

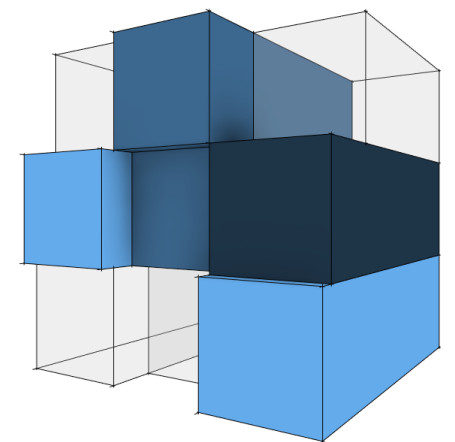
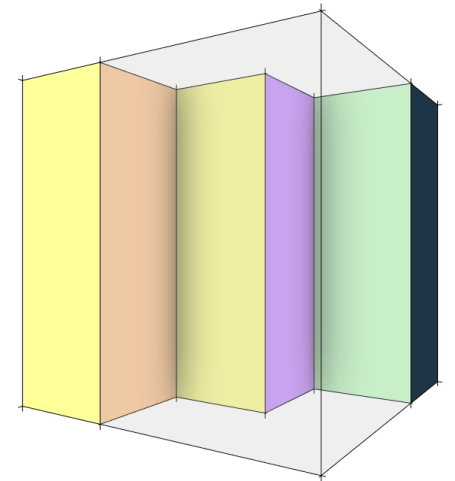


BU18897: COBie and Classification Systems in Revit

T.J. Meehan AIA, LEED AP | Vice President of Professional Services
Jason Kunkel | AEC Manager

Class summary

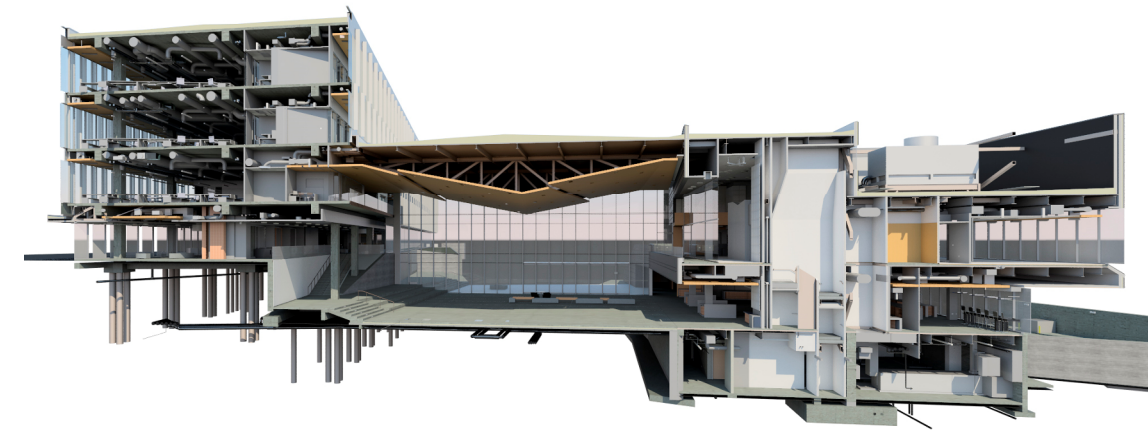
- Are you required to submit a **COBie** deliverable from your Revit model?
- Do you need to be able to apply **classification data** to Revit elements from systems such as UniFormat, MasterFormat, OmniClass, Uniclass, or even a custom database?
- This session will provide a deep dive into the 2 tools to help you do this: **COBie Extension** and **Classification Manager**.
- Learn how to get them, how they work, and how you can configure them to meet your needs.
- Walk away with the expertise necessary to manage and track COBie and classification system data in your Revit models.



Key learning objectives

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

- Learn **which COBie data can be generated** by the Revit model, and how to collect that data quickly and efficiently
- Understand how to capitalize on the **connectivity between COBie and major classification systems** within your model
- Find out how easy it is to **create your own classification system** and apply the data directly to Revit elements
- Learn how to **export COBie-compliant worksheets** directly from your Revit model



About your speakers



Jason Kunkel

- 21 years experience in industry
- 3 years as architectural designer
- 19 years CAD, BIM, IT support
- Trainer, blogger, developer



T.J. Meehan

AIA, LEED AP

- 21 years experience in industry
- 6 years as an architect
- 16 years as a BIM consultant working with arch's, eng's, contractors, subs, and owners

PLEASE SEE THE HANDOUT FOR MORE DETAILED BIO'S

Introduction to COBie

Introduction to COBie

What is it?

- COBie is a way to solve this problem:
- A standardized format for taking **data from BIM models to O&M** applications
- Becoming **the norm for data exchange** at construction completion
- COBie **format is strict** and not specific to any one BIM application
- Many O&M solutions **directly import COBie data** to quickly get the building engineers up-and-running



Introduction to COBie

COBie Worksheet Organization

Design

FACILITY	TYPE
FLOOR	COMPONENT
SPACE	SYSTEM
ZONE	ASSEMBLY

Common

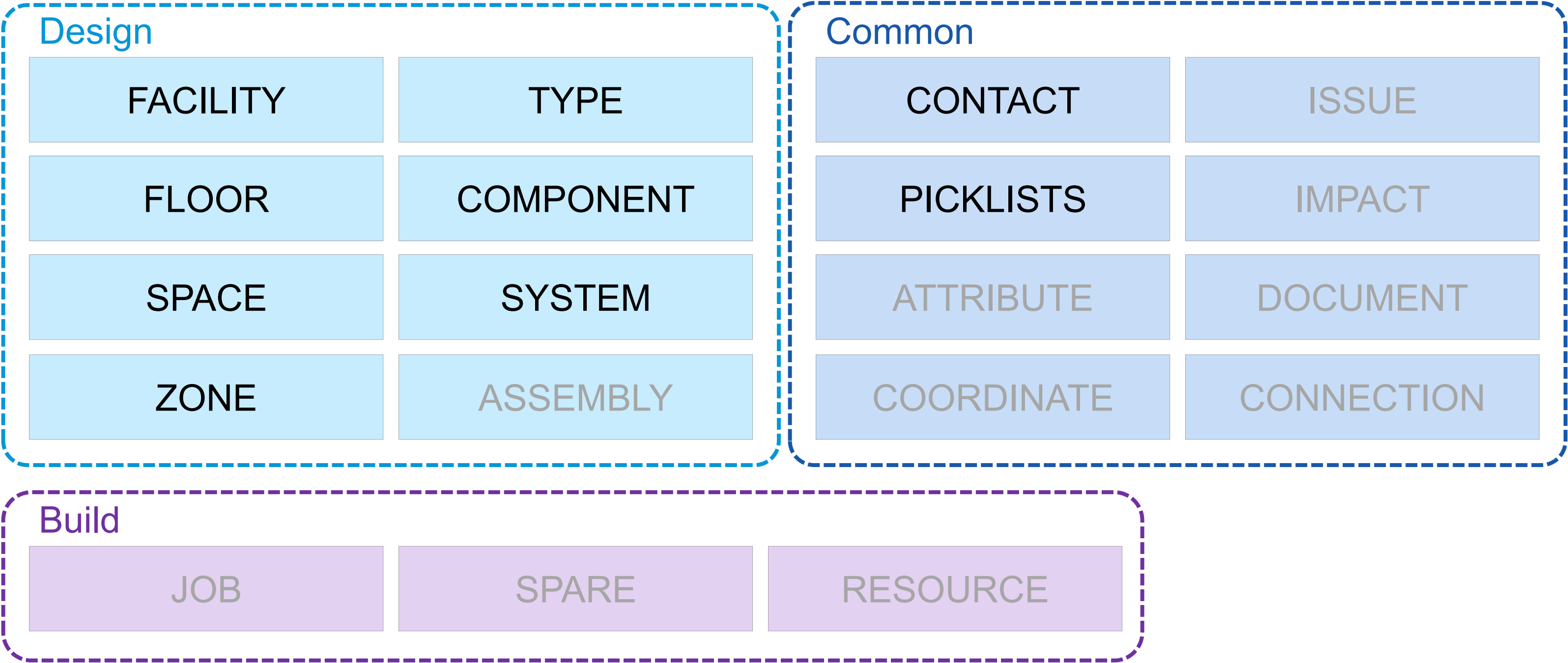
CONTACT	ISSUE
PICKLISTS	IMPACT
ATTRIBUTE	DOCUMENT
COORDINATE	CONNECTION

Build

JOB	SPARE	RESOURCE
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Introduction to COBie

COBie Worksheet Organization



Introduction to COBie

COBie Spreadsheet

- Excel Tabs = COBie worksheets
- Not all data and worksheets are required

Color coding:

Required

Reference (required)

Optional

External (from software)

Not Used

Equip-D9030																			
Name	CreatedBy	CreatedOn	Category	Description	AssetType	Manufacturer	ModelNumber	WarrantyGuarantorParts	WarrantyDurationParts	WarrantyGuarantorLabor	WarrantyDurationLabor	WarrantyDurationUnit	ExtSystem	ExtObject	ExtIdentifier	ReplacementCost	ExpectedLife	DurationUnit	WarrantyDescription
Equip-D9030	bill.east@us.arn	2013-12-30T08:58:10	23-40 35 11 11: Cabinet	Cabinet-810 x 560 x 460	Fixed	n/a	MC-SML00	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	4eb2de81-	n/a	n/a	year	n/a
Equip-A5220	bill.east@us.arn	2013-12-30T08:58:10	23-85 05 17 11 11: Tele	Wall Mounted Bracket T	Fixed	n/a	WGWMTB	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	7681a401-	n/a	n/a	year	n/a
Equip-A5145	bill.east@us.arn	2013-12-30T08:58:11	23-40 20 21 31: Robe H	2 Prong Robe Hook	Fixed	n/a	YH990#CF	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	7681a401-	n/a	n/a	year	n/a
Grab Bar Type B	mariangelica.ca	2013-12-30T08:58:13	23-40 20 21 47: Bath G	Bathroom Grab Bar: 837	Fixed	n/a	8370-0014	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	cfdfa24f-c3	n/a	10	year	n/a
Grab Bar Type A	mariangelica.ca	2013-12-30T08:58:13	23-40 20 21 47: Bath G	Bathroom Grab Bar: 837	Fixed	n/a	8370-0013	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	cfdfa24f-c3	n/a	10	year	n/a
Shower Seat	mariangelica.ca	2013-12-30T08:58:13	23-45 05 14 11 17: Sho	ADA Shower Seat 17" D	Fixed	n/a	DSGBFST	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	491f0d0e-7	n/a	10	year	n/a
Equip-P5210	bill.east@us.arn	2013-12-30T08:58:13	23-45 05 14 17: Shower	Safety Shower	Fixed	n/a	G1994	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	be797af1-d	n/a	n/a	year	n/a
Equip-A5080	bill.east@us.arn	2013-12-30T08:58:13	23-40 20 21 17: Paper T	Paper Towel Dispenser	Fixed	n/a	250-15000	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	d9079e83-	n/a	n/a	year	n/a
Equip-A5075	bill.east@us.arn	2013-12-30T08:58:13	23-40 20 21 34: Soap H	Soap Dispenser	Fixed	n/a	6A00-11	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	d9079e83-	n/a	n/a	year	n/a
Equip-D8250	bill.east@us.arn	2013-12-30T08:58:13	23-40 70 11 14 11: Med	Unit-Dental-Opera	Fixed	n/a	I.V. Cart	n/a	n/a	n/a	n/a	year	Autodesk	Autodesk	817e7bc4-	n/a	n/a	year	n/a

Introduction to COBie

How does Revit play a role?

