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Introduction

Revizto is a BIM collaboration toolkit compatible with Revit, Naviswords, AutoCad, ArchiCad, SketchUp, Rhinoceros for Windows. Revizto allows project participants to :

- share project models and review them in several friendly formats (game-line viewing and navigation options)
- report, process and monitor issues
- communicate in real time

Revizto toolkit includes:

- plugins for every supported source tool
- core application for viewing exported models, collaborating and managing projects
- additional viewers tailored to popular viewing formats for additional presentation options
- model export management application
- web GUI for [license management](#)^{D₃₁}
- VR functionality

Revizto relies on cloud technologies, so you can collaborate 24/7, worldwide.

TOPIC UNDER CONSTRUCTION

1.1 Technical requirements

Hardware requirements

Desktops/laptops

CPU, GPU, RAM are needed for Revizto

The system requirements for working with Revizto mostly depend on the size and complexity of models which you plan to work with.

The initial conversion into Revizto from your authoring software relies mostly on CPU. To reduce long export times for large models choose a machine with a decent amount of CPU or use the Revizto export scheduler. The export scheduler still uses CPU but can be planned during non-working hours.

Real time navigation relies mostly on GPU and RAM. The Graphics Card is also very important if you're using a higher graphic quality or looking to view in VR. The NVIDIA GTX 1080 is a great choice for anyone needing great visual quality.

Tablets

- We recommend Apple IOS powered tablets: iPad Air 2 and better.

- Android tablets are less preferred due to a huge variety of the available models and potential device-specific problems. In case Android is your only possible choice we recommend current top devices from vendors like Samsung, Google, LG, Asus, etc.
- MS Surface Pro 4 is a good choice if you need a Windows device.

Network requirements

under construction, needs checking

1.2 Terms and abbreviations

Under construction

| Term | Definition |
|---------------------------------|--|
| Revizto Application | Core software component of the suite that contains the whole project management, model creation and issue processing toolkit. |
| Revizto viewer | Revizto offers several viewers that allow viewing 3D models, but exclude 2D views, have limited project management and collaboration options. These views, in turn, offer additional presentation and navigation options, each viewer is tailored to support a specific set of gaming and VR controls/devices (e.g. WASD, Xbox, OCULUS, Vive). Revizto hot keys ^{D90} are supported in viewers as long as relevant functionality is available. E.g. with no 2D view mode, the hot key for switching to 2D is unavailable. |
| Revizto export scheduler | Software component designed to manage source export schedules created earlier in the project. |
| Revizto plug-in | |
| Revizto model | A set of files generated by Revizto to represent the source data (3D graphics, sheets, clashes) in a single viewable package. Model cannot be edited and used as a source, but it offers collaboration options. Issues created from the model become available to source users (depending on rights and notification settings). |
| Revizto scene | |
| Revizto license | A fee-based license issued to a company for a specific number of users and projects. Typically it is provided for one year. To get familiar with the product, you can get a demo version which is free, though has limitations and is provided for a limited period. |
| Revizto user | Revizto user having a license role and an account at www.revizto.com |

| Term | Definition |
|---------------------------------------|--|
| Active user | User who accessed project by opening them in Revizto within a specific period of time. Users become inactive after a certain period of idleness. |
| Revizto license role | |
| Revizto project | A bunch of files storing 3D graphics, 2D sheets and issues (clashes) imported from source BIM software and converted into a unified package viewable in Revizto to report and discuss issues and have them highlighted in source files. |
| Revizto [project] access level | Access level of a project participant. There are default level settings, but these can be changed both at the license level (new access levels will be available in all projects; requires SuperAdmin/Admin license role) and at the project level (requires Administrator project level access or equivalent). |
| License owner | Same as SuperAdmin |
| Revizto region/geography | Revizto cloud sharing architecture largely depends on geographical settings (team members using the same license have to choose the same geography within the program). This implementation option saves resources and ensures faster operation. Currently there are six key geographies: North America, Europe, South America, South East Asia, Australia. For China the service is offered as well, yet, it relies on different servers (due to the local legislation) |

Role Guides

This section provides concise Revizto user road-maps with regards to their license roles. If reading the web version, click on each step, to expand detailed guidelines.

General Revizto Workflow

TBD

2.1 License Administrator

The License administrator (SuperAdmin) is responsible for the license life-cycle. Typically, the License management includes the following steps and stages:

- I. Team license activation.

To start using your Revizto license:

1. Find an email with license owner credentials (check the spam folder). These provide full access to the workspace management web-interface. By default, the License owner has the SuperAdmin role in the workspace. See more on roles below.
2. Navigate to <http://revizto.com>, log in with the above credentials and open the workspace management GUI. Note that simultaneously you may start downloading Revizto software for local installation (if you need it).



Sign in

E-mail

Password [Forgot password](#)

Region



3. Go to the **License page** of the workspace GUI.

It displays summarized license status (number of user account created, number of projects created, SuperAdmin name, Team name) and allows navigating to other management pages (See fig. 1).

The screenshot shows the Revizto License Info screen. At the top, there's a navigation bar with links: My Projects, Manage Users, License, Manage Projects, and Support. Below the navigation bar, a blue callout box points to the 'License' link in the navigation bar, stating 'Workspace navigation bar available on all pages'. The main content area displays license information: Team Name (Revizto Help), Your role in license (Super Administrator), Team (2 of 50), Storage (2 of 100), Region (Europe (Ireland)), and End date (Sep 25, 2018). A large blue callout box points to the 'Manage' buttons for Team and Storage, stating 'Navigate to Profile management page (SuperAdmin account settings), edit Team name'. Another blue callout box points to the 'Manage' buttons for Team and Storage, stating 'Navigate to Team management (user account) and Storage management (projects)'. At the bottom, there's a 'Need help?' section with contact information.

Figure 1 - License Info Screen

From this page you can navigate to project management, team management, support.

II. ☐ Team configuration (creating/deleting users).

To manage users (user licenses), navigate to the Manage Users screen. There the SuperAdmin/Administrator can:

- Create/edit/deactivate users
- Manage user [license roles](#)^{□6}
- [Monitor user activity](#)^{□42}

Revizto Help Users

Activity | Sep 14 | Export to Excel

The screenshot shows the Revizto User Management interface. At the top, there are tabs for 'Activity Chart' and 'License Dashboard'. Below the tabs, there's a date indicator 'Sep 14'. On the right, there's a button 'Export to Excel'. The main area displays a list of users with columns for Name, Role, Status, and Projects Involved. Each user row has a circular edit icon. A large blue speech bubble on the left says: 'Create a convenient user list display. Note how you can use tags for filtering'. Another blue speech bubble on the right says: 'Manage user accounts on this page'. A third blue speech bubble at the bottom right says: 'Navigate to individual user profile'. A modal window titled 'Filter' is open on the left, showing filtering options for Preset, By Status (All, Active, Inactive), By Role (All, Super Administrator, Administrator, Content Creator, Collaborator, Guest), and By Tag (Union, Intersection, Reduction). A 'Select tag...' input field is also present.

To extend user level license (create user):

Note that to manage users you have to be the License Owner (SuperAdmin) or Administrator of the workspace. At initial configuration SuperAdmin is the only user.

1. Click the **Add users** button. The GUI navigates to a blank form where you have to enter user email address and select their role (can be changed later).

Tip: You can create multiple users by entering several email addresses in the textbox (use comma for division). For other [group actions](#) see below.

There are five roles at the license level:

- SuperAdmin (or License owner): assigned to a license owner, can be transferred to another user. There can be only one SuperAdmin in a workspace (role modification and removal are not available for this user). The License Owner has the broadest access

rights.

- Administrator: have full control over the license. They can manage users and projects. If they need to access projects within Revizto (and they are not invited there yet) they need to grant themselves permissions on those projects through the website first.
- Content Creator: can upload new models to the license and invite unlicensed users to projects they are involved in (in this case collaborator/guest level license is automatically assigned to new members). Content creators can only access their own projects, or projects they were invited to.
- Collaborator: has access to projects they are invited to. Once invited, can have any access level within the given project (even administrator)

Note: This role is by default assigned to users that are initially created at the project level by project owners and administrators.

- Guest: Has same rights as collaborator. This role is reserved to users that already have access to Revizto under another license. So, Guest role can only be assigned if user email is already registered with Revizto in the current geography.

Note that if Guest's initial licenses expires, they lose access granted under Guest rights (Revizto highlights the user in red in the user list). To resume user access to the project, either Collaborator role has to be assigned to them (with a license in the current workspace spent), or initial license has to be extended.

Users cannot change their own access levels. Each time a user role is changed, the user receives a notification.

2. Click **OK** to send an invitation. A new user receives an email with notification that can now use Revizto. To start using Revizto, they have to log in and download the product (further steps taken by users are described in the relevant sections).

After the first login a user becomes **Active**. An active user can simultaneously run any number of instances of the web-GUI and/or Revizto software on any number of devices.

Warning: Neither the License Owner (SuperAdmin) nor the Administrator can edit user credentials. Therefore, make sure to timely deactivate users when people leave the company. Also make sure to duly transfer the License Ownership if the relevant employee leaves the company.

User license cancellation is called **deactivation**. This function is available to the license SuperAdmin and Administrator. Later deactivated users can be deleted.

To cancel user access (deactivate):

1. Click **Deactivate** at the top of the user list.
2. Select user/s.
3. Click **Deactivate** at the right side of the screen. The user becomes deactivated (cannot access their projects and/or projects shared with them), their license becomes vacant.

To get back to the main view, click X at the right side.



Deactivated users can be reactivated any time with the previous access level and project memberships. However, note that project ownership is not restored. At deactivation project ownership is automatically assigned to the SuperAdmin and reactivation does not reverse it. It is recommended to reassign ownership manually before deactivation, if the automatic option is not relevant.

To delete a user:

1. Deactivate a user.
2. Open the list of deactivated users (**Deactivated** tab).
3. Click **Delete** at the top of the list that is available in this view.

| Name | Role | Projects Involved | Deactivate date |
|------|--------------|-------------------|--------------------|
| | Collaborator | 1 | September 26, 2017 |

4. Select user/s that have to be deleted and click Delete button at the right side. Note that this action is irrevocable.

To get back to the main view, click **X** at the right side.

Tip: use the  icon to expand the filtration panel and filter the user list to reduce it before selecting specific users and applying any action to them.

Group Operations

Apart from allowing administrators to add, deactivate and delete multiple users, the web-GUI supports other group actions (emailing, tagging, access level change). These are implemented in a similar way with similar search and filtration options.

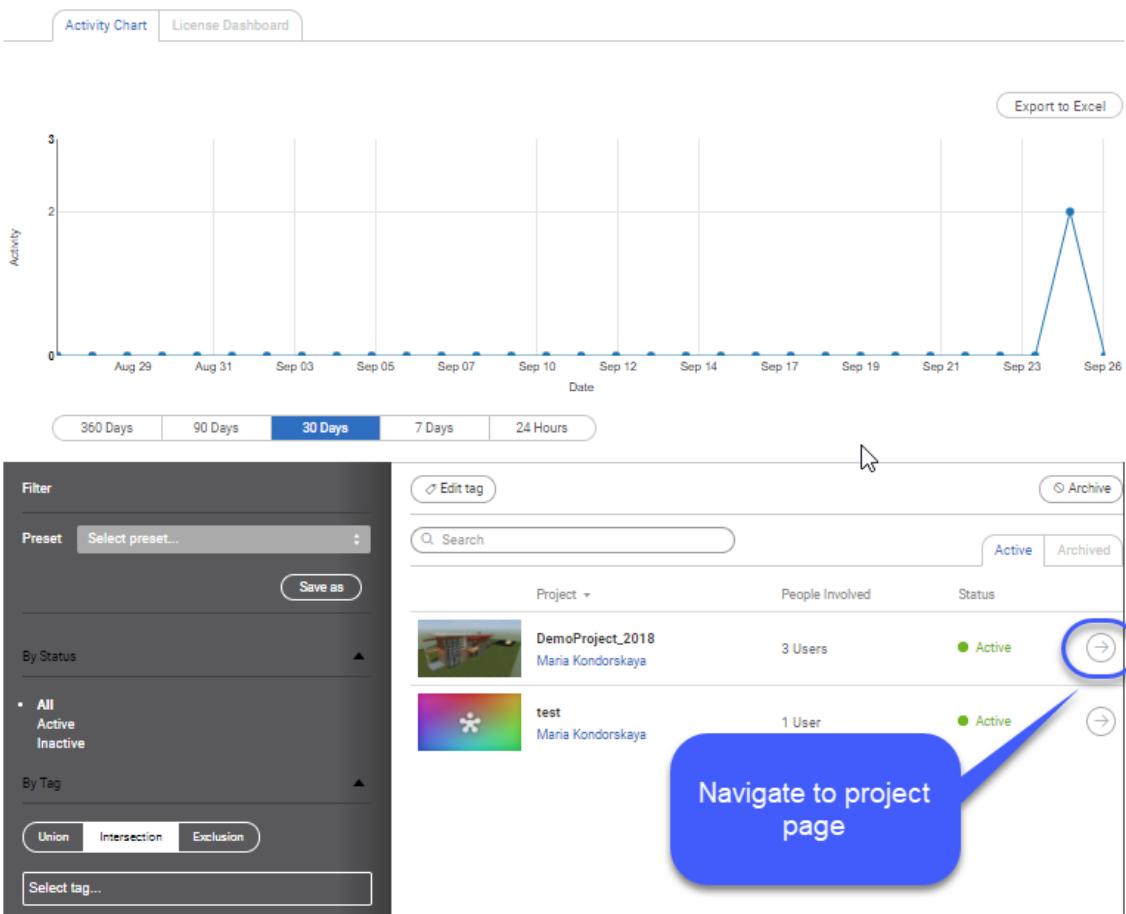
III. Project license management.

Super Admin, Administrator and Content Creator can create new projects within the team licenses using locally installed instances of Revizto (project creator is considered its Owner (for more details on project roles, please, [see below](#)¹²).

Newly created projects are listed on the **Manage Projects** screen of the workspace web GUI (available to the License Owner and Administrators) with an **Active** or **Inactive** status; a project license is issued. Projects are active when they are opened in the application at a specific frequency; users are active when they open projects in the application often enough. After a specific period of idleness projects and users are switched to **inactive** status.

Once a project is archived, its license becomes vacant for a new project. Members previously invited to an archived project lose access to it. Only project Owner can view an archived project in read-only format in [Revizto application](#)¹⁸⁹.

You can open project details in a new browser tab to edit it. Note that you can also navigate to a project page from a page of any of its members (users invited to the project).



To archive project/s:

1. Click **Archive** above the project list.
2. Tick one or more projects. Click **Archive**. The selected project/s is archived, its license becomes vacant.

The list of archived projects is displayed in the **Archived** tab. Archived projects become unavailable to all members previously invited to it. Yet, the project owners retain read-only access to archived projects via Revizto.

Later, you can delete the project altogether or restore it. Once the project is restored, it becomes available to all members invited to it before with all settings and issue history.

Editing Separate Projects

The project page consists of three views:

- Project Info
- Private Sharing
- Dashboard

Availability of these views depends on the user license role and project access level (see the table below).

All changes made in the workspace web GUI are automatically synchronized with local

instances of Revizto. Below full functionality of each view is covered.

Project Info

Depending on the workspace and project role, use this view to:

- Rename the project
- Change project owner (only available to the current owner)
- Change master license (only available to the current owner, may be needed when a project is transferred to another team or trial license is replaced with a permanent)
- Upload a thumbnail
- Create and assign tags to the project
- View project activity summary

DemoProject_2018

Project info Private Sharing Dashboard

Project info

Title: DemoProject_2018

Owner: Maria Kondorskaya
m.kondorskaya@revizto.com

License: Revizto Help

Created: September 25, 2017 Updated: September 25, 2017

Tags

demo new_tag

Change Change Change Change Add

Scroll down for the dashboard

Private Sharing

Depending on the license and project role, this view allows user to invite people to the project, manage their access rights and remove project participants.

Note: You can invite a new user to the project without creating a license-level account before. Then the system creates a license-level collaborator account automatically. Yet, deleting a user at the project level does not mean deleting a license level account. You have to deactivate a user at the license level to completely cancel user access to the license.

Also, the License Owner (SuperAdmin) and license Administrators can manage project access levels from this view. Note that project access changes made from the web-GUI are applicable to the whole license, not to a single project. Project owners can modify and create project-level access rights from Revizto application (in this case changes are only applicable to a specific project).

DemoProject_2018

Project info Private Sharing Dashboard

Invite people to project Enter e-mail to invite a user

Set Access Level: View and collaborate Manage Access Levels

Project team

| Name | Rights | Search |
|-------------|----------------------|---------------------------|
| [User Icon] | Owner | [Info icon] [Delete icon] |
| [User Icon] | Administrat | [Info icon] [Delete icon] |
| [User Icon] | View and collaborate | [Info icon] [Delete icon] |



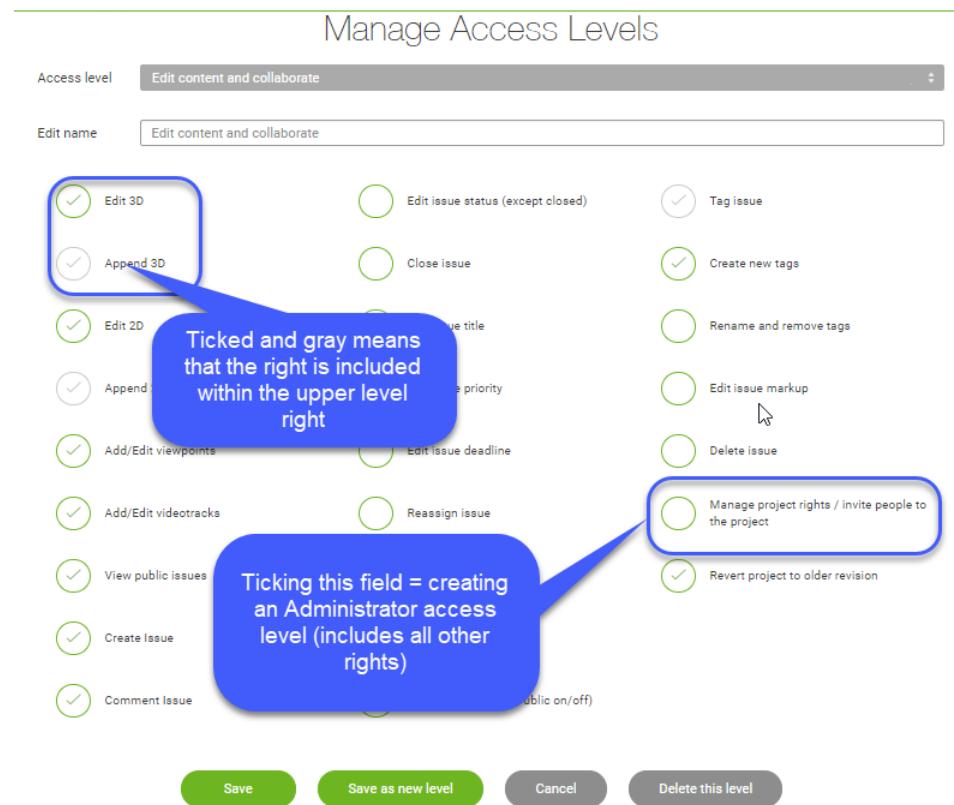
Managing project access levels in the Web GUI

SuperAdmin and Administrator can manage existing project-level access settings and create new ones; as mentioned above, settings defined in the web GUI are applied license-wide.

To create a new access level in the Web GUI:

1. Navigate to the **Private Sharing** view of the team workspace web GUI.
2. Click the **Manage Access Levels** button. The **Manage Access Levels** view opens.

In this view you can either edit an existing level, or a create a new one.

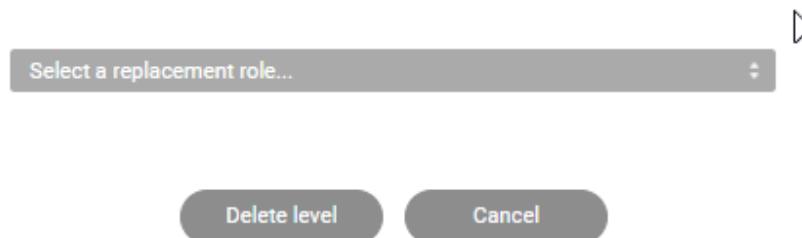


3. To edit an existing level:
 - a. Tick rights that you want to assign to the role, if you want to extend the access level
 - b. Untick available rights to revoke them and limit the access level in some respect
 - c. Enter a new name for the access level in the **Edit name** field, if needed.
 - d. Click the **Save** button at the bottom of the view.
4. To create a new access level repeat substeps a - c of the step 3 above and click the **Save as new level** button. Note that to create a new level you have to enter a new name.

You can delete any existing access level, but, if it was previously assigned to one or more team members, you will be requested to choose a new access level to them before deleting the current one.

Warning

You are about to delete the rights level "Edit content and collaborate" which is assigned to 1 people across 1 projects throughout the license. You may probably want to contact your team members and figure out if this doesn't break the workflow. If you decide to proceed, you will have to assign a replacement role for the people of that role.



To check current user access level:

1. Navigate to the page of the required project.
2. Go to the **Private Sharing** view.
3. Click button by the name of the user you want to check. The system displays detailed information on user rights with a modification option available at the top of the screen.

IV. License Monitoring.

This feature allows license administrators to monitor whether Revizto is adopted well by the team, how actively it is used. It also allows checking the need for Plan extension.

The **Manage Users** and **Manage Projects** screens allow users to build activity charts for, respectively, user and project activity. Both are constantly updated and display dynamics for 24 hours.

The User activity chart displays the number of users that were active in the current Revizto license within the required period. Also, you can filter users by their license role.

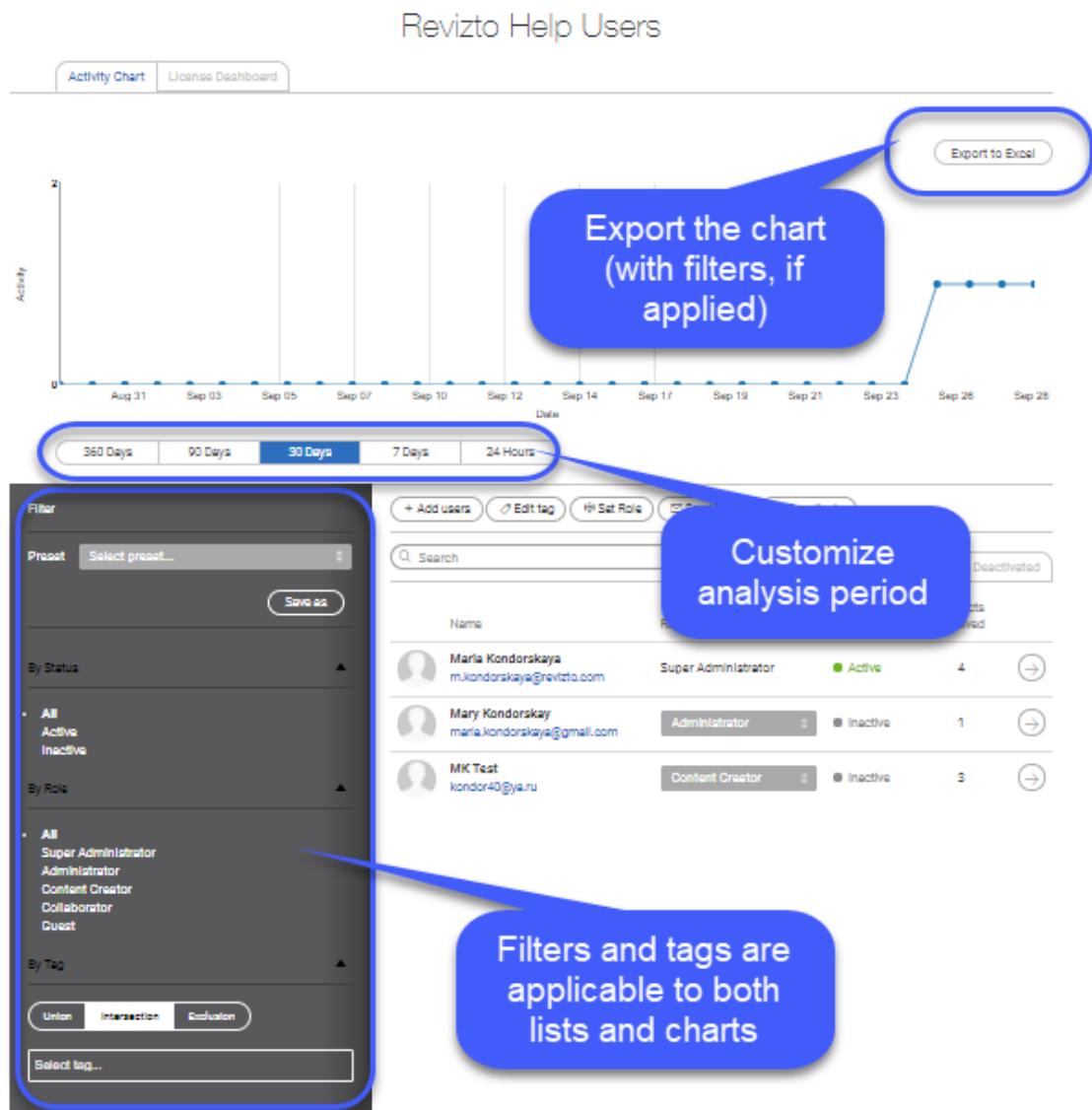
An Excel version contains full user data (name, email, role, last activity time, total duration in the **Active** status, tags, number of projects and their names). The chart is also included.

The **Project activity** chart displays the number of projects managed in Revizto within the required period. Also, you can filter projects by status (**Active/Inactive**).

An Excel version contains the total number of members and their names, project owner, project tags, time of the last activity within the project. The chart is also included.

Tip: To build a chart for activity of specific users within a specific project, tag those users and create a preset.

The **License Dashboard** tab shows how many project and user licenses are now used.



Activity charts for separate users/projects are built in a similar way with relevant filtration options.

2.2 Project Manager

Project manager is likely to be a Project owner or project Administrator of a project responsible for the project life-cycle. In Revizto it includes the following stages:

- I. Project creation.

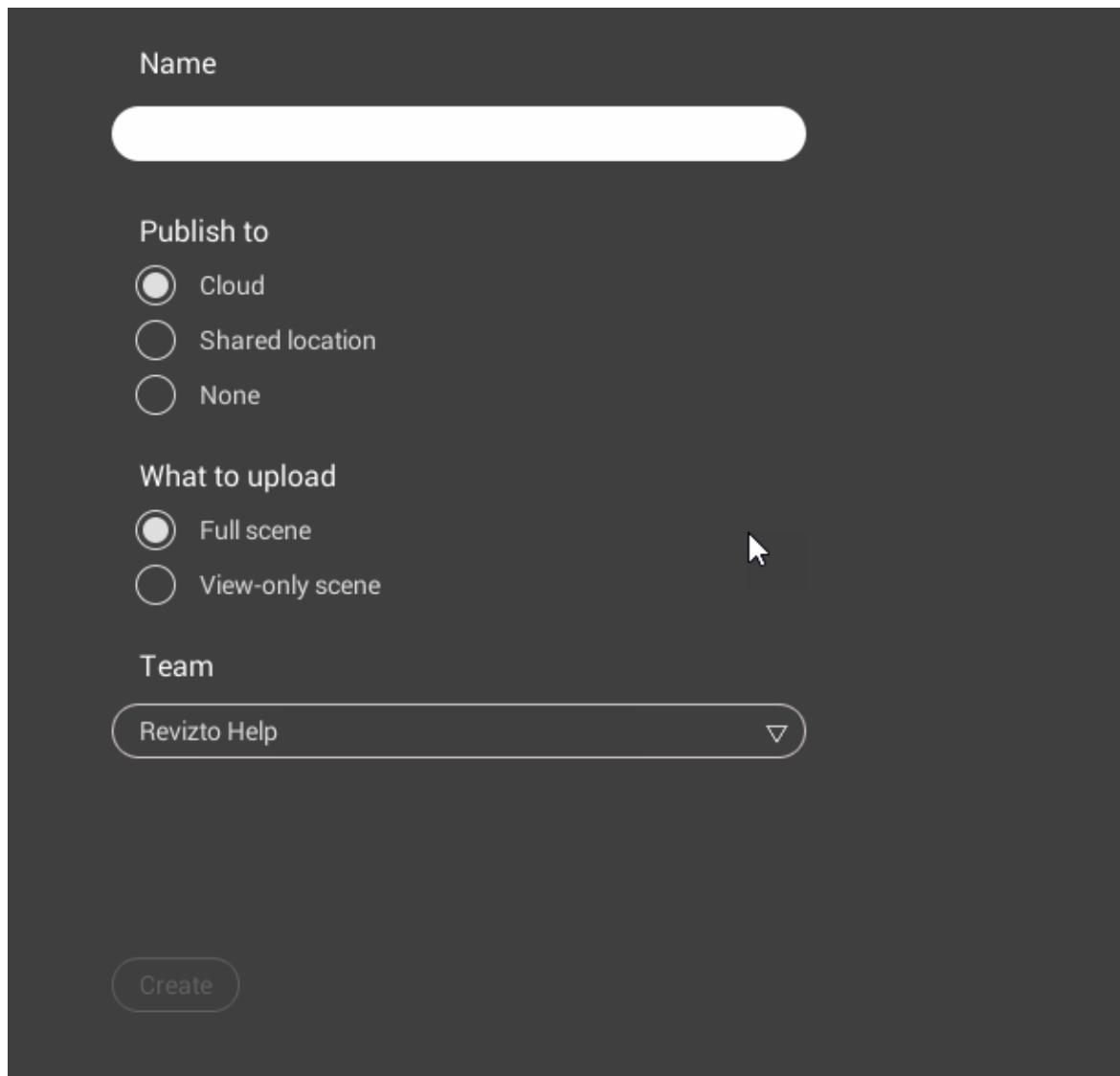
There are two points where a new collaboration project can be created:

- Revizto Application
- Revizto plug-in in a source program

The preferred option depends on the business process. Note that to create new projects, you need at least Content Creator license role because each new project requires a license.

To create a new project in Revizto:

1. Go to **Project > New** in the main menu.
2. Fill in the form that opens.
 - a. Enter the project name.
 - b. Choose where the project will be published. Cloud is the preferred and recommended option. Revizto offers highly available clouds powered by Amazon servers. If cloud storage is selected, all project data (models and issues) are exported to it. Shared location implies that models are stored locally (e.g. on a server available to all team members) while user data, issues and related data is uploaded to the Cloud. None means that Revizto will only be used locally (i.e. not synchronized/published). Note that, while the option is available as some customers request it for security reasons, it is not recommended and prevents the customer from using Revizto to its full potential. Also, even if you prefer not to share data, you will still need to connect to the web once in order to register and manage the license, edit access rights, etc.
 - c. Choose whether to fully upload models (with all the background data and properties exported from the source program) or to upload view-only scenes (presentation option).
 - d. Choose team. By default the current license name is selected. You can choose another team if you have several active licenses or collaborate as a guest within several teams.



3. Click the **Create** button.

At this point the project is considered created and information about it appears in the Web-GUI. A project license is used. Although you are automatically redirected to the team building view, you can stop now and get back to team creation later. Same is true about model upload. You can create an empty project and later upload content to it.

To create a new project from Revizto plug-in:

1. Launch the [export process](#)^{D56} in any source program and choose the **Create New Project** option. For more details on export, see the relevant [section of this Guide](#)^{D56}.

Note that when a new project is created via a plug-in export and model creation are carried out immediately. Yet, the project remains local and not added to the license until you edit its properties.

2. Open Revizto and find your project in the project list (to find it quicker, limit your search

to local projects).

3. Double-click on the project tile to open it. Click the **Sync** button at the top menu.
4. Define your sharing, publication and licensing settings in the form the opens (similar to the project creation screen described above).
5. Click the **Upload** button. Once uploaded, your project will be duly created with a license used.

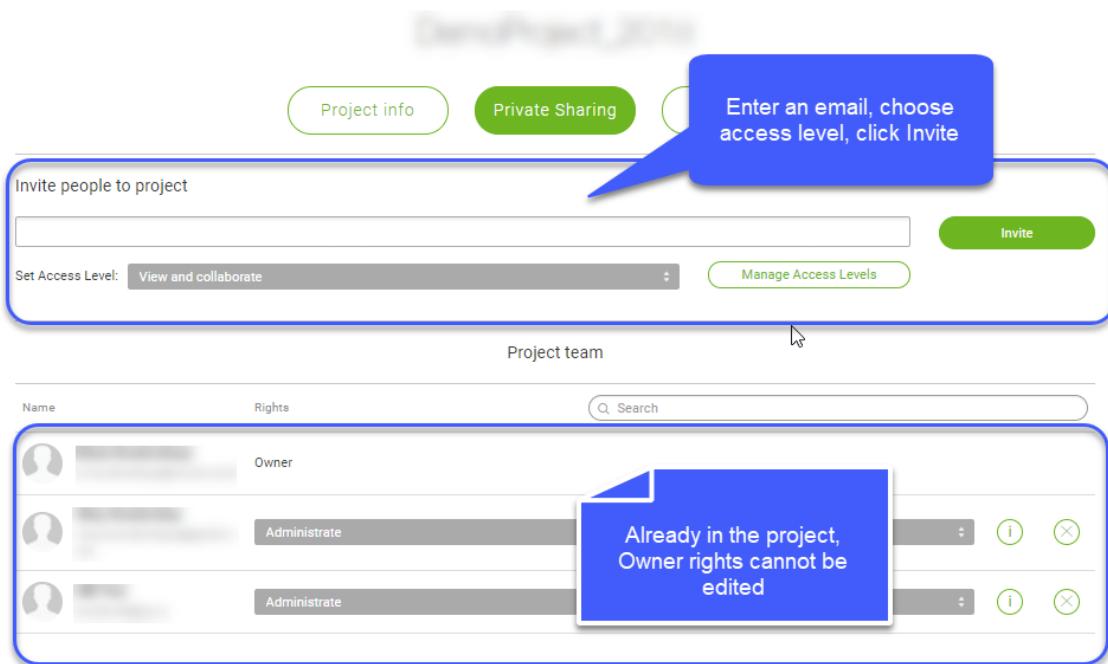
You can proceed to [team creation](#)^{□⁷⁷ and [collaboration](#)^{□⁷⁹ (issue management).}}

II. Team creation.

To invite a user to a project from the Web GUI:

1. Log in to your workspace.
2. Navigate to the **Private Sharing** view (**Manage Projects** > choose a project).
3. Enter a valid email address of a person you want to invite. Choose an access level in the **Set Access Level** field.
4. Click the **Invite** button.

