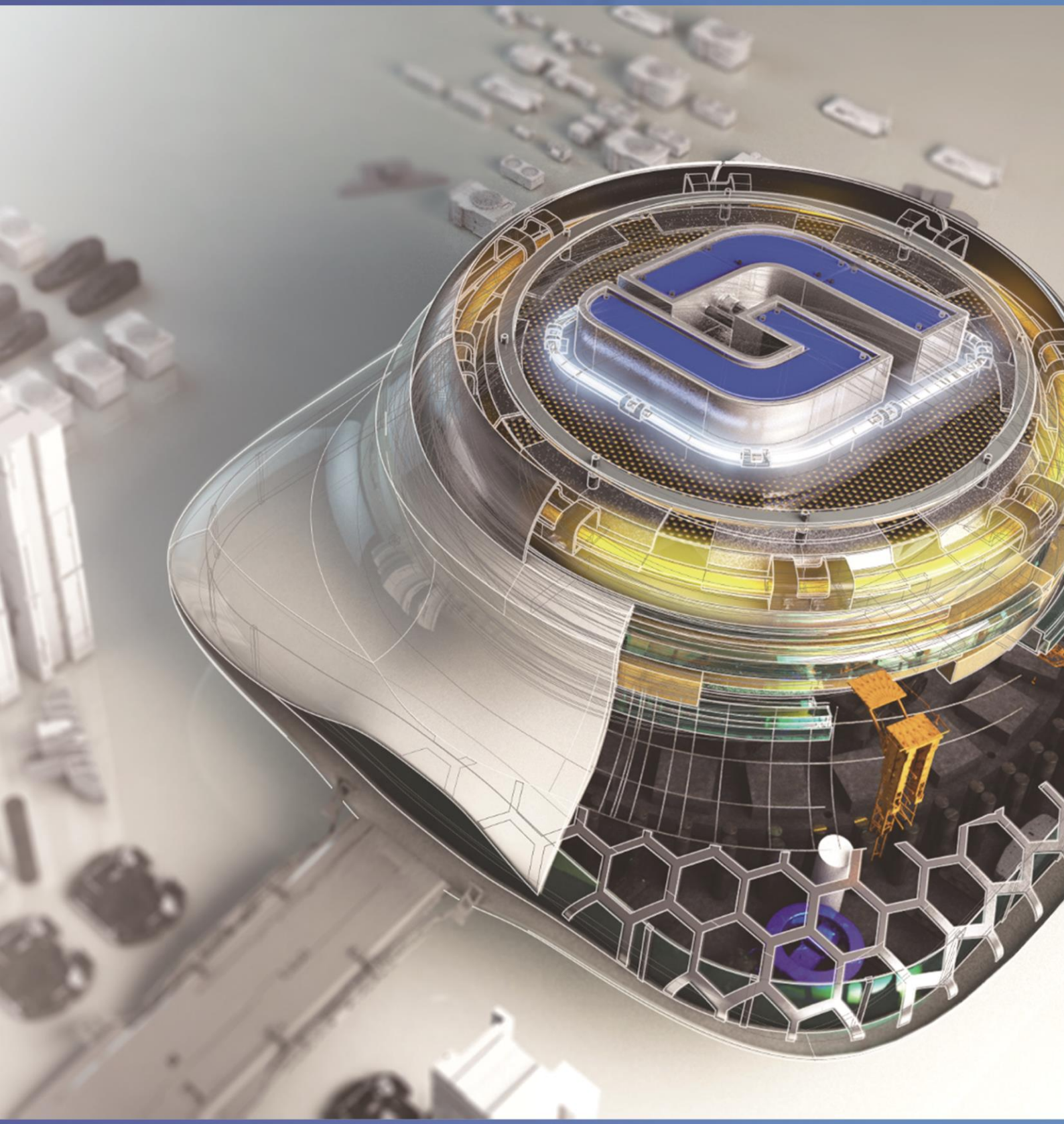
Collaboration

Client User Guide

GstarCAD 2019



GstarCAD

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1. Overview of GstarCAD Collaboration System

1.1. About GstarCAD Collaboration System

Developed by Gstarsoft, GstarCAD Collaboration System is an embedded plugin available for GstarCAD platform and applications that provides a multi-disciplinary collaborative design system to help CAD designers work together among a mutual drawing reference environment at the same time, reducing communication barriers across different groups and departments.

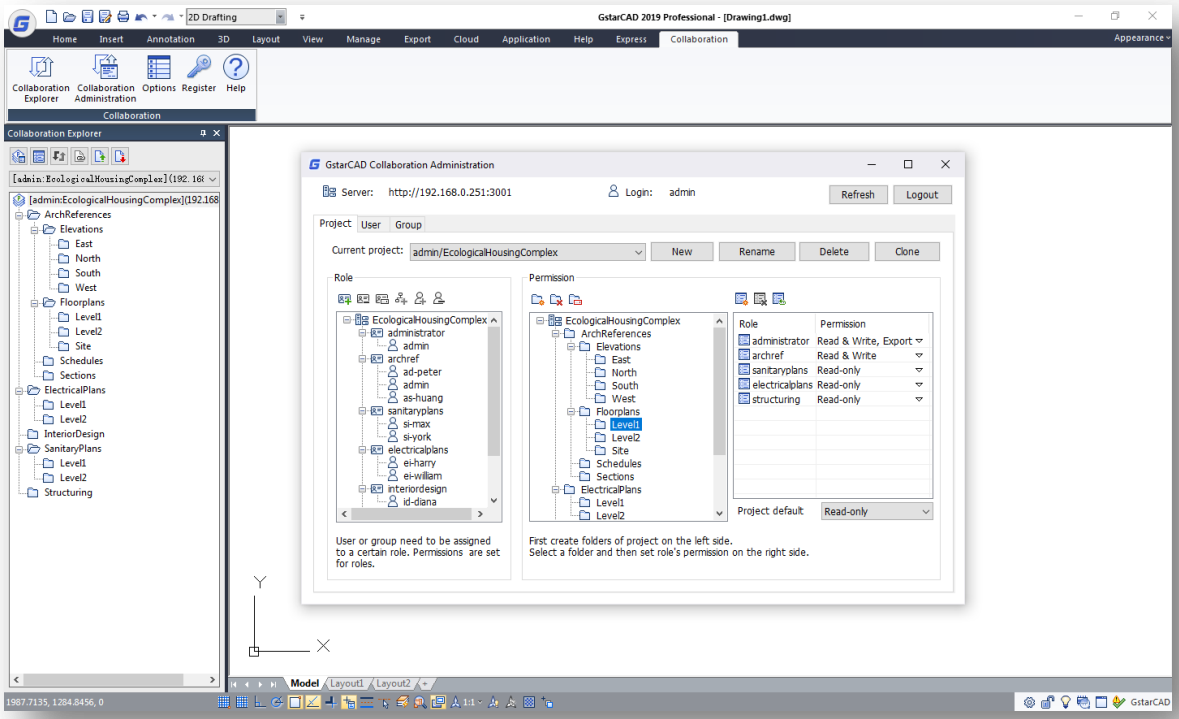
GstarCAD Collaboration System can be used under different conditions, such as project organization, drawing design, revision and management of medium, big or complex projects with ease and reliability.

What are the general benefits of implementing GstarCAD Collaboration System?

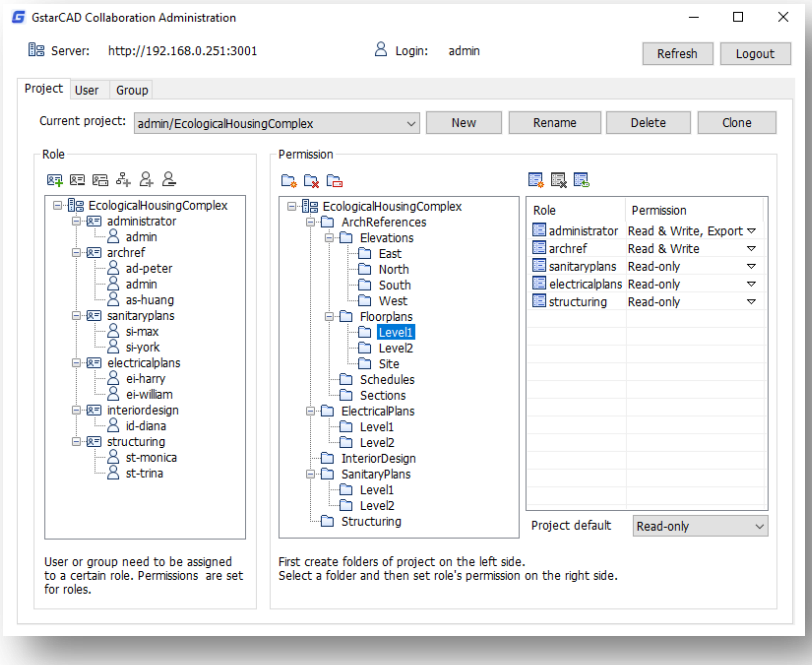
- ✓ Accelerate delivery of project blueprints schedule according to client or partner's needs.
- ✓ Decision making, collaboration and review are streamline shortening project life cycle.
- ✓ Protection and privacy of drawing data through own user company's network server reliability.
- ✓ Improve project management life cycle keeping high organization level and data resources.
- ✓ Keep a project structure safety by limiting access, permissions and assigning drawing rules for work team.
- ✓ Effectiveness when tracking changes, modifications or revisions of the latest drawing file version submitted.
- ✓ Better control and visualization of modifications and changes of relevant drawing data at any time.
- ✓ Timely handle project's conflicts and collisions to reduce design errors between work groups.
- ✓ System flexibility to work offline and online status.

1.2. System Composition

GstarCAD Collaboration System is mainly composed of a server and a group of clients. The client program is integrated directly into GstarCAD platform as a plugin. Drawings and file references creation, modification, submission and updating are done in the same user interface, making the operation and process much simpler.



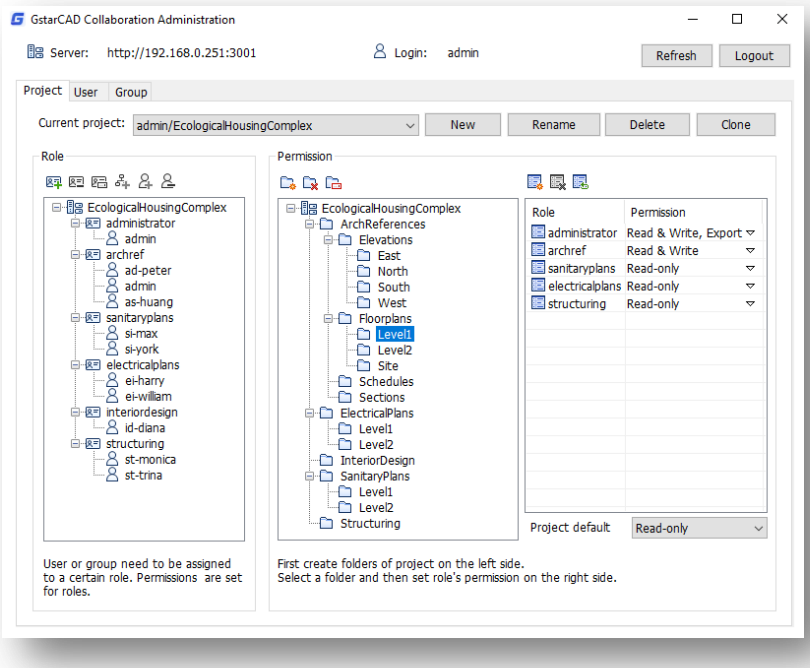
The server program is provided for project administrators or project leaders to set up work groups, personnel and permissions for project participation. The server program needs to be installed separately and configured by the system administrator.



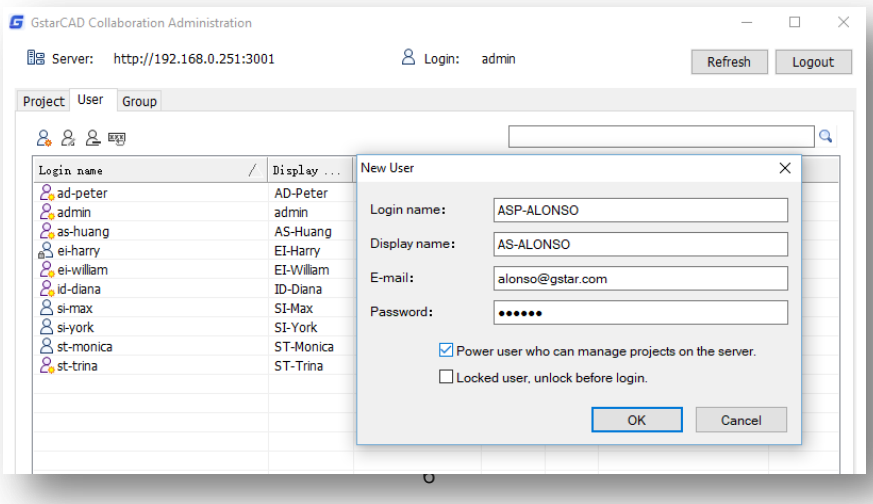
2. GstarCAD Collaboration Client Startup

2.1. Requirement to Start Working in GstarCAD Collaboration Client Platform

As a user or participant member of whether small, medium or complex project, before start working in the collaboration client platform is mandatory that a project administrator (server admin) configures all parameters of project structure including the correct IP address, port number, users and groups participant to be uploaded to local server.

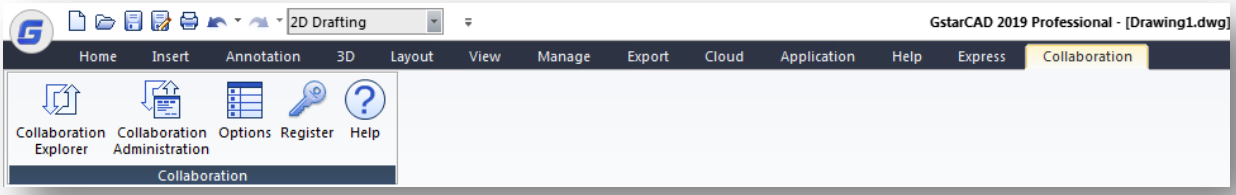


The project administrator (server admin) has the power to create a user account with certain privileges according to project restrictions, which later the user or member can login and access (from the collaboration client platform) to the server where the project has been created.

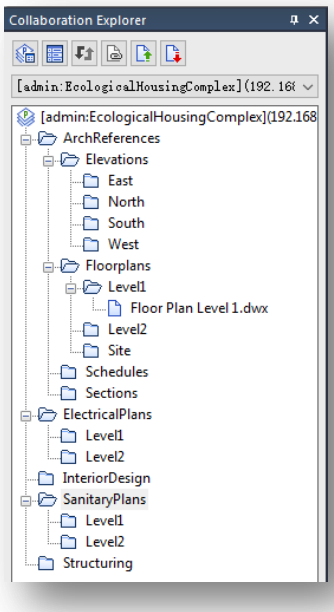


2.2. GstarCAD Collaboration Client Interface

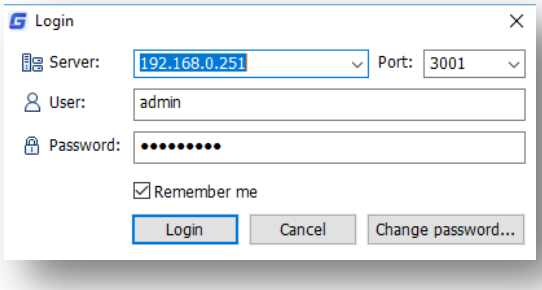
GstarCAD Collaboration Client is a plugin integrated when you install GstarCAD platform. On the ribbon, you can go to **"Collaboration"** tab > Collaboration panel to see its commands.



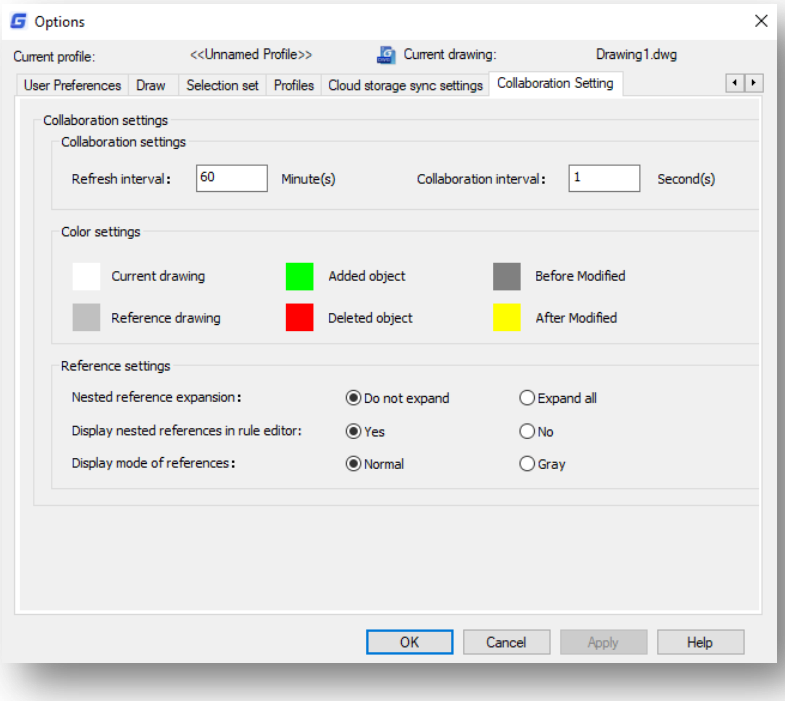
Collaboration Explorer: Opens the **"Collaboration Explorer"** panel. You can also type **"_GDNEXPLORER"** to open it.



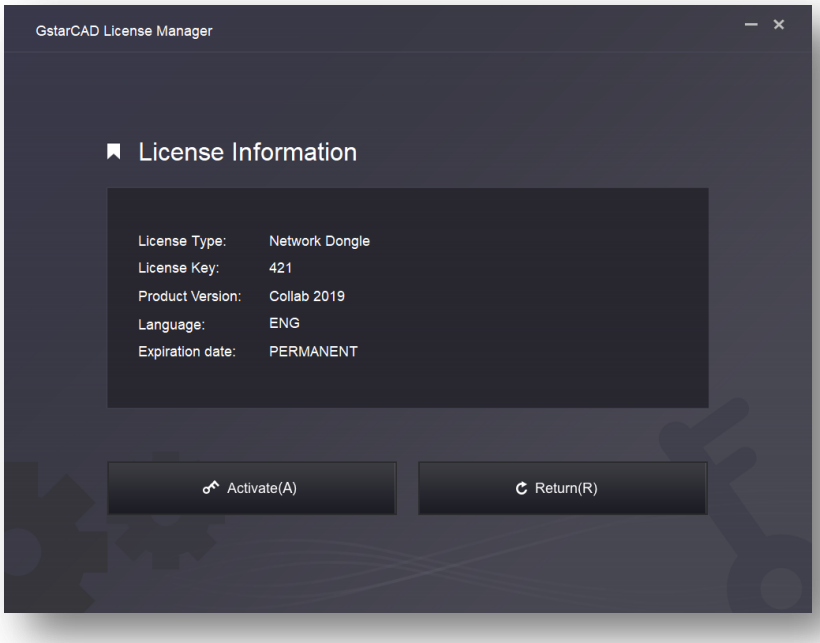
Collaboration Administration: Opens the **"Login"** interface where user (power user type only) can access to the **"GstarCAD Collaboration Administration"** dialog box. You can also type **"_GDNADMIN"** to open it.



Options: Opens the **"Options"** dialog box, under **"Collaboration Setting"** tab, where you can setup project directory update intervals and control reference drawing colors and other setting options. You can also type **"_GDNOPTIONS"** to open it.



Register: Opens the **"GstarCAD License Manager"** dialog box, where you can active GstarCAD Collaboration Client plugin. You can also type **"_GDNREGISTER"** to open it.



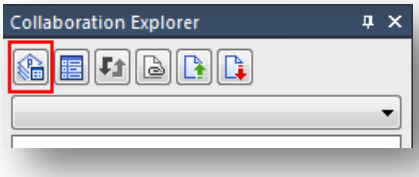
Help: Opens the **"Help"** window where you can find all information about GstarCAD Collaboration System. You can also type **"_GDNHELP"** to open it.

2.3. Client Login and Logout Process

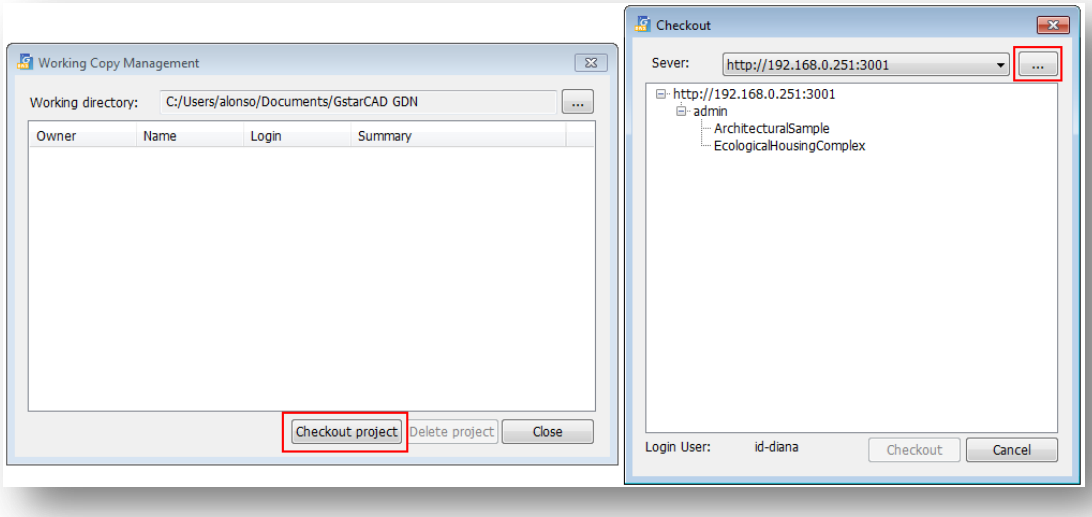
After the project administrator has created a user or client type (power or common) in the server with a specific permission according to project restrictions, the client or user must login to access to project located on local server.

2.3.1. Login to Server as Common User Type from Collaboration Explorer Panel

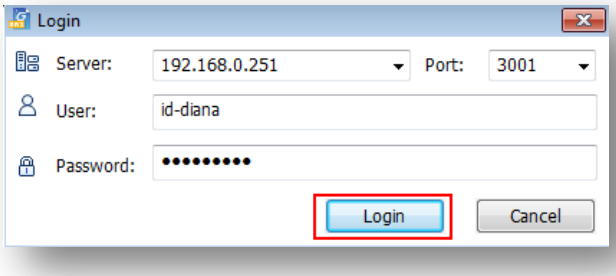
1.- In GstarCAD platform, go to **"Collaboration Explorer"** panel and click **"Working Copy Management"** button.



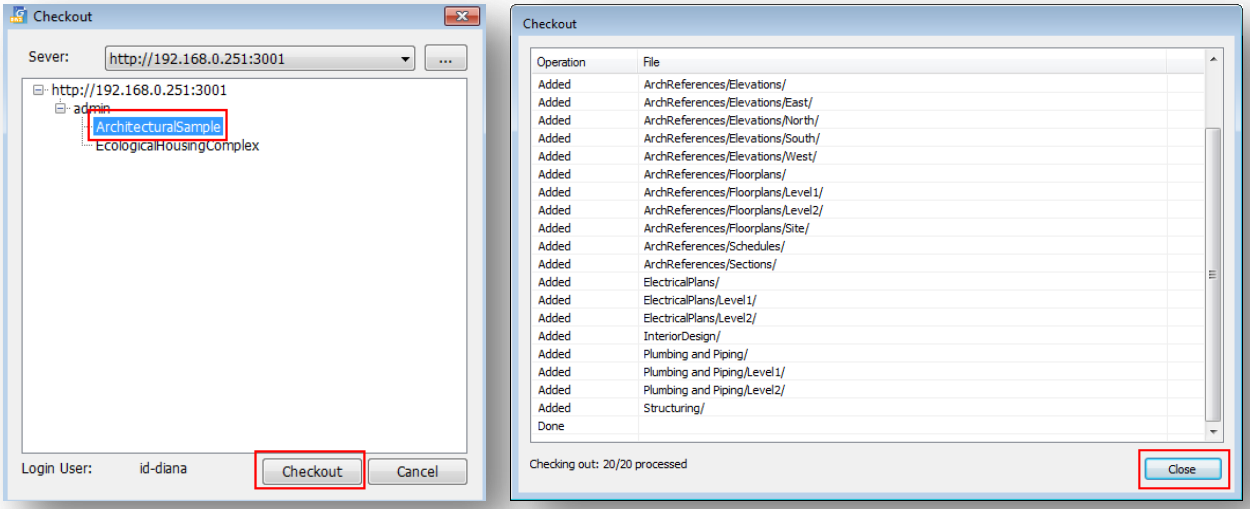
2.- In **"Working Copy Management"** dialog box, select **"Checkout project"** button. In **"Checkout"** dialog box, click **"..."** button to display the login interface.



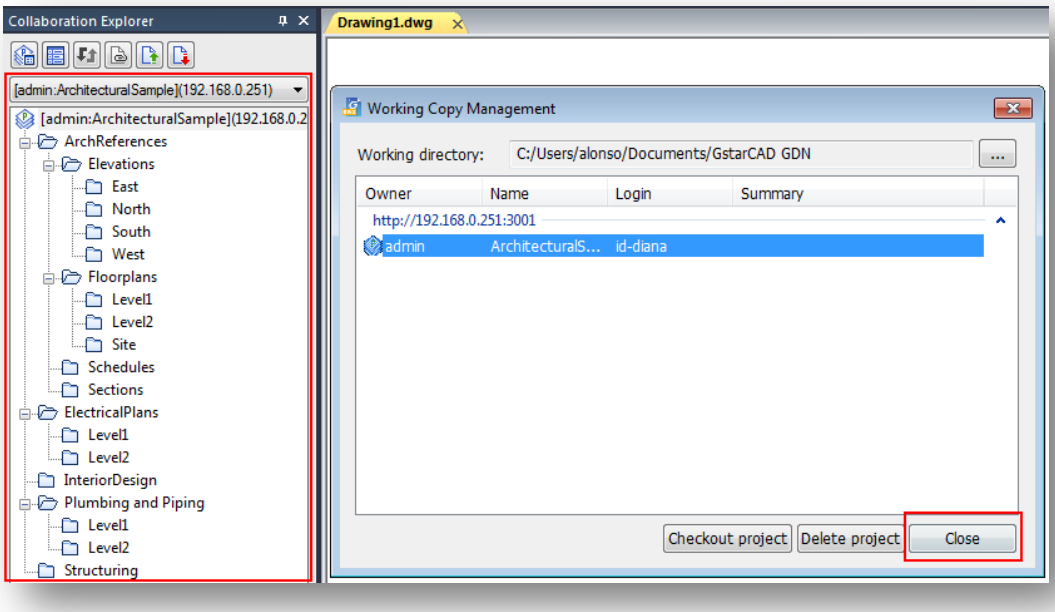
3.- In **"Login"** interface, fill up IP address, port number, user name and password. The user's name and password are given by the project administrator. After filling up all users' information, press **"Login"** button. The common user type can login to server but can't access to **"GstarCAD Collaboration Administration"** interface.



4.- After login to server, all projects available will be shown as list. The user can select the project which will work in, then click **"Checkout"** button. The server will process and download to local user's workstation, the project directory created by the project administrator. Click **"Close"** button to access to **"Working Copy Management"** dialog box.

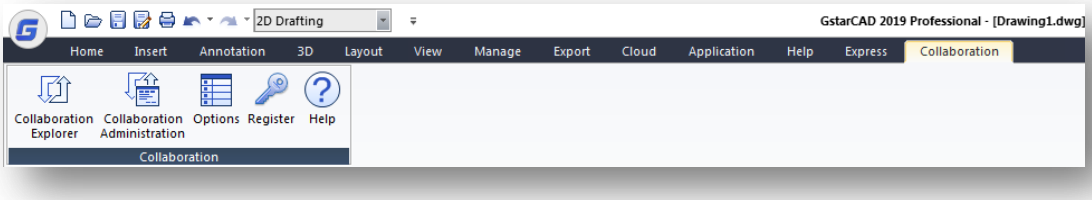


5.- In **"Working Copy Management"** dialog box, click **"Close"** button to deploy the project directory into **"Collaboration Explorer"** panel.

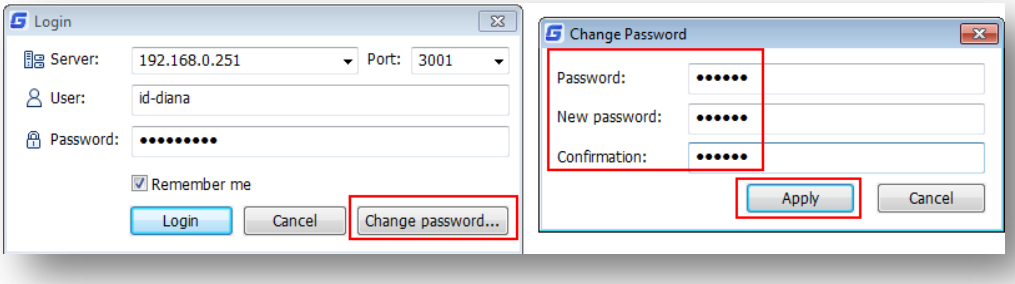


2.3.2. Login to Server as Common User Type using Collaboration Administration Tool

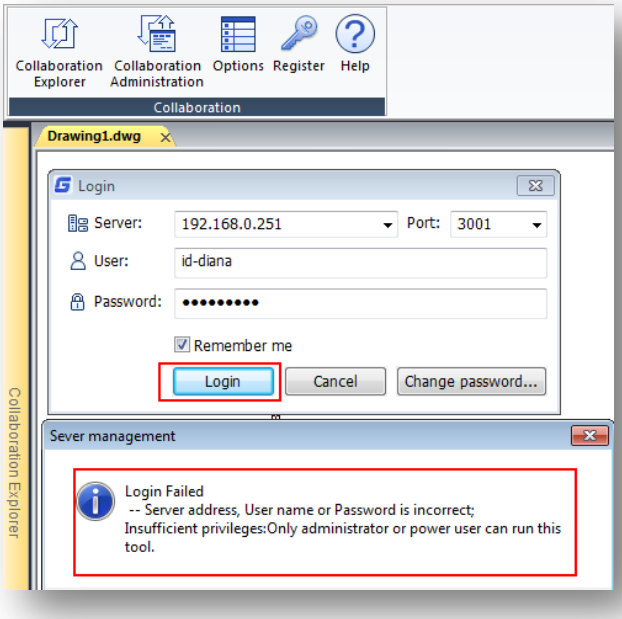
1.- In GstarCAD platform, go to **"Collaboration"** tab, click **"Collaboration Administration"** tool to display the **"Login"** interface.



2.- Previously, the project administrator assigned an initial password for each member of the project. It is recommended to change the password given to prevent other members from using your account. Click **"Change password"** button and filling by the new password. Click **"Apply"** button to submit to server the new password.

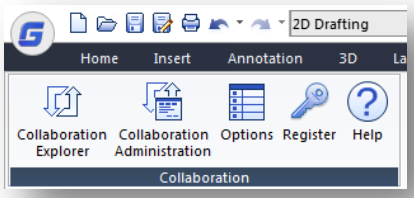


3.- Going back to **"Login"** interface, click **"Login"** button, the **"Server management"** dialog box popup a message to login failed. Only administrator or power user can access to collaboration administration tool.

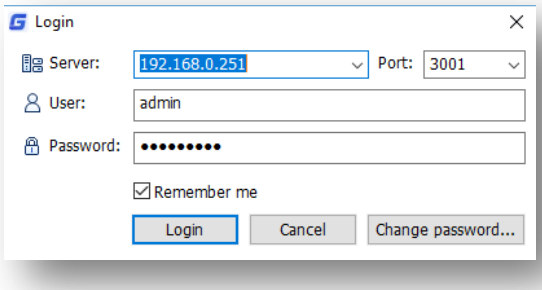


2.3.3. Login to Server as Power User Type

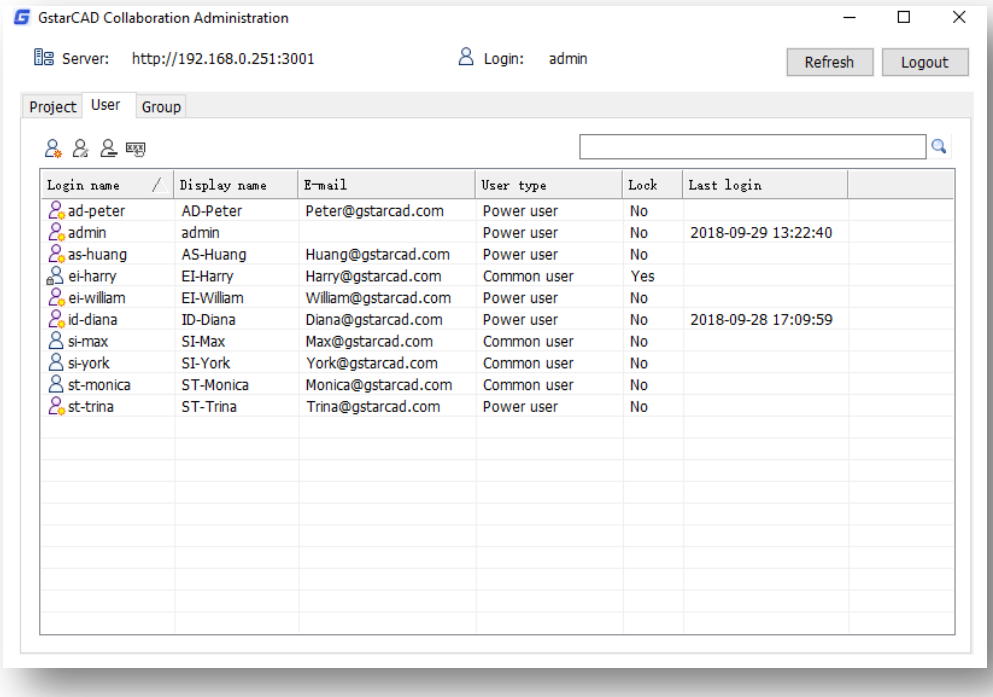
1.- In GstarCAD platform, go to **"Collaboration"** tab and click **"Collaboration Administration"** command on the ribbon to open the login dialog box.



2.- Fill up IP address, port number, user name and password. The user's name and password are given by the project administrator. After filling up all user's information, press **"Login"** button.

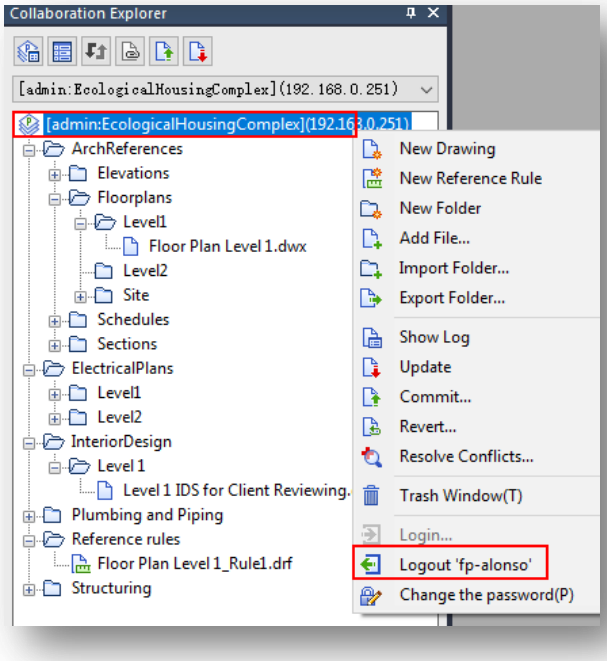


3.- The power user type can login to server and access to **"GstarCAD Collaboration Administration"** interface. A power user can add or delete users and groups previously created by a project administrator or by another power user but is not allowed to modify current project roles and permissions. A power user can create a new project independently to later be uploaded to the server.



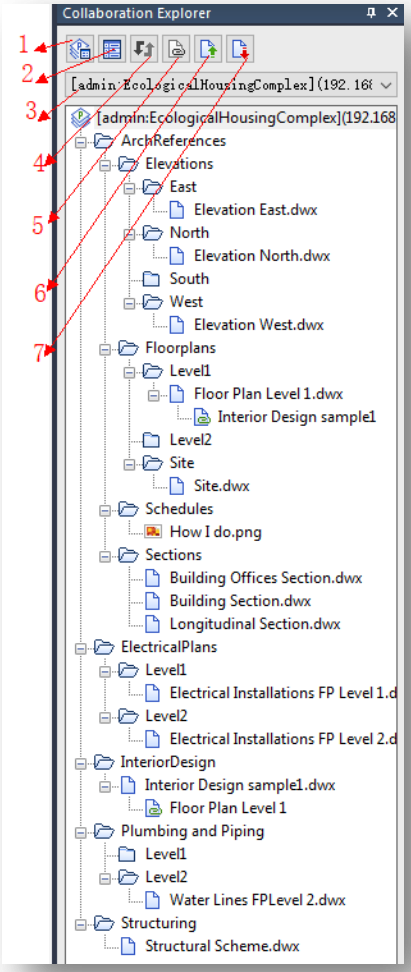
2.3.4. Logout from Server as Power or Common User Type within Collaboration Explorer Panel

1.- Whether you are common or power user, you must checkout, login in and deploy the project directory into collaboration explorer panel. Then right-click on top of project tree and select **"Logout"** option.



3. Collaboration Explorer Panel

The **"Collaboration Explorer"** panel displays current project directory loaded from the server. The panel offers different options for load projects, reference drawing settings, drafting synchronization, commit and update files related to the project.



1.- Working Copy Management: Opens the **"Working Copy Management"** dialog box. You can browse a project directory, delete or checkout a project.

2.- Options: Opens the **"Options"** dialog box, under **"Collaboration Setting"** tab, where you can control a reference drawing colors and other setting options. You can also type **"_GDNOPTIONS"** to open it.

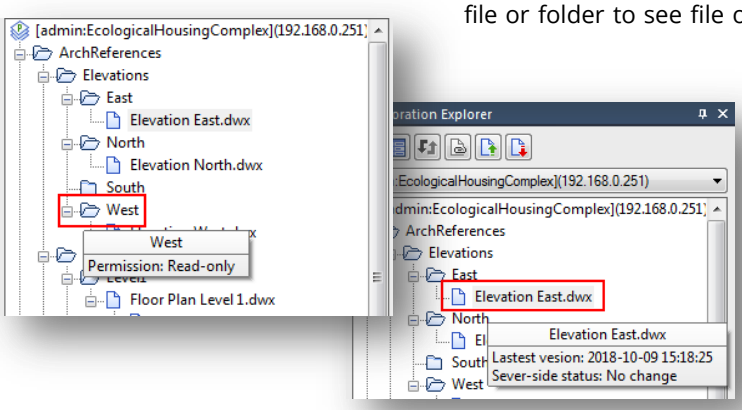
3.- Projects List: Shows loaded projects that can be selected from the drop-down list.

4.- Real-time Collaboration: Turns on/off the real-time collaboration feature allowing two users work at same time in each other referenced drawing. Every saved modification of a drawing file will be committed to the server automatically, so the referenced drawing will be updating automatically.

5.- Reference Change to Gray: Turns on/off the whole referenced drawing into gray color or revert its original color status.

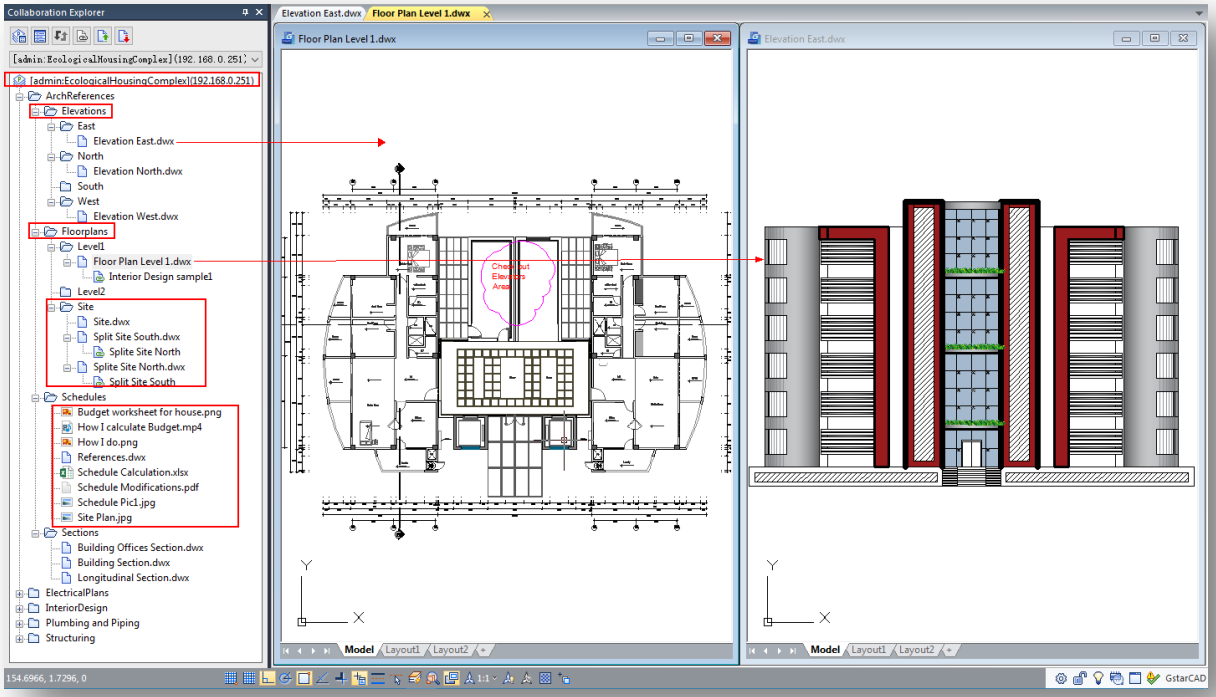
6.- Commit: Commits, submit or upload all modifications related to project files and directory.

7.- Update: Allows to download the latest version of project directory (folders or files modified).