- Both Revit and the COBie deliverables are databases
 - It's all about fields of data (parameters in Revit) with values
- Each row of data must have a Unique Identifier
 - This can be a challenge in Revit, since a Door and a Window in the same model can both be '101'



Introduction to COBie

General Considerations

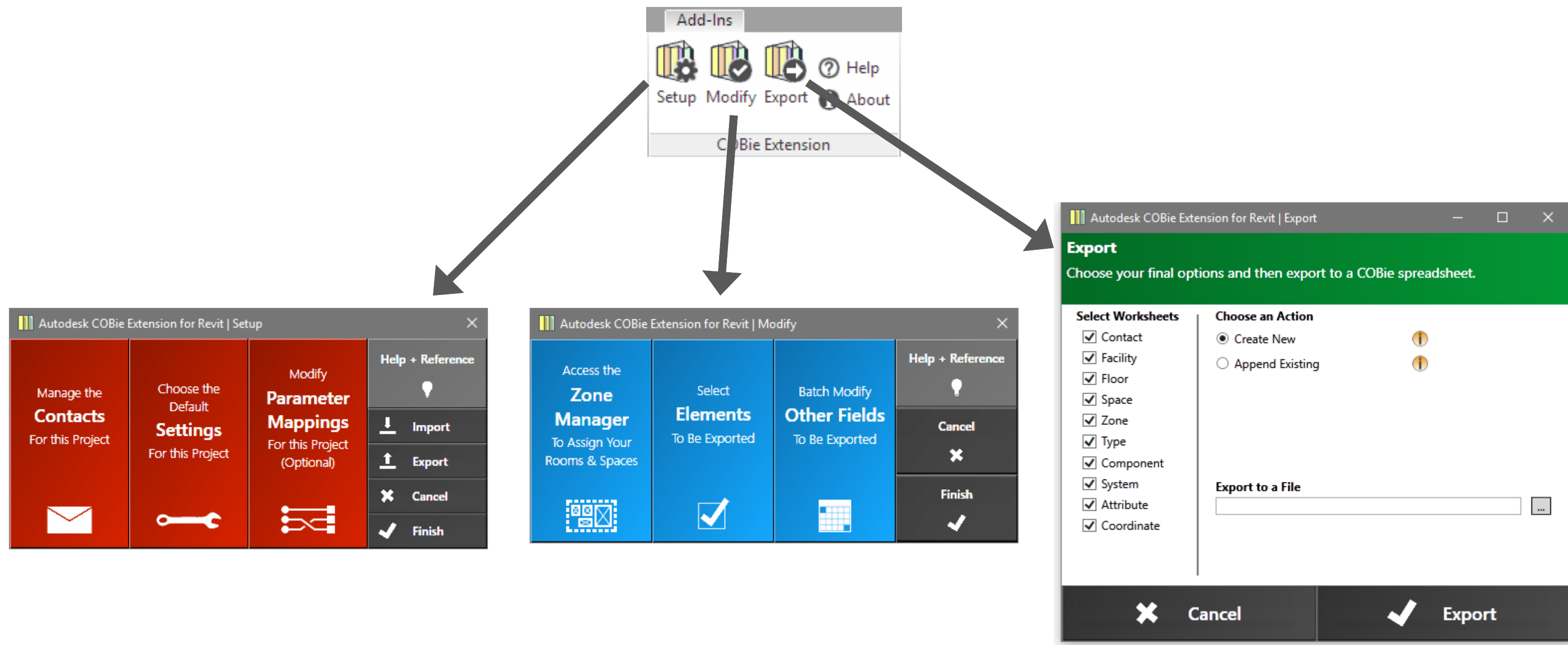
- Warranty information requires contact
 - Anywhere in a COBie export where you list a company, manufacturer, etc., you need a corresponding contact with an email
- Attributes vs added columns
 - You cannot simply add columns to the far right for more data
 - You must add to the 'Attributes' worksheet
- Million Row Limit (how it relates to COBie file format)?
 - The majority of COBie deliverables are via an Excel spreadsheet
 - Excel has a million row limit (1,048,576 to be exact)
 - 120 parameters x 10,000 pieces of equipment > 1M



Autodesk COBie Extension for Revit

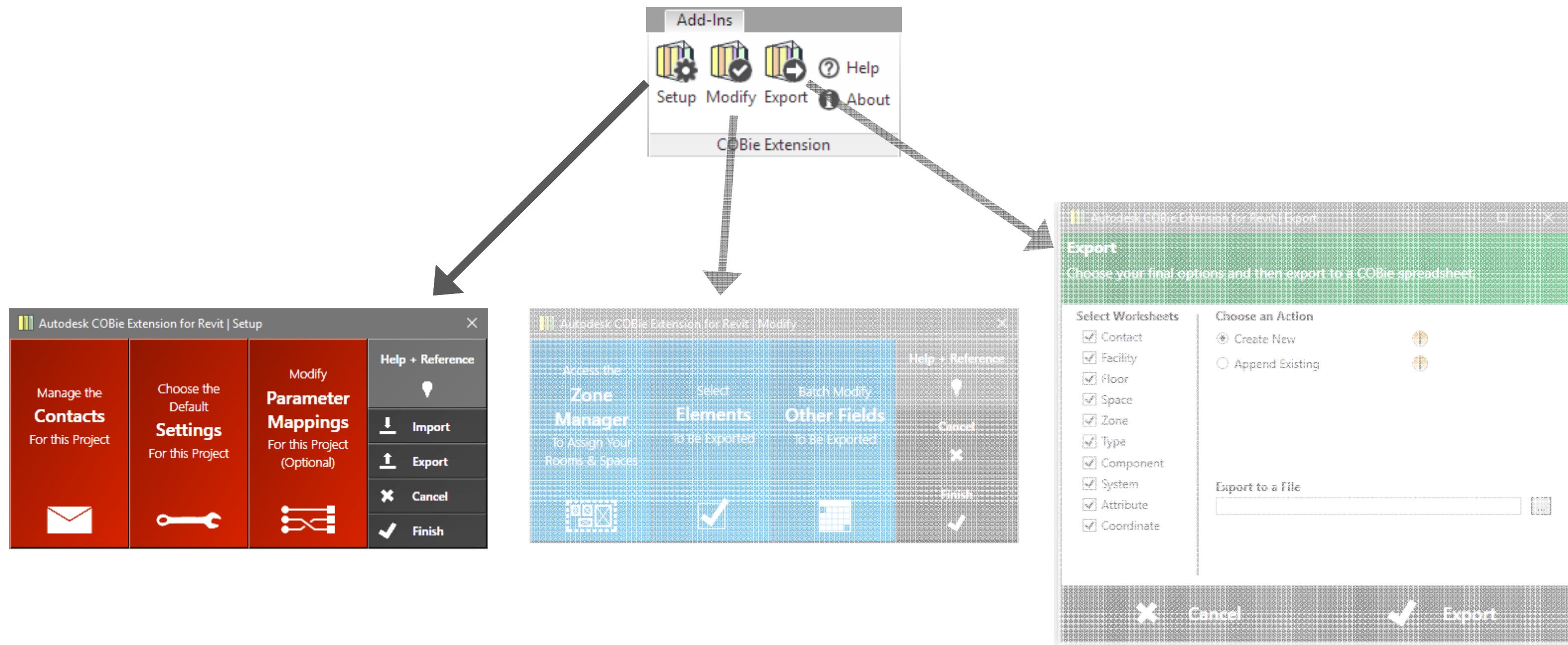
Autodesk COBie Extension for Revit

Basic Use > Ribbon and Landing Pages



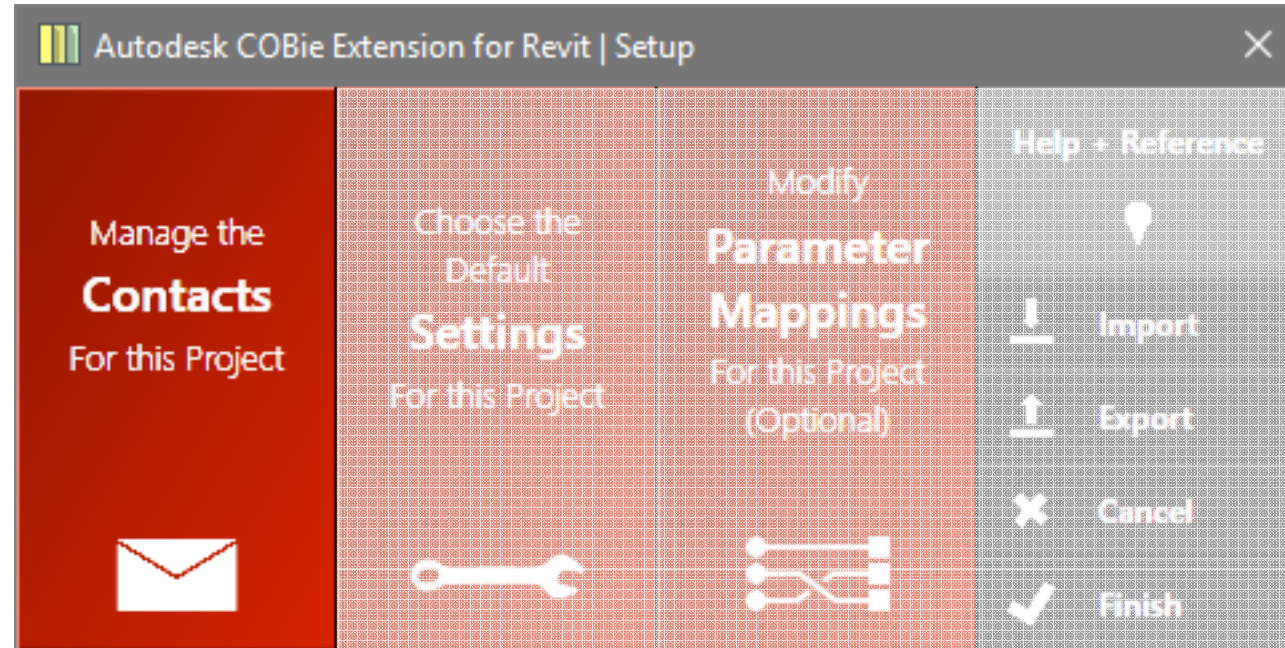
Autodesk COBie Extension for Revit

Basic Use > Setup



Autodesk COBie Extension for Revit

Basic Use > Setup > Contacts



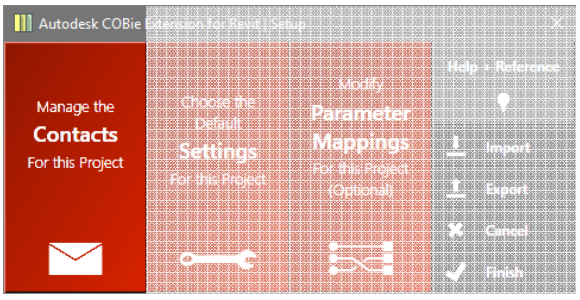
Create all the contacts for this COBie project

KEY POINTS:

- Every row of data in the entire COBie spreadsheet must have an assigned contact
- Each contact must have an email address = unique identifier
- Contact information saved in Extensible Storage and travels with the model

Autodesk COBie Extension for Revit

Basic Use > Setup > Contacts



Only these fields are required

Contacts are tied to Revit logins (Claim vs Un-claim)

Autodesk COBie Extension for Revit | Manage Contacts

New Save Current Save & New Edit Remove Cancel Finish ?

Contacts:

(Claim) bill.east@us.army.mil

(Claim) danielle.r.love@usace.army

(Claim) mariangelica.carrasquillo@

(Claim) james.d.mcauley@usace.ar

(Claim) info@coleparmer.com

(Claim) contact@securalldoors.com

Required:

Created By: bill.east@us.army.mil

Email: bill.east@us.army.mil

Company: Engineer Research and Development Center

Phone: 217-352-6511

Classification: 34-55 14 11: Consultant

Optional:

First/Given Name: Bill

Last/Family Name: East

Department:

Organization Code:

Street: 2902 Newmark Dr.

Post Office (P.O.) Box: PO Box 9005

Town: Champaign

State/Region: IL

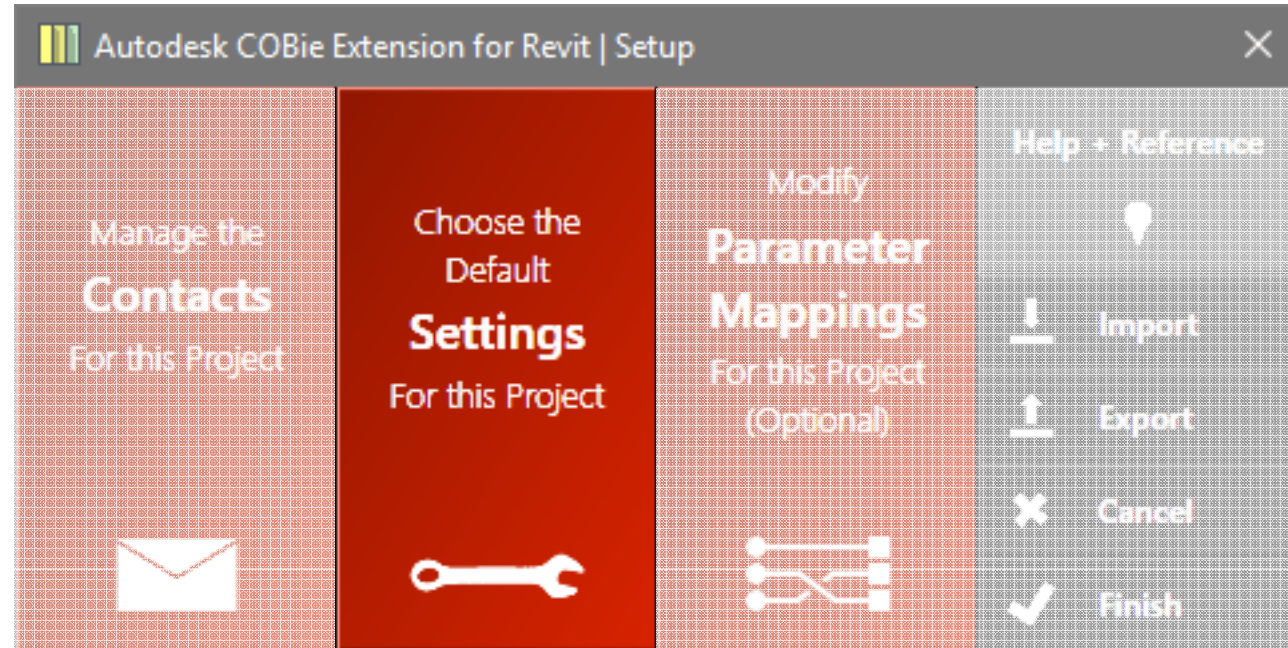
Zip/Postal Code: 61826

Country: USA

'Classification' field ties directly to Classification Manager, if installed

Autodesk COBie Extension for Revit

Basic Use > Setup > Settings



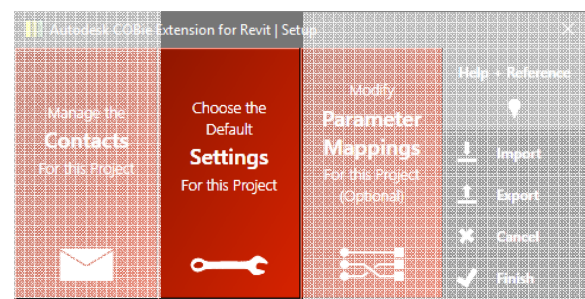
Define all the default settings for this COBie project

KEY POINTS:

- Wizard interface
- Organized to follow COBie worksheets
- Hover over information icons for pop-up help ⓘ
- Settings information saved in Extensible Storage and travels with the model

Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > General



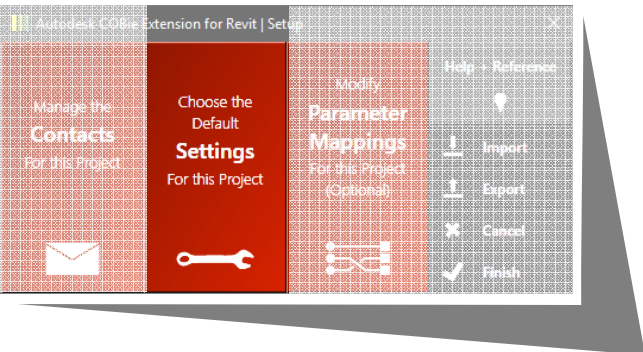
This will affect which Excel template is used

! Element ID's can change with a simple Sync to Central

This setting doesn't read directly from the model nor does it make any changes – it's just to document the method you've used to calculate square footages

Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > Space



Decide how different family categories should pull their location information – Rooms or Spaces

Autodesk COBie Extension for Revit | Default Settings

Space

Choose whether or not Revit elements are located by Rooms or Spaces.

