Autodesk® Revit® Architecture – New Features

Speaker(s) Michael B. Zeeveld – Applied Software

AB1496 This class covers the updates of Autodesk® Revit® Architecture 2013, from schematic design through construction documentation. Students will be introduced to the concepts of Building Information Modeling and the tools for parametric design and documentation. Learn the new features in this release with topics including Parts, assemblies, Visual Graphics, Worksharing, Linear Dimension Splitting and Segmented Gridlines.

Learning Objectives

At the end of this class, you will be able to:

- Become familiar with the new features, concepts and benefits of Building Information Modeling.

- Understand the fundamental concepts and features of Autodesk Revit Architecture 2013.

- Use the parametric 3D design tools to start designing projects.

- Develop an initial level of comfort and confidence with the new tools in Autodesk Revit through hands-on experience

About the Speaker

Michael is a Senior Application Specialist currently based out of Atlanta. He travels the southeast spreading the word about Revit, BIM, the AEC industry and software technology. Michael has more than 17 years of experience ranging from CAD management, commercial architectural drafting/Team Leader, 3D modeling, visualization and program customization to information technology. He has experience in software applications that include AutoCAD, AutoCAD Architecture, Revit Architecture/ Structure, 3ds Max Design, Photoshop and SketchUp. Michael is an Autodesk Certified Associate and Professional for multiple releases in AutoCAD, AutoCAD Architecture, Revit Architecture, 3ds Max Design and an Autodesk Consulting Specialist and Structural Specialist. He is an Associate Member of the American Institute of Architects. He has had the distinct honor of presenting and teaching at Autodesk University in 2006, 2010 and 2012, as well as a presenter at RTC and multiple AUGI CAD Camps.

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Topics

General Enhancements
- Project Templates
- Project Browser
- View Types
- View Templates
- Filters List
- Dimensions
- Family Editing
- View References

Visualization Graphics
- Background
- Surface Transparency
- Hardware Acceleration
- Anti-Aliasing
- Realistic Visual Style
- Ray Trace Visual Style

Materials
- New Data model
- UI
- Thermal Properties
- Structural Properties

Misc
- Interoperability
  - DGN/IFC
- Revit Server
- Construction Modeling
- Conceptual Design Environment
- Loop Arrow Style
- Workshare Enhancements
- Zoom to Fit
- Stairs
- Railing
- Ribbon tab Changes
- Selection Set
- 3 products in 1
- UI config
- Suite Workflow
- Parts
- Assemblies
- Parametric Components
- Exchange App Store

General Enhancements

Application

Building Design Suite Ultimate 2013

"One Box" concept
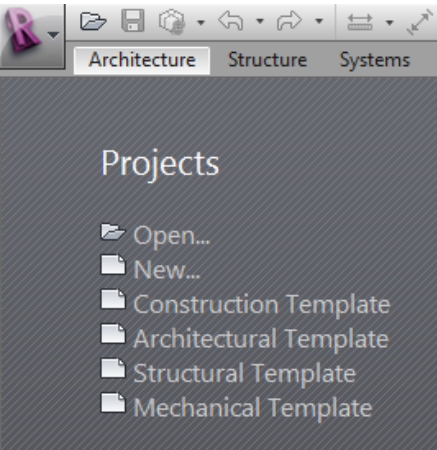
Multiple Disciplines

Templates

Multiple discipline templates to choose from

File Locations
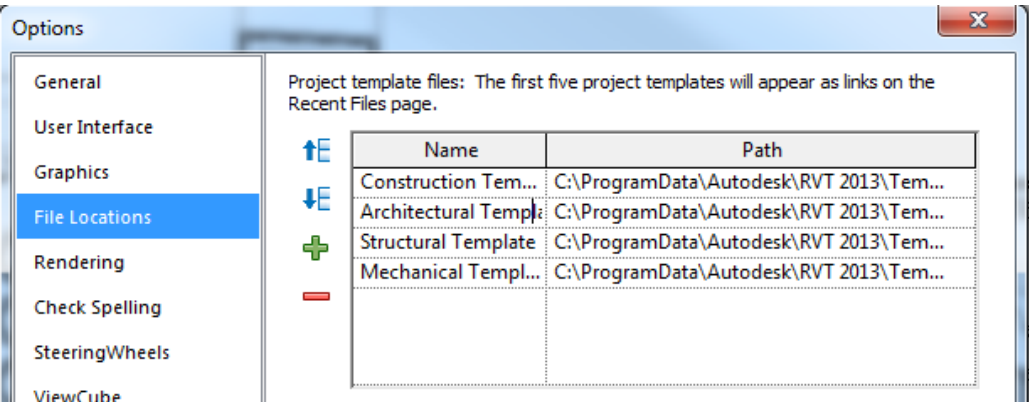
Searchable Project Browser

Right click in Project Browser
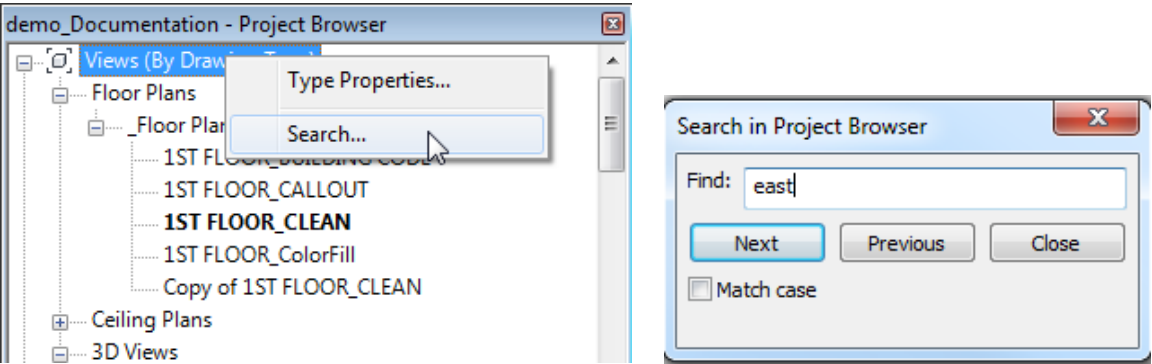
View Templates

Assign by a view template properties
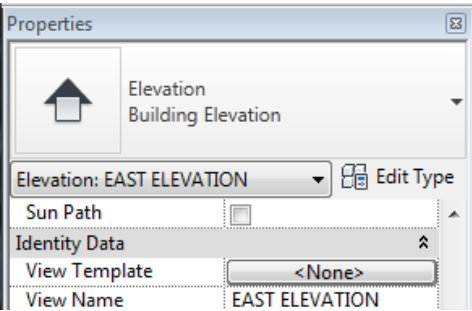
Template to view