The user will then receive an invitation email from Revizto and will be able to download Revizto and join the project.



To invite a user from Revizto application:

1. Open your project in Revizto. Navigate to the **Share** menu.



2. Enter email of the person you want to invite to the project into the entry field. You can enter multiple email addresses, if you plan to give several users the same [access level](#)^{□78}.
3. Choose project access level for the user in the **Set Access Level** list. Note that you can create custom access level, if you have administrator rights (see [Managing Project Access Rights](#)^{□78}).
4. Click **Invite**. The invited users will receive email notifications to join the projects. Note that if new project members are not in your current Revizto team, they will automatically get Collaborator or Guest [license role](#)^{□34}.

III. Access level management.

By default, there are three access levels available in Revizto projects:

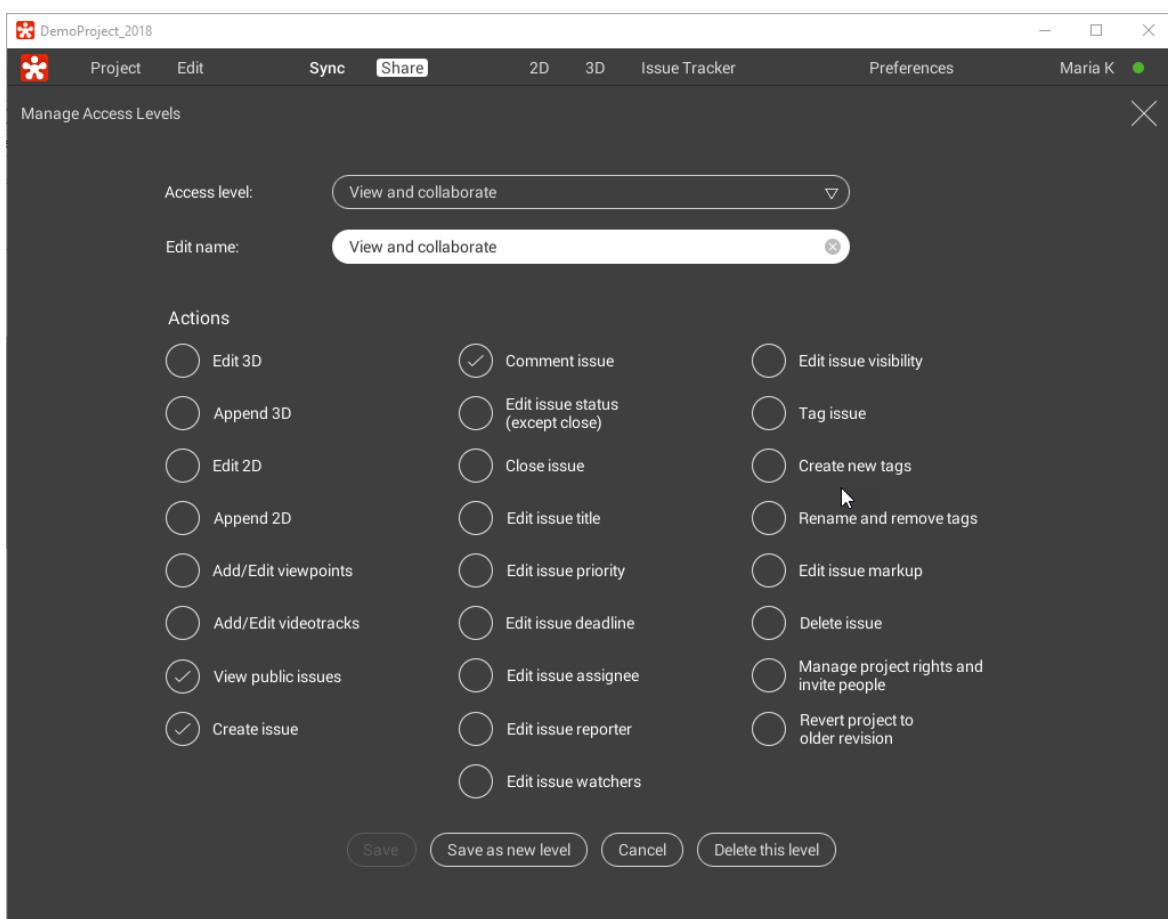
- Administrate
- Edit content and collaborate
- View and collaborate

Project owners can edit/create project access levels. Note that changes they make are only applied at the project level (unlike changes made by the [License Owner](#)^{□4} (the SuperAdmin) or by a license level Administrator in the Web GUI).

Any time you invite a new user to your project, you have to assign rights to them. Note that if an invitation is issued to a person who has no team-level license, a collaborator/guest license is issued to them simultaneously.

To edit/create a new access level in Revizto application:

1. Open a project.
2. Go to the **Share** screen.
3. Click the **Manage Access** button.
4. Repeat steps 3-4 of the procedure provided for the Web GUI [access rights editor](#)^{□40} (the interface form is similar to that in the Web GUI). Note that you have to be the project owner, or license level Administrator/SuperAdmin to edit project access rights.



Note that even a project administrator cannot edit their own access rights.

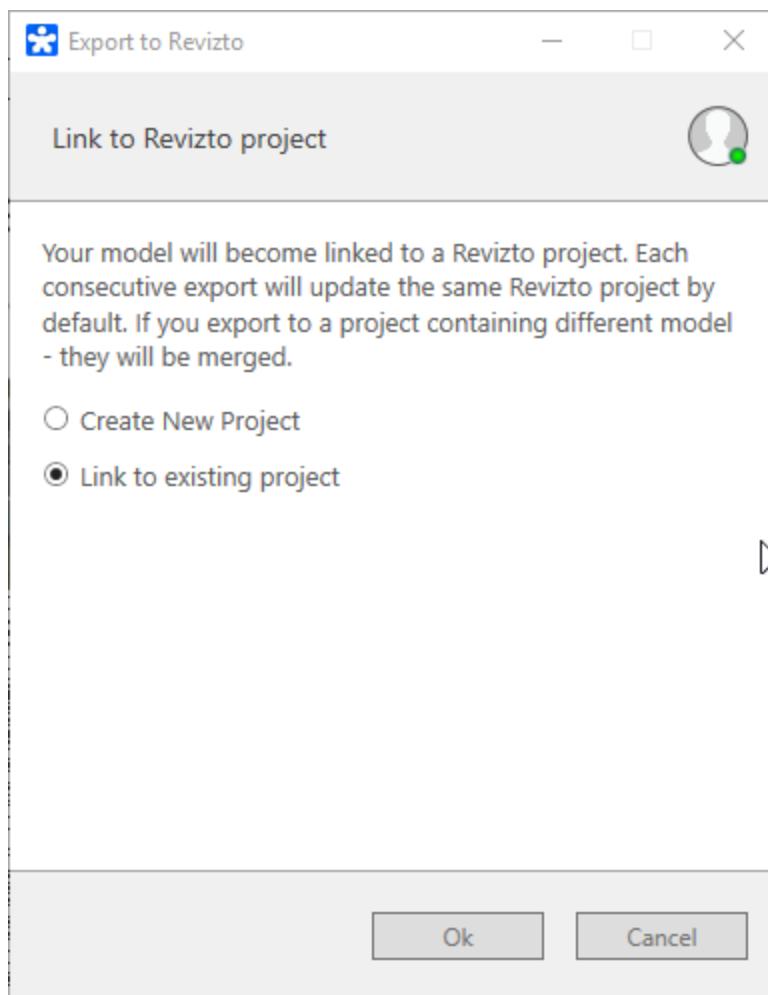
IV. Export configuration and scheduling.

General Procedure

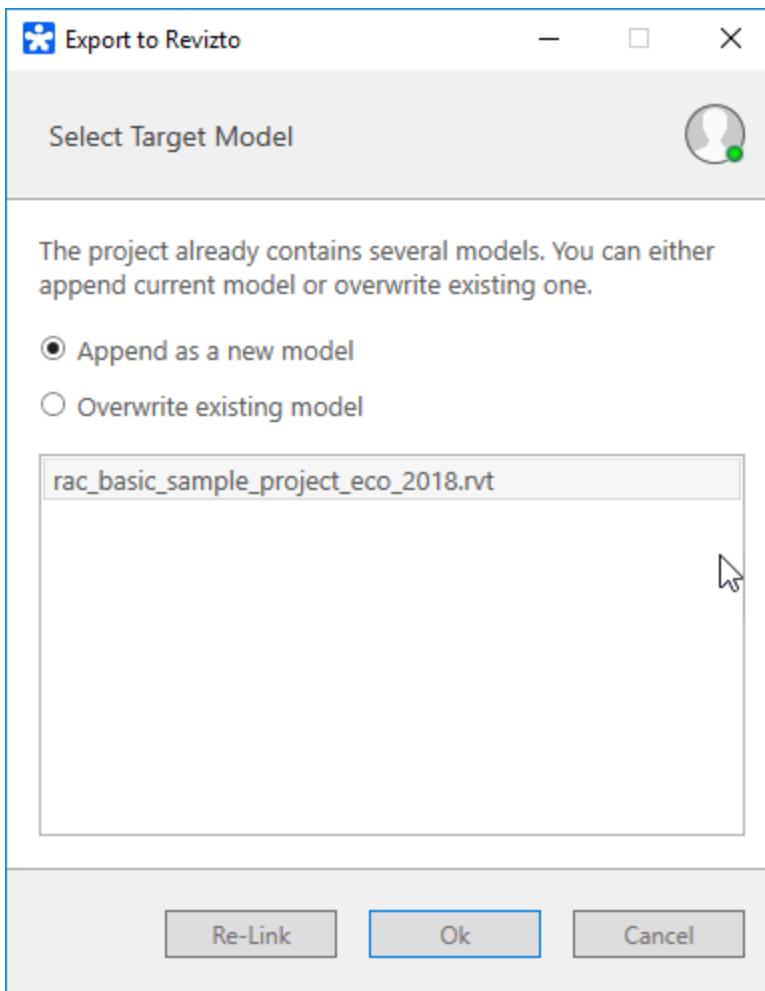
In general, all supported source files are exported to Revizto according to a standard 4-step procedure implemented via the Revizto plugin. Particularities of specific sources are described below.

Important: Revizto only supports 3D objects, so if your source project contains any lines these will not be exported. Make sure that your export view uses 3D objects.

1. Open the view you want to use for export in the source program. Note that Revizto export operates under the “you see is what you get” principle, so the final Revizto view will be based on what you choose in the source program.
2. Click the Revizto plug-in menu.
3. Click the **Export to Revizto** button.
4. Choose whether to create a new project or link files to an existing one. Note that you can link one source to multiple projects.

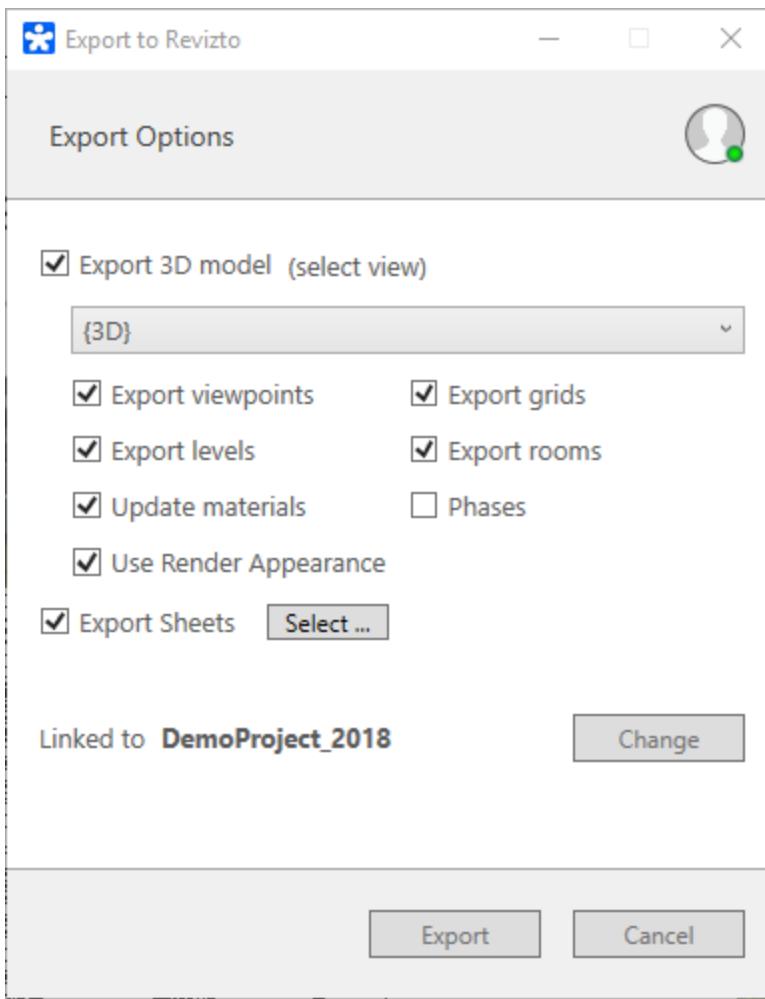


5. For an existing project, choose whether to overwrite existing files or to append new files to them. Files are appended on the basis of shared coordinates. For a new project, enter project name.



6. Define export options (differ for each source program). This is the most important step where accuracy is required. Most part of export errors and problems are caused by misinput at this stage and/or incorrect selection of the exported view (step 1). Most frequent problems and particularities of each source program are covered below.

Export and further Revizto model generation is based on source elements: viewpoints, materials, levels, phases (the exact list depends on the source software).



7. Launch export. When export completes, Revizto starts automatically (unless already running) and displays the result.

Note that, if you created a new project, you will have to define sharing options for it and manually upload it for the first time (if shared).

Relinking Projects

You can link one source to multiple Revizto projects. To relink your source, click the **Link Settings** button of the Revizto plugin. It initiates the dialog which allows you either to create a new project or to link your file to an existing one (i.e. to change the link).

Export Scheduling

When you create an export schedule, you can redefine export options again. Note that the scheduling option is unavailable to users with view and collaborate level access.

Project export schedule can be defined/modified at two points:

- From Revizto plugin

- From Revizto Export Scheduler Application

Note that project export scheduling options and statistics become available in the application only after you initially define them in Revizto or via the relevant plugin.

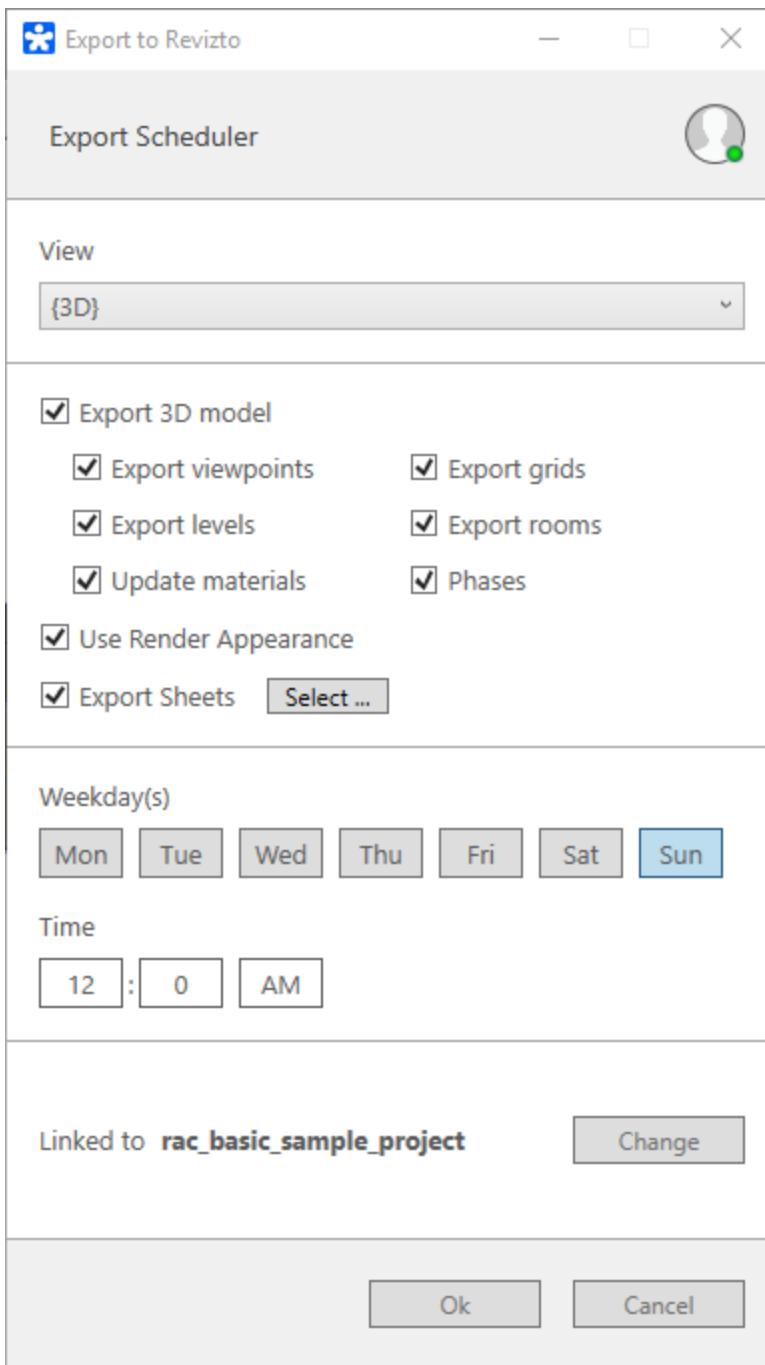
Using Revizto Plugin

To create an export schedule:

1. Open the plugin in the relevant source program.
2. Click the **Export Scheduler** button. The schedule builder loads in a popup.
3. Redefine export options and relink the source, if needed.
4. Create the export schedule. You can choose several days of the week and define time (the same for all days).
5. Note that if the project has been earlier shared and uploaded to the cloud, the Upload to the cloud checkbox appears in the form. Activate it to synchronize your project at each export.

Note that if synchronization settings are also defined in Revizto, they are updated according to the latest modification (the reverse will be true).

6. Click **OK** to save your settings. The new schedule is applied to the project and becomes available in the Export Scheduler Application that contains information on all export schedules within a team.



Export Scheduler Application

The Export Scheduler Application displays all active export schedules. It can only be used when at least one schedule is created from a Revizto plug-in. Existing schedules are listed in the application with the source file and target Revizto project names indicated.

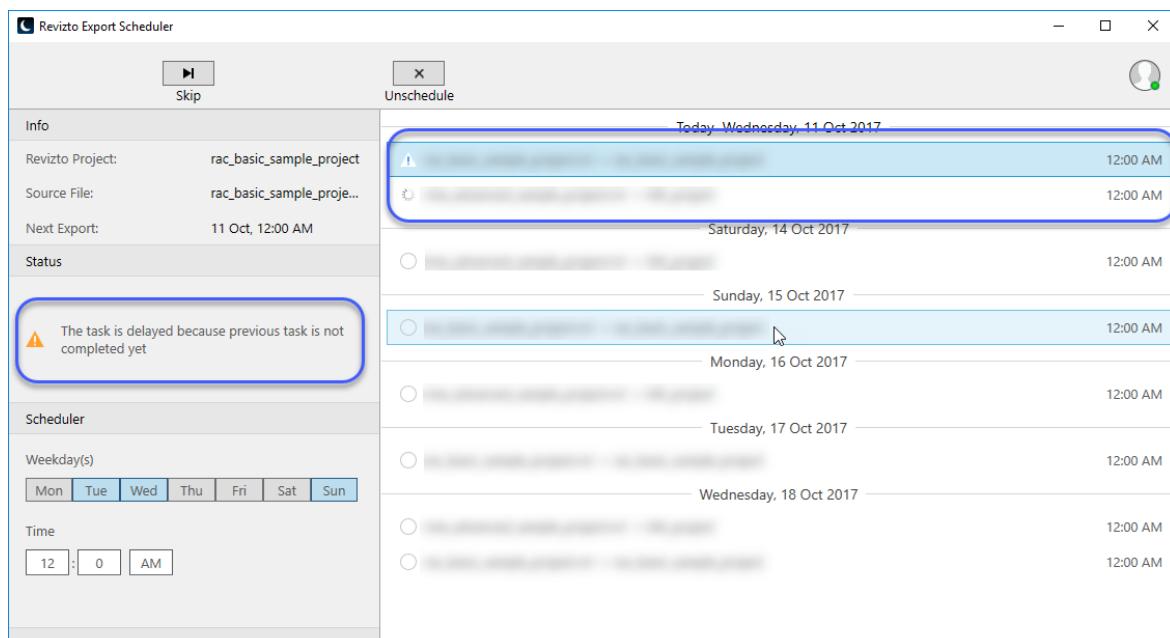
You can use the Export Scheduler to:

- run an export immediately for the selected schedule (click **Run**)

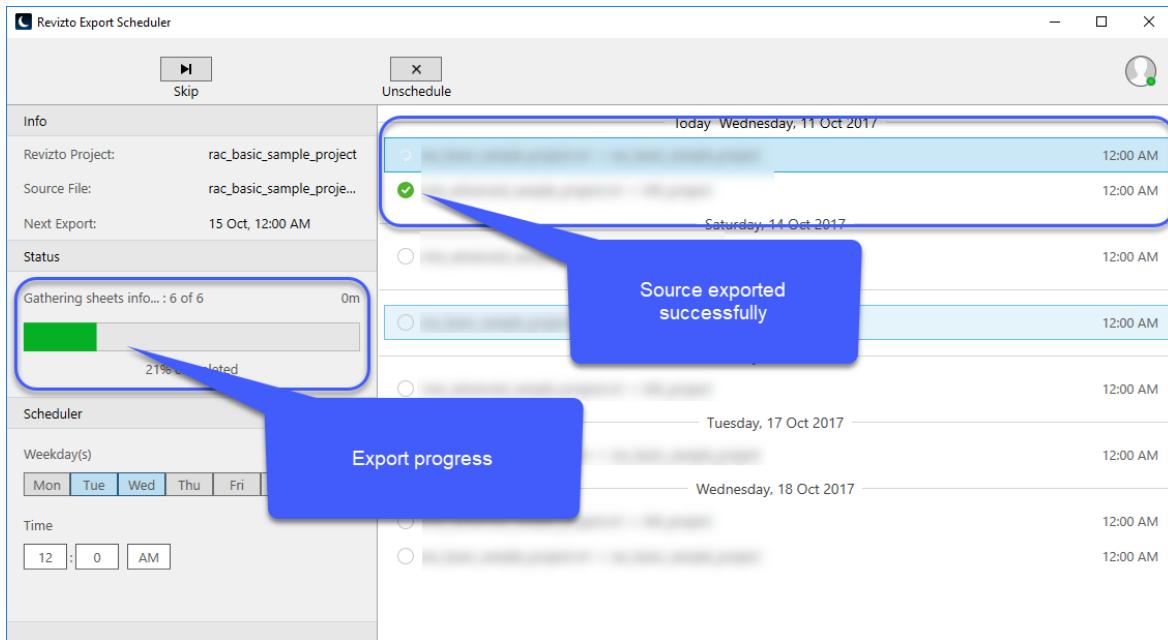
- unschedule an export for the selected schedule (click **Unschedule**)
- skip the nearest export for the selected schedule (click **Skip**)
- change schedule for the selected schedule (use the **Scheduler** area)
- redefine export settings for the selected schedule (click **Settings** to access the source file and relevant Revizto plug-in)



Note that even if two sources are scheduled to be exported at the same time, they are not exported simultaneously, but in turns.



When export time comes, the application launches and displays the progress and statuses.



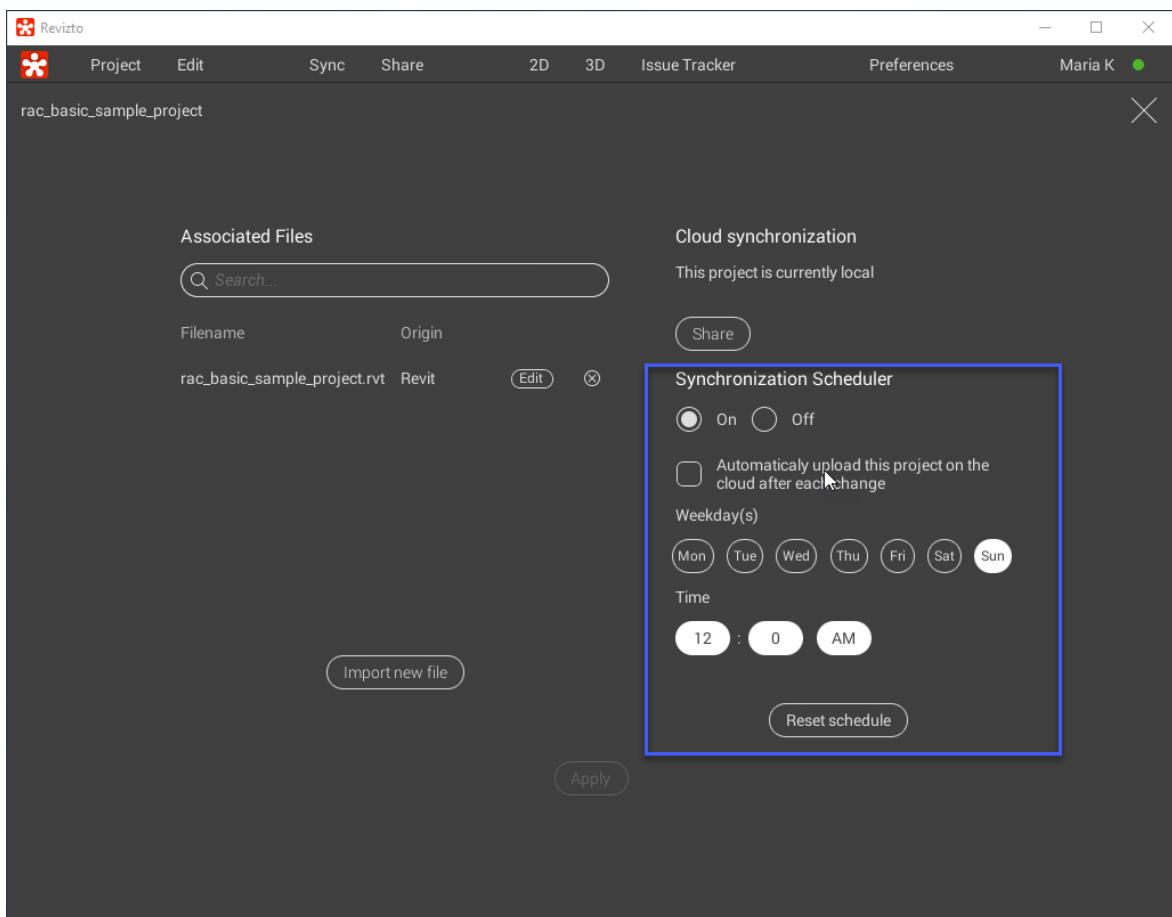
Cloud Synchronization

Once export settings are defined, you can also define schedule for synchronizing Revizto project with the Cloud (or with the shared location).

To set up the synchronization schedule:

1. Make sure that the project has been exported at least once and is available in Revizto.
2. Open the project and navigate to **Edit > Scenes and Scheduler**.
3. Fill-in synchronization preferences in the right part of the window. You can choose several days and define export time (one for all days). It is logical to have your synchronization schedule correspond to the export one.
4. Click **Reset schedule** to save your settings and the **Apply** button.

Note that when your project has already been shared the **Automatically upload this project on the cloud after each change** checkbox becomes available. Activate it to use this option.



Synchronization can also be scheduled from Revizto plug-in; if both scheduling options are used, the latest configuration is applied.

V. Issue Management.

2.3 Content Editor

TBD

2.4 Viewer/Collaborator

TBD

Licensing. Workspace Configuration and Management

Revizto license is provided for a specific number of users and projects (depends on the purchased Plan). The starting point is activating the license and configuring the license workspace.

Note that even if it is planned to limit the use of Revizto Cloud, initial license configuration has to be carried out online via the web-GUI. Even if you use the Shared Location option for your projects, all user license and access level data, as well as issue-related workflow is managed via the Cloud, while project source files remain within the corporate network.

As most Plans imply a limited number of users and projects within a team workspace, it is necessary to regularly monitor the current license status. Note that before migrating to a smaller Plan, the number of active licenses has to be brought into correspondence with it. Otherwise the whole license will be frozen until the number of active users under it is not reduced to comply with the Plan. The freeze period is 6 months. Beyond this period Revizto is not responsible for any data exported to the Cloud.

3.1 Activating License

To start using your Revizto license:

1. Find an email with license owner credentials (check the spam folder). These provide full access to the workspace management web-interface. By default, the License owner has the SuperAdmin role in the workspace. See more on roles below.
2. Navigate to <http://revizto.com>, log in with the above credentials and open the workspace management GUI. Note that simultaneously you may start downloading Revizto software for local installation (if you need it).



Sign in

E-mail

Password [Forgot password](#)

Region 

3. Go to the **License page** of the workspace GUI.

It displays summarized license status (number of user account created, number of projects created, SuperAdmin name, Team name) and allows navigating to other management pages (See fig. 2).

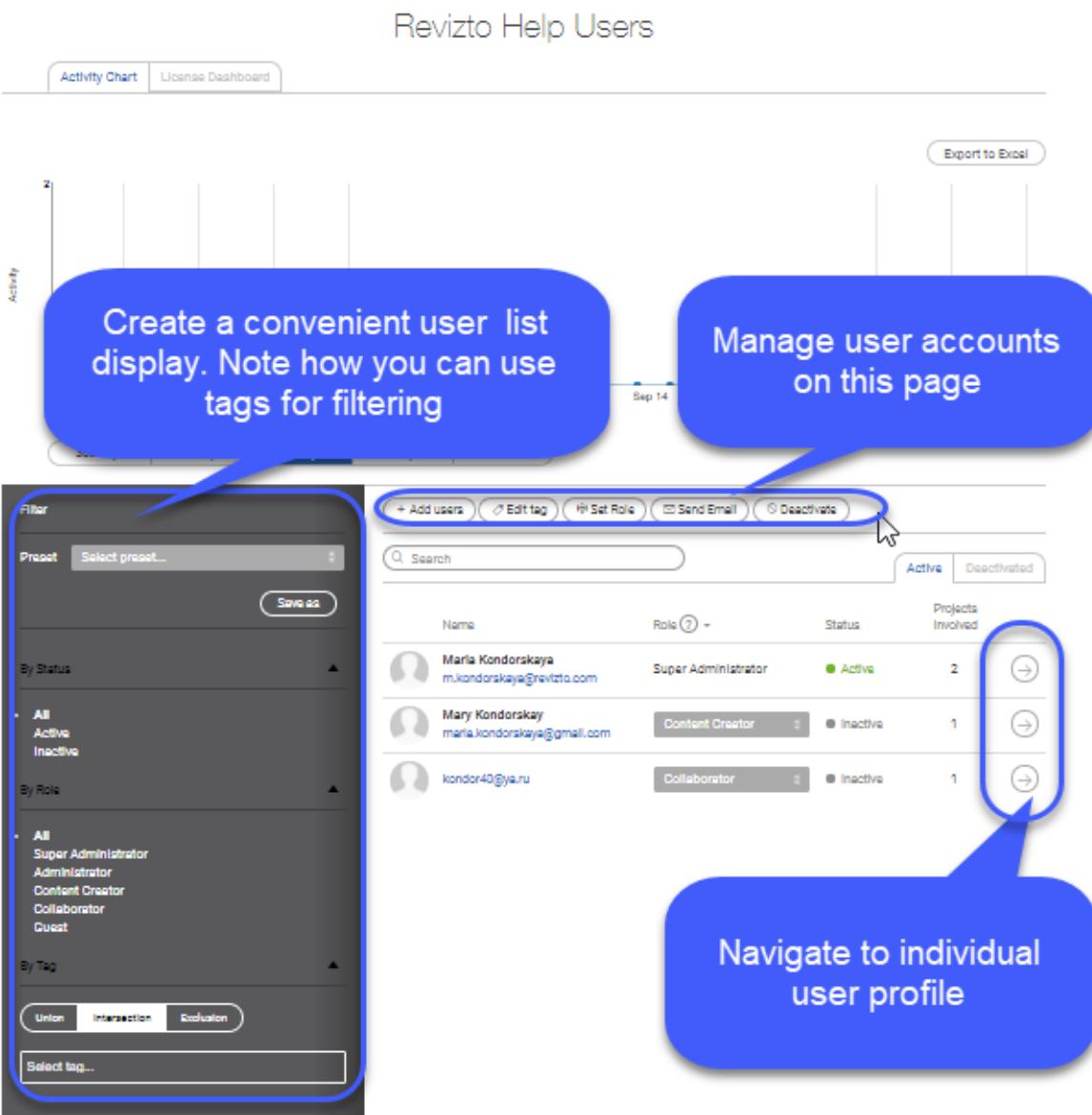
**Figure 2 - License Info Screen**

From this page you can navigate to project management, team management, support.

3.2 Managing Users

To manage users (user licenses), navigate to the Manage Users screen. There the SuperAdmin/Administrator can:

- Create/edit/deactivate users
- Manage user [license roles](#)³⁴
- [Monitor user activity](#)⁴²



To extend user level license (create user):

Note that to manage users you have to be the License Owner (SuperAdmin) or Administrator of the workspace. At initial configuration SuperAdmin is the only user.

1. Click the **Add users** button. The GUI navigates to a blank form where you have to enter user email address and select their role (can be changed later).

Tip: You can create multiple users by entering several email addresses in the textbox (use comma for division). For other [group actions](#) see below.