Air Terminals	Room	Space
Cable Tray Fittings	Room	Space
Cable Trays	Room	Space
Casework	Room	Space
Ceilings	Room	Space
Communication Devices	Room	Space
Conduit Fittings	Room	Space
Conduits	Room	Space
Curtain Panels	Room	Space
Curtain Wall Mullions	Room	Space
Data Devices	Room	Space
Doors	Room	Space
Duct Accessories	Room	Space
Duct Fittings	Room	Space
Ducts	Room	Space
Electrical Equipment	Room	Space
Electrical Fixtures	Room	Space
Fire Alarm Devices	Room	Space

Select Room for all

Select Space for all

Select Space for MEP elements and Room for everything else

Select Space for MEP runs (Duct, Pipe, Conduit) and Room for everything else

Reset Defaults

Space Name

☒ Field Separator

Fields

☒ Number

☒ <Not Used>

Preview

123

Spaces in Zones

☐ All spaces listed in one row (comma separated)
 ☒ Each space listed in its own row

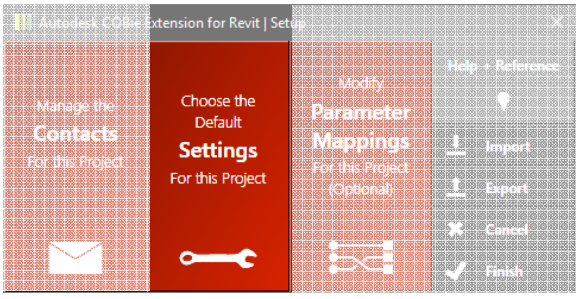
Standard COBie Extension naming tool

Choose based on your COBie deliverable requirements



Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > Type



Standard COBie Extension naming tool

Autodesk COBie Extension for Revit | Default Settings

Type
Specify properties for the COBie type spreadsheet.

Name

☒ Field Separator

_

Fields

✖	Family	↓↑
✖	Type	↓↑
✖	Type Mark	↓↑

Category

First Priority

Revit 'OmniClass' parameter value

Second Priority

Revit 'Assembly Code' parameter

Third Priority

Revit 'Keynote' parameter value fr

Fourth Priority

Use 'n/a'

Description

☐ Family : Type

☒ Description Parameter from Type Properties

Preview
MyFamily_MyType_123

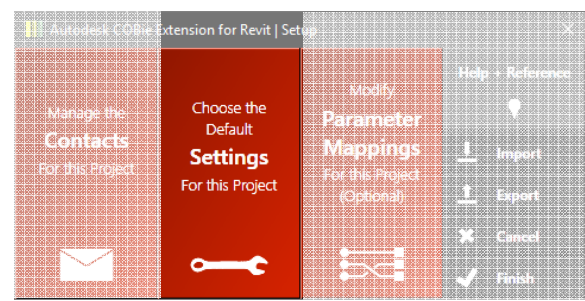
General
Space
Type
Component
System
Attribute
Coordinate
Schedules
Finalize

<
>

Sets the priority order; can be used to link with Classification Manager

Autodesk COBie Extension for Revit

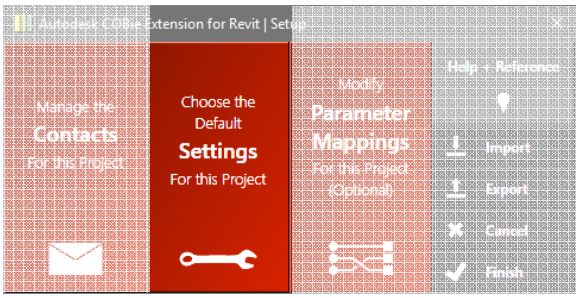
Basic Use > Setup > Settings > Component



Standard COBie
Extension naming
tool

Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > System



Standard COBie Extension naming tool

Autodesk COBie Extension for Revit | Default Settings

System
Specify properties for the COBie system spreadsheet.

COBie System Name

☒ Field Separator

_

Fields

System Name

System Classification

Preview
MySystemName_MySystemClassification

Category

Leave the parameter blank and I will edit th

Components in Systems

☐ All components listed in one row (comma separated)
☒ Each component listed in its own row

Include Components

☐ Export the Components and their corresponding Types that are part of each system

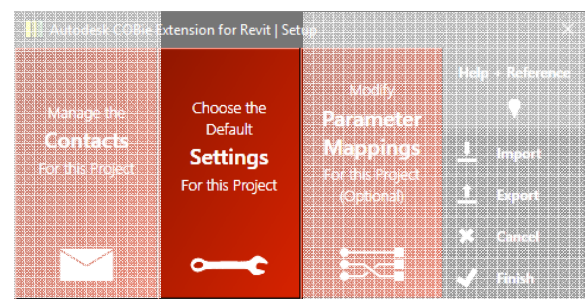
General
Space
Type
Component
System
Attribute
Coordinate
Schedules
Finalize

‘Category’ field ties directly to Classification Manager, if installed

This is a great QC check, but be careful as you can quickly export non-compliant elements

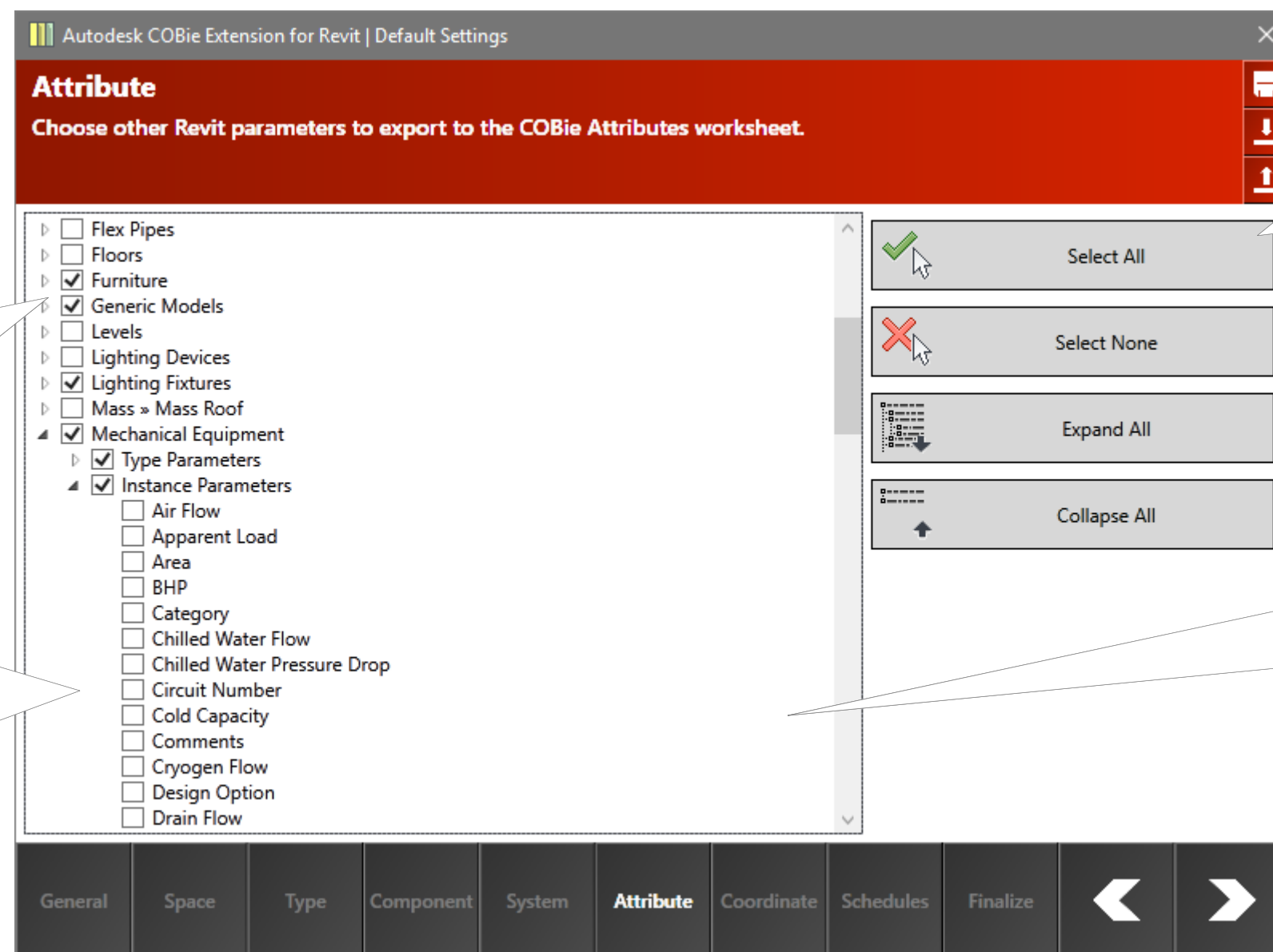
Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > Attribute



Broken down by family category, then type vs instance

This is a great way to see what parameters are mapped to what categories in any model



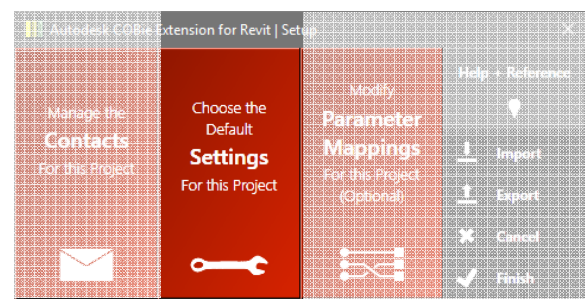
Use these tools to help you quickly select

Be careful to only select the ones you need



Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > Coordinate



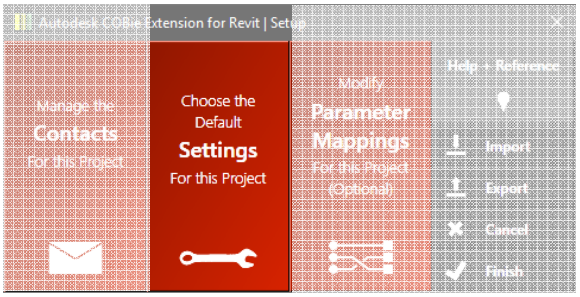
Coordinates are not required and may actually be removed from future versions of COBie

A screenshot of the 'Autodesk COBie Extension for Revit | Default Settings' window, specifically the 'Coordinate' tab. The title bar says 'Autodesk COBie Extension for Revit | Default Settings'. The tab is titled 'Coordinate' with a subtitle 'Specify the data used when documenting the coordinates of items in a COBie spreadsheet.' The window is divided into four sections: 'Component Families', 'Rooms', 'Floors', and 'Spaces'. Each section has two radio button options: 'Location Point or Location Line' (for Component Families) or 'Location Point' (for Rooms, Floors, and Spaces), and 'Bounding Box'. All 'Bounding Box' options are selected. To the right of each section are two yellow warning icons. At the bottom is a navigation bar with tabs: 'General', 'Space', 'Type', 'Component', 'System', 'Attribute', 'Coordinate' (which is highlighted), 'Schedules', and 'Finalize'. There are also left and right arrow buttons.

They report the X,Y,Z positions of either insertion points of elements or their overall extents

Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > Schedules



Schedules are not necessary to export from the COBie Extension – they just help with editing values

Autodesk COBie Extension for Revit | Default Settings

Schedules

Choose which Revit schedules to create in your model to help with editing individual COBie fields.

COBie Floor

☒ Levels

COBie Type

☒ Family Types

COBie Component

☒ Doors

☒ Windows

☒ Multi-Category

COBie Space

☒ Rooms

☒ Spaces

COBie System

☒ Duct Systems

☒ Piping Systems

☒ Electrical Circuits

☒ Switch Systems

Notice

The schedules generated only include the default parameters defined by the COBie Extension.

If you define any Mapped Parameters, you can manually add or remove fields to your schedules after creation. This will have no impact on your exported COBie spreadsheet.

Select All

Select None

General

Space

Type

Component

System

Attribute

Coordinate

Schedules

Finalize

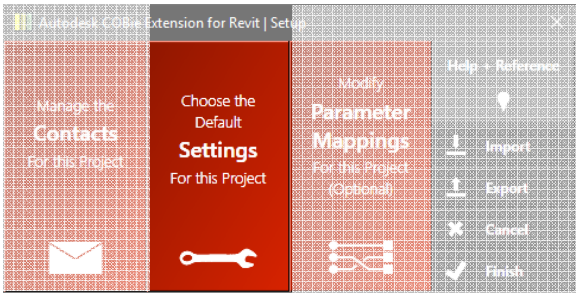
<

>

These do not work with any parameters you may have mapped

Autodesk COBie Extension for Revit

Basic Use > Setup > Settings > Finalize



Jump back to Contacts

Autodesk COBie Extension for Revit | Default Settings

Finalize

Perform any final tasks before setting up your model for COBie.