Future changes to template affects views it is assigned to
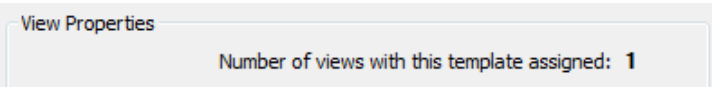
Suite Workflow

Simplified workflow
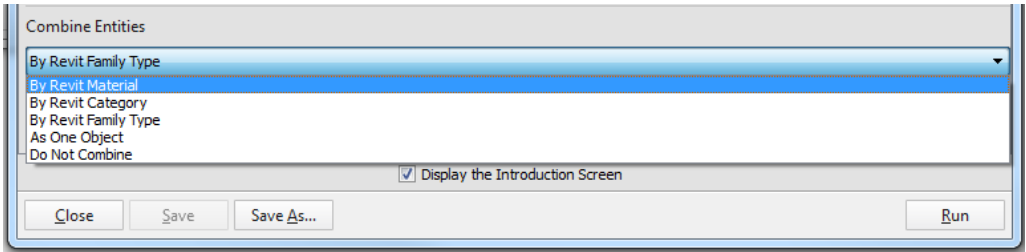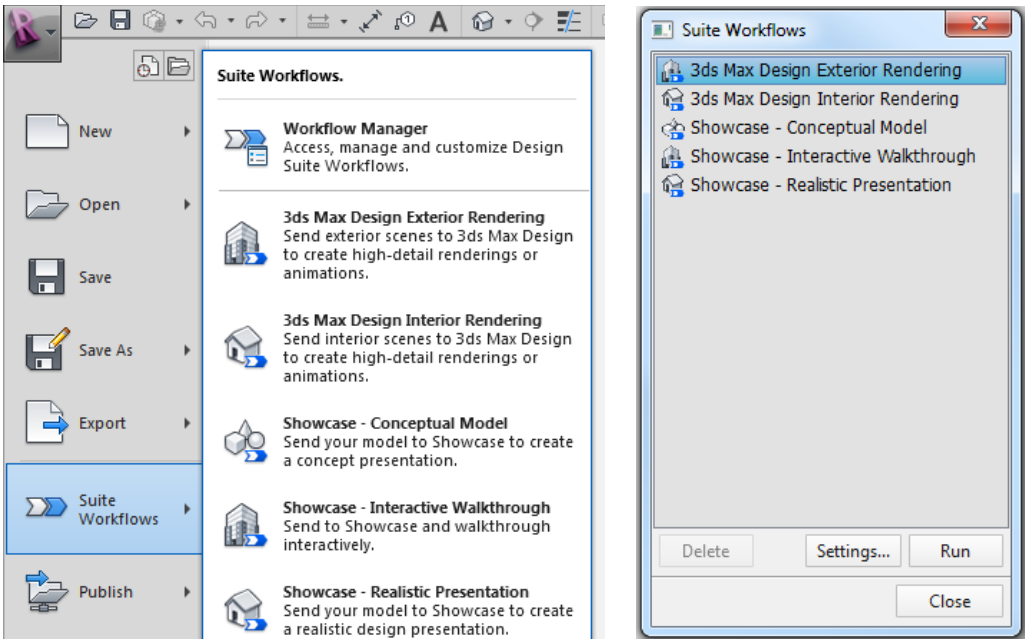
3ds Max Design

Showcase
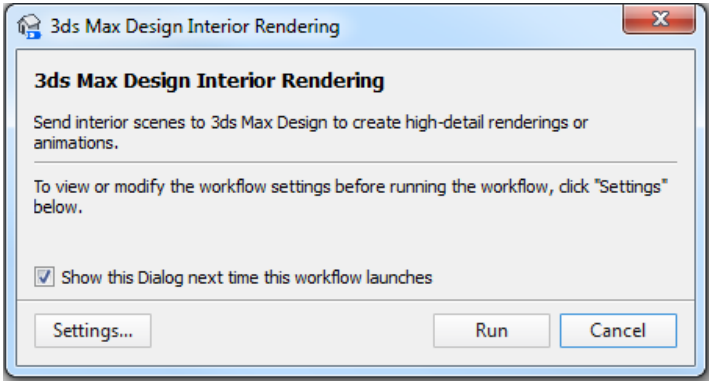
Dimensions

Diameter Dims
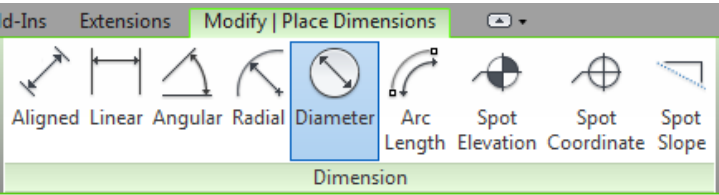
Delete Dim segments - Tab - Delete

Dim Display
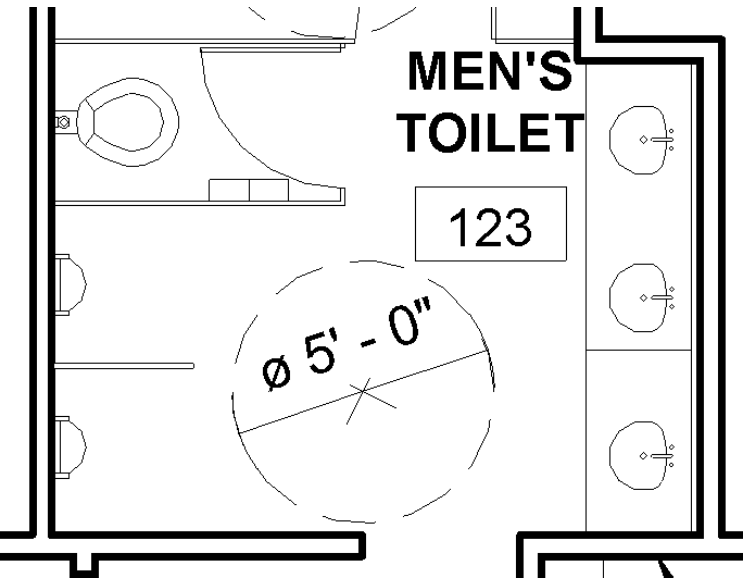
segment values, equality text, or the equality formula string
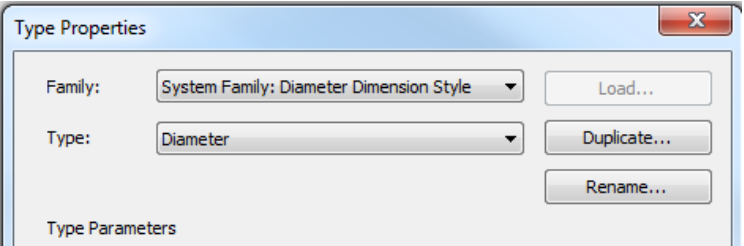
Arrowhead
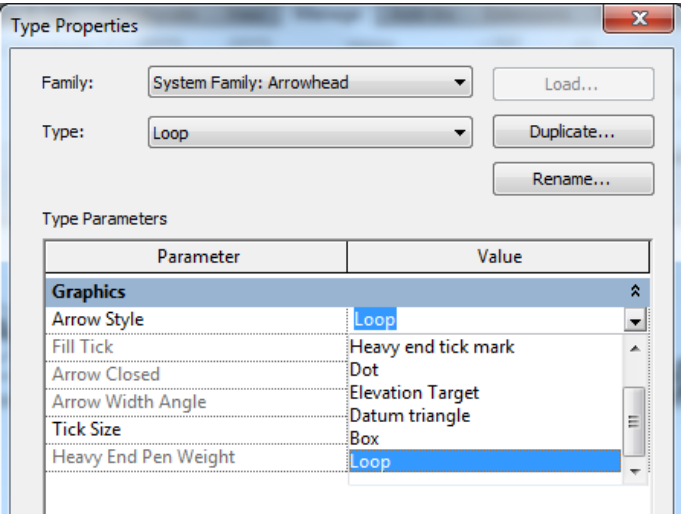
Loop