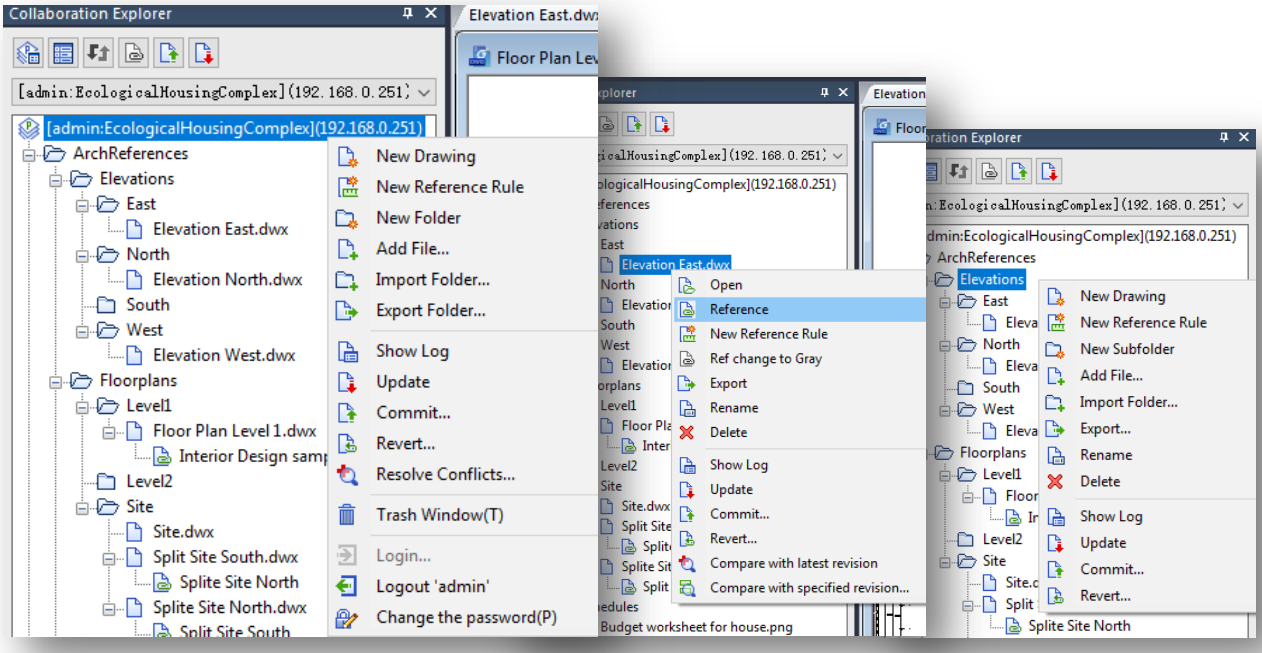


Users can hover the cursor over an existing file or folder to see file or folder information. If you hover the cursor over a file, a small tip will pop, so you can see; drawing name, latest version and server status. If you hover the cursor over a folder, you can see what permission the project administrator assigned you according to roles or groups. It is recommended to read the **GstarCAD Collaboration Server Management Guide → New Project Configuration→Assigning Permissions for Folder**.

The **"Collaboration Explorer"** displays all folders and related files that are readable by the current user in a tree structure. The top of the tree is the project name. Users can expand folders and subfolders to see different kind of files formats attached, files referenced or nested referenced. You can create new folders, subfolders and drawings, add files, open and modify selected DWX drawing files in your own authorized folder, set reference rules, and insert other drawing references into current drawing according to reference rules.

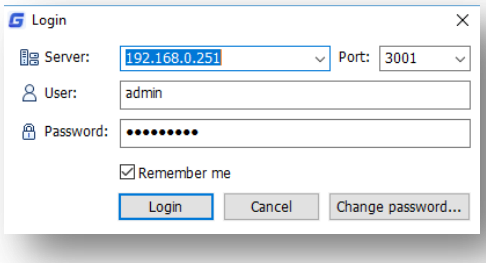


Folders, subfolders and files on current project directory may have different options regarding what action you need to perform. If you right-click a folder, subfolder or file, it will display different command options from context menu. The activated options are the actions that can be performed on the current branch.

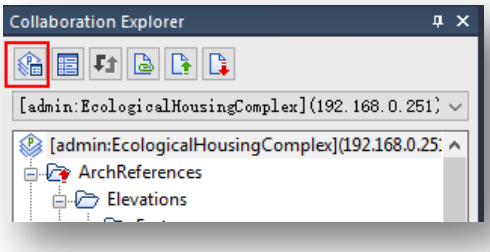


4. Loading a Project from Server to Client Platform

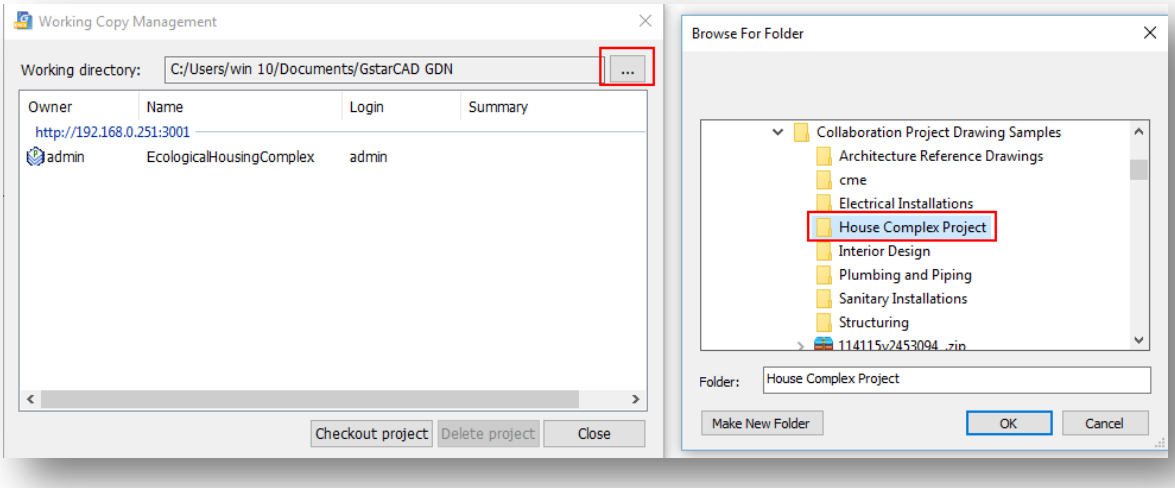
1.- As client (power or common user type) you need to login with your correct account information to access to server where is located the project. Then follow the steps bellow.



2.- Open the **"Collaboration Explorer"** and select **"Working Copy Management"** button to access its dialog box.



3.- In **"Working Copy Management"** dialog box, you can change default project's working directory (optional) according to your preference. Click **"Browse"** button, search a new path, folder or create a new folder. Then press **"OK"** button.

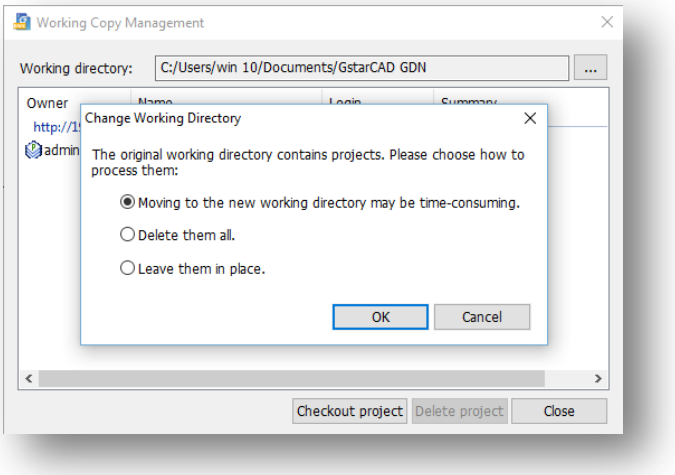


4.- A warning pops up, telling how to process existing project directories (folder and subfolders) and files when moving to new path. You can choose between three options:

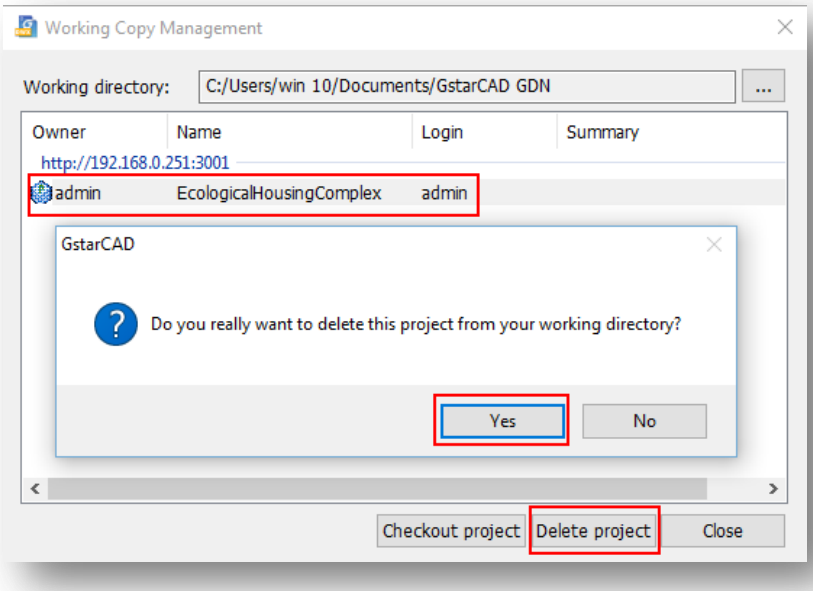
Moving to the new working directory may be time-consuming: This option will move all the projects (including their files attached) previously loaded and stored from default to new path. It could be a time-consuming if you load many projects of big size.

Delete them all: This option deletes all projects (including their files attached) previously loaded and stored in older path. The user must checkout again the correspondent project to work with and it will be loaded and stored in the new path assigned by the user.

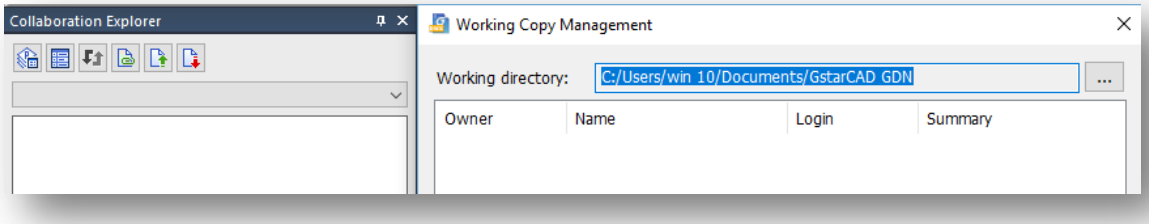
Leave them in place: This option leaves all projects (including their files attached) previously loaded and stored in older path. The user must checkout again the correspondent project to work with and it will be loaded and stored in the new path assigned by the user.



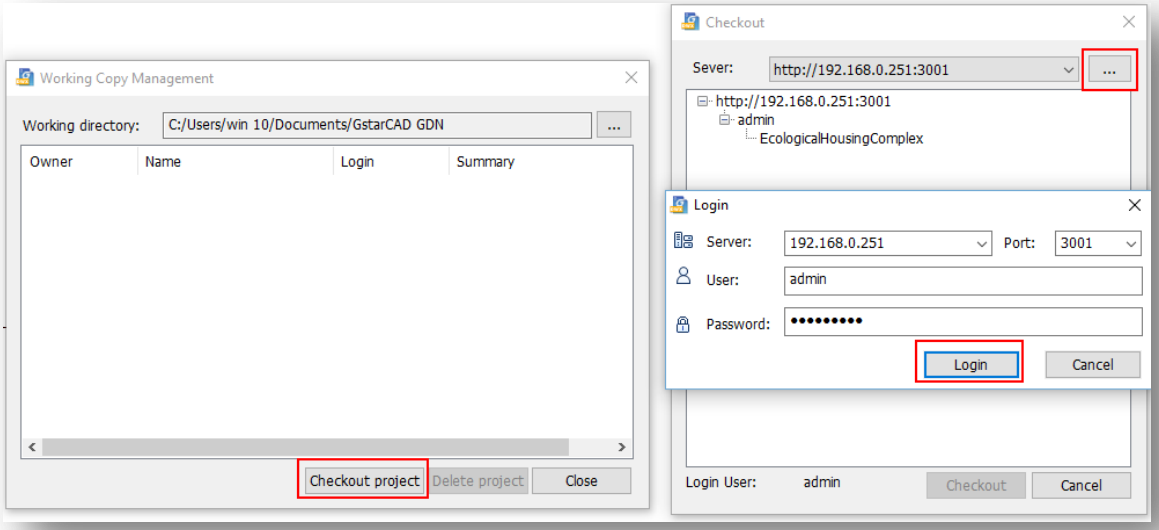
5.- Going back to **"Working Copy Management"** dialog box, you can delete a project from project list. Select a project from list and press **"Delete Project"** button. Make sure if you want to delete the project from the working directory. Press **"Yes"** button to confirm.



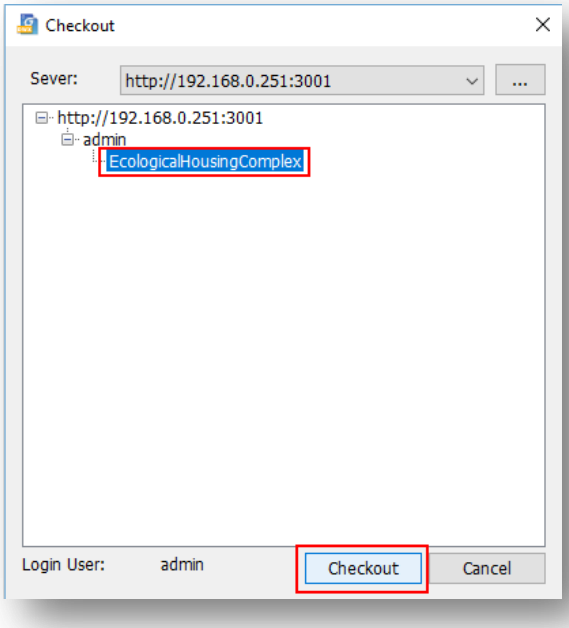
6.- After confirming project deletion, notice the **“Collaboration Explorer”** panel will delete the project.



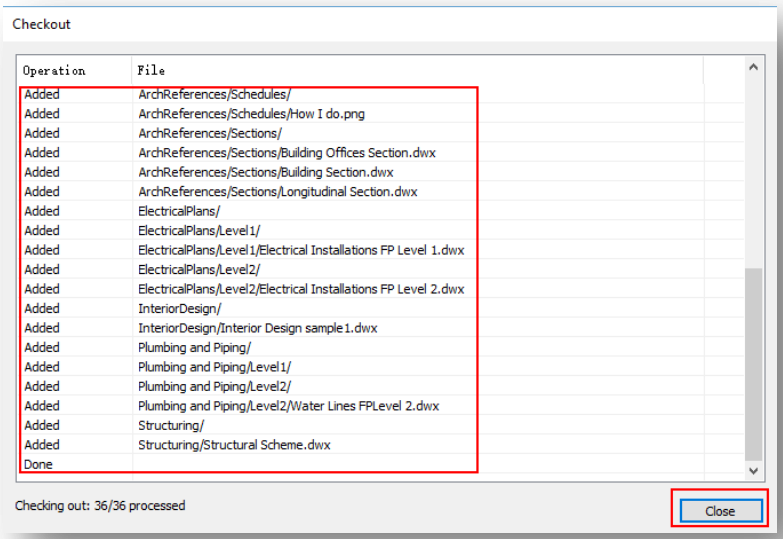
7.- Now you are ready to checkout a project from server. In **“Working Copy Management”** dialog box, press **“Checkout project”** button. In **“Checkout”** dialog box, you can browse to server by **“Login”** first. Then the project(s) located in the server will be loaded and shown in the dialog box.



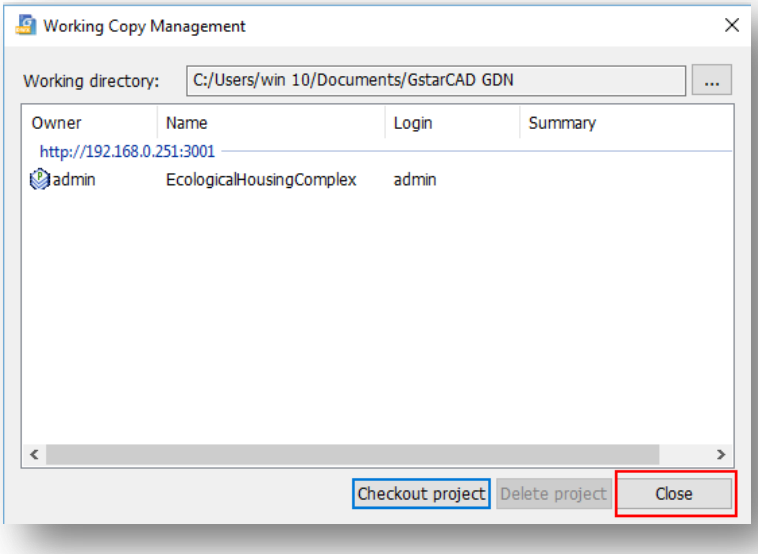
8.- Select the project loaded and press **“Checkout”** button.

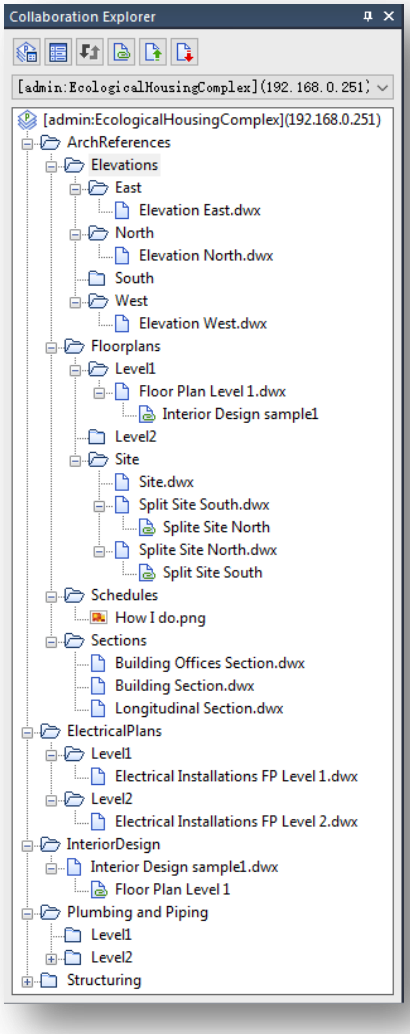


9.- The project directories and files attached will be processed from server to be downloaded and stored on local machine directory path assigned by the user. Then press **"Close"** button to finish the process.



10.- The project will be loaded into project list of **"Working Copy Management"** dialog box. Press **"Close"** button to load the project into **"Collaboration Explorer"** Panel.





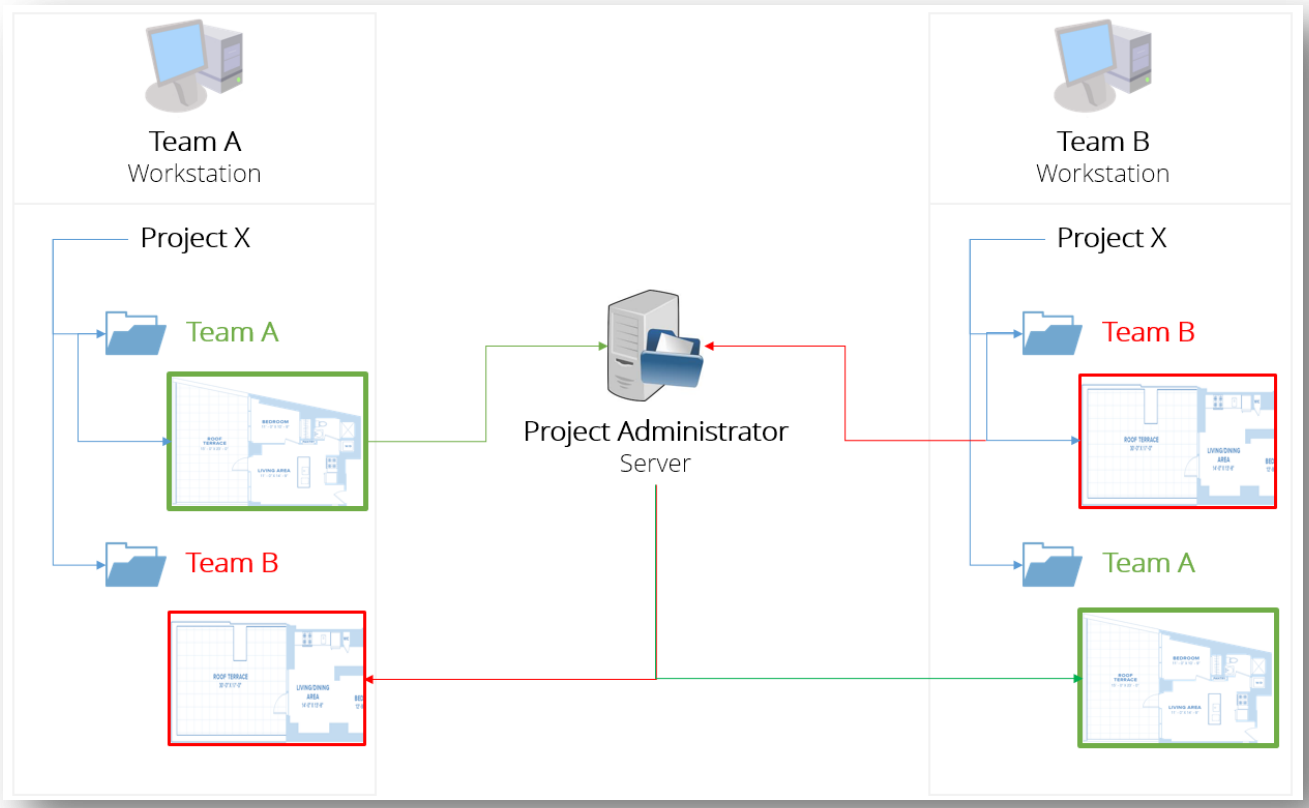
Remark: The checkout functionality not only is designed to load and deploy a desire project from server but also users can update project related files and directories to local machine and work online or offline anytime.

5. Understanding GstarCAD Collaboration Methods

GstarCAD Collaboration System provides two kinds of collaboration methods according to project members need.

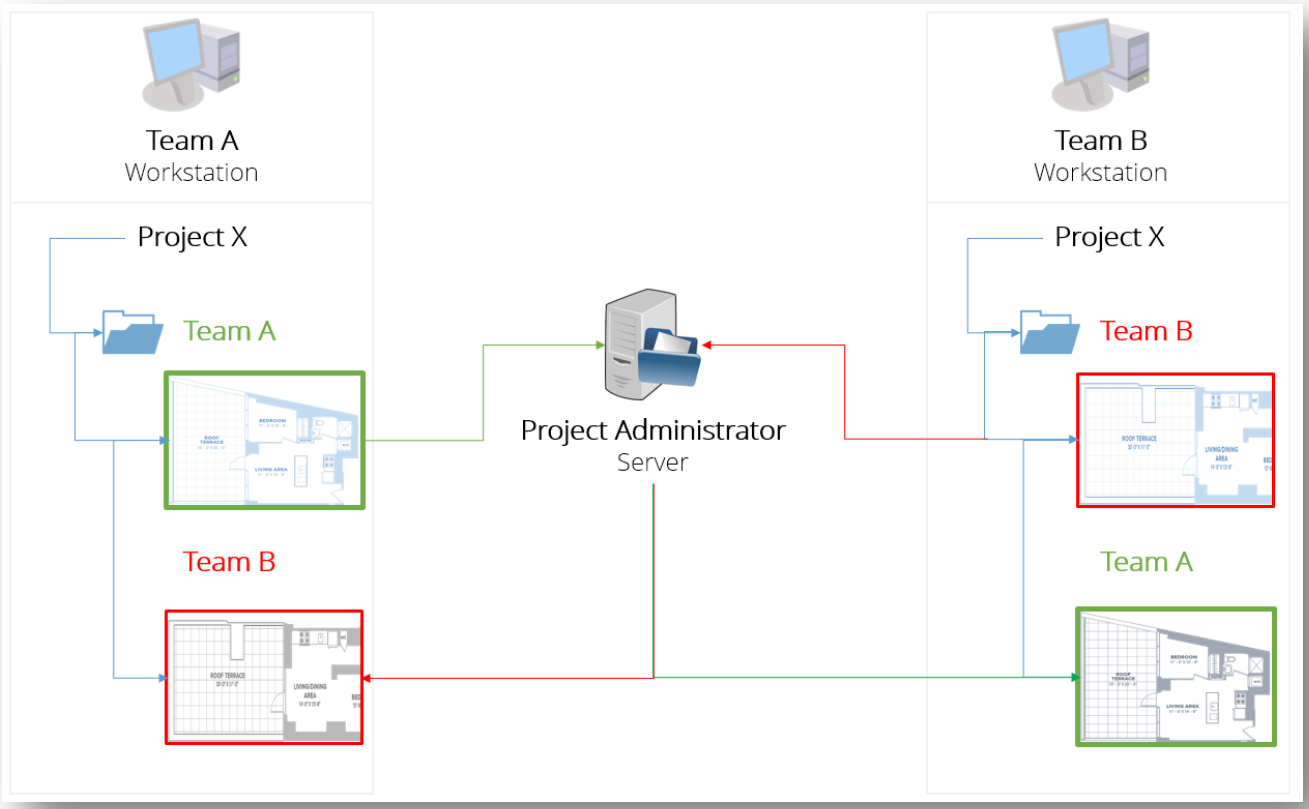
5.1. Asynchronous Collaboration Method

The workflow of the asynchronous collaboration method is based on creating, adding, modifying, saving, committing (loading) and updating (downloading) folders and files from current project directory to the server manually. Different teams (participants in the project) can work in their respective folders (with the appropriate permissions) referring to the drawings created by other teams. Any modification to the project directory made by the project administrator or any participating member must be uploaded to the server for further review. Asynchronous collaboration method improves project documentation and organization.



5.2. Synchronous Collaboration Method

The synchronous collaboration method is based on working at same time with referenced drawing files. Two or more participating members (same or different disciplinary teams with right permissions) can reference their drawing files to one another, allowing view and work upon the referenced drawing at same time in different client platforms. Any drawing modification done by a participant will be loaded to server automatically after saving it, avoiding press **"Commit"** button from the collaboration explorer each time saving a drawing file. What's more, the drawing file update time can be configured individually according to users need. Synchronous collaboration method speeds up blueprint completion between users at same time.



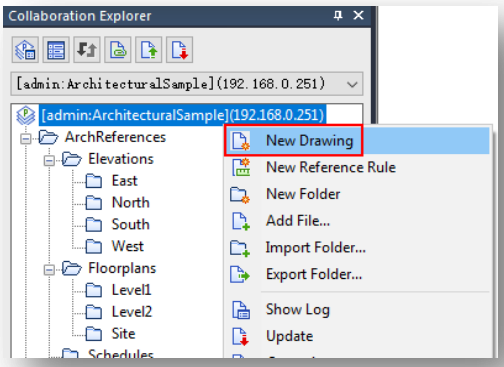
6. Working on Current Project Directory

6.1. About DWX File Format

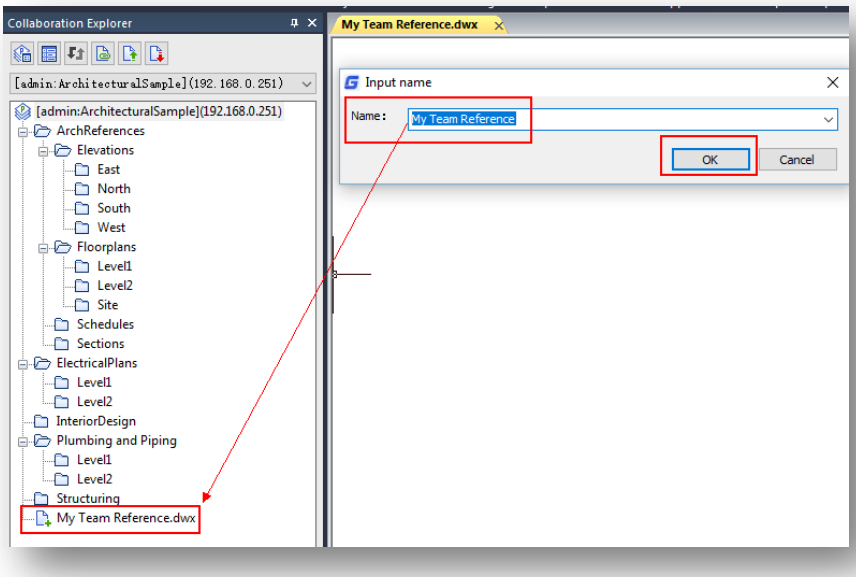
GstarCAD Collaboration System uses a special and unique drawing file format created for the collaboration system. The advantage of this format is that it can carry out incremental drawing data storage transfer, historical version management and backtracking. It cannot be used away from the collaborative design specific environment, ensuring the safety of the drawings. DWX files can be generated by creating a new DWG file or by adding a DWG file to the right-click menu of the project list. DWX files can be exported to standard DWG files if needed. After the user logs in and selects the project, the **"Collaboration Explorer"** panel displays all folders and related files that are readable by the current user in a tree structure.

6.2. Add New Drawing on Project Directory (Common or Power User Type)

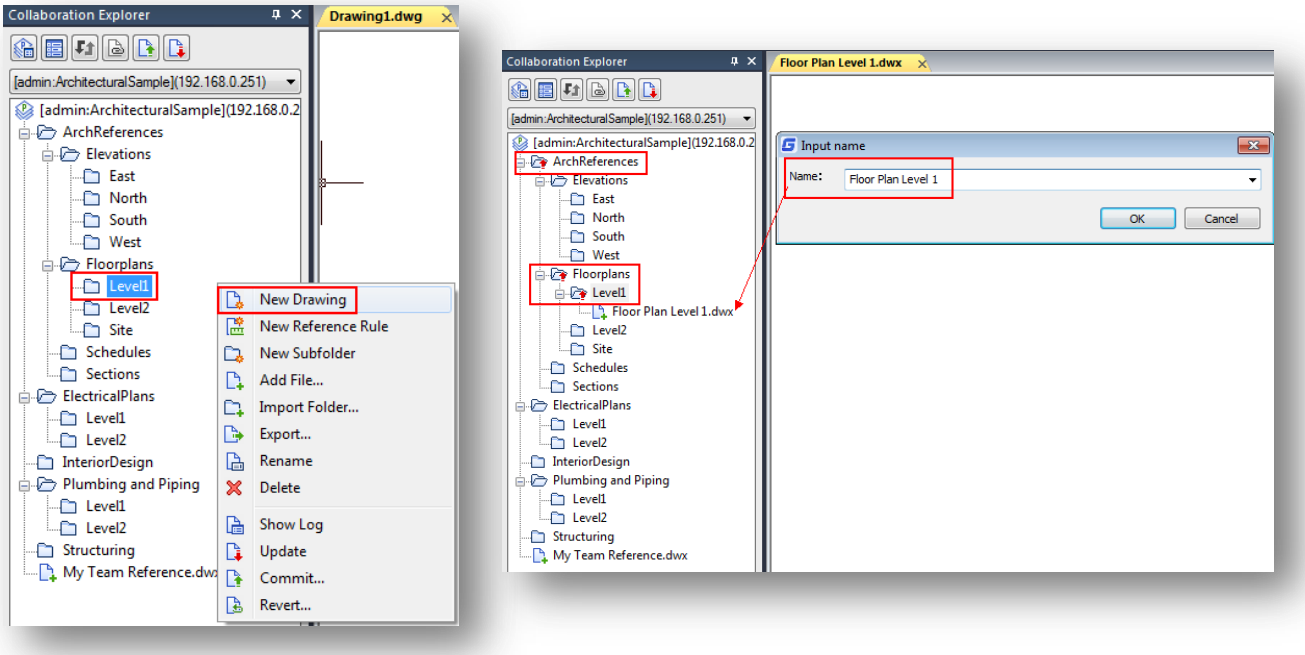
1.- In GstarCAD platform, go to **"Collaboration Explorer"** panel, right-click the project name to deploy a context menu. Then select **"New Drawing"** option.



2.- Input a proper name and press **"OK"** button. The new DWX drawing will be added at button of project tree and by default will be open.

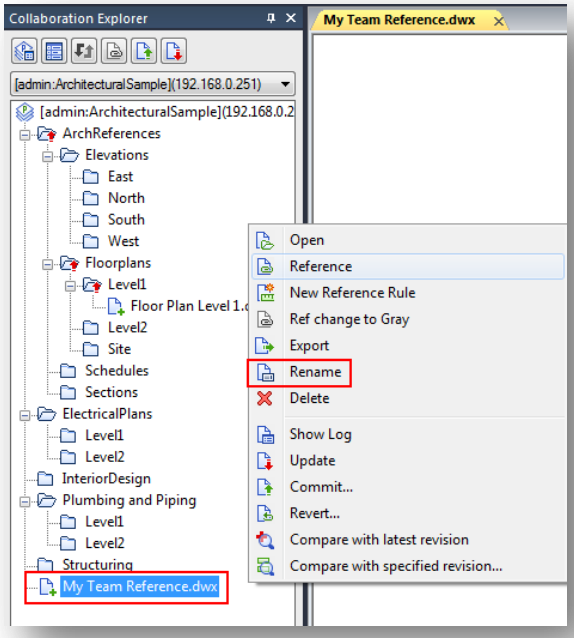


3.- You can also create new drawings within a subfolder as well. Right-click a subfolder, select **"New Drawing"** option. Input a proper name and done! Notice this time, the subfolder and the top of the subfolder (hierarchically) will show an arrow up (red color) that means any new drawing file or reference added to a subfolder needs to be uploaded to the server to further revision. Any user type (common or power) can upload or commit files to server only if is authorized by the project administrator under roles and permissions.

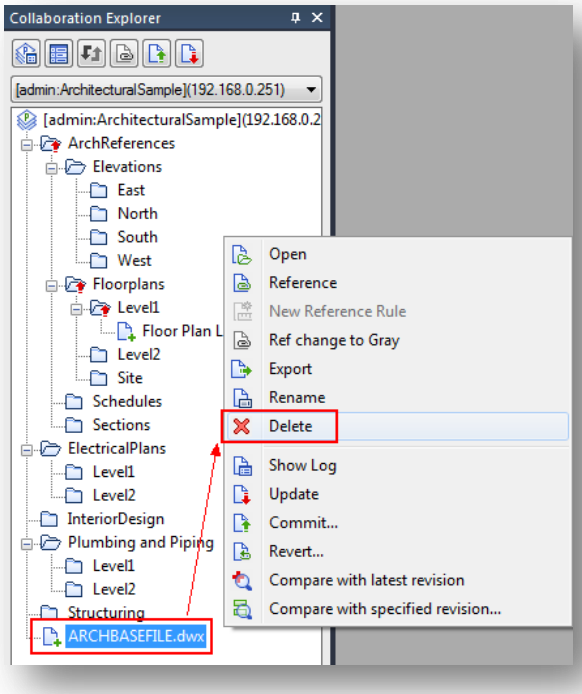


6.3. Rename and Delete Any File on Project Directory (Common or Power User Type)

1.- To rename any file on project directory, make sure the correspondent file or reference is not open, just right-click the file and select **"Rename"** Option. Rename it properly and done!

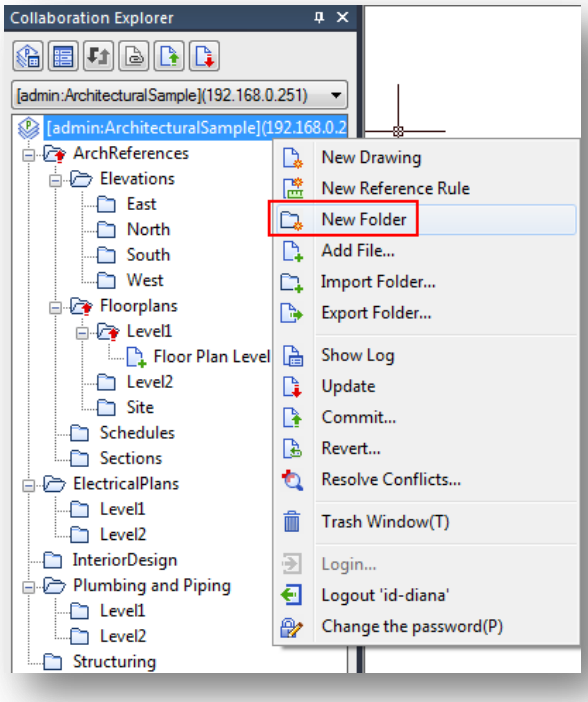


2.- To delete any file on project directory, make sure the correspondent file or reference is not open, just right-click the file and select **"Delete"** Option.

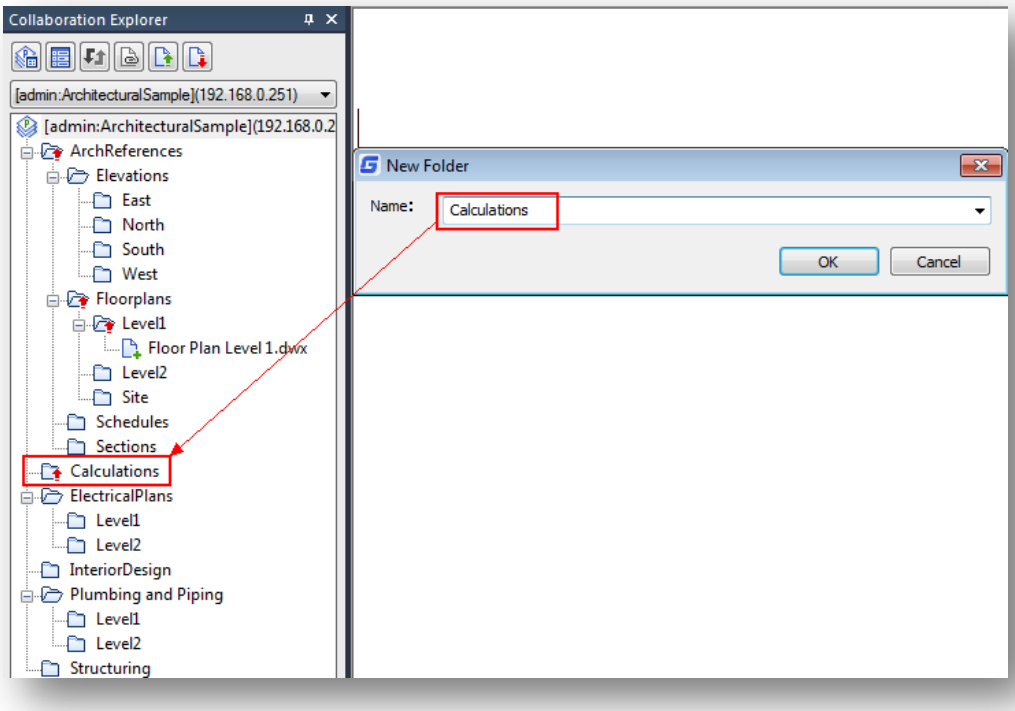


6.3.1. Add New Folder and Subfolder on Project Directory (Common or Power User Type)

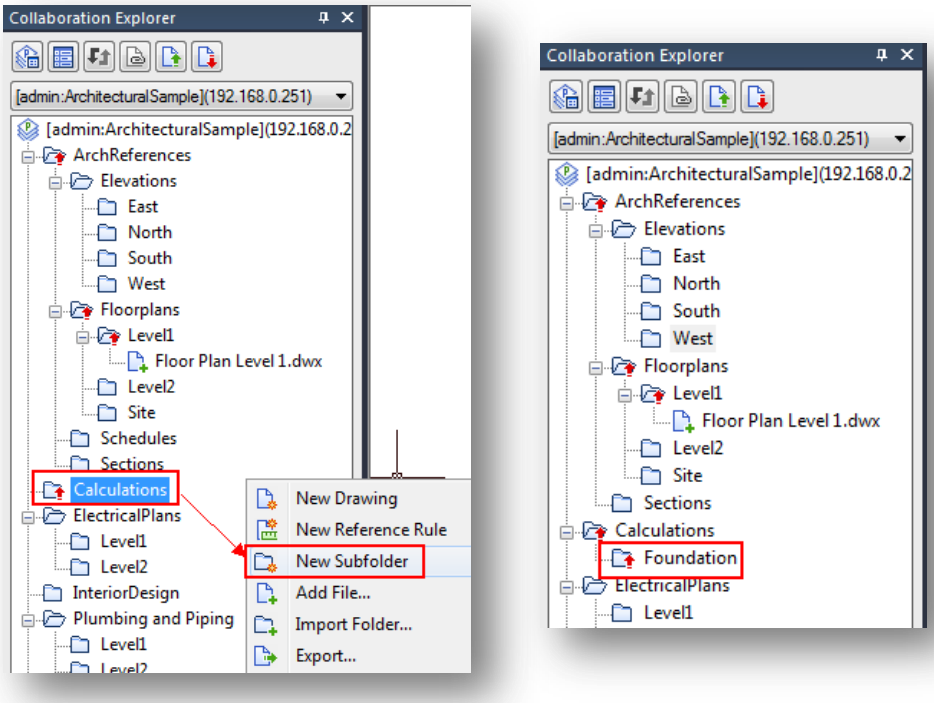
1.- In GstarCAD platform, go to **"Collaboration Explorer"** panel, right-click the project name to deploy a context menu. Then select **"New Folder"** option.



2.- Input new folder name and done! Notice the created folder will be added on project tree alphabetically, showing an arrow up (red color) that means any folder or subfolder added needs to be uploaded to the server to further revision. Any user type (common or power) can upload or commit files to server only if is authorized by the project administrator under roles and permissions assigned.

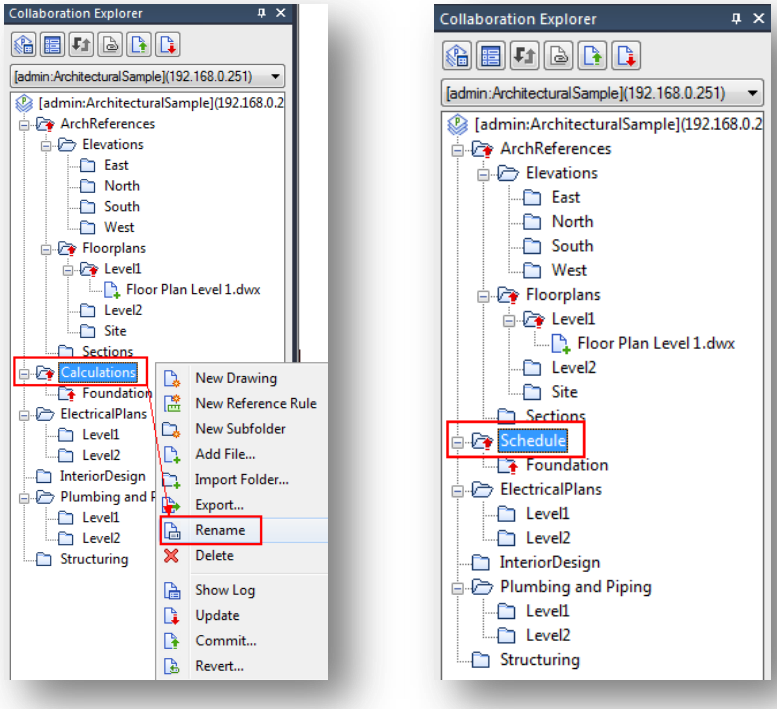


3.- You can also add a subfolder over existing one. Right-click a folder or subfolder and select **"New Subfolder"** option. Enter a name and done! Notice the created subfolder will show an arrow up (red color) that means any subfolder added needs to be uploaded to the server to further revision.

