Understanding BIM 360 Coordination Clash Detection and Issue Management Workflow

Anil R. Mistry
Autodesk, Inc.

Learning Objectives

- Learn how to prepare models for model coordination in BIM 360
- Learn how to perform Automate Clash Detection, review clashes with team, create unified issues, assign issues to team members, create approval workflow
- Setup granular permission, change analysis, create BIM 360 dashboard, grouping clashing, selection of clashing, integration
- Provide useful tips and information for potential users and new users to set up and prepare to use BIM 360 Design, BIM 360 Docs and BIM 360 Model Coordination space from the support perspective.
- Learn how to share Revit model to BIM 360 Docs using BIM 360 Design workflow.
- Use Desktop Connector to copy models from project folder to plans folder

---

Description

Learn how to create clash detections in BIM 360 Model Coordination using published model from Autodesk Revit to BIM 360 Docs using cloud work sharing workflow, setup coordination space, automate clash detection, review clashes with team, create unified issues, assign issues to team members, crate approval workflow, setup granular permission, change analysis, create BIM 360 dashboard, grouping clashing, selection of clashing, integration and etc..

Model Coordination provides a shared space to publish, review and run clashes on your latest set of project models. Upload 3D models to a centralized Model Coordination folder, and the clash service automatically locates any issues in those models.

BIM 360 Design is a cloud worksharing and design collaboration product built for distributed, multi-disciplinary teams. With BIM 360 Design, you can co-author Revit models in the cloud, control worksharing activities, and coordinate deliverable

AU Speaker(s):

I joined Autodesk in February 2014. Currently I am working with the Autodesk BIM 360 support team as Premium Support Specialist, BIM and based out of Boston, MA office. I am Autodesk product user for more than 20 years. I received my Bachelor's degree in Civil Engineering from University of Massachusetts, Lowell, MA. I have 15 plus years of experience working in Civil/Construction industry and worked on several small to large sized projects. I was involved on many highway design projects (The Central Artery/Tunnel Project (BIG Dig), Manchester–Boston Regional Airport, NHFG, Broad Street Parkway, NH) for Large and Small clients including DOT and municipal clients.

Teach "How to run Clash detection in BIM 360 Model Coordination using BIM 360 Design (CS225847)" class at AU 2018

Received "**Certificate of Excellence**" for outstanding performance and excellence while providing oversight on a New Hampshire Department of Transportation Federally Funded construction project.

Anil.Mistry@autodesk.com

Contents:

What is BIM 360?

BIM 360 is a unified platform that connects project data in real-time from design through construction, supporting informed decision-making and leading to more predictable and profitable outcomes.

BIM 360 improves construction project delivery by supporting informed decision-making throughout the project lifecycle. From design collaboration, documentation and reviews, to pre-construction, and through quality and safety and operations, BIM 360 connects the people, data and workflows on your project, so you can see the big picture and keep your projects on track.

The "Next-Generation" BIM 360 line of applications is a cloud-based series of applications built upon Autodesk Forge platform (Classic BIM 360 applications such as BIM 360 Glue and BIM 360 Field are not on Forge platform).

The Forge API:

Forge API is Autodesk's cloud developer platform upon which the next-gen BIM 360 platform is based. Forge currently offers access to the following BIM 360 APIs (BIM 360 Account Admin, BIM 360 Document Management, Issues, and the Viewer) for customization/integration within other web and mobile applications.

BIM 360 Document Management:

BIM 360 Document Management (Docs) is a cloud-based file repository and collaboration environment that allows teams to manage blueprints, 2D plans, 3D models, and other project documents. This streamlines the document management process and connects to Autodesk's other next generation SaaS products on the BIM 360 platform. Products such as BIM 360 Model Coordination, BIM 360 Design (use with Revit), BIM 360 Build (aka Field Management), Design Collaboration (associated in with BIM 360 Design), Project Management, and Project Admin modules. BIM 360 Document Management serves of the focal point of the BIM 360 platform.

BIM 360 Model Coordination:

BIM 360 Model Coordination provides a collaborative environment to publish, review, and run clashes on 3D BIM models. When models are uploaded to a centralized folder within BIM 360 Document Management (plans folder), the clash service within Model Coordination will automatically locate any clashes within those models. The module allows for viewing model data and filtering that data to facilitate easier inspection of clashes.
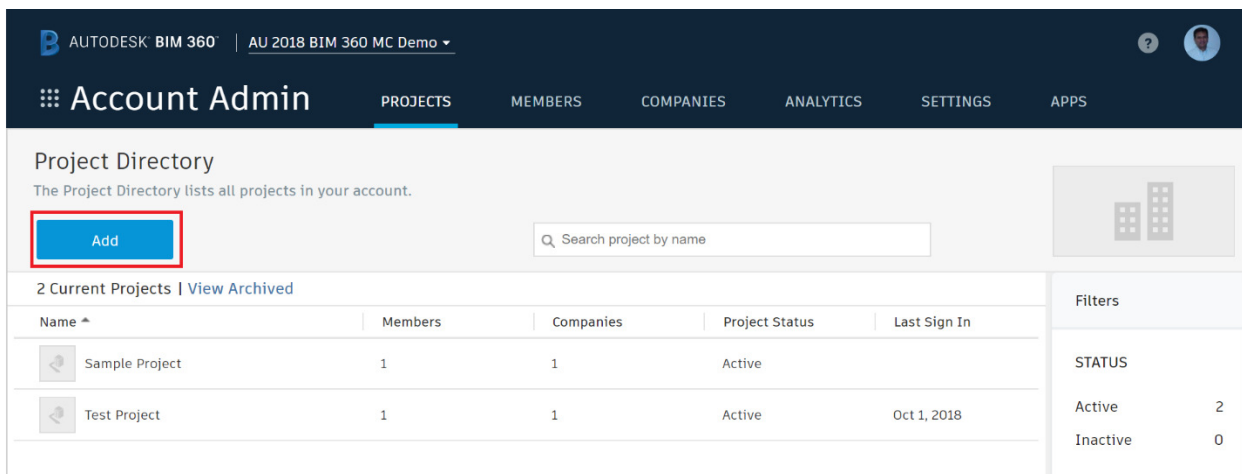
Setting up a New Project and Activate Services (Account Administration)

The Account Admin module allows account administrators to manage the Autodesk BIM 360 account and its projects, members, and company data.

Account administrators can create projects, activate services, and assign project administrators to those services.

Creating a project:

1. In the BIM 360 Account Admin module, click the **Projects** tab.
2. Click **Add**.

3. In the **Create Project Profile** dialog, specify the project name and enter the project information. Required fields are marked with an asterisk. Some of the fields, such as the start and end dates, are used for company reporting and analytics to ensure all team members have access to consistent project information across workflows.

4. Select a language from the BIM 360 Field (classic) Project Language drop-down list.

5. Click **Save & Continue** to create the project and display the Activate Services page.

Create Project Profile
Step 1 of 2

* Project Name

Foothills Hotel

Project name is valid.

* Project Type

Hotel / Motel ▾

Project Image

Select image to upload
JPEG, GIF, PNG, or BMP file
(4MB max)

Browse

Construction Type

New Construction ⇕

Project Value

USD ⇕

Contract Type

⇕

* Project Start Date

Jun 08, 2018

* Project End Date

Jun 12, 2020

Project Job Number

Business Unit

North America ✕ ▾

Project Address

1100 Hagues Peak Way

Address Line 2

Fort Collins

80525

Colorado ⇕

United States ⇕

Project Time Zone

(GMT-07:00) Mountain Time (US & Canada) ⇕

* BIM 360 Field Project Language

English ⇕

Cancel

Save & continue

Activate Services and add Project Admin:

1. On the **Activate Services** page, click **Activate** next to each BIM 360 service you want to activate. The list of services depends on what modules you have purchased.

   Note: For this class activate Document Management and Model Coordination services.

Activate Services
Step 2 of 2

To activate a service, click Activate and assign at least one project admin to the service. More ▾

● Inactive	Document Management		Activate
● Inactive	Project Management		Activate
● Inactive	Design Collaboration		Activate
● Inactive	BIM 360 Glue		Activate
● Inactive	BIM 360 Field		Activate
● Inactive	BIM 360 Plan		Activate

Important: After creating a project profile, you can activate BIM 360 services.
Note: You must activate **Document Management first**, before you can activate other Next Gen services like Model Coordination, Project Management, Design Collaboration, etc.

2. When activating BIM 360 Document Management service, you can choose to copy the project settings from an existing project. This allows you to use previous projects as a template for your new project.

   Note: When activating BIM 360 Glue or Field, you have the choice between the classic and Next Generation modules. See About Autodesk BIM 360 for more information. Once you start project in BIM 360 Glue Classics or Model Coordination you can't switch back. If you want, you can create two projects and run parallel.

   Select a project from the Copy Project Settings drop-down list to copy the following settings:

   Document Management:

   - Folder structure

- Role permissions

Issues:

- Issue types
- Root causes
- Custom attributes
- Role-based permissions

  See Issues and Folder Permissions for more information.

3. For each service you activate, add at least one **project administrator**. Enter their name or email address, and a company name.

   Note: Adding a project administrator is important, as they are able to activate further services for the project, assign a member's role and company, and manage access and permissions.

   New members added as project administrators receive an invitation to the account and the project. You can also add existing account members. Search the directory by entering a name or email, then click Save.

4. Click **Finish**.

Activate Services
Step 2 of 2

To activate a service, click Activate and assign at least one project admin to the service. More ▾

● Inactive **Document Management**

Copy project settings (Learn more)

| Select Project ▾ |

Please assign a project administrator

| anil.mistry@autodesk.com |
| Company |

Email is valid.

Cancel   **Save**

● Inactive **Project Management**   Activate

● Inactive **Design Collaboration**   Activate

● Inactive **Model Coordination**   Activate

● Inactive **BIM 360 Field**   Activate

● Inactive **BIM 360 Plan**   Activate

Finish

Manage Account Members:

Add individual members to the Member Directory or bulk-import multiple members using a spreadsheet. As a best practice, we recommend account administrators add their employees to the member directory first. Then, project administrators can use the search feature to more easily invite them to any project, without creating duplicate entries. While this practice is recommended, it is important to note that project administrators can add new members directly to a project, even if they are not in the account member directory yet. As soon as these new members are added to the project, they are added to the account member directory as well.

Add individual members to the directory

1. In the Account Admin module, click the **Members** tab.
2. Click **Add** ➤ Add people to the member directory.
3. Enter the person's email address, press the enter key, and click **Add**.

   Tip: If necessary, you can add multiple members at once before clicking **Add**.

4. Select the member's company and role from the lists and click **Save**.
   You can change the default company and role later if necessary.

Add multiple members to the directory

1. In Account Admin, click the **Members** tab.
2. Click **Add** ➤ **Import members by spreadsheet**.
3. Do one of the following:
   - For a first-time import, click **Download the member list template** and open it with Excel. In the template, replace the example entries with your actual member details, one member per row, and save the file. Then click **Choose** File to select the spreadsheet.
   - If you have a properly formatted member list spreadsheet, click Choose File and select the spreadsheet.
4. Click **Start Import**.

Manage Project Members and Access (Project Admin)

The Project Admin module allows project administrators to manage project members, companies, and services, as well as edit the project profile.

After an account administrator creates a project, they can add one or more project administrators to handle the administrative responsibilities for the project. Companies with multiple projects can delegate responsibility to project administrators to securely manage users and access on a project-by-project basis. Typical examples of construction industry positions that could fill the project administrator role include project managers or superintendents for a local project.

Within the project admin module, project administrators can add project members and control the member access to the various modules. They can also view all 3rd party companies associated with the project.

Add Project Members:

1. Click **Module Selector** ⊞ ➤ **Project Admin**.

   Tip: If the Project Admin option is not available, use the Project Selector to choose the project you want to add members to. You are automatically taken to the Project Admin module.

2. Click the **Members** tab.

   This opens the **Project Members** page, which displays all members of the selected project, their assigned role and company, and the services, or modules, that they have access to.