Families

Double click editing

Filters List

Multi-discipline
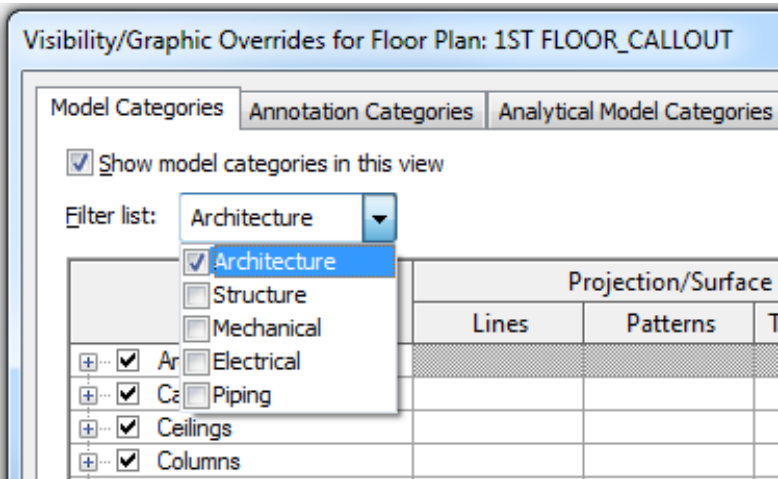
Surface Transparency Slider

Replaced Ghost Surfaces

Hardware Acceleration
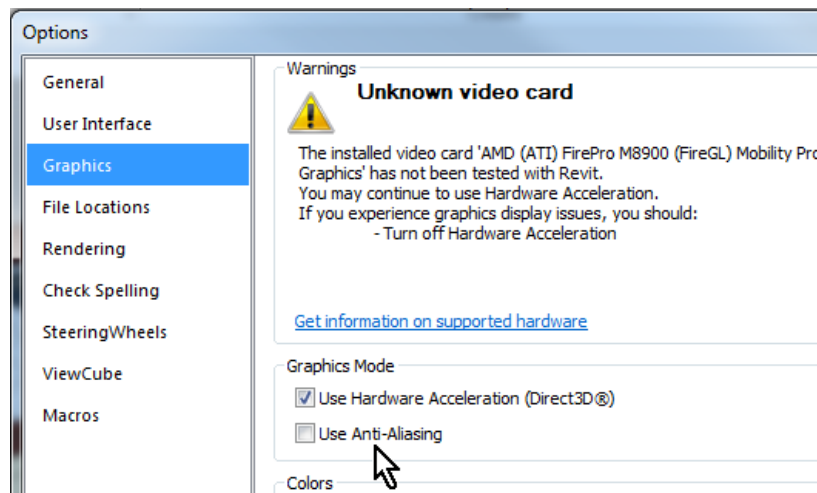
Anti-Aliasing

Improved Performance:

- realistic mode
- ambient occlusion
- surface transparency
- anti-aliasing

Parts

Merge parts

Part project excluded

Divider offset for part divisions

Parts from loaded families

Assemblies

New view options

Assembly views placement

Element edit assembly mode

Origin

Local coordinate system

Selection Sets

Previous only in Revit Structure
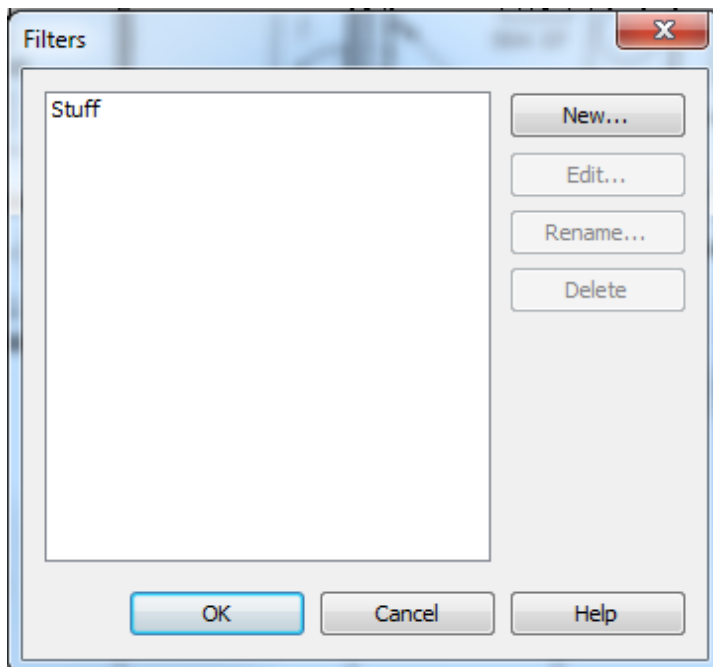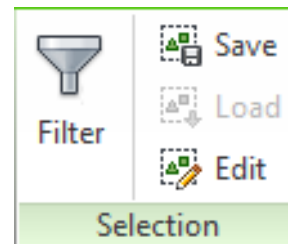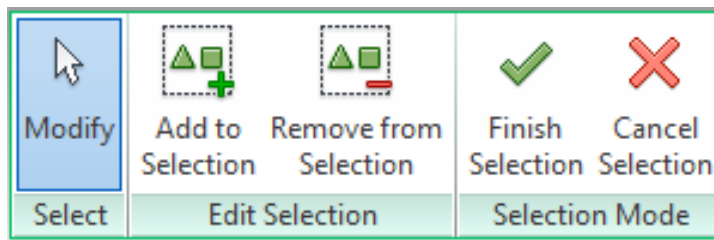
Visual Style