There are five roles at the license level:

- SuperAdmin (or License owner): assigned to a license owner, can be transferred to another user. There can be only one SuperAdmin in a workspace (role modification and removal are not available for this user). The License Owner has the broadest access rights.

- Administrator: have full control over the license. They can manage users and projects. If they need to access projects within Revizto (and they are not invited there yet) they need to grant themselves permissions on those projects through the website first.
- Content Creator: can upload new models to the license and invite unlicensed users to projects they are involved in (in this case collaborator/guest level license is automatically assigned to new members). Content creators can only access their own projects, or projects they were invited to.
- Collaborator: has access to projects they are invited to. Once invited, can have any access level within the given project (even administrator)

Note: This role is by default assigned to users that are initially created at the project level by project owners and administrators.

- Guest: Has same rights as collaborator. This role is reserved to users that already have access to Revizto under another license. So, Guest role can only be assigned if user email is already registered with Revizto in the current geography.

Note that if Guest's initial licenses expires, they lose access granted under Guest rights (Revizto highlights the user in red in the user list). To resume user access to the project, either Collaborator role has to be assigned to them (with a license in the current workspace spent), or initial license has to be extended.

Users cannot change their own access levels. Each time a user role is changed, the user receives a notification.

2. Click **OK** to send an invitation. A new user receives an email with notification that can now use Revizto. To start using Revizto, they have to log in and download the product (further steps taken by users are described in the relevant sections).

After the first login a user becomes **Active**. An active user can simultaneously run any number of instances of the web-GUI and/or Revizto software on any number of devices.

Warning: Neither the License Owner (SuperAdmin) nor the Administrator can edit user credentials. Therefore, make sure to timely deactivate users when people leave the company. Also make sure to duly transfer the License Ownership if the relevant employee leaves the company.

User license cancellation is called **deactivation**. This function is available to the license SuperAdmin and Administrator. Later deactivated users can be deleted.

To cancel user access (deactivate):

1. Click **Deactivate** at the top of the user list.
2. Select user/s.
3. Click **Deactivate** at the right side of the screen. The user becomes deactivated (cannot access their projects and/or projects shared with them), their license becomes vacant.

To get back to the main view, click X at the right side.



Deactivated users can be reactivated any time with the previous access level and project memberships. However, note that project ownership is not restored. At deactivation project ownership is automatically assigned to the SuperAdmin and reactivation does not reverse it. It is recommended to reassign ownership manually before deactivation, if the automatic option is not relevant.

To delete a user:

1. Deactivate a user.
2. Open the list of deactivated users (**Deactivated** tab).
3. Click **Delete** at the top of the list that is available in this view.

| Name | Role | Projects Involved | Deactivate date |
|--------------|--------------|-------------------|--------------------|
| Collaborator | Collaborator | 1 | September 26, 2017 |

4. Select user/s that have to be deleted and click Delete button at the right side. Note that this action is irrevocable.

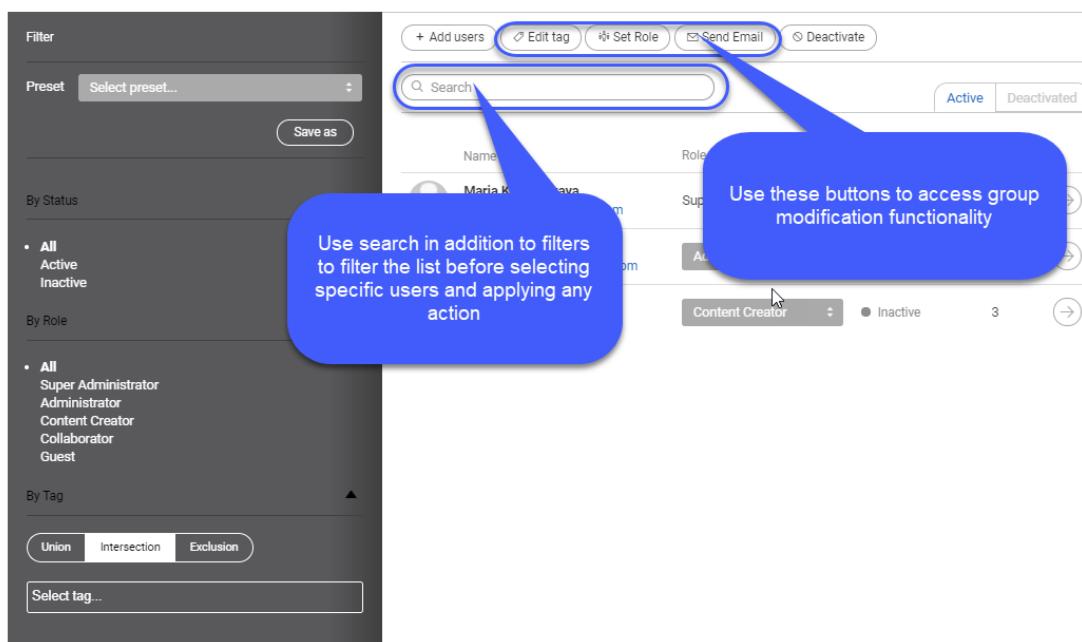


To get back to the main view, click **X** at the right side.

Tip: use the  icon to expand the filtration panel and filter the user list to reduce it before selecting specific users and applying any action to them.

Group Operations

Apart from allowing administrators to add, deactivate and delete multiple users, the web-GUI supports other group actions (emailing, tagging, access level change). These are implemented in a similar way with similar search and filtration options.



3.3 Managing Projects

Super Admin, Administrator and Content Creator can create new projects within the team licenses using locally installed instances of Revizto (project creator is considered its Owner (for more details on project roles, please, [see below](#)¹⁴⁰).

Newly created projects are listed on the **Manage Projects** screen of the workspace web GUI (available to the License Owner and Administrators) with an **Active** or **Inactive** status; a project license is issued. Projects are active when they are opened in the application at a specific frequency; users are active when they open projects in the application often enough. After a specific period of idleness projects and users are switched to **inactive** status.

Once a project is archived, its license becomes vacant for a new project. Members previously invited to an archived project lose access to it. Only project Owner can view an archived project in read-only format in [Revizto application](#)¹⁴⁹.

You can open project details in a new browser tab to edit it. Note that you can also navigate to a project page from a page of any of its members (users invited to the project).



To archive project/s:

1. Click **Archive** above the project list.
2. Tick one or more projects. Click **Archive**. The selected project/s is archived, its license becomes vacant.

The list of archived projects is displayed in the **Archived** tab. Archived projects become unavailable to all members previously invited to it. Yet, the project owners retain read-only access to archived projects via Revizto.

Later, you can delete the project altogether or restore it. Once the project is restored, it becomes available to all members invited to it before with all settings and issue history.

Editing Separate Projects

The project page consists of three views:

- Project Info
- Private Sharing
- Dashboard

Availability of these views depends on the user license role and project access level (see the table below).

All changes made in the workspace web GUI are automatically synchronized with local instances of Revizto. Below full functionality of each view is covered.

Project Info

Depending on the workspace and project role, use this view to:

- Rename the project
- Change project owner (only available to the current owner)
- Change master license (only available to the current owner, may be needed when a project is transferred to another team or trial license is replaced with a permanent)
- Upload a thumbnail
- Create and assign tags to the project
- View project activity summary

DemoProject_2018

Project info Private Sharing Dashboard

Project info

Title: DemoProject_2018

Owner: Maria Kondorskaya
m.kondorskaya@revizto.com

License: Revizto Help

Created: September 25, 2017 Updated: September 25, 2017

Tags

demo X new_tag X

Change Change Change

Change

Change

Change

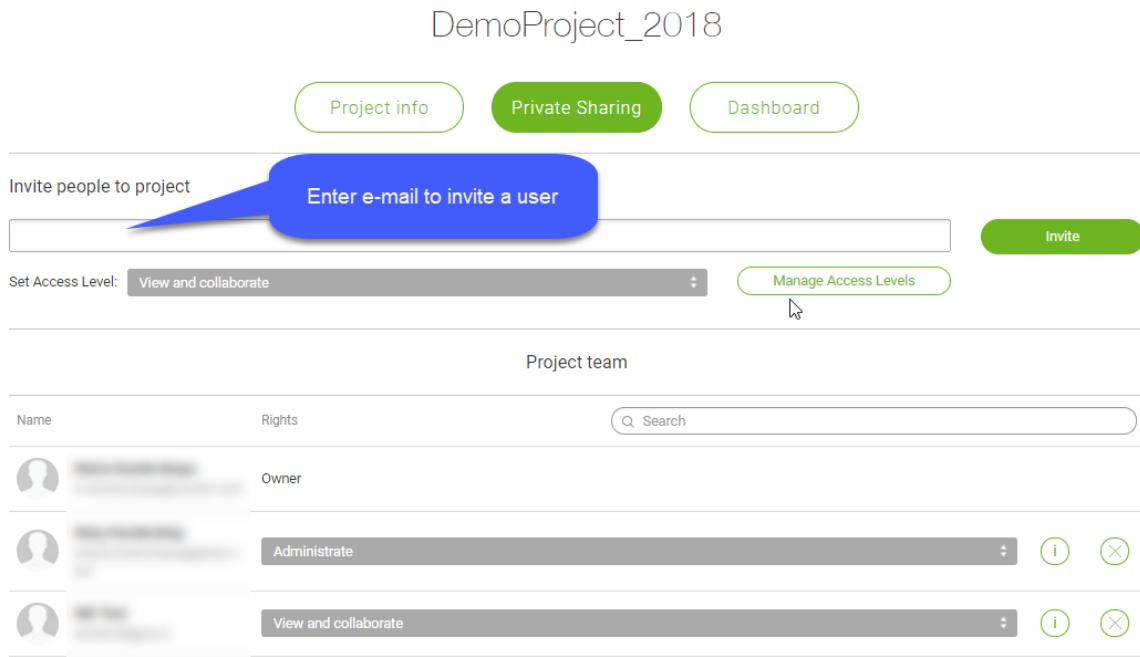
Scroll down for the dashboard

Private Sharing

Depending on the license and project role, this view allows user to invite people to the project, manage their access rights and remove project participants.

Note: You can invite a new user to the project without creating a license-level account before. Then the system creates a license-level collaborator account automatically. Yet, deleting a user at the project level does not mean deleting a license level account. You have to deactivate a user at the license level to completely cancel user access to the license.

Also, the License Owner (SuperAdmin) and license Administrators can manage project access levels from this view. Note that project access changes made from the web-GUI are applicable to the whole license, not to a single project. Project owners can modify and create project-level access rights from Revizto application (in this case changes are only applicable to a specific project).



Managing project access levels in the Web GUI

SuperAdmin and Administrator can manage existing project-level access settings and create new ones; as mentioned above, settings defined in the web GUI are applied license-wide.

To create a new access level in the Web GUI:

1. Navigate to the **Private Sharing** view of the team workspace web GUI.
2. Click the **Manage Access Levels** button. The **Manage Access Levels** view opens.

In this view you can either edit an existing level, or a create a new one.

Manage Access Levels

Access level: Edit content and collaborate

Edit name: Edit content and collaborate

| | | |
|--|--|---|
| <input checked="" type="checkbox"/> Edit 3D | <input type="checkbox"/> Edit issue status (except closed) | <input checked="" type="checkbox"/> Tag issue |
| <input checked="" type="checkbox"/> Append 3D | <input type="checkbox"/> Close issue | <input checked="" type="checkbox"/> Create new tags |
| <input checked="" type="checkbox"/> Edit 2D | <input type="checkbox"/> Change issue title | <input type="checkbox"/> Rename and remove tags |
| <input checked="" type="checkbox"/> Append 2D | <input type="checkbox"/> Change issue priority | <input type="checkbox"/> Edit issue markup |
| <input checked="" type="checkbox"/> Add/Edit viewpoints | <input type="checkbox"/> Edit issue deadline | <input type="checkbox"/> Delete issue |
| <input checked="" type="checkbox"/> Add/Edit videotracks | <input type="checkbox"/> Reassign issue | <input type="checkbox"/> Manage project rights / invite people to the project |
| <input checked="" type="checkbox"/> View public issues | <input type="checkbox"/> Public on/off | <input checked="" type="checkbox"/> Revert project to older revision |
| <input checked="" type="checkbox"/> Create Issue | | |
| <input checked="" type="checkbox"/> Comment Issue | | |

Buttons at the bottom: Save, Save as new level, Cancel, Delete this level

3. To edit an existing level:

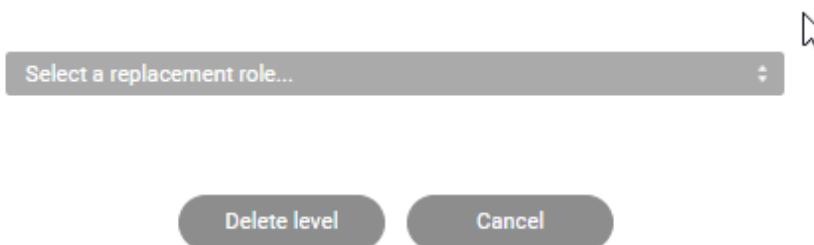
- Tick rights that you want to assign to the role, if you want to extend the access level
- Untick available rights to revoke them and limit the access level in some respect
- Enter a new name for the access level in the **Edit name** field, if needed.
- Click the **Save** button at the bottom of the view.

4. To create a new access level repeat substeps a - c of the step 3 above and click the **Save as new level** button. Note that to create a new level you have to enter a new name.

You can delete any existing access level, but, if it was previously assigned to one or more team members, you will be requested to choose a new access level to them before deleting the current one.

Warning

You are about to delete the rights level "Edit content and collaborate" which is assigned to 1 people across 1 projects throughout the license. You may probably want to contact your team members and figure out if this doesn't break the workflow. If you decide to proceed, you will have to assign a replacement role for the people of that role.



To check current user access level:

1. Navigate to the page of the required project.
2. Go to the **Private Sharing** view.
3. Click button by the name of the user you want to check. The system displays detailed information on user rights with a modification option available at the top of the screen.

3.4 License Monitoring

This feature allows license administrators to monitor whether Revizto is adopted well by the team, how actively it is used. It also allows checking the need for Plan extension.

The **Manage Users** and **Manage Projects** screens allow users to build activity charts for, respectively, user and project activity. Both are constantly updated and display dynamics for 24 hours.

The User activity chart displays the number of users that were active in the current Revizto license within the required period. Also, you can filter users by their license role.

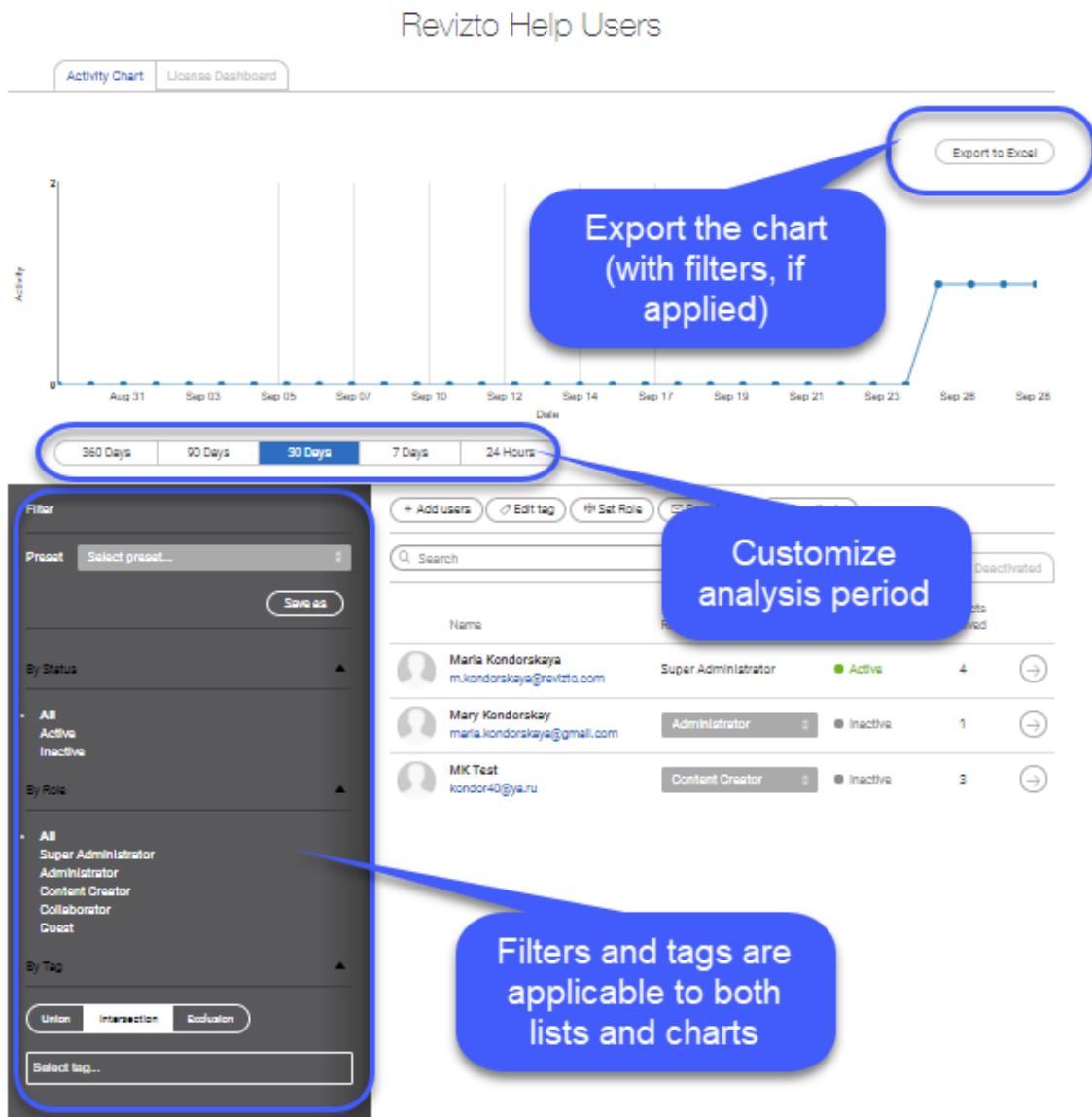
An Excel version contains full user data (name, email, role, last activity time, total duration in the **Active** status, tags, number of projects and their names). The chart is also included.

The **Project activity** chart displays the number of projects managed in Revizto within the required period. Also, you can filter projects by status (**Active/Inactive**).

An Excel version contains the total number of members and their names, project owner, project tags, time of the last activity within the project. The chart is also included.

Tip: To build a chart for activity of specific users within a specific project, tag those users and create a preset.

The **License Dashboard** tab shows how many project and user licenses are now used.



Activity charts for separate users/projects are built in a similar way with relevant filtration options.

3.5 Web Interface Tips

Using Tags

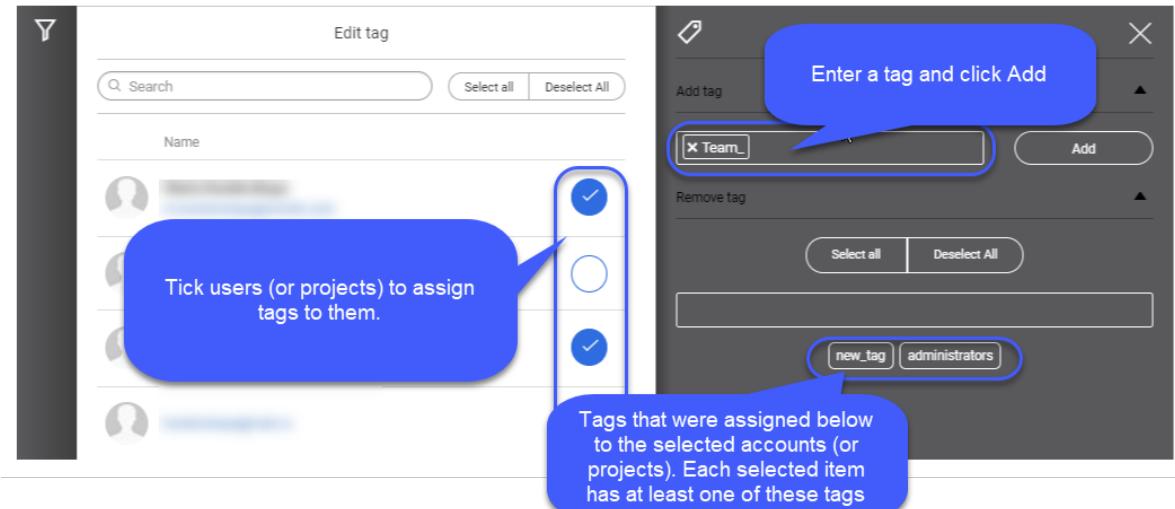
You can create and assign an unlimited number of tags to user accounts and projects. Tags provide an additional filtration options in large environments.

User and project tags are created in a similar way. To create and edit tags you need SuperAdmin, Administrator rights or Content Creator rights (limited to your own projects and relevant user accounts).

Tags are created either from views where projects/users are listed (preferred option when several items have to be tagged), or from individual user/project views.

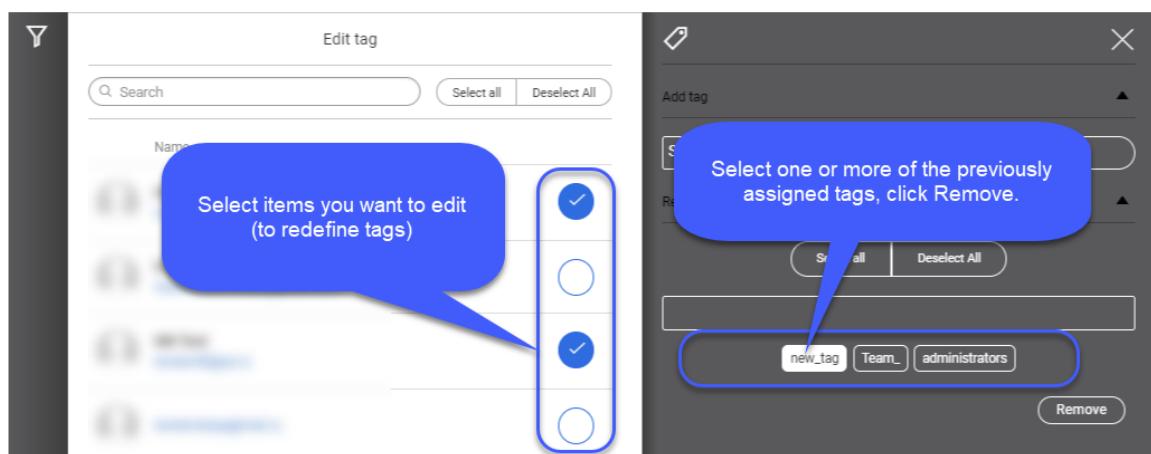
To create a tag from a general view:

1. Click the **Edit tag** button above the project/user list.
2. Select accounts/projects you want to tag. Enter your tag/s, click the **Add** button.



3. To return to the main view, click X button at the upper right corner.

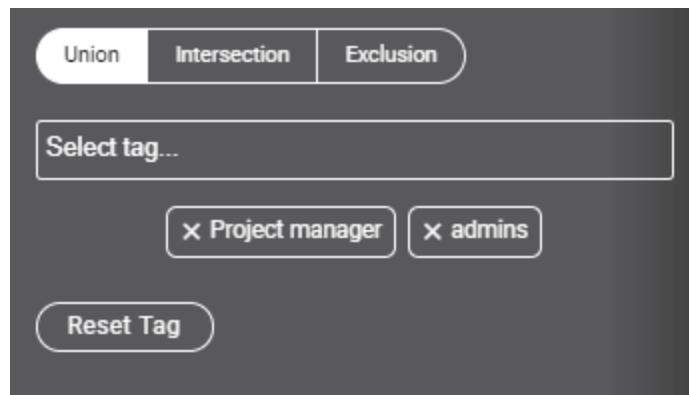
To remove tags, use the same window (see the image below).



To tag an individual project/account:

1. Open a project/user view. Both views have the **Tags** area.
2. Enter tag/s into the textbox and click **Add**. The application adds your tag/s to the item; assigned tags are displayed under the textbox.

To remove a tag, click **x** in the tax box (see the image below).

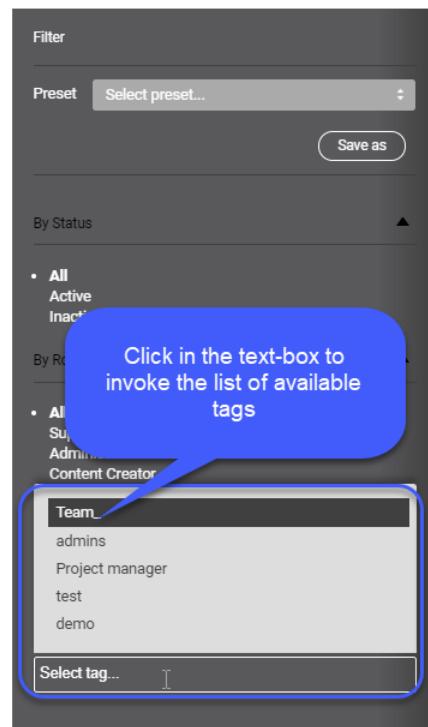


Using tags for filtration

Mainly, tags are used to filter project and user lists in major environments. In both lists tag-based filtration uses similar logic.

To filter items by tags:

1. Click in the **Select** tag text box to show the whole list of available tags.
2. Choose one or several tags to filter by.
3. Choose filtration logic. The following options are available:
 - **Union** - includes items with at least one of the selected tags into filtration results
 - **Intersection** - includes items that have all selected tags into filtration results
 - **Exclusion** - includes items that have none of the selected tags into filtration results



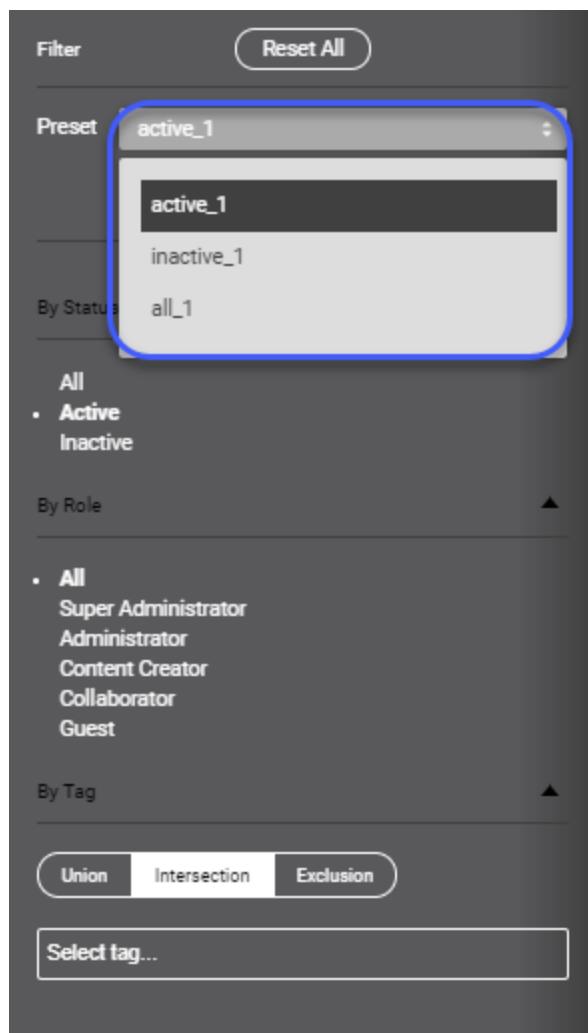
Creating Filtration Presets

Filtration presets allow administrators to quickly filter lists of licensed items (users and projects) and to build several charts with different settings for comparison. E.g.: a 30-day activity chart including collaborators with a specific tag, or a weekly chart for active projects with specific tag etc.

To create a preset:

1. Navigate to the **Manage Users** or **Manage Projects** page (depending on your needs).
2. Define your preferences in the filtration pane on the left.
3. Click the **Save as** button. Enter the preset name in the **Preset** field and click the **Save** button.

Your filter is saved and becomes available for selection.



Installation and Deployment

Local Installation. Windows

When a team license is issued to a customer, owner credentials are supplied by Revizto. Further configuration is performed at the customer side according to their business process and preferences.

To deploy a collaboration environment, you have to first activate the team license in the web-GUI (see the Licensing section) and then proceed to local deployment. Note that to ensure valid network collaboration, you have to pay attention network settings when installing local instances of Revizto, Viewers and plug-ins.

Network requirements

If the company is using firewall, ports 80 and 443 have to be opened for Revizto. And the following domains must be allowed:

- *.revizto.com
- *.s3.amazonaws.com

If the company is using the proxy server, you need to set up proxy server settings in Revizto. In log in window click the Proxy server settings in the right top corner of the screen and fill in all required information.

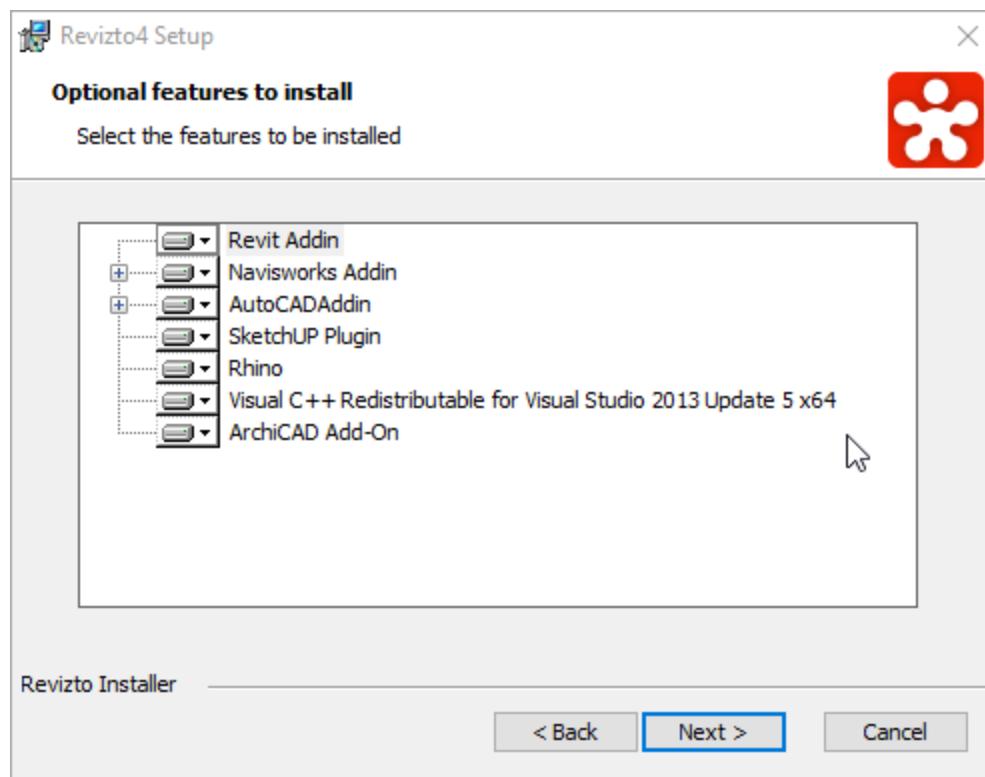
Tip: Revizto displays the current connection status in a circle by the name of current user. If everything is ok, the circle is green, if there are connection issues, it is yellow, if you are offline, it goes black.

Maria K



Installation Process

To install the software suite, you have to either be the license owner who obtains the download link from Revizto, or a license user invited directly to the team or to one of its projects. The distribution package includes all Revizto components (Revizto, viewers, scheduler, plug-ins). The installation wizard installs Revizto and viewers, and allows the user to select optional components.



Generally, source editors need Revizto and plug-ins for software they work with (most popular ware Revit and Navisworks); collaborators on the customer (or management) side need Revizto and viewers. Thus, customers can review the model in a preferable display format, create issues and track them.

Also you can select your language and which shortcuts you want on your desktop.

The Wizard asks user permission to install certUtil.exe. It is safe to install this element and it is recommended to. It installs certificates that ensures smooth interaction with Revit and AutoCad (otherwise you will have to confirm that you want to use the plug-in any time you launch it).

From this point onwards the procedure is quite standard; just follow the wizard.

If a newer version of Revizto is available, notification is displayed at the launch (to turn off the updating feature, you have to change the registry, for more details, go to the [FAQ section](#)¹¹¹).

Caution: If you plan to install a new version of Revizto instead of an existing one, do not uninstall it manually. The installation wizard detects traces of the previous version and attempts to uninstall it, as it is a part of its logic. Failing to find an old version, the wizard fails.

Note: When installing/updating Revizto, close source programs (e.g. Revit). Otherwise the installation process will stop.

Just as any software, Revizto can be installed for the current user and for all users of the machine. For the latter option you have to launch the wizard as the local administrator.