3. Click **Add**.

4. **To add new members:**

   a. Enter an email address and press **Enter** on your keyboard.

   b. Click **Select**.

   To add members who have already been added to the account:

   a. Enter a name or email.

   b. Choose a member and click **Select**.

      Tip: You can add one or more members to a project at the same time.

5. Optionally, assign the member to a company:

   • Search for a company that has already been added to the directory by an account administrator.

   • Add a new company. Type the name of the new company, then click **Create company <name>**.

      Tip: In Project Admin, click the Companies tab to view all 3rd party companies associated with the project, and the number of members associated with each company.

6. Optionally, assign the member a role(s).

   Tip: The assigned role determines a member's access to all modules. For example, a Superintendent is granted administration rights and access to Document Management, Project Management, Model Coordination, Field Management, and Insight. However, this can be overwritten, as described in step 7 below.

7. To change the member's access level, click in the Project Admin or module columns:

The icon changes to indicate access level.

Note: Assigning access to individual modules overwrites the access level granted by role.

8. Click **Add to Project**. An email notification is sent, which allows the member to activate their membership and access the project.

Before you begin uploading models, the following must be setup.

Create structured project folders (Document Management):

Create a customized folder hierarchy for each of your projects.

Every project starts with pre-configured top-level folders to support a specific process or data type. These folders are called Plans and Project Files. You can add subfolders to these folders.

- **Plans**: Use the Plans folder to manage, download, review, and publish the latest set of construction documents, in both 2D and 3D formats. This is the digital equivalent to the printed set of contract drawings for the project.

- **Project Files**: Use the Project Files folder for any project document, including design data and all other document types. For example, photos, reports, schedules, budgets, requirements documents, etc.
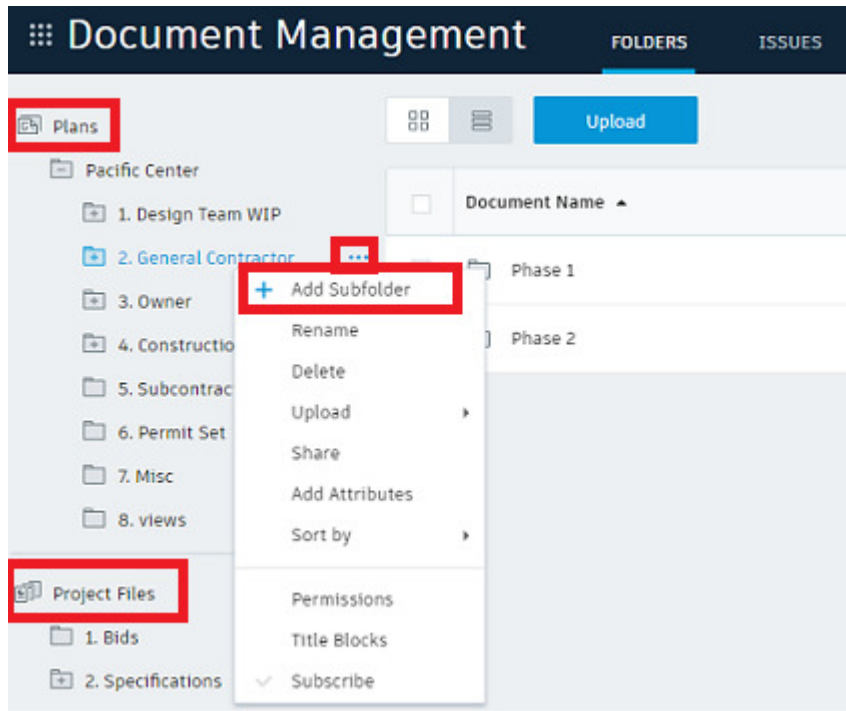
Note: Folders can be manually created within Document Management or automatically within the Design Collaboration Project Admin area when creating Teams.

Add Folders

1. In the folder tree, right-click a folder ➤ **Add Subfolder**. A new folder appears below the parent folder.
2. Enter a name and press **Enter**.
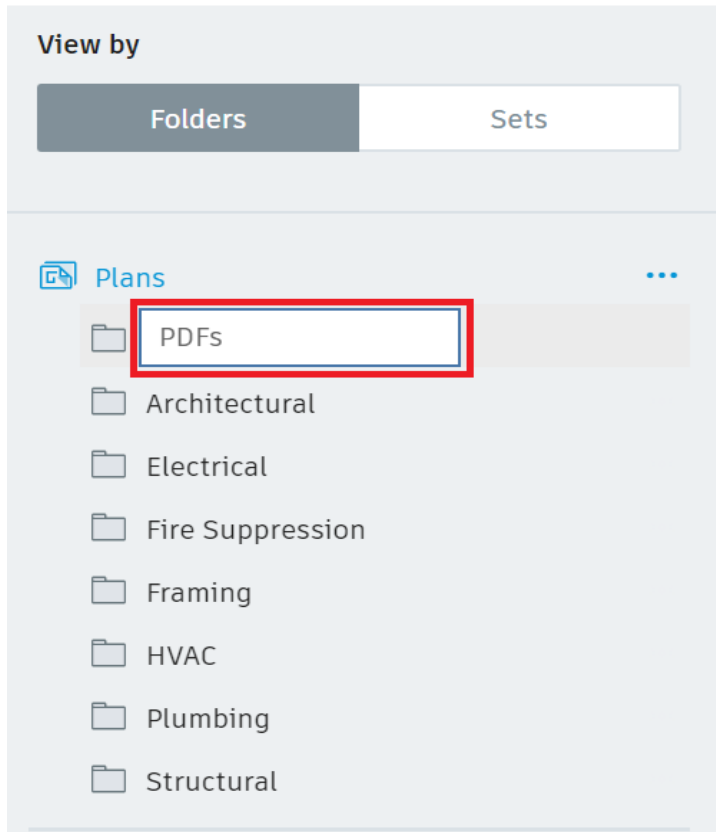
Assign Folder Permission

As a project administrator, you can restrict user access to certain folders or limit access according to role or company.

Sub-folders automatically inherit the permission level of the parent folder, but can be changed later. If changed, sub-folder permissions must match the access level of the parent folder, or else have a greater (less restricted) access level than the parent folder.
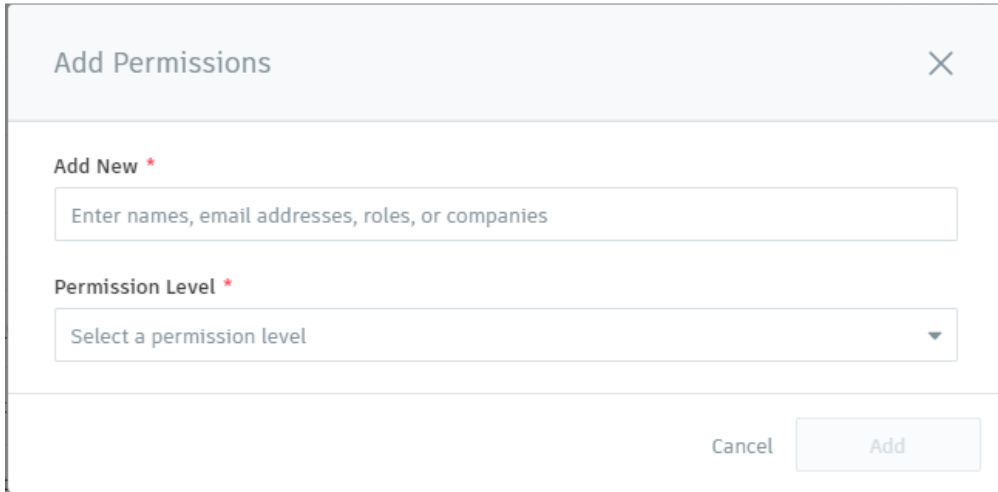
Note: See help article for more information.

1. In Document Management, select a folder and right-click > **Permissions**.
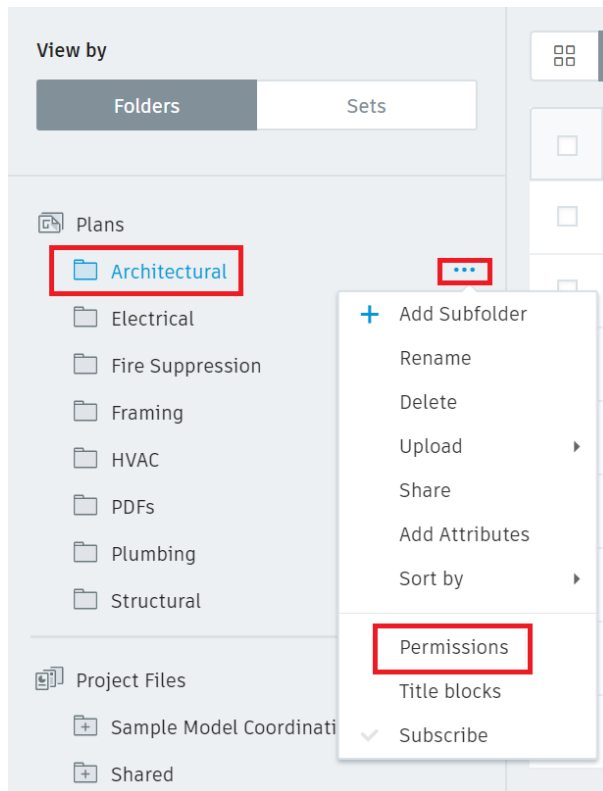
2. Click on **Add** button to add individual member, role or companies permission:
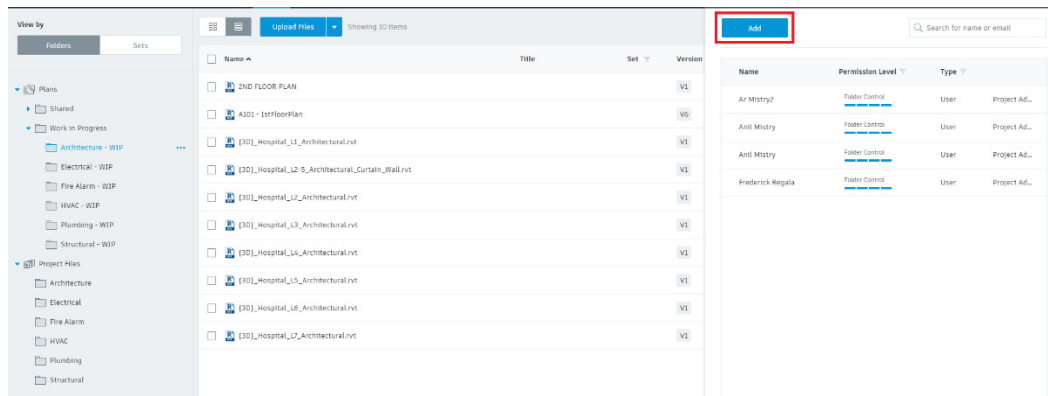
Permission levels include:

- **View only**: User/role/company may view documents, add private markups, and create issues.

- **View/Download**: User/role/company may view documents, add private markups, create issues.

- **Upload only**: User/role/company may upload documents but not see the folder contents.

- **View/Download + Upload**: User/role/company may share their own documents with team members and view any other documents in that folder.

- **View/Download + Upload + Edit**: User/role/company may share their own documents with team members, view and edit any other documents in that folder, and publish markups.

- **Folder Control**: User/role/company may share their own documents with team members and view and edit any other documents in that folder. With folder control permission they can also carry out tasks within that folder that are usually restricted to the project administrator. This includes creating title blocks, adding project members, managing permissions, and editing set assignment. This permission level offers the greatest access to folders.