Ray Trace
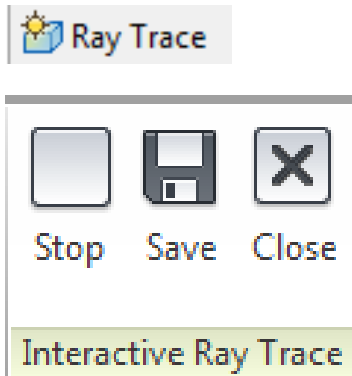
Interact with Camera in real time
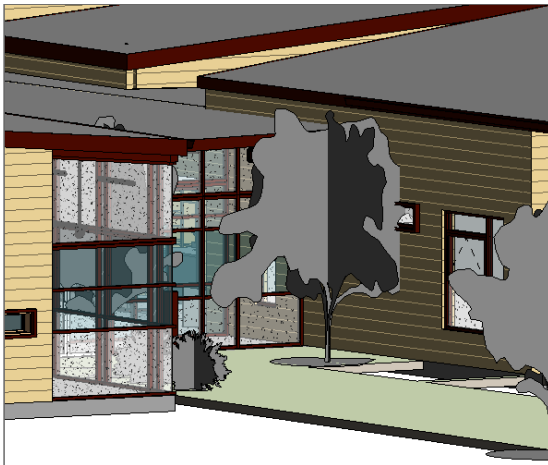
64 bit systems only

Stairs

Component based

Railings

 Sketch Path

 Place on Host
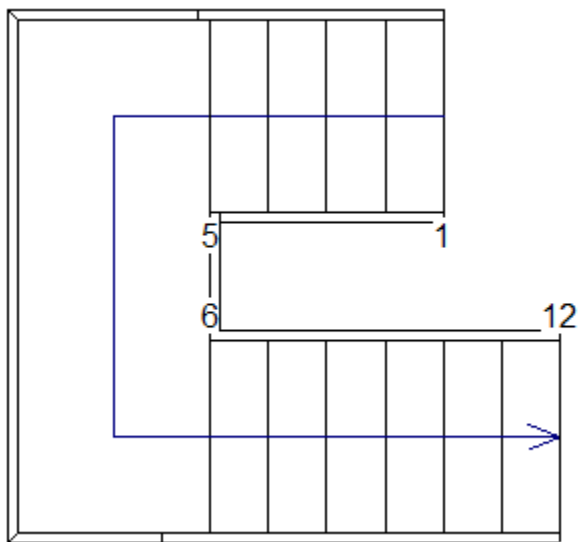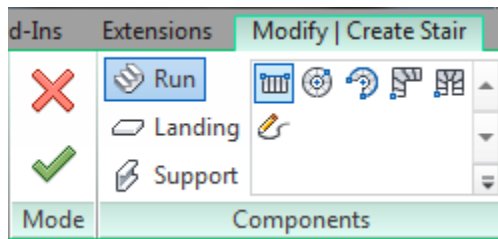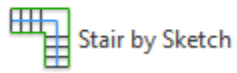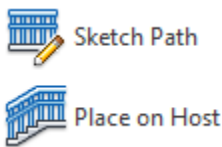
Handrail transitions

Extensions

Type Parameters	
Parameter	Value
Construction	☆
Railing Height	3' 6"
Rail Structure (Non-Continuous)	Edit...
Baluster Placement	Edit...
Baluster Offset	-0' 1"
Use Landing Height Adjustment	No
Landing Height Adjustment	0' 0"
Angled Joins	Add Vertical/Horizontal Segments
Tangent Joins	Extend Rails to Meet
Rail Connections	Trim

Conceptual Design Environment

Divide
Path
Divide

Division placement
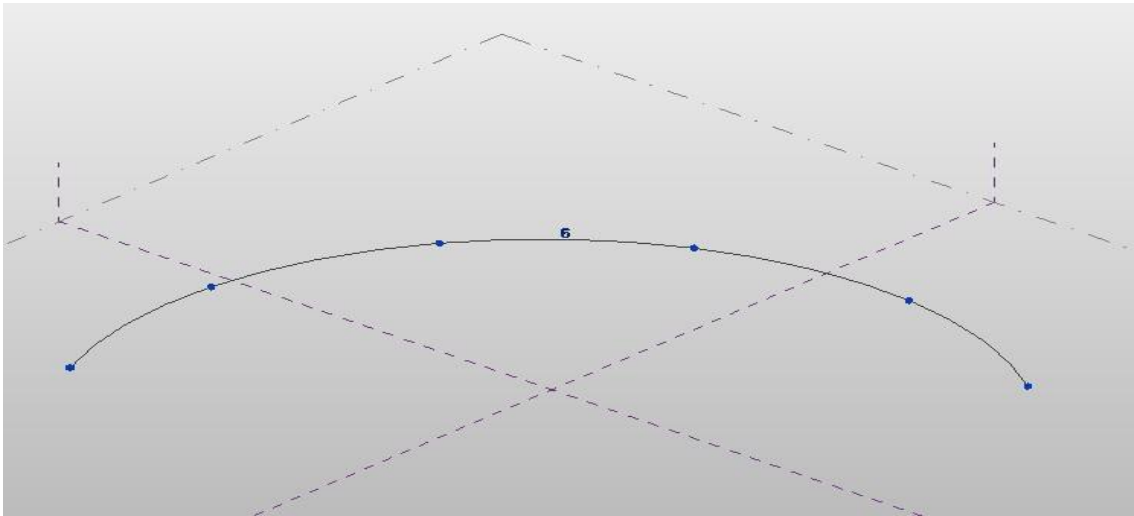
Node edges
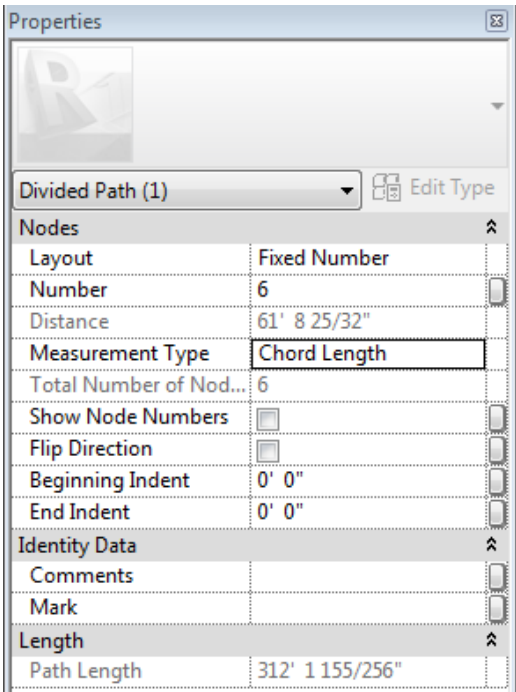
Worksharing Enhancements

