

Introduction to Revit Programming

# Introduction to Revit Programming

*Hands-on Training Class*

*Developer Technical Services*

# About these materials ...

- Materials provided here are from our two day classroom trainings. You can also use this for self-learning.
- This is to introduce you to the fundamentals of Revit API and to get you started. (Not meant to provide a complete coverage of Revit API nor .NET Framework.)
- Materials are in C# and VB.NET. Lab exercises are provided in two languages. Powerpoint presentation is mixed.
- Disclaimer: We are aware that materials are not free of errors. We intend to correct them as we encounter. We hope this will still be useful for you to get started with Revit API programming.

Good luck!

AEC workgroup  
Developer Technical Services  
Autodesk Developer Network  
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# Agenda

## Day 1: Overview and Revit database basics

- External command, external application, more RevitLookup and RvtSamples, understanding the Revit Element class, filtered element collector, object creation and modification

## Day 2

- Revit UI basics: ribbon, dialog, selection, events
- Family API
- Advanced topics
  - Extended storage
  - Custom data in shared parameters: FireRating
  - DocumentChanged event: ChangesMonitor
  - Dynamic Model Update (DMU): DynamicModelUpdate and DistanceToSurfaces
  - Analysis Visualisation Framework (AVF): DistanceToSurfaces and SpatialFieldGradient

# Revit API Intro Labs

## Revit API fundamentals

- Revit Add-ins: external command/application, attributes, add-in manifest and object model
- Representation of Revit elements
- Element filtering and queries
- Element modification
- Model creation
- Application own data

## Exercises

- Lab1 – “Hello World”
- Lab2 – DB Element
- Lab3 – Element Filtering
- Lab4 – Element Modification
- Lab5 – Model Creation
- Lab6 – Extensible Storage
- Lab7 – Shared Parameter



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