Quiet mode installation

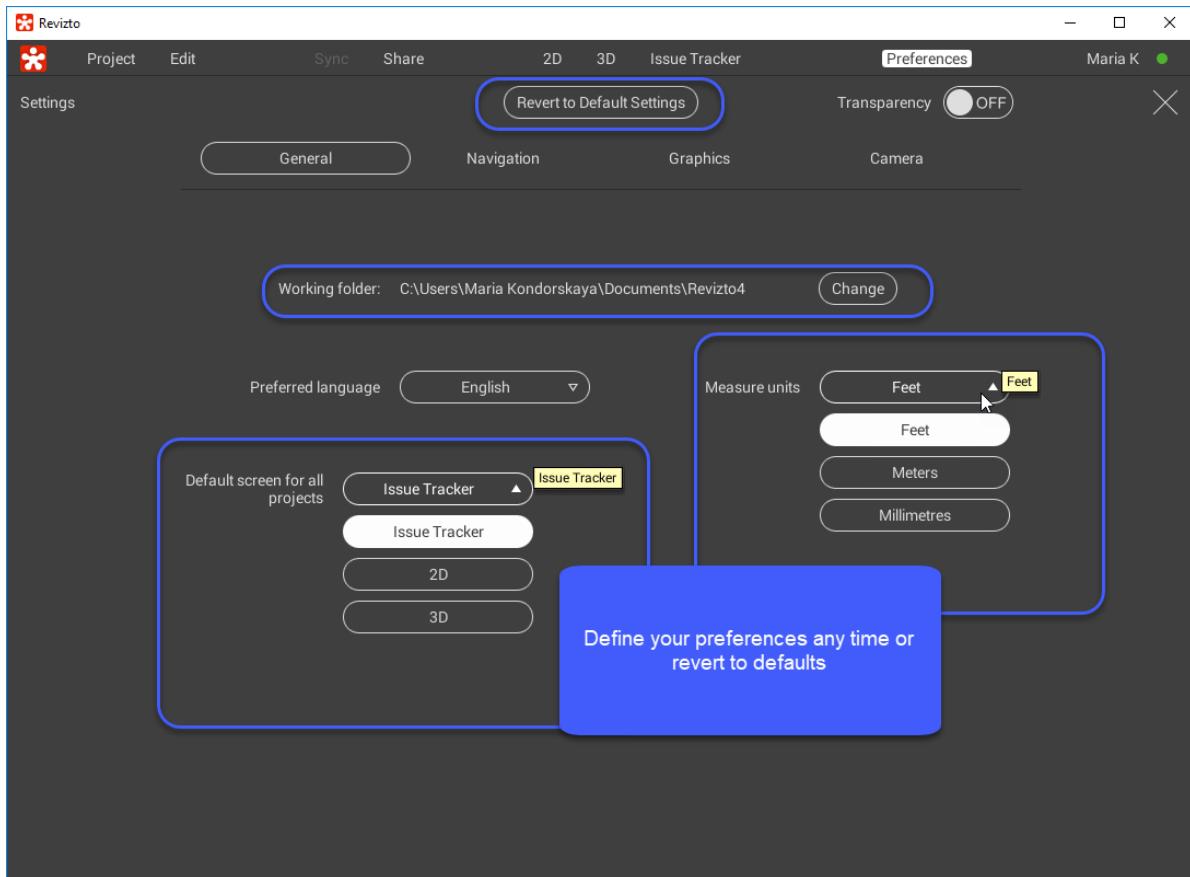
Revizto can be installed in the quiet mode (without UI) using the following keys:

- ALLUSERS="1"- installation for all users on this computer (per machine). Administrator rights are required.
- MSIINSTALLPERUSER="1" – installation for a current user (per user)

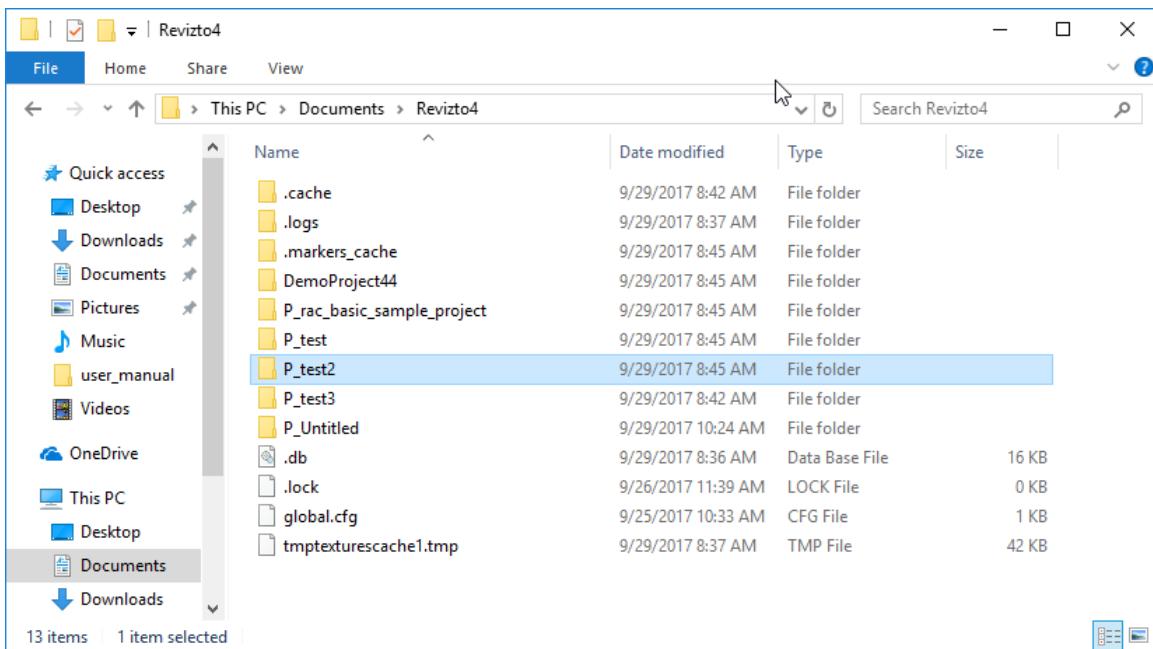
Tip: to quickly access the installation log, open the command line and enter “C:\MyPackage\Revizto(x64)-4.4.XXXXX.msi” /L*V C:\MyPackage\ReviztoInstall.log” in it.

Defining Preferences

Upon completing installation, launch Revizto and navigate to the **Preferences** menu. By default, the **General** view is displayed.



Define the preferred display settings, measure units. Note that you can change language any time. You can also change the default project folder. During installation the wizard creates a new folder in the Documents folder of the current user. This folder is used for synchronization: projects somehow available to the user are stored there and shared from there.



Note that this folder contains logs for all Revizto components and events (if you have problems with the working folder, see [here](#)¹¹⁵).

Caution: It is not recommended to create the working folder at remote network location. Revizto relies on SQL Light and major projects tend to generate multiple requests to the working folder. If created outside the local machine, it can cause failures and errors.

For more details on Preferences, please, refer to the [Detailed preferences](#)⁹⁹ section.

Portable Devices

Info needed

multi user installation option TBD

Using the Web GUI

Each user (team member) has access to the web GUI where, depending on the access level, they can view or edit workspace and project settings, manage their personal profiles (account settings are available in Revizto as well).

Note on regional settings: you cannot change your region. Any Revizto license is strictly linked to one of the specific geographies. You can change your language settings any time from the web GUI or in Revizto preferences.

Warning: Although the sign in page allows changing the region, you should log in from the region of your team license. Otherwise you will not be able to access your projects.

Sign in

E-mail

Password

[Forgot password](#)

Region Europe (Ireland)

Auto

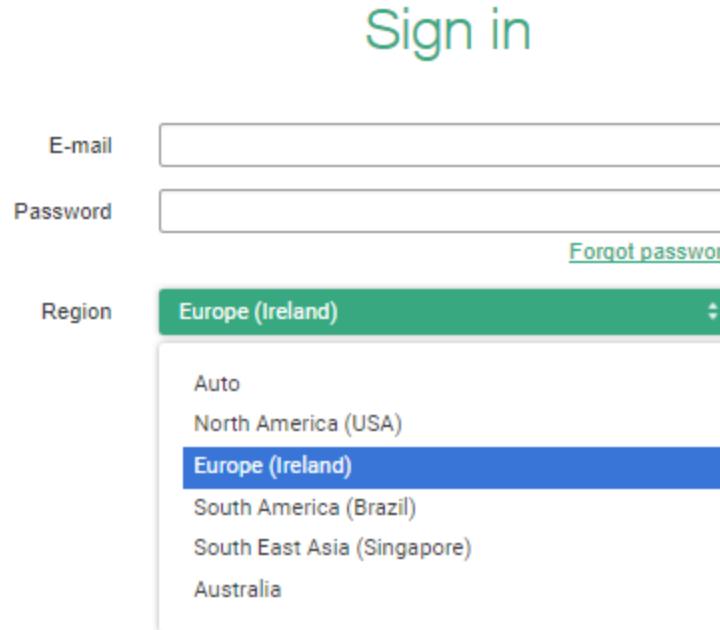
North America (USA)

Europe (Ireland)

South America (Brazil)

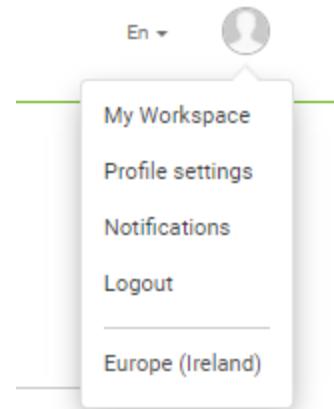
South East Asia (Singapore)

Australia



5.1 My Projects

Regardless of an access level, a user can view their projects on the **My Projects** page. To navigate to the page, either use the main menu, or choose **My Workspace** in the profile drop-down list at the top upper corner of any page of the web-GUI.



It displays the list of projects a user is involved with. It has three views:

- **My projects** for projects created by the current user
- **Shared with me** for projects where the current user is a member (not Owner)

- **Archived** for closed projects



Each project tile shows the creation date, name and owner. Mouse-hover over a tile shows icons for navigation to the project **Private Sharing** view and to its **Dashboard**. If user rights are not sufficient for sharing, the view displays in the read-only mode.

5.2 Managing User Profile

Note that you can also change your profile settings in Revizto as well. The Web GUI allows users to change their names, passwords and language settings. Note that you cannot change your email, as it is linked to the license.

To edit your profile:

1. Sign in at www.revizto.com.
2. Choose **Profile settings** in the user menu (upper right corner).
3. Make necessary changes:
 - a. Enter necessary changes in the editable fields (**First name**, **Last name**).
 - b. Choose another GUI language in the **Language** field.
 - c. Click **Password > Change**, to enter new password. Enter the old password and the new one twice (for confirmation).
 - d. Upload your photo in the **Change picture** area, if you would like to have it in your profile.
 - e. Click **Save** to apply your changes.

Profile settings



Change picture

| | |
|---|---|
| First name | <input type="text" value="Maria"/> |
| Last name | <input type="text"/> |
| E-mail | <input type="text"/> |
| Old password | <input type="password"/> |
| New password | <input type="password"/> |
| Confirm password | <input type="password"/> |
| Language | English  |
|  | |

Profile management is also available in Revizto application (see the [Local Profile Management](#)¹⁰⁷ section).

Resetting Password

The Web GUI offers standard, transparent procedure for resetting lost passwords.

To reset your password.

1. Go to the sign in page at www.revizto.com.
2. Click the Forgot password link.
3. Enter your valid email address linked to your Revizto license in the form and click **Change**.
4. Check your mail box (make sure to check the spam folder as well).
5. Open the email message from Revizto and follow guidelines (you will have to options to navigate to the password change page: a button and a link).
6. Navigate to the password change page. Enter your new password twice and click the **Change** button. Once the system applies changes, you will be able to enter the Web GUI.

5.3 Managing Notifications

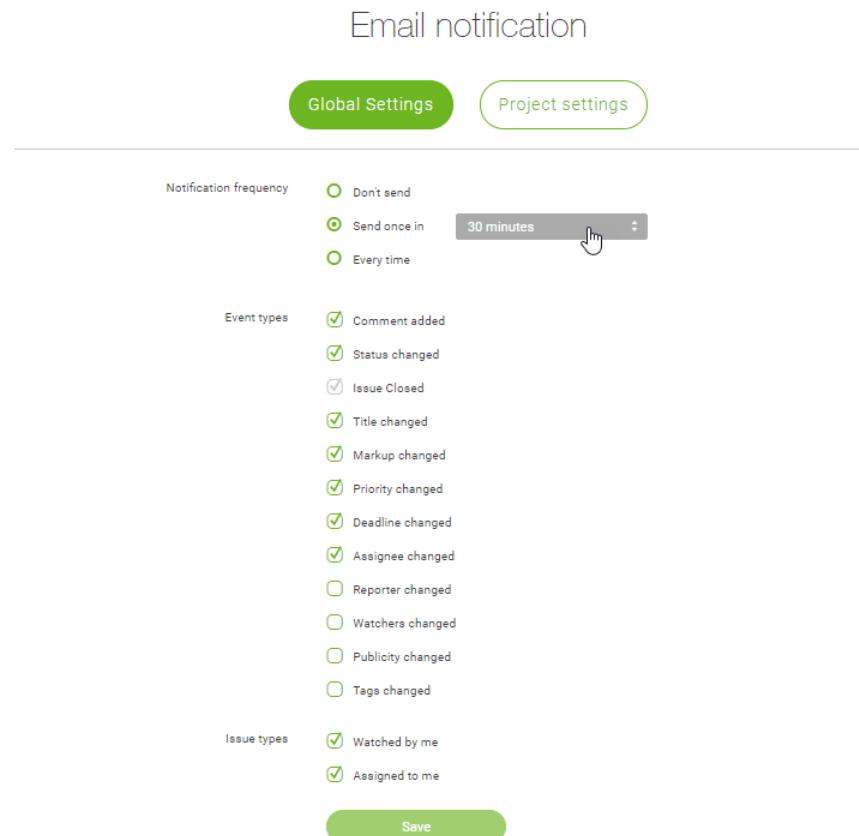
Notifications (messages from Revizto emailed to a user in response to a specific event) can only be edited by users in the Web-GUI.

There two sets of notifications settings:

- Global: applied at the license level and covering all projects, unless otherwise specified. By default, these are applied to every project a user is involved in.
- Project: customized set of notifications for a specific project.

To edit global notifications:

1. Log in at www.revizto.com. Navigate to the **Notifications** screen of your web GUI. By default the **Global settings** view is displayed.



2. Define notification frequency. You have three options. The **Don't send** turns all notifications off, the **Send once** in allows setting the frequency, the **Every time** option means that a notification is sent every time a triggering event occurs.
3. Choose event and issue types you want to be notified about (activate the checkboxes).
4. Click the **Save** button to apply your global settings.

To customize notifications:

1. Log in at revizto.com and navigate to the **Notifications** screen of your web GUI.
2. Define your global settings, if needed.
3. Go to the **Project Settings** view. The view displays the list of projects you are involved in. By default, all use global settings. Note that the view has a sorting option and a search box.
4. Find the project to customize its notifications settings.
5. Choose **Custom Settings** in the **Project settings** field. The **Edit settings** button then appears.

The screenshot shows a list of projects in the 'Project settings' section. The columns are 'Projects', 'Owner', and 'Project settings'. The 'Project settings' column contains buttons for 'Custom Settings', 'Edit settings' (which is highlighted with a blue box), 'Global Settings', and a dropdown menu. The projects listed are: DemoProject_2018, MK_project, rac_basic_sample_project, test, test2, test3, and test=2.

| Projects | Owner | Project settings |
|--------------------------|------------|---|
| DemoProject_2018 | [redacted] | Custom Settings Edit settings |
| MK_project | [redacted] | Global Settings |
| rac_basic_sample_project | [redacted] | Global Settings |
| test | [redacted] | Global Settings |
| test2 | [redacted] | Global Settings |
| test3 | [redacted] | Global Settings |
| test=2 | [redacted] | Global Settings |

6. Click the **Edit settings** button. It navigates to the notifications editor similar to the one used to define global settings (the project name is displayed at the top of the screen).
7. Make your changes and save them. You can redefine global and project notifications settings any time for your convenience.

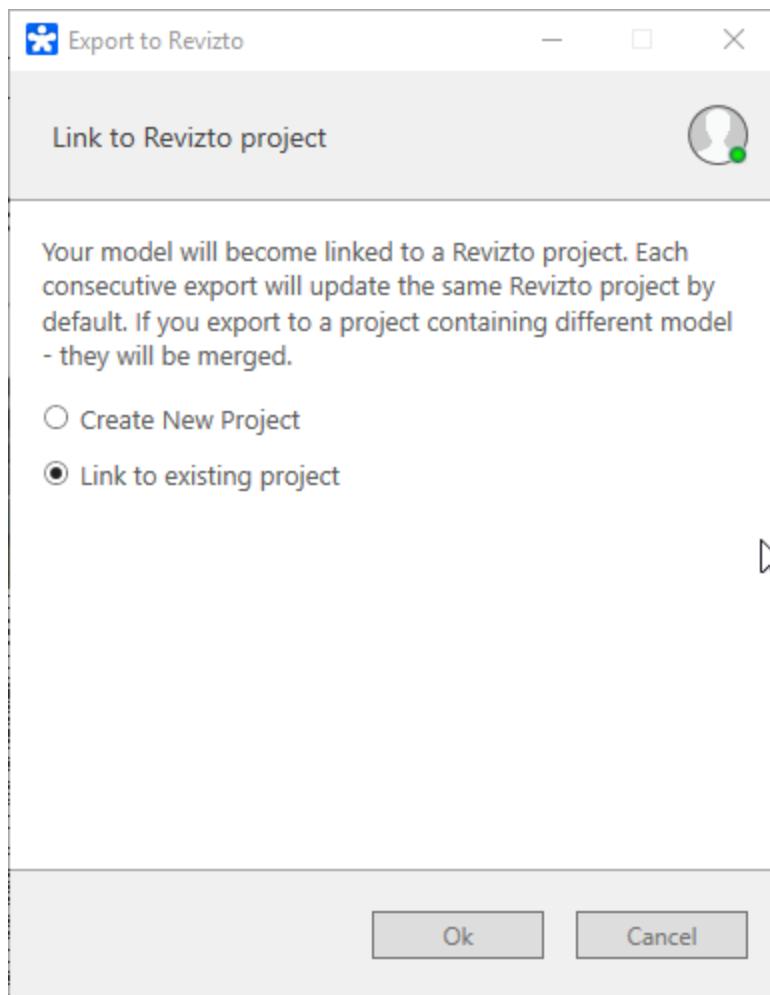
Source Export to Revizto

General Procedure

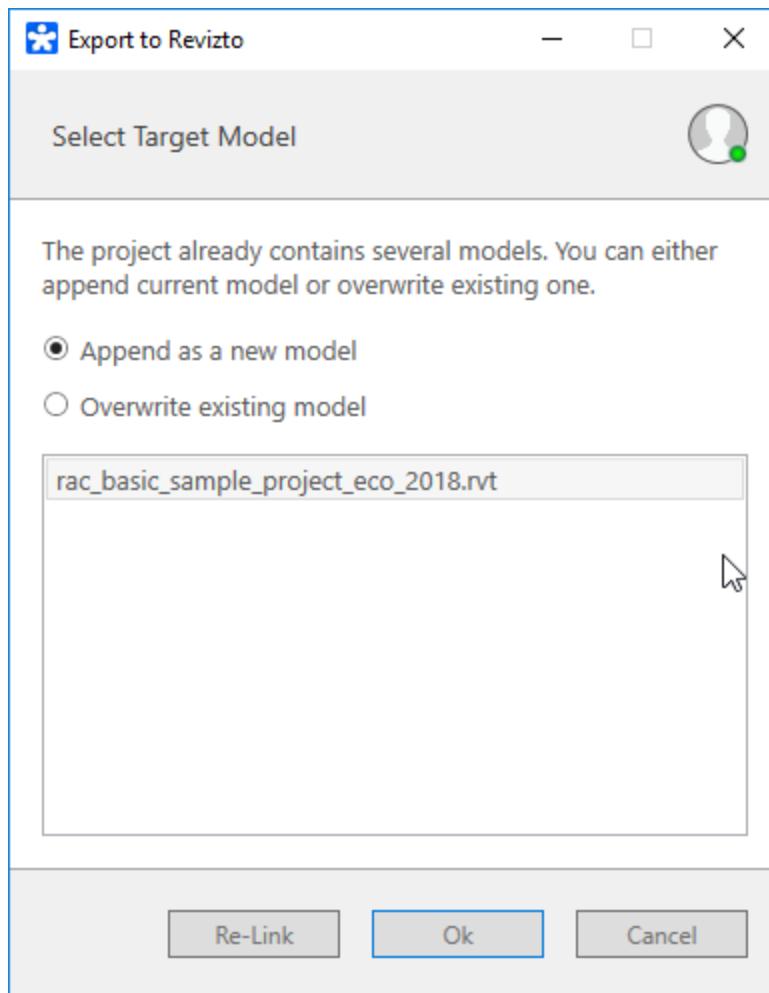
In general, all supported source files are exported to Revizto according to a standard 4-step procedure implemented via the Revizto plugin. Particularities of specific sources are described below.

Important: Revizto only supports 3D objects, so if your source project contains any lines these will not be exported. Make sure that your export view uses 3D objects.

1. Open the view you want to use for export in the source program. Note that Revizto export operates under the “you see is what you get” principle, so the final Revizto view will be based on what you choose in the source program.
2. Click the Revizto plug-in menu.
3. Click the **Export to Revizto** button.
4. Choose whether to create a new project or link files to an existing one. Note that you can link one source to multiple projects.

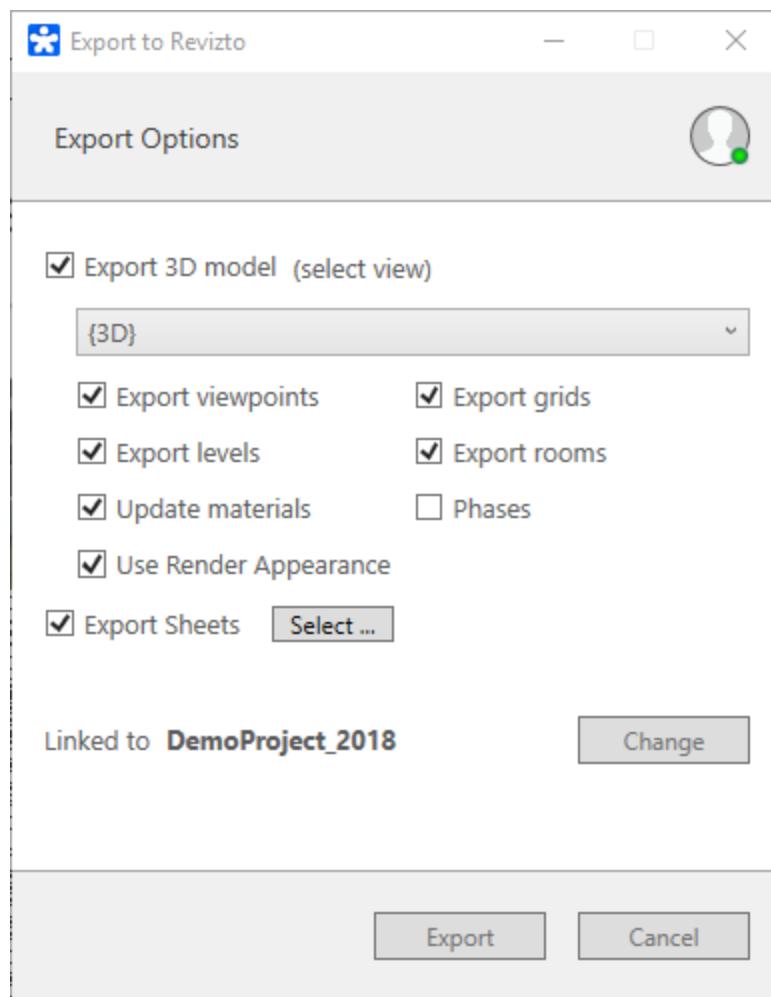


5. For an existing project, choose whether to overwrite existing files or to append new files to them. Files are appended on the basis of shared coordinates. For a new project, enter project name.



6. Define export options (differ for each source program). This is the most important step where accuracy is required. Most part of export errors and problems are caused by misinput at this stage and/or incorrect selection of the exported view (step 1). Most frequent problems and particularities of each source program are covered below.

Export and further Revit model generation is based on source elements: viewpoints, materials, levels, phases (the exact list depends on the source software).



7. Launch export. When export completes, Revizto starts automatically (unless already running) and displays the result.

Note that, if you created a new project, you will have to define sharing options for it and manually upload it for the first time (if shared).

Relinking Projects

You can link one source to multiple Revizto projects. To relink your source, click the ***Link Settings*** button of the Revizto plugin. It initiates the dialog which allows you either to create a new project or to link your file to an existing one (i.e. to change the link).

Export Scheduling

When you create an export schedule, you can redefine export options again. Note that the scheduling option is unavailable to users with view and collaborate level access.

Project export schedule can be defined/modified at two points:

- From Revizto plugin
- From Revizto Export Scheduler Application

Note that project export scheduling options and statistics become available in the application only after you initially define them in Revizto or via the relevant plugin.

Using Revizto Plugin

To create an export schedule:

1. Open the plugin in the relevant source program.
2. Click the **Export Scheduler** button. The schedule builder loads in a popup.
3. Redefine export options and relink the source, if needed.
4. Create the export schedule. You can choose several days of the week and define time (the same for all days).
5. Note that if the project has been earlier shared and uploaded to the cloud, the Upload to the cloud checkbox appears in the form. Activate it to synchronize your project at each export.

Note that if synchronization settings are also defined in Revizto, they are updated according to the latest modification (the reverse will be true).

6. Click **OK** to save your settings. The new schedule is applied to the project and becomes available in the Export Scheduler Application that contains information on all export schedules within a team.



Export Scheduler Application

The Export Scheduler Application displays all active export schedules. It can only be used when at least one schedule is created from a Revizto plug-in. Existing schedules are listed in the application with the source file and target Revizto project names indicated.

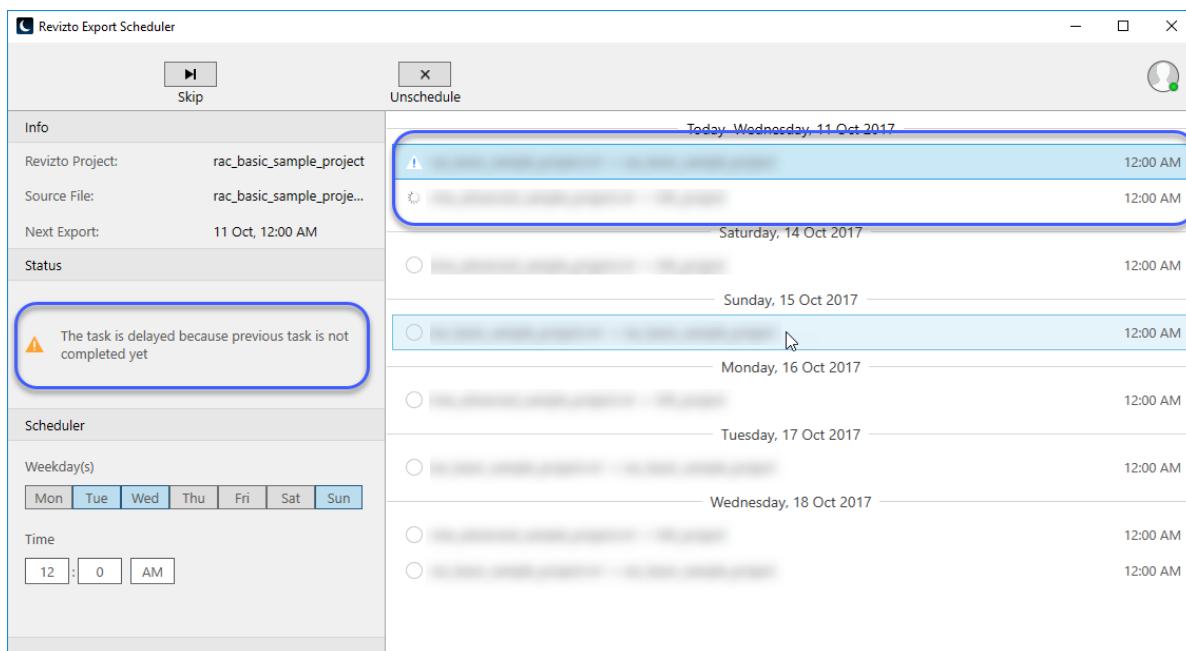
You can use the Export Scheduler to:

- run an export immediately for the selected schedule (click **Run**)
- unschedule an export for the selected schedule (click **Unschedule**)

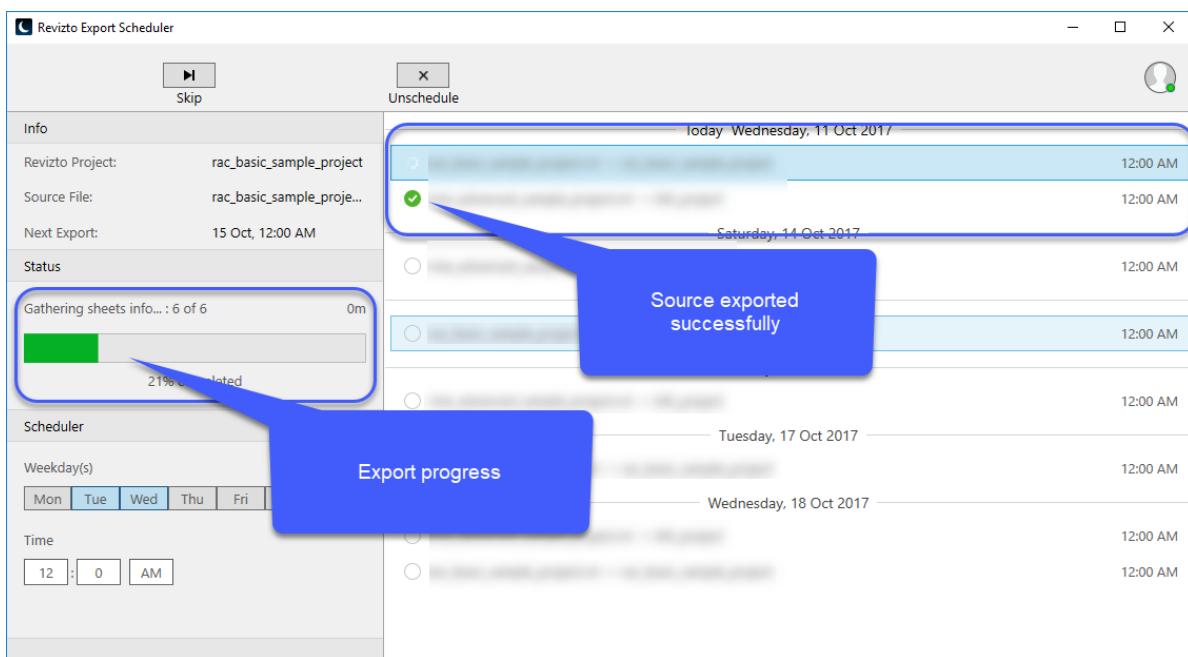
- skip the nearest export for the selected schedule (click **Skip**)
- change schedule for the selected schedule (use the **Scheduler** area)
- redefine export settings for the selected schedule (click **Settings** to access the source file and relevant Revizto plug-in)



Note that even if two sources are scheduled to be exported at the same time, they are not exported simultaneously, but in turns.



When export time comes, the application launches and displays the progress and statuses.



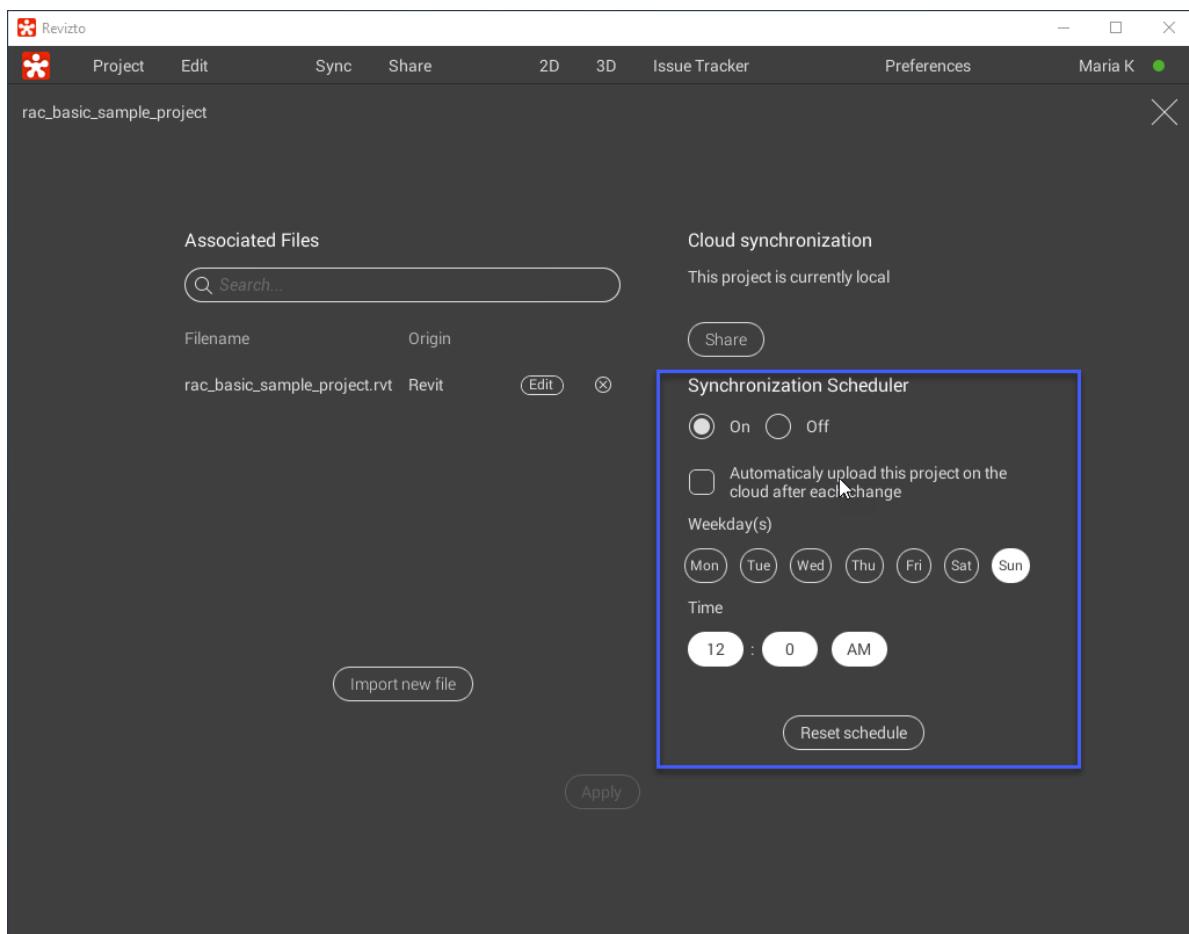
Cloud Synchronization

Once export settings are defined, you can also define schedule for synchronizing Revizto project with the Cloud (or with the shared location).