Edit request
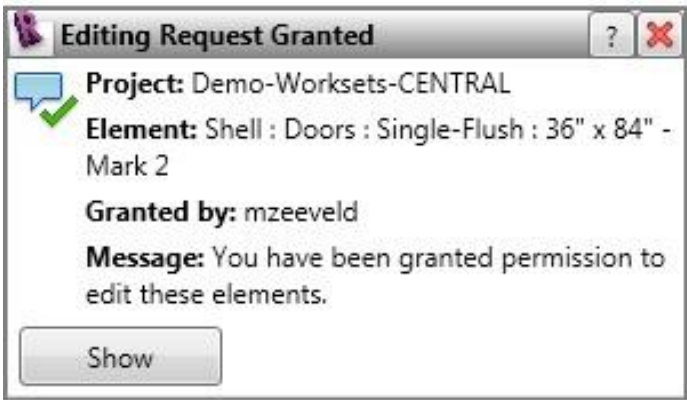
Dynamic Interactive Notifications
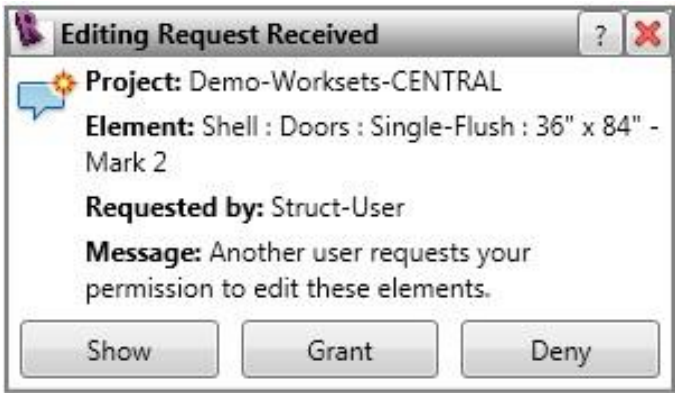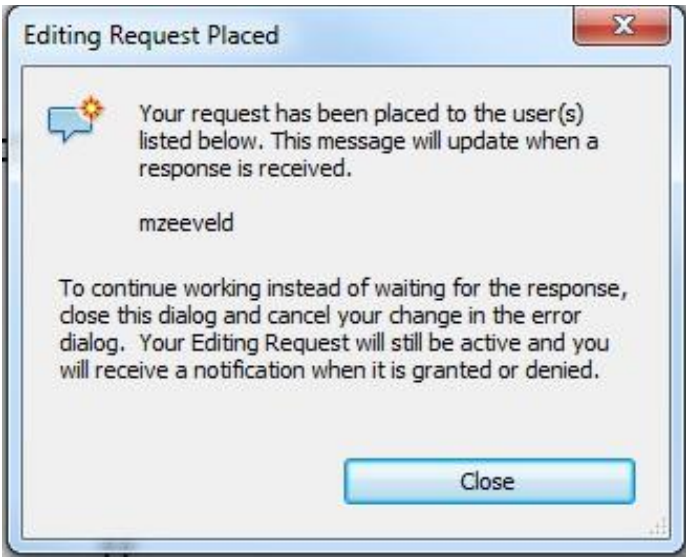
Import

