

IBM TRIRIGA
Version 1 Release 1

*Connector for BIM
User Guide*



Note

Before using this information and the product it supports, read the information in "Notices" on page 23.

This edition applies to version 12, release 1, modification 2 of IBM TRIRIGA CAD Integrator/Publisher and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. TRIRIGA Connector for BIM overview

The IBM® TRIRIGA® Connector for BIM solution is an add-in building information modeling (BIM) product that you install in an Autodesk Revit application. The add-in product provides bidirectional tools that integrate your Revit project data with the TRIRIGA environment and enhance the standard Revit functions.

In the Revit application, you access the TRIRIGA Connector for BIM tools from the **IBM TRIRIGA** tab.

The TRIRIGA Connector for BIM add-in can function when more than one instance of Revit is running.

When you create and link to new TRIRIGA records, TRIRIGA Connector for BIM uses the Revit model values to populate the TRIRIGA records. When you change linked records in TRIRIGA or Revit models, you need to synchronize the values so that they match in both applications.

Related concepts:

New product for BIM integration

IBM TRIRIGA is introducing a new product named IBM TRIRIGA Connector for BIM. The product links Autodesk Revit model data with TRIRIGA records.

Related tasks:

Chapter 7, “Synchronizing Revit model data and TRIRIGA records,” on page 17

When you modify linked information, you need to synchronize the information so that it is the same in the TRIRIGA records and in the IBM parameters in the Autodesk Revit model.

Integration of Revit project data with TRIRIGA records

IBM TRIRIGA Connector for BIM integrates building, floor, and space data from Autodesk Revit projects with IBM TRIRIGA records so that TRIRIGA applications can use the project data. You can also export and publish Revit floor plans to the TRIRIGA environment as .dxf files for display in the Graphics section of TRIRIGA applications.

The following actions are required to integrate the Revit project data with TRIRIGA records and to generate a .dxf file for each model floor that you publish to TRIRIGA:

- Configure the settings to use to connect to the TRIRIGA server.
- Configure how to generate the TRIRIGA model, building, floor, and space names from the Revit model data.
- Select the DFX template to use to export the Revit floor plans to TRIRIGA.
- Load the required TRIRIGA element parameters into the Revit model.
- Specify which values for Revit model, level, and room parameters to use to populate the TRIRIGA element parameters and when to update the TRIRIGA element parameters.
- Preview and optionally edit the generated model, building, floor, and space names and their Revit values.
- For each level, specify the Revit floor plan to use to publish the floor plan to TRIRIGA.

- Link the Revit model, building, level, and room elements to the TRIRIGA model, building, floor, and space records. The linking action creates building information modeling (BIM) records that represent the building and linking information. The linking action also transforms the BIM records to TRIRIGA building, floor, and space records.
- Publish the two-dimensional representations of the Revit floor plans to TRIRIGA so that they are available in the Graphics section of TRIRIGA applications.
- When changes occur to the data, synchronize the data in TRIRIGA with the Revit model data so that the parameter values are consistent in both products.

Chapter 2. Installing TRIRIGA Connector for BIM

The installation process loads IBM TRIRIGA Connector for BIM as an add-in for Autodesk Revit applications and adds the **IBM TRIRIGA** tab to the Revit ribbon.

Before you begin

The following prerequisites must be met:

- Users who install the **All Users** option must have administrator rights. The **Current User** installation option does not require administrator rights.
- The installation workstation must have 64-bit Java™ 7 or 8 installed.
- The installation workstation must have a supported version of Revit software installed.
- The installation workstation does not have a version of TRIRIGA Connector for BIM already installed.

About this task

You must run the installation process on the workstation of each Revit application user. Users with administrator rights can install TRIRIGA Connector for BIM for administrator and non-administrator users.

The installation process installs TRIRIGA Connector for BIM in all of the languages that Revit supports. The language that the installed version of Revit uses is detected and used by TRIRIGA Connector for BIM.

Procedure

1. Open the installation folder and double-click the `install_ri_v1.1.0.0.exe` file.
2. Follow the prompts in the installation program and verify the pre-installation summary items.
3. Click **Install**, and then click **Done**.