Note: View only permissions have the following limitations:

- Can't view image files
- Can't use Desktop Connector
- If view settings are not set to BIM Viewer PDFs can't be viewed on mobile

Upload Model

1. In the Folder Tree, select a folder.

2. Click **Upload** ➤ **Files** and select a file. Alternatively, drag and drop a file onto the required folder.

   Note: To select multiple files, press Shift+Click or Ctrl+Click.
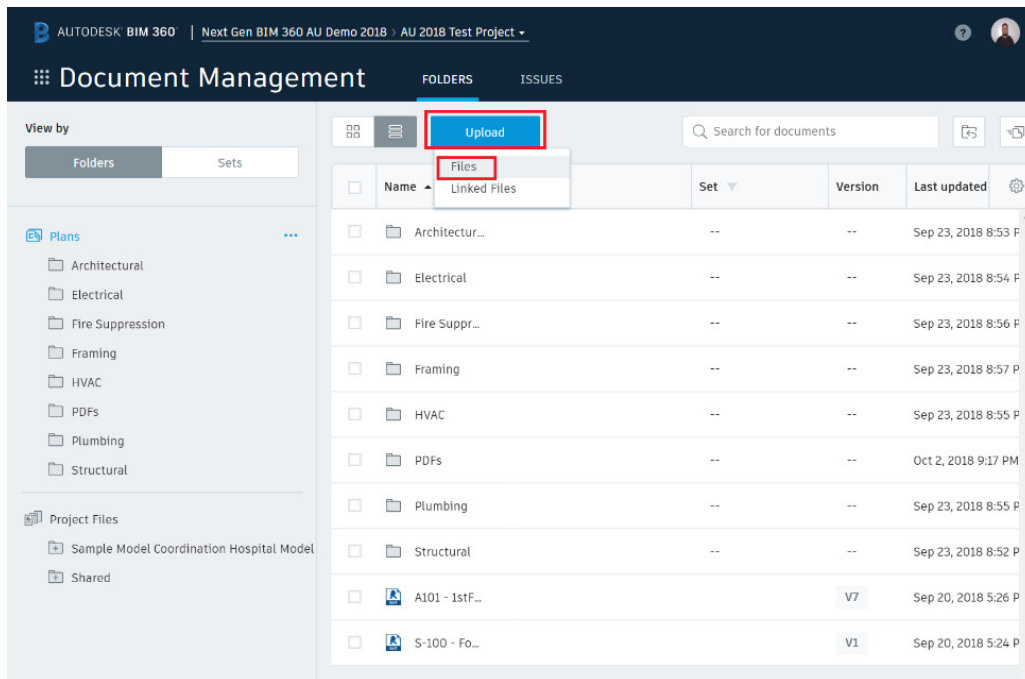
3. Optionally, select **Add Files** and choose additional files for upload.

4. Select **Continue**.

   Your files are then processed and published. A results dialog is displayed when completed.

5. Select **Show** to view the published files in your folder.

   Tip: When you open a document in the Plans folder, the set-specific information is displayed at the top left of the document, next to its name and version. Information about the set is not displayed in documents in the Project Files folder.

Upload and Publish Linked Files

Upload linked Revit files or AutoCad files that include xfefs. You must specify the parent or host file, which will be linked to the child file data.

Note: You cannot drag and drop linked files.

1. In the Folder Tree, select the folder you want to upload files to.
2. Click **Upload** ➤ **Linked Files** and either:
   - Select the parent (host) file.
   - Press **Shift+Click** or **Ctrl+Click** and select all files to be linked (parent and child).
3. In the Linked Files Upload dialog, select Add files and choose additional (child) files if necessary.
4. In the Parent File column, check the parent file ➤ **Continue**.

   Linked files are then processed and published. A results dialog is displayed when completed.

5. Select **Show** to view the published files in your folder.

Create Teams (Document Management or Design Collaboration)

1. Use the Module selector to switch to **Project Admin**.
2. Under Services, click **Design Collaboration** in the left panel.
3. Click **Add Team**
4. Provide a team name and click **Add**.

   Note: Shared and Consumed folders are created for the team in the Project Files directory. Refer to Teams in Design Collaboration for more details about these folders. Adjust the default folder location as required. If you have already created folders to represent your teams, you may select them at this stage instead of adding a new team.

5. Repeat the previous step until all teams have been created.
6. Click **Close**.

Tip: After you add a team, you can hover your cursor over the team name and edit the team alias. This alias does not have to match the name of the folder in the project files directory.

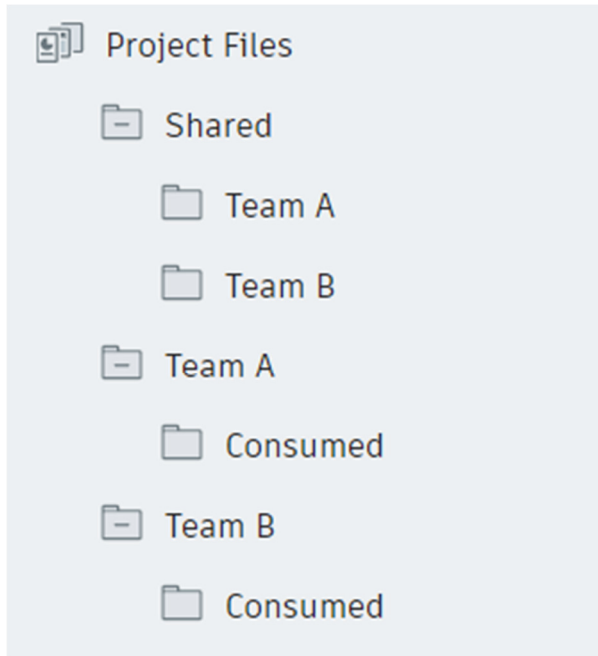We see the two teams on the project timeline in Design Collaboration.

We also see new Shared and Consumed folders for the two teams in Document Management.

Add Team members (Document Management or Design Collaboration)

1. Use the Module selector to switch to **Project Admin**.
2. Under **Services**, click **Design Collaboration** in the left panel.
3. Enable the **checkbox** for a team.
4. Click **Manage team members**.

**Tip:** You can also click in the Members column for a team.

5. Start typing the name of a project member, company, or role.

6. Adjust the permission level for the member, company, or role. Available permissions are:

   - **View only:** View your team's WIP folders. The view permissions are added to the global Shared folder and the team folder in Document Management.
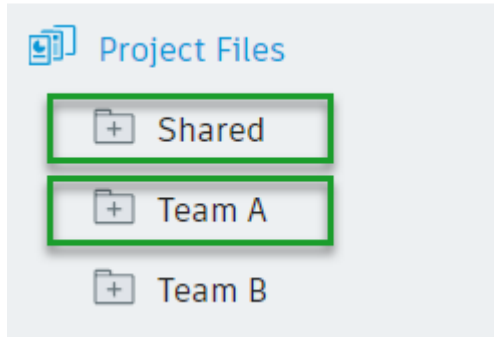
- **View + edit:** Publish from Revit Cloud Worksharing or Document Management into the team's WIP folder, create and update WIP packages, and consume packages from other teams. This is in addition to the view only permissions. The view permissions are added to the global Shared folder and the edit permissions are added to the team folder in Document Management.
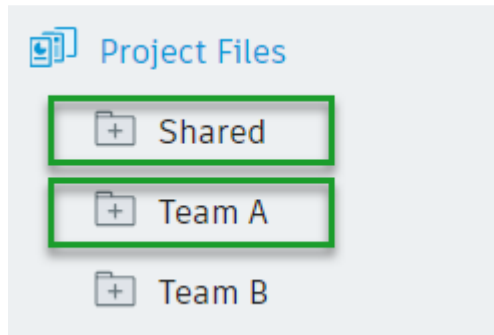

- **View + edit + share:** Share packages with other teams in addition to the view + edit permissions. The view permissions are added to the global Shared folder and the edit permissions are added to the team folder and the team's Shared folder in Document Management.
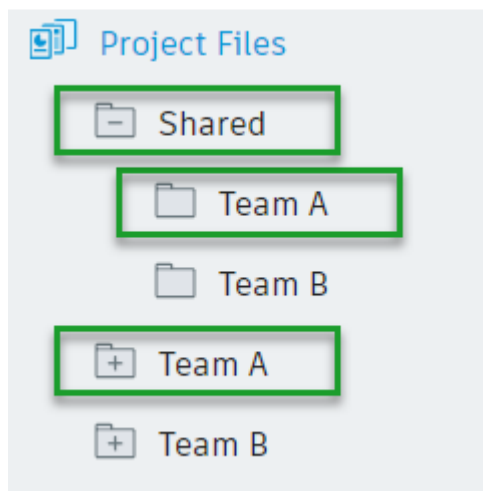
- **View + edit + share + control:** Add the contents of a package to a document set in Document Management and schedule the regular publishing

of a package. The view permissions are added to the global Shared folder and the control permissions are added to the team folder and the team's Shared folder in Document Management.
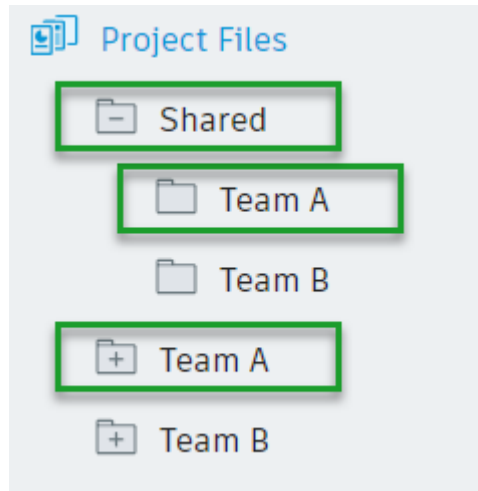
- **Custom:** Permissions are defined externally.

7. Click **Add**.

8. Repeat for additional members, companies, or roles.

9. Click **Close**.

Initiating Design models (Revit 2018.3, 2019 or 2020)

1. Once folders have been setup, members added to the project, and assigned to teams has been completed. Members should be ready to initiate models from within Revit.

2. Initiate the design models in your Team(s) folder within **Plans Folders**

Upload a Model to BIM 360 Document Management

As part of the process to set up Revit Cloud Worksharing, upload a model to BIM 360 Document Management.
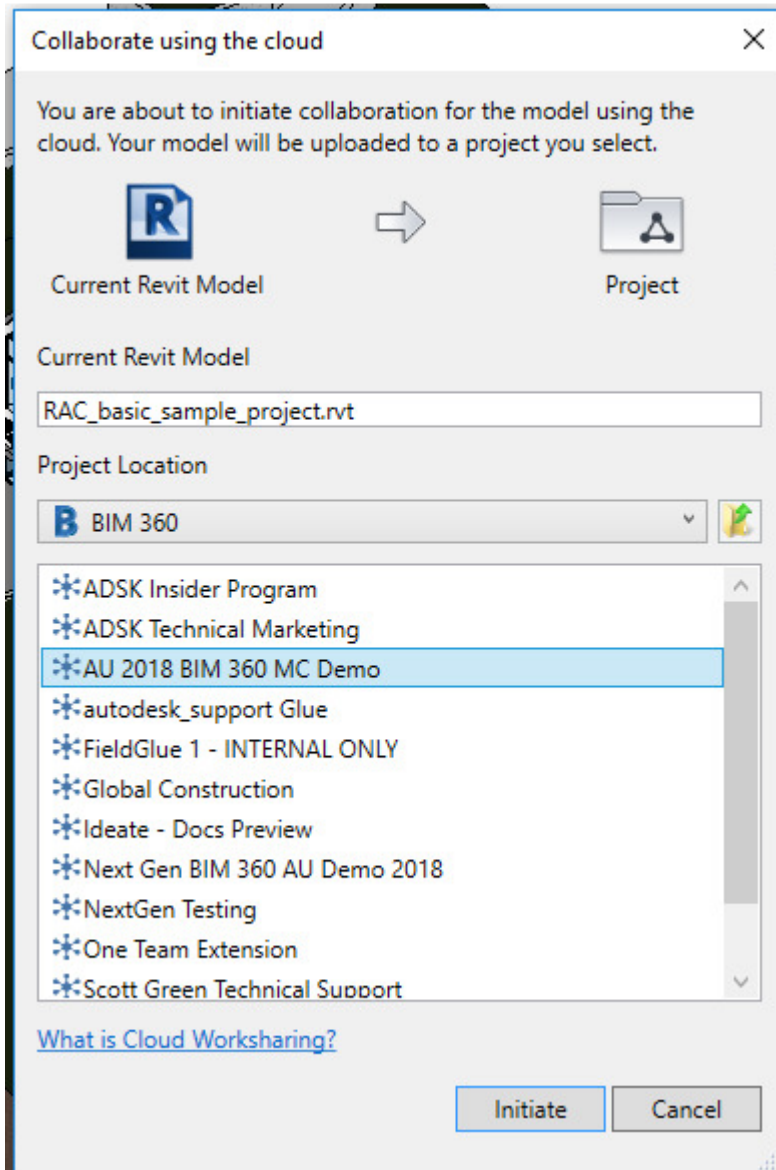
1. In Revit, open or create a model.