DGN
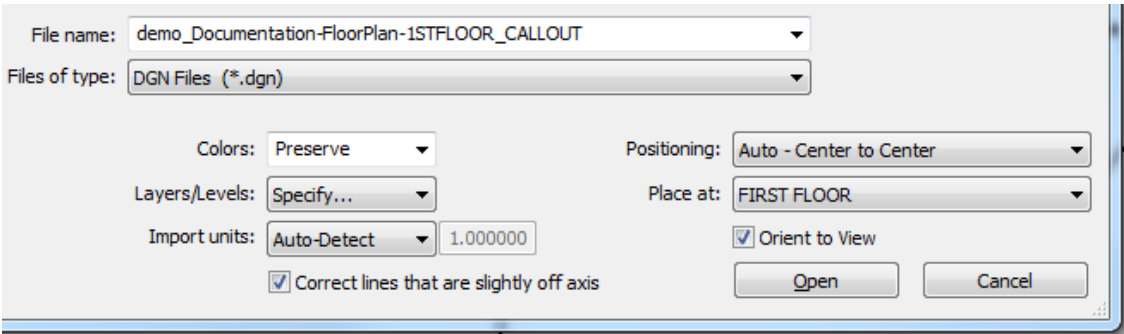
V8 support

Export

DGN

- Additional Mapping Functionality
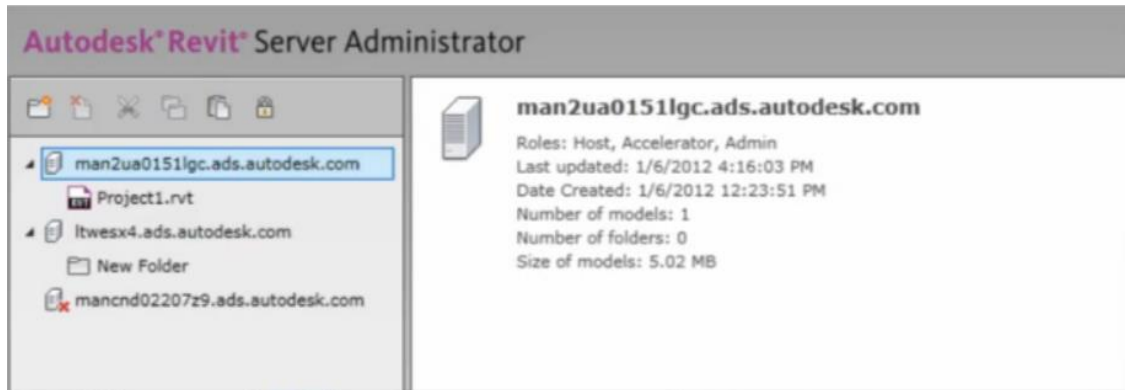- V8 Support
- Save Setups
- Project Transfer
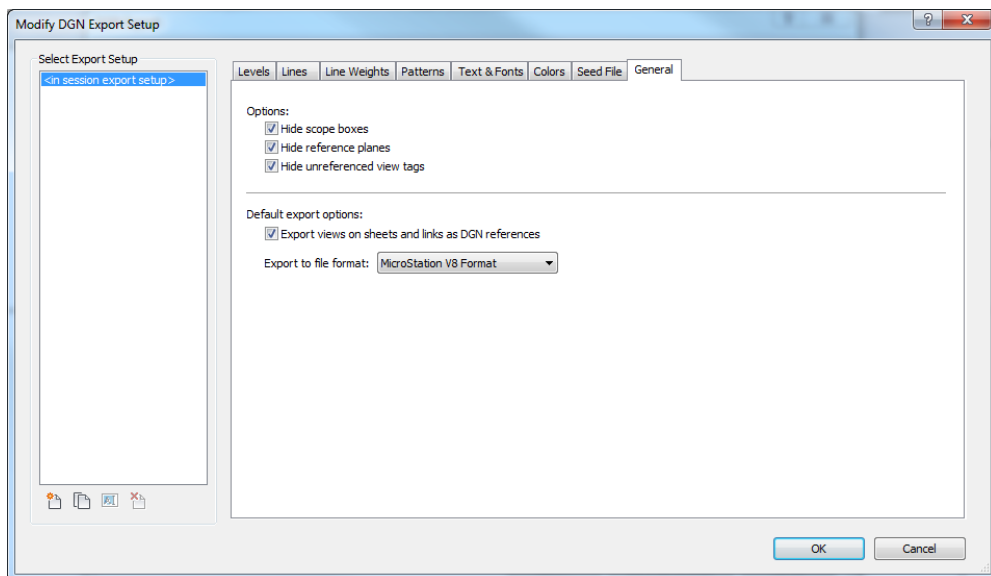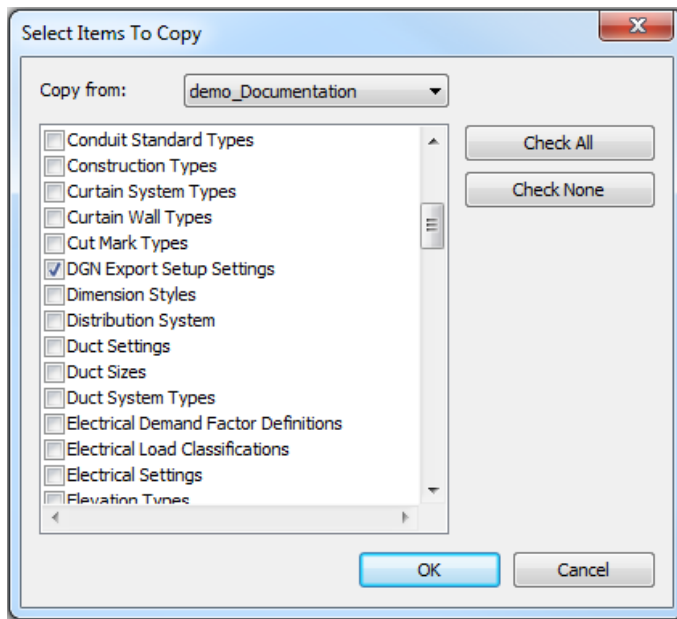
IFC: Import / Export
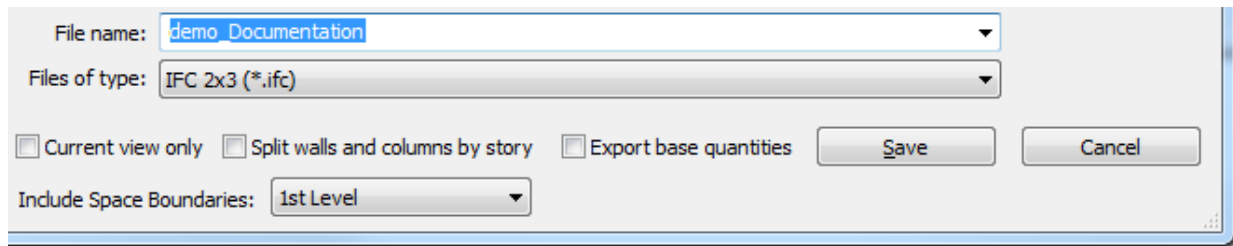
- Reduced surfaces
- Better Performance
- More elements supported
    - Assemblies
    - Parts
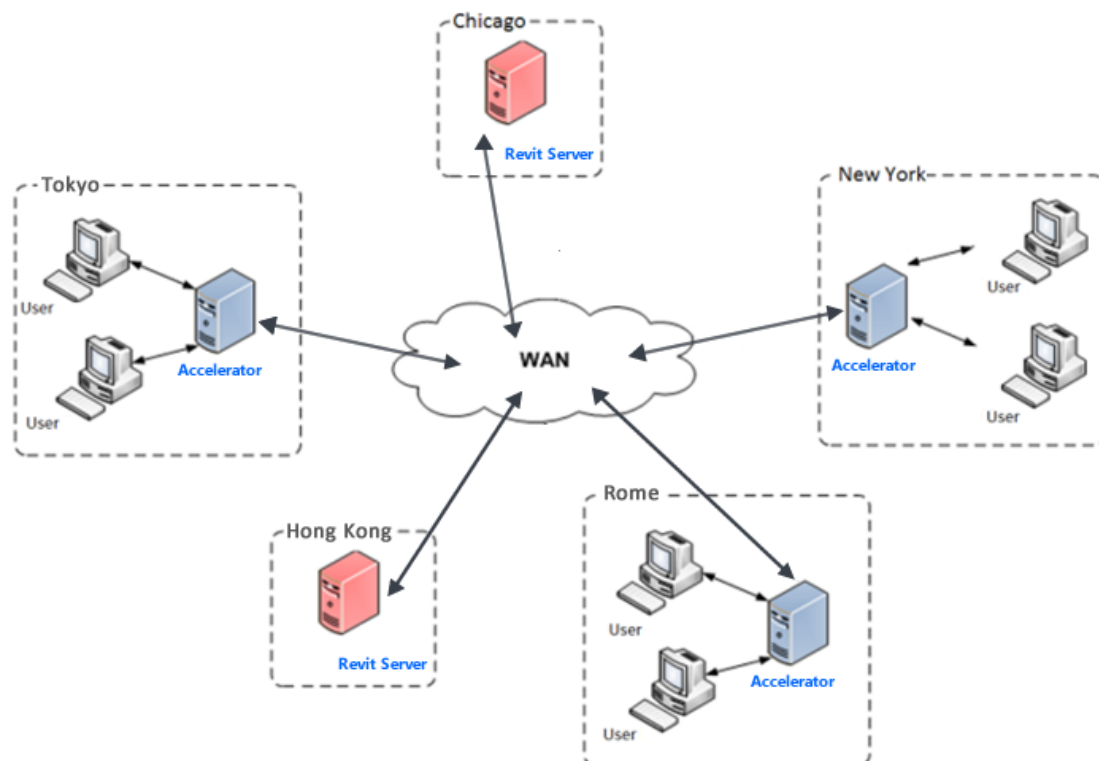   - Curtain walls on massing elements
- Reduced file size