Verifying the TRIRIGA Connector for BIM installation process

As a part of the IBM TRIRIGA Connector for BIM installation process, you need to verify that the process completed successfully.

About this task

The installation process was successful if the following items are displayed in Autodesk Revit:

- The **IBM TRIRIGA** tab is displayed in the ribbon.
- The **IBM TRIRIGA** tools are displayed when you click the **IBM TRIRIGA** tab.

Uninstalling TRIRIGA Connector for BIM

An uninstallation is an optional process that you can run after you install IBM TRIRIGA Connector for BIM. The uninstallation removes the TRIRIGA Connector for BIM add-in and program files from the workstation.

About this task

To uninstall TRIRIGA Connector for BIM, use the uninstall feature in the Microsoft Windows Control Panel.

Chapter 3. Configuring TRIRIGA connections

The connection configurations specify the IBM TRIRIGA servers that you connect to when you log in to TRIRIGA from IBM TRIRIGA Connector for BIM. You specify the URL, the default user name, and the authentication type. You can also specify a proxy URL address and port.

Before you begin

Obtain the TRIRIGA server URL, user name, and authentication type from your administrator.

About this task

You can create, edit, remove, and copy connection configurations. You can override the default user name when you log in. You must always specify a password when you log in.

The authentication type can be basic, preemptive basic, or NTLMv2.

To configure the connections, select **IBM TRIRIGA > Preferences**, click **New** or select an existing environment, specify the values, and click **OK**.

Chapter 4. Setting up the TRIRIGA and Revit integration

The information that IBM TRIRIGA Connector for BIM uses to populate TRIRIGA records comes from elements in the Autodesk Revit model. You must configure the relationships between the Revit element parameters and the TRIRIGA element parameters.

Configuring how TRIRIGA names are generated from Revit model data

IBM TRIRIGA values for model, building, floor, and space names might need to be different from the Autodesk Revit model values. For example, a model level name that was specified by a contractor might not be the floor name that the building modeler wants to use in the TRIRIGA records.

About this task

You specify the configurations to use for the names that TRIRIGA requires from Revit model element parameter values. The generated names provide links between the Revit model elements and the TRIRIGA records.

The name type determines the available Revit model parameters values that you can use in the name. You can save a configuration as the default configuration. You can then use the default configuration to streamline the configuration of other models and to ensure consistency of the name configurations by all Revit model users.

Procedure

1. In IBM TRIRIGA Connector for BIM, select **IBM TRIRIGA > Project settings**.
2. Click **Configure** for the type of name to generate.
3. Select the parameter whose value you want to use in the name, and specify any other values to use in the name.
4. Click **Add**.
5. Optional: Repeat steps 3 and 4 to select more parameter values to use in the name type.
6. When finished, click **OK**.
7. Repeat steps 2 - 6 for the remaining name types.
8. Optional: To save the name configurations as the default for future name generation, in the **Save as default configuration** field, click **Save**.
9. Click **OK**.

Example

You are configuring the TRIRIGA model name. You plan to use the following Revit model parameter values as part of the model name:

Revit model parameter	Value
Project Name	Blue Valley Office
Project Number	p4433221

1. In the Model name generation configuration window, in the **Parameter** field, select **Project Name**.
2. Specify the following optional field values:

Field	Value
Prefix	Model-
Word case	Capitalize first word
White space	Convert to single dash
Suffix	-

3. Click **Add**.
4. In the **Parameter** field, select **Project Number**.
5. Specify the following optional field values:

Field	Value
Word case	Capitalize first word
White space	Convert to single dash
Suffix	Blank

6. Click **Add**, and then click **OK**.

The generated model name for TRIRIGA is Model-Blue-valley-office-P4433221.

Related tasks:

“Selecting DXF templates for models” on page 9

IBM TRIRIGA Connector for BIM uses the Autodesk Revit export capability and the Revit Drawing Exchange Format (DXF) templates to generate the Revit floor plans that are published to IBM TRIRIGA.

“Selecting space use classes”

When you use IBM TRIRIGA Connector for BIM to create IBM TRIRIGA spaces, you can specify a space use class for the new TRIRIGA space records.