Review, add, edit, or remove any contacts

Manage Contacts

Save all of your settings to the current model

Save

Save your settings and also export them to an external file

Save + Export

Finish setting up your model by applying all your settings and creating any schedules you chose

Finish

General

Space

Type

Component

System

Attribute

Coordinate

Schedules

Finalize

◀

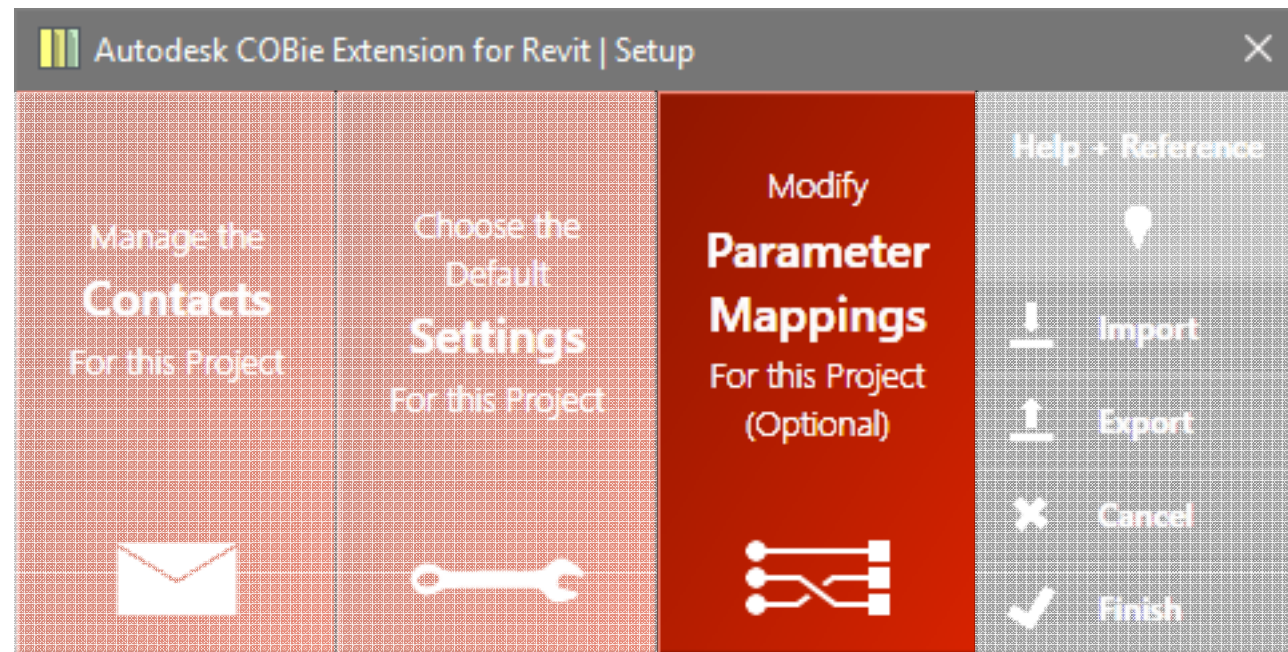
✓

Saves all your settings to the model



Autodesk COBie Extension for Revit

Basic Use > Setup > Parameter Mappings



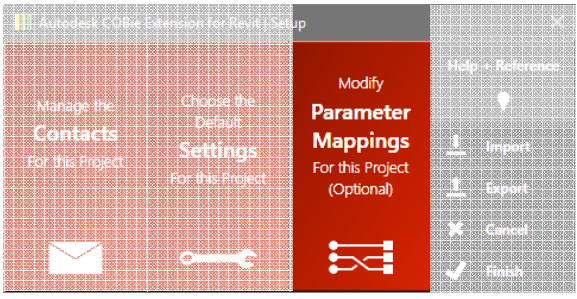
Define your own parameters for exporting this COBie project

KEY POINTS:

- Project or Shared parameters
- Parameter mapping information saved in Extensible Storage and travels with the model
- COMING SOON!
 - Define your own fields for unique ID's
 - Concatenate multiple parameters

Autodesk COBie Extension for Revit

Basic Use > Setup > Parameter Mappings



Autodesk COBie Extension for Revit | Parameter Mapping

Parameter Mappings

Use this dialog to change which parameters are used for setting and exporting various COBie fields.

	Type	Sheet	Field	Mapped Parameter
Instance	Yes/No	-	Export	COBie
Type	Yes/No	-	Export (Type)	COBie.Type
Type	Text	{All}	CreatedBy	COBie.Type.CreatedBy
Type	Text	{All}	CreatedOn	COBie.Type.CreatedOn
Instance	Text	{All}	CreatedBy	COBie.CreatedBy
Instance	Text	{All}	CreatedOn	COBie.CreatedOn
Instance	Text	Component	Name	COBie.Component.Name
Instance	Text	Component	Space	COBie.Component.Space
Instance	Text	Component	Description	COBie.Component.Description
Instance	Text	Component	SerialNumber	COBie.Component.SerialNumber
Instance	Text	Component	InstallationDate	COBie.Component.InstallationDate
Instance	Text	Component	WarrantyStartDate	COBie.Component.WarrantyStartDate
Instance	Text	Component	TagNumber	COBie.Component.TagNumber
Instance	Text	Component	BarCode	COBie.Component.BarCode
Instance	Text	Component	AssetIdentifier	COBie.Component.AssetIdentifier
Instance	Text	Component	Area	COBie.Component.Area

Mapped Categories

Air Terminals
Assemblies
Cable Tray Fittings
Cable Tray Runs
Cable Trays
Casework
Ceilings
Columns
Communication Devices
Conduit Fittings
Conduit Runs
Conduits
Curtain Walls
Curtain Wall Mullions
Data Devices
Doors
Duct Accessories
Duct Fittings
Duct Insulations
Duct Linings
Ducts
Electrical Equipment

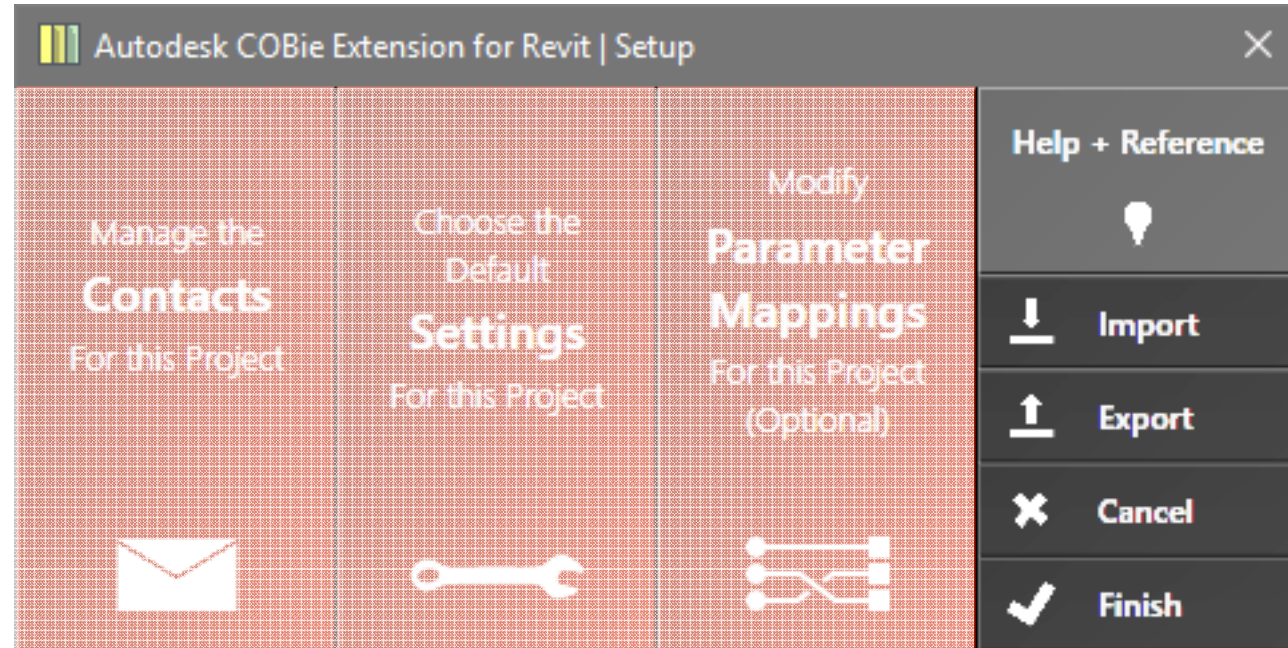
Parameter information such as instance vs type, format, and COBie worksheet

Shows you which categories to map to

Revert back to default parameter, all of which are formatted as: COBie.XX.XX

Autodesk COBie Extension for Revit

Basic Use > Setup > Import/Export



Save all your settings to an external XML file to import into other COBie projects

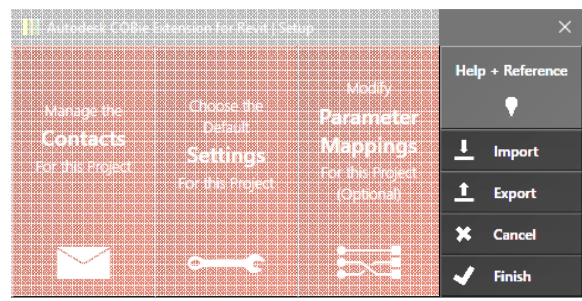
KEY POINTS:

- Can save Contacts, Settings, and Parameter Mappings, or any combination of the 3
- Saves to an XML file that can be edited manually (if you're careful)
- Same icons exist in upper-right of every dialog in Setup