2. Click Collaborate tab ➤ Manage Collaboration panel ➤ 👥 (Collaborate).
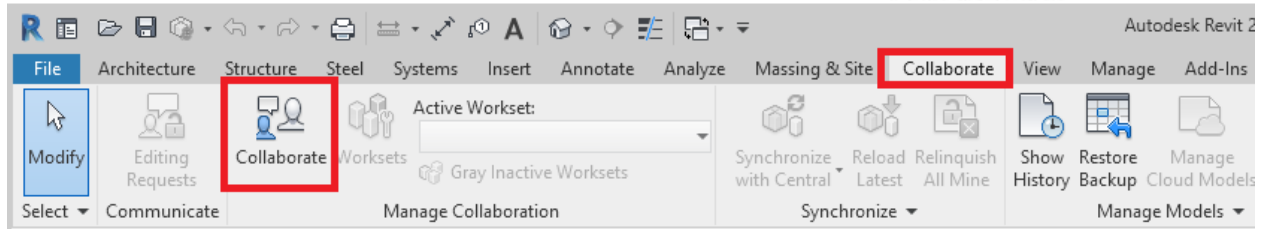
3. In the Collaborate dialog, select In BIM 360 Document Management.
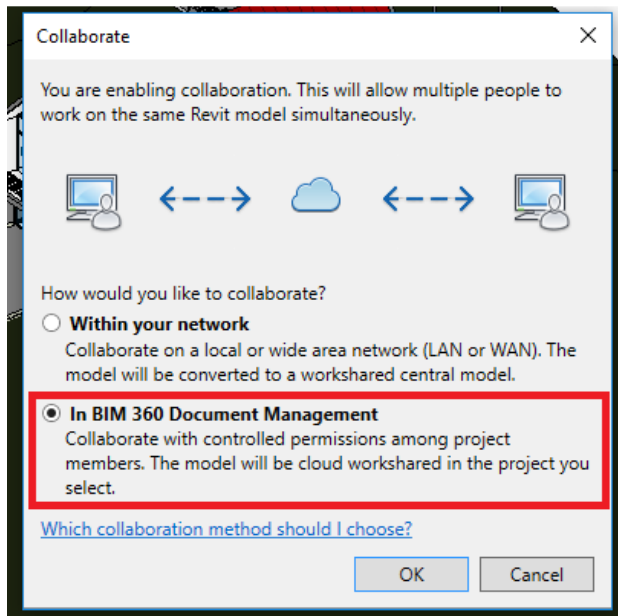
4. Click **OK**.

5. If prompted, <u>sign in</u> with your Autodesk ID and password.

   Note: When you sign in, your Revit username changes to match your Autodesk ID.

6. Select the desired project folder.

Collaborate using the cloud

You are about to initiate collaboration for the model using the cloud. Your model will be uploaded to a project you select.

Current Revit Model → Project

Current Revit Model

RAC_basic_sample_project.rvt

Project Location

B BIM 360

- ADSK Insider Program
- ADSK Technical Marketing
- AU 2018 BIM 360 MC Demo
- autodesk_support Glue
- FieldGlue 1 - INTERNAL ONLY
- Global Construction
- Ideate - Docs Preview
- Next Gen BIM 360 AU Demo 2018
- NextGen Testing
- One Team Extension
- Scott Green Technical Support

What is Cloud Worksharing?

Initiate Cancel

7. In the dialog, click **Initiate**.

    Revit displays information about the status of the initiation process.

8. Click **Close** to continue.

9. If you subscribe to notifications in BIM 360 Document Management, you receive an email when your model is successfully published to the cloud.

10. If the uploaded model includes links, **migrate the linked models to** BIM 360 Document Management.

    Note: After a model has been workshared, the BIM 360 project is only visible to the release of Revit the model was shared from. Cloud models can only be linked to other models shared using the same release.

Migrate Linked Models to BIM 360 Document Management

Initiate cloud collaboration for each of the linked models, and then use the manage links tool to reload the links from their cloud location.

1. For each model that is linked to the host model, do the following in Revit:

   a. Open the linked model.

   b. Click **Collaborate tab** ➤ Manage Collaboration panel ➤ 🖳 (Collaborate).

   c. Select In BIM 360 Document Management.

   d. Select the BIM 360 project where the host model is stored and click **OK**.

   e. In the Collaborate dialog, click **Initiate**.

      Revit displays information about the status of the initiation process.

   f. Click **Close** to continue.

      Repeat this process for each linked model.

2. After you have initiated cloud collaboration from Revit on all linked models, open the host model in Revit.

3. Click **Manage tab** ➤ Manage Project panel ➤ 🖳 (Manage Links).

4. On the Revit tab of the Manage Links dialog, for each linked model, do the following:

   a. Select a linked model and click Reload From.

      Notice that the file browser opens by default to the BIM 360 project location.

   b. Select the name of the linked file and click **Open**.

      The cloud version of the link is cached on your local computer and loaded.

5. Repeat this process to reload each linked model from the cloud location.

6. Click **OK** to close the Manage Links dialog.

   Note: When a BIM 360 project is renamed, the Manage Links dialog may still reference the old project name in the link paths. The links will still resolve correctly, however the path may be confusing. To update the saved path to the new project name, use the **Synchronize** with Central tool, synchronize and modify settings drop-down. Click **OK**. To update the link paths in the **Manage Links** dialog, click **Reload**.

Set up Model Coordination Folder in Document Management Plan Folder

Project Admins select a folder for coordination. The project team can then upload models to this folder.

1. Sign in to **Model Coordination**.

2. Follow the steps in the product to select a folder for coordination in the **Document Management** module. As a project admin, in the Plans folder section, you need to create a shared folder for coordination. It is recommended that you name this folder "**Shared**" so that team knows where the coordinated models are located.

   The selected folder and any subfolders are included for coordination.

Set up Model Coordination Space in Project Admin

Project Administrators set up the Coordination space for project. As a Project Admin, when you first sign in to Model Coordination, you'll be asked to select a folder in the Document Management module. This will become the Model Coordination space for your entire project team. This folder may contain subfolders, which are also included automatically.

1. Click on **Create**

2. Name your Coordination Space

3. Select Shared coordination folder

4. Click on **Create** to finish process
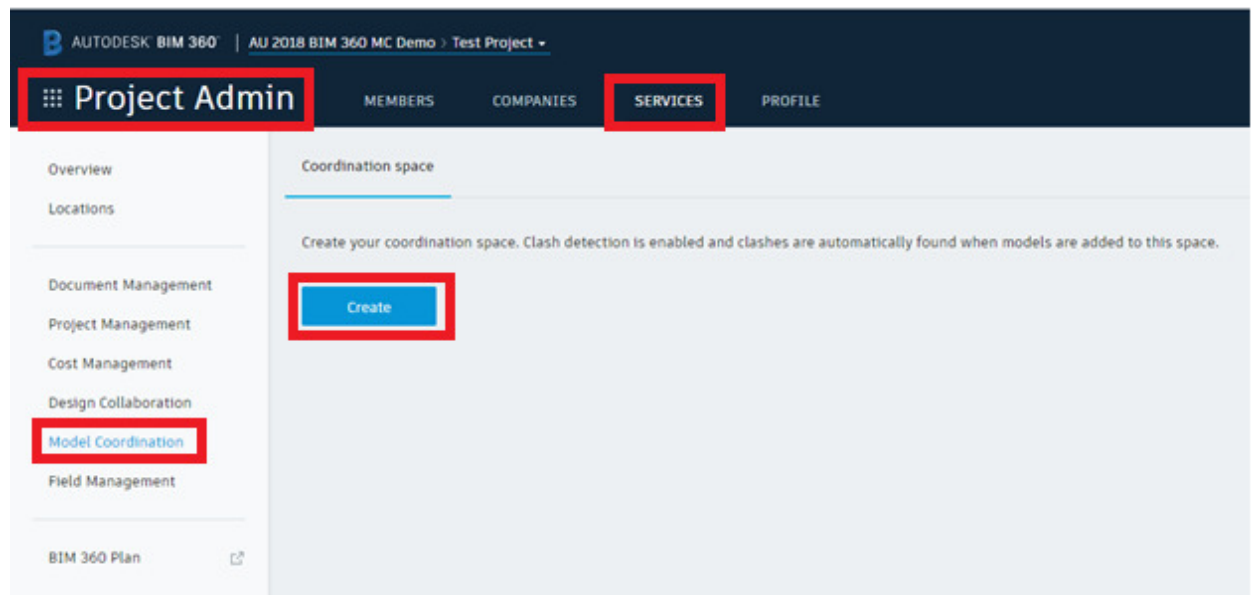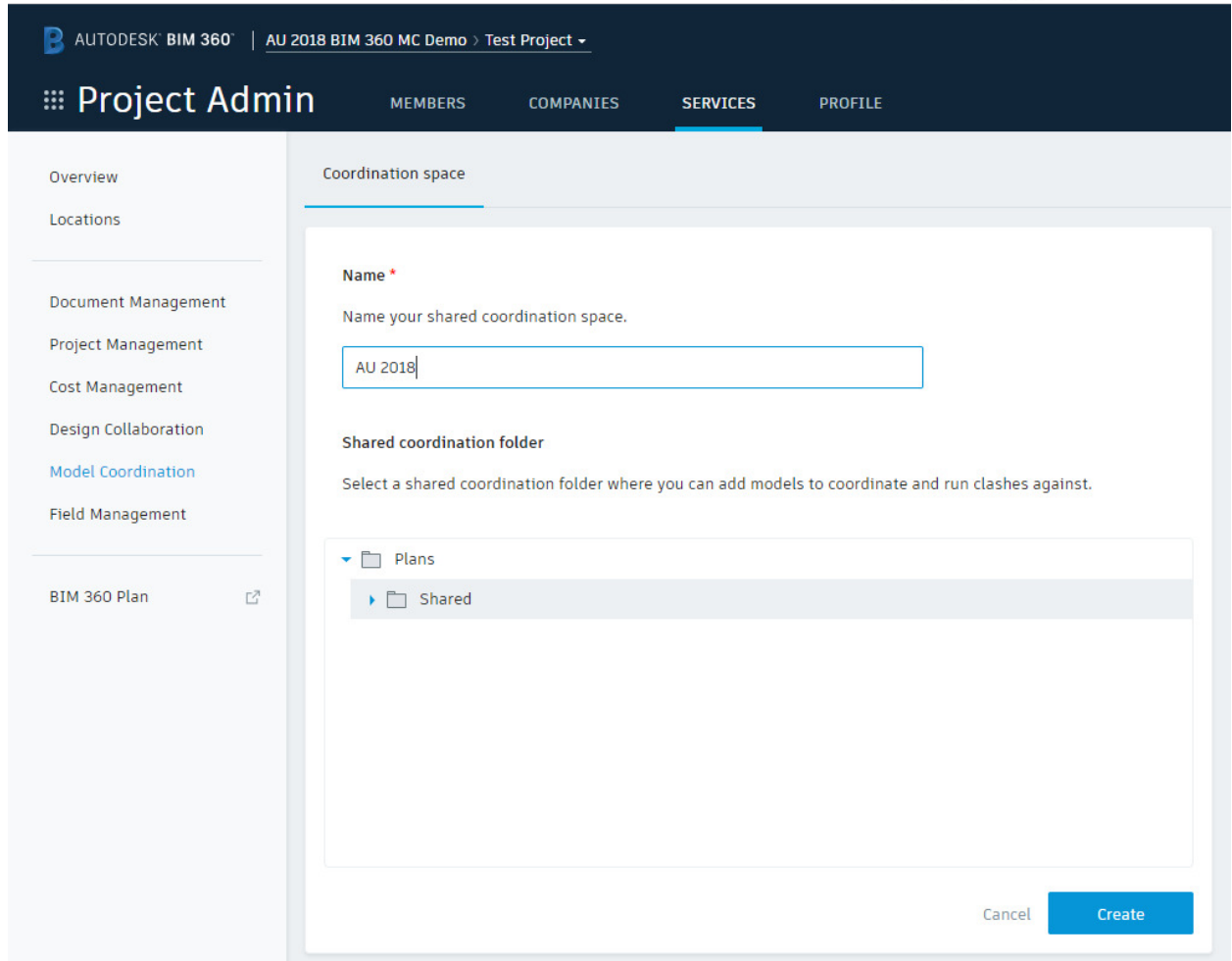
Upload Models for Coordination