Selecting space use classes

When you use IBM TRIRIGA Connector for BIM to create IBM TRIRIGA spaces, you can specify a space use class for the new TRIRIGA space records.

About this task

The space use class that you configure is used only when you create spaces through the Revit integration process. The space use class that you select populates the **IBM.UseClassification** parameter for Revit rooms. You can edit the **IBM.UseClassification** parameter for individual rooms in Revit before TRIRIGA Connector for BIM uses the room information to create the TRIRIGA space records. For existing spaces, the space use class is not changed.

Procedure

1. In the **Set Up** ribbon, select **Project settings**.
2. Specify a space use class.
3. When finished, click **OK**.

Related tasks:

“Configuring how TRIRIGA names are generated from Revit model data” on page 7

IBM TRIRIGA values for model, building, floor, and space names might need to be different from the Autodesk Revit model values. For example, a model level name that was specified by a contractor might not be the floor name that the building modeler wants to use in the TRIRIGA records.

Selecting DXF templates for models

IBM TRIRIGA Connector for BIM uses the Autodesk Revit export capability and the Revit Drawing Exchange Format (DXF) templates to generate the Revit floor plans that are published to IBM TRIRIGA.

About this task

You configure the DXF templates in Revit. In the export template, you can configure aspects of how to generate the floor plan output. You can configure aspects such as the layer names, line colors, line widths, and details to include.

You might already have standard templates, or you can create a template that is used only for publishing floor plans to TRIRIGA.

TRIRIGA converts the DXF file to graphic representations of the Revit floor plans for use in the Graphics section of TRIRIGA applications.

Procedure

1. In TRIRIGA Connector for BIM, open the model to use.
2. Select **IBM TRIRIGA > Project settings**.
3. In the **DXF template** field, select the template to use, and then click **OK**.

Related tasks:

Chapter 8, “Publishing Revit floor plans to TRIRIGA,” on page 19

You use the Publish tool in IBM TRIRIGA Connector for BIM to generate Drawing Exchange Format (DXF) files that TRIRIGA converts to graphic representations of Autodesk Revit floor plans. TRIRIGA uses the graphic files in the Graphics section of TRIRIGA applications.

“Configuring how TRIRIGA names are generated from Revit model data” on page 7

IBM TRIRIGA values for model, building, floor, and space names might need to be different from the Autodesk Revit model values. For example, a model level name that was specified by a contractor might not be the floor name that the building modeler wants to use in the TRIRIGA records.

Chapter 5. Populating the TRIRIGA parameters in Revit with Revit model data

The Populate Parameters tool loads predefined IBM TRIRIGA parameters into the open Autodesk Revit model and populates them with the model values. You specify how to update the TRIRIGA parameters. For example, you might want to populate the **IBM.Description** parameter with the Revit model parameter data only if the TRIRIGA parameter is blank.

About this task

IBM TRIRIGA Connector for BIM uses the name generation formats that you specified to populate the **IBM.Name** and **IBM.ModelName** parameters, and populates the other TRIRIGA parameters from the Revit model parameter values. You can view the populated parameters in the Revit schedule for the TRIRIGA parameters.

Procedure

1. Open the Revit model and select **IBM TRIRIGA > Populate parameters**.
2. For each parameter in the **Parameter** column, click the update button for the type of update to use for the parameter.
3. Click **OK**.
4. Optional: To view and modify the parameter values, use the Revit schedule for the TRIRIGA parameters. For example, the **IBM.Floor** schedule lists all the floors in the model. Each floor name is in the format that you specified as the TRIRIGA configuration for the TRIRIGA floor name generation. You can review the TRIRIGA parameters for model and building in the Revit project information.

Chapter 6. Linking Revit model data to TRIRIGA records

You integrate Autodesk Revit and IBM TRIRIGA by linking model data with new or existing TRIRIGA records. The linking process loads the model data to new TRIRIGA records and synchronizes model data with existing TRIRIGA records.

Related tasks:

Chapter 7, “Synchronizing Revit model data and TRIRIGA records,” on page 17
When you modify linked information, you need to synchronize the information so that it is the same in the TRIRIGA records and in the IBM parameters in the Autodesk Revit model.