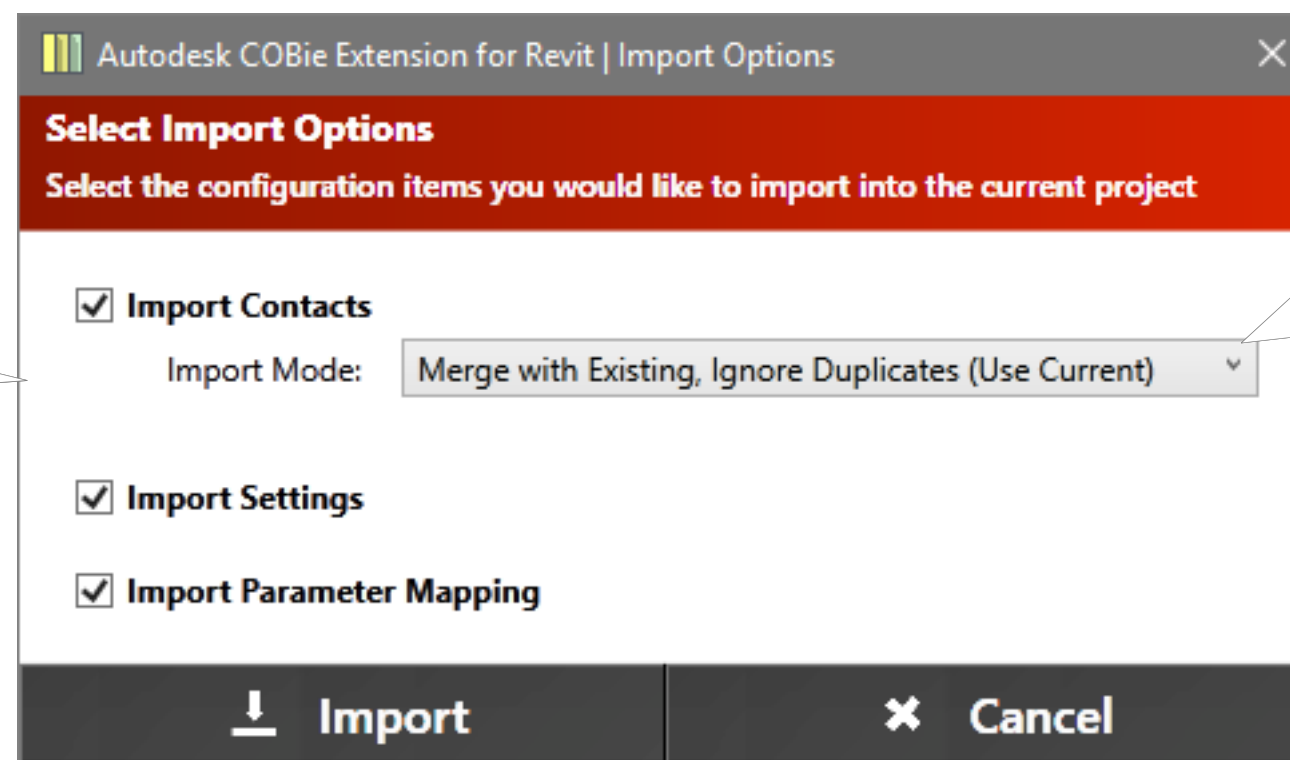


Autodesk COBie Extension for Revit

Basic Use > Setup > Import/Export



Choose which settings to import

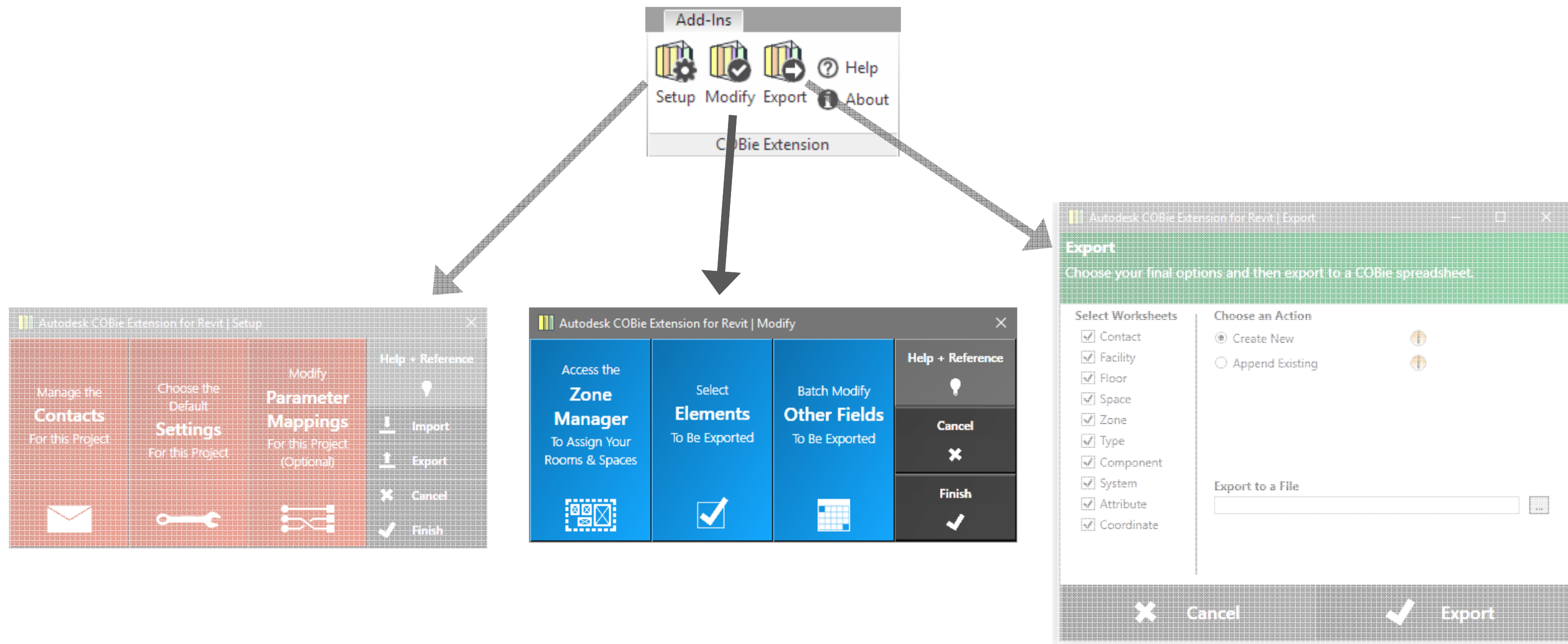


Intelligence built in to help when there are already saved settings:

- Replace
- Merge, delete duplicates
- Merge, keep duplicates

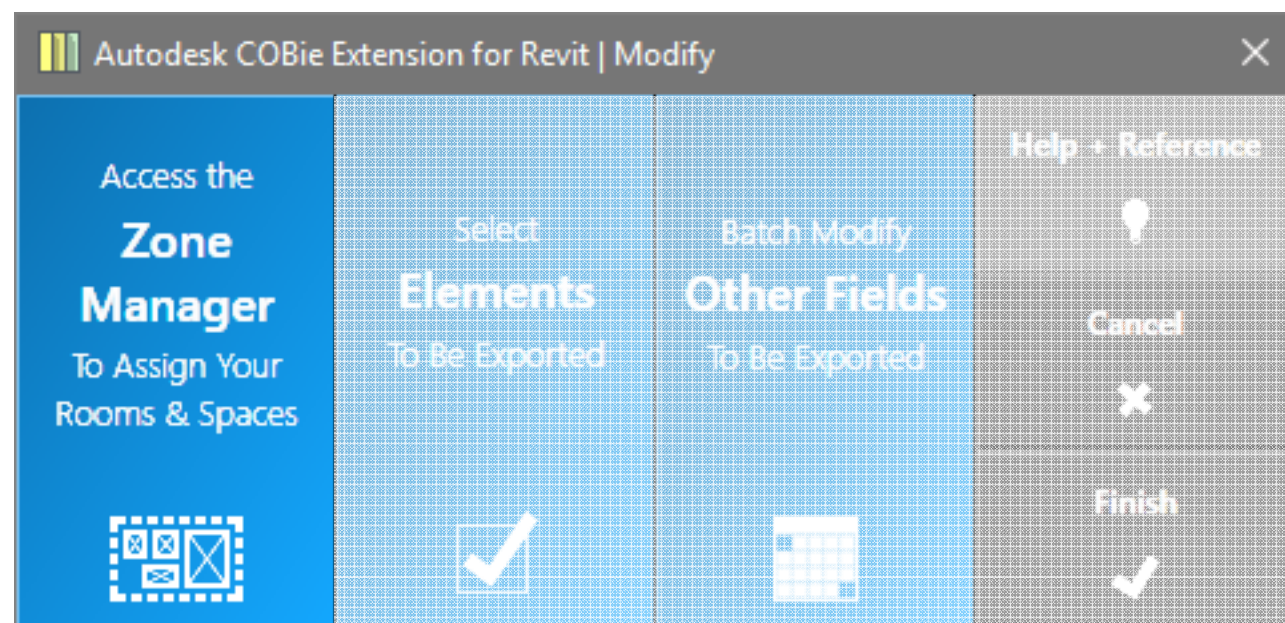
Autodesk COBie Extension for Revit

Basic Use > Modify



Autodesk COBie Extension for Revit

Basic Use > Modify > Zone Manager



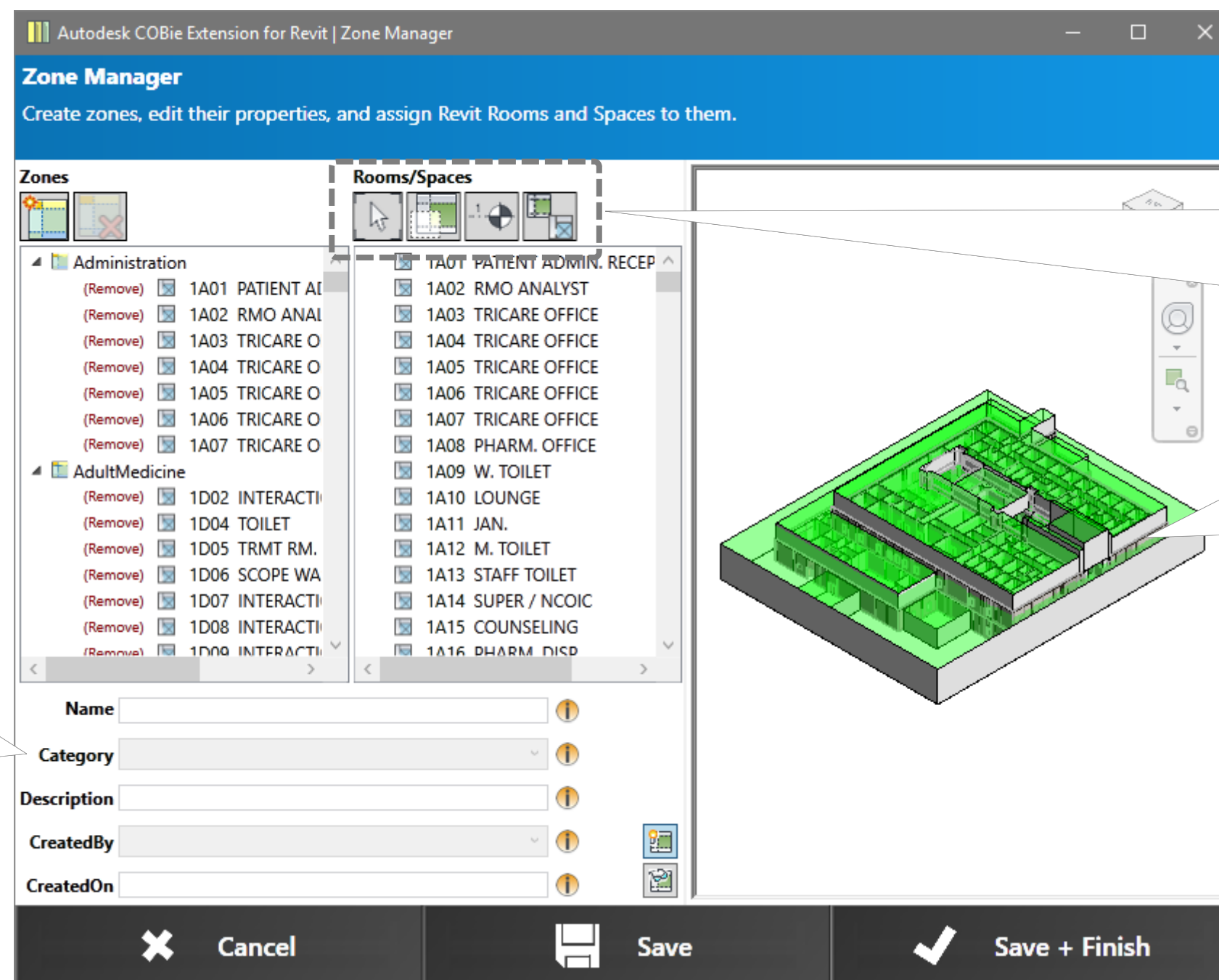
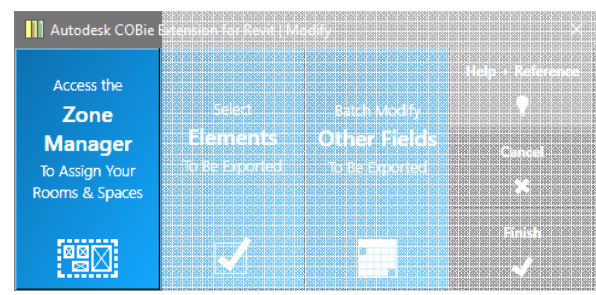
Define your COBie Zones
and assign Rooms/Spaces
to them

KEY POINTS:

- Allows you to assign a Room or Space to more than one Zone
- Great tool on its own to visualize in 3D Rooms and Zones
- Zone information saved in Extensible Storage and travels with the model
- COMING SOON!
 - Multiple drag-and-drop

Autodesk COBie Extension for Revit

Basic Use > Modify > Zone Manager



Great filter tools allow you to show Rooms/Spaces not used, by level, or just one or the other

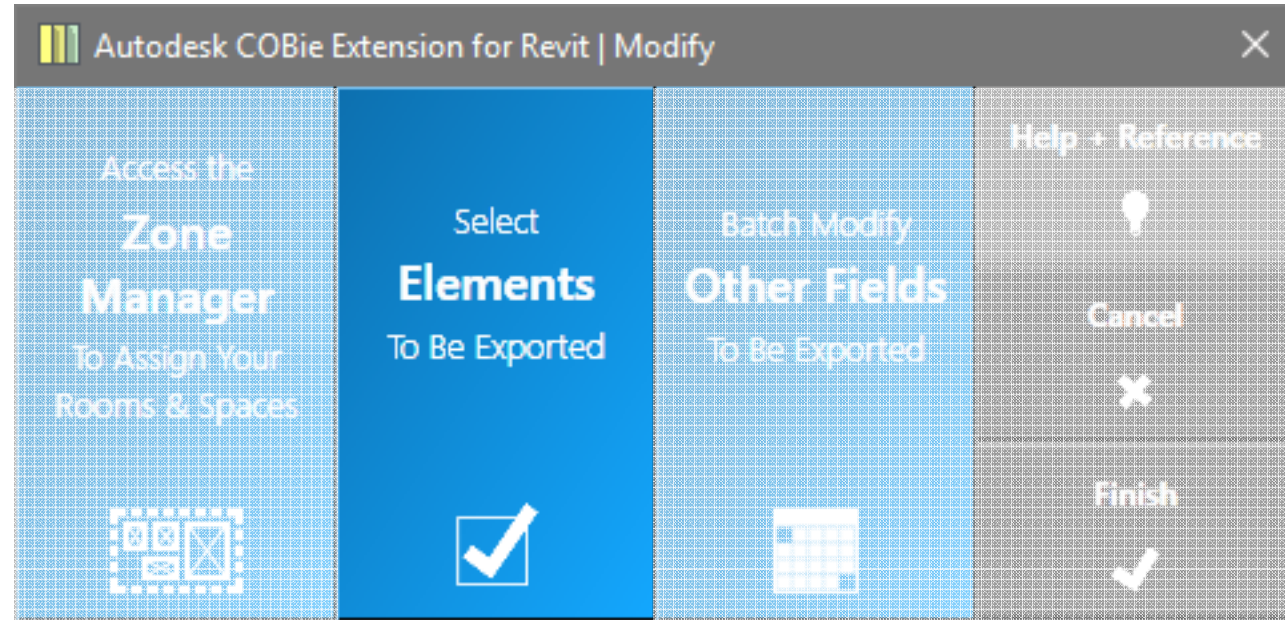
'Category' list only shows those allowed with COBie

You will be prompted whether or not you want to load the preview



Autodesk COBie Extension for Revit

Basic Use > Modify > Elements



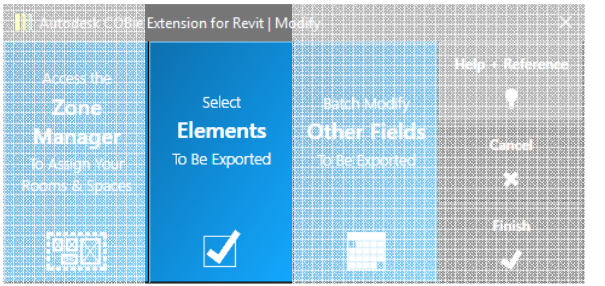
Select the elements you want to export to a COBie spreadsheet

KEY POINTS:

- Simply an easier way to check or uncheck the “COBie” and “COBie.Type” yes/no parameters
- Shows family category, family, type, and instances
- This step is often missed by users and results in nothing exported

Autodesk COBie Extension for Revit

Basic Use > Modify > Elements



Autodesk COBie Extension for Revit | Identify COBie Elements

Select Elements

Select which Revit families, types, and elements get exported to the COBie spreadsheet.

