies - Certified ISO 9001:2015 QMS

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SOLIDWORKS API Fundamental

DAY 1

Course Outline:

Lesson 1: Using the Macro Recorder

- Macro Recording
- 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
- Applications 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, Document Properties and Menu Items

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DAY 2

Course Outline:

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

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DAY 3

Course Outline:

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 Attributes 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

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