To set up the synchronization schedule:

1. Make sure that the project has been exported at least once and is available in Revizto.
2. Open the project and navigate to **Edit > Scenes and Scheduler**.
3. Fill-in synchronization preferences in the right part of the window. You can choose several days and define export time (one for all days). It is logical to have your synchronization schedule correspond to the export one.
4. Click **Reset schedule** to save your settings and the **Apply** button.

Note that when your project has already been shared the **Automatically upload this project on the cloud after each change** checkbox becomes available. Activate it to use this option.



Synchronization can also be scheduled from Revizto plug-in; if both scheduling options are used, the latest configuration is applied.

6.1 Revit

Before Exporting

Before exporting source files from Revit, it is recommended to create a target 3D view with settings that suite export needs. In particular, it is recommended to:

- Set **Detail Level** to **Fine**. Note that Revizto excludes 2D items from export and at low detail level Revit displays small items (e.g. tubes) as 2D lines.
- Make sure that Renderings and Views have different names in Revit. Otherwise, some views will not be exported.
- Set the Phase Filter to the option that creates a view you want to have in Revizto as default. Note that if phases are exported correctly, you will be able to switch them in Revizto as well, but your default view will be based on the open view in Revit at the point of export.

Export options. Detailed

| Option | Description |
|-----------------------|--|
| Export 3D model | <p>Activate this checkbox to export the 3D model. Note that if this checkbox is deactivated all options related to 3D view become unavailable.</p> <p>Before launching export make sure that your source file is open in the 3D mode (3D view is selected in Revit).</p> |
| Export viewpoints | Activate the checkbox to export all original Revit views. Otherwise only the currently selected view (3D) will be exported and available in Revizto. |
| Export levels | Activate the checkbox to export Revit levels defined in 2D. All elements outside levels are assigned to the No Level Revizto level. It is also used when levels are not defined/exported at all. |
| Update materials | <p>This checkbox is important when export is carried out repeatedly. Revizto has its own lighting and material editor that allows changing textures, colors of objects, lighting.</p> <p>If you are sure that it is necessary to overwrite changes made in Revizto every time source is exported, activate this checkbox. Otherwise, deactivate it.</p> |
| Use render appearance | <p>Activate the checkbox, if you want your Revizto model to have a more movie-like appearance with less attention to actual materials. If correct display of materials is important, deactivate the checkbox.</p> <p>This option does not affect any lighting/material changes in Revizto editor.</p> |
| Export grids | Activate the checkbox to export Revit grids. Grids are created in Revit manually and can be very useful for collaborators. |
| Export rooms | Activate the checkbox to export Revit rooms and use them to navigate within the resulting Revizto model. |
| Export phases | <p>Revit files store data on development stages called phases and users can switch from phase to phase and review changes. If you activate this checkbox, phases will be also available in Revizto.</p> <p>Caution: If your Revit file is open in the phase mode and the flag is deactivated, only the open phase will be exported, which is not likely to be the desired option.</p> <p>Note: Phase export may affect performance of the Revizto lighting editor due to the large amount of layers coexisting in a scene.</p> |
| Export sheets | Activate the checkbox to add sheets to Revizto model. Then click Select to choose which sheets have to be exported. |

| Option | Description |
|--------|--|
| | <p>Choose export option for each sheet: Image or Vector. The Image option means that the exported sheet will only have 3 zoom levels, each represented by an image. The Vector option has a smooth, more powerful zooming, yet, it may be unavailable for some files and requires more system resource.</p> <p>For more details on sheet export, see below.</p> <p>Tip: use filters to manage the list of sheets. Note that sheets can have similar names (not IDs though).</p> |

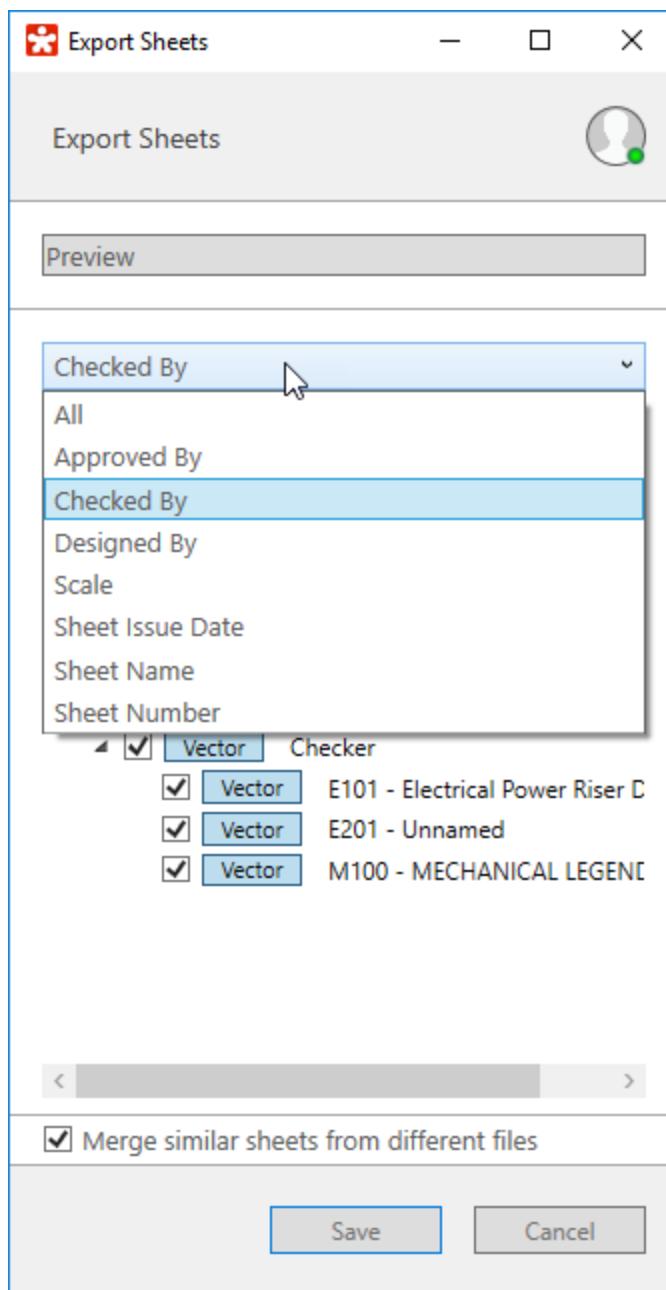
Sheet Export Particularities

As mentioned above, you can export sheets in vector or image format. the Image option is recommended for sheets that use East Asian fonts. Also, images are quicker processed when image overlay¹⁹⁸ is created.

You can also use a range of filters to quicker find sheets that you want to export.



Note that the list of available filters is not strictly defined and depends on properties available in the source file.



6.2 Navisworks

Navisworks is not designed for creating models, it combines various sources together and detects clashes. One of its key sources is Revit. So, when you want to add a Navisworks source to your Revizto project, you may separately add the Revit model and exclude it from Navisworks exports (i.e. export it without geometry and sheets). In general, this is the recommended option, though it may be unavailable due to project particularities.

If you want to export all data from Navisworks, it is crucial to make sure that initial export from Revit to Navisworks is performed correctly. Revit uses an addin for export to Navisworks, in Navisworks there is built-in function (go to the **N** menu > click the **Options** button > expand the

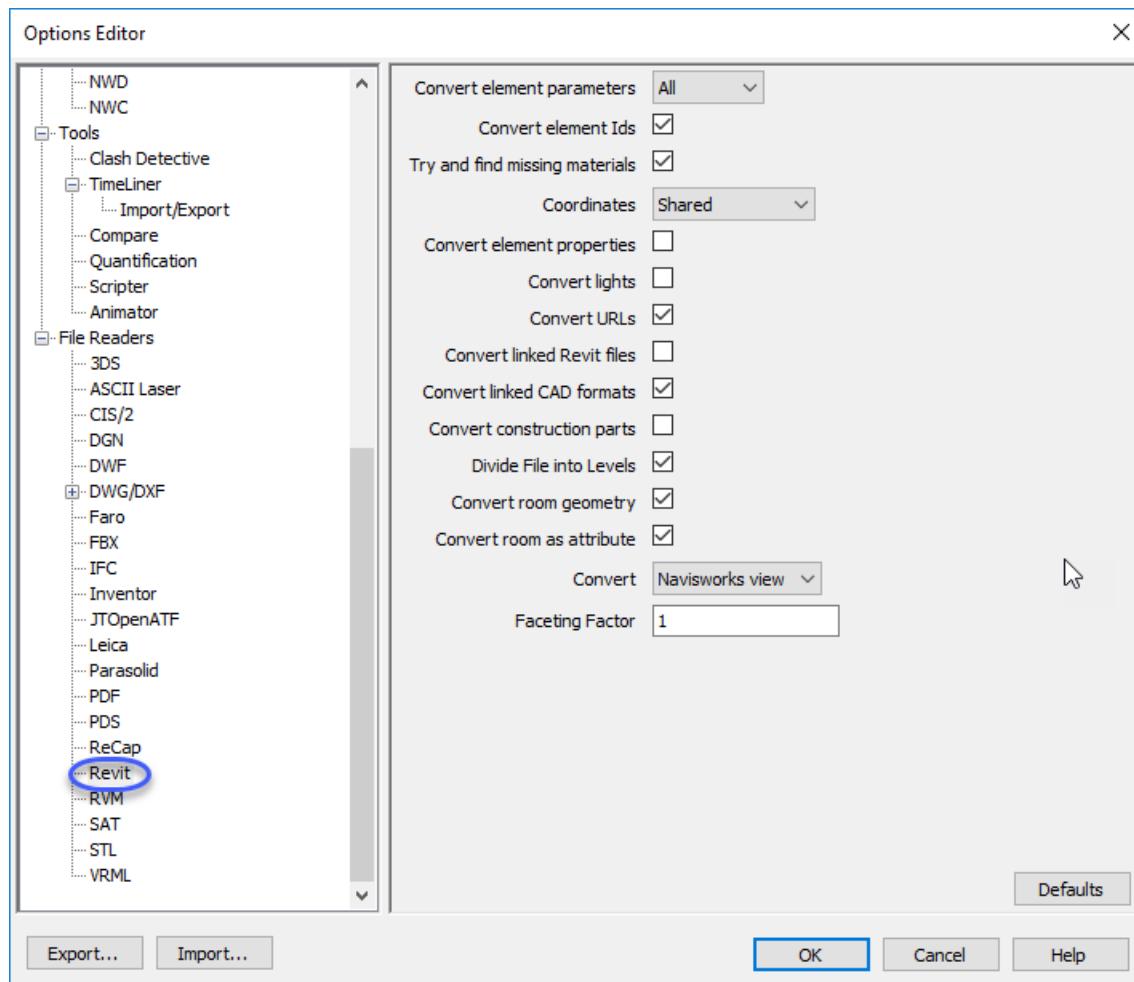
File Readers item in the left panel> choose **Revit**, see the image below). All in all, export/import settings are quite similar.

Make sure to:

- export the entire project, not the first 3D view (if exported from Revit),
- convert construction parts, elements, element ID's (both export/import)
- Use the **Shared Coordinates** option (both export/import). Note that when Navisworks and Revit sources are combined within the same Revizto model, the resulting view may appear to be corrupted due to coordinates mismatch. Before exporting Navisworks source data, make sure that it uses the same set and type of coordinates as the Revit file.
- Do not use the **Convert linked Revit files** option. Revit projects can have numerous embedded files and including them into your export can cause software failure or very long delay.

Pay attention to the **Faceting Factor**. It is responsible for the way circular shapes are rendered. It is not recommended to use high values for large working projects. Although a higher factor means better view, it also results in higher system load and slower operation. Yet, you may use higher factors when creating small Revizto models designed for presentation purposes.

Also, when Revit project is initially exported to Navisworks, and then exported to Revizto via Navisworks, you have to make sure that all data from Revit has been duly exported and added in Navisworks.



Tip: For additional options for compressing projects, see the [Project Optimization](#)¹⁰⁵ section below.

Grouping and Exporting Clashes

More info needed for the section

Navisworks clashes are exported to Revit as issues. Note that exporting separate clashes is not recommended. You have to make sure that clashes are conveniently and logically grouped within the source file.

To group clashes in Navisworks, you can either use its own functionality or the relevant feature of the Revit plug-in. Also, third-party grouping tools are available in the market.

If Navisworks grouping is used:

1. Create your own tests for clash detection. Note that you may want to define rules. Run your test in Navisworks to detect clashes matching your rules. It is not unlikely that you get several thousands of clashes. If not grouped, each is exported to Revit as a separate issue which is not convenient. Therefore, grouping is recommended before exporting.
2. In Navisworks you can select clashes, right-click and add them to a new group. Then each exported clash group will represent an issue in Revit.

Test 1

Last Run: Thursday, October 12, 2017 7:03:28 AM
Clashes - Total: 15021 (Open: 15021 Closed: 0)

| | Name | Status | Clashes | New | Active | Reviewed | Approved | Resolved | |
|--|------------------|--------|---------|-------|--------|----------|----------|----------|--|
| | Test 1 | Done | 15021 | 15021 | 0 | 0 | 0 | 0 | |
| | Test 1 (central) | New | 0 | 0 | 0 | 0 | 0 | 0 | |

Add Test Reset All Compact All Delete All Update All

Rules Select Results Report Collapse to hide test list.

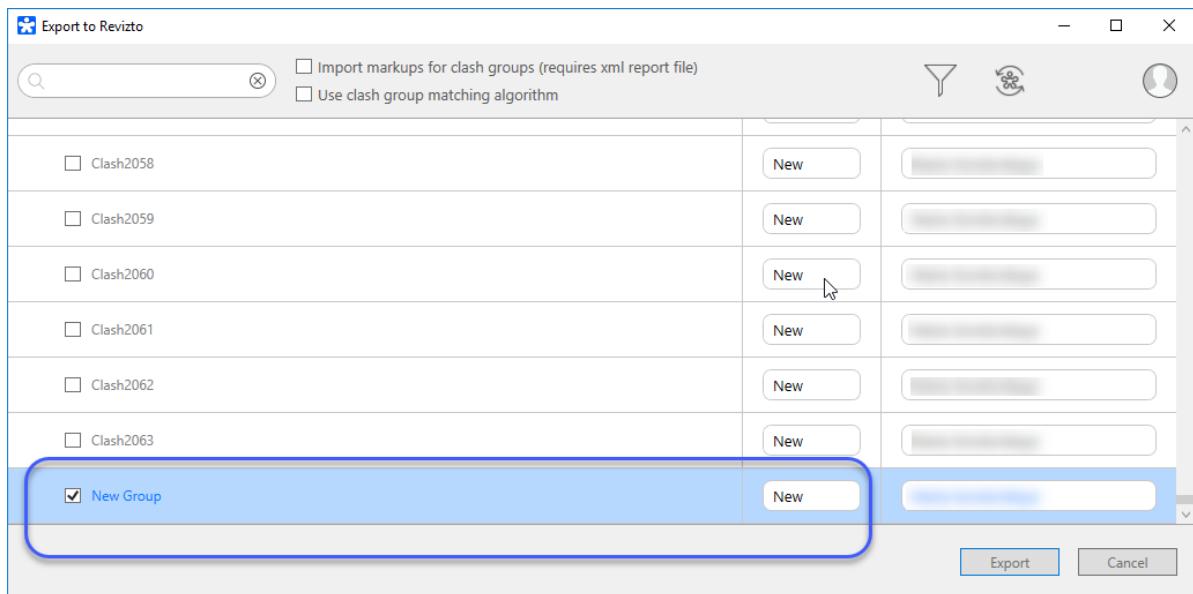
New Group Assign Re-run Test

None

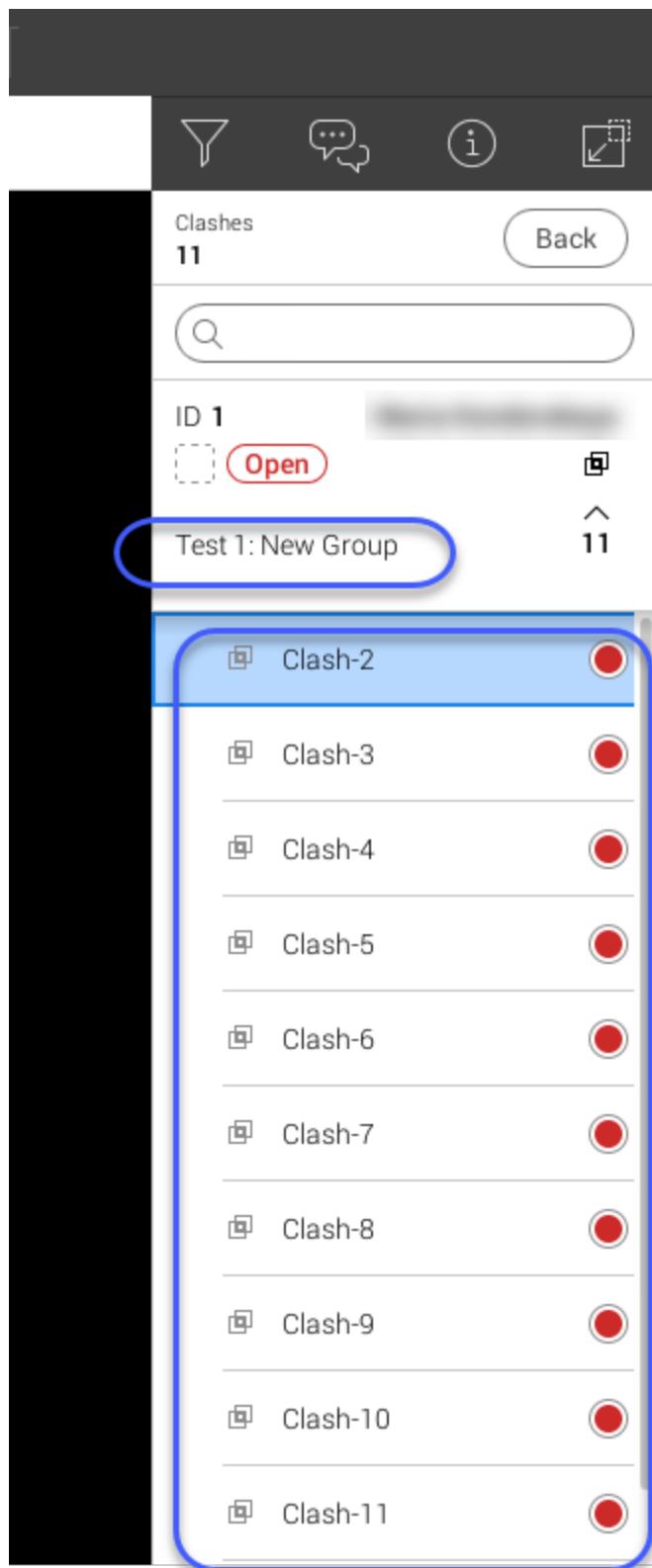
| Name | Approved... | Approved | Description | Assigned To | Distance |
|-----------------------------|-------------|----------|-------------|-------------|-----------------|
| [Results101...] | | | | | 0.000 m |
| [Results1-100 6 12-10-2017] | | | | | -2.392 m |
| Clash1 6 12-10-2017 | | | | | -2.392 m |
| Clash2 6 12-10-2017 | | | | | -1.820 m |
| Clash3 6 12-10-2017 | | | | | -1.792 m |
| Clash4 6 12-10-2017 | | | | | -1.657 m |
| Clash5 6 12-10-2017 | | | | | -1.542 m |
| Clash6 6 12-10-2017 | | | | | -1.434 m |
| Clash7 6 12-10-2017 | | | | | -1.433 m |
| Clash8 6 12-10-2017 | | | | | -1.414 m |
| Clash9 6 12-10-2017 | | | | | -1.411 m |

Items

3. After grouping clashes, go to Revizto plug-in and click **Sync Clashes**. Note that you have to save your Navisworks file before. At this point you can also link clashes to a new project. Revizto plug-in processes clashes and builds and export list.
4. Activate checkboxes by the names of clashes/groups you want to include in your export. Click the **Export** button.



In case of successful export, the exported group is displayed as a single [issue](#) ¹⁷⁹ in Revizto with the **Open** status. This issue can be expanded to review and manage separate clashes within it.

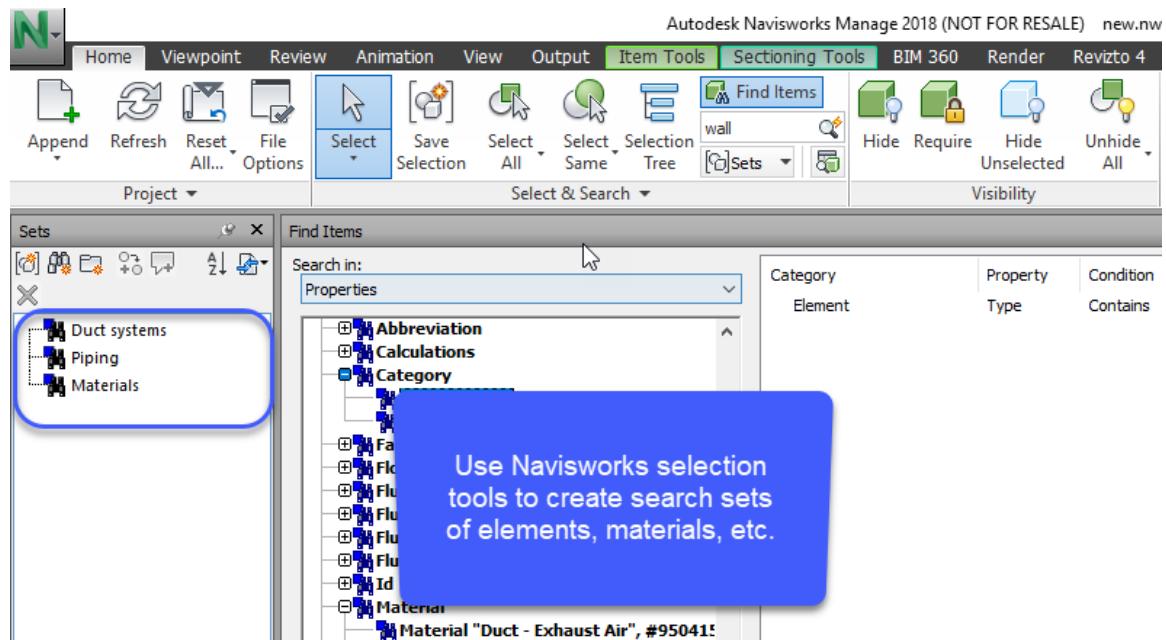


Revizto plug-in offers its own functionality (Intersect Search Sets) for building clash tests and grouping clashes for export. Note that this feature only builds clash tests for search sets. So,

before using it, you have to create custom search sets, each including objects you have to intersect (i.e. clash).

If Revizto grouping tool is used:

1. Make sure to create your own search sets in Navisworks. For example, they may include ducts and pipes, or walls and pipes, etc.



2. Then launch the Revizto plug-in and click **Intersect Search Sets**. Your sets will appear in a separate window.
3. Define the test, i.e. select a set or sets on the left and on the right to intersect them and detect clashes, if any. Click OK to save your settings as a clash test. Your test will be available in the **Clash Detective** window of Navisworks.
4. Run your test/s. Then export results. Note that with Revizto intersection option used each test is exported as an issue (i.e. a group of clashes).

6.3 AutoCad/ArchiCad

Under construction

6.4 Rhinoceros for Windows

under construction info pending

6.5 SketchUp

under construction

Project Management

Revizto-based project collaboration involves using the web workspace web-GUI (license manager), Revizto Viewer software and Revizto plugins integrated into source software.

Project collaboration is an iterative process that includes:

- Project creation
- Export of source files to create viewer scene (a new project can be created at this stage as well)
- Issue creation and management (collaboration)

Note that the flexible system of user access level allows limiting high-level functions like file export and export scheduling, to specific employees. Issue handling is available to editors of source files who get issue status updates via plugins (again the level of access to the issue workflow is editable).

7.1 Creating a Project

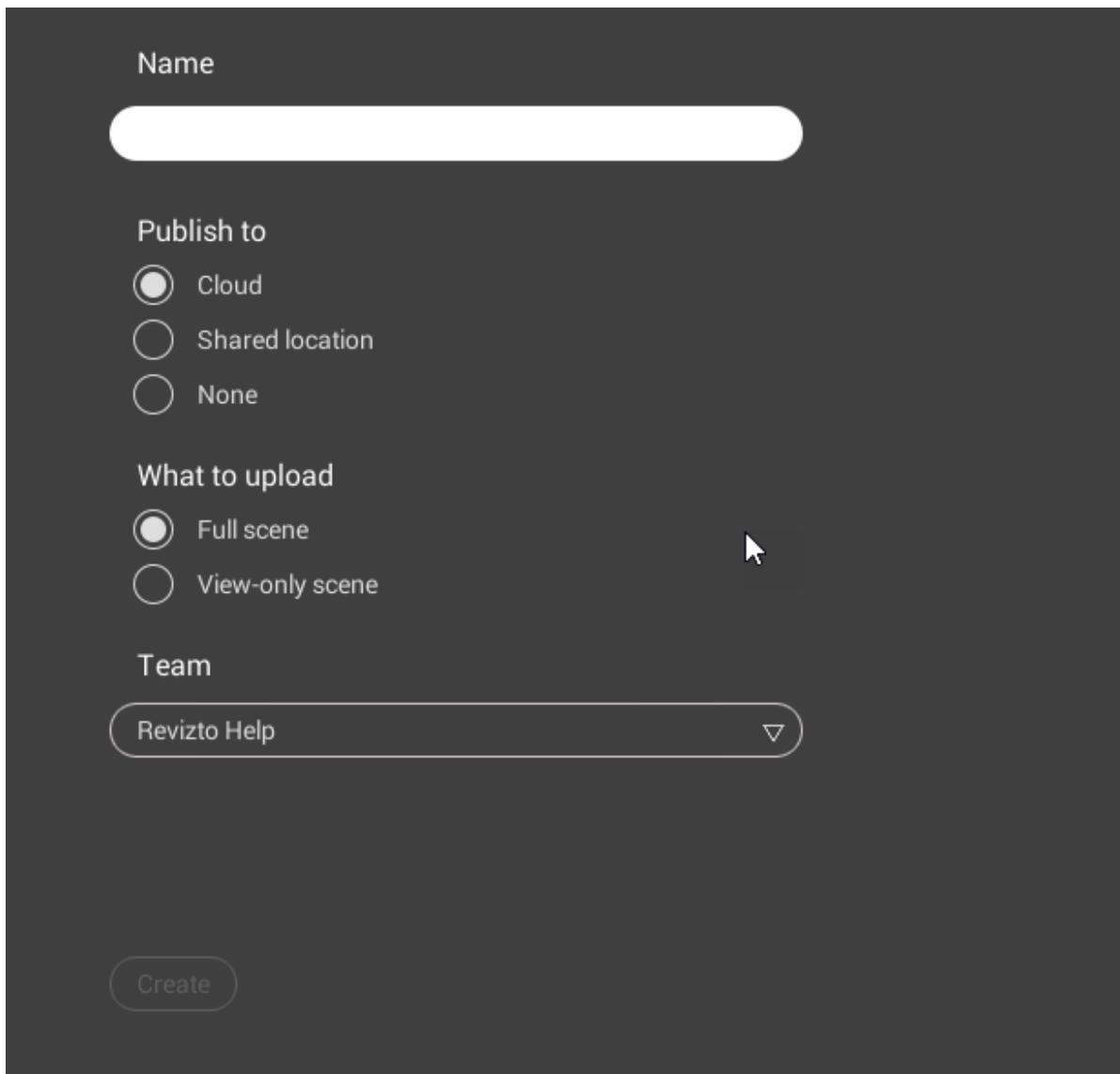
There are two points where a new collaboration project can be created:

- Revizto Application
- Revizto plug-in in a source program

The preferred option depends on the business process. Note that to create new projects, you need at least Content Creator license role because each new project requires a license.

To create a new project in Revizto:

1. Go to **Project > New** in the main menu.
2. Fill in the form that opens.
 - a. Enter the project name.
 - b. Choose where the project will be published. Cloud is the preferred and recommended option. Revizto offers highly available clouds powered by Amazon servers. If cloud storage is selected, all project data (models and issues) are exported to it. Shared location implies that models are stored locally (e.g. on a server available to all team members) while user data, issues and related data is uploaded to the Cloud. None means that Revizto will only be used locally (i.e. not synchronized/published). Note that, while the option is available as some customers request it for security reasons, it is not recommend it and prevents the customer from using Revizto to its full potential. Also, even if you prefer not to share data, you will still need to connect the web once in while to register and manage the license, edit access rights, etc.
 - c. Choose whether to fully upload models (with all the background data and properties exported from the source program) or to upload view-only scenes (presentation option).
 - d. Choose team. By default the current license name is selected. You can choose another team if you have several active licenses or collaborate as a guest within several teams.



3. Click the **Create** button.

At this point the project is considered created and information about it appears in the Web-GUI. A project license is used. Although you are automatically redirected to the team building view, you can stop now and get back to team creation later. Same is true about model upload. You can create an empty project and later upload content to it.

To create a new project from Revizto plug-in:

1. Launch the [export process](#)⁵⁶ in any source program and choose the **Create New Project** option. For more details on export, see the relevant [section of this Guide](#)⁵⁶.

Note that when a new project is created via a plug-in export and model creation are carried out immediately. Yet, the project remains local and not added to the license until you edit its properties.

2. Open Revizto and find your project in the project list (to find it quicker, limit your search to local projects).
3. Double-click on the project tile to open it. Click the **Sync** button at the top menu.
4. Define your sharing, publication and licensing settings in the form the opens (similar to the project creation screen described above).
5. Click the **Upload** button. Once uploaded, your project will be duly created with a license used.

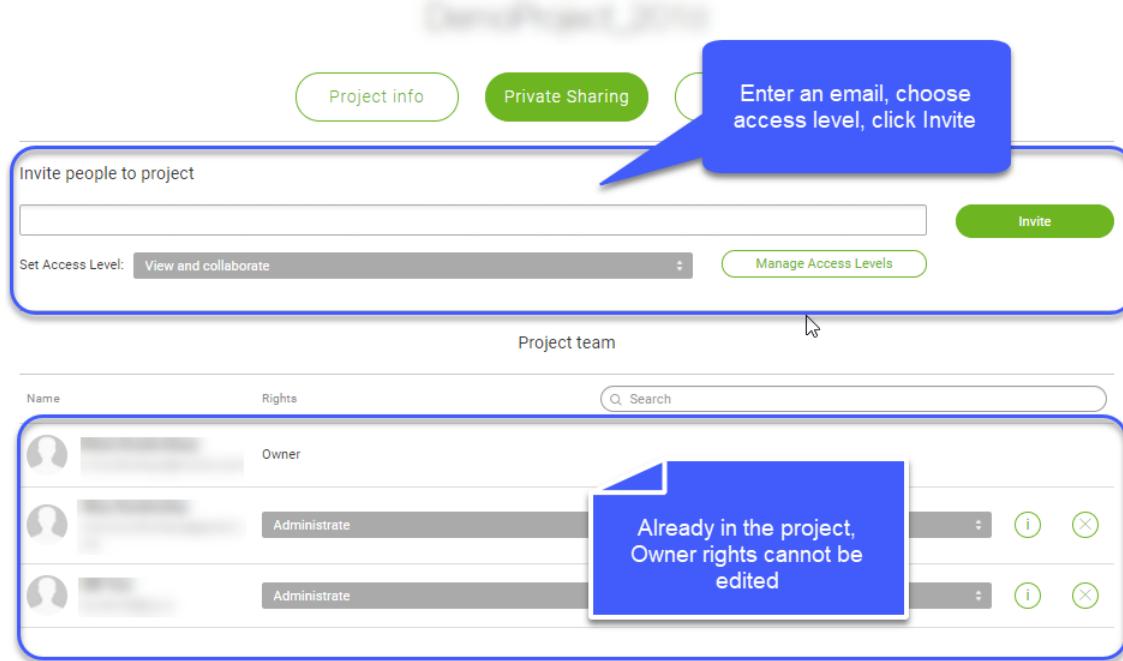
You can proceed to [team creation](#)⁷⁷ and [collaboration](#)⁷⁹ (issue management).

7.2 Creating and Managing Project Team

To invite a user to a project from the Web GUI:

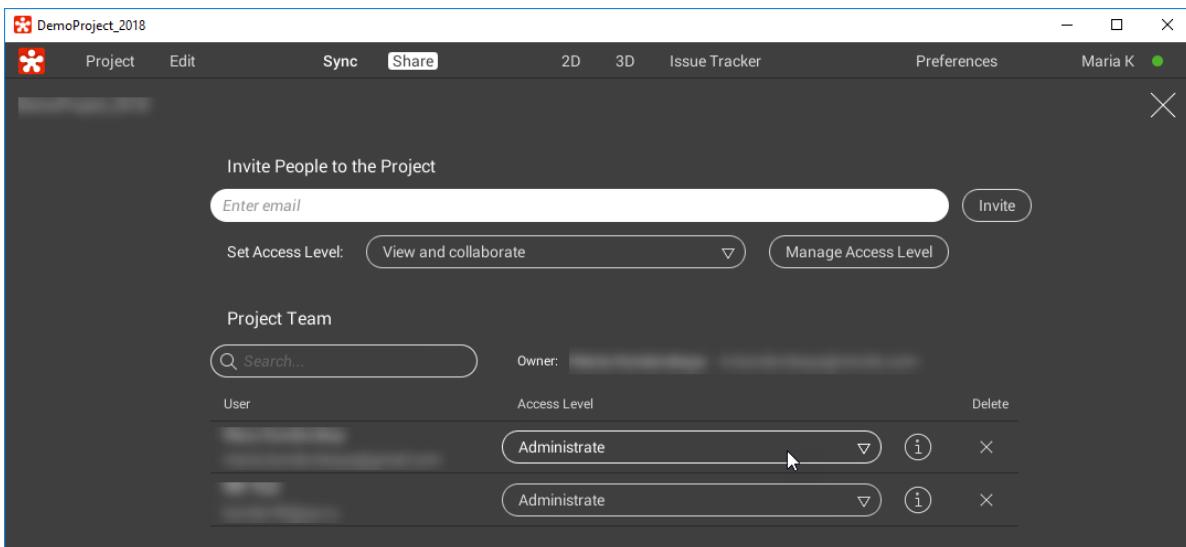
1. Log in to your workspace.
2. Navigate to the **Private Sharing** view (**Manage Projects** > choose a project).
3. Enter a valid email address of a person you want to invite. Choose an access level in the **Set Access Level** field.
4. Click the **Invite** button.