1. Click the Module Selector ⊞ ➤ **Document Management**.

2. Click the **Folders** tab and navigate to the **coordination folder**.
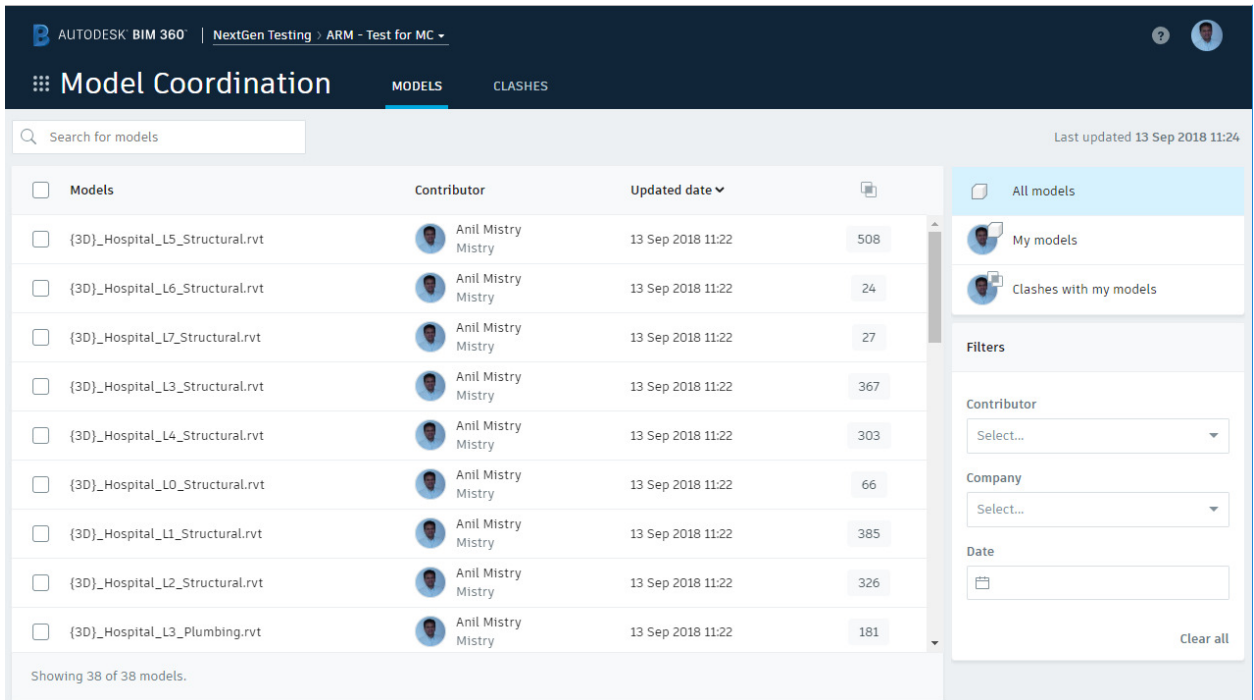
   Tip: It is recommended that the folder is named such that it is easy to find. You may need to contact your project administrator if you are unsure of the folder's location.

3. Upload or copy the models to the folder.

   Note: Only **3D RVT, DWG, and IFC** files exported from ARCHICAD, Revit, MagiCAD for Revit, and Tekla Structures are currently supported for coordination and clash detection. Any other file types that are supported for upload to Document Management will not be displayed in Model Coordination.

Clashes between models in the selected folder are automatically detected and can be viewed in Model Coordination. See View and Filter Clashes.

All uploaded and processed models will appear under the '**Models**' tab

View and Filter Models

When models are added to a coordination folder, any clashes between the models are detected automatically. You can view the models using the tabs in the Model Coordination module.

1. Click the Module Selector ⊞ ➤ **Model Coordination**.
2. Click the **Models** tab to view the list of coordinated models, the contributors, and total number of clashes for each model:

3. Use the **Search** feature, or the **filters** in the right-hand panel, to refine the model list. You can filter to see only your models, clashes with your models, or by the contributor, company, or date last updated.

4. Select the check boxes next to the names of the models in the list and click **View**. An aggregated view of the selected models is displayed in the viewer:
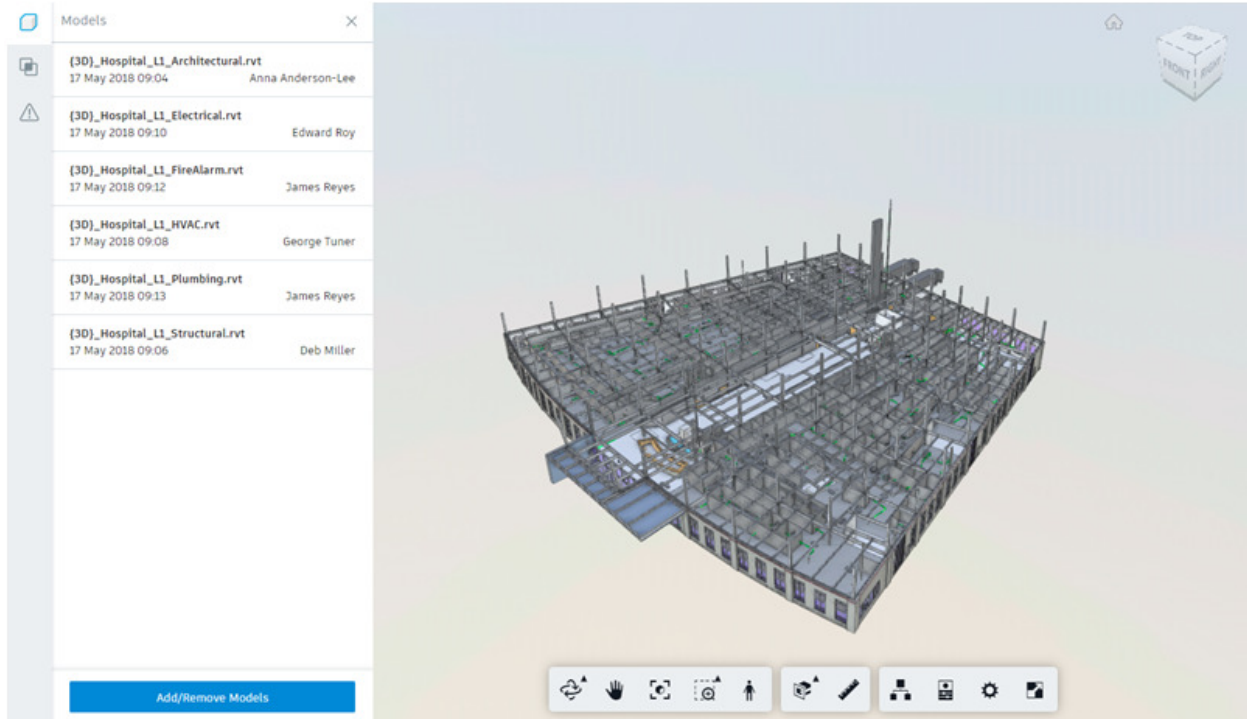
Tip: Use the Models ⬜ and Clashes ▢ buttons to the left of the panel to switch between a list of the selected models, and the clash groups for each of the models. You can also use the Issues ⚠ button to view any issues associated with the selected models.

5. Click **Add/Remove Models** to adjust the models displayed in the viewer.

6. Use the Viewer toolbar to control the view, take measurements, and inspect model properties.

7. Click the **X** in the top-right corner to exit the viewer and return to the model list.

View and Filter Clashes

When models are added to a coordination folder, any clashes between the models are detected automatically. You can view any detected clashes using the tabs in the Model Coordination module.

1. In Model Coordination, select the **Clashes** tab.

   Note: By default you are taken to the Active sub-tab, which displays a grid of all the clashes that have not yet been reviewed. The Closed sub-tab displays a list of clashes that have been marked as Not an issue. The Assigned sub-tab

displays a list of clashes that have been marked as an issue, and allows you to track the changes being made to resolve the clash.

The number of clash groups between each pair of models, and the total number of clash groups for each model are displayed:

Note: A clash group is defined as the number of objects in the primary model (those listed in the vertical column) that clash with all other models in the grid. A singular clash is defined as the clash between two objects from different models. Darker colored cells indicate where the most clashes exist.

2. Use the top right-hand drop-down list to select the coordination space displayed in the clash grid.

   Tip: As a project administrator, click Manage coordination spaces in the drop-down list to be taken to the Project Admin module, where you can create, activate and deactivate coordination spaces.

3. Use the left-hand drop-down list to refine the models shown on the clash grid, or use the search functionality to find a specific model.

4. Select a cell in the grid to view the clash group(s) between that pair of models, or select the name of a primary model listed in the vertical column to view all the clash groups affecting that model.

   The models are displayed in the viewer in a top-down view, with all clashes highlighted. The clash groups are listed in the left-hand panel in alphanumerical order with the total number of clashes displayed at the top.

Tip: Use the Models ⬜ and Clashes ⬚ buttons to the left of the panel to switch between a list of clash groups and the affected models. You can also use the

Issues ⚠ button to view any issues associated with the selected models.