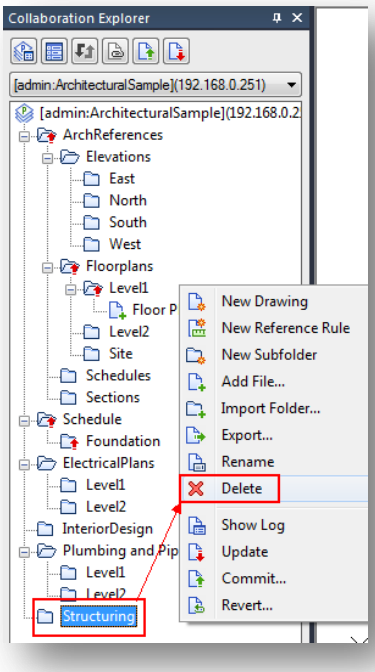


6.3.2. Rename/Delete Folder or Subfolder on Project Directory (Common or Power User Type)

1.- To rename any folder or subfolder on project directory, just right-click the folder or subfolder and select **"Rename"** Option. Rename it properly and done! Notice the renamed folder or subfolder will show an arrow up (red color) that means any folder or subfolder renamed needs to be uploaded to the server to further revision. Any user type (common or power) can upload or commit files to server only if is authorized by the project administrator under roles and permissions assigned.

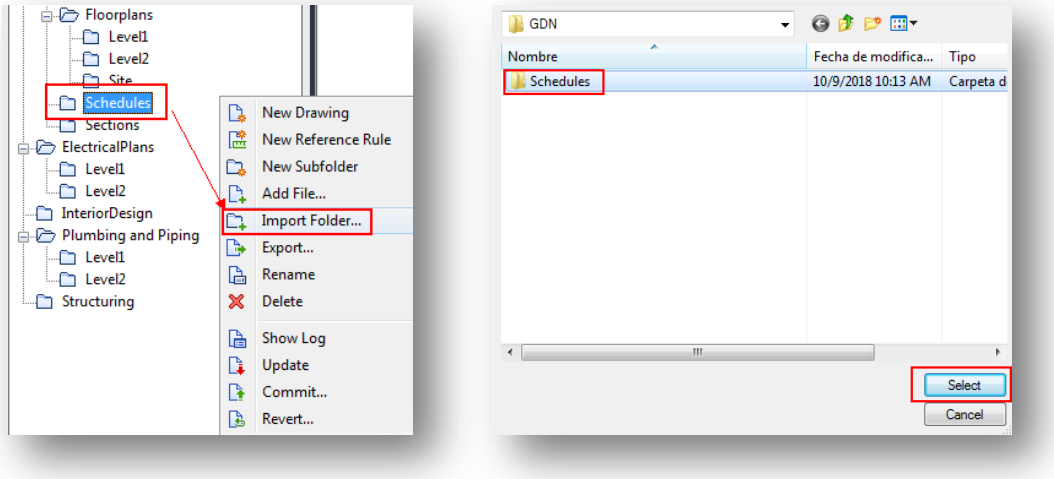


2.- To delete any folder or subfolder on project directory, just right-click the file and select **"Delete"** Option.



6.3.3. Import Folders/Subfolders with Files to Project Directory (Common or Power User Type)

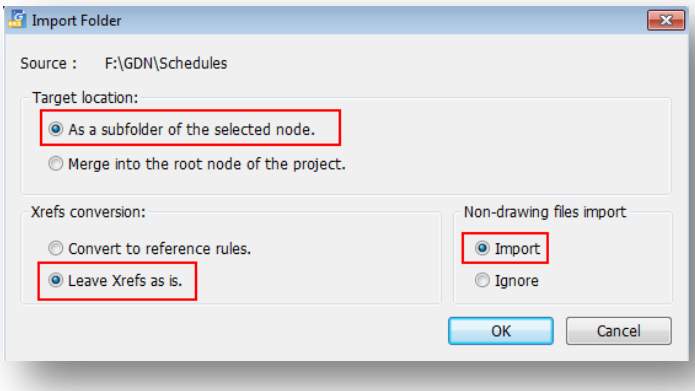
1.- To import folders (including files) to an existing folder of the project directory, right-click a folder or subfolder and select **"Import Folder"** option. Then select a folder you want import and press **"Select"** button.



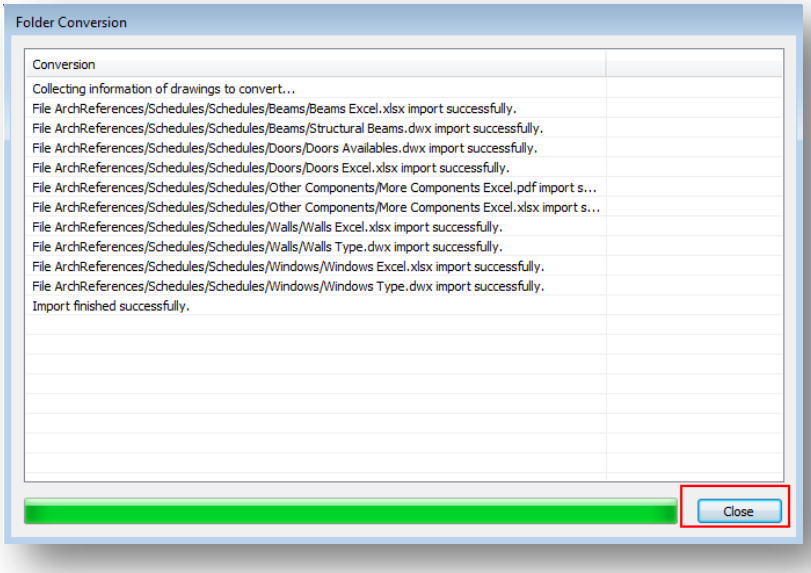
2.- In **"Import Folder"** dialog box, you can select different options;

As a subfolder of the selected node: The folders imported will be attached as subfolder of the selected folder or subfolder of the project directory.
Merge into the root node of the project: The folders imported will merge the selected folder or subfolder of the project directory.
Convert to reference rules: The files within folders imported will be converted as reference rule file. A reference rule file created or added into project directory will adopt (*. DRF) file format extension by default.
Leave Xrefs as is: All Xrefs within folders imported will keep their original file format extension.
Import: Allows import non-dwg files that are attached to folders.
Ignore: Non-dwg files within folders will be not imported.

Let's select the following options; As a subfolder of the selected node, Leave Xrefs as is, and Import. The press **"OK"** button to confirm.

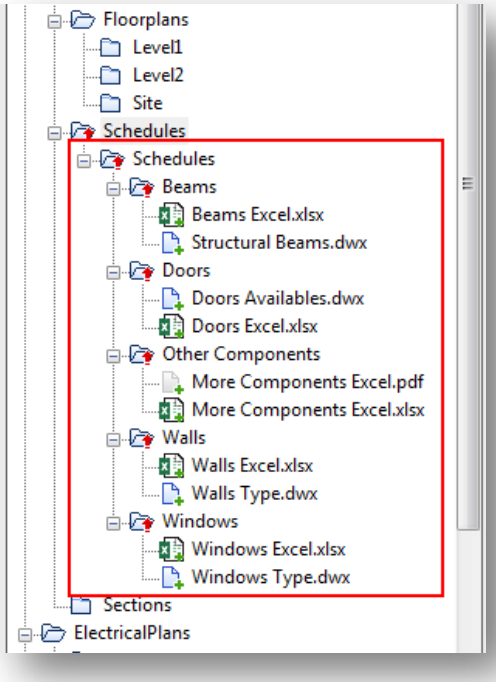


The **“Folder Conversion”** dialog box will pop up. This dialog box will collect, and process information of drawings and any other file attached to folders to be converted. Press **“Close”** button.



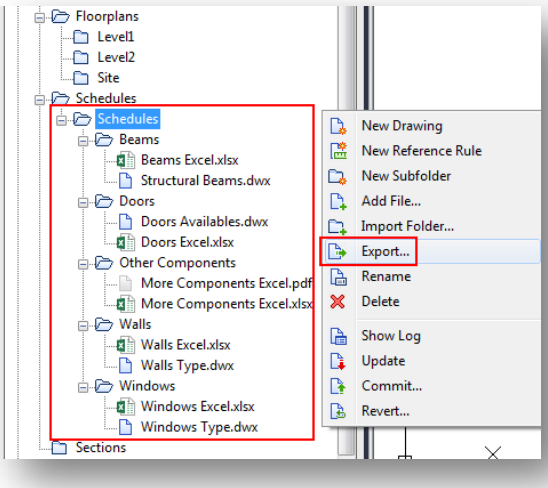
At **“Collaboration Explorer”** panel, you will see the imported folders with their respective files attached. All (*.DWG) files previously attached to folders will be converted as (*.DWX) format. Notice you can attach different files like Microsoft Excel, PDF, and many others more. Later you can open those files to further revision or modification.

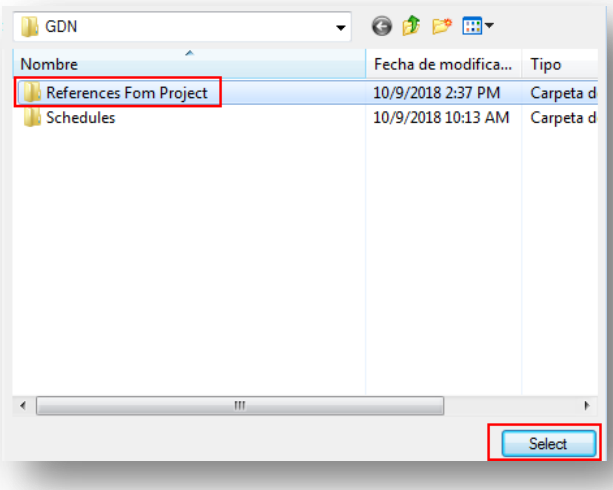
Remark: Each subfolder attached will show an arrow up (red color) which means needs to be uploaded to the server to further revision. Any user type (common or power) can upload or commit files to server only if is authorized by the project administrator under roles and permissions assigned.



6.3.4. Export Folders with Files from Project Directory to Local PC (Common or Power User Type)

1.- Right-click the folder or subfolder you want to export, select **"Export"** option from context menu. Then choose the path where all folders will be exported and press **"Select"** button.

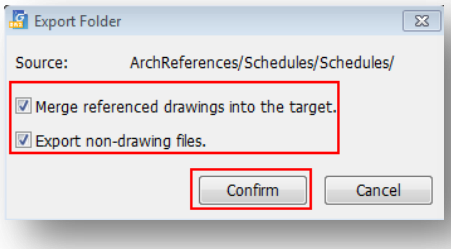


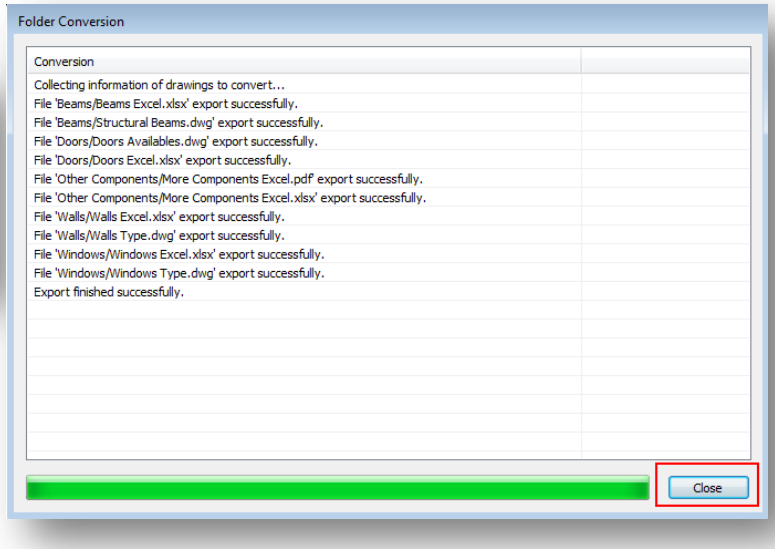


2.- In **"Export Folder"** dialog box, you can check the following options;

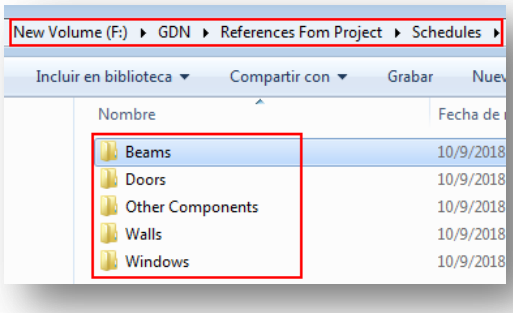
Merge referenced drawings into target: All folders and files to be exported will keep same structure by default.
Export non-drawing files: All non-drawing files like PDF, Microsoft Excel and other files attached will be exported in their respective folder. If this option is unchecked, non-drawing files will be not exported.

You can let these options checked by default, then press **"Confirm"** button to start exporting folders and files to selected path. The **"Folder Conversion"** dialog box will pop up. This dialog box will collect, and process information of drawings and any other file attached to folders to be exported. Press **"Close"** button.





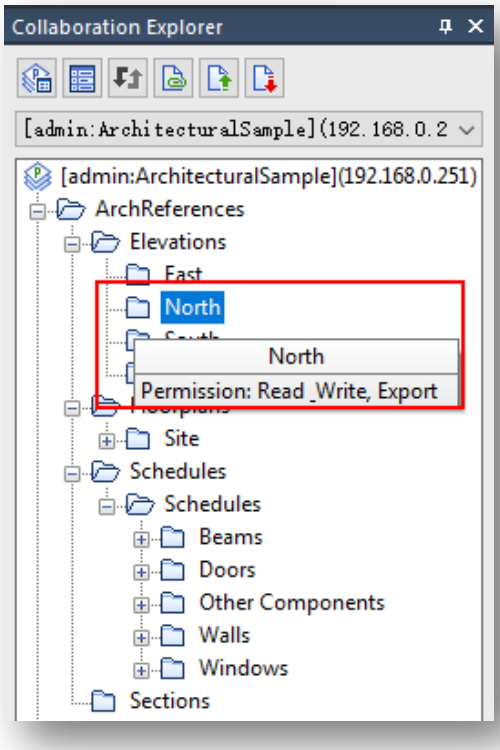
Then you can confirm if the exportation process is successful by going to the assigned path.

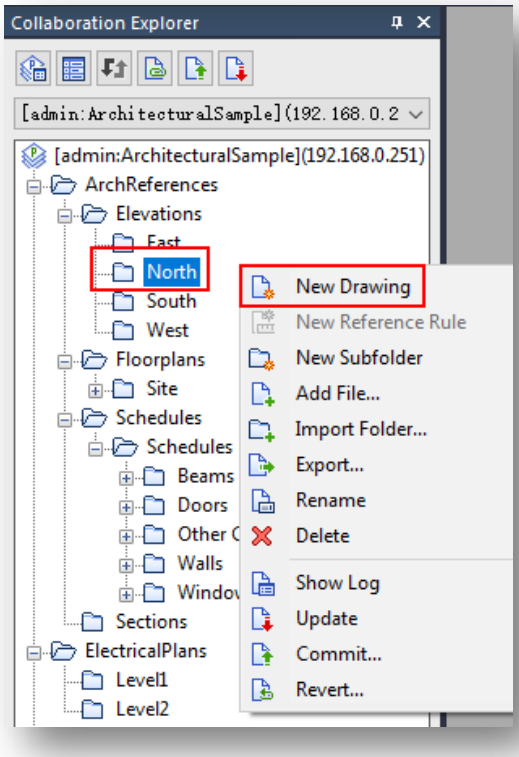


Remark: To export folders and subfolders with files attached from project directory to local pc you must be a common or power user type with correct authorization by the project administrator based on roles and permissions. For example, if you are set up as common or power user type by the project administrator with write & read, export or read-only, export permission, exporting folders and files attached is allowed. If you are set up as any user type mention above with any other permission, exporting folders and files attached are not allowed. It is recommended to read the **GstarCAD Collaboration Server Management Guide →New Project Configuration→Assigning Permissions for Folder**.

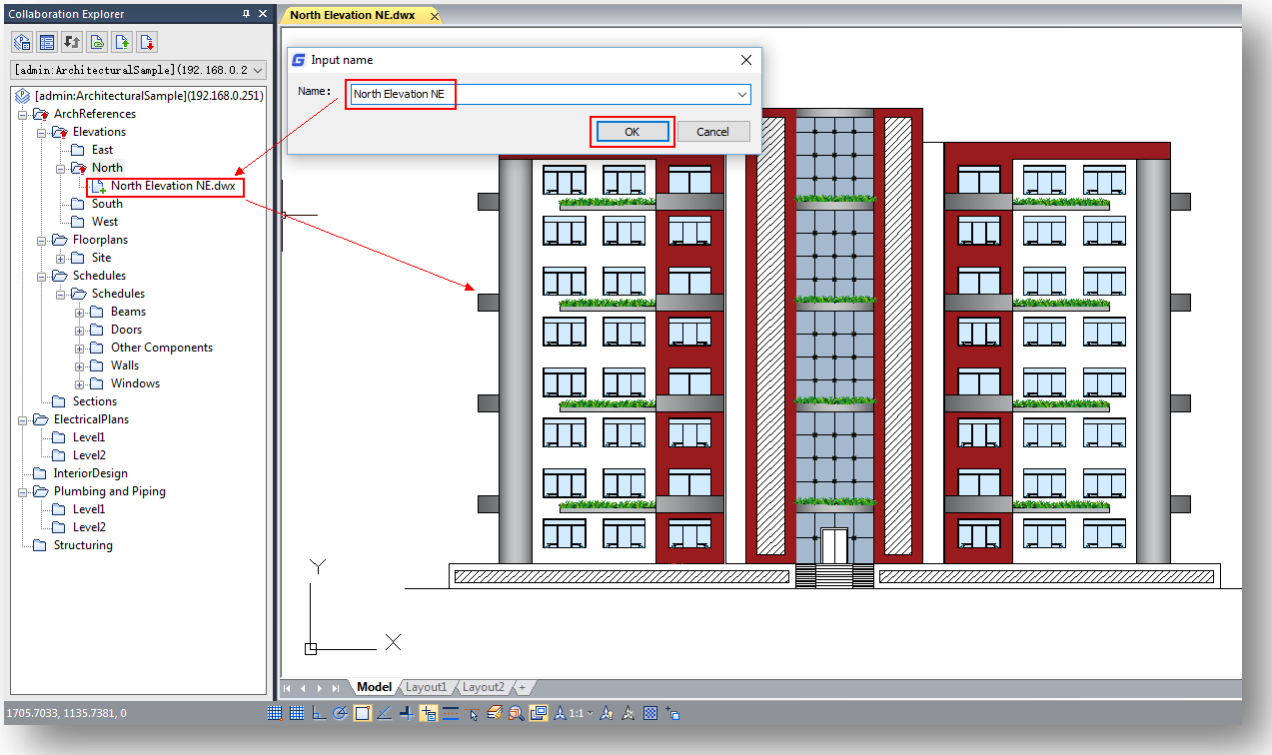
6.3.5. Export a Drawing File from Project Directory to Local PC (Common or Power User Type)

1.- Make sure the folder or subfolder that you are working with has Read & Write or Read & Write & Export permission. You can create a new drawing or add a file. Let's create a file, right-click the subfolder and select **"New Drawing"** option.

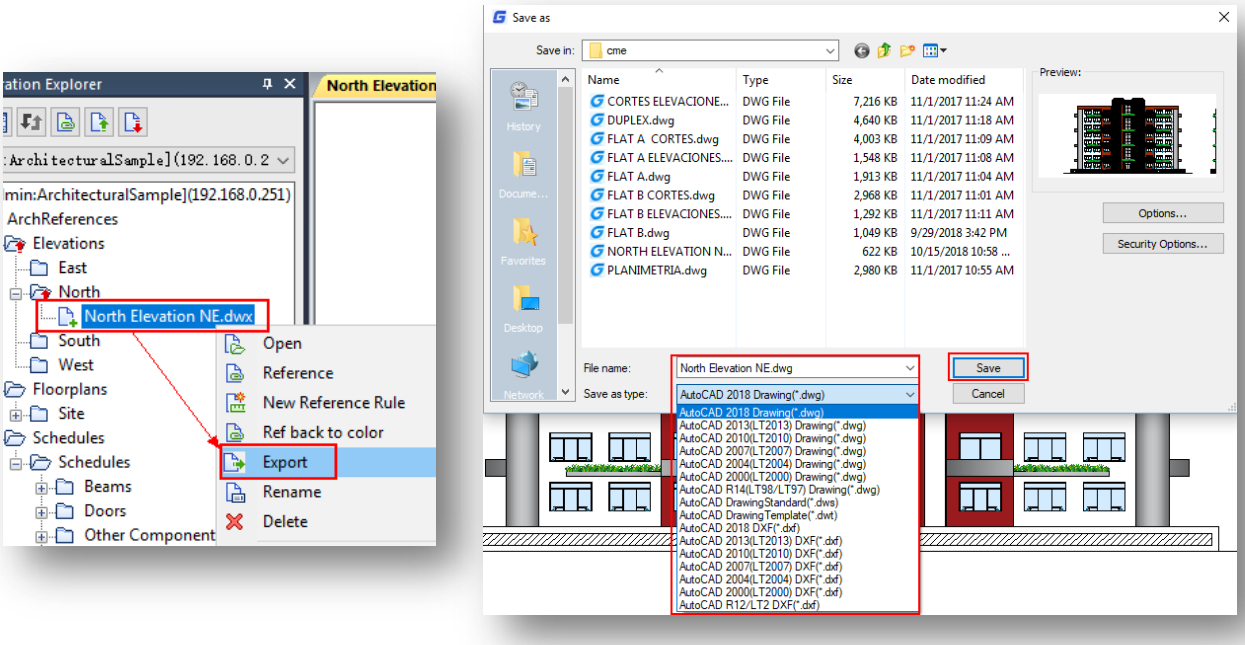




2.- Enter a name for drawing file and press **“OK”** button to confirm. The drawing will be added under selected subfolder and will be opened automatically, you can start draw from scratch until finish your design.

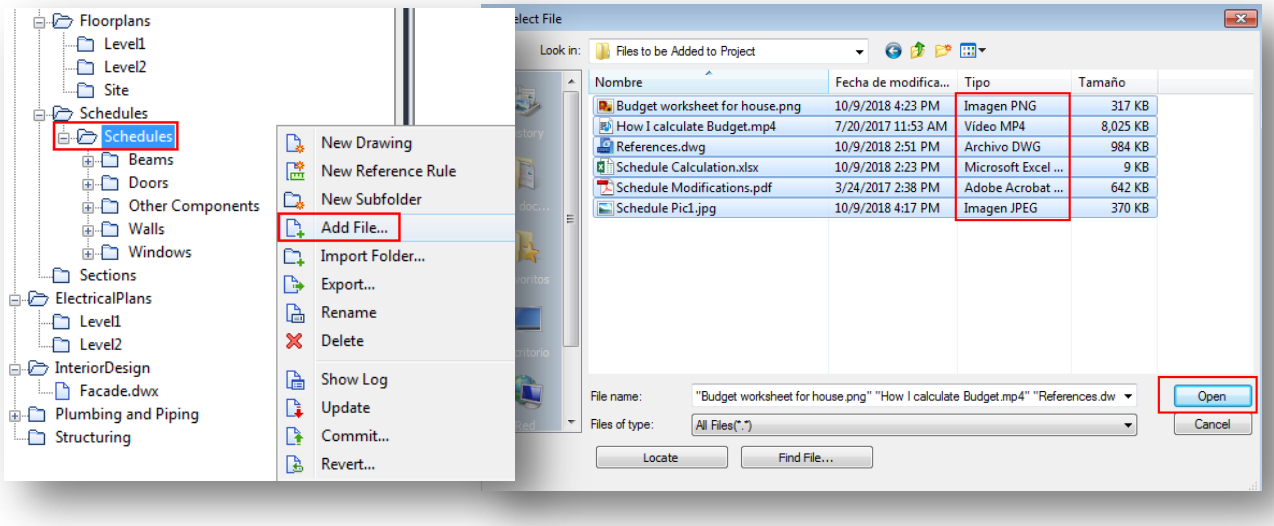


3.- Then right-click the DWX file and select **“Export”** option from context menu. In **“Save as”** dialog box, you can choose, the path or folder where the file will be stored, select a DWG version from list and press **“Save”** button. The DWX file will be saved as DWG file format.

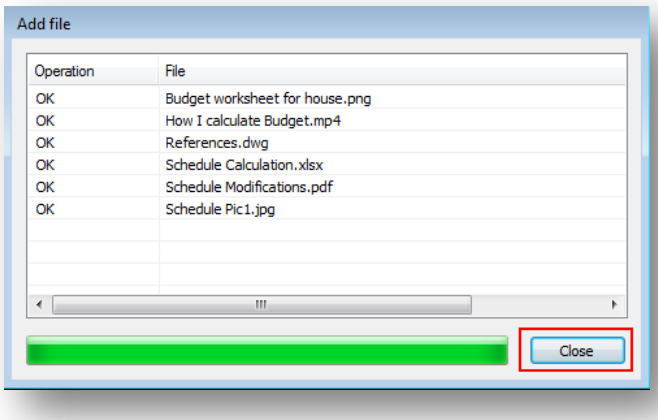


6.3.6. Add File to Folder from Project Directory (Common or Power User Type)

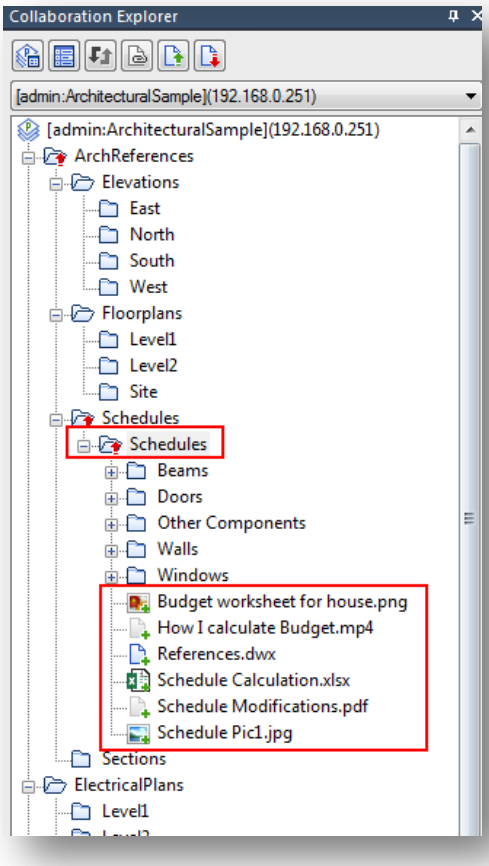
1.- You can add different kind of files format to project directory. Right-click the folder or subfolder you want add file, select **"Add File"** option from context menu. Then choose all the files (dwg, pdf, excel, image, video, etc) to be added and press **"Open"** button.



2.- In **"Add File"** dialog box, all the files selected will be processed and added to project directory. Press **"Close"** button to close dialog box.

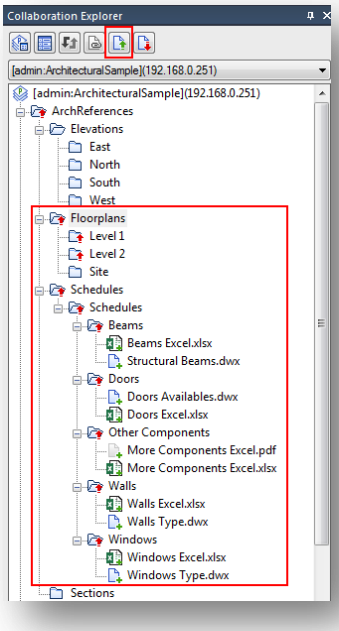


3.- Now all the files have been added to its respective folder.



Remark: After added all files, the folder will show an arrow up (red color) which means needs to be uploaded to the server to further revision. Any user type (common or power) can upload or commit files to server only if is authorized by the project administrator under roles and permissions assigned.

7. Understanding Commit Process



All project participants can open, view, edit, reference, and submit drawing files or documents according to their permissions. In GstarCAD Collaboration System, designers can work on a drawing file drawn by other project members and can get latest drawing modifications, view and compare drawing changes, or trace back to a historical version at any time.

As power or common user, you must understand and assume what role and permissions the project administrator assigned you. It is recommended to read the **GstarCAD Collaboration Server Management Guide→ New Project Configuration→Assigning Permissions for Folder**.

7.1. Before Commit or Upload Modification on Files or Project Directory to Server....

1.- Internet connection and network availability (Power and common user type).
2.- Setup properly the GstarCAD Collaboration Server options (Project administrator as power user type by default).
3.- Setup roles and Read & Write or Read & Write & Export permission for project participants (Project administrator).
4.- Login, load and deploy related project from GstarCAD Collaboration Server to GstarCAD platform (Power and common user type).

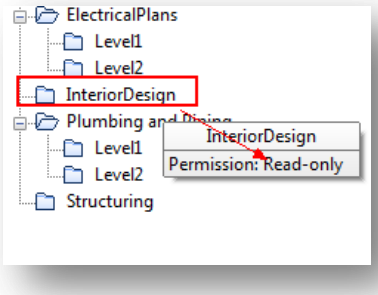
7.2. When Users Can Upload Modification on Files or Project to Server?

In what situation?	Project Administrator	Power and Common User Type	Permissions Assigned on Project Folders
1.- When creating, renaming or deleting a folder or subfolder on project directory.	Authorized		Read & Write or Read & Write, Export
2.- When creating, renaming or deleting a drawing file or any other file format on project directory.	Authorized		Read & Write or Read & Write, Export
3.- When adding, renaming or deleting a drawing file or any other file format on project directory.	Authorized		Read & Write or Read & Write, Export
4.- When importing a folder attached with different file formats on project directory.	Authorized		Read & Write or Read & Write, Export
5.- When creating a new reference rule for drawing file on project directory.	Authorized		Read & Write or Read & Write, Export
6.- When saving a drawing file on project directory.	Authorized		Read & Write or Read & Write, Export

7.3. In What Situation Users Can't Commit or Upload Modification on Files or Project Directory to Server?

1.- There is no internet connection.

2.- Power or common user has Read-only, Read-only & Export, or Deny all permission assigned by project administrator.



3.- Power or common user creates, renames, deletes a folder or subfolder on project directory without having Read & Write or Read & Write & Export permission.

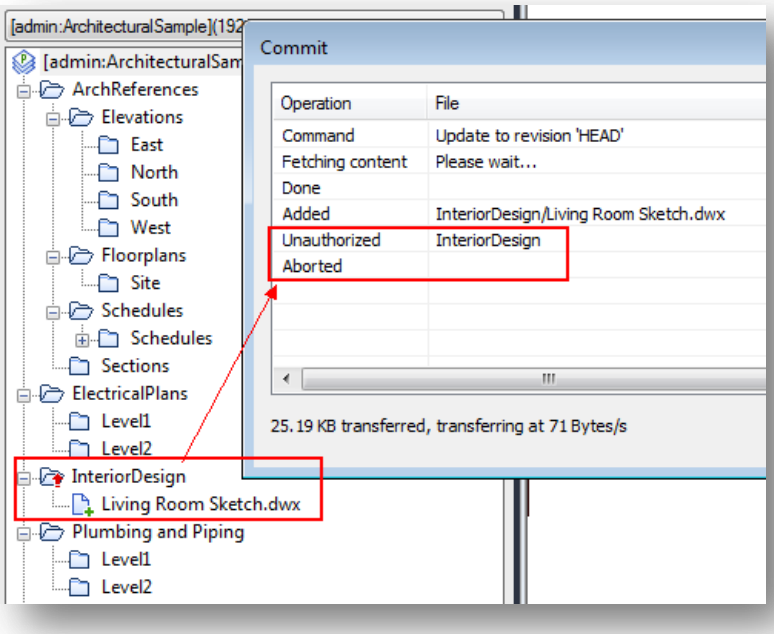
4.- Power or common user creates, renames, deletes a drawing file or any other file format on project directory without having Read & Write or Read & Write & Export permission.

5.- Power or common user adds, renames, deletes a drawing file or any other file format on project directory without having Read & Write or Read & Write & Export permission.

6.- Power or common user imports a folder attached with different file formats on project directory without having Read & Write or Read & Write & Export permission.

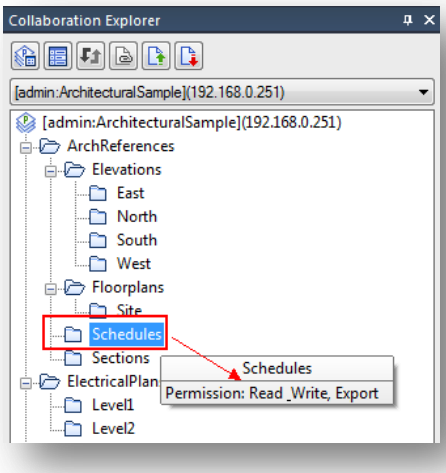
7.- Power or common user creates a new reference rule for drawing file on project directory without having Read & Write or Read & Write & Export permission.

8.- Power or common user makes modifications to drawing file (Read & Write or Read & Write & Export permission for correspondent folder) but do not save it at time.

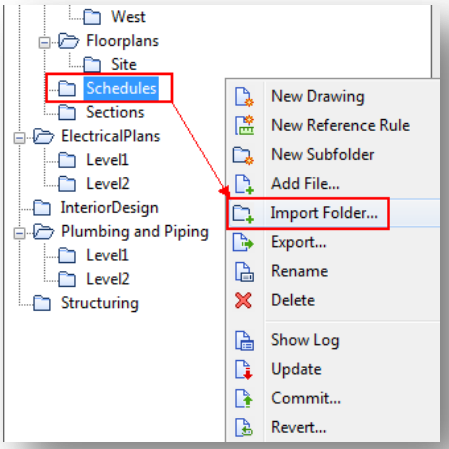


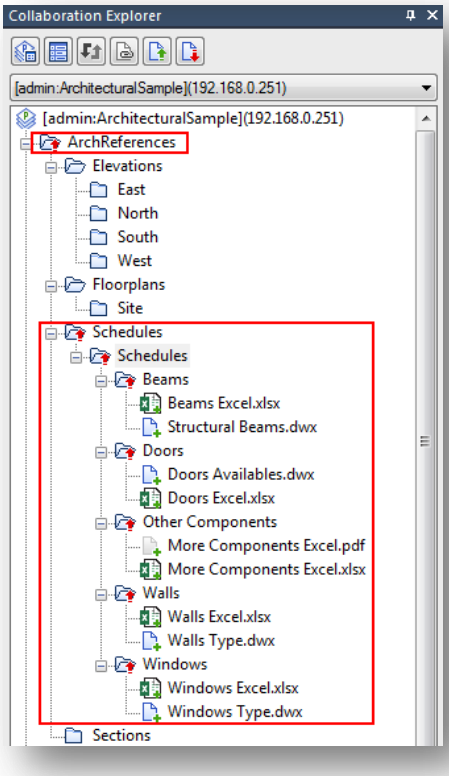
7.4. Example of Committing or Uploading Modification on Files or Project Directory to Server

1.- Whether you are common or power user, make sure if the folder you are working has Read & Write or Read & Write & Export permission by placing the cursor over the folder.

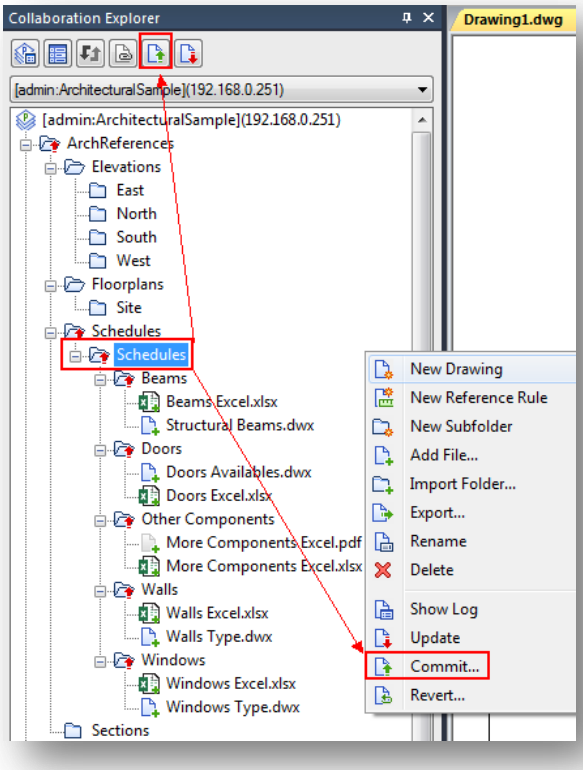


2.- Let's try to add folders with files at once. Right-click on **"Schedules"** folder and select **"Import Folder"** option from context menu. Then follow the steps given in the topic **6.3.2** in this document. After added the folders (files included), the subfolder and top folders will show an arrow up (red color) which are ready to be uploaded to the server to further revision.

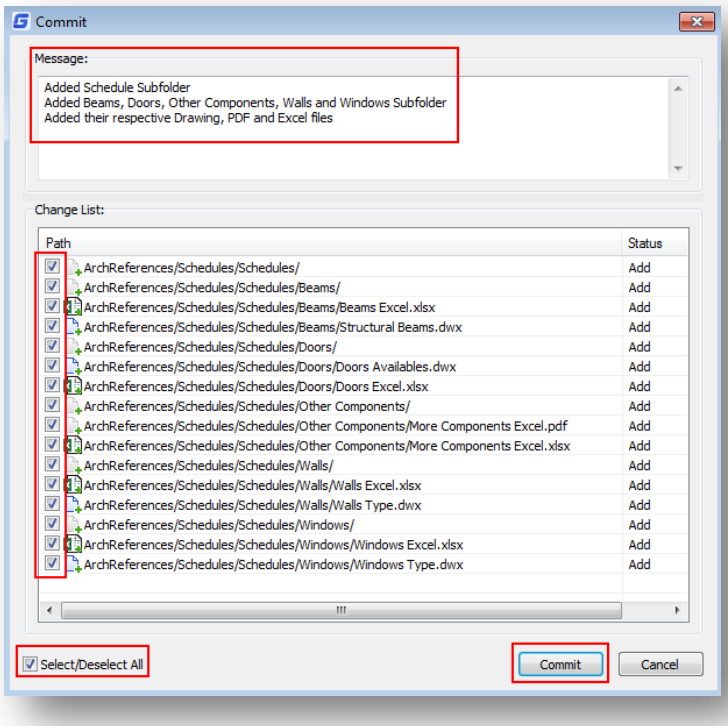




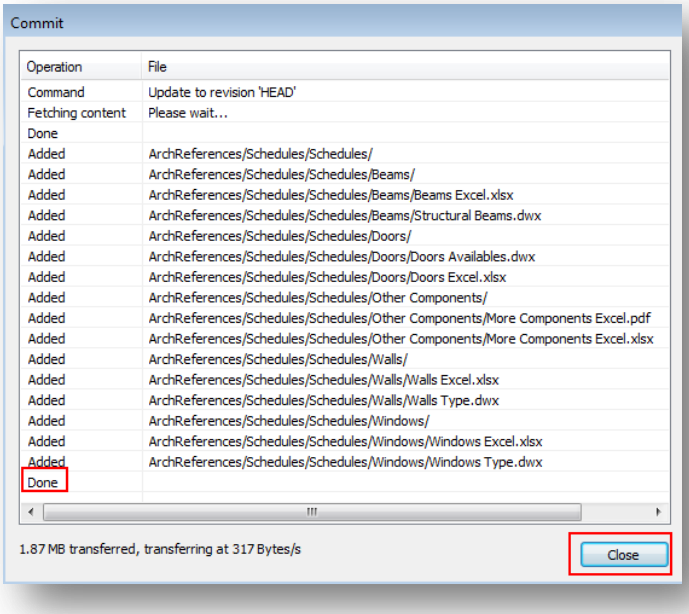
3.- Right-click the imported folder on project directory and select **“Commit”** option. You can also go to the top of the **“Collaboration Explorer”** panel and click **“Commit”** button.

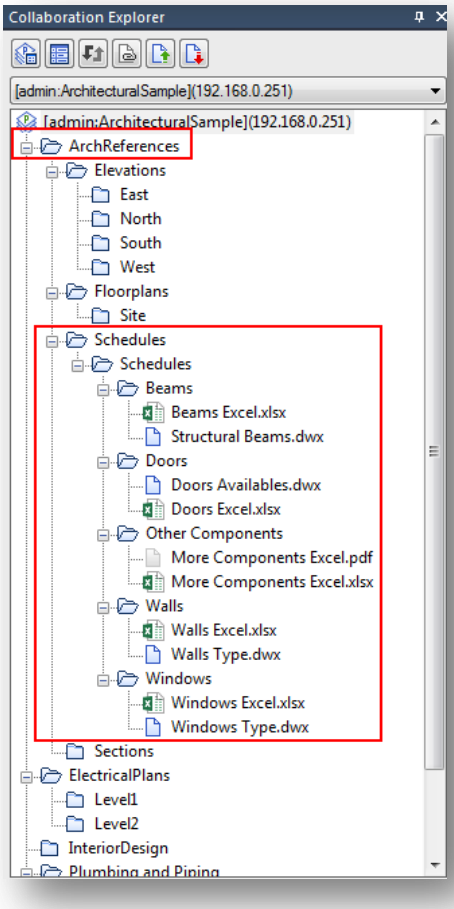


4.- The **“Commit”** dialog box will be shown, in here you can add a message regarding to files adding or modifications done, so project administrator and other disciplinary teams can get the latest version uploaded to the server. You can also check or uncheck folders and files before being committed. Press **“Commit”** button to start uploading folders and files selected.