Elements

☐ Mass » Mass Interior Wall
 ☐ Mass » Mass Roof
 ☐ Mass » Mass Skylight
 ☒ Mechanical Equipment

☒ Air Compressor - Dental : Air Compressor - Dental

ID	Name	Mark	Room
<input checked="" type="checkbox"/> 886010	Air Compressor - Dental	ACD-1	(1E15) CENTRAL MECH. RM.

☒ Centrifugal Pump - Horizontal : 90 GPM - 24 Foot Head
 ☒ Expansion Tank - Freestanding - Vertical : 44 Gallon
 ☒ Floor Mounted Utility Center : Floor Mounted Utility Center
 ☒ M_Air Conditioner - Vertical Packaged - Air Cooled - 11-18 kW : 11 kW
 ☒ M_Air Conditioner - Vertical Packaged - Air Cooled - 11-18 kW : 18 kW
 ☒ M_Air Handling Unit - Split System - Horizontal : 63300000 J
 ☒ M_Centrifugal Fan - Rooftop - Upblast : Type 1
 ☒ M_Centrifugal Fan - Rooftop - Upblast : Type 2
 ☒ M_Centrifugal Fan - Rooftop - Upblast : Type 3
 ☒ M_Centrifugal Fan - Rooftop - Upblast : Type 4

☒ Select All
 ☒ Select None
 ☒ Expand All
 ☒ Collapse All

Groups:

☒ Skip Grouped Elements
 ☐ Ungroup and set parameters

✕ Cancel

✓ Finish

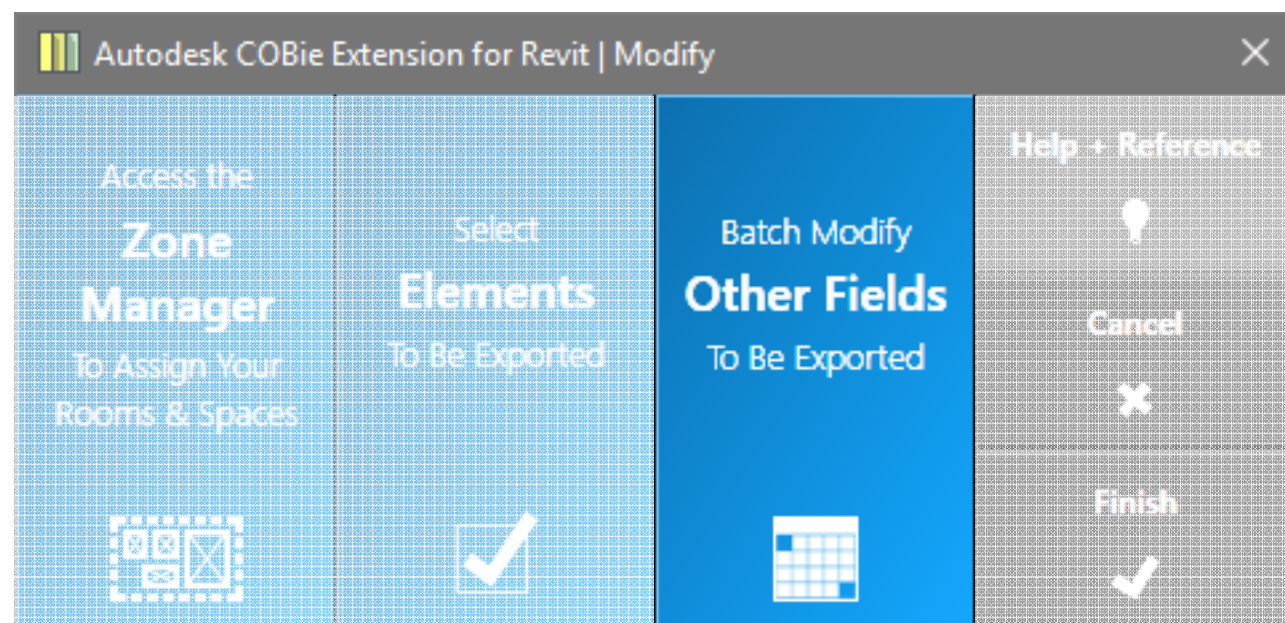
Notice the Room information

The API does not like Groups

AUTODESK UNIVERSITY 2016

Autodesk COBie Extension for Revit

Basic Use > Modify > Other Fields



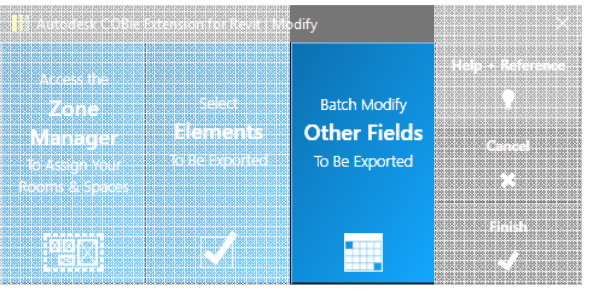
Batch edit some of the parameters of all your COBie elements at once

KEY POINTS:

- COBie Extension only exports from COBie parameters
 - Unless you designate other in parameter mapping
 - So you have to run this step or will not get any data in your COBie spreadsheet
- Batch copies data from standard parameters to COBie parameters
- Some COBie parameters are populated by concatenating values from several other Revit parameters

Autodesk COBie Extension for Revit

Basic Use > Modify > Other Fields



Choose whether to only fill in blank fields, overwrite data already in fields, or skip

The API still does not like Groups

Autodesk COBie Extension for Revit | Modify Fields

Other Fields

Batch update other Revit parameters that are mapped to COBie fields.

COBie Sheet	Field	Update only Blank Parameters	Update All Parameters	Do Not Update Parameters	
All	CreatedBy	Blank	All	None	!
All	CreatedOn	Blank	All	None	!
Facility	Name	Blank	All	None	!
Facility	ProjectName	Blank	All	None	!
Floor	Elevation	Blank	All	None	!
Space	Name	Blank	All	None	!
Space	GrossArea	Blank	All	None	!
Space	NetArea	Blank	All	None	!
Type	Name	Blank	All	None	!
Type	Category	Blank	All	None	!
Type	Description	Blank	All	None	!
Type	Manufacturer	Blank	All	None	!
Type	ModelNumber	Blank	All	None	!
Type	ReplacementCost	Blank	All	None	!
Component	Name	Blank	All	None	!
Component	Space	Blank	All	None	!
System	Name	Blank	All	None	!