5. Use the **Group by** ➤ Model drop-down list to select which model is treated as the primary model (displayed in red).

6. Use the **Group by** ➤ Property drop-down list to select whether clashes are grouped by model objects, or by system, type, or layer.
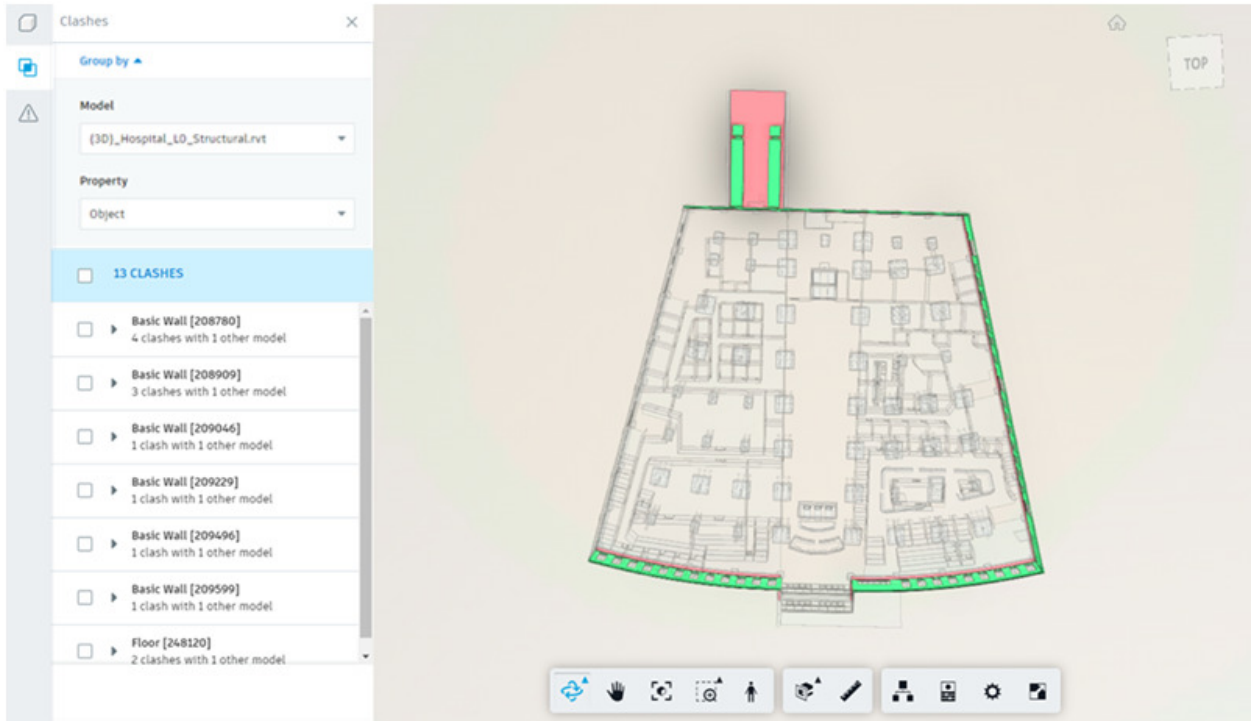
    Tip: Systems, types, and layers are typically used in CAD to group in which objects with related function or location. They are defined in the parent software the models are created. Therefore, the options available are dependent on the model file type. It may be useful to view clashes using these groupings, as related objects are likely to be affected by the same clashes.

7. Click a **highlighted** clash in the model or click a **check box** next to a clash group in the left-hand panel to select it. If necessary, expand a clash group to select individual clashes:
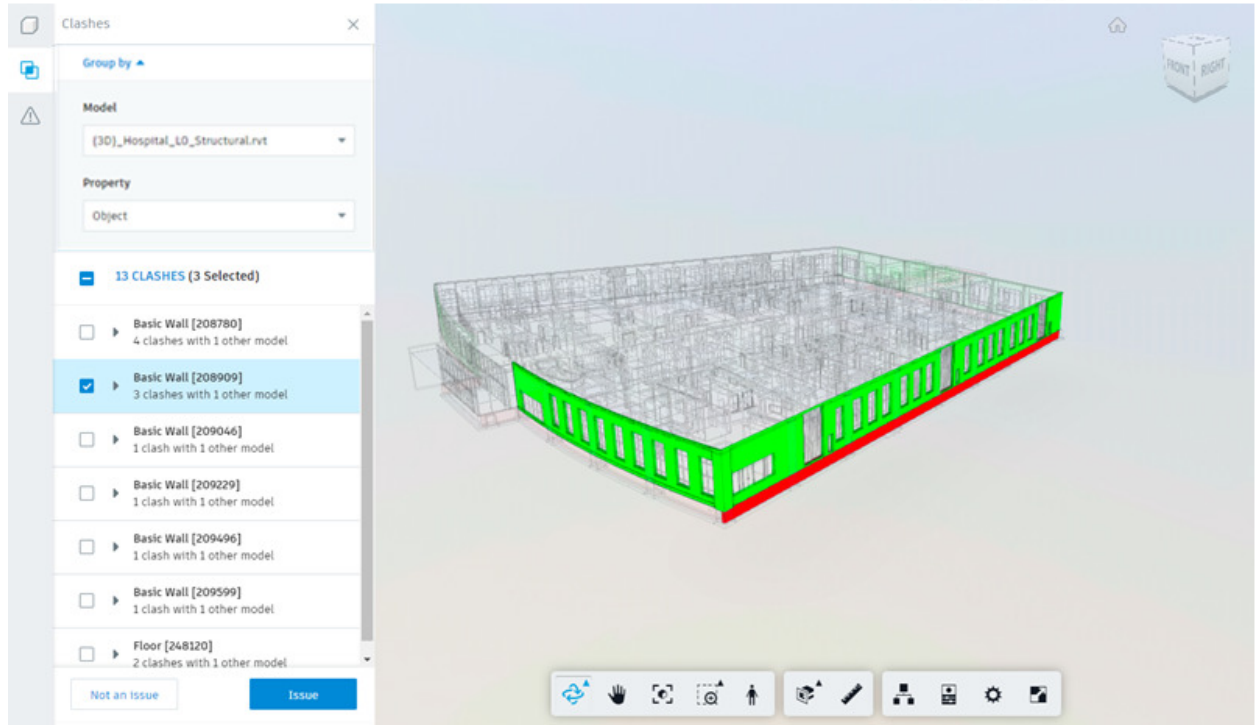
The total number of clashes in the models being viewed is displayed at the top of the Clashes panel. You can click this number to return to a top-down view of all the clashes, or click the check box next to the number to select all clashes. If you select individual clashes or clash groups, the number of selected clashes is displayed in brackets next to the total.

Tip: You can also click the name of a clash or clash group in the left-hand panel to isolate it in the viewer without selecting it:
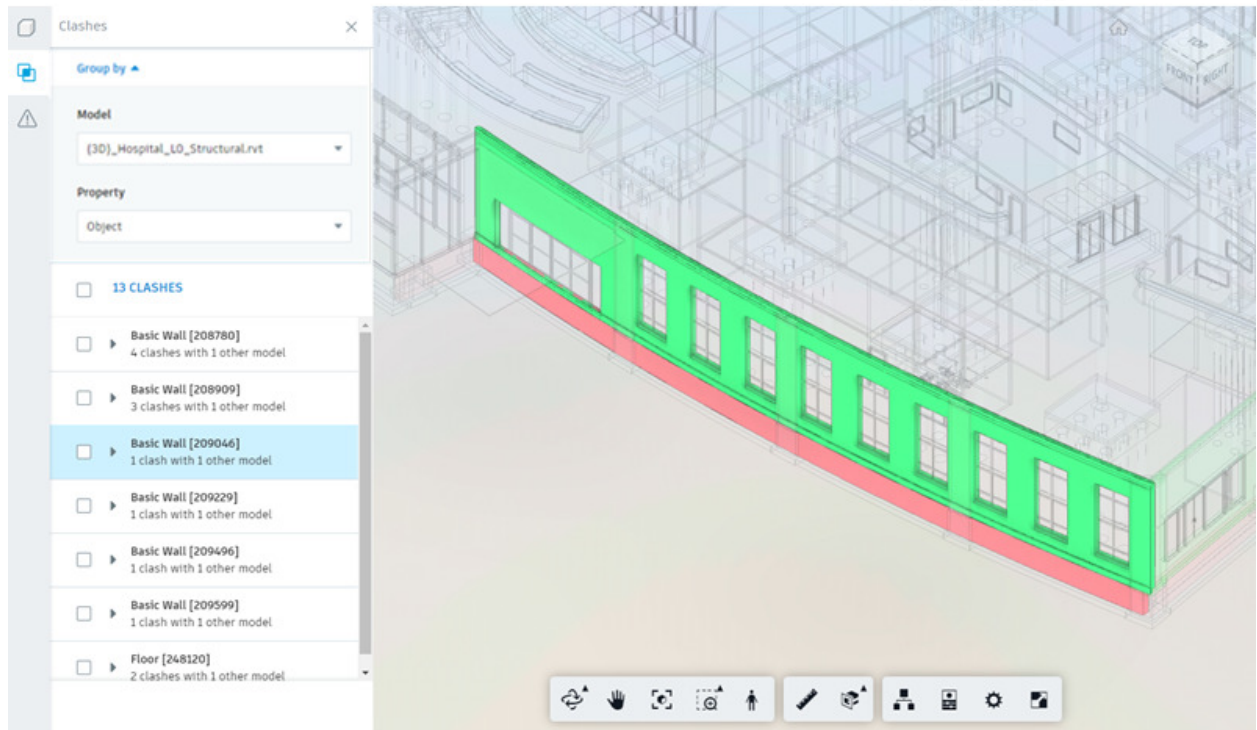
To view all clashes again press **Esc**, or **right-click** in the viewer and select **Show all objects**. You can also use **Ctrl/Shift+Click** to select multiple objects in the model and **right-click** to **isolate, hide, or focus** on them.

8. Use the **Viewer toolbar** to control the view, take measurements, and inspect model properties.

9. Click the **X** in the top-right corner to exit the viewer and return to the clash grid.

When you have reviewed your models and clashes, you can either mark clashes as Not an issue or create an issue for further investigation.

Views

Create a View

1. Use the **Models** or **Clashes tab** to open the models you want to save as a view in the viewer.

2. On the **Models** ⬡ panel in the viewer, click **Add/Remove** models to change the models displayed in the view.

3. Click **Save** view.

4. Use the dialog box to enter a **Title** and **Description**, and select a **Privacy status**.

Tip: There are **two privacy** statuses for views. **Published views** are viewable by all project members in the coordination space. **Private views** are only viewable by the creator and project administrators.

5. Click **Save** view. The view is saved on the **Views** tab.
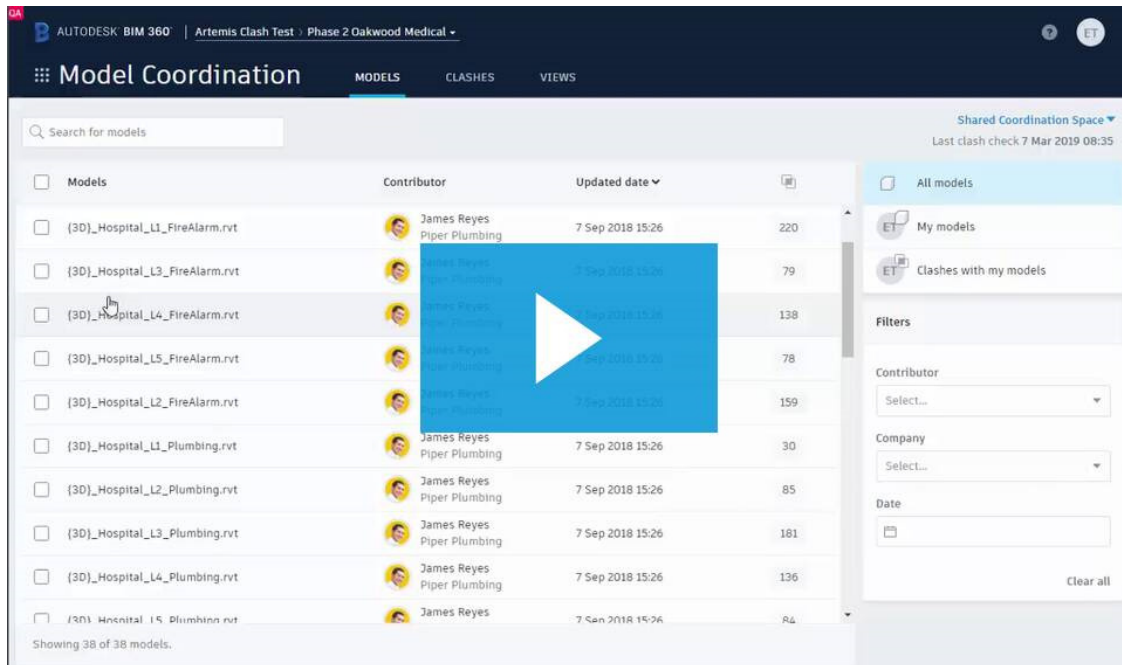
Open a View

1. Use the **Views** tab to see a list of existing **views** that you have access to.

   Note: You can open views created by you or published views created by other project members.

2. Click a **view** from the list to display the **Details** panel or open the view in viewer.

   - If you click the **Title field**, the view is opened in the viewer.
   - If you click any of the **other fields**, the **Details panel** is opened. You may also open the view from the **Details panel**.