5.- The **“Commit”** dialog box will process and upload to server all folders and files previously selected. The process will be successful if at bottom of processing list appears **“Done”**. Press **“Close”** button to exit dialog box. Notice at Collaboration Explorer panel, all arrows up (red color) of top folder and subfolders have been dismissed, sign of successful uploading process.



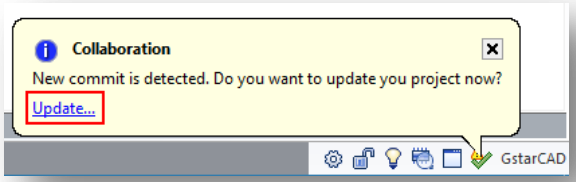


8. Understanding Update and Refresh Process

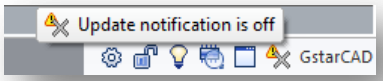
Refresh process refers to tracking changes in the state of files and folders on the server. Update process refers to update the local file to the latest version on the server. The refresh of file and folder status is automatic. When it is detected that a file or folder has been added or deleted on the server, the status of the file or folder will be indicated in the file list, and a bubble will pop up in the status bar to prompt to refresh. Whether to update, users can choose to update immediately or turn off notifications and update the specified folder or file as needed. The refresh interval time can be set in the options dialog box.

8.1. Update Current Project Directory

GstarCAD Collaboration System offers two methods to update current project directory: update manually and automatically. The default update status is on, that is when the system detects there is a file modification, it will pop up message to ask you whether update.



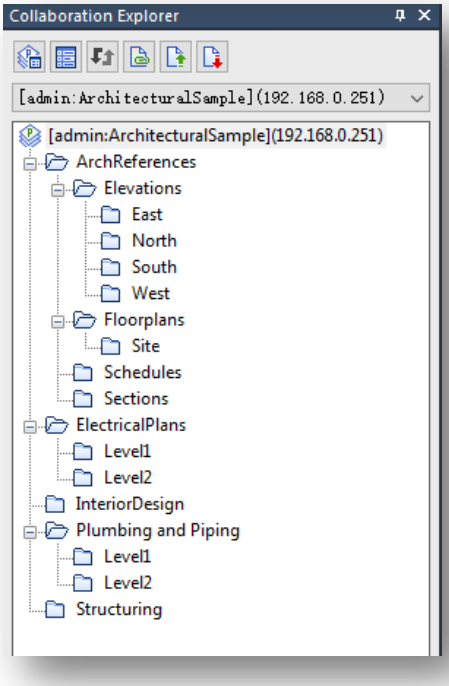
Users can choose to temporarily turn off the update prompt and manually update themselves. If you don't want to pop up the update notification prompt and want to trigger the update manually, you can click the status button to turn off the update notification.



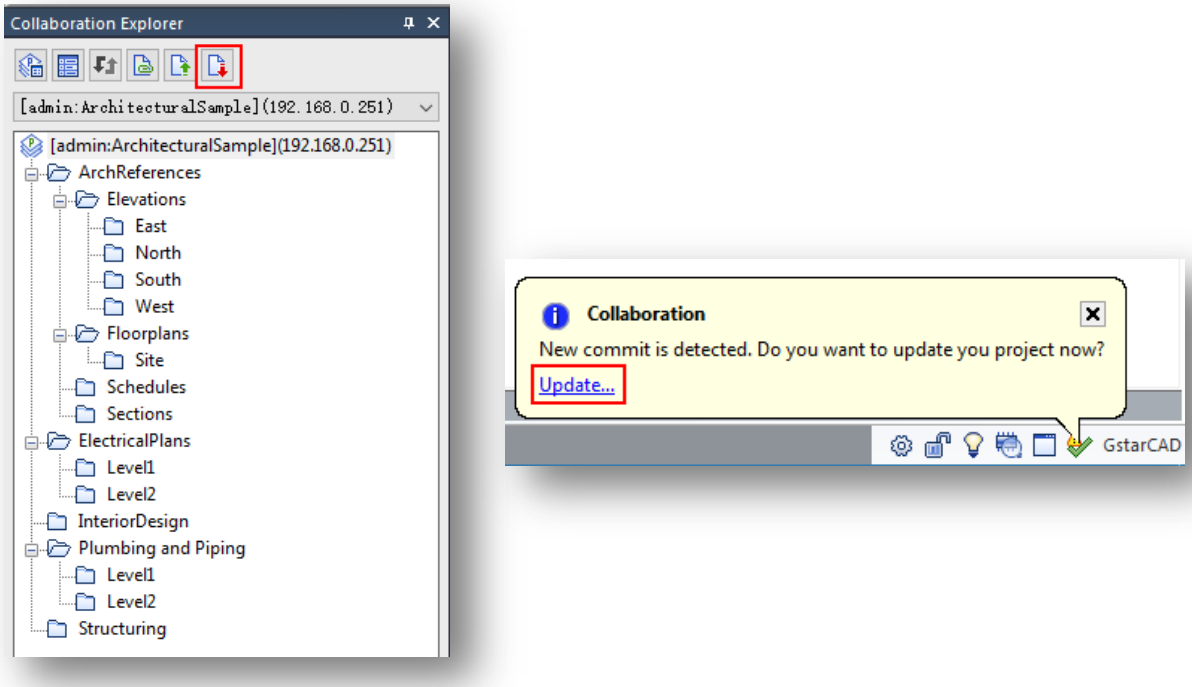
8.2. Update Current Project Directory Manually

After a common or power user committed (uploaded from its workstation) folders and files to server, if you are project administrator, team leader or just a participant member, and you want to see the latest files or folders update within project directory, follow the next steps;

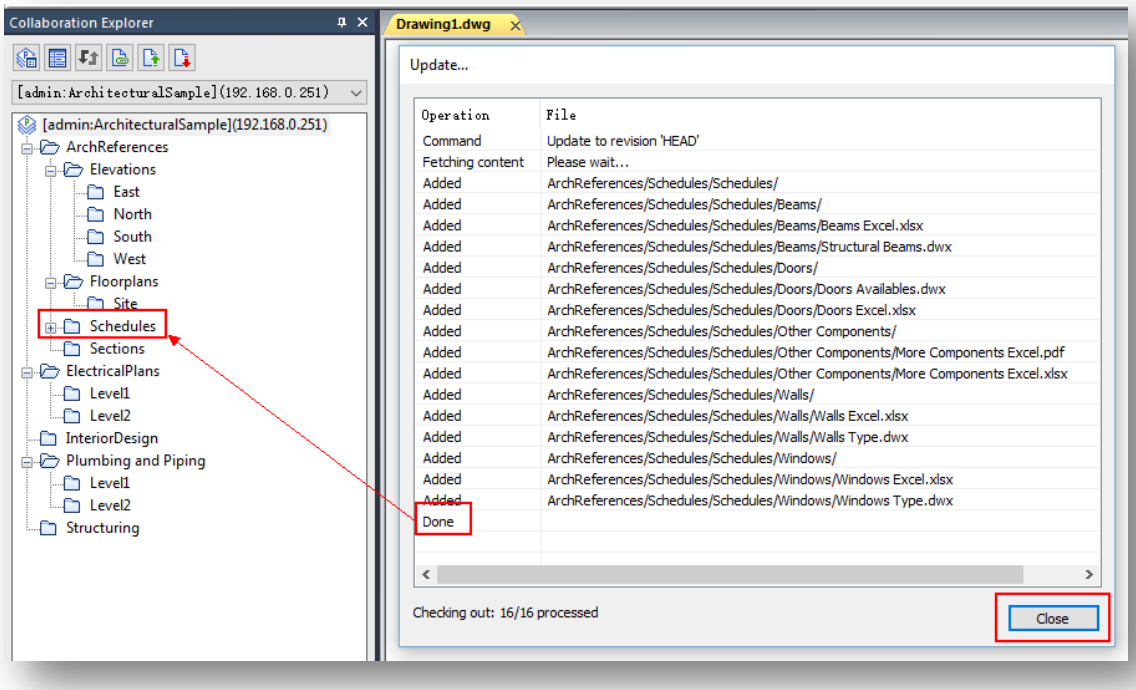
1.- Login, checkout, load and deploy the project directory from server to GstarCAD Collaboration Client through **"Collaboration Explorer"** panel. It is recommended to refer topic **4 Loading a Project from Server to Client Platform** on this document.



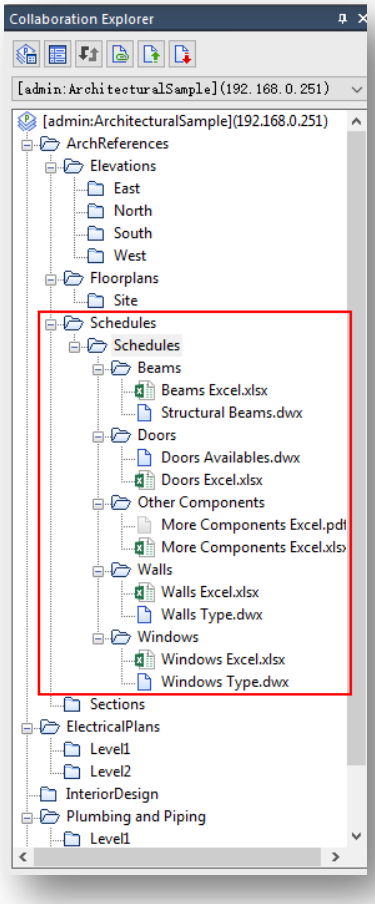
2.- Click **“Update”** button located at top of **“Collaboration Explorer”** panel. Optionally, if you were working on current project, you will get an **“Update Notification”** at status bar. Click **“Update”** to confirm and finish downloading process.



3.- The **“Update”** dialog box will download all folders and files from server. The process will be successful if at bottom of processing list appears **“Done”**. Press **“Close”** button to exit dialog box.



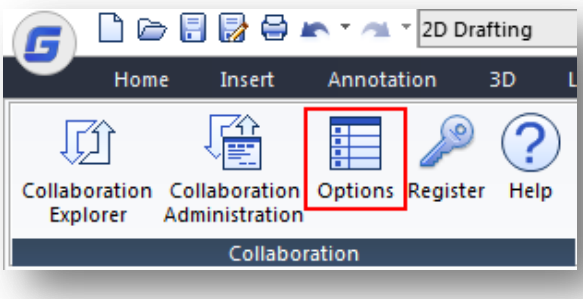
4.- Notice at Collaboration Explorer panel, you can deploy the new folder tree to see all subfolders and files attached.



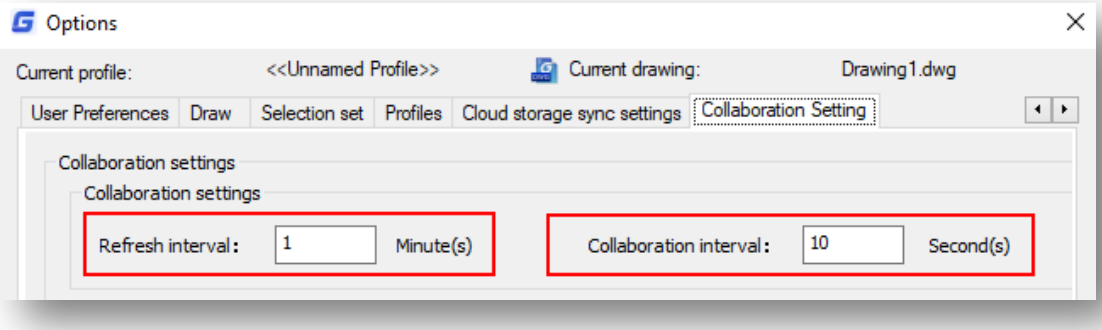
8.3. Configuring Refresh Interval for Synchronous and Asynchronous Collaboration Method

As common or power user, you can setup update (download) interval for current project directory that you are working with automatically. You can determine how fast the server will transfer and download data with a single option depending on the collaboration method in which users are working.

1.- Go to **"Collaboration"** tab at ribbon and press **"Option"** command or just type in **"Option"** on command line.



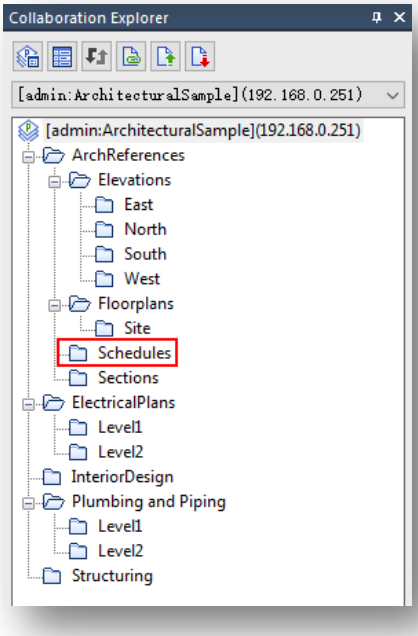
2.- In **“Options”** dialog box, under **“Collaboration Setting”** dialog box, you can find two options under collaboration settings title;

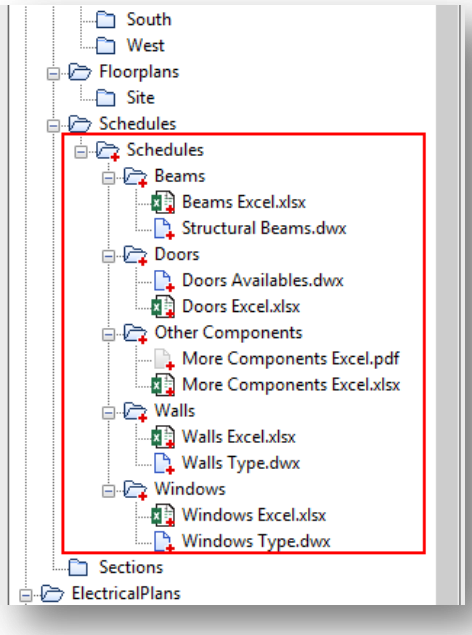


Refresh interval: This option allows configure update (download data from server to current project loaded on user’s pc) interval in minutes. The current project directory will be refreshed automatically with the latest folder or file version uploaded from another user to sever. **Refresh interval option works only for asynchronous collaboration method.**

Collaboration interval: This option allows configure update (download data from server to current project loaded on user’s pc) interval in seconds. A referenced drawing file used for one user will be refreshed automatically with latest modification saved by the owner of the referenced file. **Collaboration interval option works only for synchronous collaboration method.**

3.- If you input 1 minute for refresh interval option, the current project directory you are working will be automatically updated with the latest folders or files modifications submitted to server by other project members just in one minute. The project directory will be refreshed with the latest modifications automatically, folders and files successfully downloaded to project will show an arrow up (red color).





File or Folder Status after Refresh

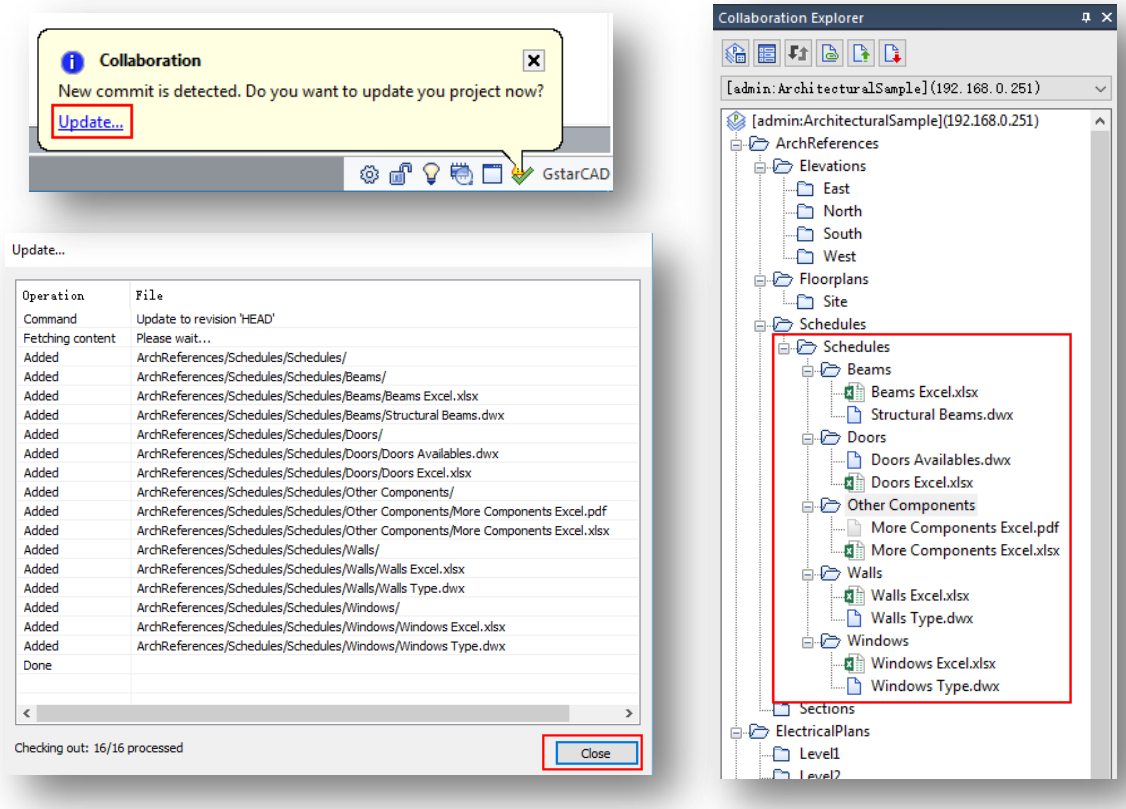
Modified File: If there is an update version, an icon will mark on the file icon.

Deleted File: If the file is deleted in the server, an icon ICON-DEL.ico will be added on file icon in local computer. If you already modified this file and need to save the file, you can rename or move this file to another folder before update.

Deleted Folder: if the folder is deleted in the server, an icon ICON-DEL.ico will be added on file icon in local computer. If you already modified this folder and need to save the folder, you can move this files in the folder to another folder before update.

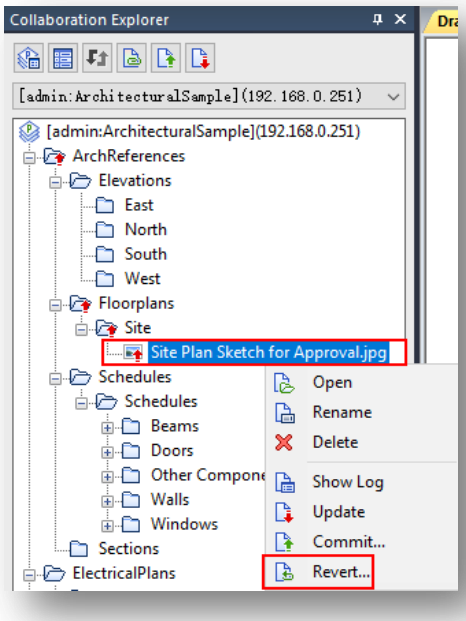
New File or Folder Added: Newly added files, folders (including renamed files and folders) on the server are added to the local file tree, showing the added tags: ICON-ADD.ico Since these files and folders are not available locally, you cannot do anything with these files and folders. If you need to use new text or folders locally, you can choose to update all or a higher-level folder. There is also a difference in the icon for adding files. If you already handled the files or folders, the mark icon will be cleared. If the new added file or folder up level was renamed or moved, the new added file icon and status will not keep, the modified folder will display new added status, but you need to commit again.

4.- Additionally, at same time you will receive an update notification message at status bar. To confirm the update status process, click **"Update"** button to call the **"Update"** dialog box. From the dialog box, press **"Close"** button to exit. Then all red arrows will be dismissed from folder and files.



9. Understanding Revert Process

9.1. Revert Process Applied to Files on Project Directory

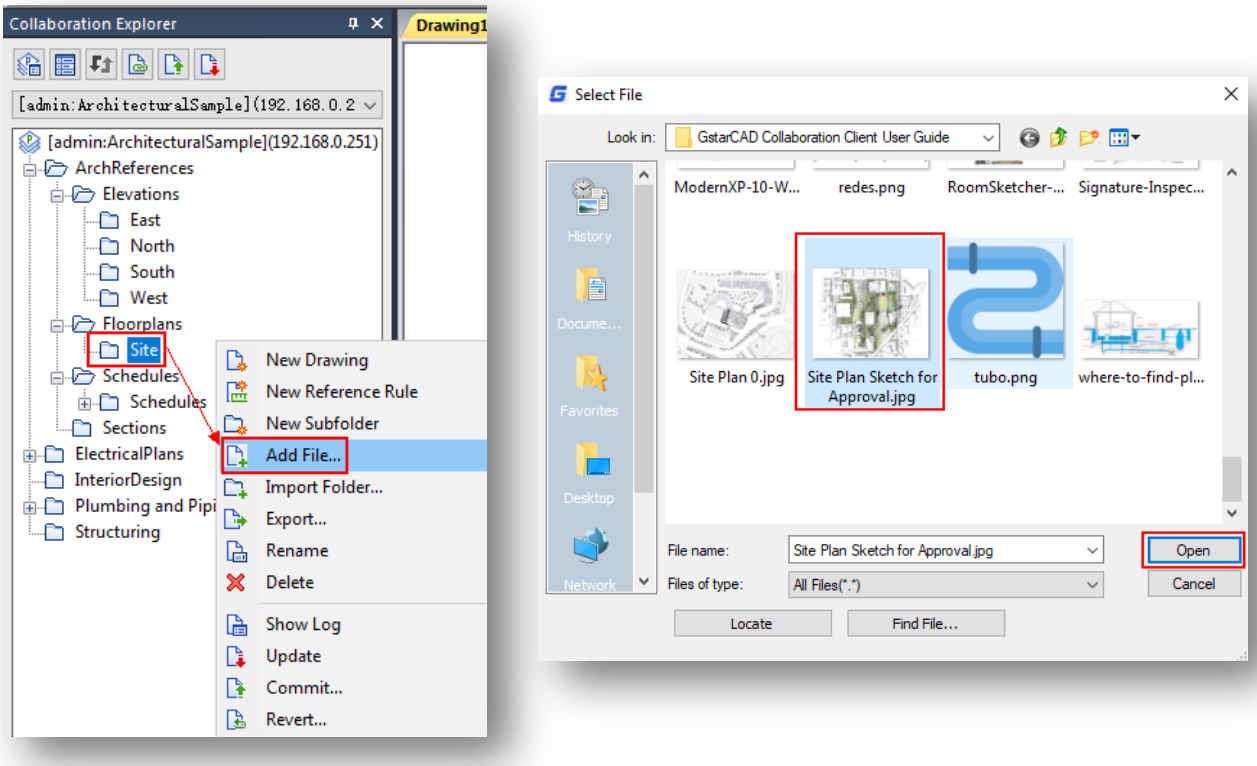


The **"Revert"** option in GstarCAD Collaboration System allows go back and load to local pc a file version previously saved and uploaded in the server. The process is simple, a user saves and uploads a file from project directory (local pc) to server, the server stores the file, next time the same user can call back the stored file.

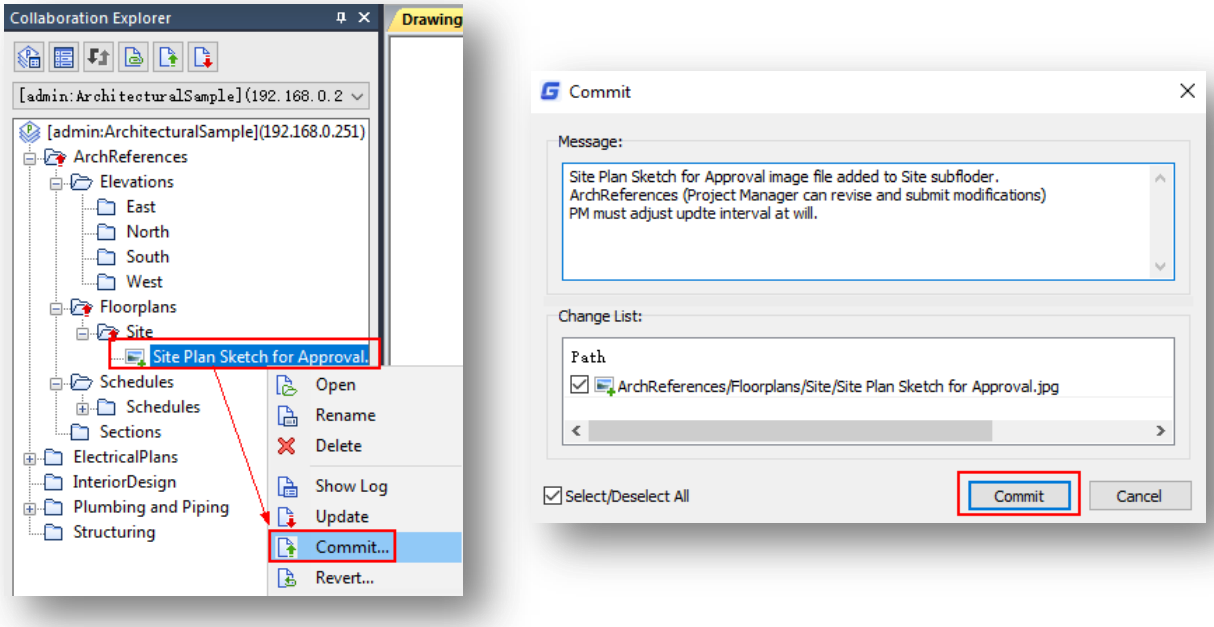
Different file formats (dwx, pdf, excel, image, etc..) can be reverted in case a user is not satisfied with the current file version is working with. Before using revert option, its recommended that common or power user gets right folder permissions assigned for project administrator.

9.2. Example of Revert Option Applied to Files on Project Directory

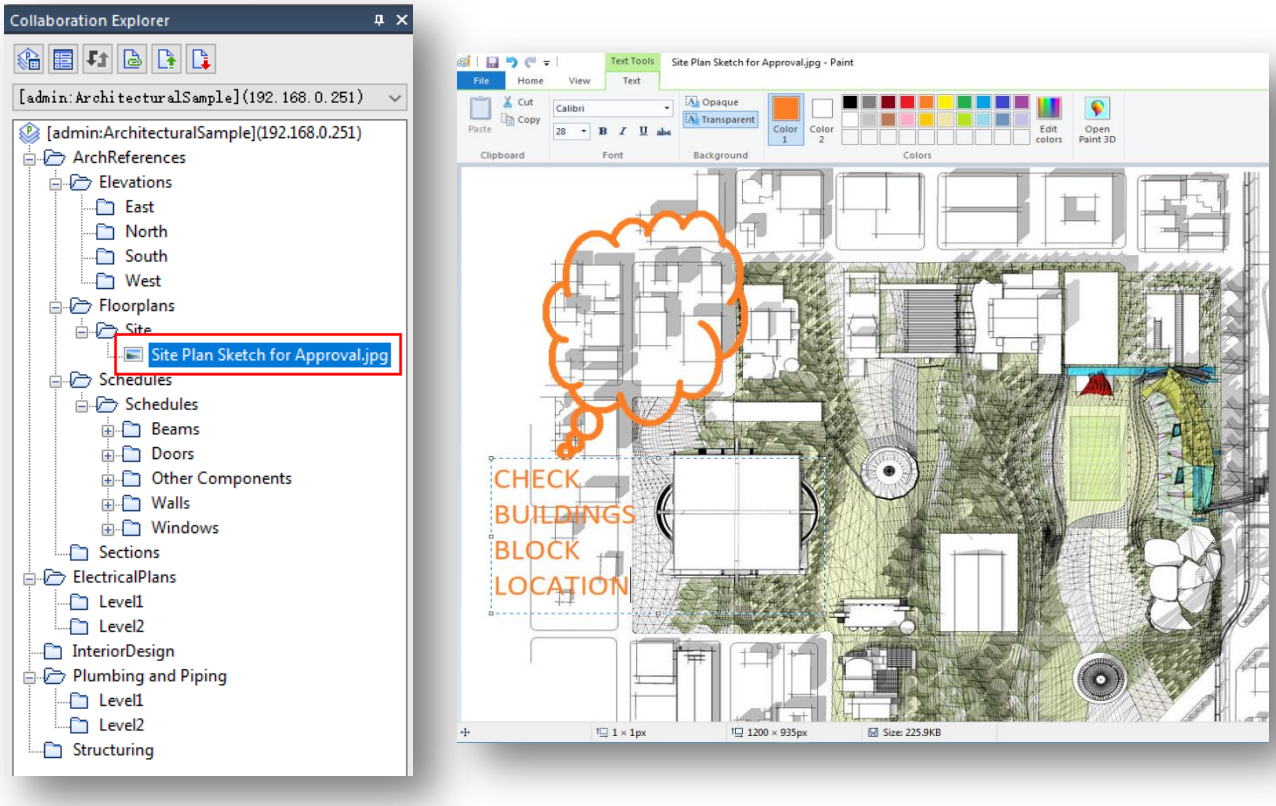
1.- Let's add a file to a subfolder, make sure you got right permission for subfolder. Right-click the subfolder and select **"Add File"** option. Then search and select an image file, press **"Close"** button from **"Add File"** dialog box.



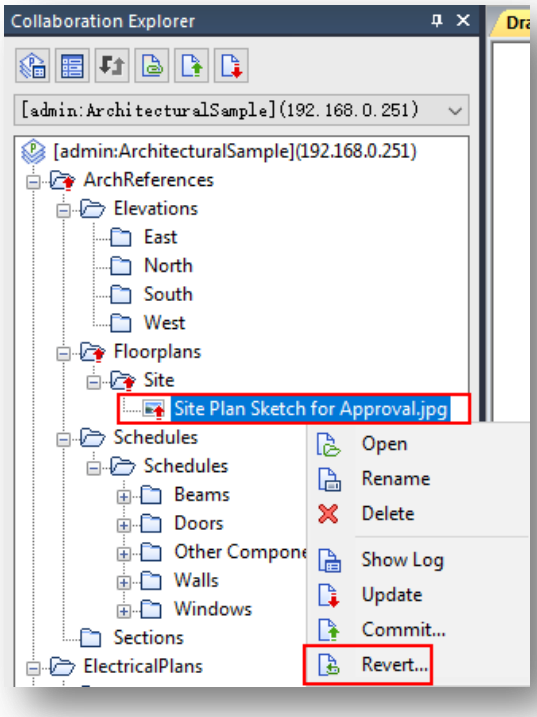
2.- The file added is ready to be committed. Right-click the subfolder or image file and select **“Commit”** button. You must type a meaningful message for project administrator or team members participating on the project. Then press **“Commit”** button to start uploading the file.



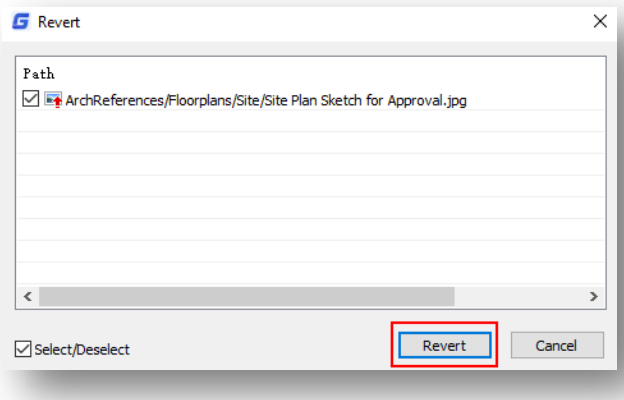
3.- Now you can modify and save the changes before uploading to server. Right-click the image file and select **“Open”** option. A default application will open the file, so you can make modifications and save it.

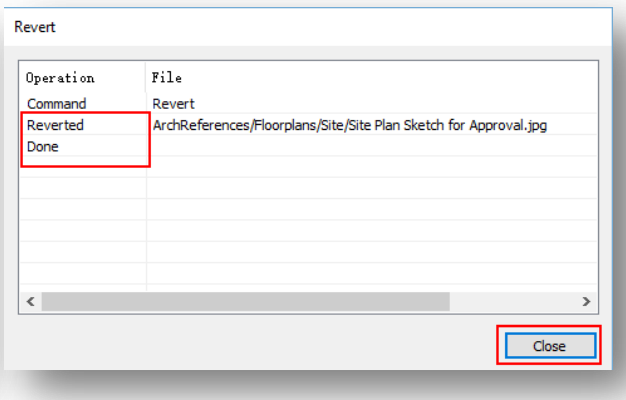


4.- After saving the image file, it will show a red arrow up which is ready to be uploaded to server, but somehow you have noticed some erroneous modifications done to the file by yourself. If you don't want to waste time deleting each modification done, just go back to **"Collaboration Explorer"** panel, search the image file, right-click it and select **"Revert"** option from context menu.

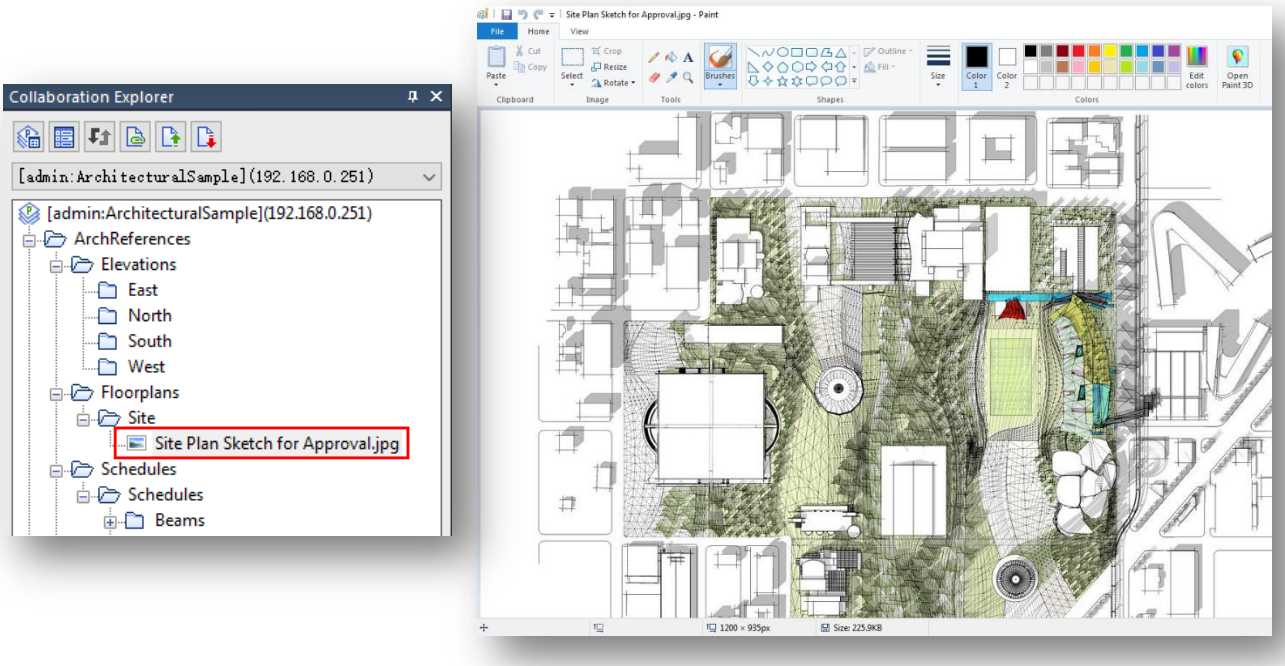


5.- In **"Revert"** dialog box, the image file is checked by default, press **"Revert"** button. Then press **"Close"** button to confirm the process and exit the dialog box.



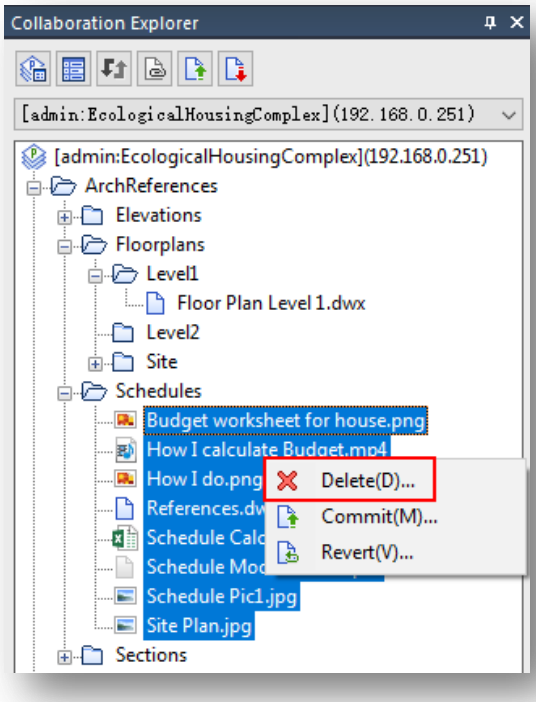


6.- Notice the red arrow up will be dismissed from the image file on the collaboration explorer. You can open the file and verify if it is like before.

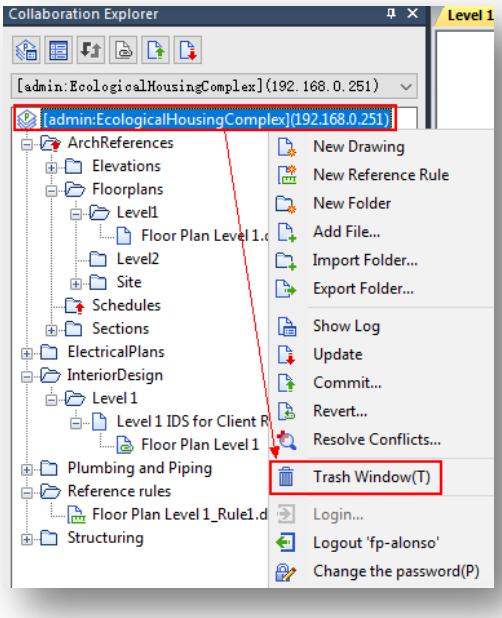


9.3. Revert Files with Trash Window Option

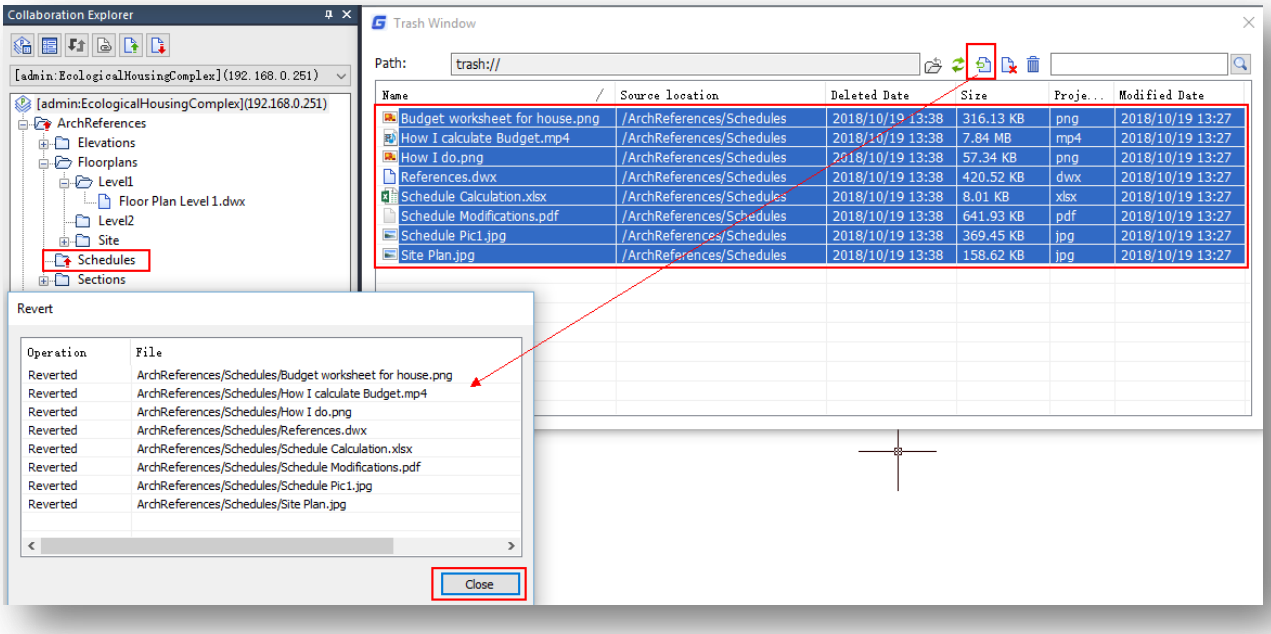
1.- For example, you can select one or more files from a folder or subfolder, right-click any selected file and click **"Delete"** option from context menu.



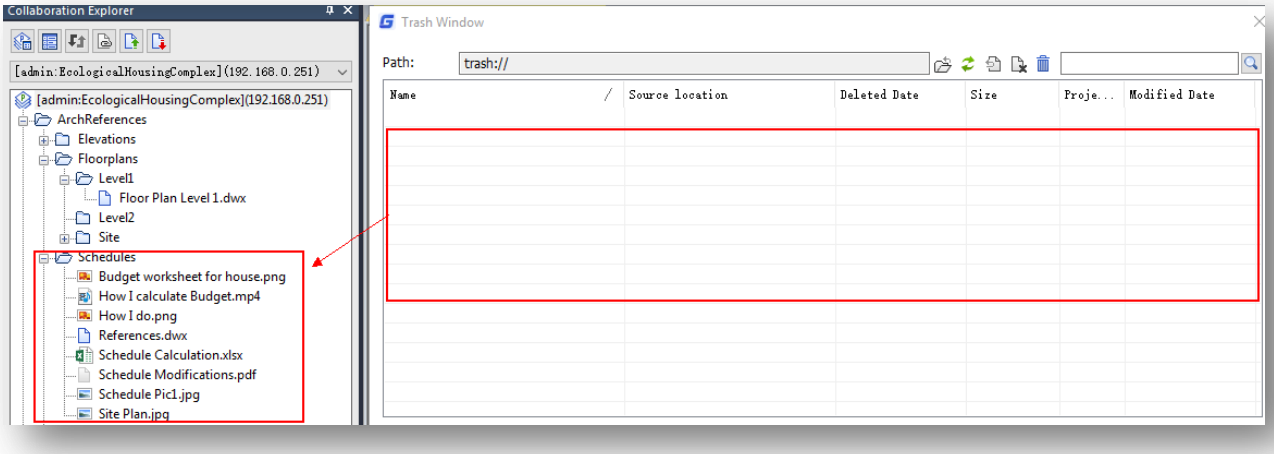
2.- To recover or restore deleted files, go to top of project tree and right-click it. Then select **“Trash Window”** option.