bill.east@us.army.mil

Edit Default Settings

☐ Select 'Blank' for All Fields

☒ Select 'All' for All Fields

☒ Select 'None' for All Fields

☒ Apply only to elements marked for COBie export

Groups: ☒ Skip Grouped Elements ☐ Ungroup and set parameters

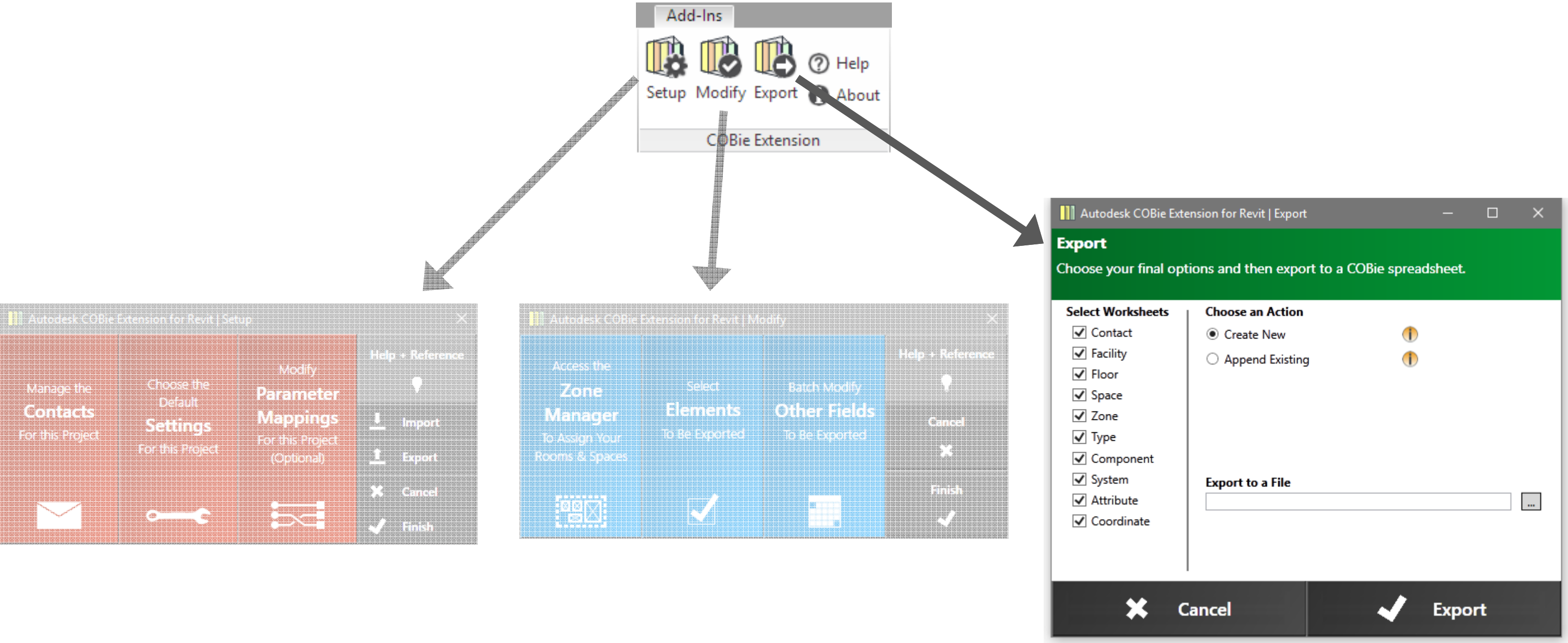
Cancel

Finish

Here's how to get the date/time stamp and email assigned

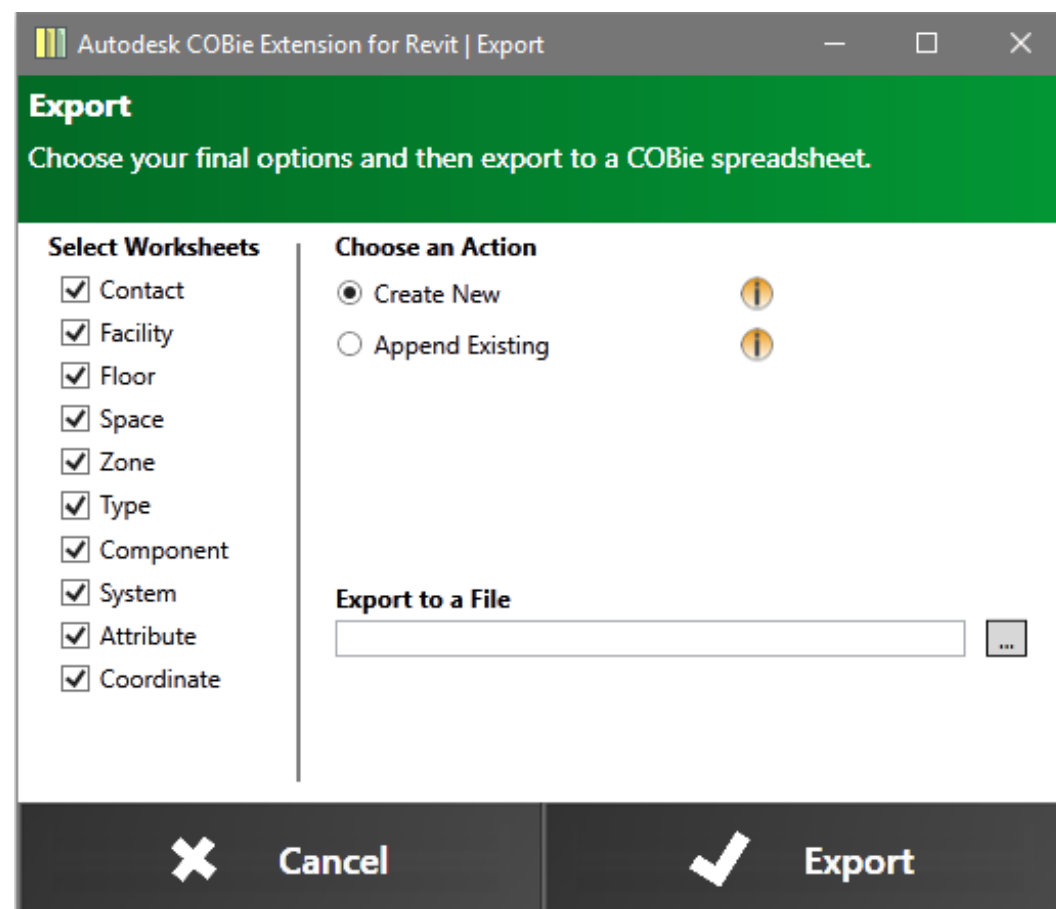
Autodesk COBie Extension for Revit

Basic Use > Export



Autodesk COBie Extension for Revit

Basic Use > Export



Export your COBie project to an Excel file

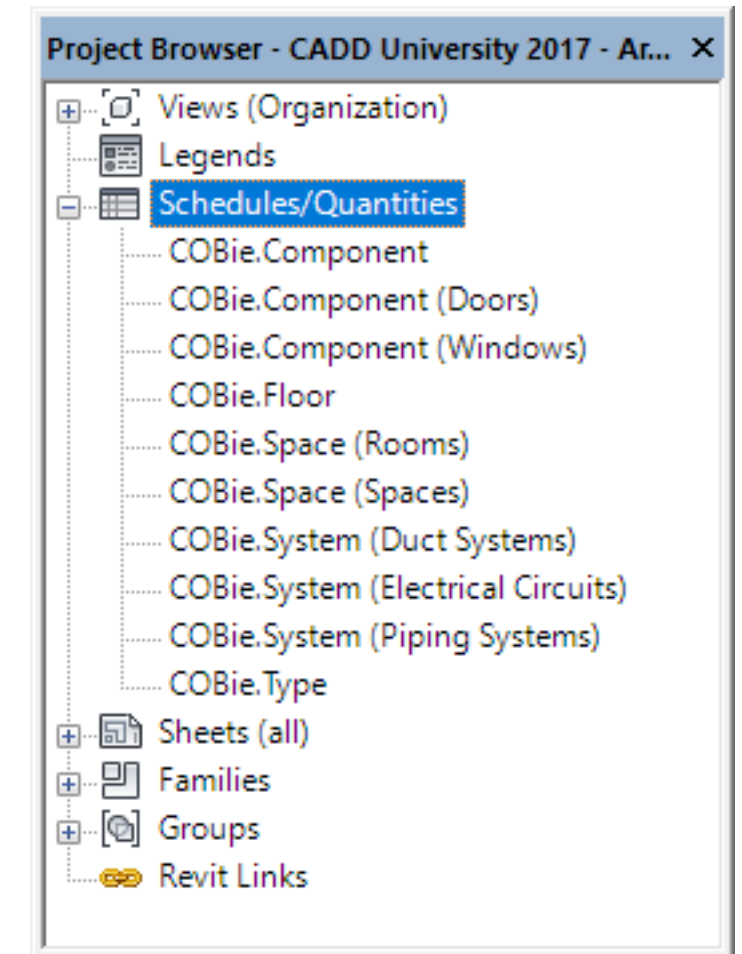
KEY POINTS:

- You can select whichever sheets you want to export
- Often, it is easier to export Type and Component sheets separately
- “Create New” uses the Excel template in the install folder...you can replace with your own
- “Append” does not check for duplicates
- COMING SOON!
 - Export COBie data from linked files

Autodesk COBie Extension for Revit

Deeper Dive

- Schedules vs Parameter Data
 - The COBie Extension does not export the schedules you can create during Setup
 - Those schedules are just to help you edit data and can be modified or deleted
 - They do not work with mapped parameters, but can be manually modified to do so



Autodesk COBie Extension for Revit

Deeper Dive

- Selecting Elements for Export
 - Only elements with the “COBie” or “COBie.Type” yes/no parameter checked on will export
 - You can batch do this with Modify > Elements
 - Beware of the fake “yes” parameter, which is a gray check and not a black one

Data		⌵
Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>
Limbo	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Autodesk COBie Extension for Revit

Deeper Dive

- Spaces in COBie vs Spaces/Rooms in Revit
 - COBie only uses 1 element to track location, but Revit uses 2
 - Because of this, you have to designate the correct one in Settings
 - When defining naming convention for COBie Spaces, consider adding family category to keep them unique

Space Name

☒ Field Separator

Fields

<input checked="" type="checkbox"/>	Revit Category	↓	↑↓
<input checked="" type="checkbox"/>	Number	↓	↑↓
<input checked="" type="checkbox"/>	Name	↓	↑↓

Preview

MyCategory_123_MyName

Introduction to Classification Systems


Introduction to Classification Systems

The Big Three

Systems

- Ideal for estimates and initial design
- What the architects and engineers want to know


 OmniClass Table 21 / UniFormat

 Uniclass 2015 Table Ss (Systems)

Materials

- Ideal for organizing the work to be executed
- What the contractor wants to know

 OmniClass Table 22 / MasterFormat

 Uniclass 2015 Table En (Entities)

Products

- Ideal for understanding specific items
- What the building engineer wants to know

 OmniClass Table 23

 Uniclass 2015 Table Pr (Products)

Introduction to Classification Systems

Complimentary Systems

Facilities

- Classify the overall facility / building

 OmniClass Table 11

 Uniclass 2015
Table Co (Complexes)

Spaces

- Classify each type of room or space

 OmniClass Table 13

 Uniclass 2015
Table SL (Spaces)

People

- Classify the people involved with the project

 OmniClass Table 34

 Uniclass 2015
Table PM

Introduction to Classification Systems

Other Classification Systems

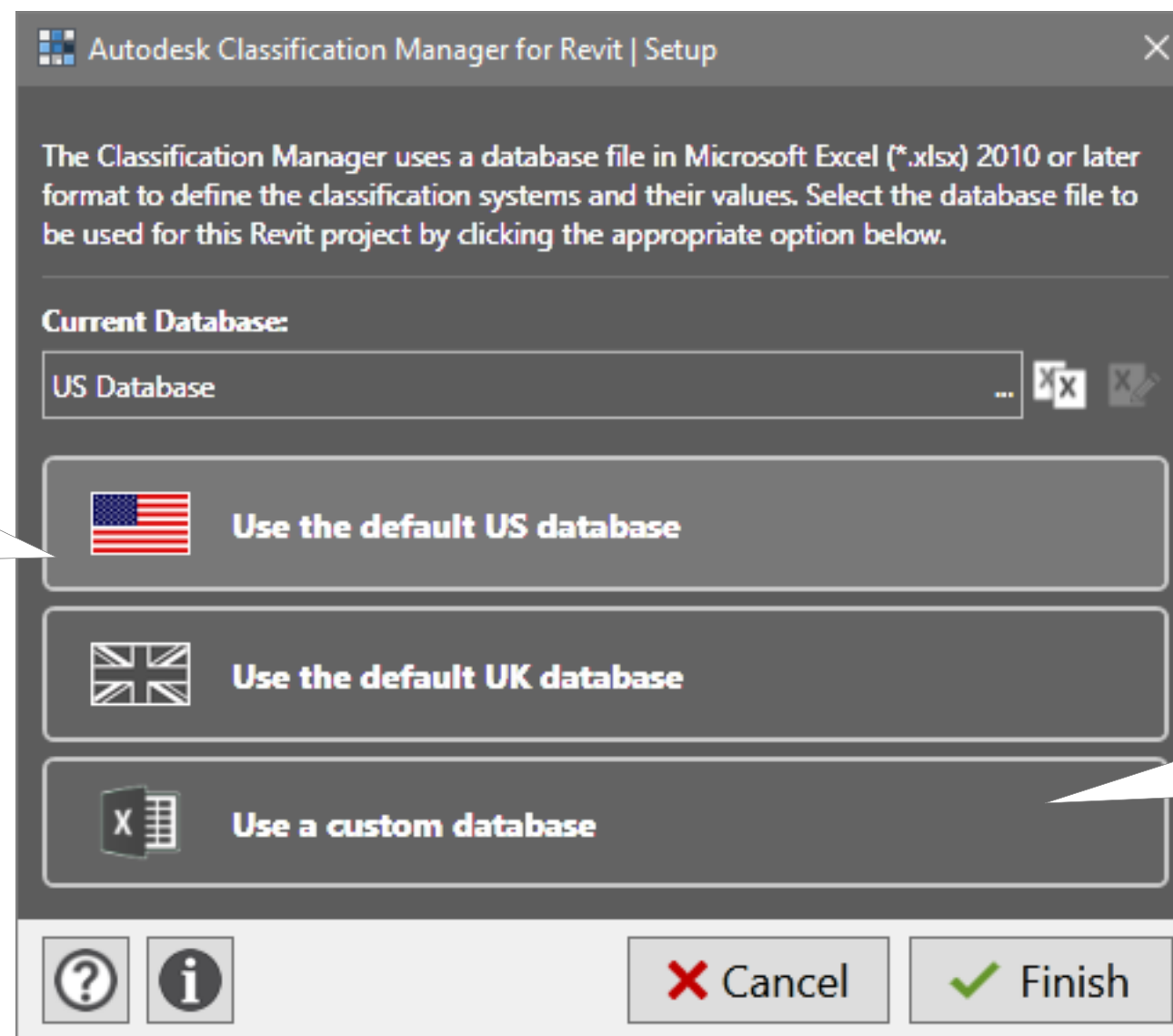
- Older versions of Uniclass
 - Version 2 (Uniclass2) and Version 1.4
- BOMA
 - Building Owners and Managers Association
 - Space classifications
- NATSPEC
 - Australia



Autodesk Classification Manager for Revit

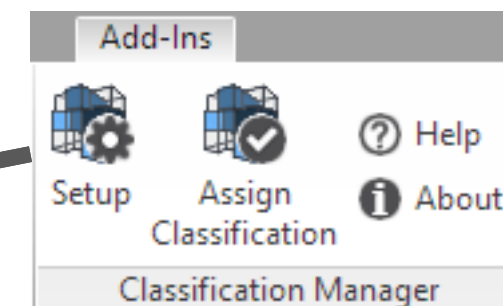
Autodesk Classification Manager for Revit

Basic Use > Setup



The US and UK Excel databases are in the install folder and can be edited

Browse to any properly formatted Excel database (more on that later)



Autodesk Classification Manager for Revit

Basic Use > Assign Classification > Contact

The 'Contact' tab will only show when editing contacts through the COBie Extension

Same data selection interface as Revit Assembly Code and OmniClass

The screenshot shows the 'Autodesk Classification Manager for Revit' window. The 'Contact' tab is selected, displaying a tree view of organizational roles. The tree structure is as follows:

- 34-10 - Entrepreneurial Roles
- 34-11 - Management Roles
- 34-20 - Development Roles
 - 34-20 11 - Design Roles
 - 34-20 11 11 - Architect** (highlighted)
 - 34-20 11 21 - Engineer
 - 34-20 11 31 - Designer
 - 34-20 11 41 - Specifier
 - 34-20 21 - Planning Roles
 - 34-20 31 - Surveyor
 - 34-20 41 - Contract Administrator
 - 34-20 51 - Observational Roles
- 34-35 - Execution Roles
- 34-41 - Utilization Roles
- 34-55 - Support Roles
- 34-61 - Group Roles

At the bottom of the window, there is a 'Selection' section with the following information:

- Count: 1
- Assembly Code: <None>

Below the selection section are four checkboxes, all of which are checked:

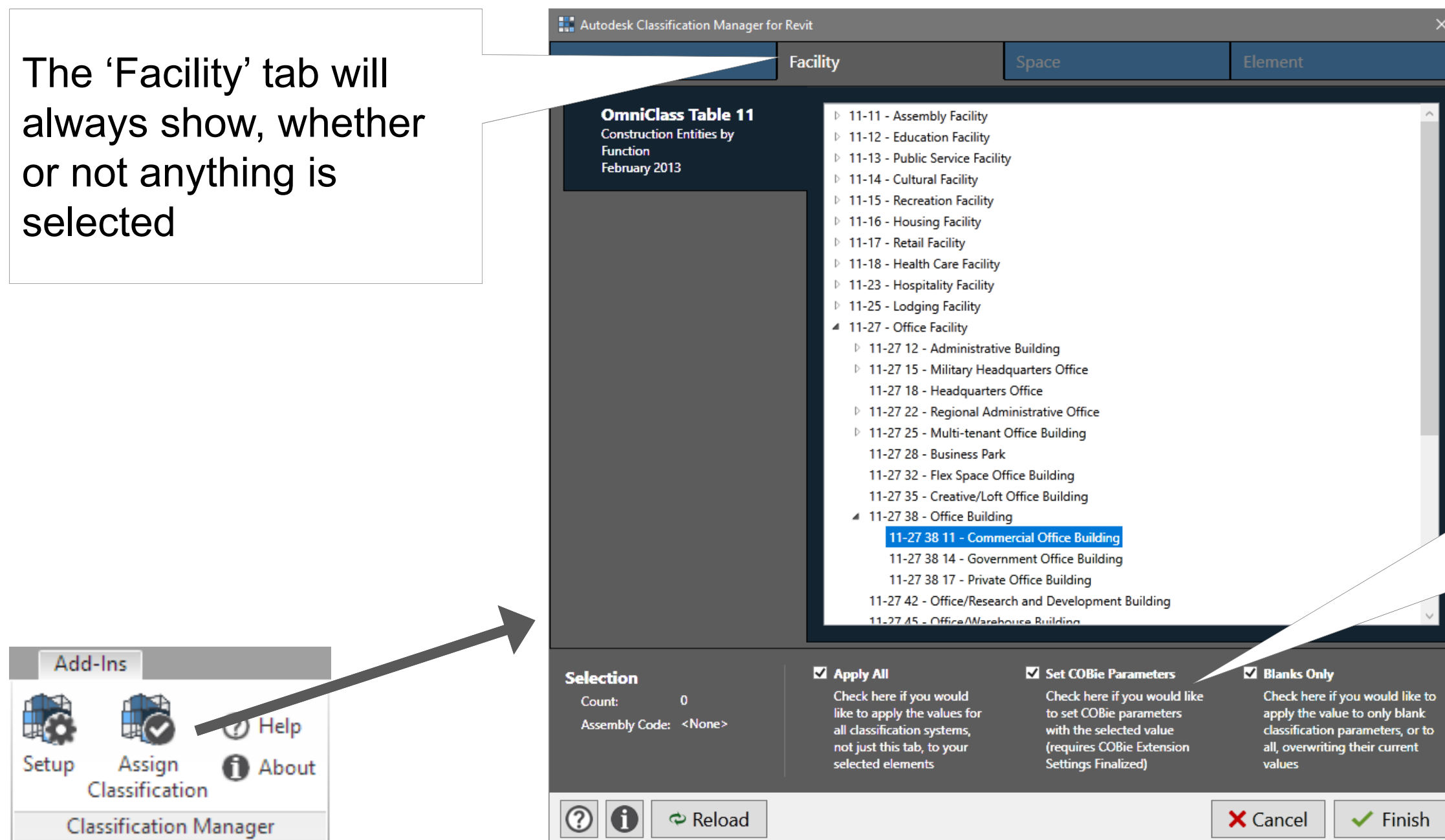
- ☒ **Apply All**: Check here if you would like to apply the values for all classification systems, not just this tab, to your selected elements
- ☒ **Set COBie Parameters**: Check here if you would like to set COBie parameters with the selected value (requires COBie Extension Settings Finalized)
- ☒ **Blanks Only**: Check here if you would like to apply the value to only blank classification parameters, or to all, overwriting their current values

At the bottom right, there are 'Cancel' and 'Finish' buttons. At the bottom left, there are 'Reload', 'Help', and 'About' buttons.