The user will then receive an invitation email from Revizto and will be able to download Revizto and join the project.



To invite a user from Revizto application:

1. Open your project in Revizto. Navigate to the **Share** menu.



2. Enter email of the person you want to invite to the project into the entry field. You can enter multiple email addresses, if you plan to give several users the same [access level](#)⁷⁸.
3. Choose project access level for the user in the **Set Access Level** list. Note that you can create custom access level, if you have administrator rights (see [Managing Project Access Rights](#)⁷⁸).
4. Click **Invite**. The invited users will receive email notifications to join the projects. Note that if new project members are not in your current Revizto team, they will automatically get Collaborator or Guest [license role](#)³⁴.

7.3 Managing Project Access Rights

By default, there are three access levels available in Revizto projects:

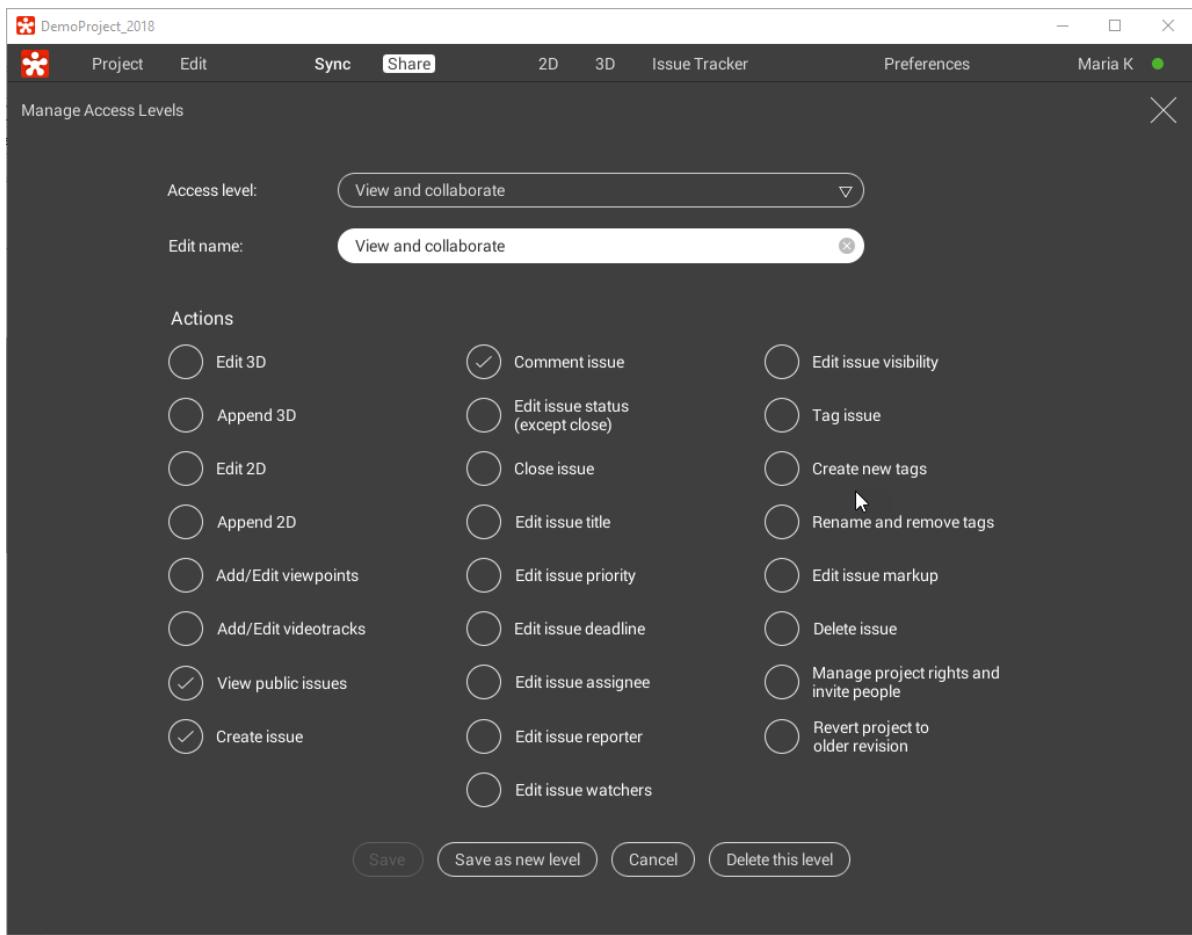
- Administrate
- Edit content and collaborate
- View and collaborate

Project owners can edit/create project access levels. Note that changes they make are only applied at the project level (unlike changes made by the [License Owner](#)⁴ (the SuperAdmin) or by a license level Administrator in the Web GUI).

Any time you invite a new user to your project, you have to assign rights to them. Note that if an invitation is issued to a person who has no team-level license, a collaborator/guest license is issued to them simultaneously.

To edit/create a new access level in Revizto application:

1. Open a project.
2. Go to the **Share** screen.
3. Click the **Manage Access** button.
4. Repeat steps 3-4 of the procedure provided for the Web GUI [access rights editor](#)⁴⁰ (the interface form is similar to that in the Web GUI). Note that you have to be the project owner, or license level Administrator/SuperAdmin to edit project access rights.



Note that even a project administrator cannot edit their own access rights.

7.4 Issue Management (Collaboration)

General Issue LifeCycle

1. Issue is created:
 - a. created in Revizto (Revizto plugin in the source software) and assigned to a team member. Issue status is ***Open***.
 - b. Imported as a clash from Navisworks
2. The assignee receives an email notification (if configured). The issue automatically becomes available to the assignee in Revizto.
3. Optionally, relevant team members can be assigned as issue watchers. Issue becomes available to them for feedback and comments.
4. The assignee changes issue status to In progress and starts working on it. If needed, an open issue can be reassigned to another team member.
5. When the issue is considered resolved its status is changed to ***Resolved***.

6. The issue creator reviews the issue and closes it or changes its status back to **In Progress**. Note that a closed issue can be reopened.

Reporting an Issue and Defining its Settings

From Revisto/Viewer

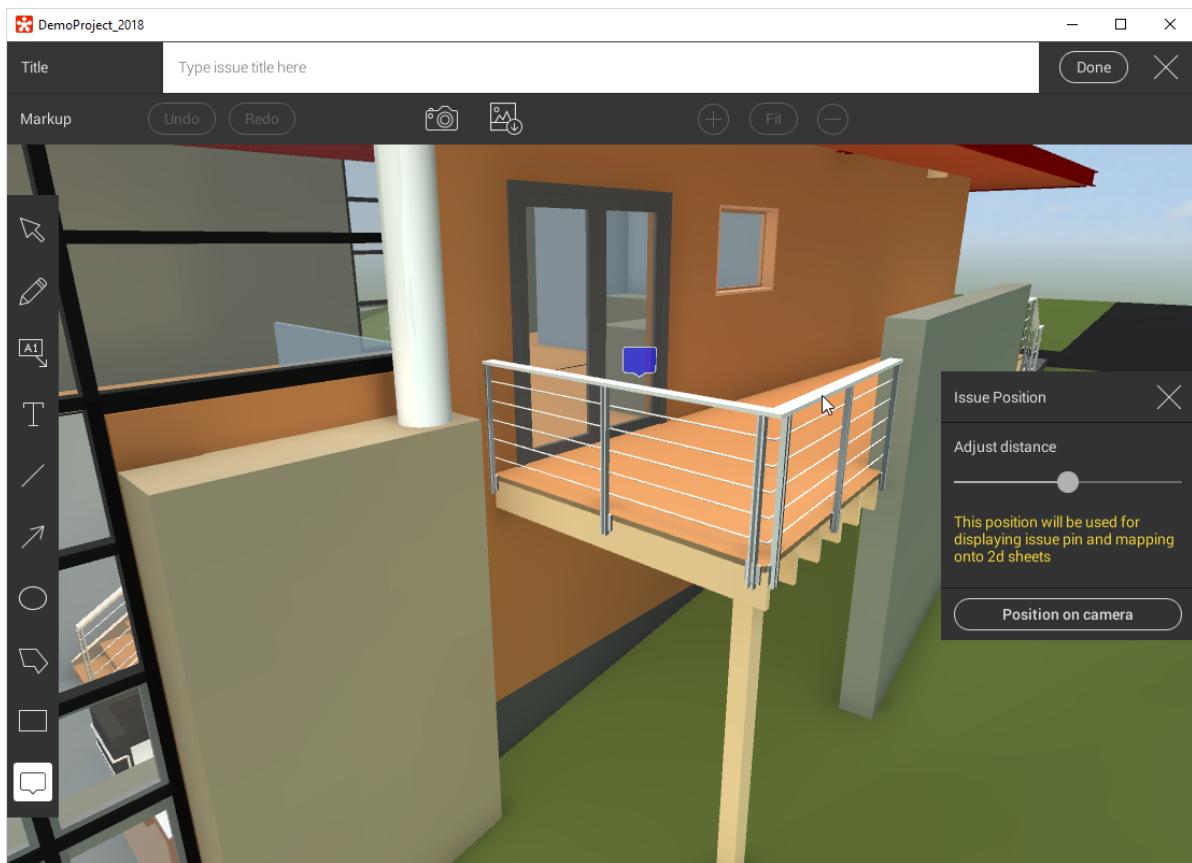
To create an issue:

1. Navigate to the place where the issue is best visible in the 2D or 3D view (select the view in the top [GUI](#)¹⁸⁹ menu).



2. Click the icon in the top/bottom tool bar, if you are happy about visibility of an object that caused an issue. If you are creating an issue from 3D, you can also use available [controls](#)¹⁹³ to ensure the issue can be accurately spotted from the source tool (e.g. Revit) and then click the icon.

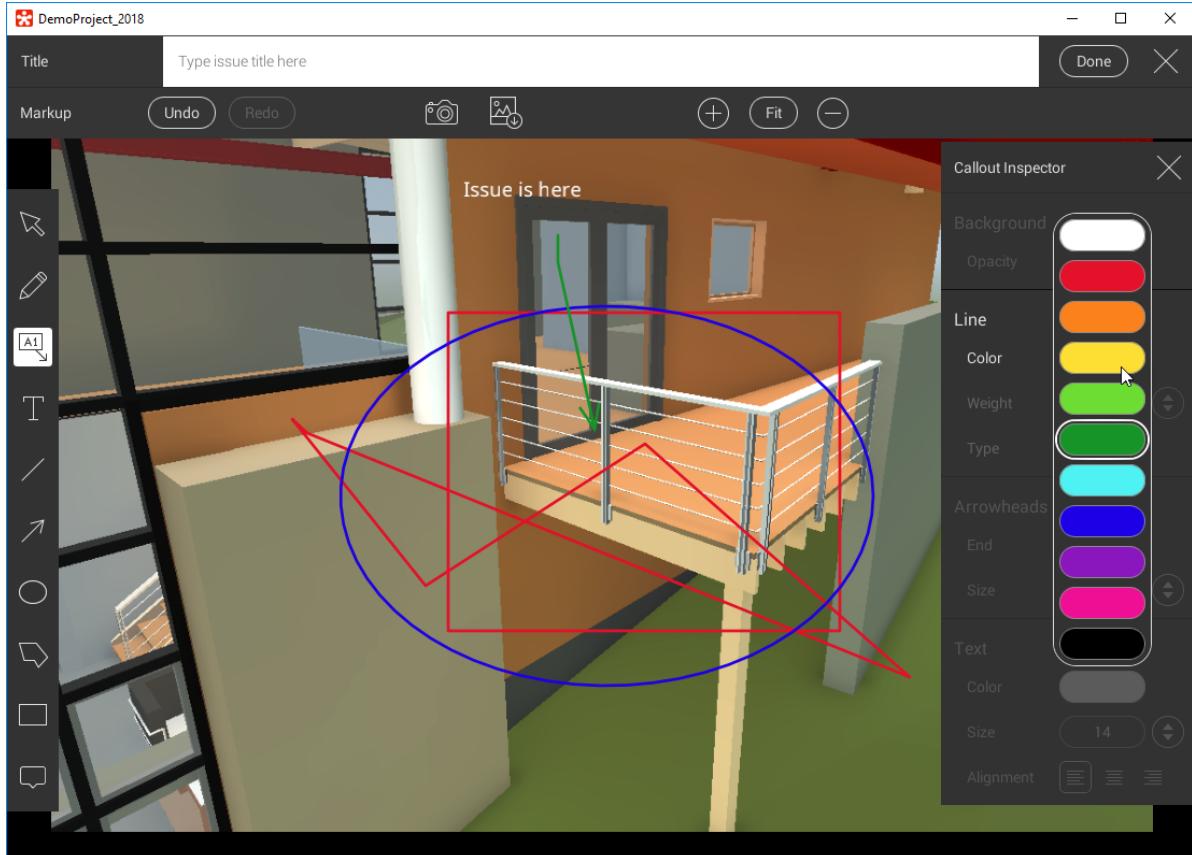
The issue editor opens. It has a transparent set of drawing tools you can use to highlight issue details. By default the Issue positioning option is selected.



3. Make sure the issue pin (navy callout for Revizto own issues and icon for Navisworks clashes) is positioned correctly. Use the positioning tool to adjust it. Positioning is crucial to the way issue is displayed on 2D sheets. Choose the **Position on camera** option, to locate the issue at the camera current position.

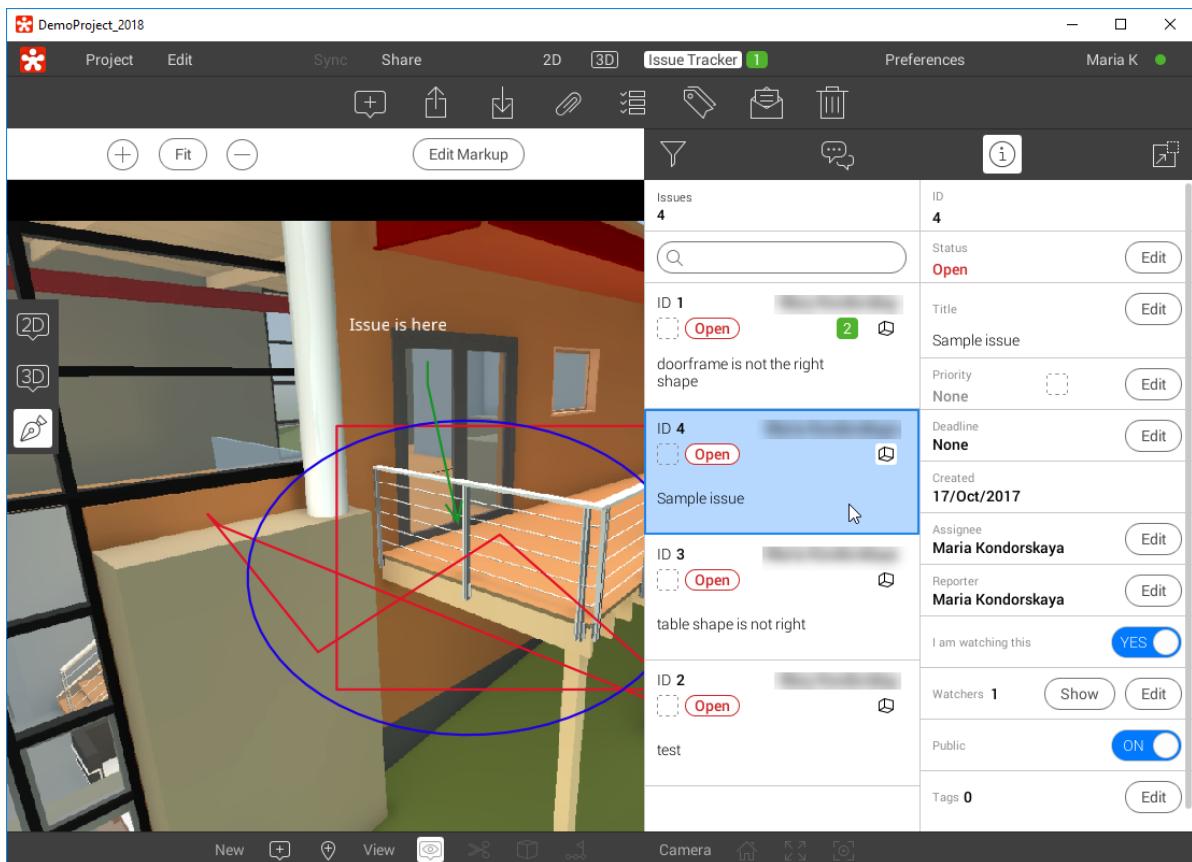
4. Use other graphical tools to highlight issue details. You can draw rectangles, circles, lines; add callouts, etc. You can also add an external image or take a screenshot.

Tip: Use GUI [hot keys](#)⁹¹ to quicker mark up your issue.



5. Enter the issue name into the **Title** field at the top of the screen. Click **Done**.

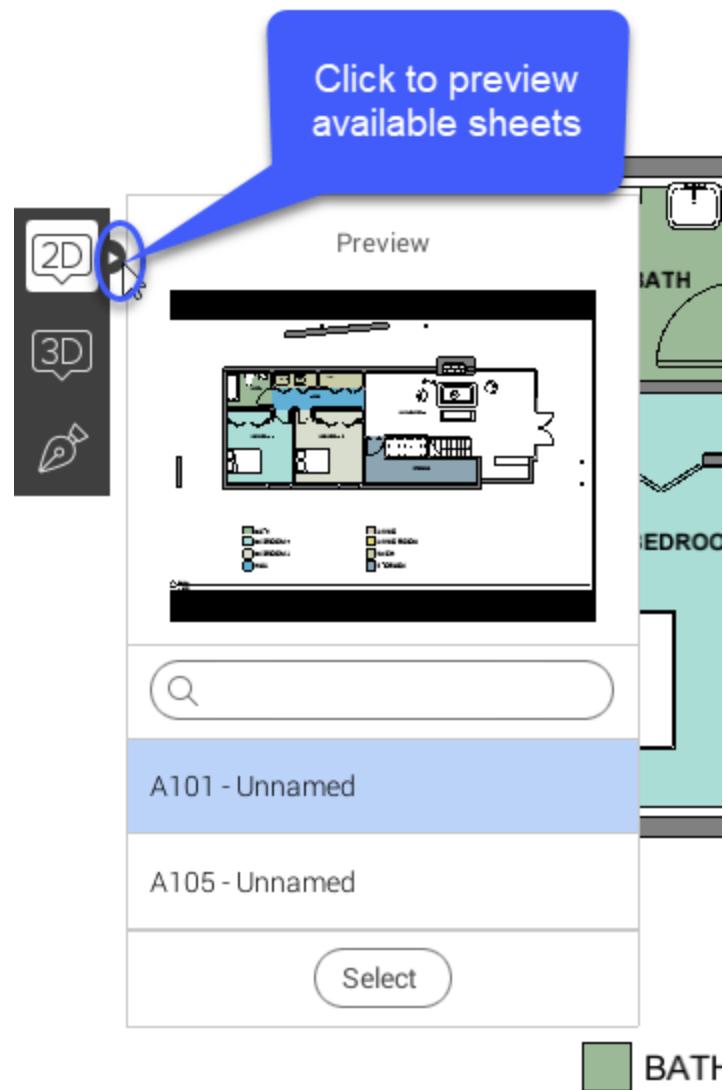
Revizto takes you to the **Issue Tracker** view. The newly created issue is selected. Its status is set to **Open**.



You can go on managing the issue content (i.e. get back to editing markup) and define the issue processing settings:

- status
- priority
- deadline
- reporter
- assignee (selected from [the project participants](#)⁷⁷)
- watchers (selected from the project participants)
- visibility: by default, issues are **Public**, that is visible to all project participants; if you turn the switch in this field off, the issue becomes restricted to the reporter, assignee and watchers.
- tags (optimize search and selection)

Note that issues created from 3D and from 2D are indicated differently in the issue list. You can open any 3D issue in 2D (use the view switch on the left) and vice versa. When 2D issue view is selected, Revizto offers all sheets where the issue location is shown. Yet, for issues initially created in 2D the original sheet comes first in the list. for 3D issues Revizto sorts available 2D sheets according to their similarity to the 3D viewpoint where the issue was created.



When you browse issues in 2D, the active issue is highlighted in blue, other are highlighted in red. To switch from issue to issue, click on a pin.

For more details on Revizto navigation options, available objects, view modes and tools, refer to the [Model Elements and Controls](#)⁹³ section and to the [Using 3D controls to create an Issue Example](#)⁹⁵ sub-section.

Reporting an Issue from a Plug-in

There is no issue reporting functionality in Revizto plug-ins. To report an issue, open the required source file and click the **New Issue** button in Revizto plug-in. It launches the relevant Revizto model in the application and allows [creating an issue](#)⁸⁰ from there.

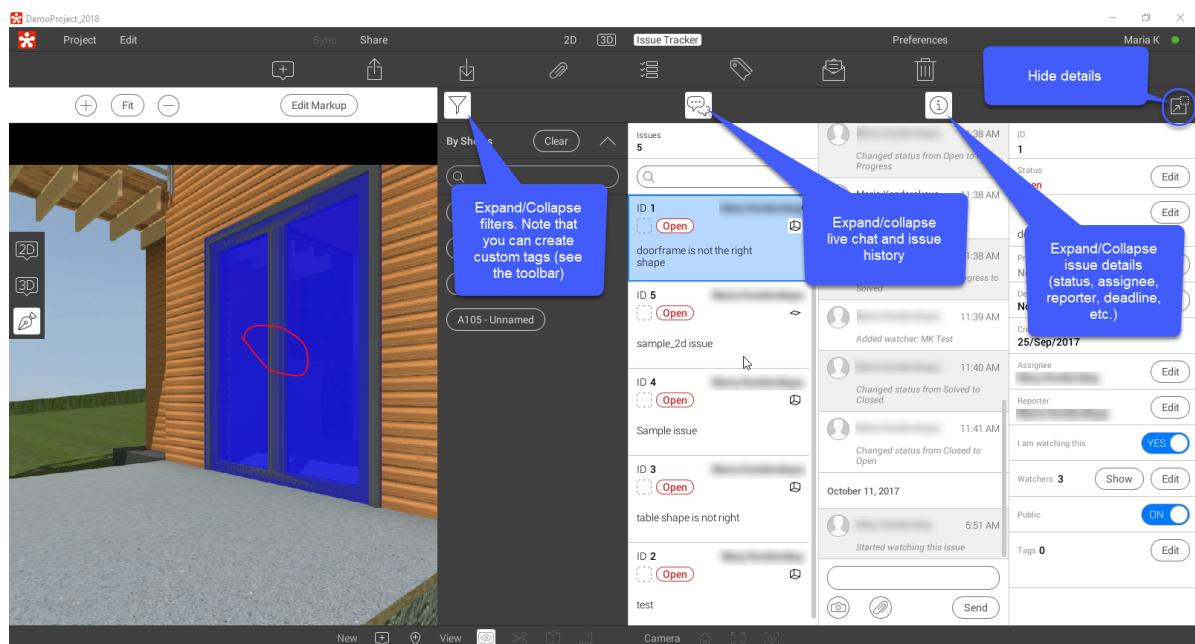
Issue Processing

In Revizto

Team members can review issues available to them in the **Issue Tracker** mode (as a rule, team members get [notifications](#)⁵³ about changes in issues they reported, assigned to them or watched by them).

The **Issue Tracker** offers the following options:

- expand/collapse issue details to view and edit them
- expand/collapse issue chat to collaborate in realtime with the team
- expand/collapse filter panel to browse across issues. Note that you can create your own tags to filter issues. Filtering by sheet is available to both issues created from 3D and 2D; if the issue location is on the sheet, filter considers it a match



In Source Plug-ins

There is no issue tracking functionality in Revizto plug-ins. To access a current issue and take part in collaboration, open the required source file and click the **Track issue** plug-in button. It launches the relevant Revizto model in the application and shows issues available to the current user.

Tip: When you view issues in Revizto, keep the source software (Revit, Navisworks, etc.) open with the **Issue Tracker** plugin button pressed. Then, by selecting an issue in Revizto you will be able to see the relevant part of the structure both in Revizto model and in the source software. Note that you can have only one instance of source software simultaneously linked to Revizto.

Clashes

TOPIC UNDER CONSTRUCTION

7.5 Collaborator Reports

Each user can create issue reports for projects they are invited to. Reports are created in the **Dashboard** view of the web GUI ([My Projects > Project page](#)). This view allows building customized issue reports at the project level, scheduling generation and distribution time for each.



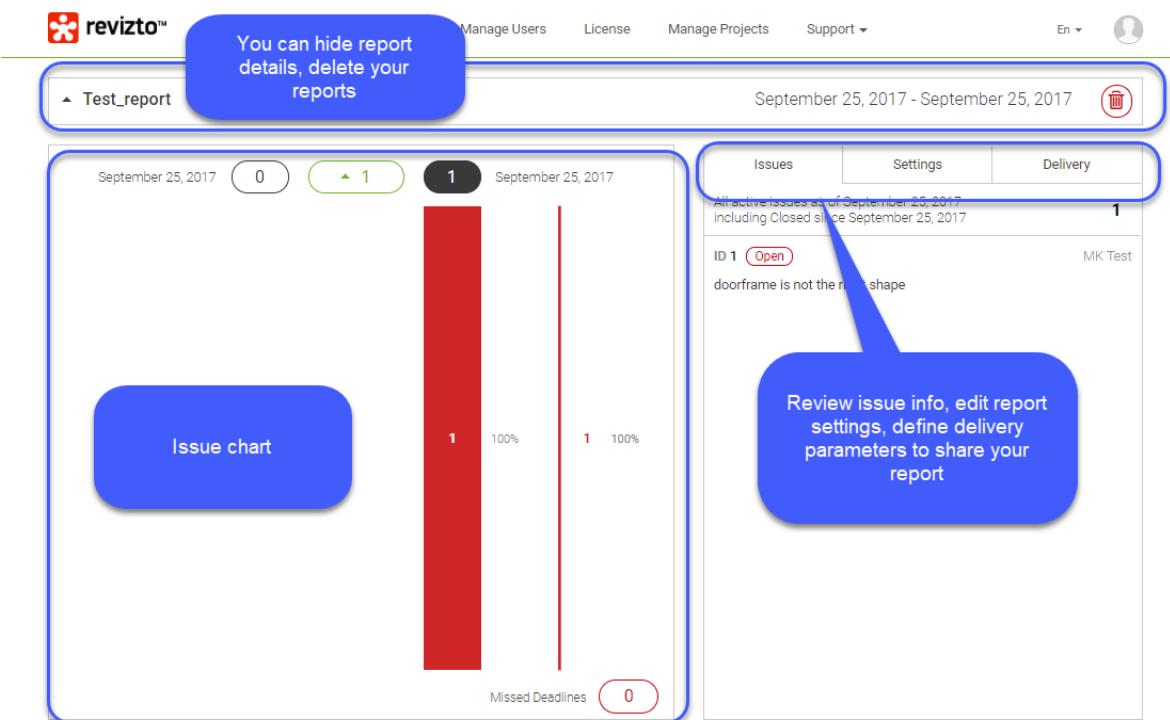
You can also navigate to this page from the Issue Tracker (✉ icon).

To create a new report:

1. Click the **Create New Report** button.
2. Define the report settings. Make sure to correctly define reporters, assignees, tags, etc.

A screenshot of a web-based reporting configuration form. The form is divided into several sections: 'Name' (input field containing 'New'), 'Time Period' (dropdown menu showing 'Previous Week'), 'Tag' (radio buttons for 'All' and 'Any', with 'All' selected), 'Assignee' (input field with a cursor), 'Reporter' (input field), and a large bottom section containing a prominent green 'Save' button. The entire form is contained within a light gray box with scroll bars on the right side.

3. Save your settings. The system immediately generates the report and displays it on the view.



4. If you want to email your report to another person, go to the **Delivery** tab of the report view. You can either launch a one-time immediate delivery or schedule regular mailings. Note that you can send reports to people outside the project and workspace. You can also define delivery format. Note that all fields are mandatory.

| | | |
|--|----------|----------|
| Issues | Settings | Delivery |
| <p>▲ Recipients</p> <input type="text"/> | | |
| <p>▲ Delivery time</p> <p>Weekday(s)</p> <input type="text"/>  | | |
| <p>Time </p> <p>1   pm  </p> | | |
| <p>▲ Format</p> <p><input type="checkbox"/> Chart <input checked="" type="checkbox"/> Excel <input type="checkbox"/> PDF</p> | | |
| <p> Save  Cancel</p> | | |

7.6 Versioning

Topic under construction

Revizto Application

Revizto is a collaboration tool that ensures interaction between several software applications. Revizto application is only one of them, therefore this guide mainly focuses on the process, not on describing specific GUI functions. Yet, there are some functions reserved to Revizto application and/or designed exclusively for it. These are covered below.

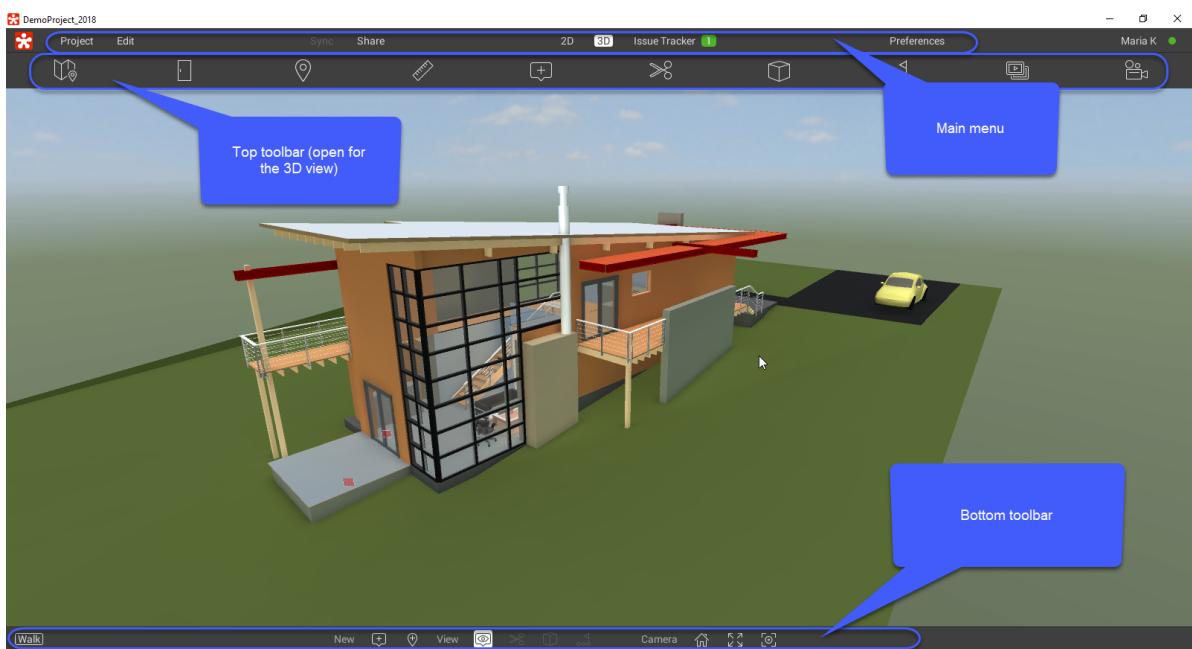
8.1 GUI Overview

Revizto offers a transparent GUI to:

- configure software settings
- manage projects
- browse models
- view them in 3D and 2D modes
- manage issues

The GUI consists of:

- the main menu that allows navigating to general configuration settings and personal settings, switching between view modes
- the top toolbar that changes depending on the selected view and current user operation
- the bottom toolbar that is quite similar to the top one. It allows users to simultaneously access several tools without navigating back and forth. E.g. you can start building a section box that has its own top toolbar and use the bottom toolbar to create a viewpoint in a new section box. Note that the  icon is located at the bottom toolbar. Use it, to get back to your default [viewpoint](#)^[93] when in 3D.

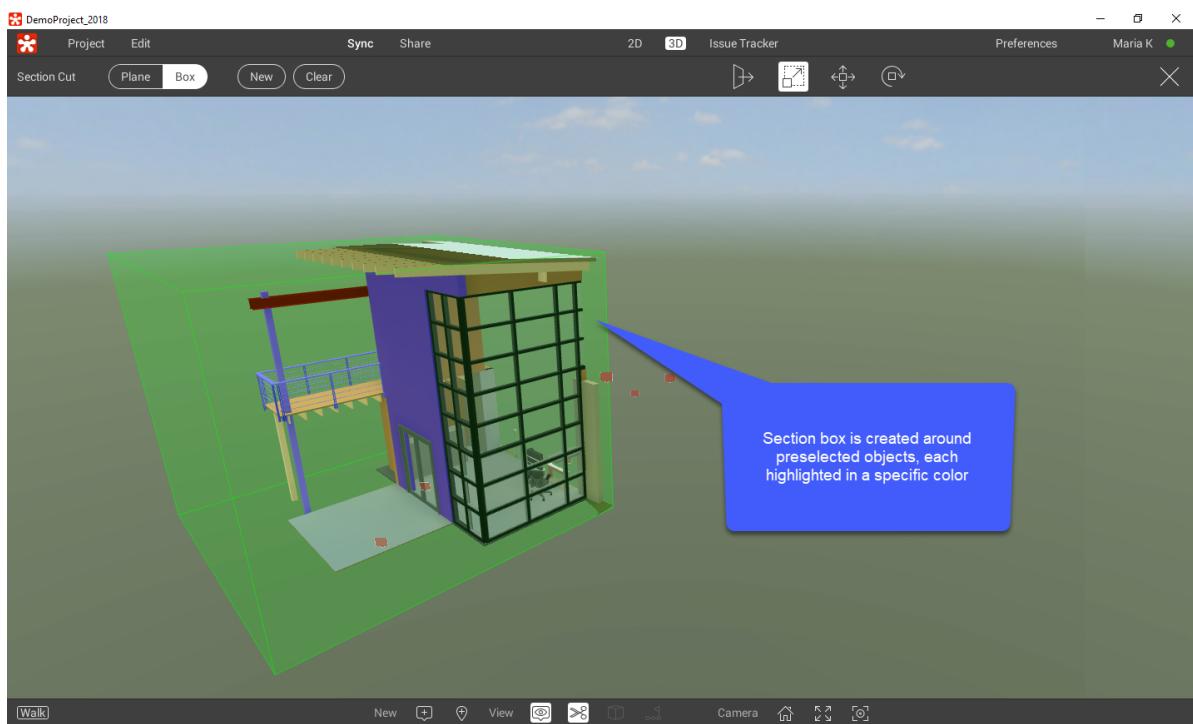


8.2 Browsing and Hot Keys

Browsing Tips

When you browse the model, you can make all issue pins invisible: deactivate the icon at the bottom toolbar.