Linking to new TRIRIGA records

IBM TRIRIGA Connector for BIM can create TRIRIGA records and link Autodesk Revit model data to the new records.

Before you begin

The new building's parent record, for example, a property location, must exist in the TRIRIGA Location hierarchy. To populate the TRIRIGA gross and measured gross area fields for floors, the model levels must contain placed areas for the gross and rentable areas in an area plan.

About this task

TRIRIGA Connector for BIM creates the TRIRIGA building, floor, and space records from the model building, levels, and rooms data. TRIRIGA Connector for BIM uses the naming configurations and the parameter population that you specified with the Project settings and Populate parameters tools.

In the Integrate ribbon tools, you can use the fields above the Location, Level, and Room lists to filter the lists. You can type a few letters of the link item name or item type to locate the item in the list.

TRIRIGA Connector for BIM retrieves the TRIRIGA gross and measured gross area field values from the gross and rentable areas that are placed on the levels in the model area plan.

Procedure

1. In TRIRIGA Connector for BIM, open the model to link.
2. Select **IBM TRIRIGA > Building**.
3. In the **Link to** area, select **New building**.
4. Select the location that is the parent for the new building.
5. Select the currency, area units, and length units to use for the new building, floor, and space records, and then click **OK**.
6. Click **Yes** to confirm the creation of the building record. During the record creation process, some of the TRIRIGA Connector for BIM tools are disabled. When the creation process completes, the TRIRIGA building record is created and linked with the model building data.
7. Select **IBM TRIRIGA > Levels**.

8. Select the model levels to link, and then click **Add**.
9. When finished, click **OK**.
10. Click **Yes** to confirm the creation of the floor records. During the record creation process, some of the TRIRIGA Connector for BIM tools are disabled. When the creation process completes, the TRIRIGA floor records are created and linked with the model levels data.
11. Select **IBM TRIRIGA > Rooms**.
12. Select the model rooms to integrate, and then click **Add**.
13. Optional: If enabled, click **View errors** to view any integration errors.
14. When finished, click **OK**.
15. Click **Yes** to confirm the creation of the space records. During the record creation process, some of the TRIRIGA Connector for BIM tools are disabled. The TRIRIGA space records are created and linked with the model rooms data.

Related tasks:

Chapter 7, “Synchronizing Revit model data and TRIRIGA records,” on page 17
When you modify linked information, you need to synchronize the information so that it is the same in the TRIRIGA records and in the IBM parameters in the Autodesk Revit model.

Chapter 8, “Publishing Revit floor plans to TRIRIGA,” on page 19
You use the Publish tool in IBM TRIRIGA Connector for BIM to generate Drawing Exchange Format (DXF) files that TRIRIGA converts to graphic representations of Autodesk Revit floor plans. TRIRIGA uses the graphic files in the Graphics section of TRIRIGA applications.

Linking to existing TRIRIGA records

IBM TRIRIGA Connector for BIM can link Autodesk Revit model data with TRIRIGA records that are in the TRIRIGA Location hierarchy.

Before you begin

To populate the TRIRIGA gross and measured gross area fields for floors, the model levels must contain placed areas for the gross and rentable areas in an area plan.

About this task

TRIRIGA Connector for BIM updates the selected TRIRIGA building, floor, and space records with the model building, levels, and rooms data.

In the Integrate ribbon tools, you can use the fields above the Location, Building, Level, Floor, Room, and Space lists to filter the lists. You can type a few letters of the link item name or item type to locate the item in the list.

TRIRIGA Connector for BIM retrieves the TRIRIGA gross and measured gross area field values from the gross and rentable areas that are placed on the levels in the model area plan.

Procedure

1. In TRIRIGA Connector for BIM, open the model to link.
2. Select **IBM TRIRIGA > Building**.
3. In the **Link to** area, select **Existing building**.