Autodesk Classification Manager for Revit

Basic Use > Assign Classification > Facility

The 'Facility' tab will always show, whether or not anything is selected



Checking the "Set COBie Parameters" box will automatically populate the appropriate COBie Extension parameters

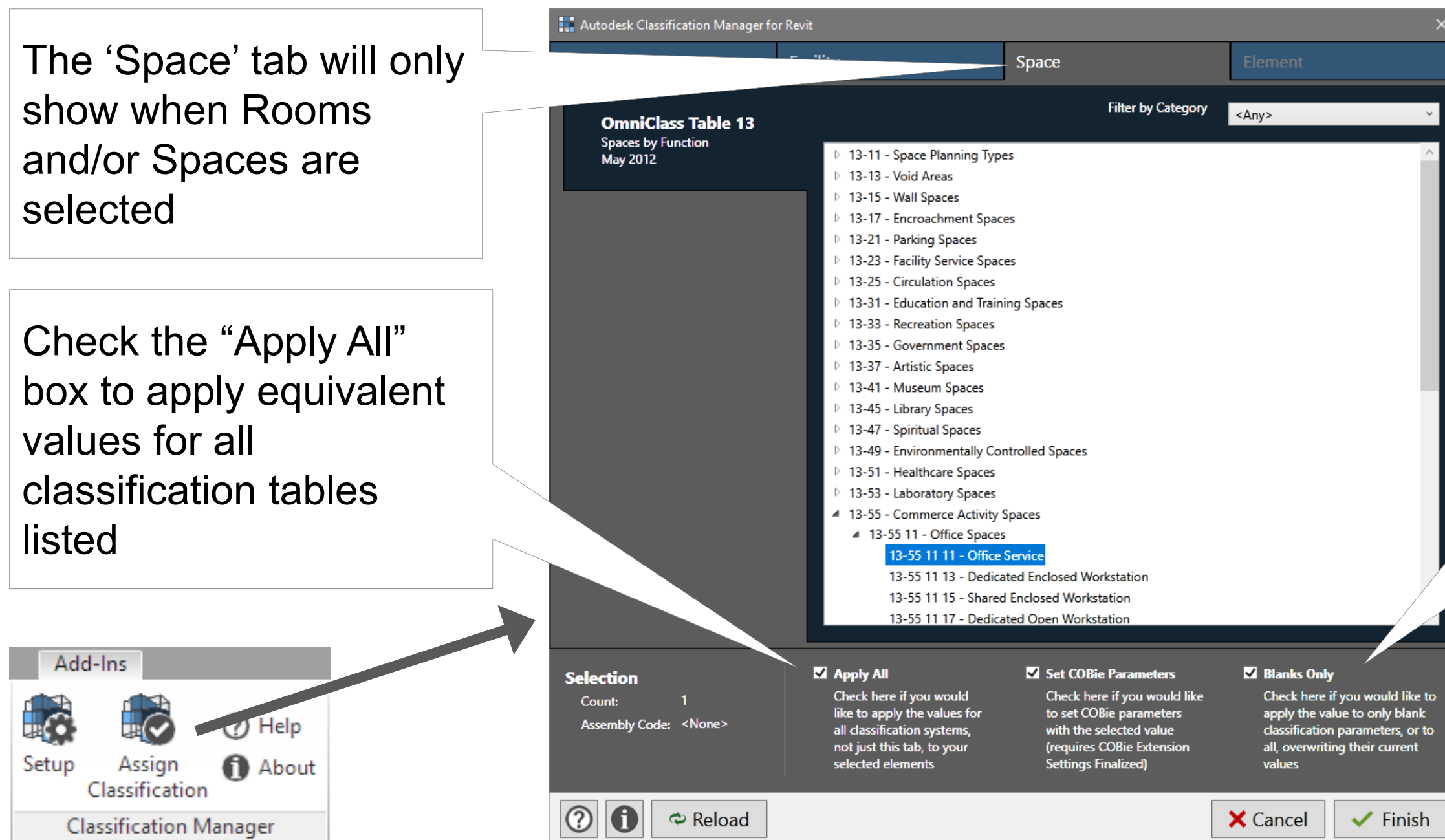
Autodesk Classification Manager for Revit

Basic Use > Assign Classification > Space

The 'Space' tab will only show when Rooms and/or Spaces are selected

Check the "Apply All" box to apply equivalent values for all classification tables listed

Checking the "Blanks Only" box will not change any already populated values in the selected elements

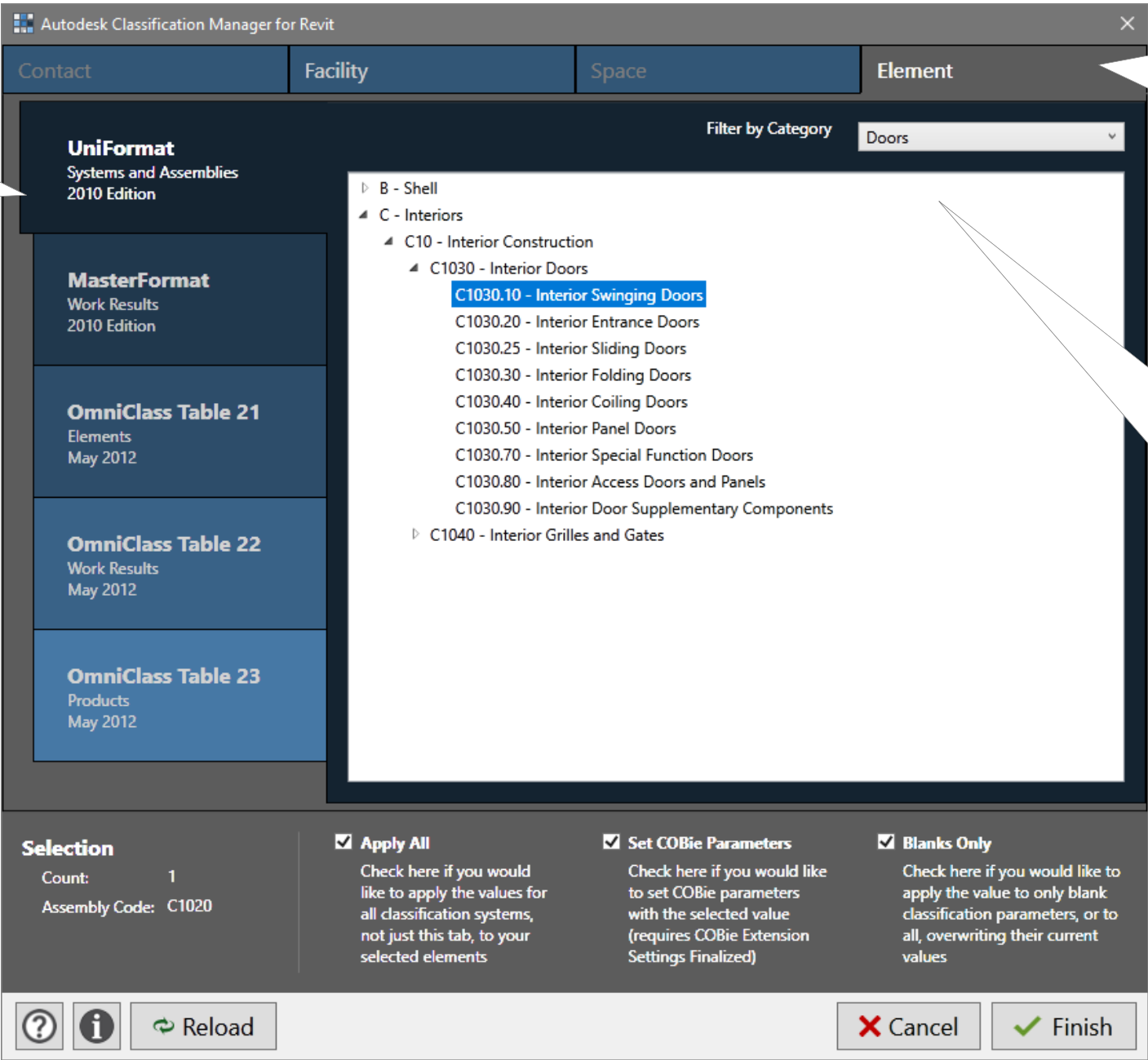
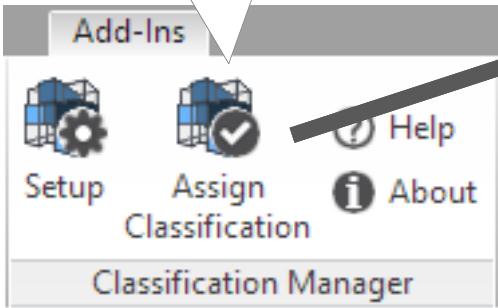


Autodesk Classification Manager for Revit

Basic Use > Assign Classification > Element

You can have up to 5 classification tables for Element

You can assign a Keyboard Shortcut to the “AssignClassification” command



The ‘Element’ tab show whenever you select Revit elements

Use the “Filter by Category” option to only show database values related to a specific family category



Autodesk Classification Manager for Revit

Deeper Dive

- Integrating with COBie Extension
(pick 1 method below, in order of preference)
 - Method 1: check the CE box in CM
 - Method 2: choose in CE settings
 - Method 3: use parameter mapping in CE
 - Method 4: modify the parameter names in the CM database

☒ **Set COBie Parameters**
Check here if you would like to set COBie parameters with the selected value (requires COBie Extension Settings Finalized)

Autodesk Classification Manager for Revit

Deeper Dive

- Custom Classification Manager Database Files
 - You **CAN** edit = header information, data in rows
 - You **CANNOT** edit = header information titles, column headers
 - **Number** and **Description** = main data columns...add values to these rows
 - **Level** = family category code (see instructions tab)

	A	B	C	D	E	F	G	H
1	Title	OmniClass Table 21						
2	Description	Elements						
3	Version	May 2012						
4	Function	Element						
5	Number Parameter	Classification.OmniClass.21.Number						
6	Description Parameter	Classification.OmniClass.21.Description						
7	NUMBER	DESCRIPTION	LEVEL	REVIT CATEGORI	UniFormat	MasterFormat	OmniClass Table 22	OmniClass Table 23
245	21-04 10 80	Operable Access Systems	4		D1080	14 81 00	22-14 81	N/A
246	21-04 10 80 10	Suspended Scaffolding	5		D1080.10	14 81 00	22-14 81	N/A
247	21-04 10 80 20	Rope Climbers	5		D1080.20	14 82 00	22-14 82	N/A
248	21-04 10 80 30	Elevating Platforms	5		D1080.30	14 83 00	22-14 83	N/A
249	21-04 10 80 40	Powered Scaffolding	5		D1080.40	Multiple Values	Multiple Values	N/A
250	21-04 10 80 50	Building Envelope Access	5		D1080.50	11 24 23	22-11 24 23	N/A



Autodesk Classification Manager for Revit

Deeper Dive

- Update Revit's UniFormat and OmniClass Database Files
 - Text files that can be replaced
 - Copy data in CM Excel file and paste into Notepad?
- Assembly Code
 - Shown in Type definitions
 - Point to any text file in Manage > Other

`C:\ProgramData\Autodesk\RVT 2017\Libraries\US Imperial\UniFormatClassifications.txt`

- OmniClass
 - Shown in family definitions

`C:\ProgramData\Autodesk\RVT 2017\UserDataCache\OmniClassTaxonomy.txt`



Autodesk Classification Manager for Revit

Deeper Dive

- Using Classification Manager for Picklists
 - Revit is not able to create a drop-down list of pre-defined values for parameters
 - Key Schedules only work with one family category and only for custom parameters, not standard ones
- Example: Fire Rating
 - Create a pre-defined list that can fill in the 'Fire Rating' parameter for both Doors and Walls
 - Avoid the "1 HR.", "1 hour", "One hr." dilemma



Wrap up / Next steps

Wrap up / Next steps

www.biminteroperabilitytools.com

- Installation Files
- Samples
- Help Pages
- Quick Start Guides
- Videos
- and other resources...



Wrap up / Next steps

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