Name	Type	Size
demo_Documentation	Revit Project	37,428 KB
demo_Documentation	IAI Industry Foundation Classes File	27,784 KB

Revit Server

Multiple Host Servers

- Administrator tools
- Reduced locks
- Vault

Visualization

- Image background
- Sky

Realistic Foliage Display

RPC

Exchange Apps

http://apps.exchange.autodesk.com
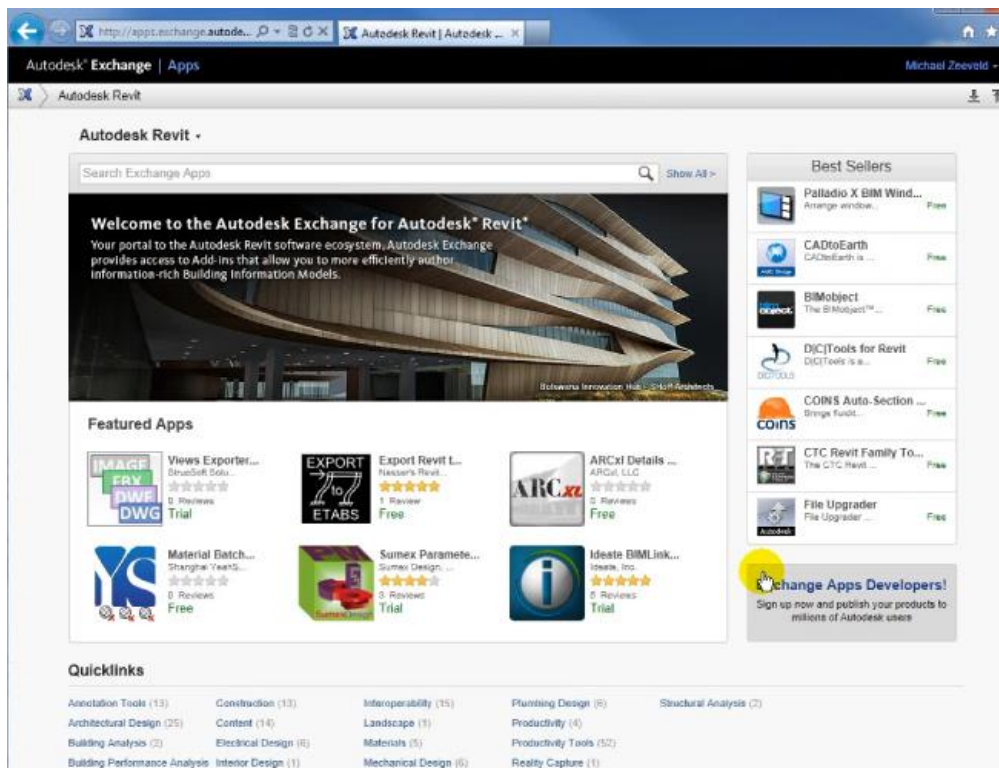
Autodesk 360 ~ Cloud

Analysis
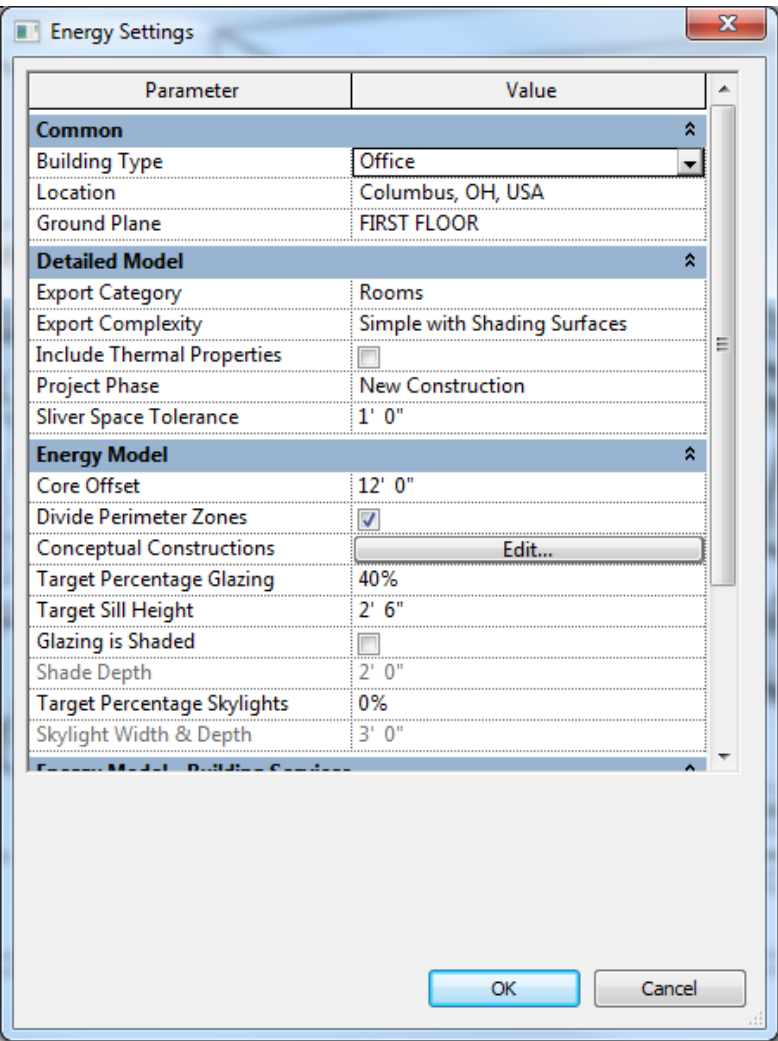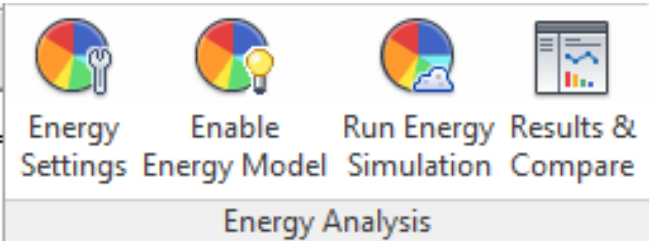
Reporting
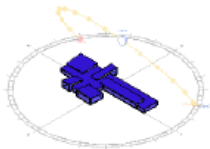
Building Performance Factors