To quickly single out and select an object, use **Ctrl+ Click** on the object. Revizto highlights the selected object with a single color. You can select several objects, each will be highlighted in a different color. Object selection is handy for [section cutting](#)^[95] in the section box mode, as the option is immediately applied to your selection.



Hot Keys

| Function | Key Combination |
|-----------------------------|--|
| General | |
| Switch to 2D mode | 2 OR Ctrl+E (the latter option only available from scene, not from other views like, e.g. Preferences) |
| Switch to 3D mode | 3 |
| Switch to the Issue Tracker | 4 OR Ctrl+I |
| Open the Project gallery | Ctrl + O |
| Import a project | Ctrl+Shift + O |
| Browse by Rooms | Ctrl + R |
| Launch Section cut | Ctrl + X |
| Browse by objects | Ctrl + B |

| | |
|--|-------------------------------------|
| Launch Ruler | Ctrl +M |
| Go to the home Viewpoint | Home icon OR Ctrl+H |
| Create a Video Track | Ctrl+T |
| Browse by Viewpoints | Ctrl+W |
| Create a new issue | Ctrl+Shift+I |
| Open a Map | M (only available from the 3D view) |
| Multiple object selection | Ctrl + click |
| Teleport (i.e. choose a spot in the 3D view and go directly to it) | Alt+click |
| Increase the Field of view | + |
| Decrease the Field of view | - |
| Restore default Field of view | 0 |
| Hide the right toolbar in tracker, object, rooms, viewpoints, camera share modes | Tab |
| Quit | Esc |
| Navigation modes | |
| Video game | F5 |
| Revit | F6 |
| Sketch Up | F7 |
| Hybrid | F8 |

| | |
|--|----------------|
| Navisworks | F9 |
| Fly/Walk mode (reverse mouse, if available) | R |
| Markup Mode | |
| Pen | P |
| Callout | Q |
| Text | T |
| Line | L |
| Arrow | A |
| Ellipse | E |
| Polyline | Shift+P |
| Rectangle | R |
| Edit mode | Space key OR V |

Topic under construction

8.3 3D Elements and Controls

Revizto allows you browsing the model by objects exported from source files (e.g. by levels, phases, viewpoints). You can also create your own viewpoints, add color coding and define transparency settings.

A wide range of controls in Revizto is designed to select and highlight objects in a way that is tailored to particularities of a source program in order to make sure that an issue is clear. For example, Revit offers orthogonal and perspective camera options. As most users prefer the former, issues detected inside Revizto model can be unclear when loaded in Revit. But, when specific controls are applied to highlight them, Revit users can get a clear view of each issue.

Elements

Section under construction

Levels

Viewpoints



Initial viewpoints (location pin) are exported from source files (mainly, from Revit). You can use them to navigate in the model. Also, you can create new viewpoints for better and faster navigation or to highlight an issue location.

You can select any viewpoint in the **Home Viewpoint**. (i.e. the one displayed when you click icon at the bottom of the screen).

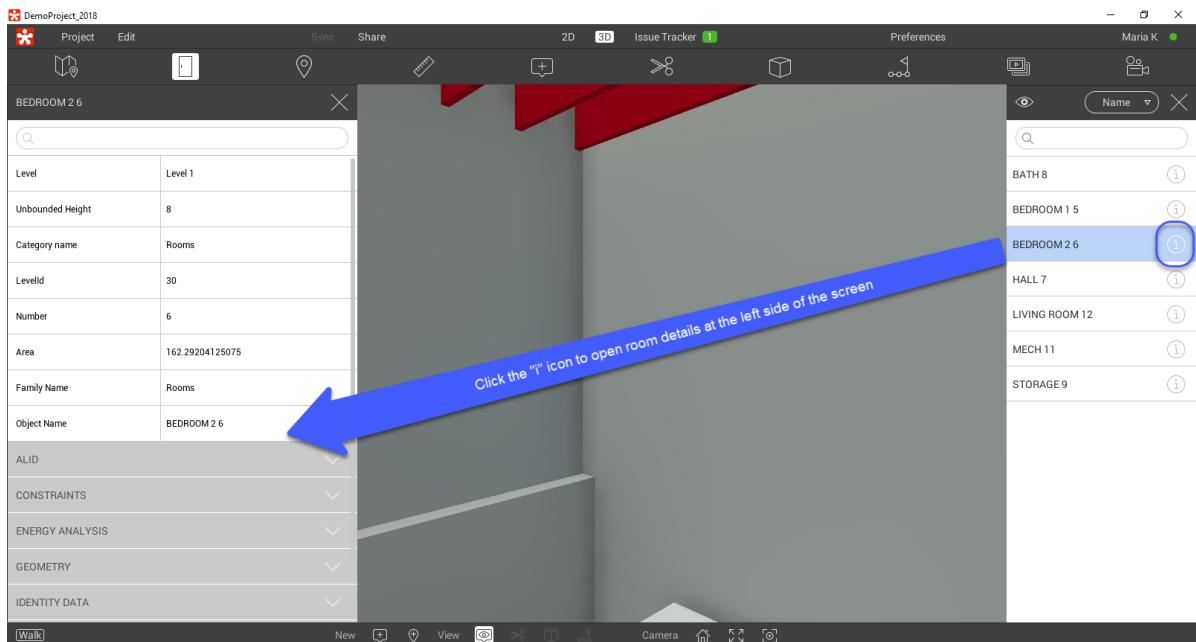
Rooms



Rooms (room icon) are also imported from source files and provide additional navigation options. When you open the list of rooms, it is displayed at the right side of the active screen. You can either navigate by the list, or click room shortcuts directly in the model.



Note that you can open room details, by clicking the icon. The details pane contains all information included into the initial source export. You cannot create new rooms in Revizto, only in the source file.



Objects

Phases

Controls

Section under construction

Ruler

Camera Share

Video

Section Box and Section Plane



The section cut option (scissors icon) allows you to cut out a fragment of the initial scene and accurately locate an issue. Revizto supports two sectioning options: box and plane.

Section box creates a box that includes the selected object/s. Note that, to easily create a box around desired objects, you can select them first (Ctrl+Click). Revizto creates a box according to its default settings and your selection, but you can adjust the sectioning:



- Move face (icon with arrows) allows moving the front face of the box



- Scale box (dashed box icon) allows changing the size of the whole box



- Move box (icon with arrows) allows moving the box without changing its side back/forth, left/right. Drag by the front or right face.



- Rotate box (circular arrow icon) allows rotating the box (drag by any plane)

Section plane (TBD)

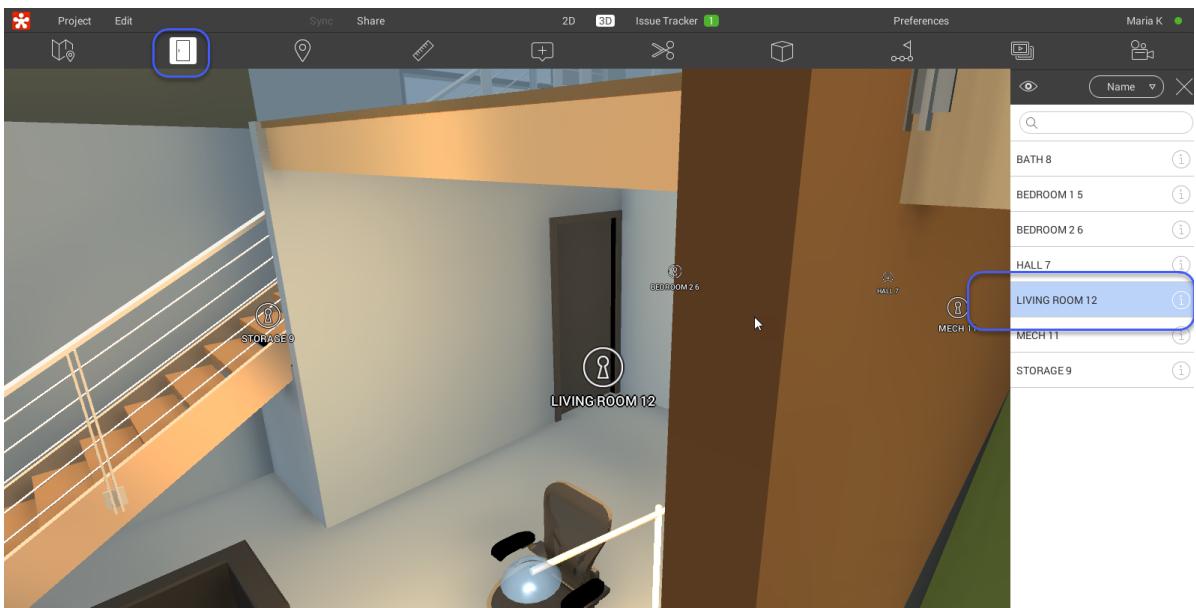
The **New** button at the top tool bar creates a new section cut with the same starting settings (point, or box) as the previous one. The **Clear** button clears sectioning settings without quitting the mode.

Note that when section cut/box is applied, some options defined in the **Graphics** view of the [Preferences](#) screen may be temporary disabled (mainly, those related to shadows).

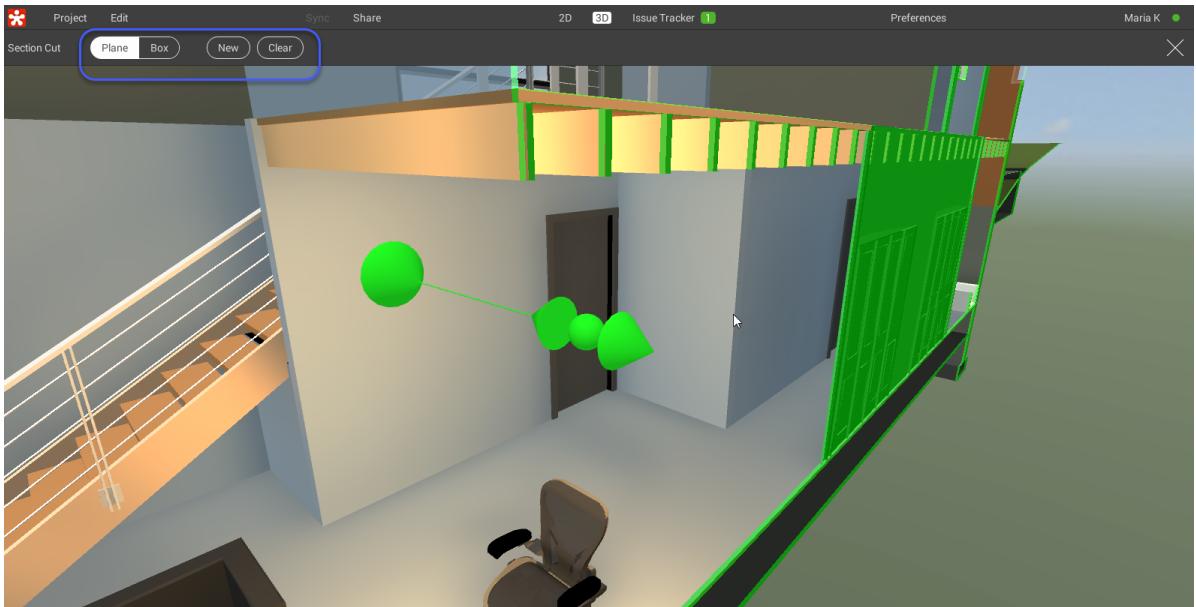
Using 3D Controls to Create Issues. Example 1

To create an issue in 3D:

1. Launch your model and go to the **3D** view (top menu option).
2. Choose a viewpoint, room or object that you want to work with. For example, let us navigate to a room (living room).

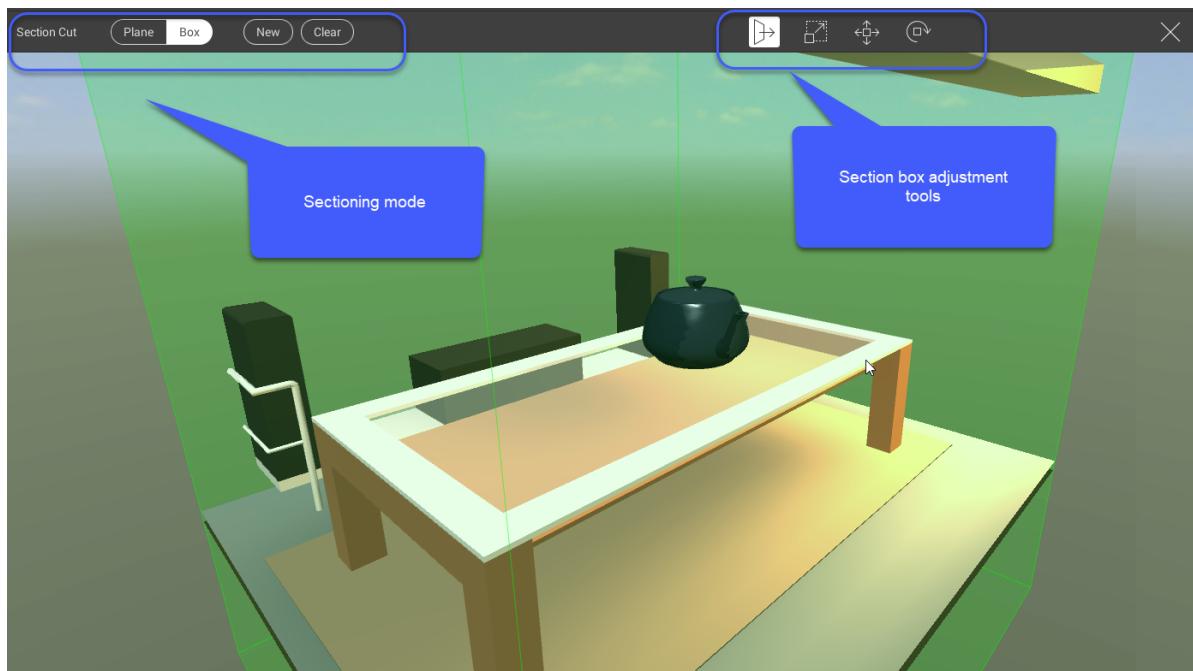


3. Then let us create a section (icon) here. For example, let us cut the side wall of the room using the **Plane** mode of the section tool.

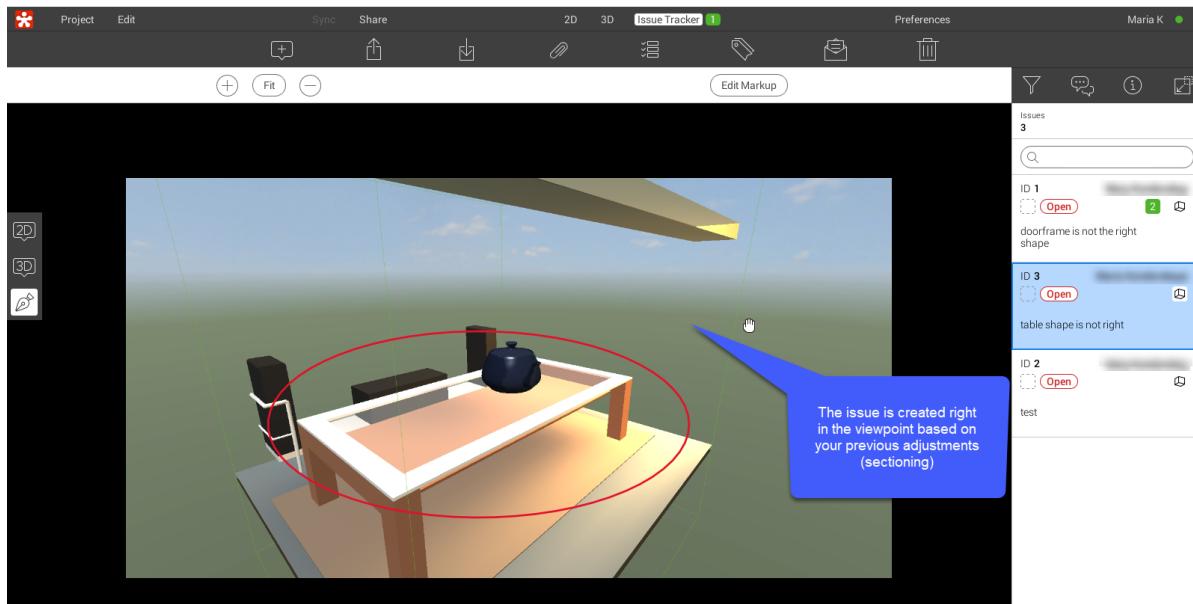


4. Then let us save the section as a view point (the viewpoint icon at the bottom of the screen).

5. Navigate to the new view point (at the top toolbar).
 6. Let us then try to create another section, using the **Box** mode this time. Let us cut out the table and save another viewpoint (your previous viewpoint are all still available as well).



7. Navigate to the newest viewpoint. Let's create an issue about the table here ().



8. Assign the issue to a source author and other collaborators.

9. Synchronize the model with the cloud.

Now, when the content editor clicks **Issue Tracker** in Revit Revizto plug-in, the relevant Revizto model opens with the new issue in it. By clicking on the issue sign (the callout icon) a user can navigate to the same spot in the source file (as long as it is open) in Revit or Navisworks. It is especially important for Revit, as it is there that issues are corrected and navigation is less transparent due to the preferred camera type.

8.4 2D Elements and Controls

TBD

Image overlay

You can overlay any 2D sheet or any image onto the 3D model.

Topic under construction

8.5 Map view

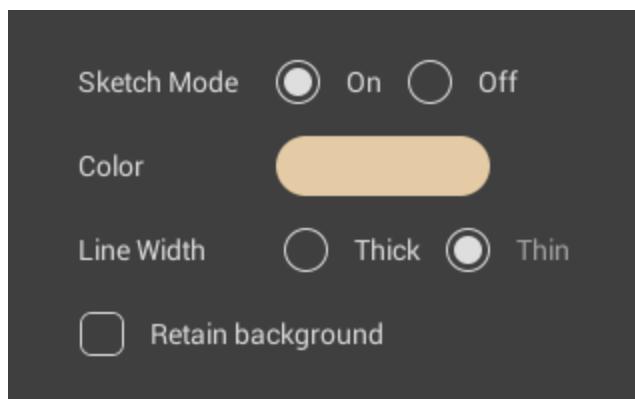
TBD info needed

8.6 Visual Effects

In Revizto you can edit the way model is visualized, you can also add a watermark displayed on any frame to copyright your files.

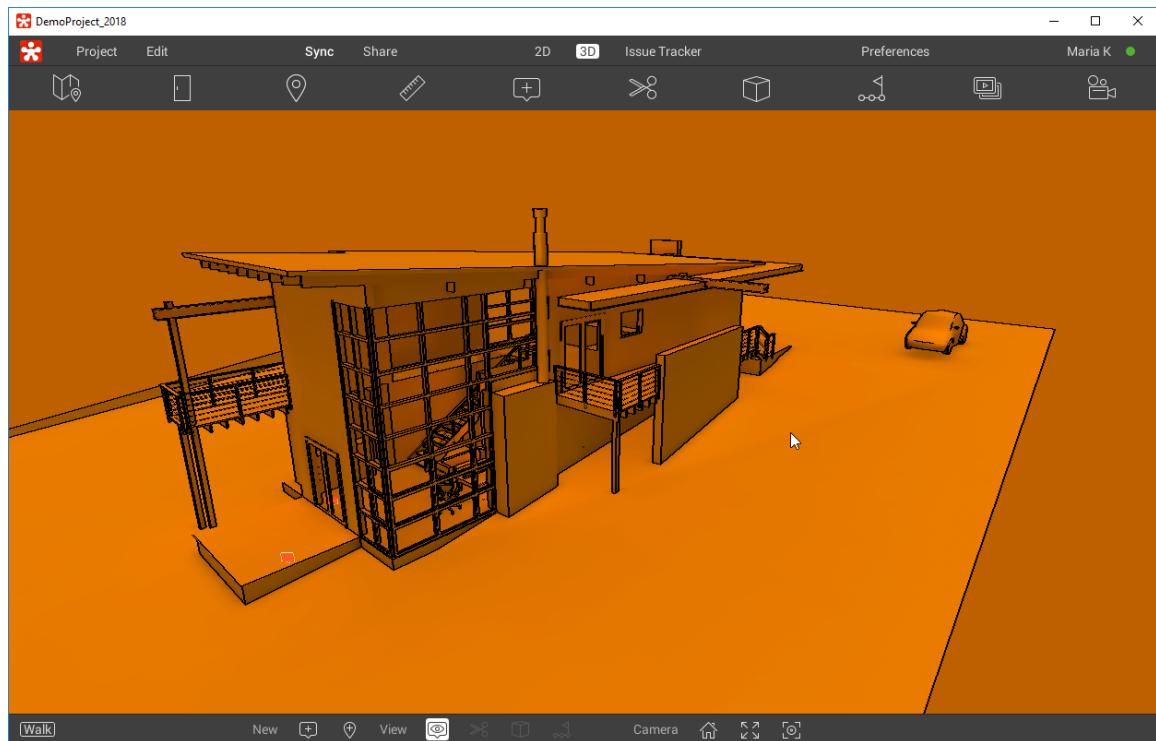
To define visualization settings:

1. Open your project in Revizto.
2. Click **Edit > Visual Effects**. By default, there is no watermark used, sketch mode is turned off, realtime shadows are on. You can:
 - a. Upload any image file to use it as a watermark.
 - b. Switch to the sketch mode and define its settings (line color and line width, background on/off).



- c. Turn off shadows.
3. Click the **Apply** button to save and apply your settings to the current model.

The figure below shows a sample sketch-mode visualization without background.

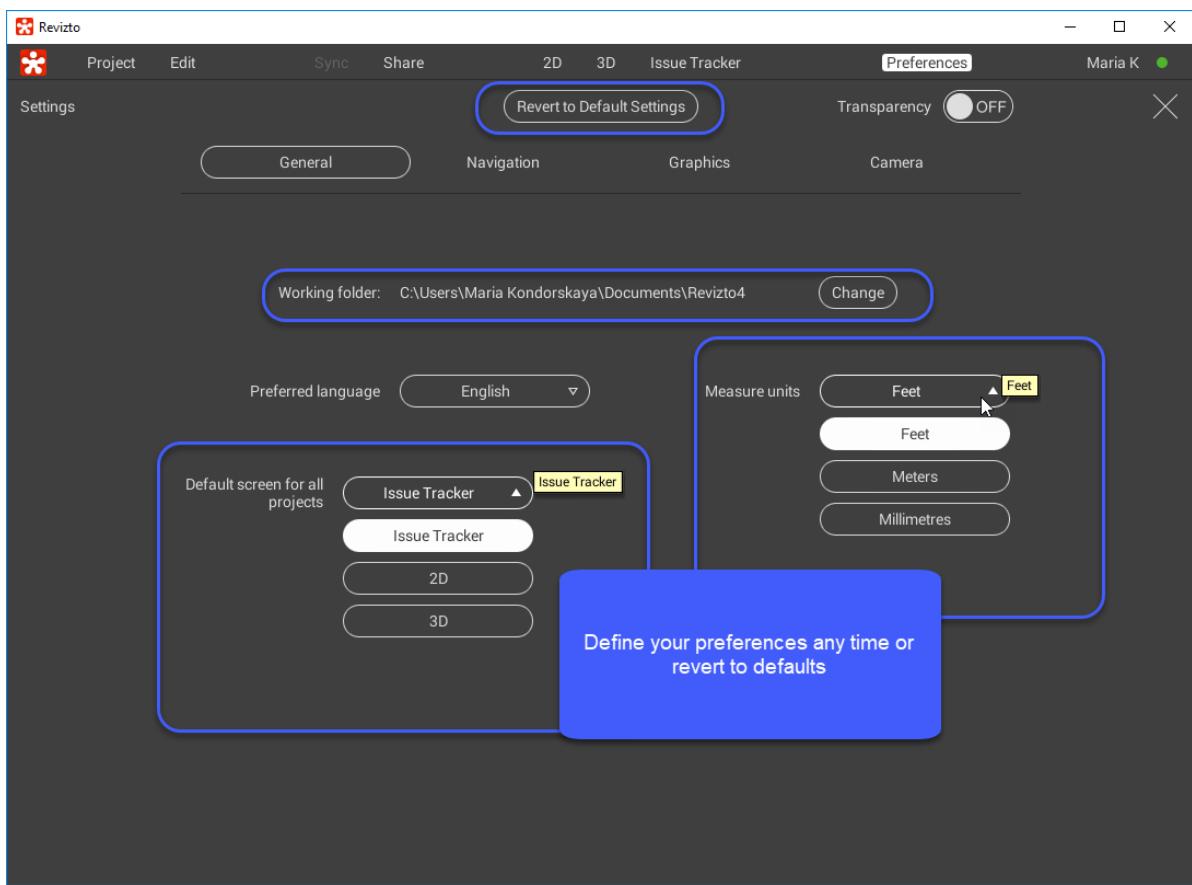


8.7 Preferences

The Preferences screen has four views: General, Navigation, Graphics, Camera. Use them to customize your local instance of Revizto. For project-level optimization options see the [Project Optimization](#)¹⁰⁵ section.

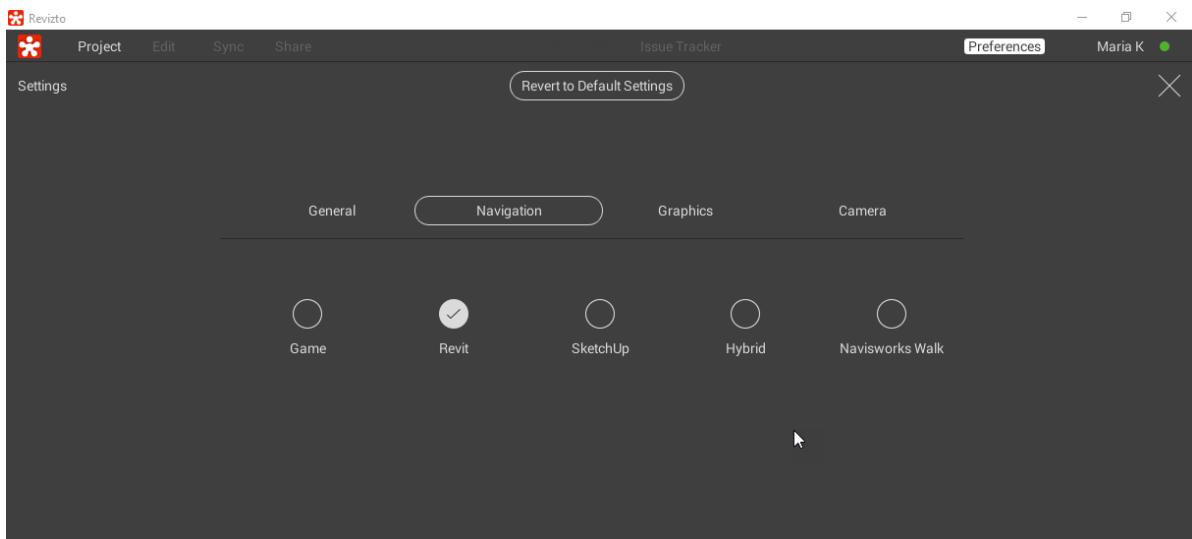
General

Normally, this view is the ending point of the [installation process](#)¹⁴⁶. Use it to define path to the working folder, set language preferences, measurement units and default view (i.e. the screen opened at launch).



Navigation

This view allows you to customize the walk mode. By default, Revit navigation mode is used, but you have four more options.



Revit mode

| Function | Controls |
|----------------------------|--|
| Orbit (around scene pivot) | Shift + right mouse button, or Shift + click and hold scroll wheel |
| Zoom to/from pivot | Use the scroll wheel of your mouse |
| Pan | Click and hold scroll wheel |
| Change Pivot | Ctrl + click |
| Object Properties | Double click on the desired object |

SketchUp mode

| Function | Controls |
|------------------------------|-------------------------------------|
| Orbit (around screen center) | Click and hold the scroll wheel |
| Zoom to/from mouse cursor | Use the scroll wheel of your mouse |
| Pan (adaptive) | Shift + click and hold scroll wheel |
| Object Properties | Double click on the desired object |

Hybrid mode

This mode uses Autodesk Forge navigation settings.

| Function | Controls |
|----------------------|---|
| Orbit (around pivot) | Hold right mouse button |
| Zoom to/from pivot | Use the scroll wheel of your mouse |
| Pan (Adaptive) | Hold the scroll wheel |
| Change pivot | Right-click on the desired place (on surface) |
| Object Properties | Double click on the desired object |

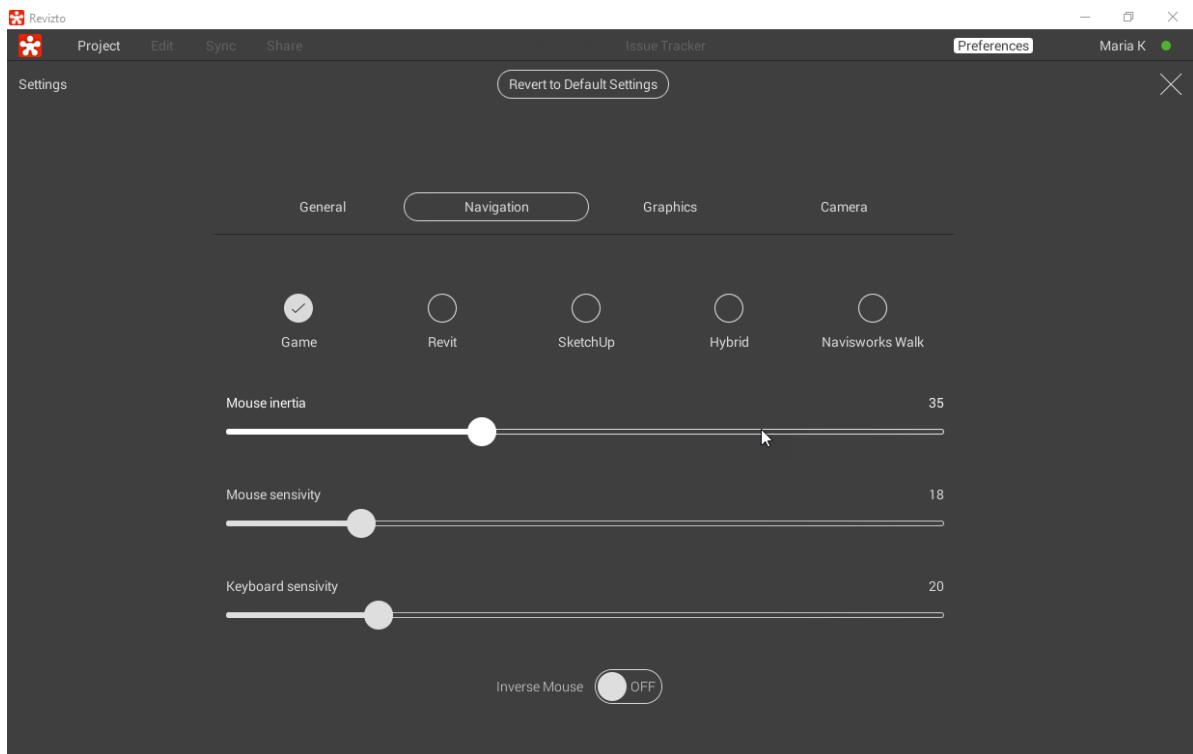
Navisworks Walk

| Function | Controls |
|--------------------|--|
| Move forward | Hold left mouse button + move mouse forward |
| Move backward | Hold left mouse button + move mouse backward |
| Turn left | Hold left mouse button + move mouse left |
| Turn right | Hold left mouse button + move mouse right |
| Increase elevation | Hold middle mouse button + move mouse forward |
| Decrease elevation | Hold middle mouse button + move mouse backward |
| Strafe left | Hold middle mouse button + move mouse left |
| Strafe right | Hold middle mouse button + move mouse right |
| Look up/down | Use the scroll wheel of the mouse |

Note: Revizto also supports 3DConnexion devices for navigation.

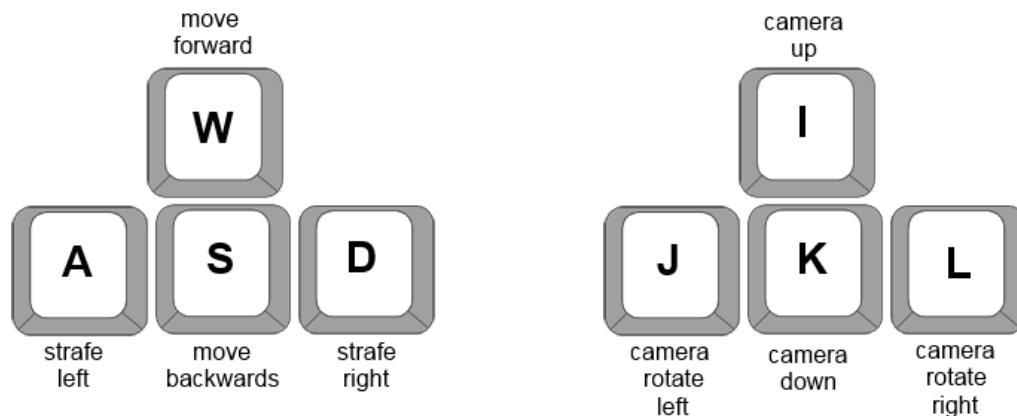
Game mode

Note that for the **Game** mode additional mouse settings are available.



| Function | Controls |
|--|---|
| Hold to rotate the view (turn head) | Right mouse button |
| E | Float up |
| Q | Float down |
| Shift+W/A/S/D/Q/E | Move with increased speed |
| Double-click | Display properties of the selected object |
| Scroll | Zooming |

In the fly mode you are flying without collisions. When walk mode is switched on, you will move with collisions and gravity. The walk mode uses controls from the game navigation mode.