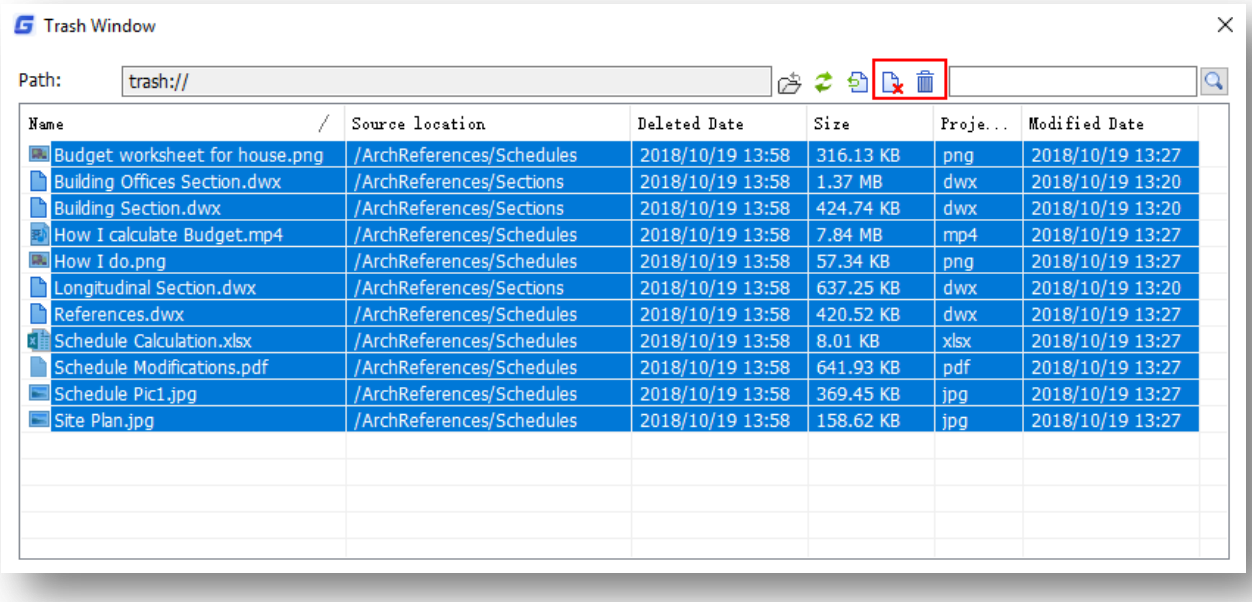
3.- In **“Trash Window”** dialog box, you can select all deleted files from list. Then click **“Revert”** button to open the **“Revert”** dialog box. Finally, press **“Close”** button to finish the process.



4.- The **“Trash Window”** dialog box will be empty. All files have been restored or reverted under their respective folder.



5.- From **“Trash Window”** dialog box, you can also definitely delete selected files or even send them directly to recycle bin.



10. Files Version Management

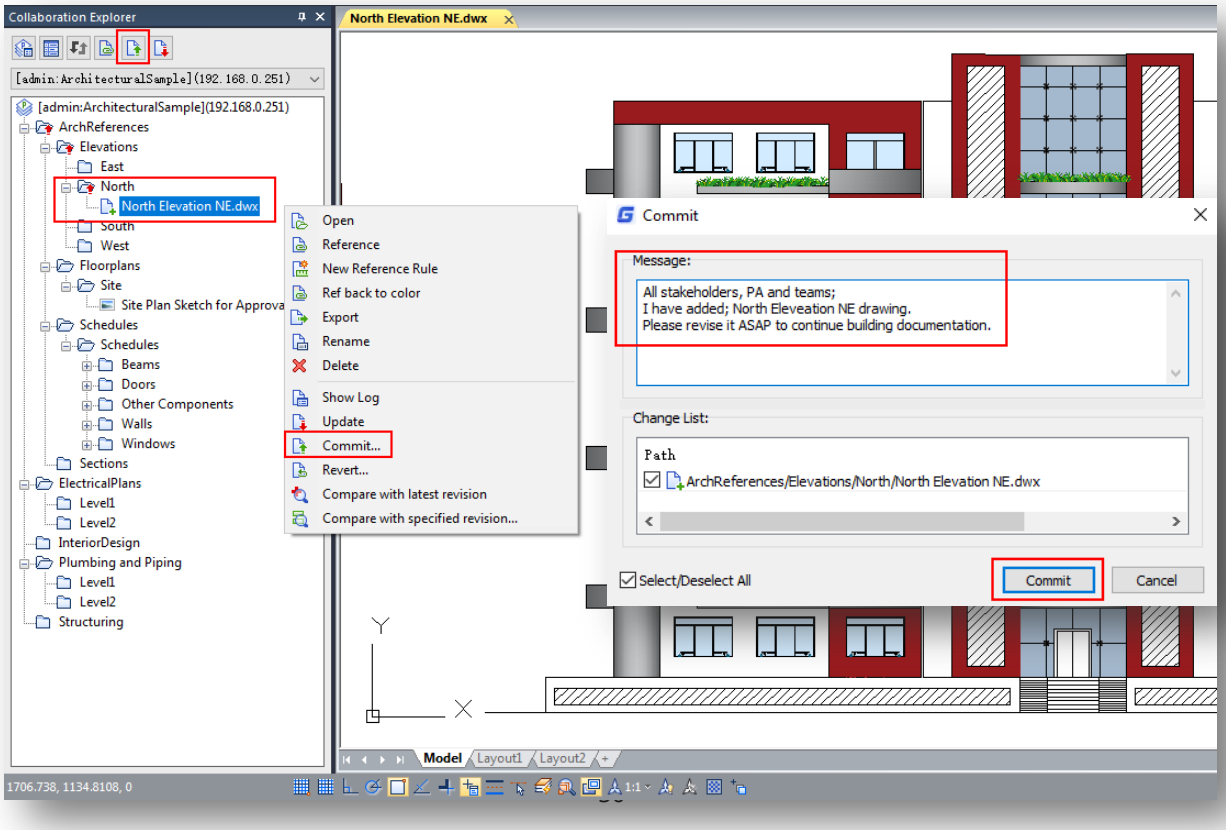
If you've ever worked with a reliable CAD drafting software, participating on a project documentation and sharing a single drawing file with colleagues, you know this pain: someone takes the first pass (**drawing.dwg**), then emails it to everyone. The next person does the same, as does the third, each tacking a revision (**drawing_rev3.dwg**) to the file's name. The project manager approves what he or she sees and tags it as complete (**drawing_final.dwg**) … until last-minute changes come along (**now_really_final drawing.dwg**). Now imagine changes like this in dozens of no only drawing files but other file formats added into the project to be revised.

GstarCAD Collaboration System is more powerful than e-transmit and sheet set manager features together, it solves files version management with **"Show Log"** option. Show Log process is similar as revert option but this time the server will show all files and folders committed (either by common or power user type) from beginning of the project. Users have the power to go back into the file's history and load, revise or retrieve past versions.

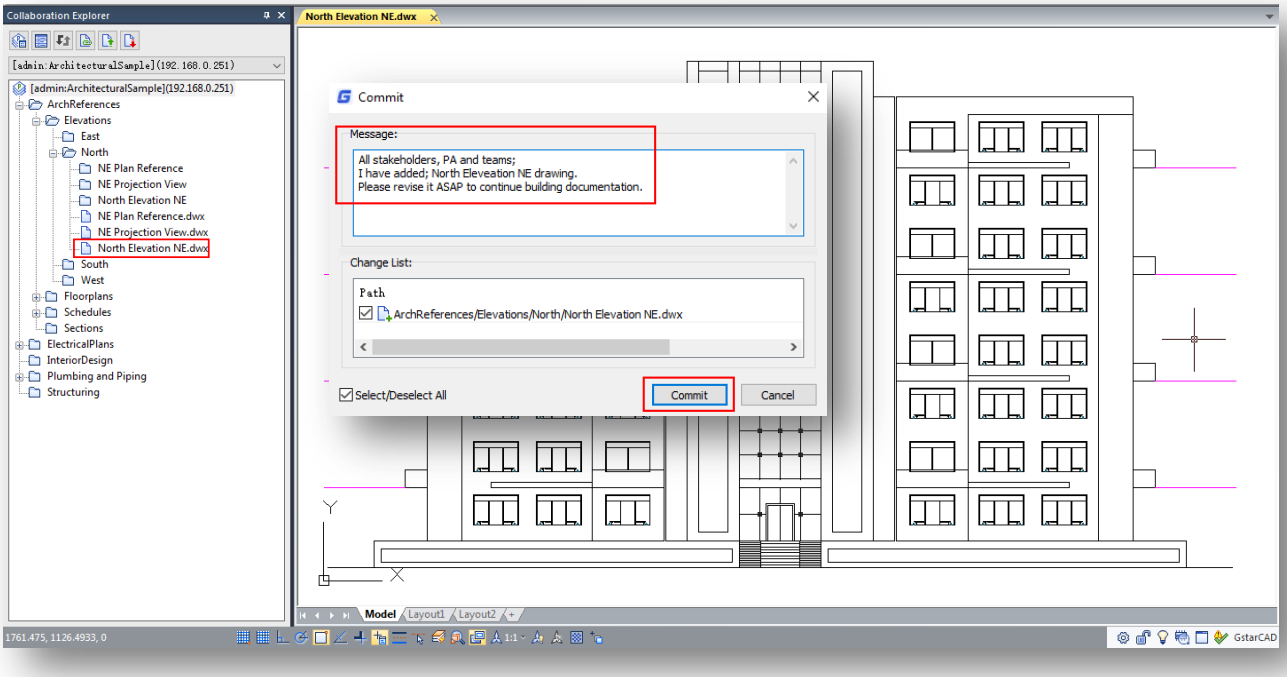
10.1. Show Log Applied for Files Only

Let's see how to call any previous drawing version uploaded from on project directory to server by using show log option.

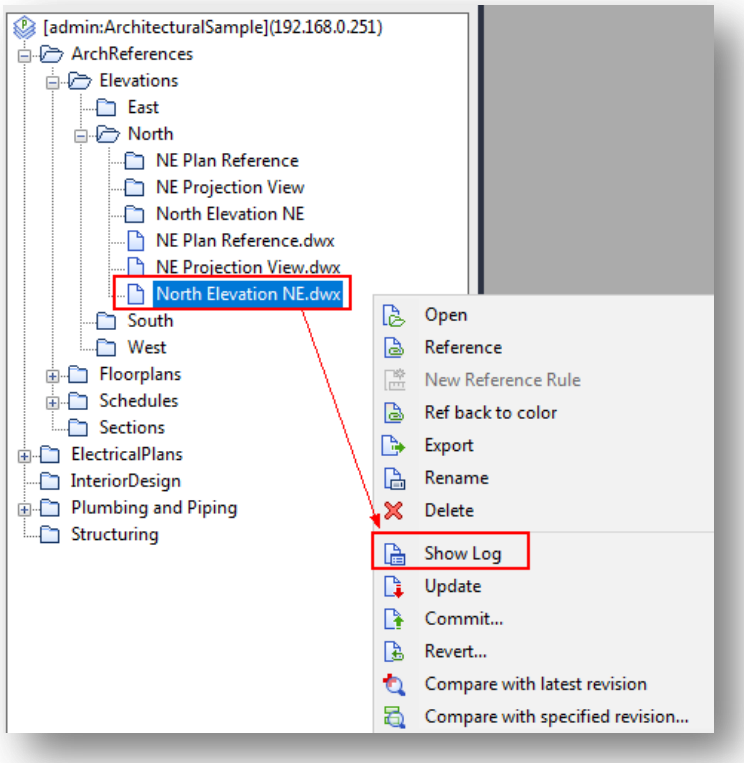
1.- For example, if you've created and saved a drawing or any other file under an authorized folder or subfolder, then the file is in ready to be committed status (red arrow up). Right-click the file and select **"Commit"** button. In **"Commit"** dialog box, enter a proper message and press **"Commit"** button. Then press **"Close"** button to finish uploading process.



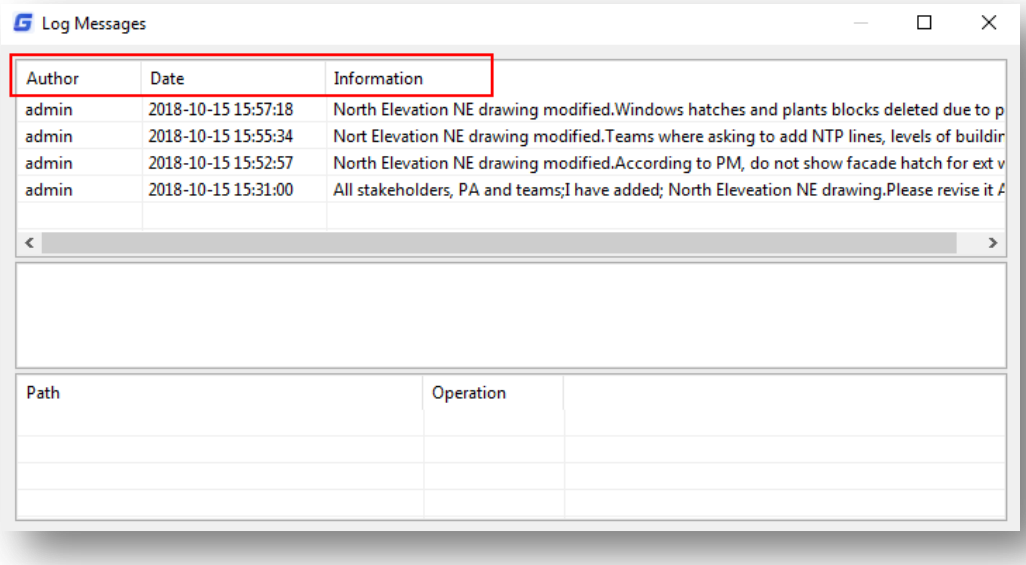
2.- Notice the red arrow up is dismissed after file committed. You can add, create, modify and save same or more drawings or any other files under same subfolder. Repeat **“Commit”** process mentioned above and write a proper message that later will be read by project administrator and other teams.



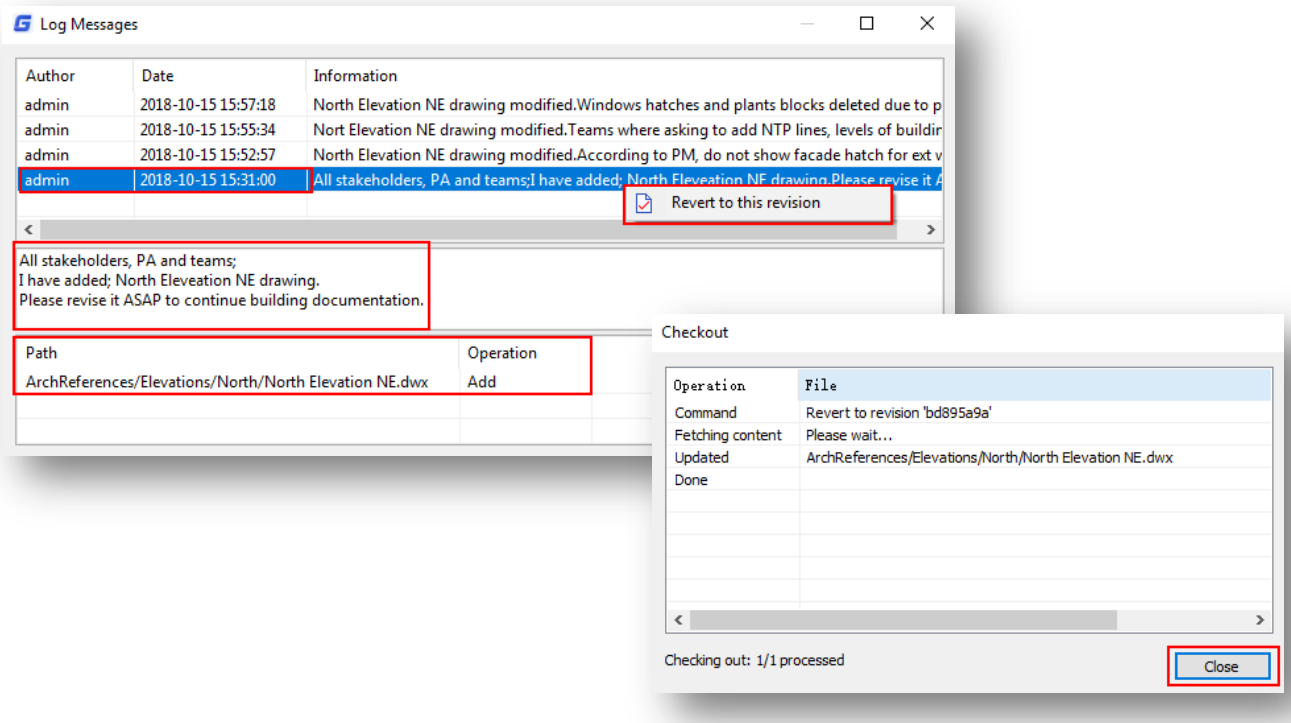
3.- Make sure to close the file you’ve modified, saved and committed to server. Then select drawing file and click **“Show log”** option from context menu.



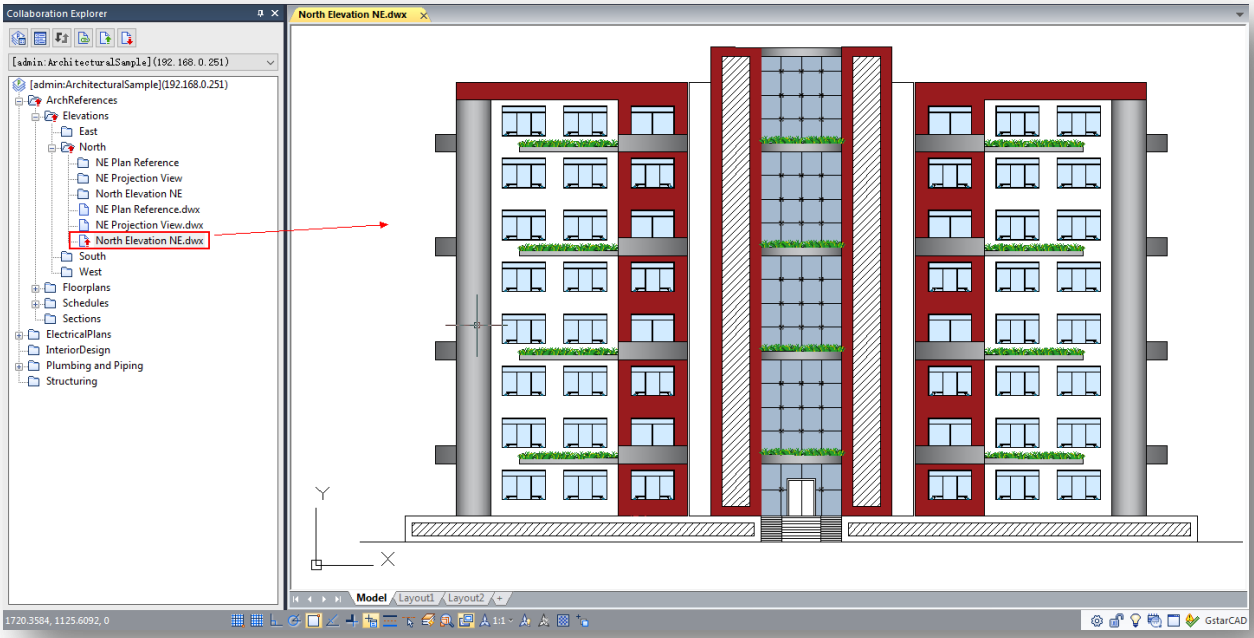
4.- In **“Log messages”** dialog box, you can see drawing’s file commit record list. This list is ordered by author, date and information (message previously entered before committing the file). You can also see an empty space box as well as path and operation tab blank cells.



5.- Let’s select an early date submission by time (under date list) to go back and load the first version committed. Then the empty space fox will be filled with drawing commit information, under path tab will show drawing file path on project directory, and what kind of operation has been committed. After selected, right-click the file version and click **“Revert to this version”** option. In **“Checkout”** dialog box, click **“Close”** button to finish the loading process.

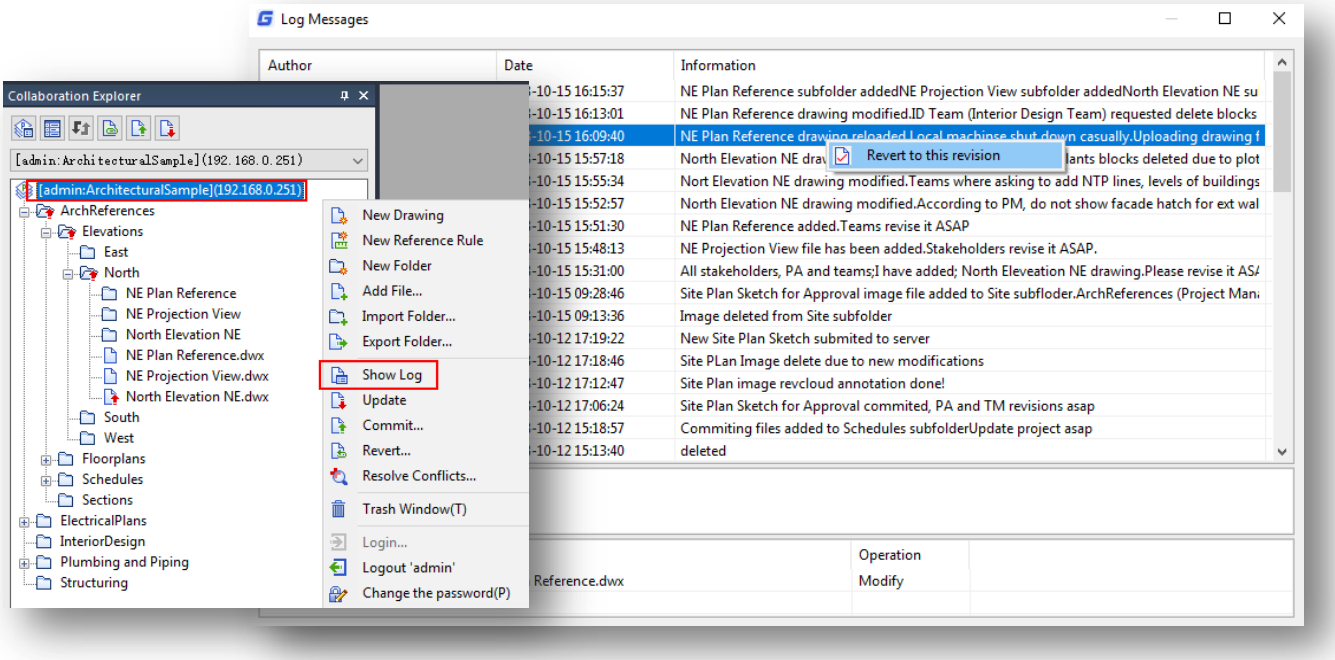


6.- Notice the drawing file will be in red arrow up status, so the file can be committed again. Double-click the file to open it. Now you can see the drawing file version as it was from the beginning, when it has been uploaded for first time.



10.2. Show Log Applied for Folder, Subfolder or Project tree Directory

1.- For example, if you've added, modified and committed subfolders or files to server. You can right-click a subfolder or the top of project tree and select **"Show Log"** option. In **"Show Log"** dialog box you can see the list of files and folder committed since very beginning of project directory. You can follow the steps above to call back a previous file or folder version.

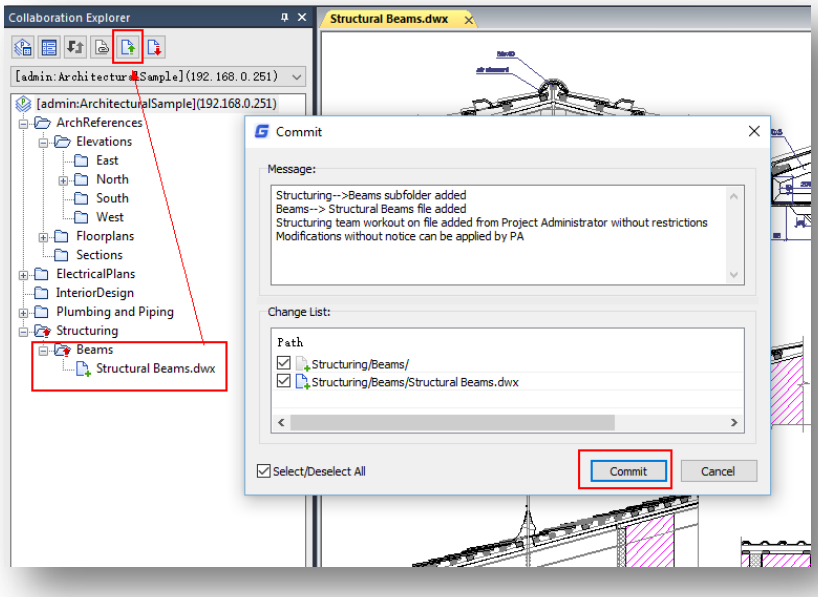


11. Conflict Processing

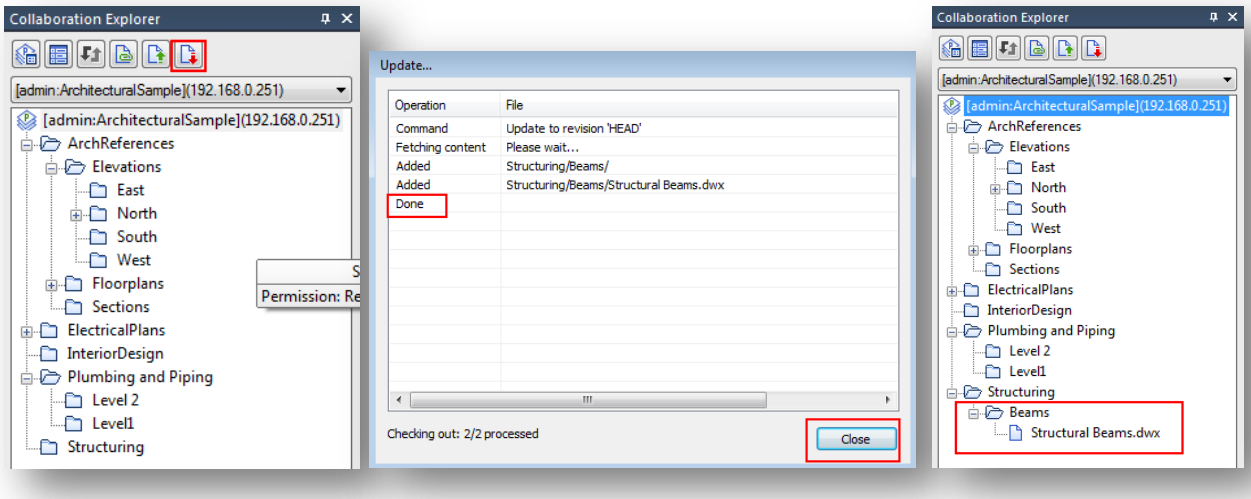
During project life cycle, the project manager, administrator, main stakeholder or team leader, with power user type and right folders permissions, can change part of project directory without notice. Other team members with right folders permissions may not notice the project directory changes done due to update interval setup on local workstation. The process of modifying project directory subfolders and files could create a conflict between project team members.

Let's see a general example how to solve conflicts of folders or files modified on project directory between multidisciplinary teams. Follow the next steps.

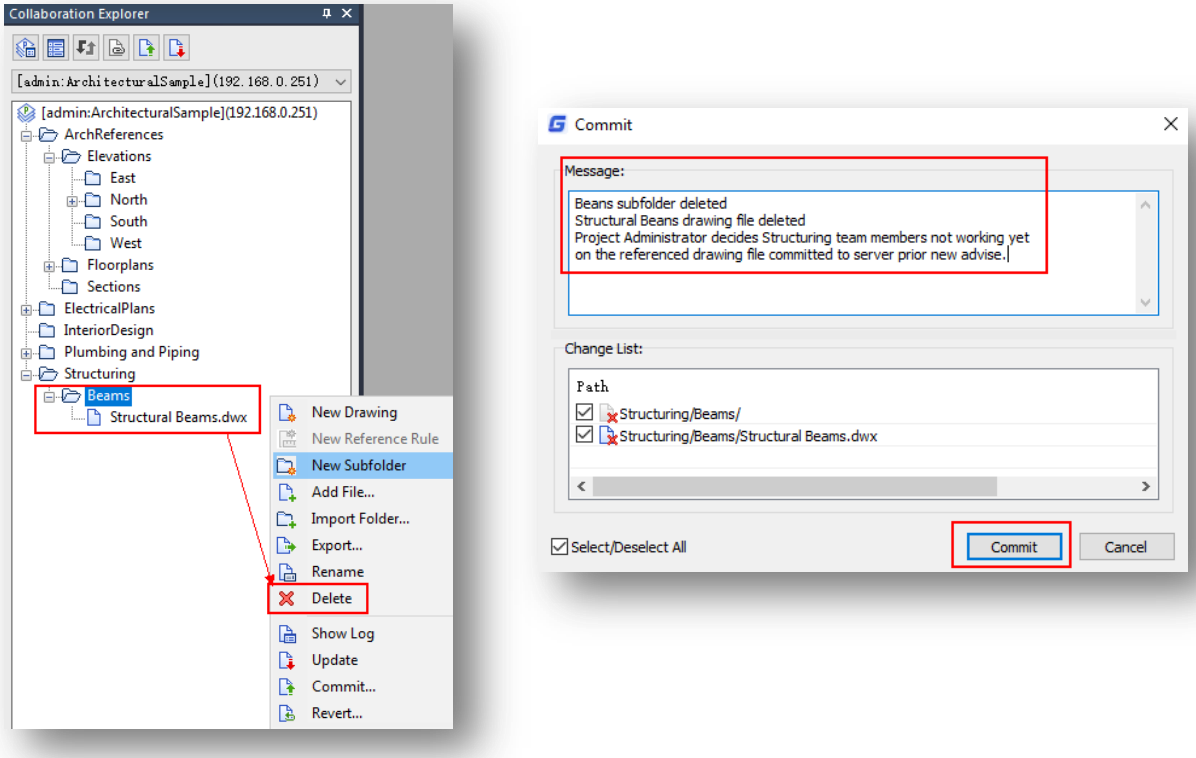
1.- For example, at first instance, your project administrator creates a subfolder, adds a drawing file to it, and commits folder and file to server.



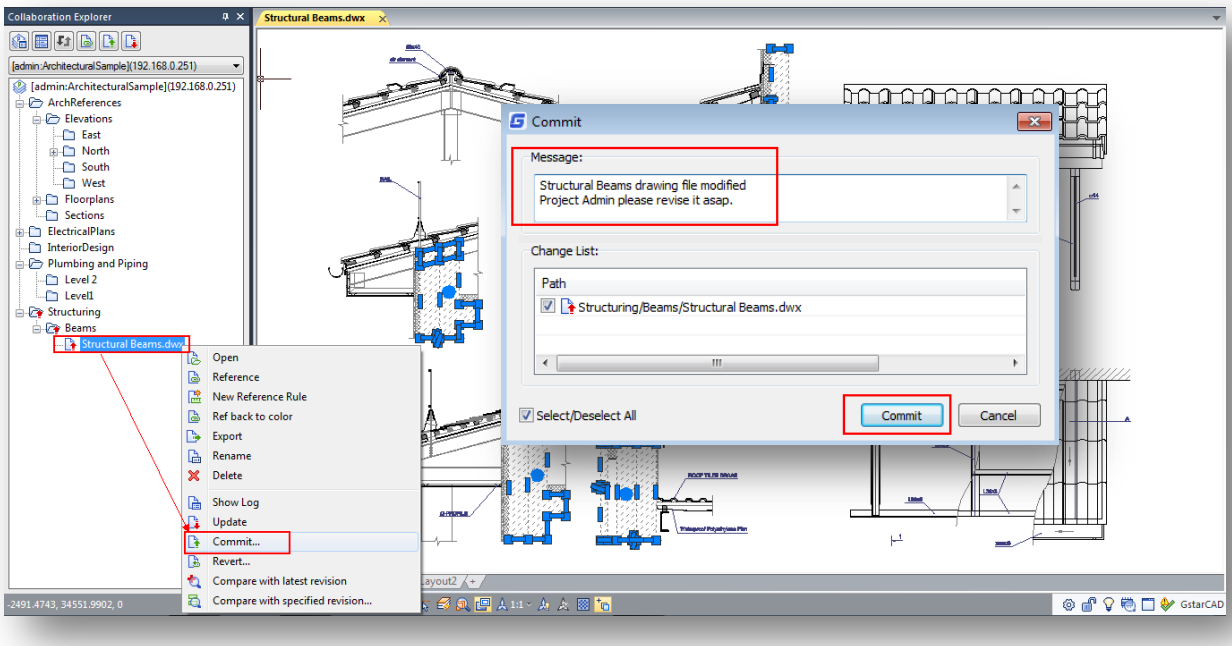
2.- You as team member (whether power or common user type with right permission on authorized folder) update or download the latest project directory modification committed by the project administrator.



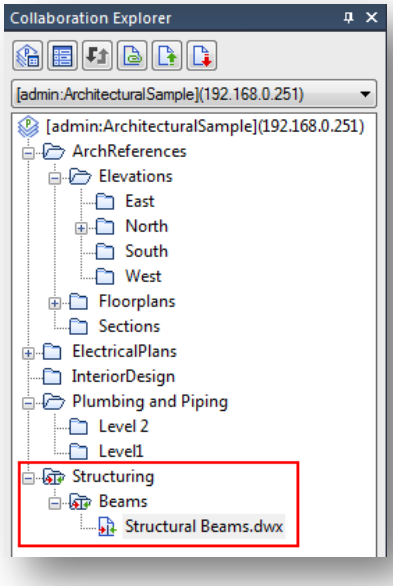
3.- At second instance, the project administrator deletes the folder (drawing file included) created without notice and commit the modification with its respective message for other team members.

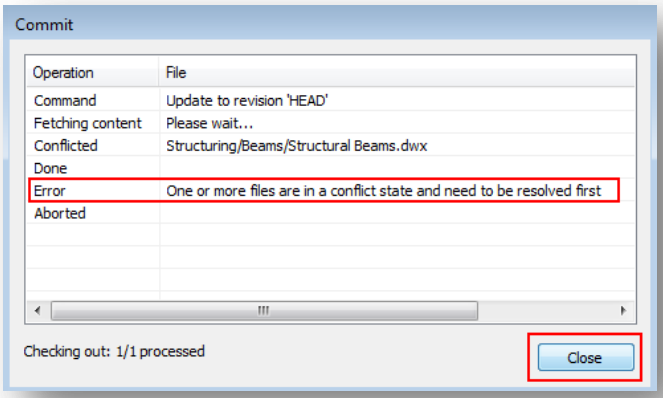


4.- But currently, you are working on folder and drawing file the project administrator committed at first instance because you didn't receive the latest update notification from the server due to update interval setup. You open, modify and save the drawing file to finally commit modifications to server.



5.- In committing process, you will get a message can't commit due to error conflict state. Press **"Close"** button to exit dialog box. Notice the main folder, subfolder and file deleted from project administrator at second instance will show two arrows (red and green) confronted, sign of conflict state.



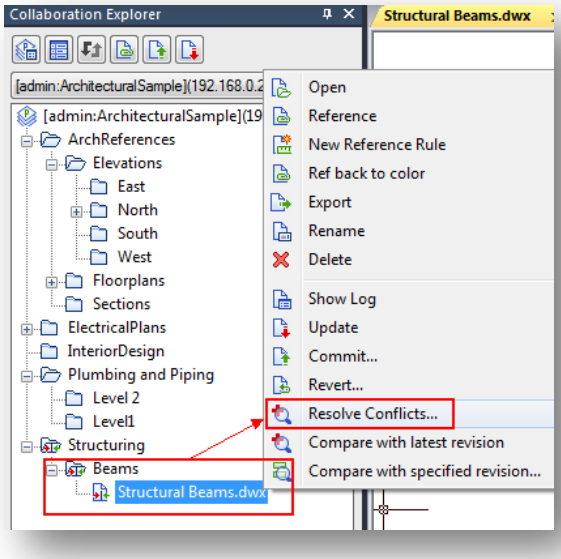


6.- To solve that problem, right-click the subfolder or file conflicted and choose **"Resolve Conflicts"** option from context menu. In **"Conflict Resolve"** dialog box, you can choose a convenient option;

Consistent with the server, the local conflict is cleared directly: This option allows to fix the user's local repository conflict according to current project directory structure loaded to server by project administrator.

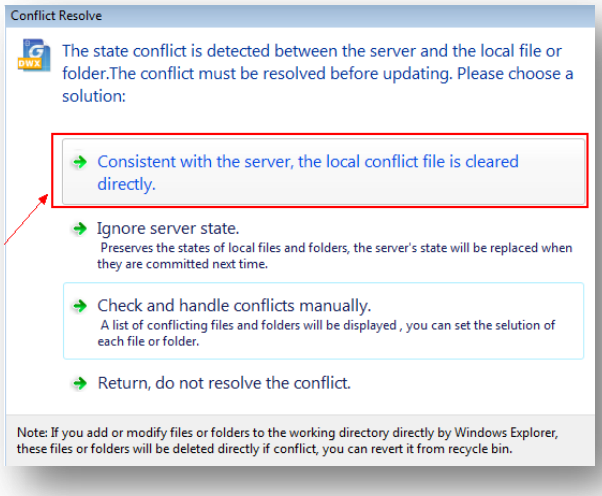
Ignore server state: This option preserves the current project directory state of user's local repository. The previously project directory state loaded to server by the project administrator will be replaced.

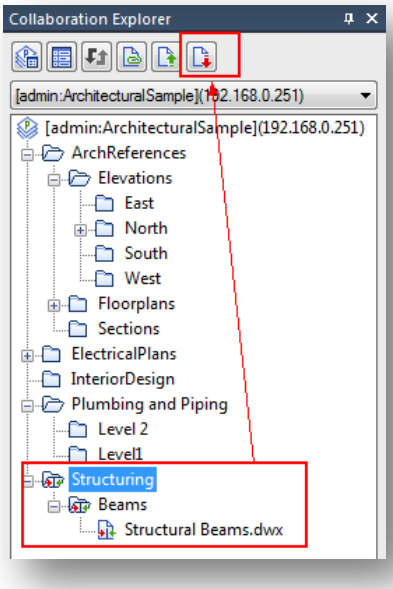
Check and handle conflicts manually: This option allows manually set a solution of each file or folder conflicted on the project directory.



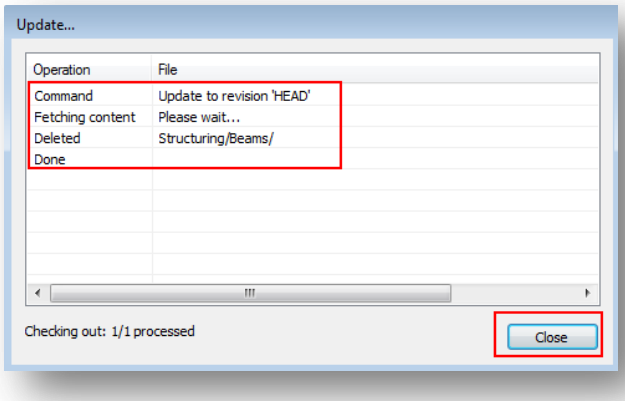
Return, do not resolve the conflict: This option allows to return to current project state of user side and do not resolve the conflict to server.

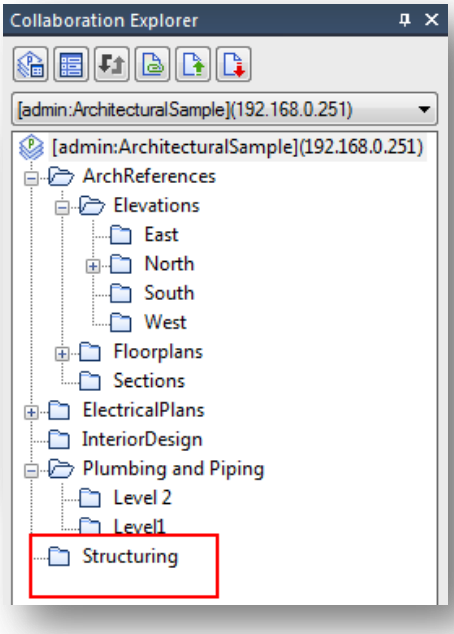
7.- If you've received an urgent notification from project administrator to update project directory asap, you can select the first option of conflict resolve list. Make sure to close the drawing file you were working. Then go to **"Update"** button at collaboration explorer, or right-click the folder or file conflicted.





8.- The user's project directory will be updated taking reference the project administrator project directory uploaded to server. Done! The conflict is resolved.





12. All About Drawing File Reference and Reference Rules

In GstarCAD Collaboration System a reference drawing consists of information accessible to all project team members that provides a consistent set of drawing standards and best practices. The mission of the reference drawing is to provide an asset base that projects can draw from at the beginning of the project lifecycle and add to at the end of the project.

For example, an architect may face different problems with multidisciplinary teams like MEP (Mechanical, Electrical and Plumbing) like unknowledge of some MEP users of not know how to use paperspace and x-refs costs architects a lot of downtime and money. Claiming that it takes many hours to make changes because they don't know how to x-ref is not much of an excuse. Not with liability hanging over everyone's heads. For the most part good CAD work normally leads to good documentation. Bad documentation leads to lousy bids, problems during construction, lawsuits and a bad reputation.

With GstarCAD Collaboration System, all project members work in a unified collaboration environment having many advantages when working with reference drawing files:

- Coordinate your work with the work of others by referencing other drawings in your drawing to keep up with the changes being made by other designers.

- Ensure that the most recent version of the referenced drawing is displayed. When you open your drawing, each referenced drawing is automatically reloaded, so it reflects the latest state of the referenced drawing file.

- Apply reference rules for referenced drawing files, so team members will get just what they need to start working immediately.

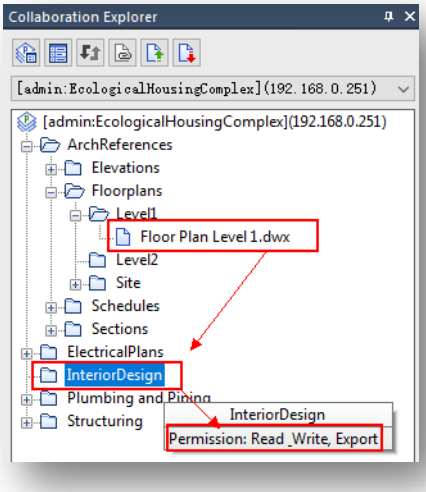
- Keep the names of layers, dimensioning styles and text styles in your drawing separate from those in referenced drawings.