   Note: If a model included in a view is **deleted** from the coordination space, the name of the model is **greyed out**, and it isn't displayed in the view.

   Tip: Use the **Views drop-down** list to switch between views while in the viewer:
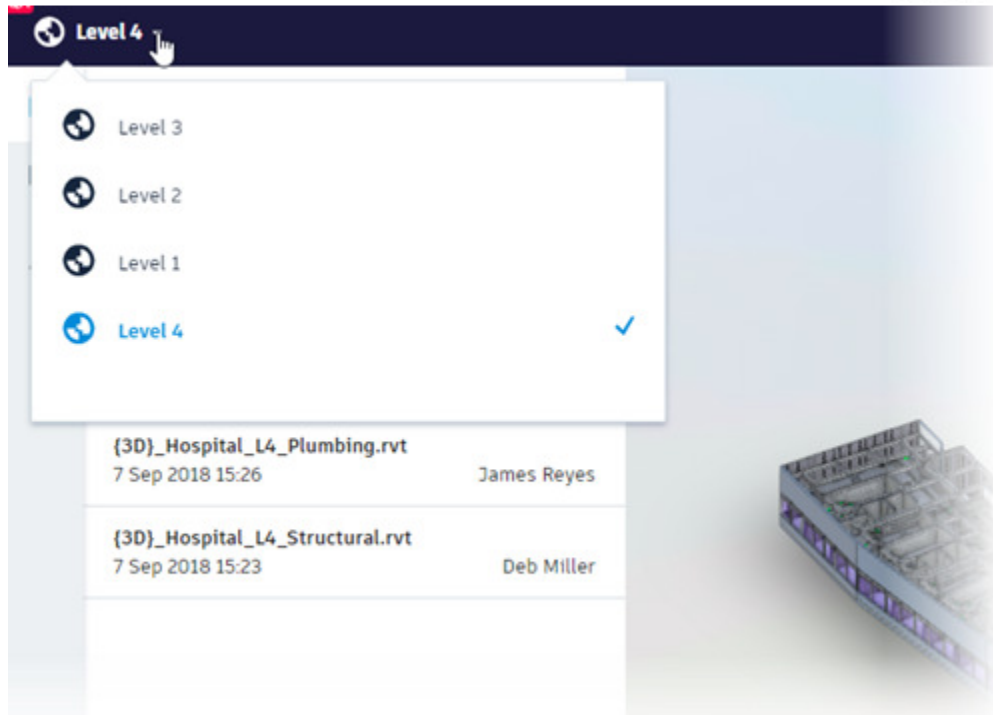
3. When the view is opened in the viewer, use the **Clashes** and **Issues** panels to display any **clashes and issues associated with the view**.

Update a View

After a view is opened in the viewer, you can **add or remove** models from the **view**, and **update** the **view properties**.

1. On the **Models** panel, click **Add/Remove** models to change the models included in the view.

2. Click **Update view** to open the dialog where you can edit the **view Title, Description, or change the Privacy status**.

3. Click **Update view** to save any changes to the existing view, or edit the title and click **Save as new** to make a copy of the view.

   Note: You can only edit your own views unless you are a project administrator. If you edit a published view created by another project member, a copy of the view is created by default. Administrators can edit both published and private views created by any project member.

Delete a View

1. To **delete** a view, open the **Views** tab.
2. Click any of the **view fields except Title** to display the Details panel.
3. From the Details panel, click **Delete**.

   Note: You can only delete **your own views** unless you are a project administrator. Administrators can delete any view.

Manage Clashes – Mark Clashes as Not an Issue

Knowing the clashes and correcting the issues is a start. Sometimes a clash can be ignored, removing those clashes from your views helps you work through real problems efficiently.

Once a clash or clash group is determined to no longer need attention you can mark it **'Not an issue'** and move it to the **Closed** tab.

1. Select the **Clashes tab** ➤ **Active tab** of the clash grid to locate **the model**, **clash**, or **clash group** of interest.

2. Select the relevant **cell in the grid**, or the **name of the primary model** (models listed in the vertical column), to open the **clashes** in the viewer.

3. Click a **highlighted clash** in the model or click a **checkbox** next to a clash group in the left-hand panel to select it. If necessary, expand a clash group to select individual clashes.

   Note: You can select a maximum of **1000 clashes at a time**.

   Tip: A screenshot of the current view is included when you mark clashes as not an issue. Adjust the view as required before clicking Not an issue.

4. Click **Not an issue** at the **bottom** of the panel.
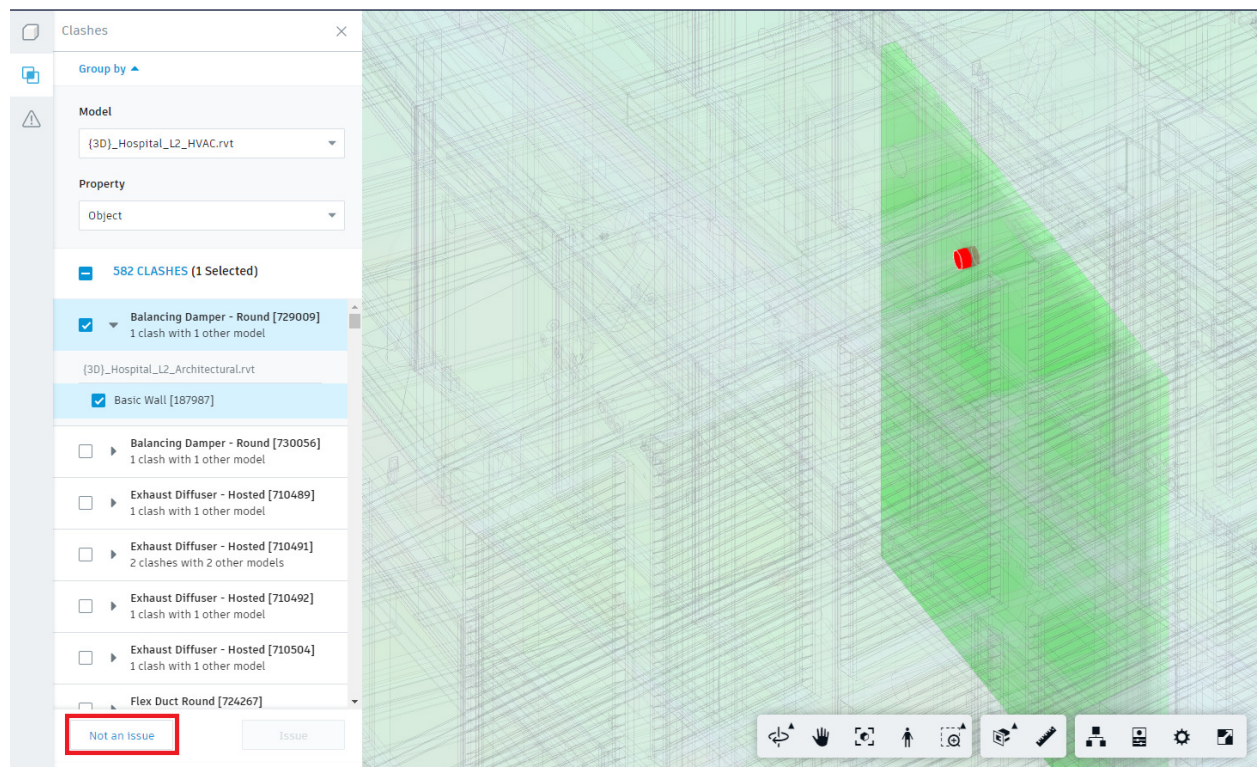
5. Enter a **title**.

   Note: The title is automatically filled if you select only one clash or clash group, but can be edited.

6. Select a **reason** for marking the clash as not an issue from the drop-down list:
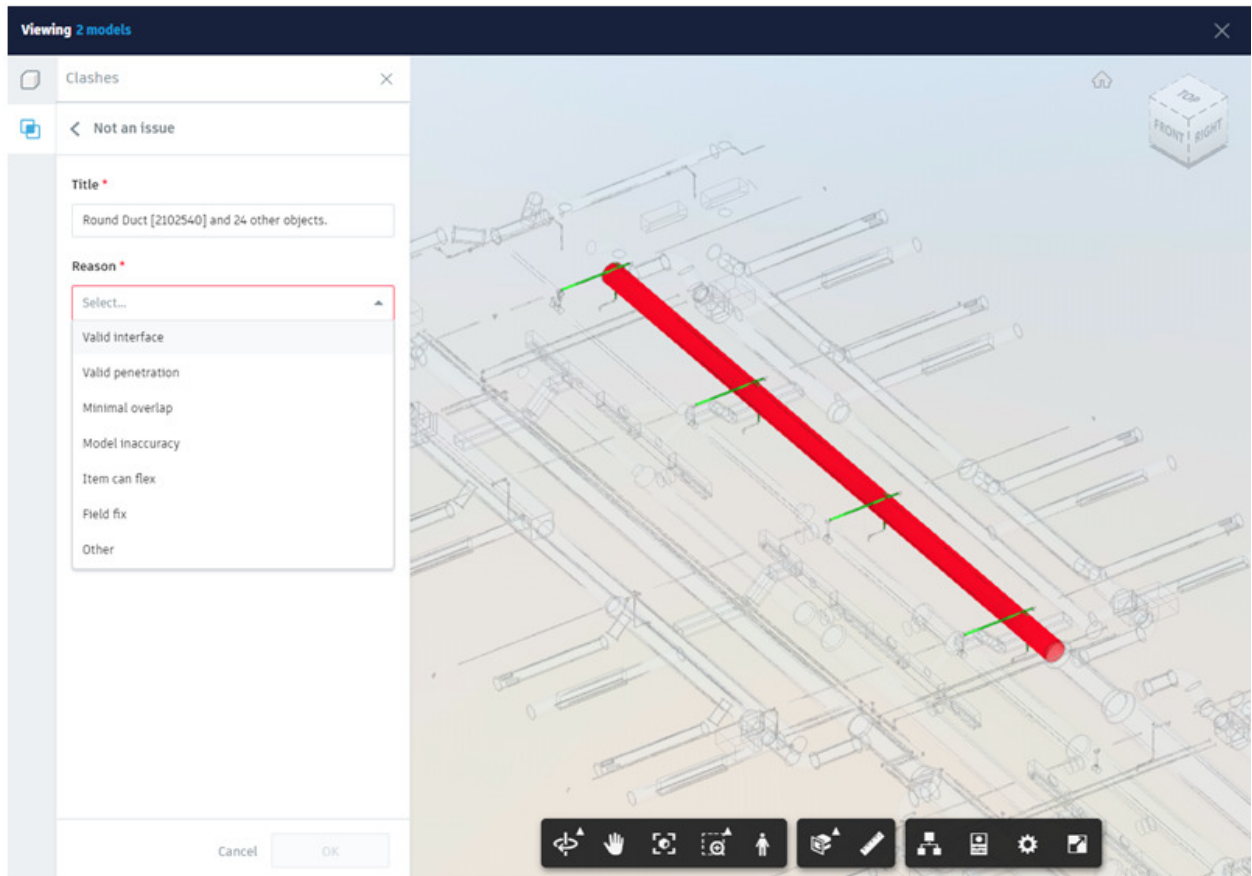
   For example, it may be a valid interface between two objects.

7. **Optionally**, enter any **relevant comments**.

   The clashes are marked as **Not an issue** moved to the **Closed tab** of the **clash grid.** The title, number of clashes/clash groups, reason for closing, who closed it, and the date it was closed is displayed. You can also select a clash to view the **Details** panel, which includes a screenshot and any associated comments.

Manage Clashes – Reactivate Closed Clashes

If you mark a clash or clash group as **'Not an issue'** and then find that it requires further attention or that you need to create an issue from it, you can **reactivate** it.

1. On the **Clashes tab**, use the **Closed tab** of the clash grid to locate the **clash or clash group** of interest.

2. Select the **clash** to open the **Details panel**.

3. **Click Reactivate**, and confirm that you want to reactivate the clash.

