

Autodesk Revit API Training Course

Course Overview

Course Length: 16-Hours

- 16-Hours – 4 x 2-hour training sessions
- Remote training over MS Teams
- Sessions are recorded and download links for each session are provided for future use
- Training for up to 1-3 people
- Sessions can start within 7 days upon ordering
- Flexible sessions (for example, consecutive or Monday, Wednesday, Friday)
- Courses are private and topics can be customised to suit
- Includes Certificate of Completion

This Autodesk Revit API Training Course is designed for Revit users, BIM managers, and developers who want to automate workflows, build custom add-ins, and extend Revit using the API. The course covers the fundamentals of Revit API development, including setting up the development environment, creating and deploying add-ins, working with Revit elements and parameters, automating model and documentation tasks, developing user interfaces, and integrating Revit with external data sources and Autodesk Platform Services.

Topics Covered

- Understand the structure and capabilities of the Revit API
- Set up a Revit API development environment using Visual Studio and .NET
- Create, deploy, and manage Revit add-ins and commands
- Read, create, and modify Revit elements and parameters programmatically
- Automate model creation, family workflows, and documentation tasks
- Develop custom ribbon tools, dockable panels, and WPF interfaces
- Integrate Revit with external data sources such as Excel, SQL, JSON, and REST APIs
- Apply transactions, event handling, debugging, and performance optimisation techniques
- Explore Autodesk Platform Services for connected BIM workflows
- Plan and scope custom BIM automation projects and add-in development

Prerequisites

Participants attending this Revit API Course should have a good working knowledge of Autodesk Revit and BIM workflows. Previous experience with C#, .NET, Visual Studio, or object-oriented programming is beneficial but not mandatory.

Access to Autodesk Revit, Microsoft Visual Studio, and a stable internet connection is required for participation in remote training sessions. The course can be tailored for beginner, intermediate, or

advanced developers depending on existing programming experience and organisational requirements.

Training Guide Contents

Chapter 1: Introduction to Revit API Development

- Revit API Architecture
- Development Environment Setup
- Visual Studio Configuration
- Revit Object Model
- API Fundamentals

Chapter 2: Creating Revit Add-Ins

- Add-In Structure
- Commands
- Manifest Files
- Deployment
- Development Workflows

Chapter 3: Working with Revit Elements

- Element Collection
- Reading Properties
- Modifying Elements
- Creating Elements
- Model Navigation

Chapter 4: Parameters and BIM Data

- Built-In Parameters
- Shared Parameters
- Project Parameters
- Parameter Automation
- BIM Data Management

Chapter 5: Model and Family Automation

- Creating Model Elements
- Family Automation
- Family Placement
- Type Management
- Content Automation

Chapter 6: Documentation Automation

- Sheet Creation
- View Creation
- Annotation Automation
- Documentation Standards
- Drawing Production

Chapter 7: User Interface Development

- Ribbon Development
- Custom Commands

- Dockable Panels
- WPF Interfaces
- User Experience Design

Chapter 8: Data Exchange and Autodesk Platform Services Integration

- Excel Integration
- SQL Databases
- JSON Workflows
- REST APIs
- Autodesk Platform Services

Chapter 9: Advanced API Development

- Event Handling
- Transactions
- Error Handling
- Debugging
- Performance Optimisation

Chapter 10: Custom BIM Automation Workshop**

- BIM Management Tools
- Project Automation
- Custom Add-In Development
- Deployment Planning
- Future Development Roadmap

**Creating a custom add-in, code, or scripts may require additional time beyond the allocated 16 hours and can be scoped prior to the commencement of training.