4. In the **Location** area, select the location of the existing building.
5. In the **Building** area, select the building to link to, and then click **OK**. During the record linking process, some of the TRIRIGA Connector for BIM tools are disabled. When the linking process completes, the TRIRIGA building record is linked with the model building data.
6. Select **IBM TRIRIGA > Levels**.
7. For each level to link, select the model level and the TRIRIGA floor record to link it to.
8. Optional: Click **Add** to add a level as a new floor rather than linking to an existing floor.
9. When finished, click **OK**. During the record linking process, some of the TRIRIGA Connector for BIM tools are disabled. When the linking process completes, the TRIRIGA floor records are linked with the model levels.
10. Select **IBM TRIRIGA > Rooms**.
11. For each room to link, select the model room and the TRIRIGA space record to link it to.
12. Optional: Click **Add** to add a room as a new space rather than linking to an existing space.
13. When finished, click **OK**. During the record linking process, some of the TRIRIGA Connector for BIM tools are disabled. When the linking process completes, the TRIRIGA space records are linked with the model rooms.

Related tasks:

Chapter 7, "Synchronizing Revit model data and TRIRIGA records," on page 17
When you modify linked information, you need to synchronize the information so that it is the same in the TRIRIGA records and in the IBM parameters in the Autodesk Revit model.

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Chapter 7. Synchronizing Revit model data and TRIRIGA records

When you modify linked information, you need to synchronize the information so that it is the same in the TRIRIGA records and in the IBM parameters in the Autodesk Revit model.

About this task

The Sync tool updates the linked TRIRIGA records with any area changes that you make in the Revit model. For all other changes, such as description, floor level, and space use class, the Sync tool updates the IBM parameters in the Revit model with the TRIRIGA record values.

Procedure

1. Open the Revit model to synchronize.
2. Select **IBM TRIRIGA > Sync**.
3. Verify the model elements to synchronize, and then click **OK**.

Related concepts:

Chapter 1, “TRIRIGA Connector for BIM overview,” on page 1

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Related tasks:

“Linking to existing TRIRIGA records” on page 14

IBM TRIRIGA Connector for BIM can link Autodesk Revit model data with TRIRIGA records that are in the TRIRIGA Location hierarchy.

“Linking to new TRIRIGA records” on page 13

IBM TRIRIGA Connector for BIM can create TRIRIGA records and link Autodesk Revit model data to the new records.

Related information:

Chapter 6, “Linking Revit model data to TRIRIGA records,” on page 13

You integrate Autodesk Revit and IBM TRIRIGA by linking model data with new or existing TRIRIGA records. The linking process loads the model data to new TRIRIGA records and synchronizes model data with existing TRIRIGA records.

Chapter 8. Publishing Revit floor plans to TRIRIGA

You use the Publish tool in IBM TRIRIGA Connector for BIM to generate Drawing Exchange Format (DXF) files that TRIRIGA converts to graphic representations of Autodesk Revit floor plans. TRIRIGA uses the graphic files in the Graphics section of TRIRIGA applications.

Procedure

1. Select **IBM TRIRIGA > Publish**.
2. Select the DXF template to use.
3. Select the levels and the floor plans to use.
4. Click **OK**.

Related tasks:

"Selecting DXF templates for models" on page 9

IBM TRIRIGA Connector for BIM uses the Autodesk Revit export capability and the Revit Drawing Exchange Format (DXF) templates to generate the Revit floor plans that are published to IBM TRIRIGA.

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IBM TRIRIGA Connector for BIM can link Autodesk Revit model data with TRIRIGA records that are in the TRIRIGA Location hierarchy.

"Linking to new TRIRIGA records" on page 13

IBM TRIRIGA Connector for BIM can create TRIRIGA records and link Autodesk Revit model data to the new records.

Chapter 9. Opening TRIRIGA from Revit models

After you link Autodesk Revit model data to IBM TRIRIGA, you might want to open TRIRIGA from IBM TRIRIGA Connector for BIM to view the linked data.

Before you begin

You must log in to TRIRIGA before you can open TRIRIGA from TRIRIGA Connector for BIM.

About this task

From TRIRIGA Connector for BIM, you can use the **Open in TRIRIGA** tools to launch the TRIRIGA home portal. In an open, linked Revit model, you can open the TRIRIGA building record or select linked Revit model data elements to view the records in TRIRIGA.

Procedure

1. Open a linked Revit model in TRIRIGA Connector for BIM.
2. From the **Open in TRIRIGA** ribbon, select a tool to launch the TRIRIGA portal or to open linked records.

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