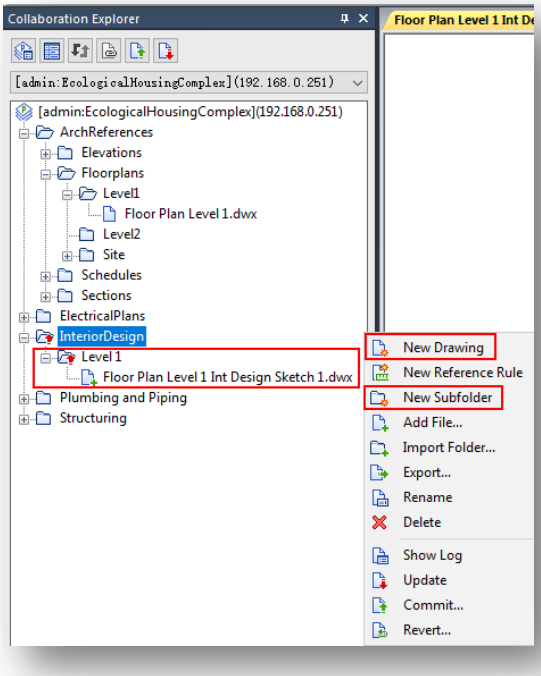
- Bind attached referenced drawings permanently with your current drawing when the project is complete and ready to be archived.

- Better communication when sharing reference files. Once you establish a report with other team members and they understand your needs? this will make the whole process smoother.

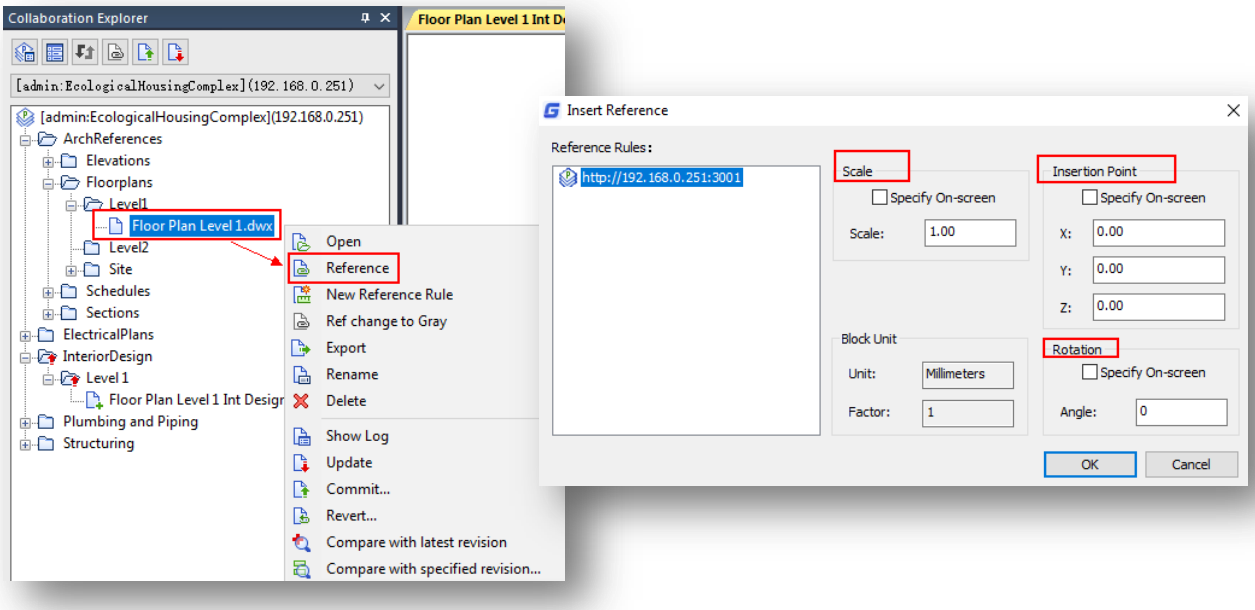
12.1. Referencing a Drawing File on Current Project Directory without Reference Rules

1.- If you want to start working from scratch, based on existing drawing file (in project directory) as reference. Make sure if the folder you are working has right permissions. Then you can add a new subfolder and create a new drawing file.

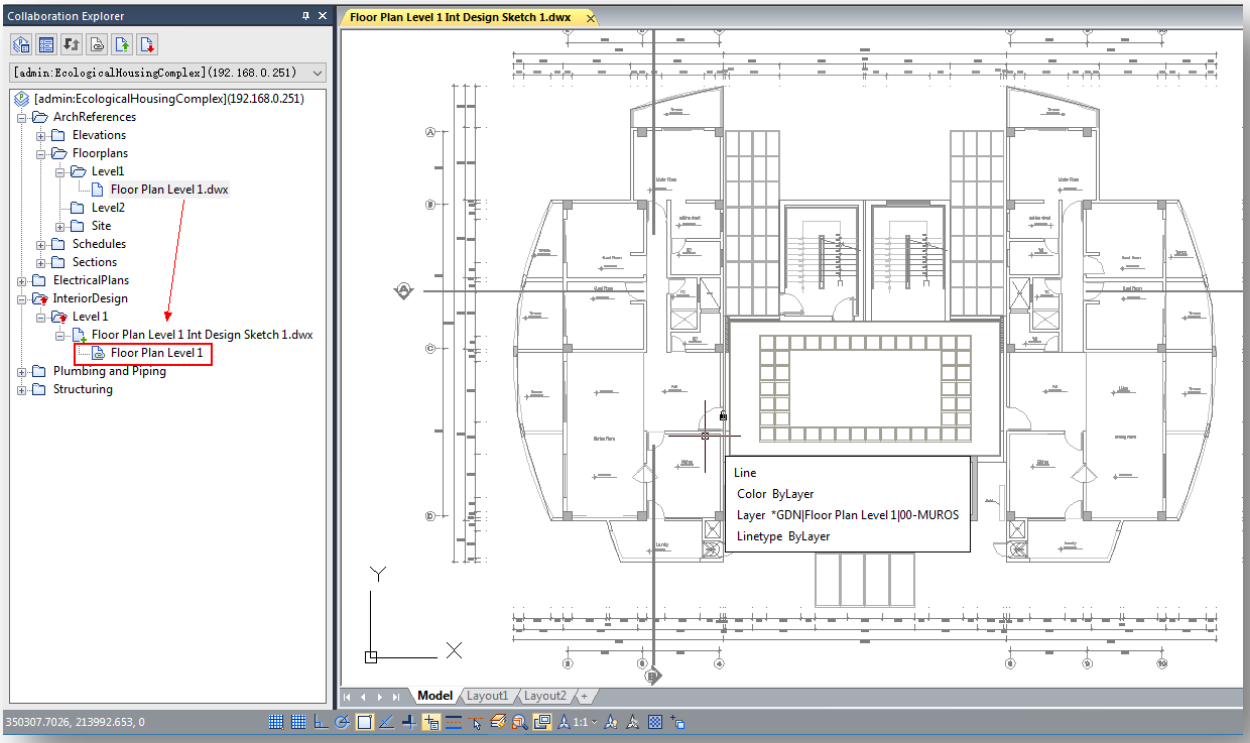




2.- Meanwhile the empty drawing file is open, do right-click the drawing file you want as reference and select **"Reference"** option. In **"Insert Reference"** dialog box, you can setup scale, insertion point and rotation parameters to drawing file to be inserted.

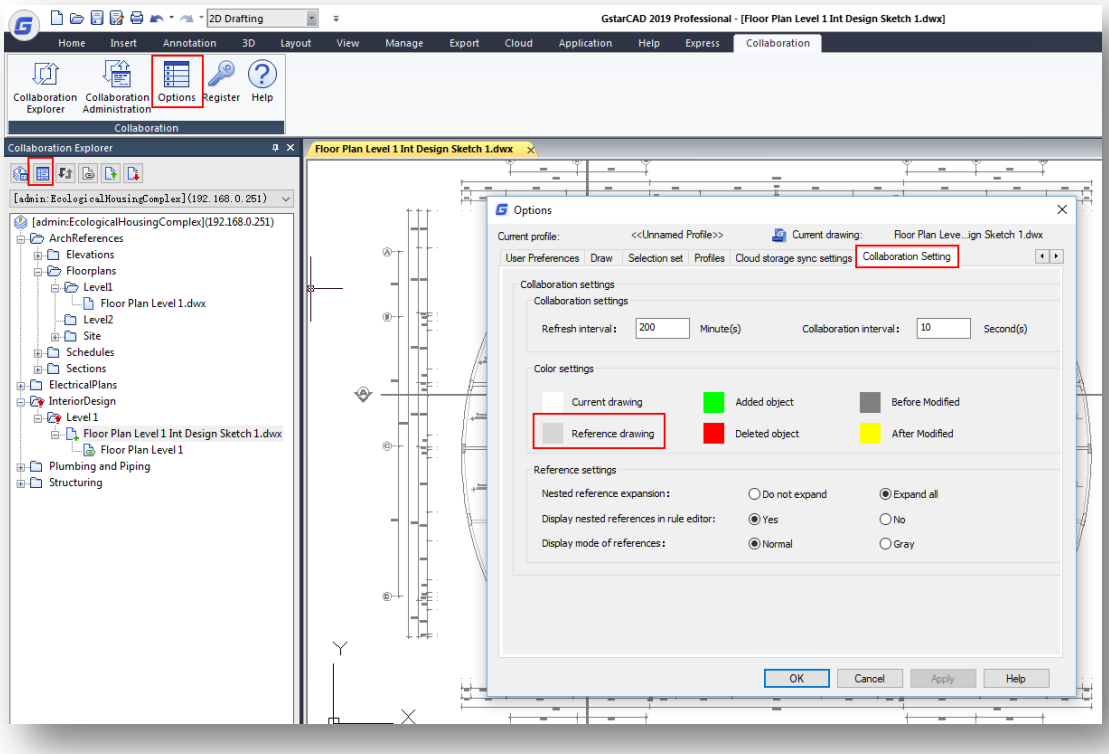


3- If there is no special need, you can directly insert the reference drawing according to the original coordinates by pressing **"OK"** button, but this time you can test scale option by entering a new scale value. The reference drawing only supports proportional scaling, so you cannot set the scale for each axis separately. As soon as the reference is inserted, it will be attached under the current file you are working.

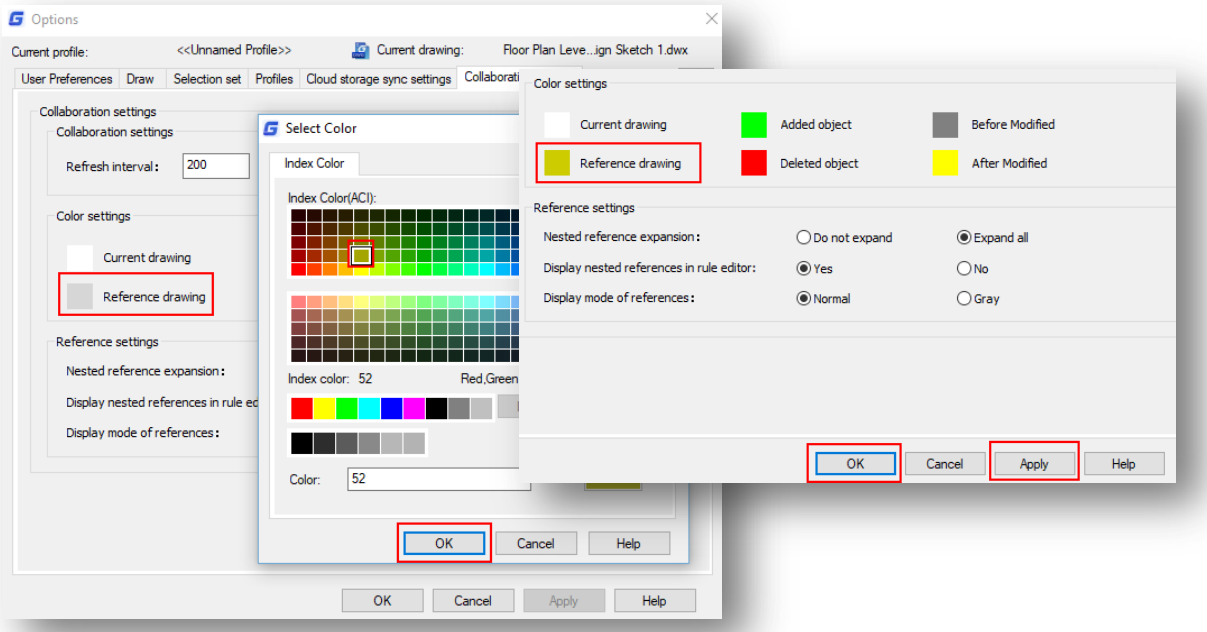


12.2. Changing Reference Drawing Color

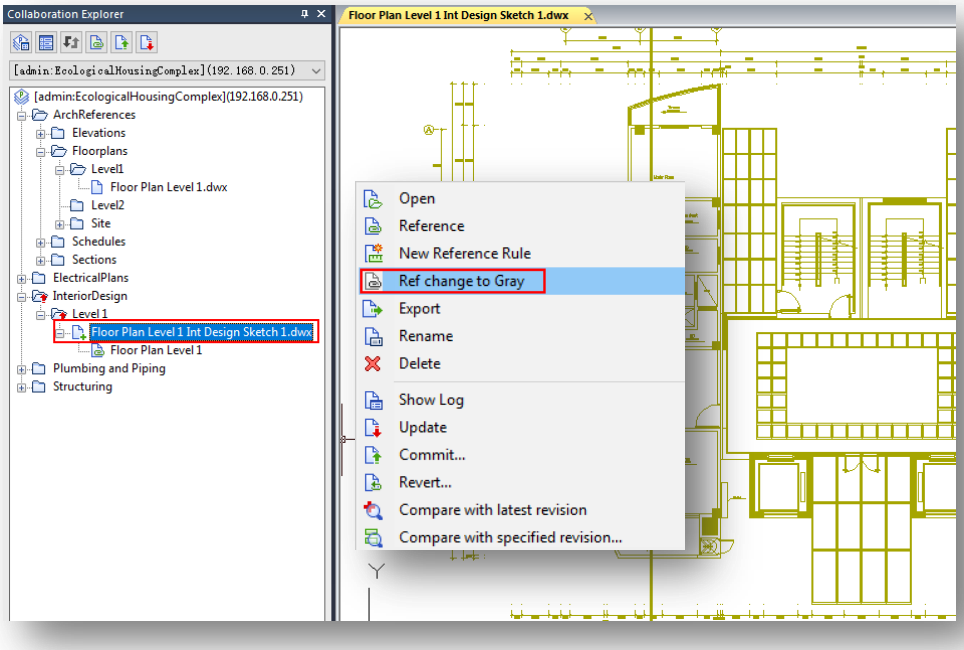
1.- If you are not satisfied with referenced drawing original color displayed in working space, you can change it easily. Go to **“Collaboration”** panel and click **“Options”** icon, another way is doing click on **“Options”** button located at top of collaboration explorer panel, or just type in **“Options”** command to call its dialog box. Notice the default color for inserted reference file is gray.



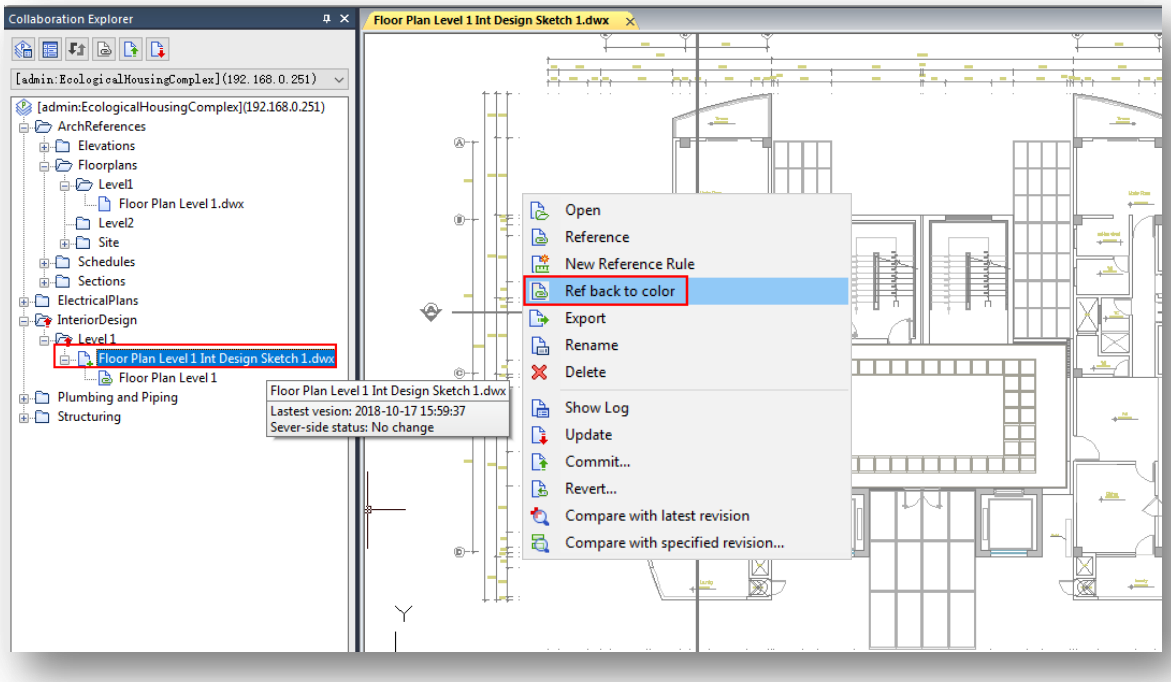
2.- Click gray color to open the color selector window, select other color you like, press **“OK”** button, then click **“Apply”** button to apply the changes. Then Press **“OK”** button to close dialog box.



3.- Now you can right-click the drawing file currently open and select **“Ref change to Gray”** option. You will notice the changing color of reference drawing.

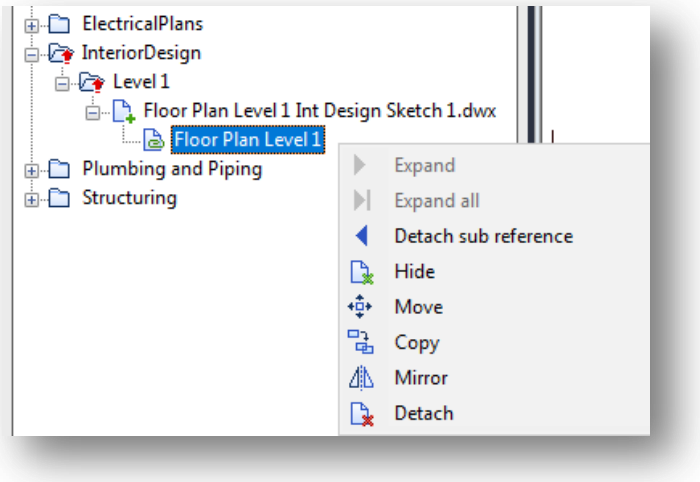


4.- If you want to revert the reference color back to original, do right-click the drawing file currently open and select **“Ref back to color”** option.



12.3. Reference Drawing Context Menu Options

By default, a reference file can't be moved, edited or even deleted from work area but you can perform some actions to it. If you right-click a reference drawing attached to a file, you will see different options;



- **Expand:** If the reference file has nested references, you can choose if the nested drawing need to be reference to the next level.

- **Expand All:** Only the first-level reference file has this function. If the referenced file has nested drawings, the user can choose whether to bring all the nested references included in the file together.

- **Detach sub reference:** To detach the nested drawing in next level, this feature only can be used in the first referenced file, once you found the nested reference is not correct, you can detach it.

- **Hide:** Hide or show the referenced drawing in current drawing.

- **Move:** Changes the location of the reference drawing, it provides base point, target point and offset.

- **Copy:** Makes multiple copies of a reference drawing. The reference drawings in the reference list are also copied, and these reference drawings can be hidden and displayed separately.

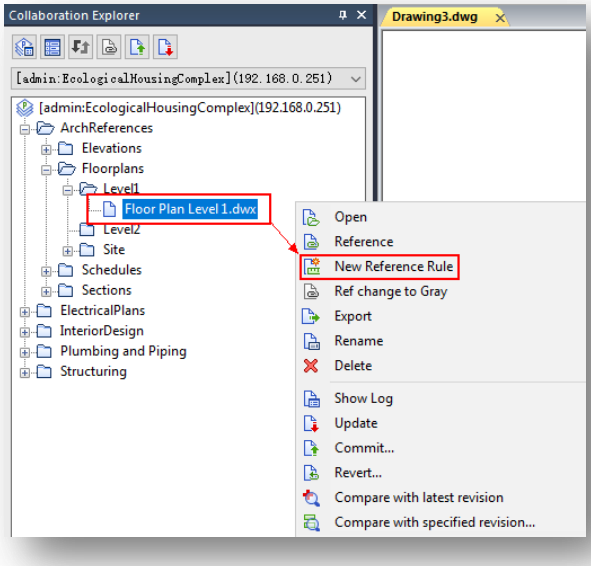
- **Mirror:** Mirrors the reference drawing, select two points as the axis of symmetry. After the mirror action, if you want to keep the original reference, the reference list will add a new one.

- **Detach:** Only the reference drawing in first level can be deleted, the nested reference in next level couldn't be deleted, if you want to delete the nested, you need to open the original drawing to delete.

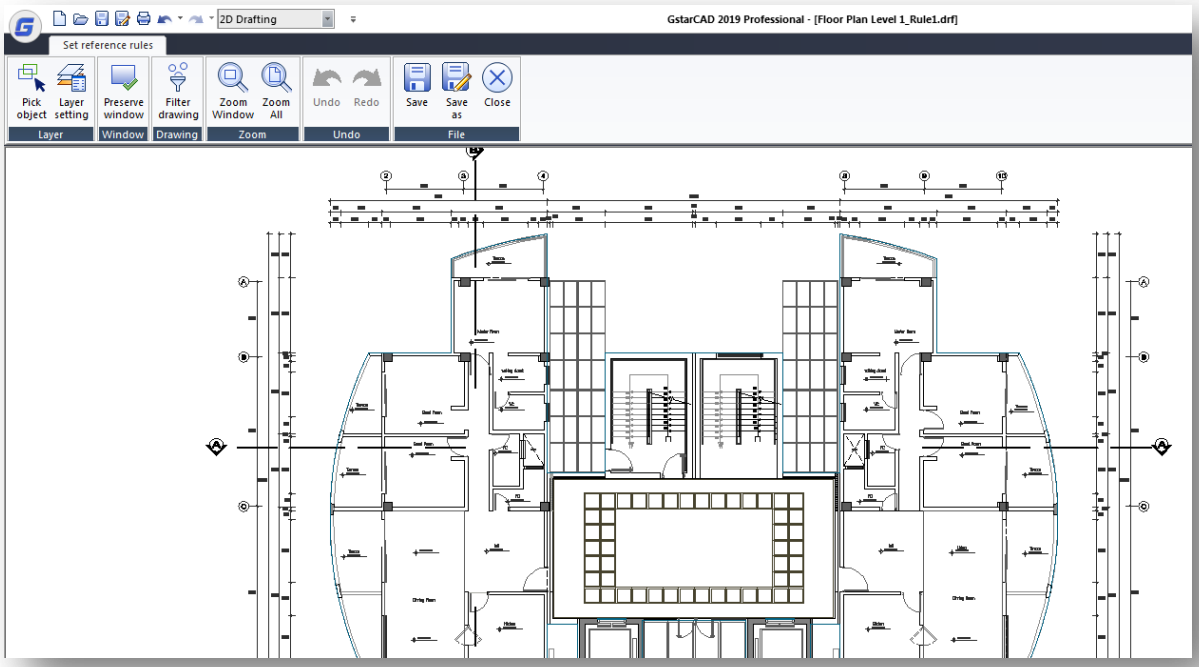
12.4. Referencing a Drawing File on Current Project Directory with Reference Rules

If you are a project administrator (power user type), you can create a reference rule of existing drawing file. The created reference rule file (*.DRF) will be added under its reference rules folder that later can be committed to server and will be available for any participant of the project. Just follow the steps below.

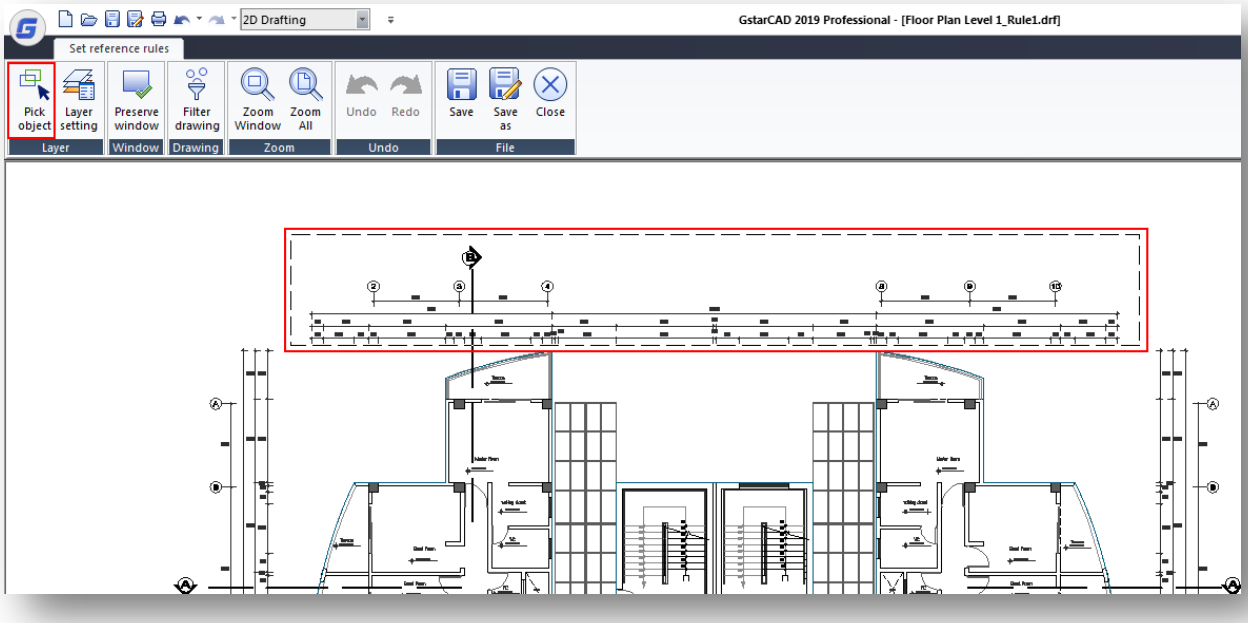
1.- Make sure to open a new empty drawing file, then right-click the file you want to be referenced and select **"New Reference Rule"** option to show the **"Set Reference Rules"** interface.

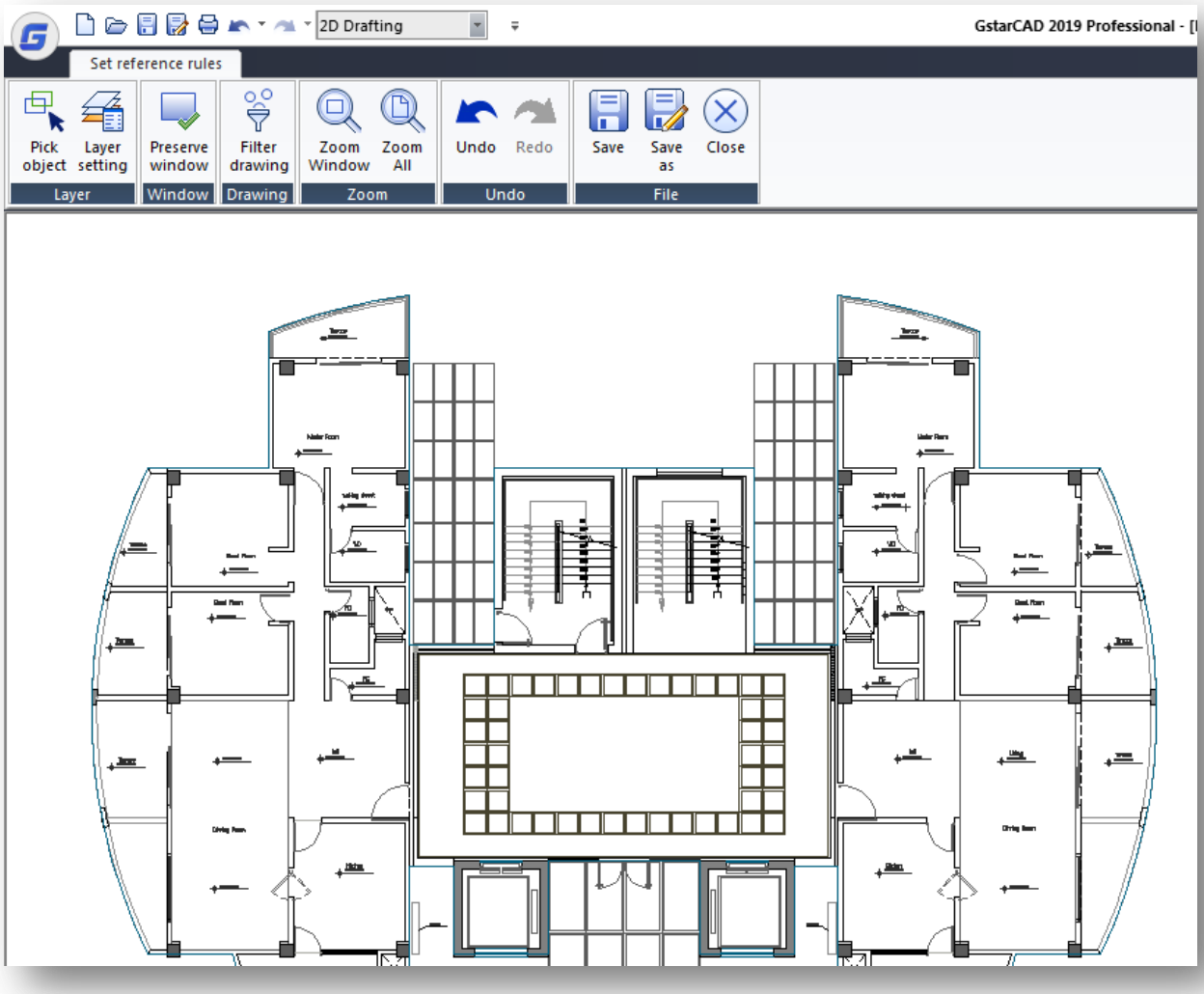


2.- In **"Set Reference Rules"** tab, you can choose different options to hide unnecessary drawing objects to make cleanest drawing reference file.

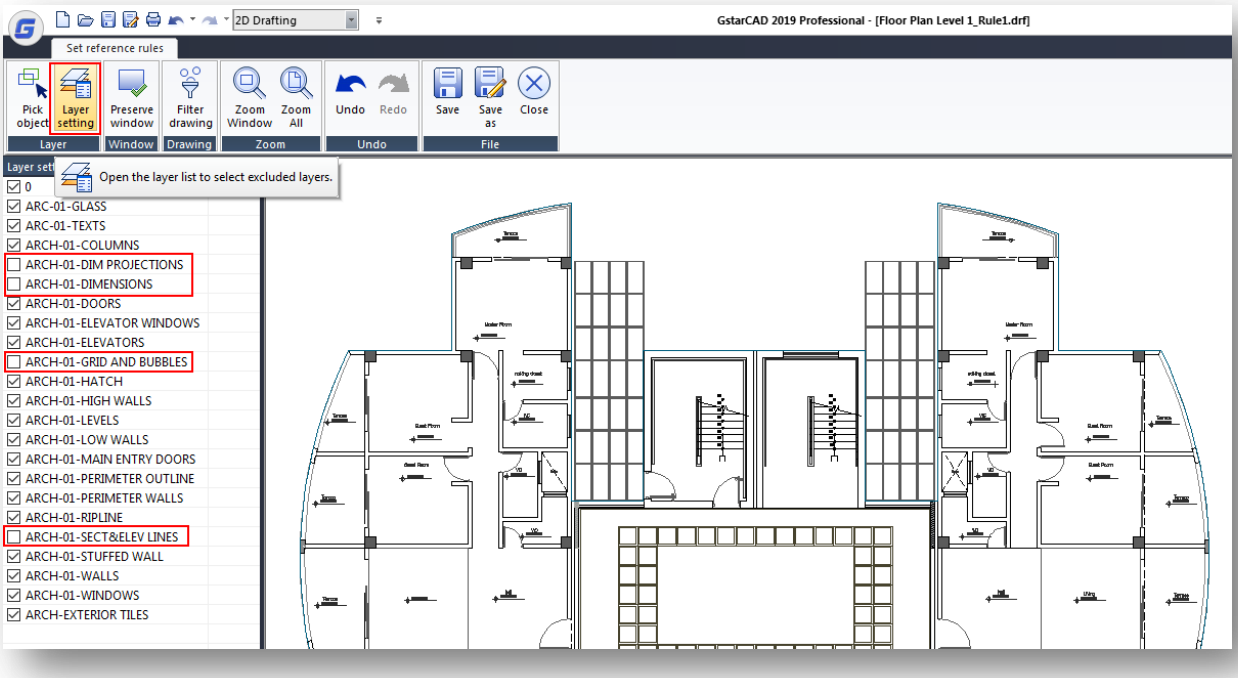


3.- Click **“Pick Object”** icon from layer panel, then pick one object or make window selection get more objects. The selected objects (all objects that lie on selected layer) will be hidden from current reference rule drawing.

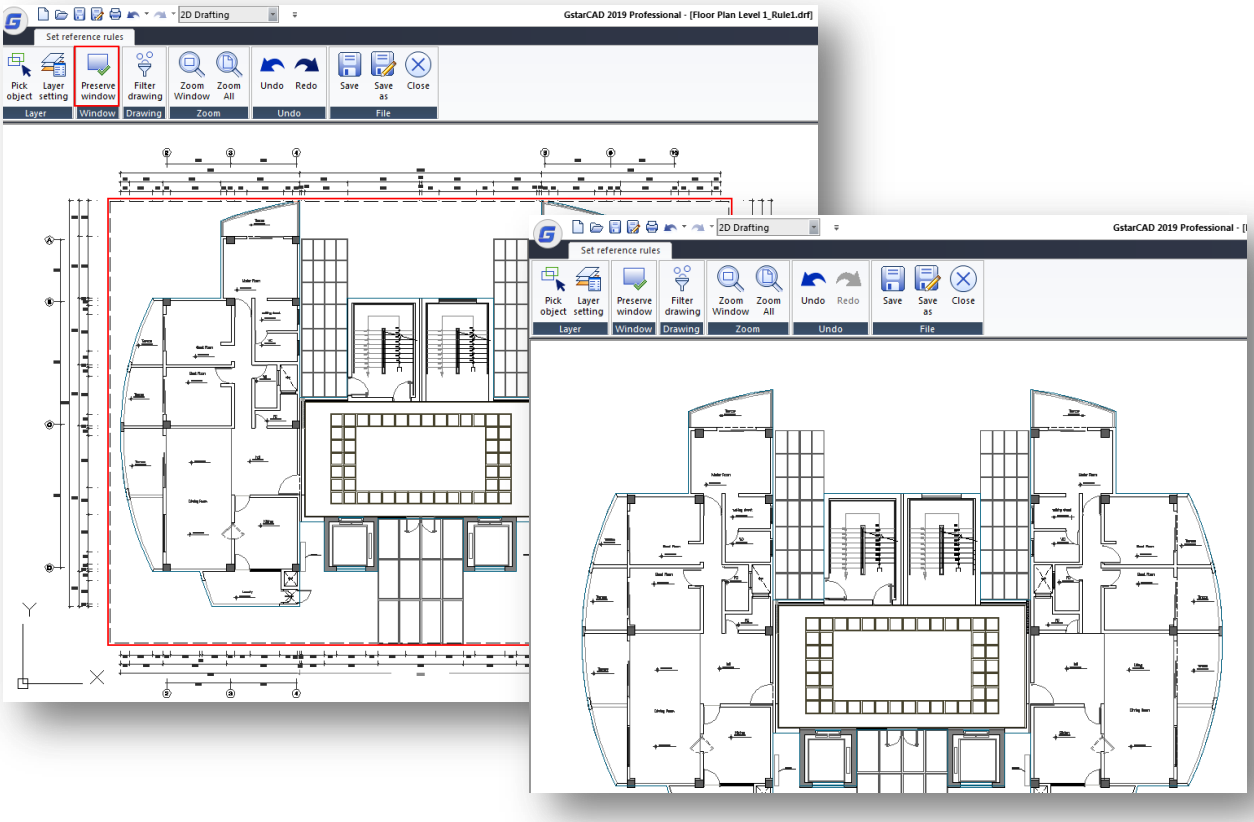




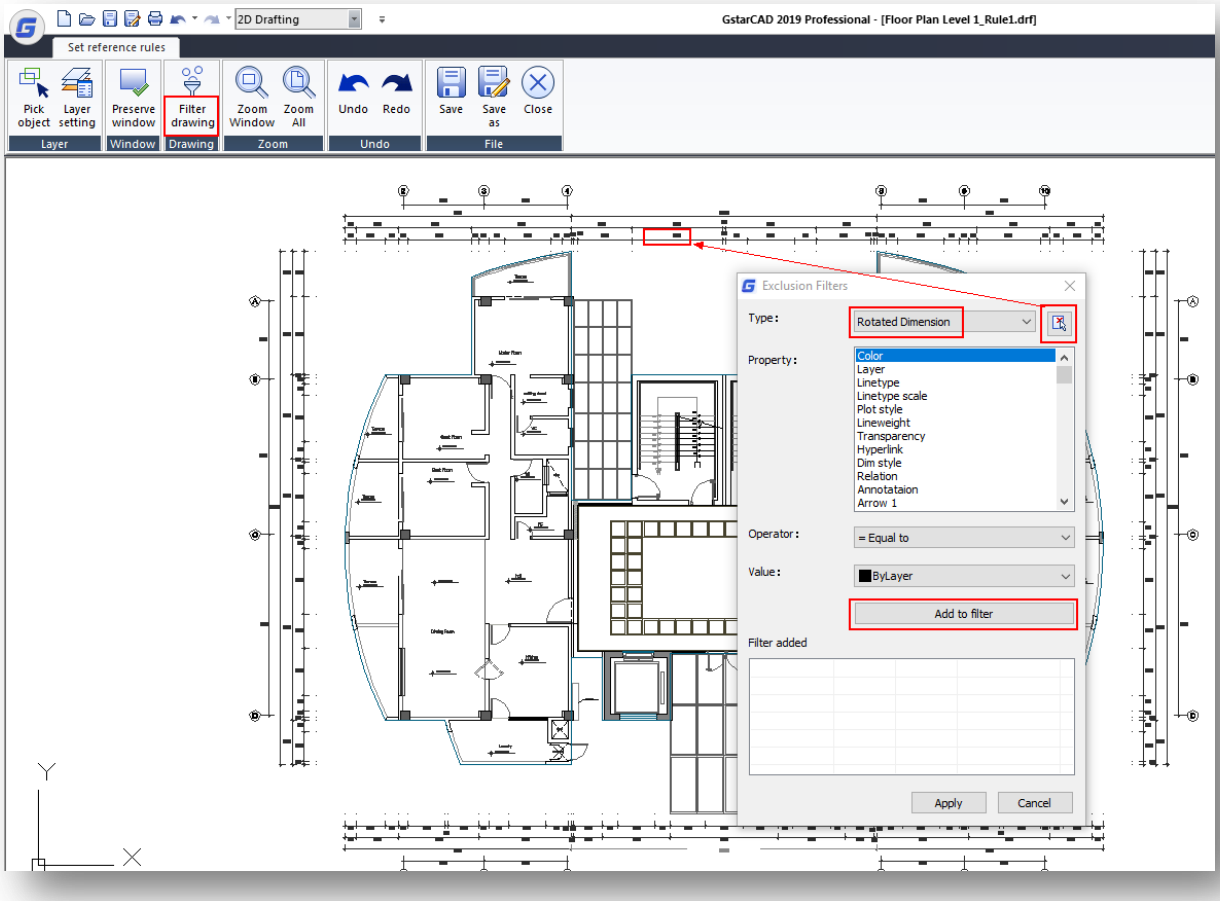
4.- Click **“Undo”** icon to revert previous action, then click **“Layer Setting”** icon from layer panel. The **“Layer Setting”** palette will pop up, you can uncheck available layers to be hidden at will.

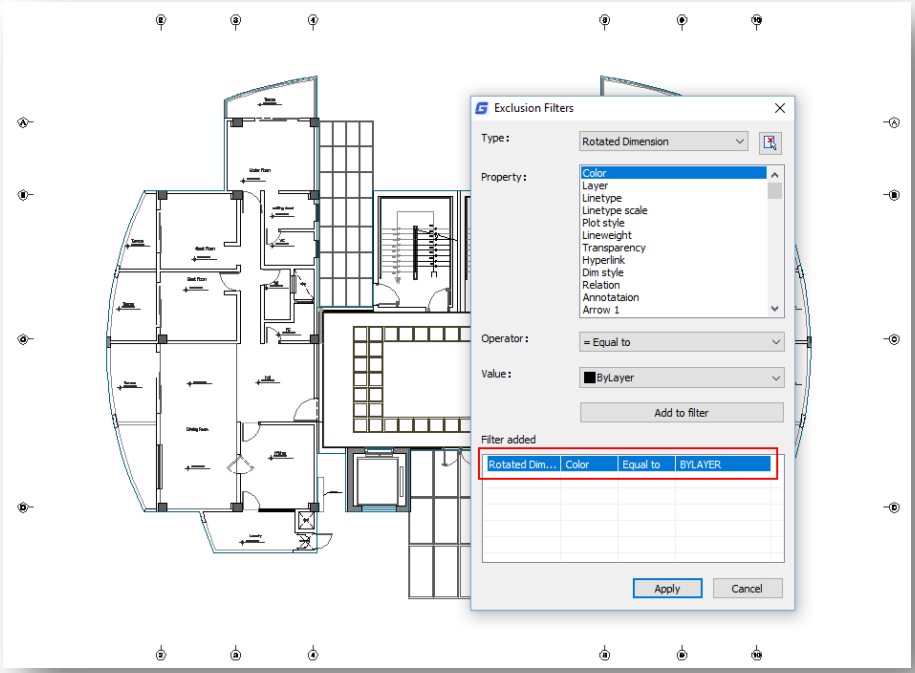


5.- Click **“Undo”** icon to revert previous action, then click **“Preserve Window”** icon from window panel. You must specify by window selection what objects need to be preserved (visible) on current drawing. The non-selected objects (layer) will be hidden.