Location:	Atlanta, GA, USA
Weather Station:	41715
Outdoor Temperature:	Max: 95°F/Min: 17°F
Floor Area:	19,308 sf
Exterior Wall Area:	15,208 sf
Average Lighting Power:	1.01 W / ft²
People:	63 people
Exterior Window Ratio:	0.58
Electrical Cost:	$0.09 / kWh
Fuel Cost:	$1.05 / Therm

Energy Use Intensity

Electricity EUI:	14 kWh / sf / yr
Fuel EUI:	21 kBtu / sf / yr
Total EUI:	69 kBtu / sf / yr

Life Cycle Energy Use/Cost

Life Cycle Electricity Use:	8,156,526 kWh
Life Cycle Fuel Use:	119,648 Therms
Life Cycle Energy Cost:	$393,097

*30-year life and 6.1% discount rate for costs

Structural

360 Cloud

- Collaboration
- Sharing
- Editing

Rendering
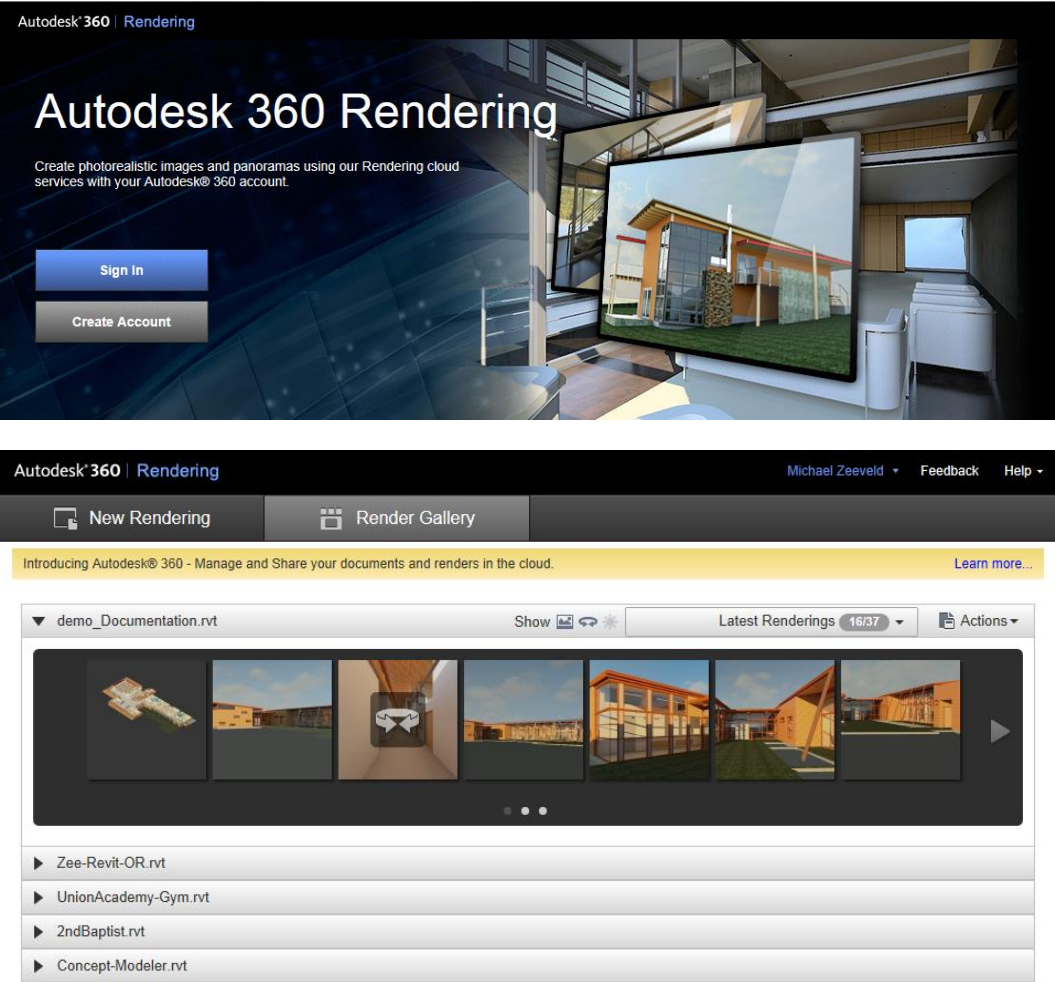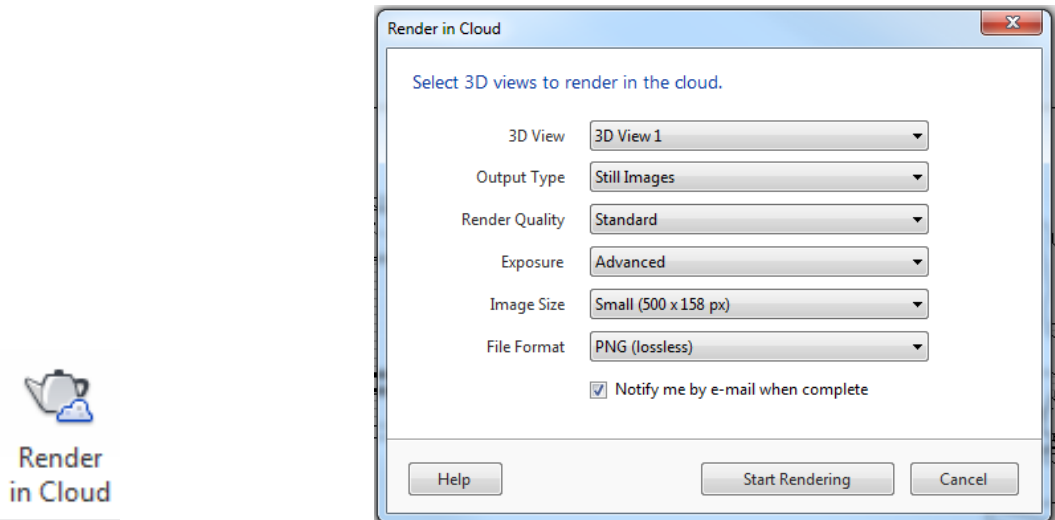
Additional Resources

- F1 Help
- Autodesk Wikihelp   http://wikihelp.autodesk.com/Revit/enu/2013
- Autodesk Channel   http://www.youtube.com/user/autodesk

Summary

You will be able to:

Be familiar with the new features, concepts and benefits of Building Information Modeling.

Understand the fundamental concepts and features of Autodesk Revit Architecture 2013.

Use the parametric 3D design tools to start designing projects.

Develop an initial level of comfort and confidence with the new tools in Autodesk Revit Architecture 2013 through hands-on experience.