For additional details see the [video tutorial](#).

Graphics

This view allows you to customize the quality of graphics and visualization mode. You can choose of one of the six modes; the recommended option is **Good** which compromises between response speed and visualization quality. The default quality option is selected by the built-in algorithm that evaluates your PC at the launch.

For each mode additional settings are available to fine-tune your visual experience. Basically, these are standard Unity effects.

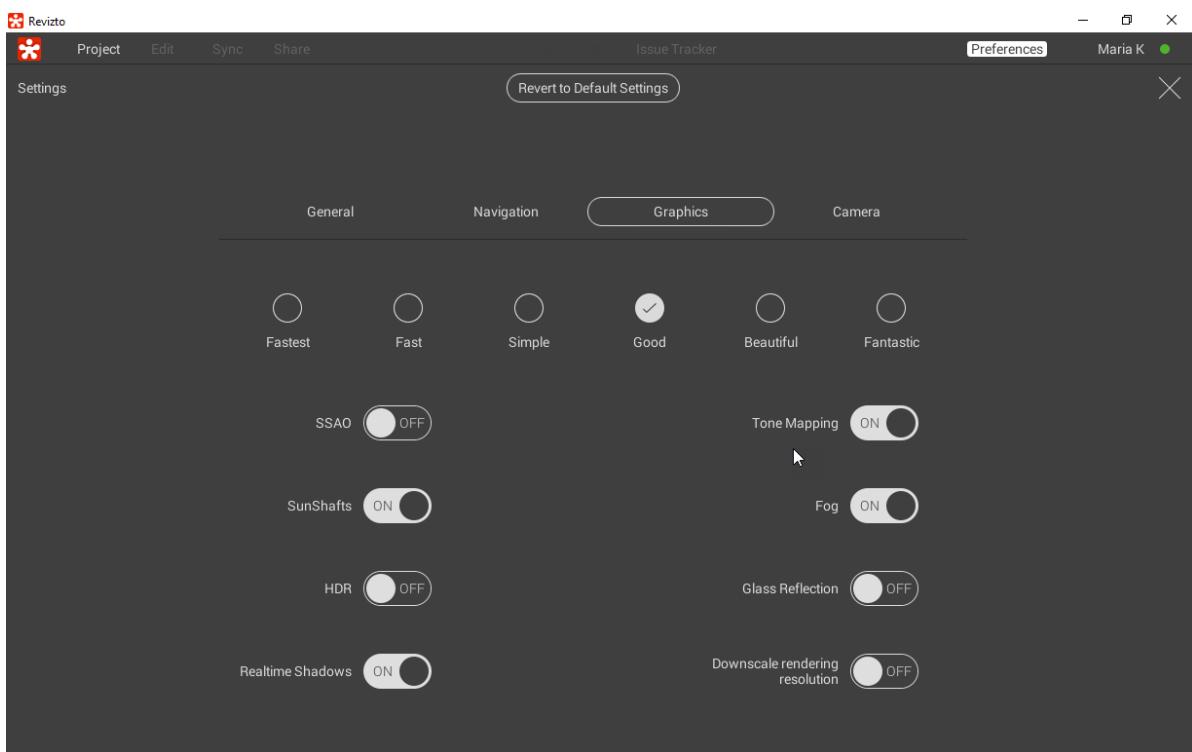
SSAO and **Realtime Shadows** regulate the way shadows are rendered in the model.

Tone Mapping and **HDR** options allow modifying the dynamic ways. **Tone Mapping** is considered a less powerful tool.

By turning on/off **SSAO**, **Realtime Shadows** and **Tone Mapping** you can regulate the quality and type of shadows in the model. Note that SSAO is more taxing on the CPU capacity and Realtime Shadows take more RAM. It is recommended to switch off both or one of them, if PC capacity is low or model is too large.

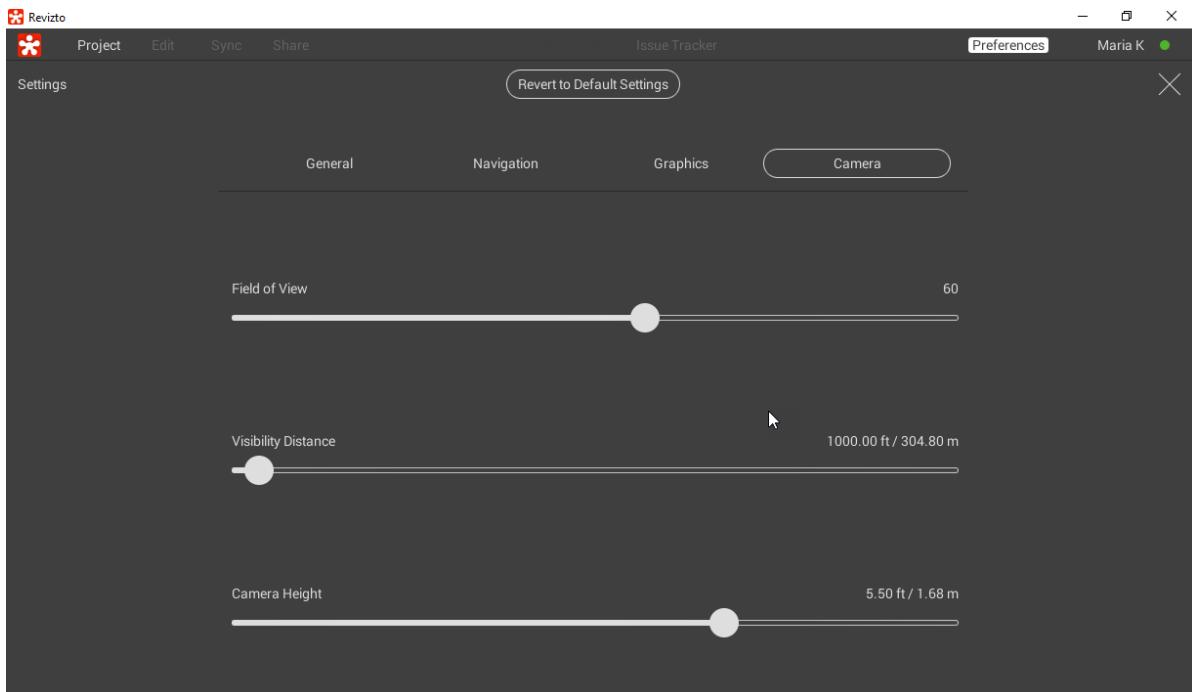
Turn on **Downscale rendering resolution** if you are using a powerful high-resolution display with higher pixel density. Otherwise long delays are likely to occur. With this option on, Revizto will choose the nearest best resolution option to promptly render views combining adequate visualization and navigation speed.

Note that some of these settings are disabled when in 3D section cut/box mode.



Camera

This view allows you to customize camera positioning: how far you can see, how wide your field of view is, how high the camera is. The defaults match an average human height.



Tips: Higher visibility distance can cause rippling shadows. To remedy for it, turn off the **Realtime Shadows** and **SSAO** in the **Graphics** tab. Turn **Transparency** on to make the current view

translucent and see whether or not your settings are applied the way you want without quitting **Preferences**. For some preferences [hot keys](#)^{□91} are available in most view modes.

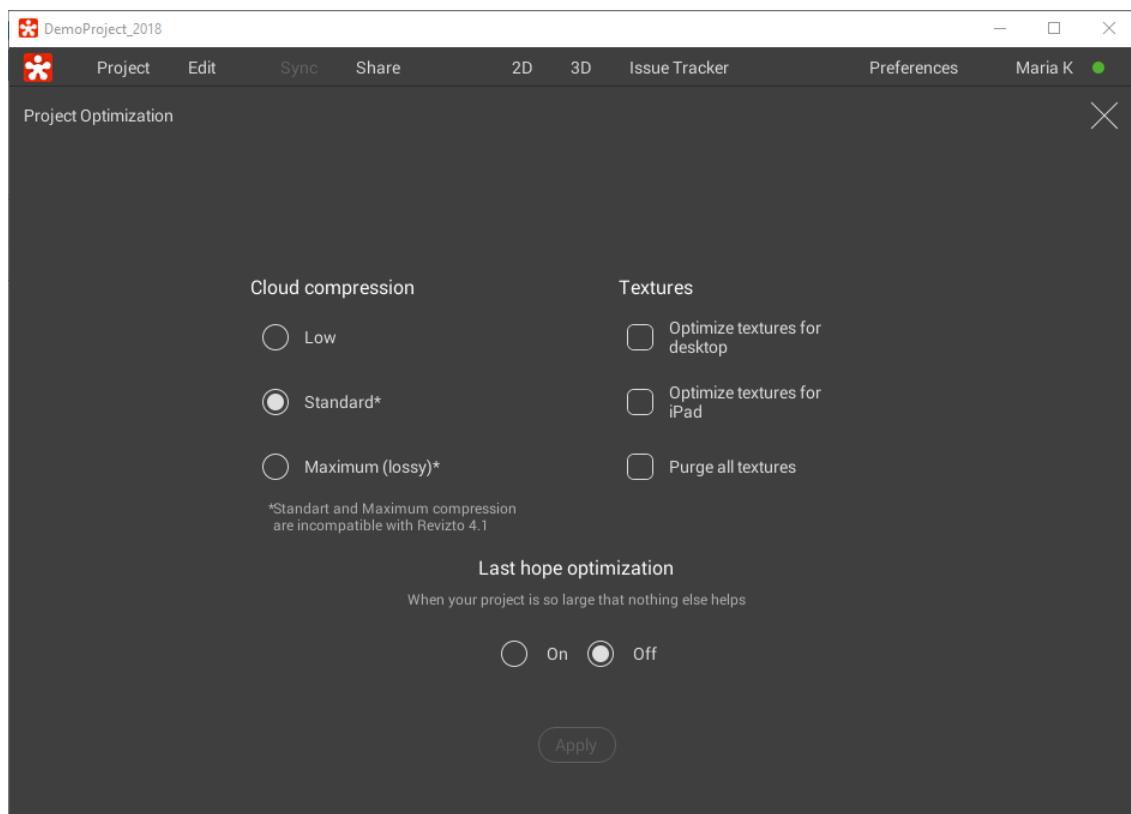
8.8 Project Optimization

Revizto provides several optimization options to resize large models and enable faster operation on portable devices. Note that the below options are applied on the project level, you can also define [preferences at the machine level](#)^{□99}.

Note that to use the option, you need project-level rights that allow uploading models.

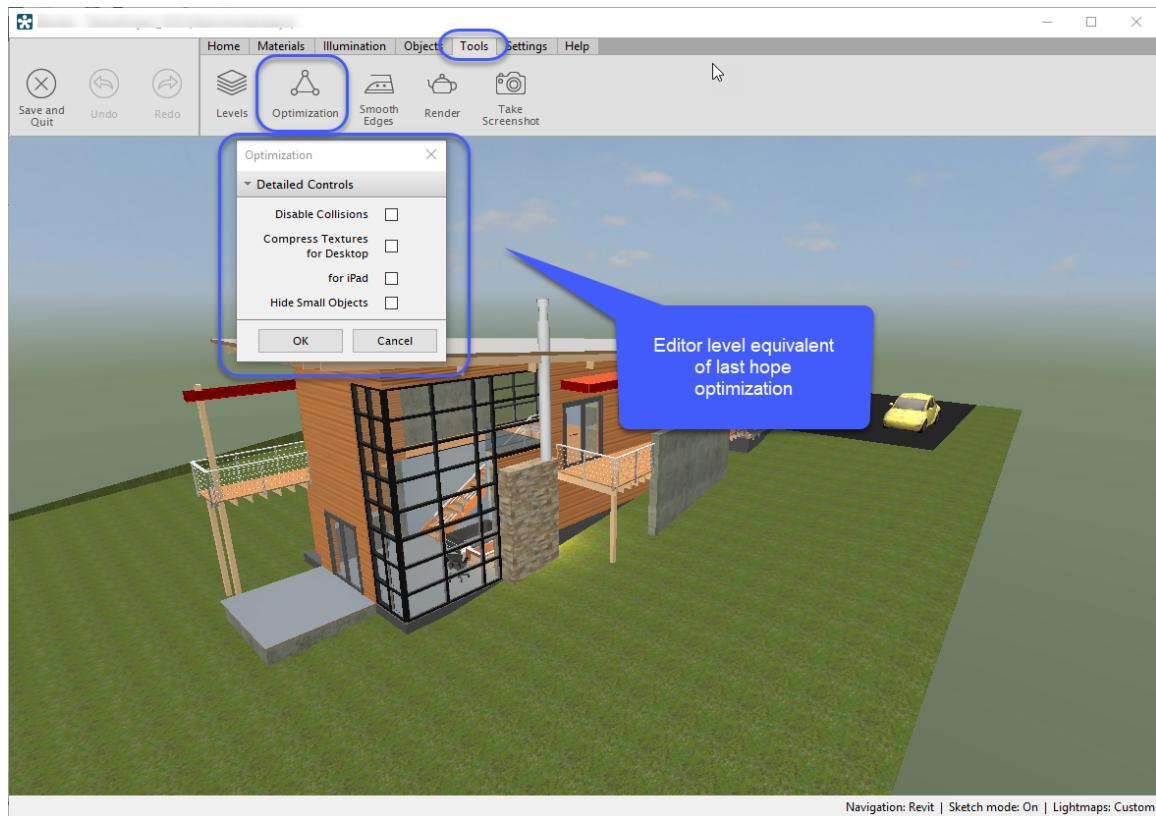
To apply optimization:

1. Open a project in Revizto.
2. Choose **Edit > Project optimization**.
3. Define optimization settings in the view that opens.
 - a. Cloud compression levels regulate the volume of data sent to the Cloud.
 - b. Texture optimization options reduce the quality of texture display. The **Purge all textures** option removes all textures in the model (solid color is used instead of textures).



4. Click Apply to save and apply your settings. Note that to use optimization, you must close the project in other Revizto components.

The **Last hope optimization option** reduces the model by up to 90%. It is an equivalent of the optimization option available in Revizto scene editor (Edit > Lighting and Materials) and relies on the editor functionality.



Topic under construction

8.9 Export from Revizto

Revizto is designed for team work in Windows OS, but if you want to share a model with someone outside your team (i.e. not having a license) or using a different platform, you can export your model to .exe or for MAC. Note that exported files will not have issue management and editing functionality available in Revizto.

Export to EXE

Export for MAC

Saving Video

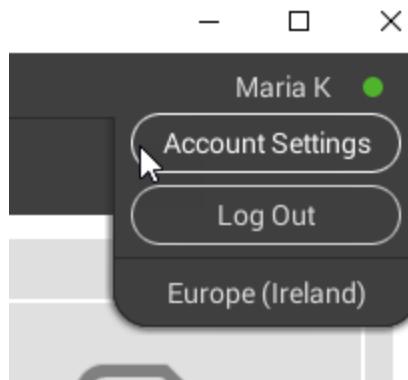
Under construction

8.10 Local Profile Management

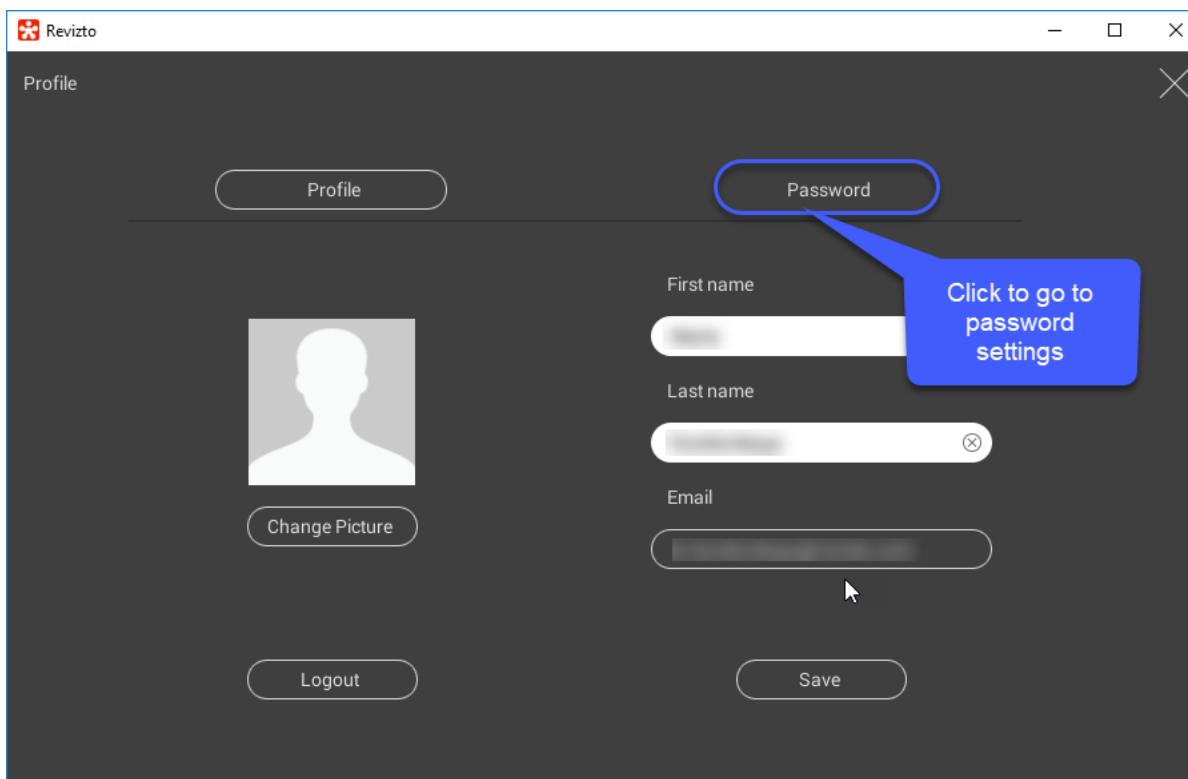
You can change your profile settings locally in Revizto application. Note that Notifications can only be configured in the [Web GUI](#)⁵⁰.

To edit account settings:

1. Launch Revizto and click on your username in the upper right corner. Choose **Account Settings**. The **Profile** screen opens.



2. Use the screen options to change your name and last name, to upload a userpic. Click Save to apply your settings. Note that you cannot change your email, as it is linked to your seat license³¹.
3. Click **Password** to switch to password settings. Make changes there, if needed (the standard procedure is implemented via a clear and transparent form).



8.11 Scene Editor

TBD

Additional Revizto Components

TBD

9.1 Vive Viewer

TBD

9.2 Oculus Viewer

TBD

9.3 Shared Location iPad Connector

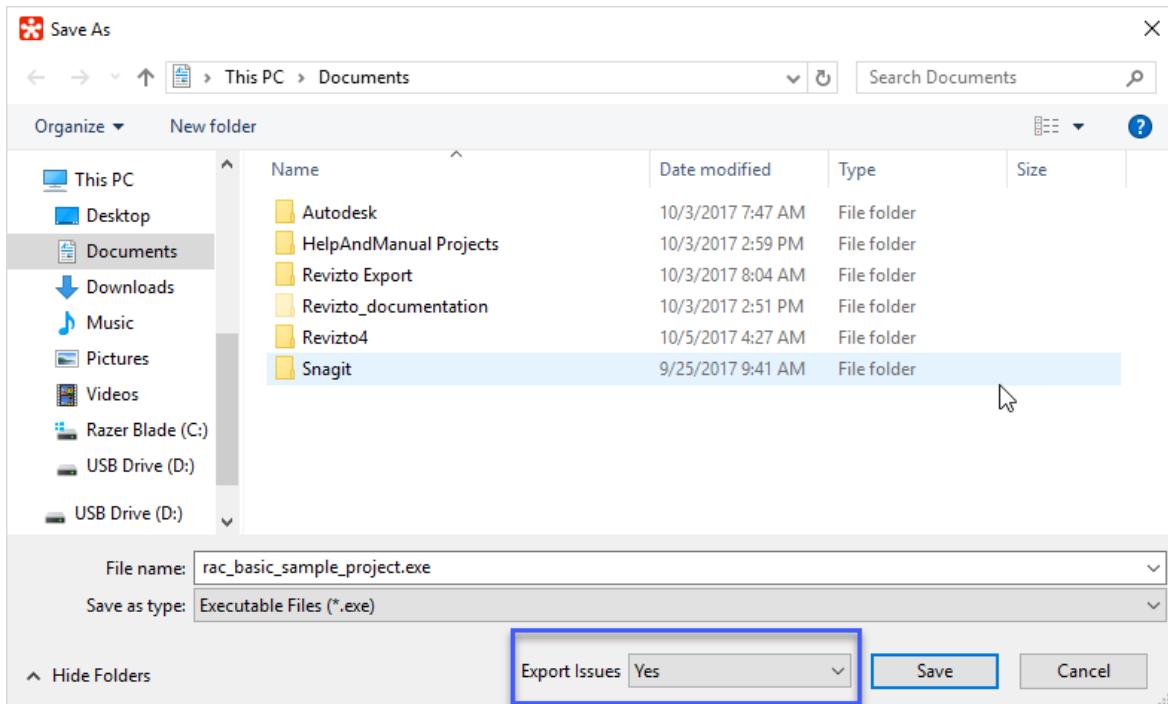
TDB

9.4 Revizto Console

TBD

FAQ

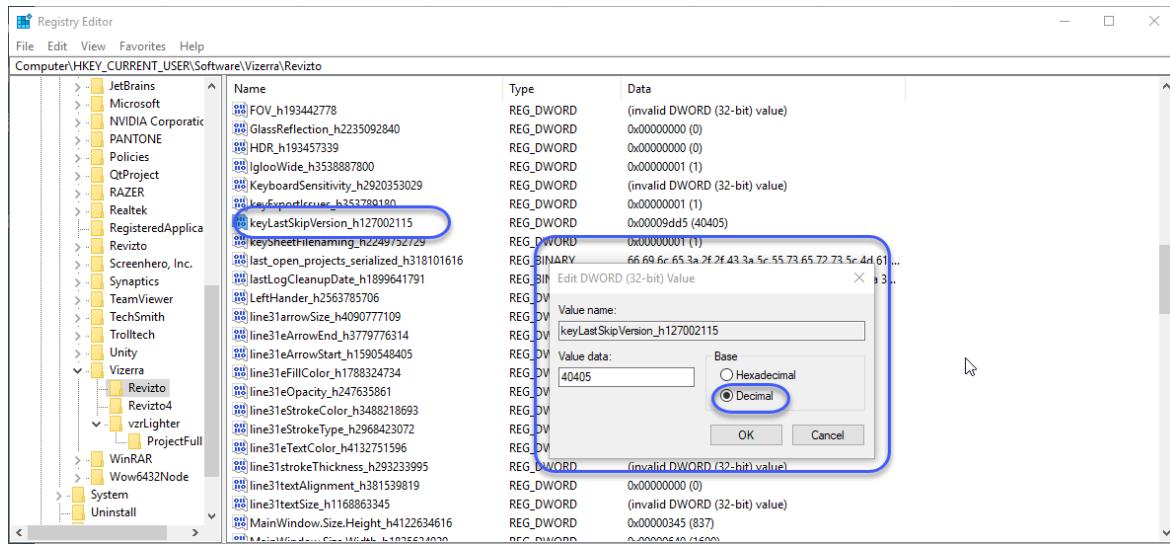
1. - We let go a team member who owns a range of projects. How to transfer ownership?
 - You have 2 options. One is to deactivate (and then delete) this user. Project ownership will be automatically assigned to the License Owner (SuperAdmin). The other option is to manually reassign project ownership before deactivating (and deleting) the user.
2. - We let go the License Owner (SuperAdmin). How to transfer the license ownership?
 - Note that only the License Owner can edit their own access level. You have to make sure that before leaving the company, employee who owns and manages Revizto license transfers their rights to another person.
3. - My company operates in Canada and has partners in the UK. Both we and our partners have Revizto licenses. Yet, I cannot invite their users as Guests to collaborate in my projects. Why?
 - In Revizto geographies are strictly divided in order to ensure maximum operation speed. Therefore, the Guest status (free collaboration access to members of other Revizto workspaces) is reserved to users within the same geography. To invite a collaborator from a team that has a license issued for another geography, you will have to create a fee-based Collaborator or Content Creator account.
4. - We often get failures and errors while exporting our source files to Revizto. What to do?
 - If your working folder is located on a network location, not on a local collaborator PC, try moving it to a local disk. Revizto uses SQL Light, therefore multiple requests to a remote folder can cause failures and errors.
5. - We want to show the project to our colleagues/partners from another company, but they have no Revizto license. Also, we don't want them to see our issues.
 - You can use the Export to EXE option (the Project menu). Also, choose No in the Export Issues field to hide your issues. The resulting file will be accessible on any Windows x64 machine without Revizto.



6. - I am currently using the French keyboard and cannot use the WASD viewer navigation option. Can I define other buttons as controls?
- No, you cannot customize control buttons, but you can use arrows instead of WASD.

7. - I exported a model from Revit to Navisworks and then to Revizto. But I cannot see the entire model, only one element. What has happened?
- When exporting a Revit model to Navisworks (or importing it from Navisworks), pay attention to export/import settings. Your problem is likely to have been caused by exporting the first 3D view instead of the entire project. Note that you can also export your model directly from Revit to Revizto and use Navisworks to export clashes.

8. I would like to turn off the update feature. Is it possible?
- Yes, you can switch off the update feature. To do it, you have to go the registry and change the HKEY_CURRENT_USER\Software\Vizerra\Revizto\keyLastSkipVersion_h127002115 set the **Value data** field to 99999 (decimal value). The option may be useful, if you want to make sure that all local users have the same version.



9. - I want to customize navigation mode, but Revizto would not save my settings. Every time I restart the application, I am back to defaults. Is there a remedy for it?

- User navigation settings are stored in the registry; the path is HKEY_CURRENT_USER\Software\Vizerra\Revizto. Normally, settings do not reset on their own. Yet, issues can occur if Revizto has no rights to save data in the registry location on your PC. Try removing the folder in the registry and relaunching Revizto. It is supposed to create the folder with default values and necessary rights to store user-defined settings.

10. TBD

Troubleshooting and Support

Addressing the Support Service

Before addressing the Support Service, please, read this section and the [FAQ¹¹⁰](#). If nothing helps, email to your support contact. Make sure to attach Revizto logs (compressed as .zip) for the relevant period from your working folder.

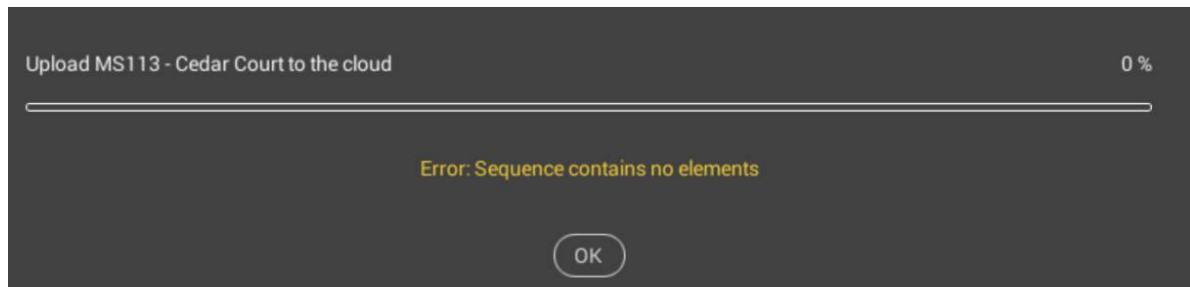
Known Issues and Solutions

Installation Troubles

Revizto uses Sentinel LDK Service to implement licenses. Components of this service may conflict with some anti-malware software. If you experience problems during installation, try turning your antivirus off temporary. You can also try

Corrupted model

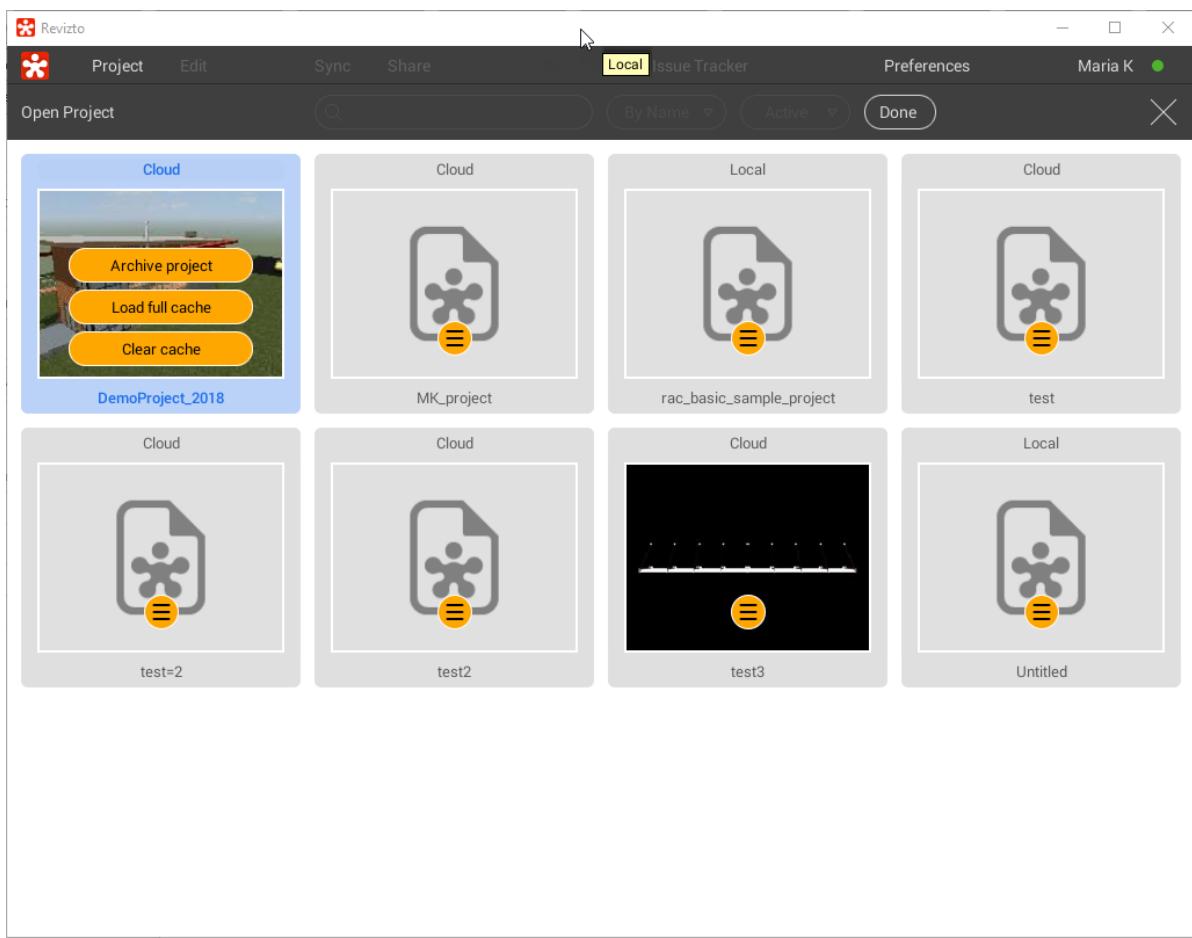
A Revizto model can become corrupted due to some user actions or local software errors/failures. Than upload errors may occur (see example below).



To remedy for it, we recommend to clear the model cache and to re-export a fresh version from the source software.

To clear cache:

1. Make sure that the model is not open in Revizto.
2. Open the list of projects in Revizto
3. Click the **Edit** button in the upper menu.
4. Click the yellow circle button displayed at the tile of the required project.
5. Choose the **Clear Cache** option. Confirm your action.



The project folder then disappears from the local working folder and you are free to create a fresh export without conflicts.

Failure to download model updates

If users fail to check for model updates and get license invalidity messages, make sure that SSL inspection option is turned off on your firewall (or add Revizto servers to the exception list). If the problem persists, address the Support Service with your Revizto logs attached.

Cannot launch ReviztoService. Application Will Be Terminated Error

If you get the message Cannot launch ReviztoService. Application will be terminated, try the following:

1. Launch the task manager and kill `ReviztoService.exe`, if running.
2. Remove the `.lock` file in the local working folder.
3. Try running the application again.

Another option is defining the location of the working folder manually.

1. Create a folder in "My Documents" called "Revizto4" (if not there already).

2. Go to the local registry, find the

`HKEY_CURRENT_USER\Software\Vizerra\Revizto4\WorkingFolder` value.

3. Change registry value of Working Folder to C:\Users\USERNAME\Documents\Revizto4 (Replace USERNAME with your current Windows username).
4. Try to launch Revizto.

Working Folder Migration Issues

When you change your working folder location, issues can occur due to various reasons (e.g. unstable Internet connection at the moment). There are two ways to resolve them.

If you do not have local data that you have to save:

1. Close Revizto and all Autodesk programs.
2. Launch the Task manager and make sure to kill all processes related to Revizto.
3. Open your initial (old) working folder and empty it.
4. Launch Revizto, go to **Preferences** and change the working folder. Make sure that the new folder is empty.

If you want to save your local changes:

1. Close Revizto and all Autodesk programs.
5. Launch the Task manager and make sure to kill all processes related to Revizto.
6. Open the Windows registry editor (enter `regedit.exe` in the search box by the Start menu).
7. Find the `HKEY_CURRENT_USER\Software\Vizerra\Revizto4` folder. Change the Working folder value. Make sure to enter data in the same format. Note that you need local administrator rights to change the registry
8. Launch Revizto and check whether it works.