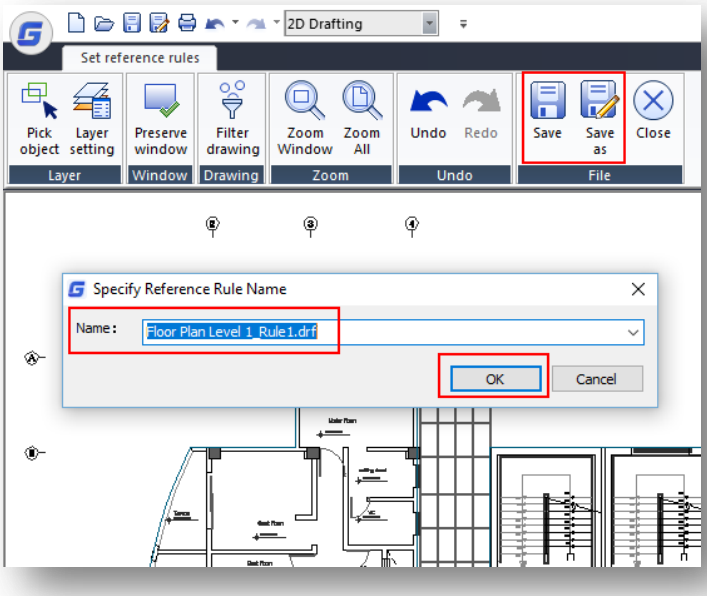


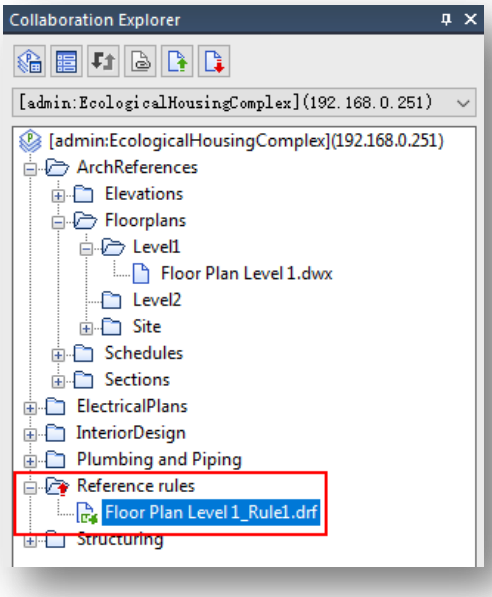
6.- Click **“Undo”** icon to revert previous action, then click **“Filter Drawing”** icon from drawing panel. In **“Exclusion Filters”** dialog box is same as **“Filter”** dialog box in GstarCAD, so you can filter what objects (by type and properties) need to be hidden on current drawing. If you want to filter objects quickly, click **“Select Object”** button, then select an object. After selecting, press **“Add to Filter”** button, all objects lie on same layer will be hidden. Press **“Apply”** button to confirm and exit.



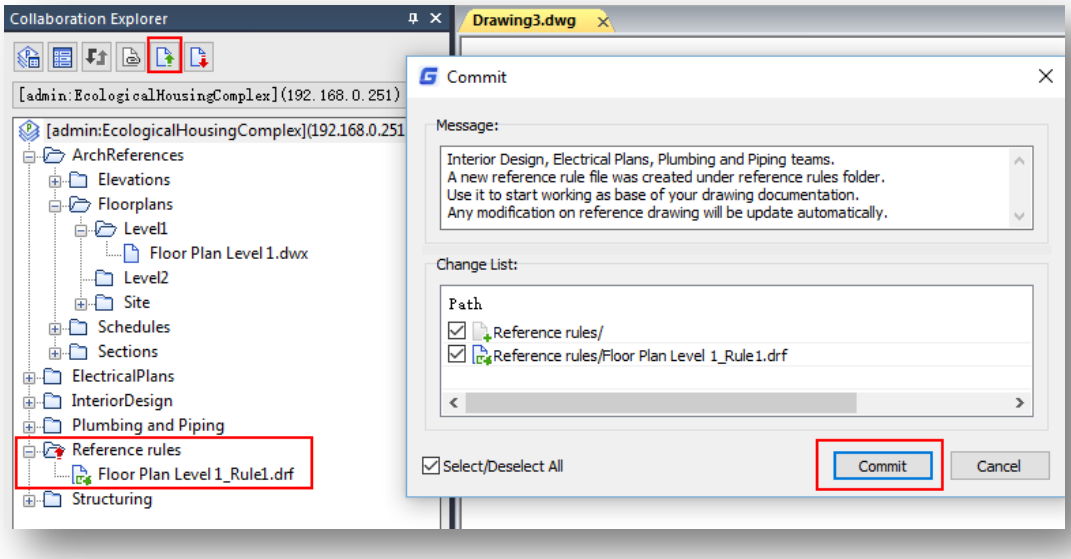


7.- If you are satisfied with the reference rules applied to the drawing, select **“Save”** or **“Save as”** icon from file panel. Then enter a properly name and press **“OK”** button to confirm. Finally, press **“Close”** icon from file panel to exit from set reference rules interface. A new folder **“Reference Rules”** will be created on project directory tree containing the reference rule file.



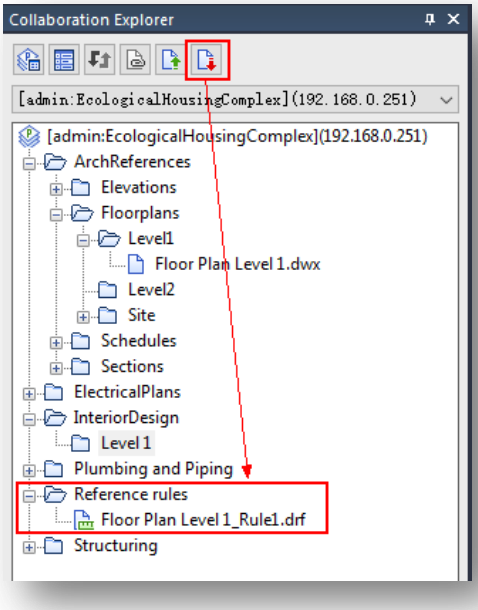


8.- The reference rules folder and reference rule file are ready to be committed. Quickly press **“Commit”** button at top of collaboration explorer panel. Then enter a message for the participants who will use the reference rule file as base. Press **“Commit”** button to start uploading data to server.

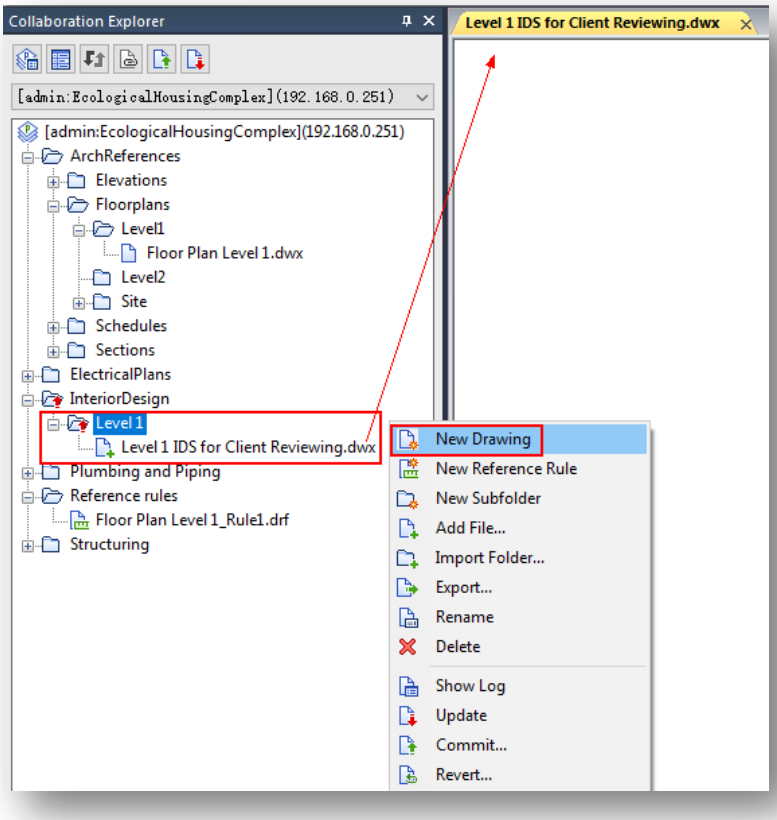


12.5. Importing a Reference Rule File into Current Drawing

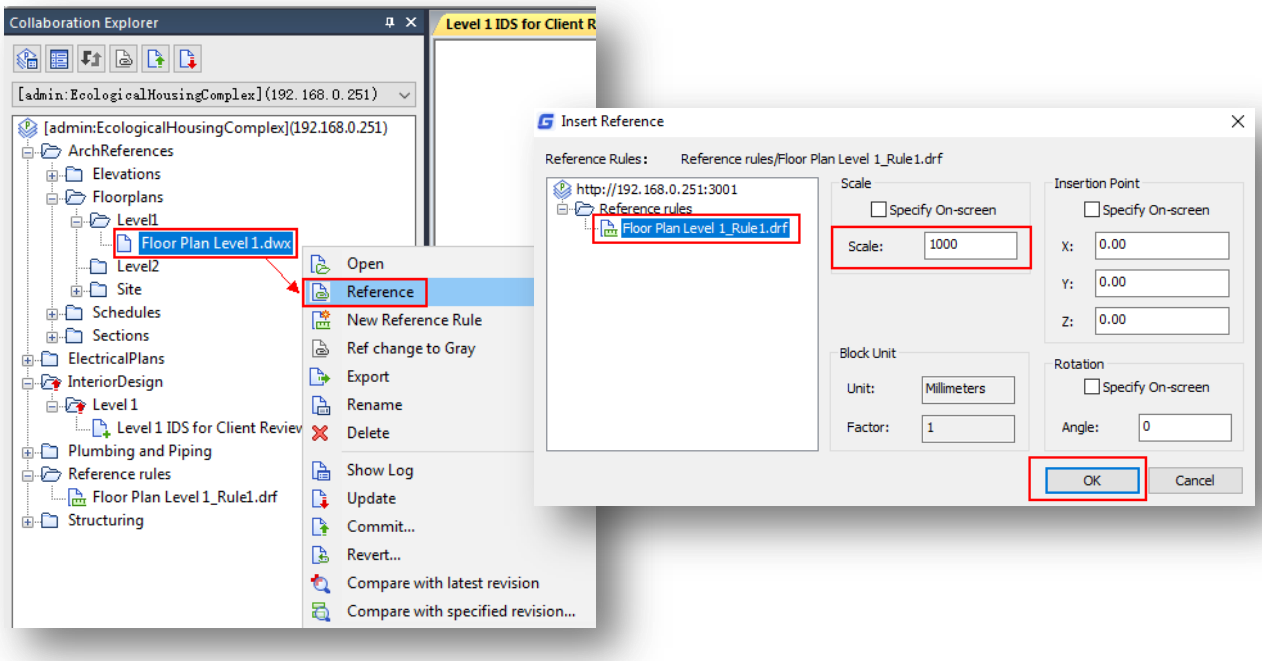
1.- If you are a project participant, after project administrator commits a reference rule file to server, you must update the project directory to get the reference rules folder and its reference rule file attached.



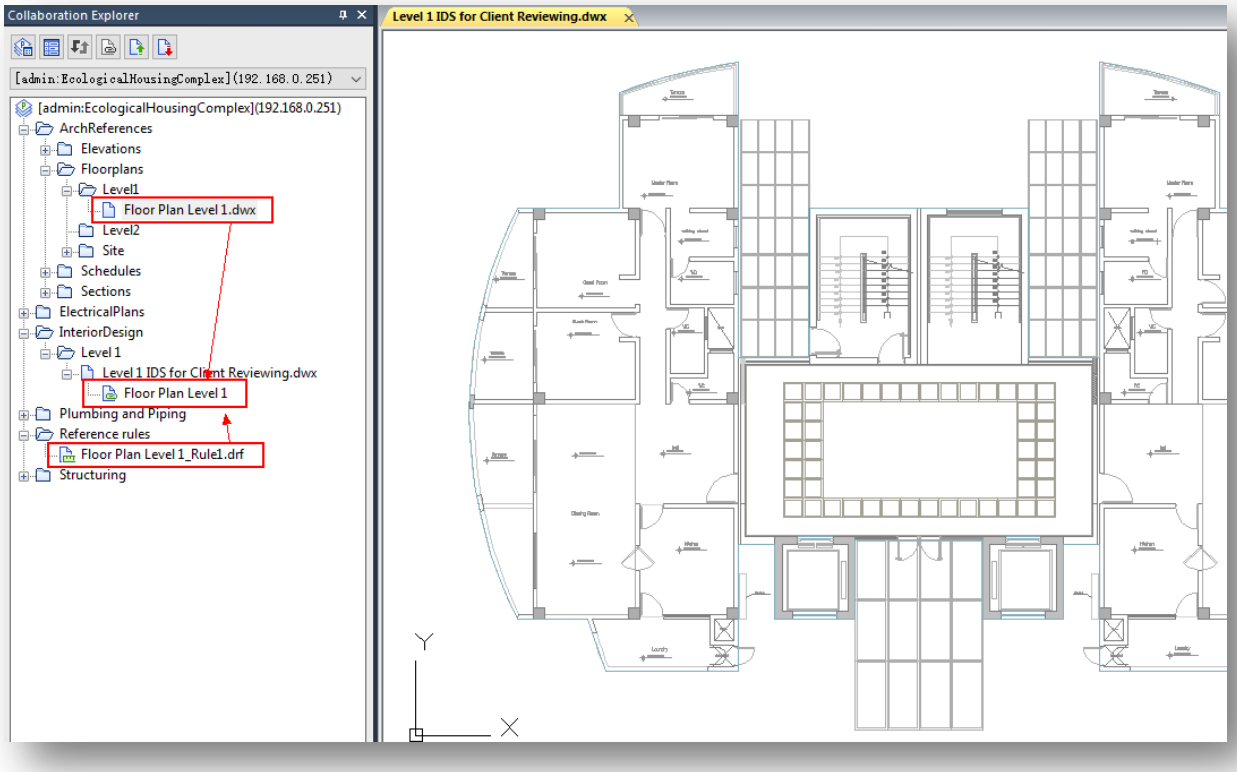
2.- Create a new drawing on authorized subfolder you will work with. Right-click the subfolder and select **"New Drawing"** option. Enter a proper name and press **"OK"** button. The drawing file will be opened by default.



3.- While the drawing file is open, right-click a drawing (took for creating a reference rule file) you want to reference and select **“Reference”** option. In **“Insert Reference”** dialog box, make sure to select the reference rule file created by the project administrator. Additionally, you can set some options for reference file insertion. Then press **“OK”** button to confirm and exit.

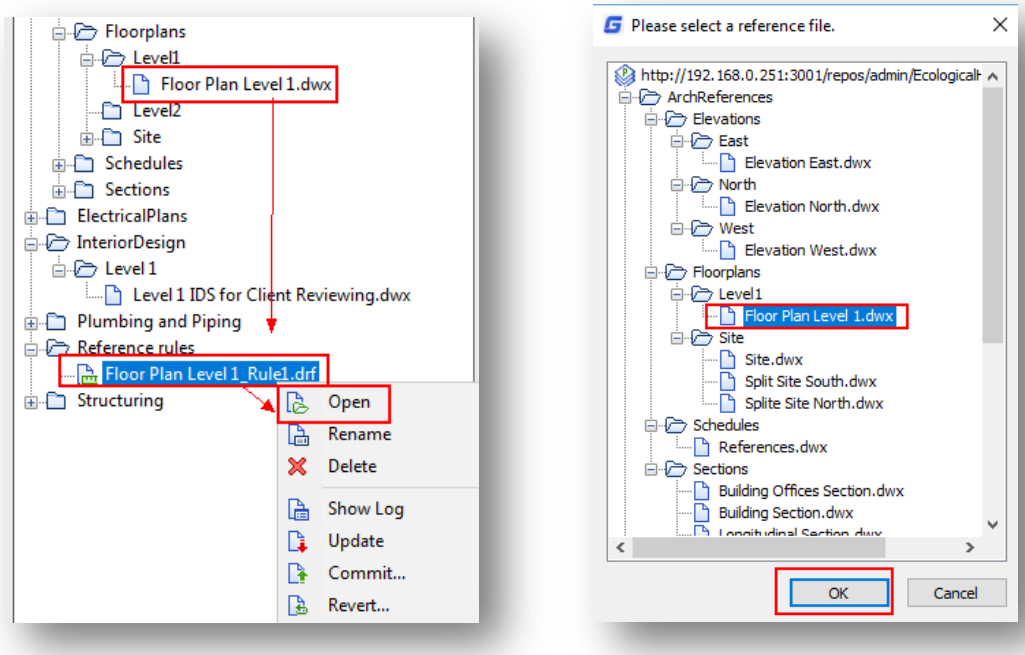


4.- The reference rule file will be inserted under current drawing you are working with.

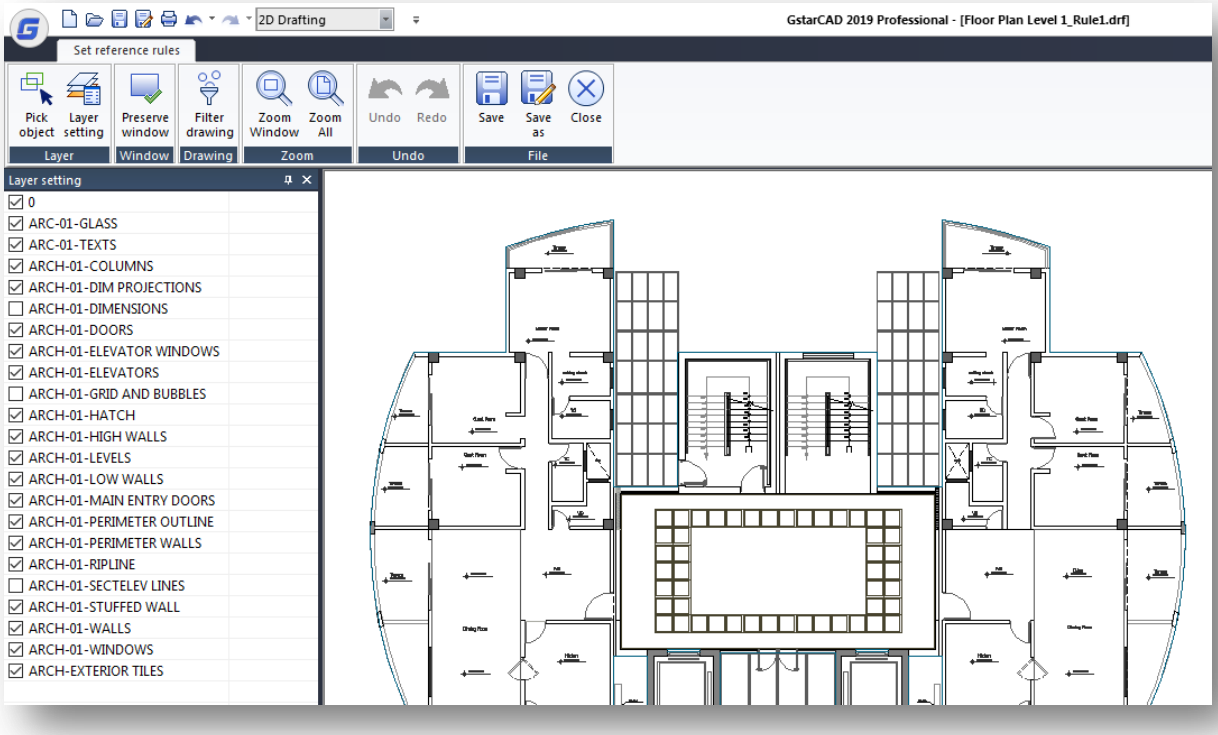


12.6. Opening a Reference Rule File whether as Common or Power User Type

1.- Before opening a reference rule file, it is mandatory to have the drawing file, which has been taken to make the reference rule file, loaded on current project. Right-click the reference rule file and select **"Open"** option. Then select its respective reference file from project tree and press **"OK"** button.



2.- The **"Set Reference Rules"** interface will pop up, you can apply new rules by hidden layers of selected objects at will.



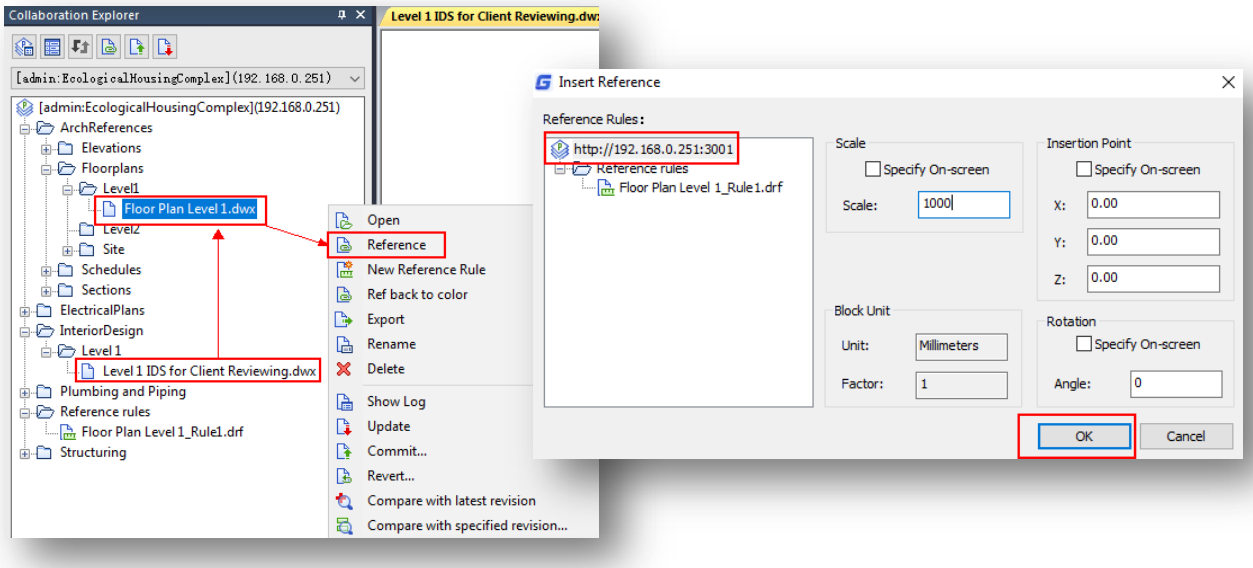
13. Compare Versions of a Referenced Drawing File

When drawings drawn by other project members are referenced in your current opened drawing, if you want to know what is updated in the reference drawing, you can choose between two comparison options.

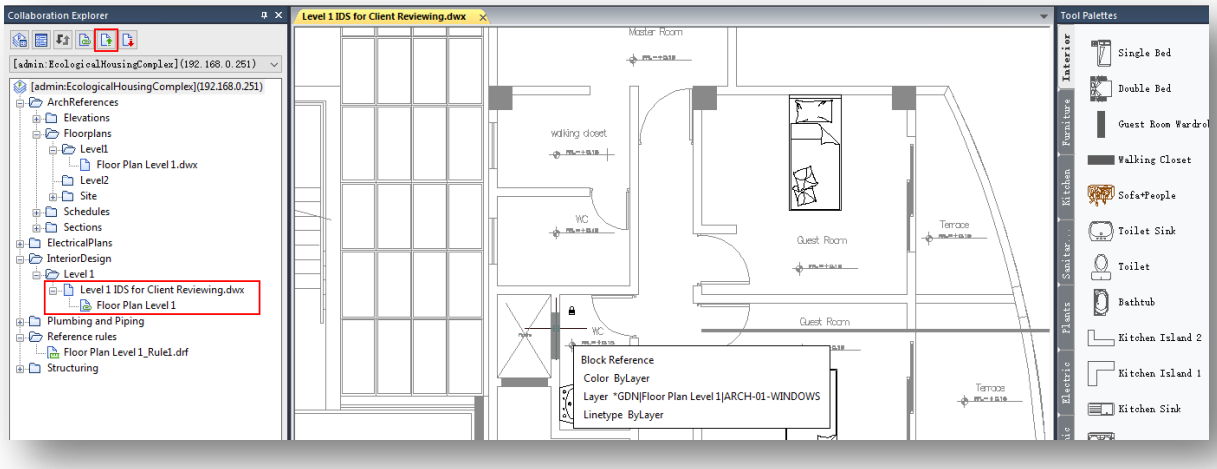
13.1. Compare Latest Revision of Drawing Reference

Whether you are common or power user, make sure you have right permissions on authorized folder you are working with, then refer to topic **12.1 Referencing a Drawing File on Current Project Directory without Reference Rules** in this file if you don't know how to reference a drawing file.

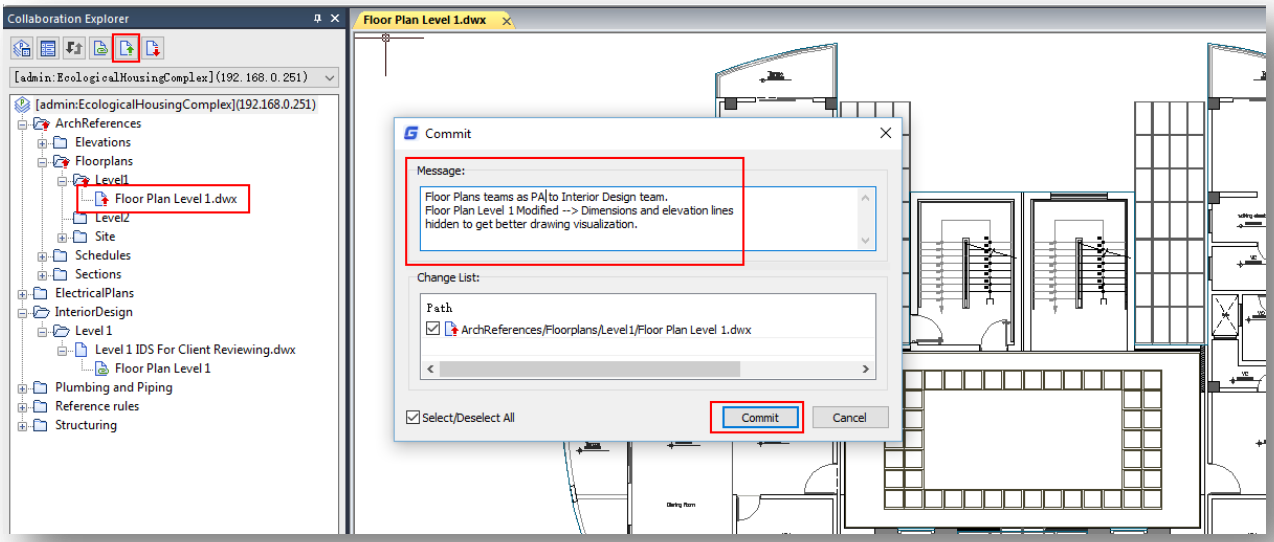
1.- Open the drawing file you want to insert a reference. Right-click the drawing file that will be referenced and select **"Reference"** option. Press **"OK"** button to finish and exit dialog box. The reference will be inserted successfully.



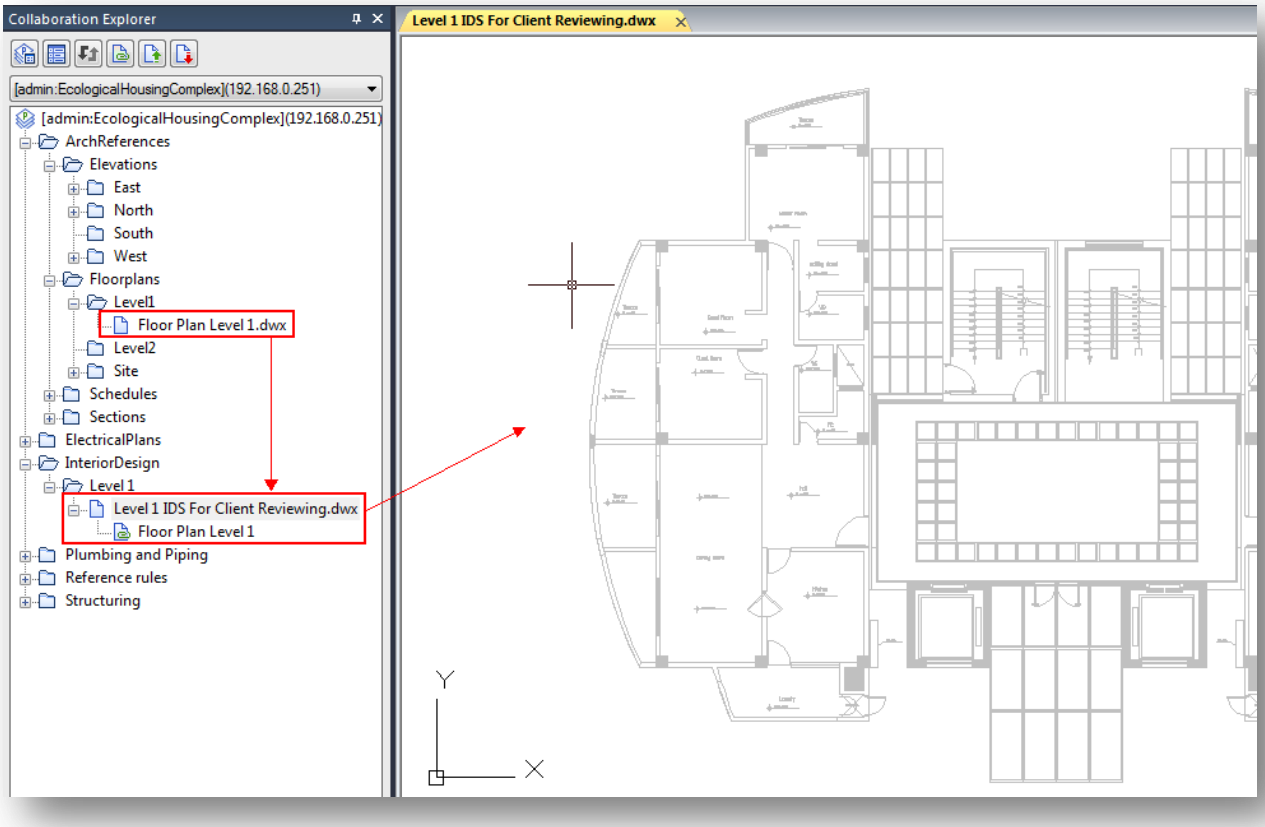
2.- Now you can start working based on the reference file, then you can save, commit it to server and close the drawing.



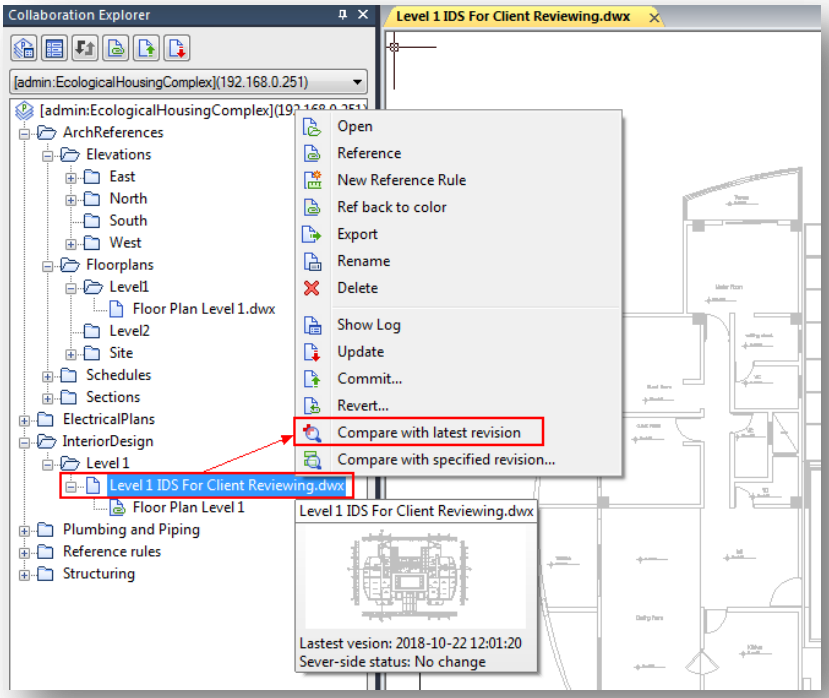
3.- Meanwhile, the drawing file you referenced is being modified by its corresponding team member. After modifications done, the user commits the modifications with a message sent to your team members.



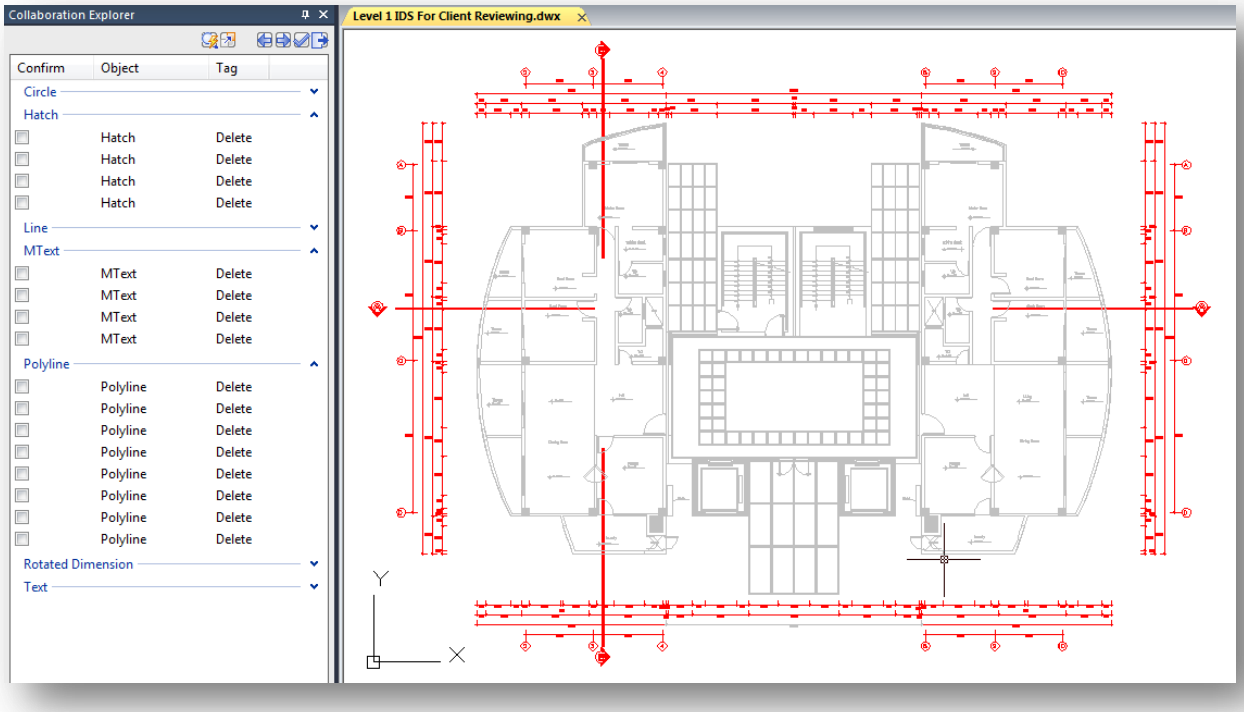
4.- Now you can open again the drawing file. The reference will be update according to latest modification submitted by another team.



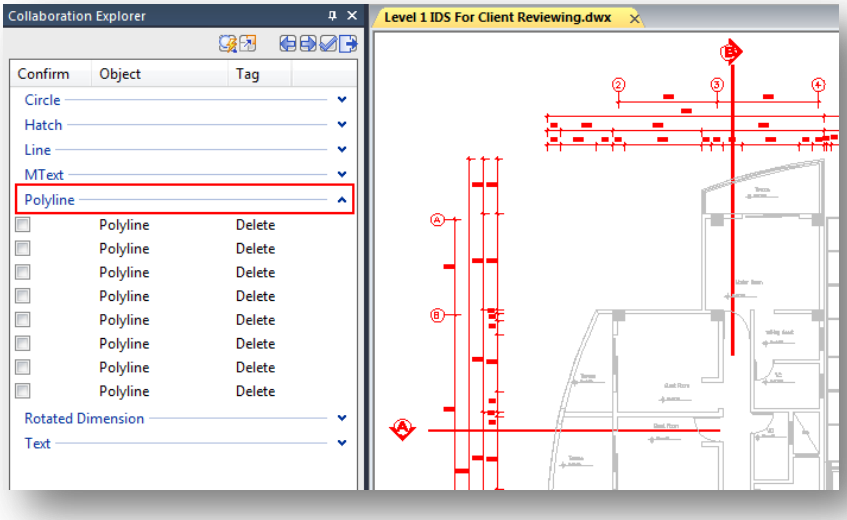
5.- If you want to see the latest changes or modifications made by another team on the referenced drawing, right-click the drawing you are working and select **"Compare with latest revision"**.



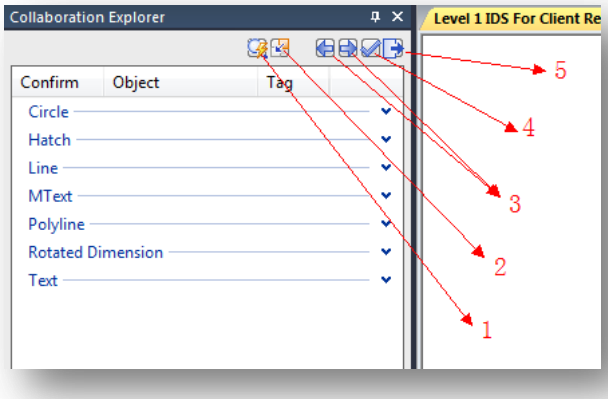
6.- Notice all colored objects that have been modified will be displayed on the reference drawing. At the same time, in the **"Collaboration Explorer"** panel, the list of objects added, deleted, and modified will be displayed.



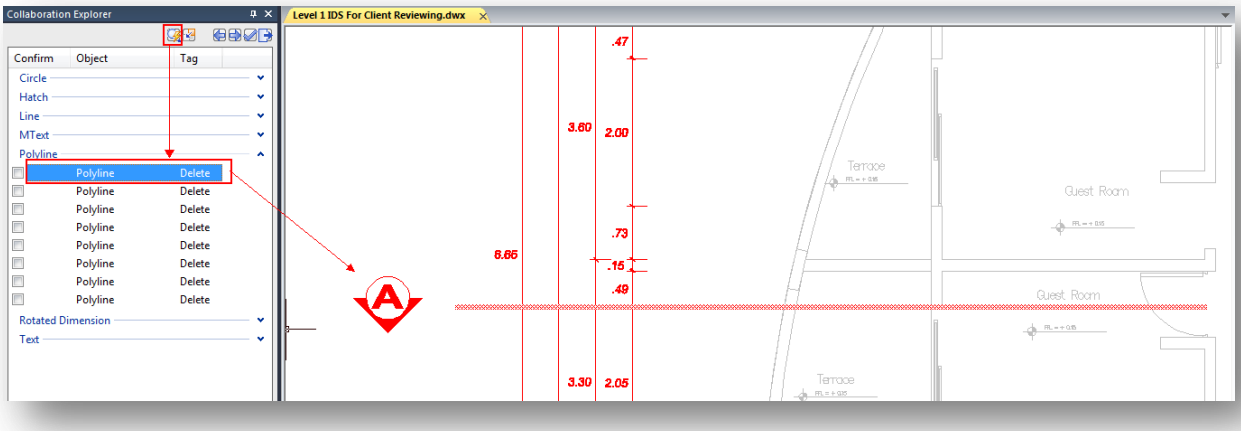
7.- In **“Collaboration Explorer”** panel, you can expand one category to see all objects added, deleted, and modified previously.



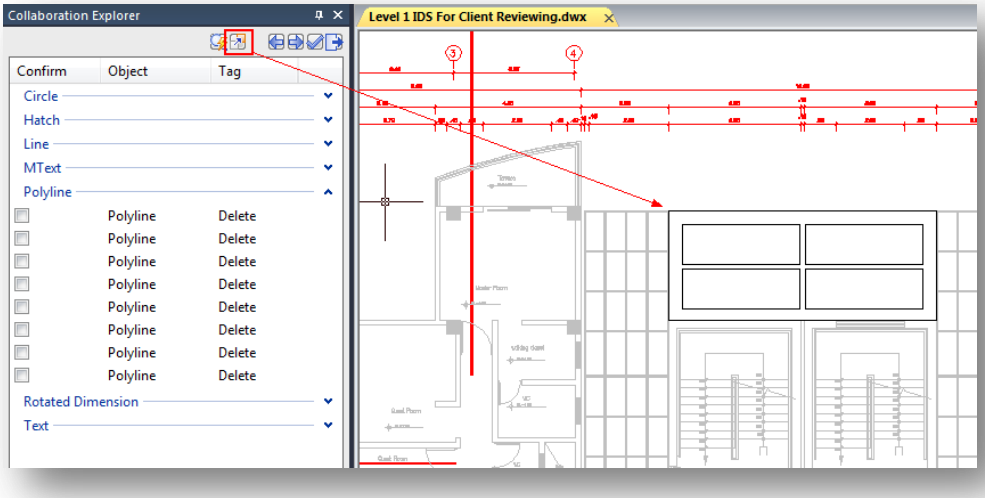
8.- At top of **“Collaboration Explorer”** panel, there are several buttons that will be described below.

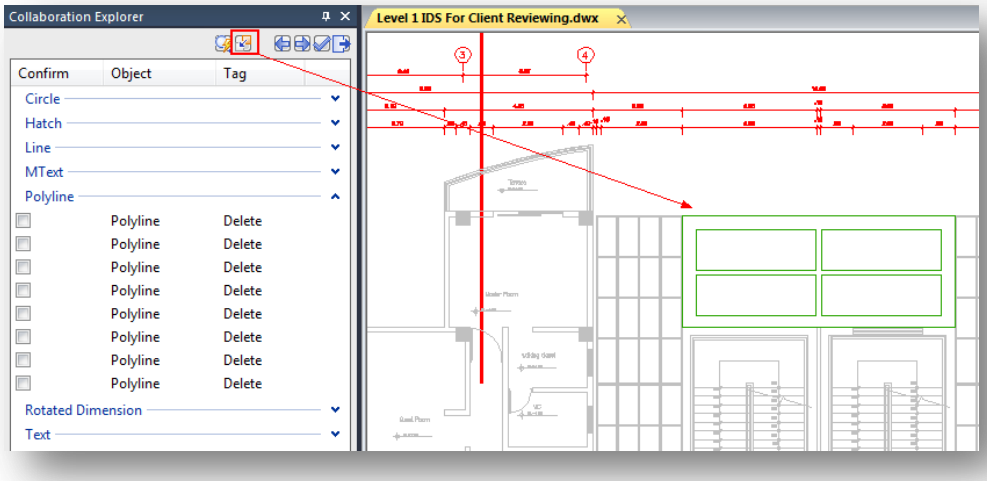


1 Auto-zoom Display: The auto zoom button is a switch that turns on the auto-zoom mode if pressed. When one or more objects are selected in the object list, the corresponding object in the drawing is automatically zoomed and displayed in the middle of the working area.