   The clash is removed from the **Closed** tab and added back to the **Active** tab for review.
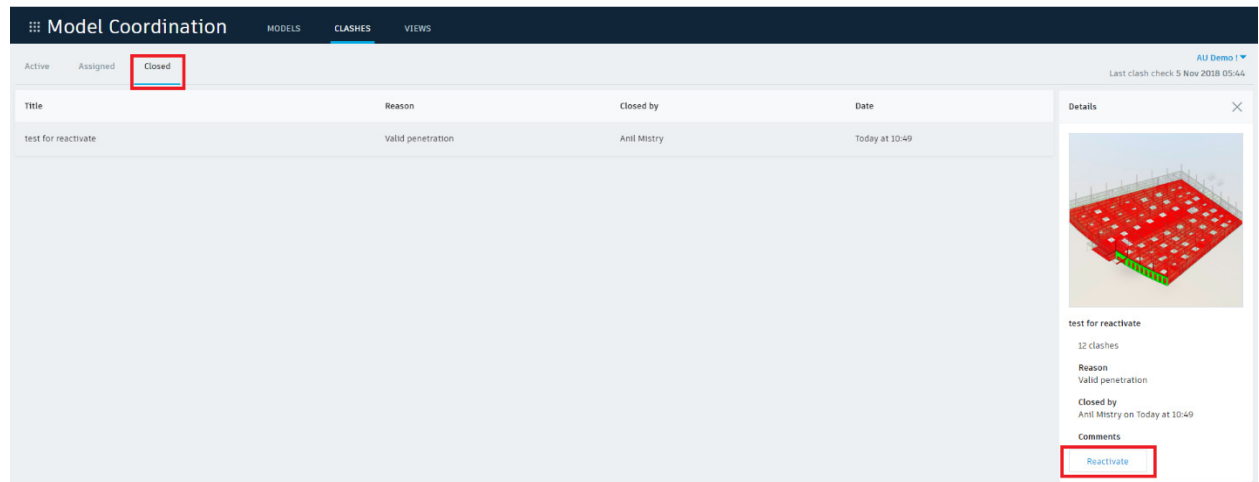
Issues in Model Coordination

Issues are used by teams to identify and communicate areas of concern or improvement with project documents or models.

Note: Project administrators control permissions for viewing and creating issues in Model Coordination.

Create an Issue from a Clash

When it is determined that a **clashes** or **clashes group** requires further attention, you can create an **issue from the clash**.

1. Select the **Clashes tab** ➤ **Active tab** and use the clash grid to locate the model, **clash**, or **clash group** of interest.

2. Select the relevant cell in the grid, or the name of the primary model (in the vertical column), to open the clashing models in the viewer.

3. Click a **highlighted clash** in the model or click a **checkbox next to a clash group** in the left-hand panel to select it. If necessary, expand a clash group to select individual clashes.

   Note: You can select a **maximum of 1000** clashes at a time.

4. Click **Issue at the bottom** of the panel.

5. Click on the **primary model** in the viewer to **drop a push pin** at the location of the issue:
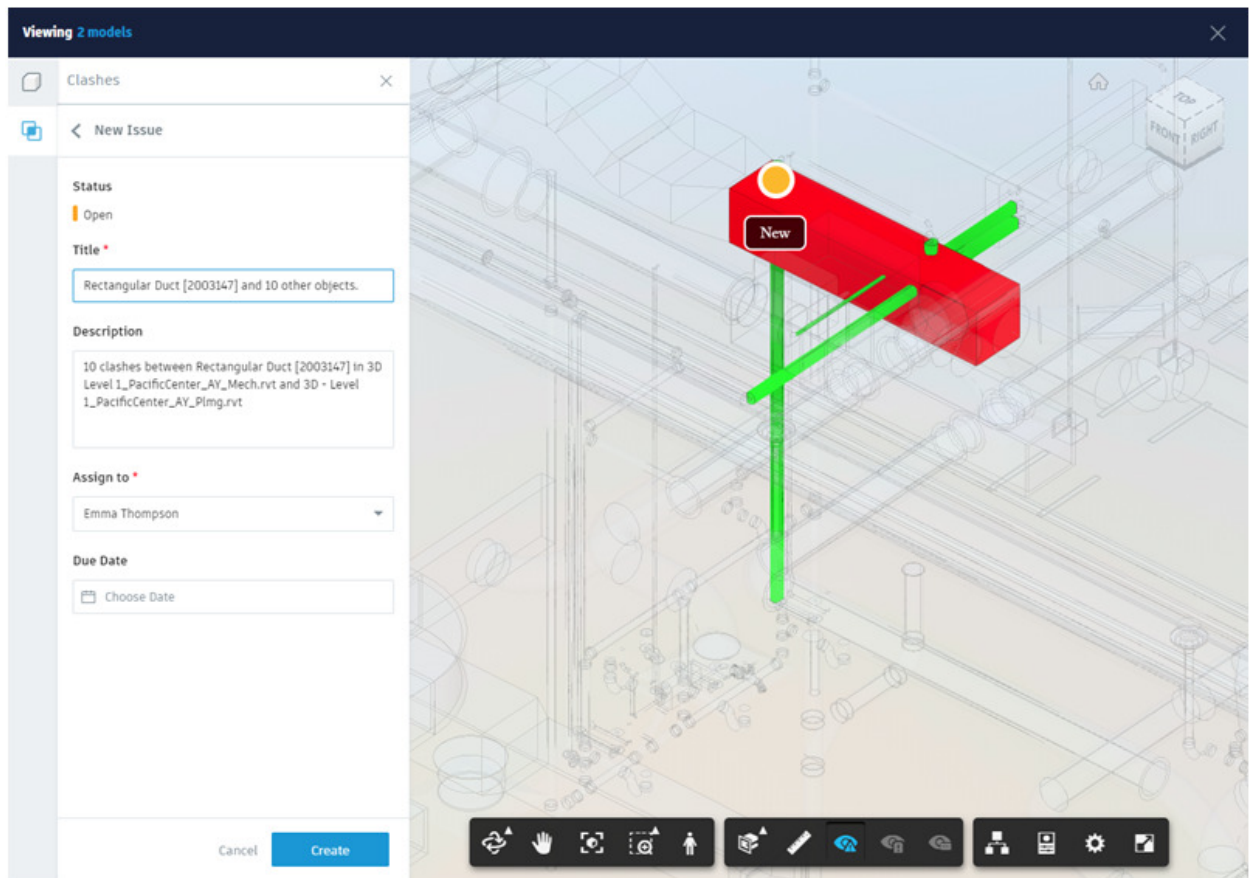
   Note: Push pins represent issues, and can be seen by other **project members** with correct permissions when the model is viewed.

6. Enter a **title** and, optionally, a **description** of the issue.

   Note: The **title** and **description** fields are automatically filled if you select only one clash or clash group, but can be edited.

7. Select an **assignee**, typically the **model author**, using the drop-down list, and optionally choose a **due date**.

8. Click **Create**. Issues are created from the clashes and moved to the **Assigned tab**, and an **Email Notification** is sent to the assignee.

Review and Respond to Issues in Model Coordination

When clashes are marked as **an issue** and assigned to the relevant **project member**, they are moved from the **Active tab** to the **Assigned tab**. Here, the assignee and other

project members can view details of the created issues and track the changes being made to **resolve** the clashes.

> **Issue Assignee:**
>
> 1. Select the **Clashes tab** ➤ **Assigned tab** and locate the issue of interest.
>
>   **Tip:** You can sort the columns by issue status, ID, title, assignee, company, and due date.
>
> 2. Click **the link** in the **Linked Models** column to see an **aggregated view** of the clashing models in the viewer.
>
>   **Tip:** Click to display the **Models** panel, and add additional models to the viewer for further context around the clashes.
>
> 3. Use the Viewer toolbar to take measurements and inspect model properties to help you understand the issue and how to resolve it.
>
> 4. Use the **Issues panel** to view the **issue details** including the **model names**, **ID numbers** of the clashing objects, the due date, and location.
>
>   **Note:** All issues related to the models in the viewer are displayed in the Issues panel, including issues not created in Model Coordination. If you select one of these issues, the push pin is shown in the viewer, but the models are not highlighted.
>
> 5. When you have decided what action is required to resolve the clashes, you can:
>
>   - Make changes to the affected models and upload updated versions to the coordination folder.
>   - Use the **Attachments** tab to attach documents or images, for example to demonstrate the changes made or required.
>   - Use the **Activity** tab to add comments.
>
>   **Tip:** You can use @ **to tag another project member** and ask a question or prompt them to take action. They receive an email notification.
>
>   - Optionally, click the **More** ••• menu to **export the issue as a pdf.**
>
> 6. When the clashes have been **resolved**, use the Status drop-down list to change the issue status to **Answered**.

Issue Owner:

Issues with an **Answered status** are **reassigned to the issue owner** for review.

1. Follow **Issue assignee steps 1-5 above**.

2. If further action is required, you can:

   - Change the status of the issue back to **Open**.

   - Use the **Details tab** of the issue panel to **change the assignee**.

   - Use the **Attachments tab** to attach documents or images, for example to demonstrate the changes required.

   - Use the **Activity tab** to add comments.

     Tip: You can use @ to tag another project member and ask a question or prompt them to take action. They receive an email notification.

   - Optionally, click the More ••• menu to export the issue as a pdf.

3. When you are satisfied that the required changes have been made and there is no longer a clash, change the issue status to **Closed**.

   Note: Only the **issue owner**, or project members with **Full Control**, can close or void issues. See Issue Permissions for more information.

Respond to Issues in Document Management

When an issue is assigned to a project member, an email notification is sent that contains a link to open and respond to the **issue in Document Management**.

1. Open the email notification and click **View Issue**.

   The issue is opened on the Issues tab in Document Management.

   Note: We recommend that you view and respond to issues in **Model Coordination**, as described above.

2. Use the **Details tab** to review the **issue details**, including the **model names, ID numbers** of the clashing objects, the due date, and location.

3. Use the **Attachments** and **Activity** tabs to view any attached documents or images, and review comments and previous activity.

4. Optionally, go to **Model Coordination** and follow Issue Assignee **steps 1-6** above to view the **clashing objects**.

   Tip: When the required model changes have been made, you can compare 3D model versions in Document Management to see the change, and upload the

latest version of the model to the coordination folder in Model Coordination to check that the clash has been resolved.

5. When the clashes have been **resolved**, use the **Status** drop-down list to change the issue status to **Answered** and **re-assign it to the owner**.

   The issue owner can then review the issue activity, view the latest model version to confirm there is no longer a clash, and change the issue **status to Closed**.

Helpful Reference:

- [Getting Started with BIM 360 Design](#)

- [To Manage Folder Permissions in BIM 360 Document Management](#)

- [Set up teams and folders comfortably with Design Collaboration's Project Admin](#)

- [Understanding Revit Model Linking in BIM 360 Design](#)

- [BIM 360 Design is Released - The Next Generation of C4R](#)

- [Linking Cloud Workshared models in BIM 360 Design](#)

- [Creating and Consuming Packages](#)

- [To Manage Teams and Team Members](#)

- [Supported Languages and Preferences](#)

- [System Requirements](#)

- [Model Coordination FAQs](#)

Short YouTube Videos:

- [Overview of BIM 360 Design](#)

- [Uploading Revit models](#)

- [Uploading Other Project Documents](#)

- [Creating and Consuming Packages](#)

- [New Videos for a BIM 360 Design Kickstart](#)

Community Forum:

- [BIM 360 Support](#)

- [BIM 360 Ideas](#)

Online Learning Resources:

- [Learn BIM 360](#)

- [BIM 360 Community Hub](#)

- [Connect and Construct](#)

- [ConTech Academy](#)

- [Construction Training](#)

- [Autodesk University – Class Recordings](#)

Product Help Content:

- [Account Administration](#)

- [Document Management](#)

- [Design Collaboration](#)

- [Model Coordination](#)

- [Desktop Connector for BIM 360](#)