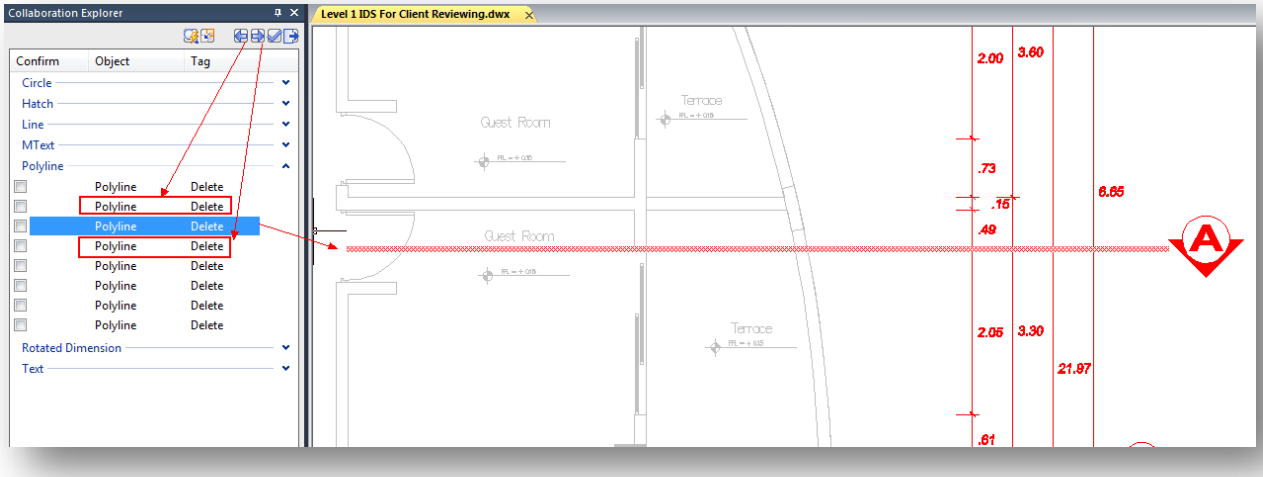


2 Color Switch: Displays the objects added, modified or deleted in current drawing as monochrome, or original color.

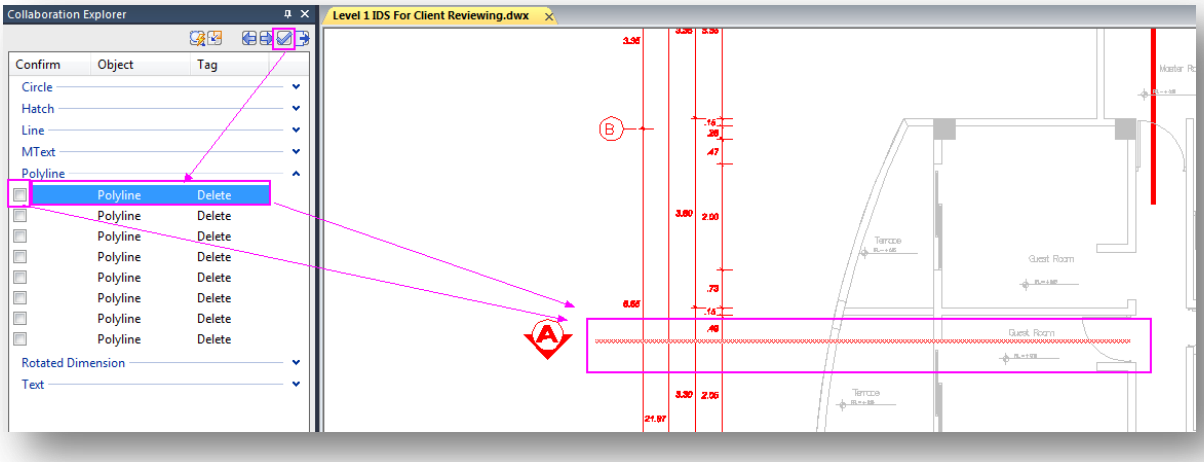


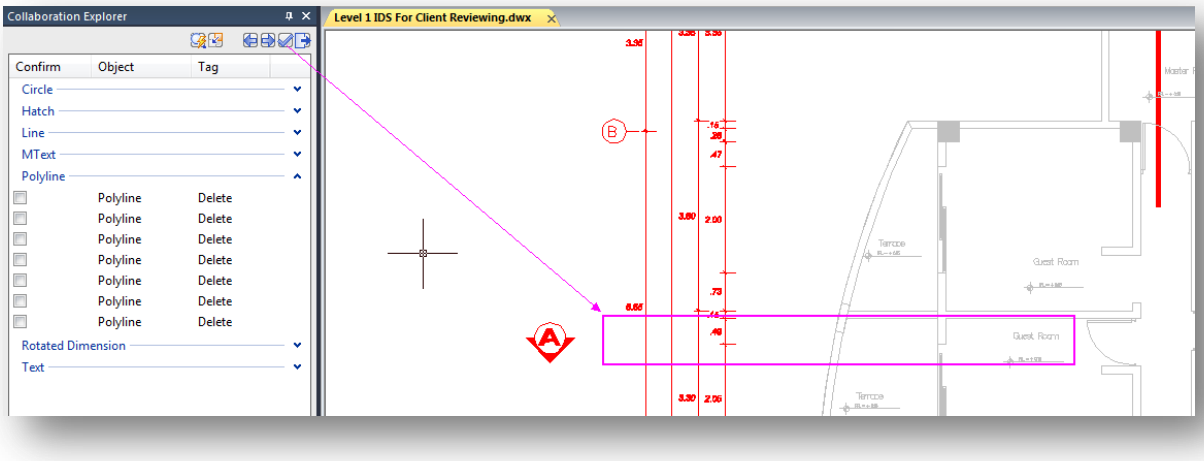


3 Previous and Next: The **"Previous"** button switches to the last changed object in the list, and the object will be highlighted. If auto zoom is turned on, the auto zoom view will display the selected object to the center of the window. The **"Next"** button switches to the next changed object on the list.

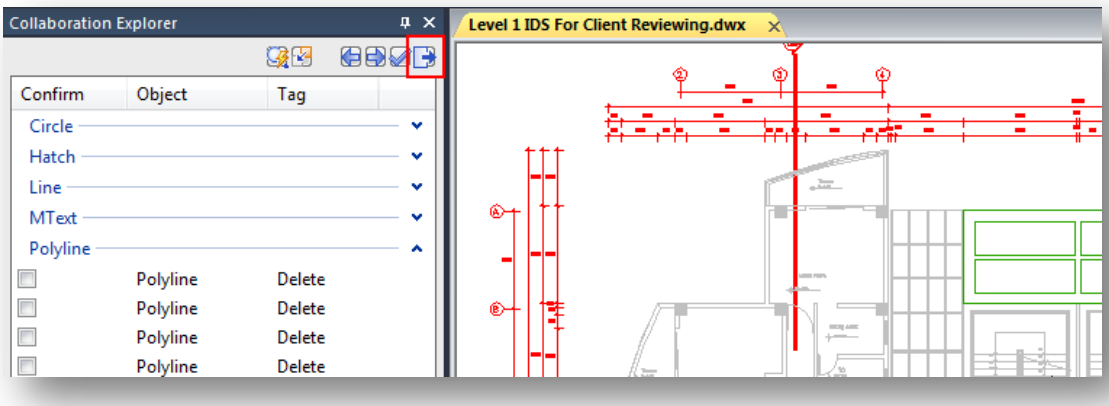


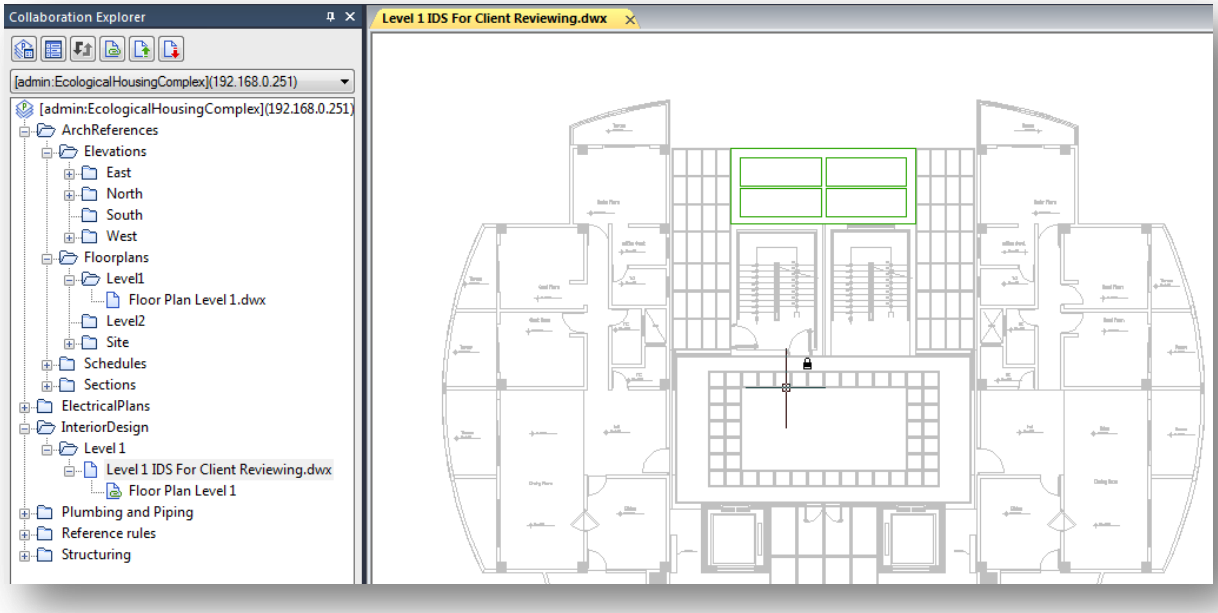
4 Confirm: The so-called **“Confirm”** means that you have already understood the changes in the related drawings. There are two ways to confirm: one is to select one or more object types in the list and click the **"Confirm"** button; the other way is to select one or more objects in the list and click their checkbox. After confirming, the objects will disappear from the list and will no longer be highlighted with the set color and will return to the normal state.





5 Confirm All and Exit: Confirm that you have understood all the changes to the reference drawing. Exit to view the changes, restore the reference drawing to the state of the latest version, and retain the modifications to the drawing while viewing the changes.

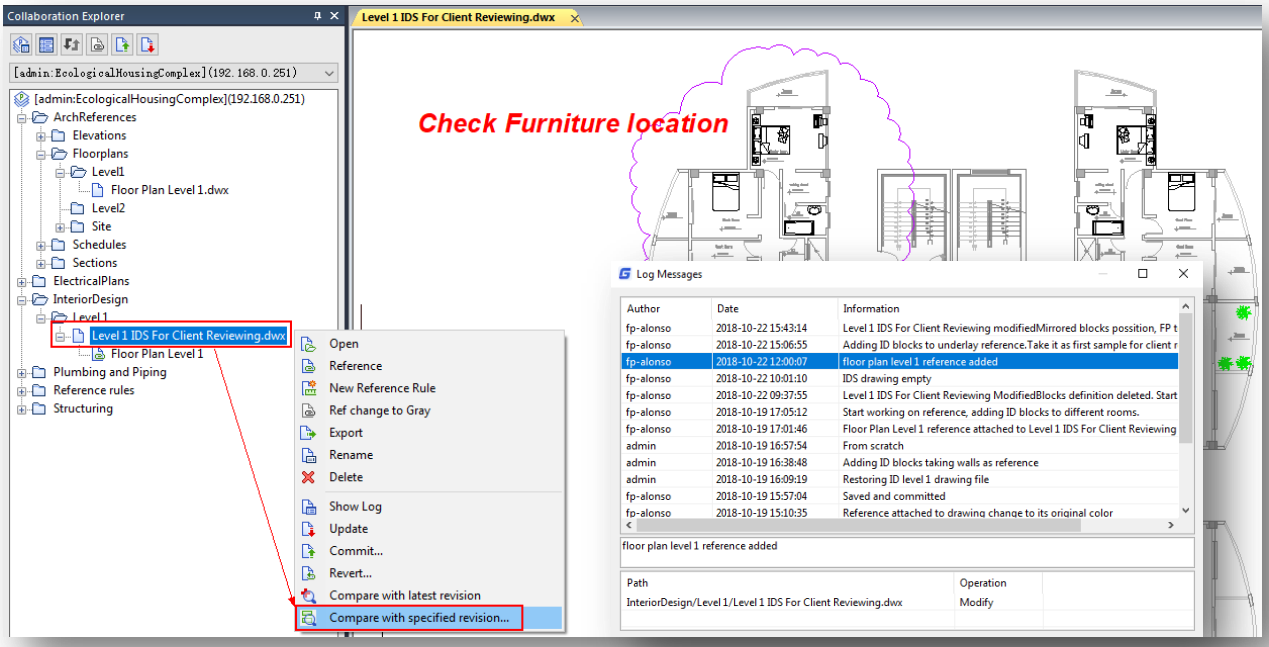




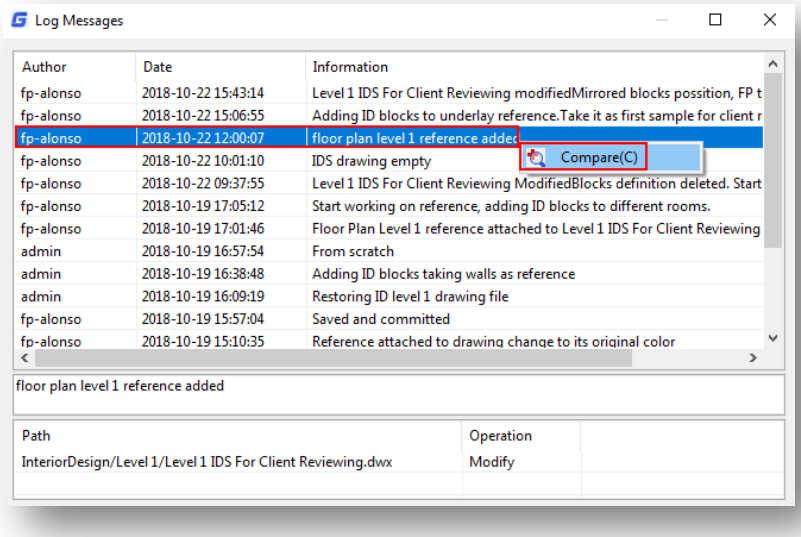
13.2. Compare an Specified Revision of Drawing Reference

The **"Compare with specified revision"** option is similar as **"Show Log"** function. For example, if one team member modifies, save and commits his/her drawing file each time another team member requires it, the server will store several drawing file versions previously uploaded by both team members.

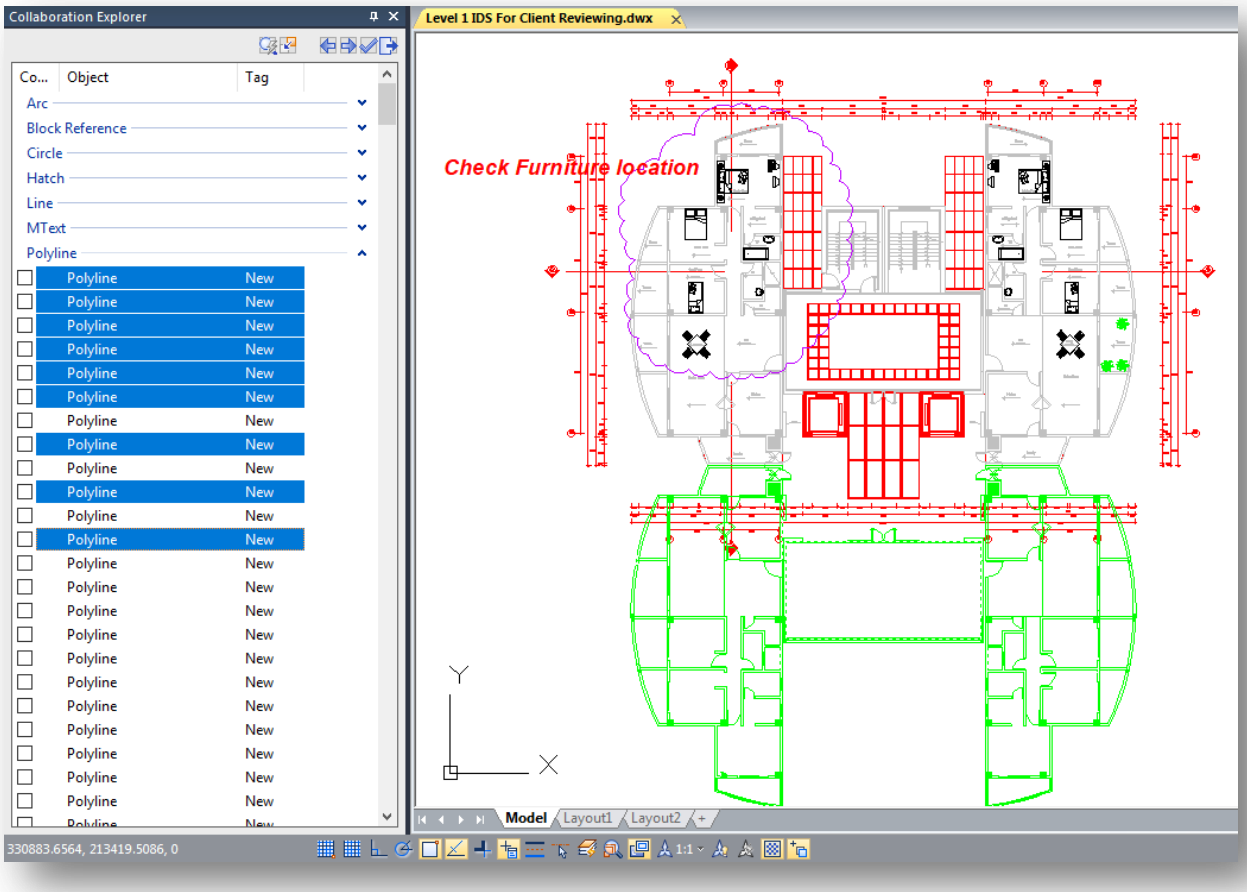
1.- Open the drawing file you will work with, the right-click it and select **"Compare with specified version"** option to open the **"Log Messages"** dialog box.



2.- In **“Log Messages”** dialog box, you can select a drawing file version committed by another team member and calling back to compare that version with the current you are handling. Right-click the selected version, then select **“Compare”** option.



3.- Then you can compare and see all modifications colored (added, deleted, modified) since the very beginning.



14. Real-time Collaboration Method

The real-time collaboration is based on synchronous collaboration method. Two or more participating members (same or different disciplinary teams with right permissions) can reference their drawing files to one another, allowing view and work upon the referenced drawing at same time in different client platforms. Any drawing modification done by a participant will be loaded to server automatically after saving it or setting up the collaboration update interval, avoiding press **"Commit"** button from the collaboration explorer each time saving a drawing file. What's more, the drawing file update time can be configured individually according to users need. Synchronous collaboration method speeds up blueprint completion between users at same time.

14.1. Advantages of Real-time Collaboration Method

1.- **Clear Communication, Less Confusion** – Because once a drawing files are mutual referenced, you can see the changes made by each other in real-time. This visual communication is very powerful because it leaves little room for confusion. As anyone can instantly spot the modifications they can easily object to changes they don't like, it leads to much better communication and extremely easy to make decisions.

2.- **Save Time** – Real-time collaboration saves your time in so many ways. You can cut down the time spent on meetings because of visual communication. No need to go back and forth to meet clients because most things can be done online in a much more efficient manner. You can even save time spend on email communications because no need to have long email conversations, just reference a drawing file and work on it in real-time.

3.- **Accelerate Documentation** – Because two or more users can work making a single drawing from beginning to completion much faster instead one user finish it out of delivery deadline.

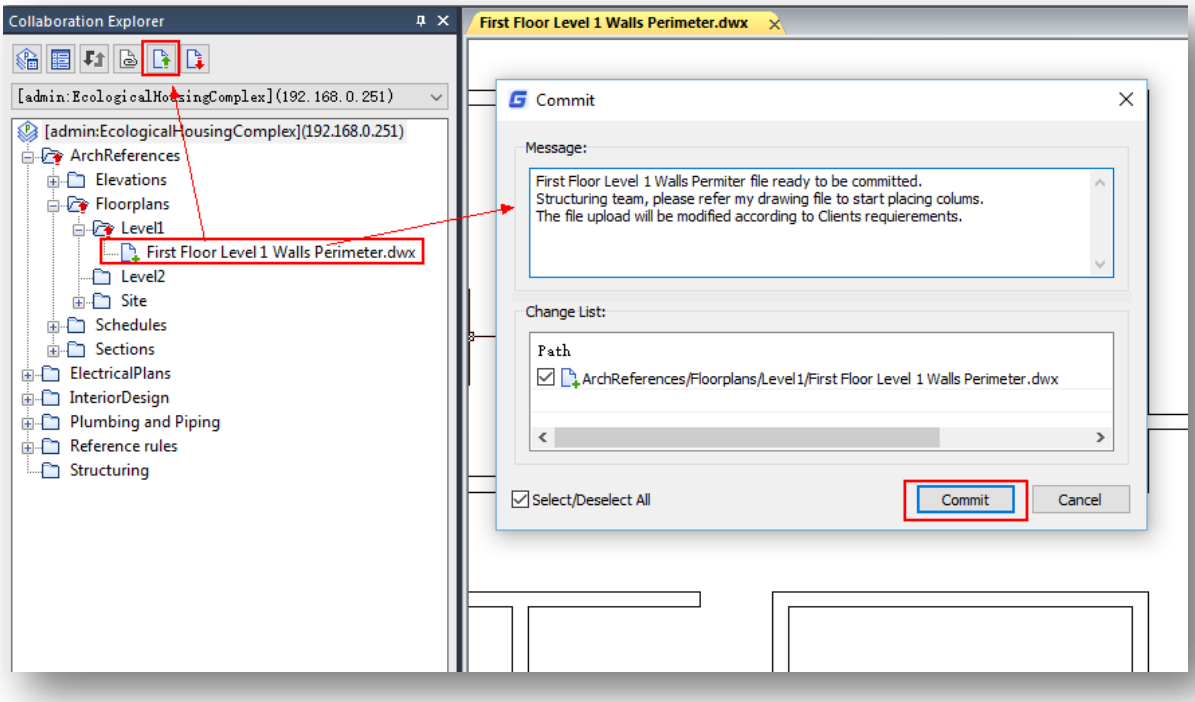
4.- **Increase Productivity** – It helps project members working at same environment to be more productive. Since everything is done online it's just a matter of connecting to the Internet or the Intranet.

5.- **Save Money** – A combination of all the factors mentioned above lead to a considerable amount of savings. Increased productivity is saved time and money.

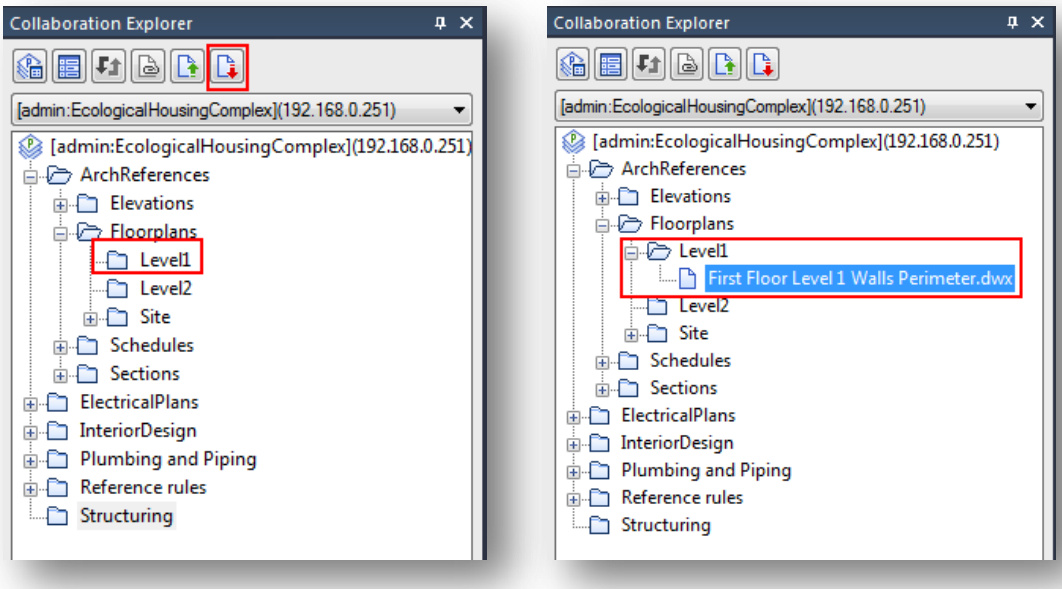
14.2. Example of Real-time Collaboration Process

Before using the real-time collaboration tool, whether you are common or power user, make sure you and the member of another team to which you are going to reference his/her drawing file have right permissions on authorized folder you are working with. Follow next steps below.

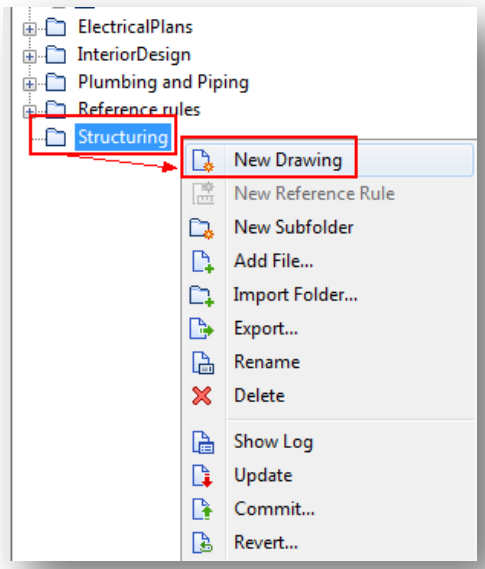
1.- For example, if you finished to draw the first-floor walls of a building. Save the file and commit it to server with a specific message to another team member.



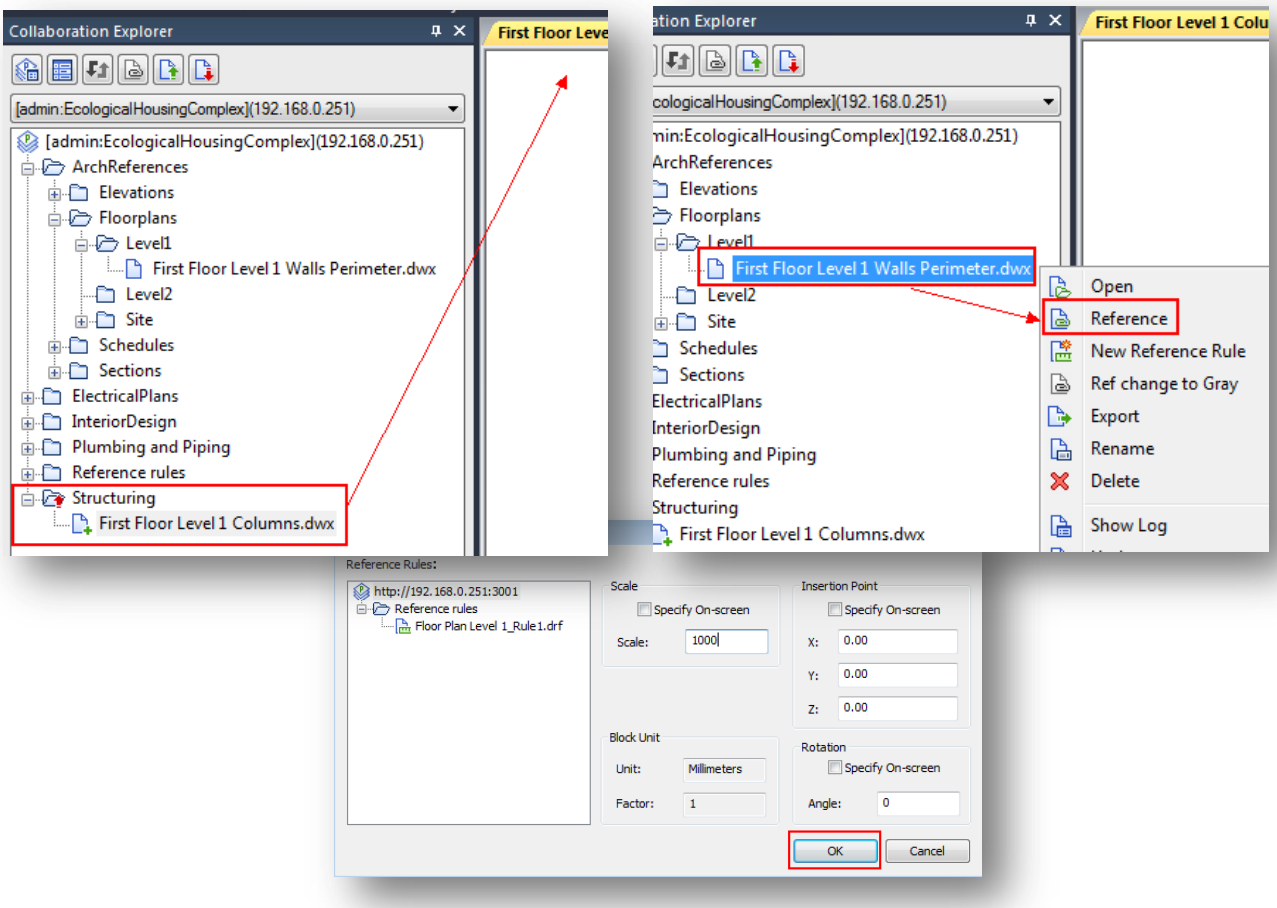
2.- Another team user must update the project directory to see the drawing file previously submitted.



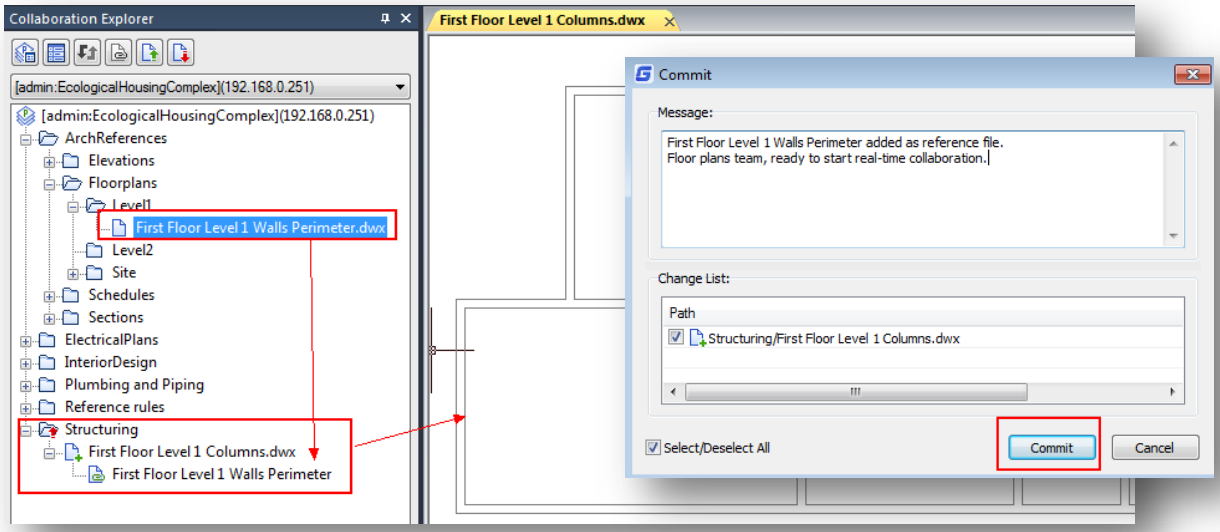
3.- Then the user can create a new drawing under his/her authorized folder. Right-click the folder and select **"New Drawing"** option. The user must enter a proper name and done!



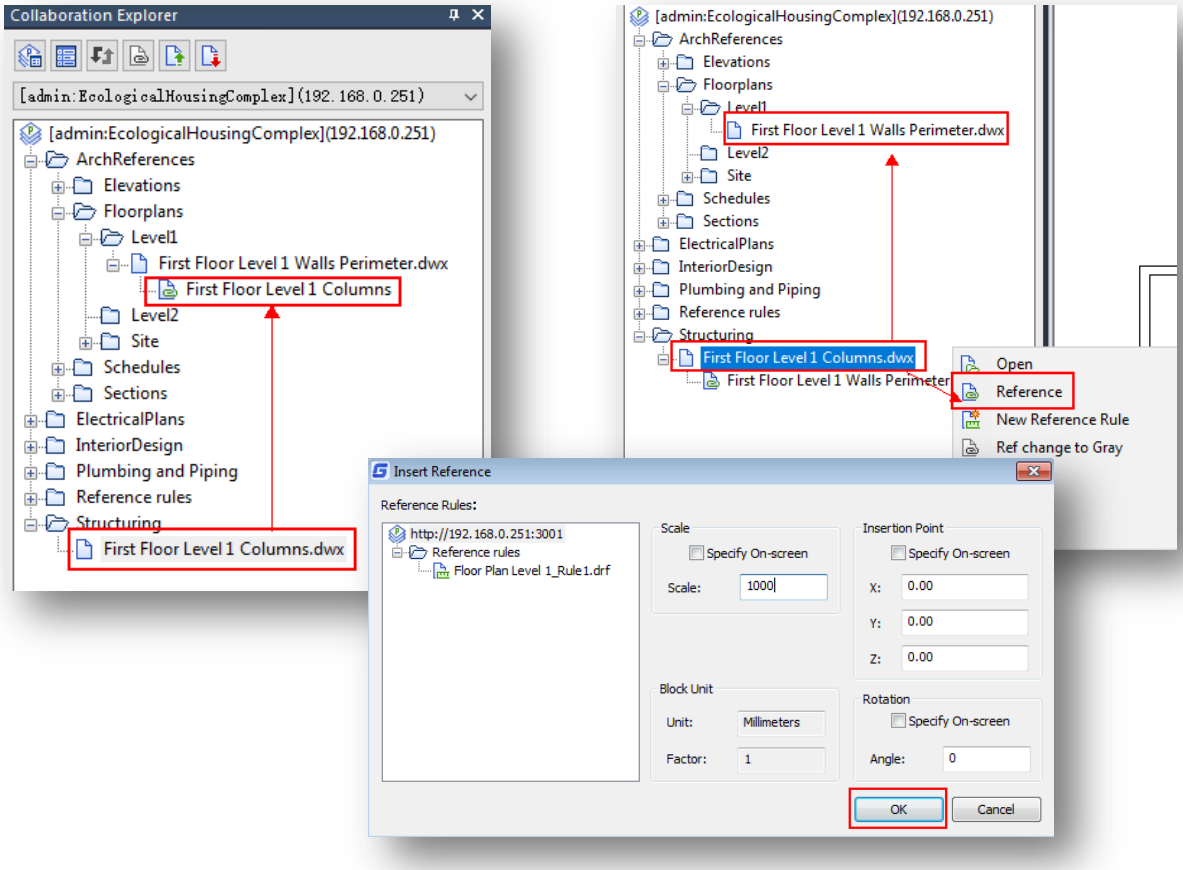
4.- The user must get your drawing file as reference to start working with. While the drawing file is open, the user must right-click your drawing and select **"Reference"** option. In **"Insert Reference"** dialog box, the user could set some insertion options at will. Then press **"OK"** button.

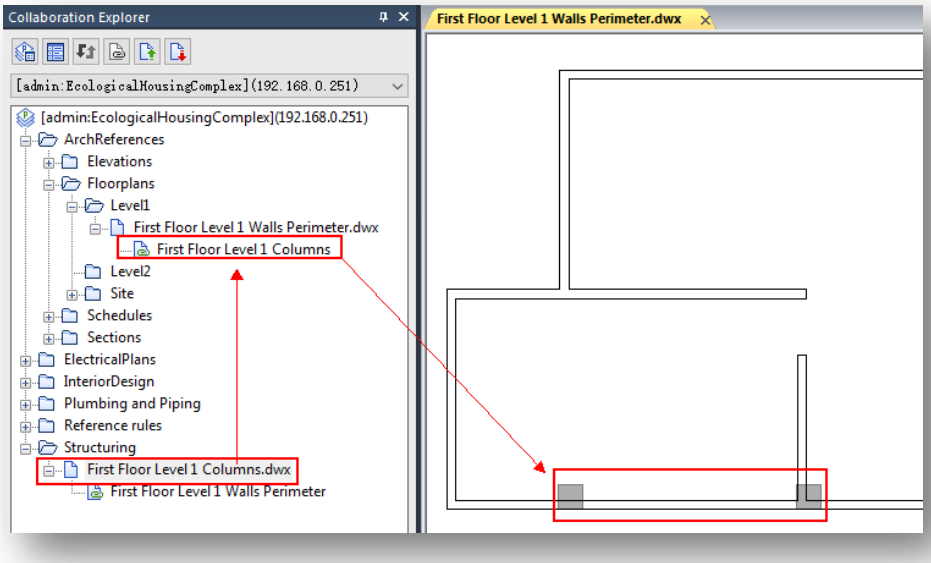


5.- The reference file has been inserted successfully. The user can start adding some objects, the save the file and commit it to server.

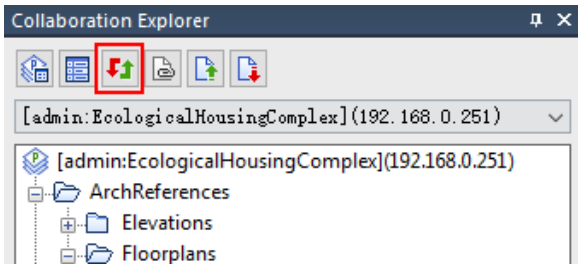


6.- Now you must update the project directory to see the drawing file of the other user. Now open your drawing file, right-click the other user file and select **"Reference"** option. In **"Insert Reference"** dialog box, the user could set some insertion options at will. Then press **"OK"** button.

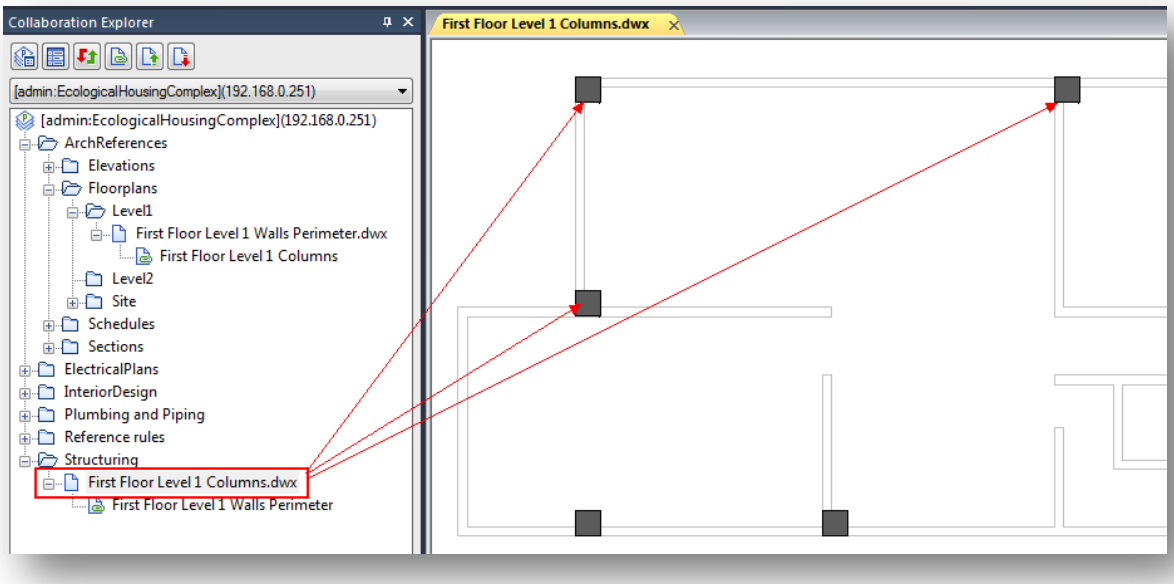




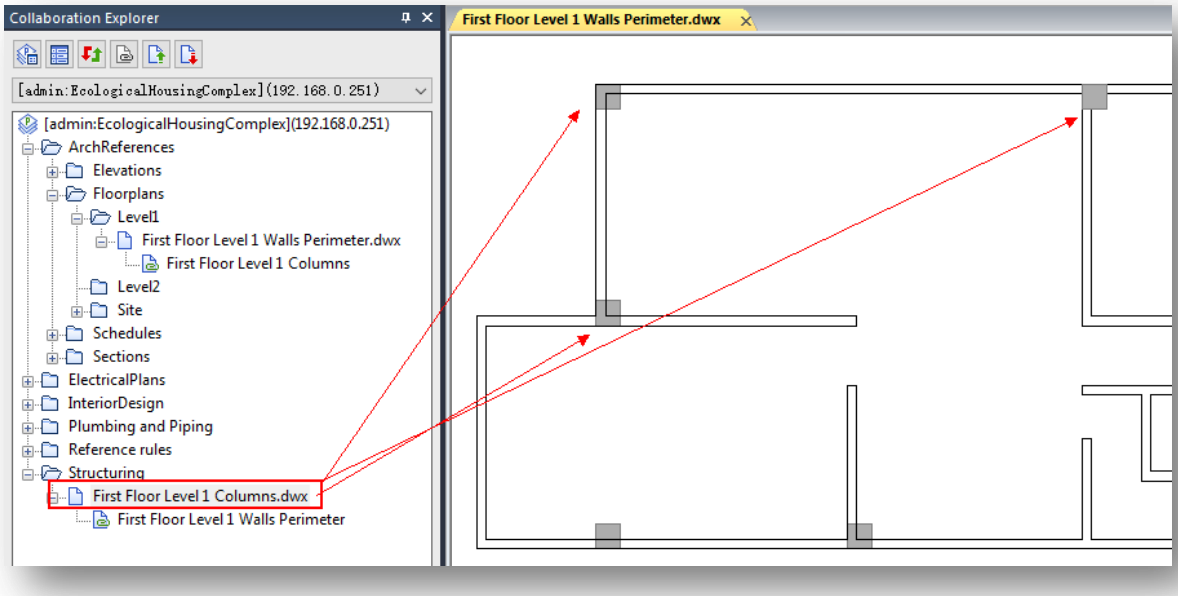
7.- Now both (you and the other user) are ready to start the real-time collaboration function. From **"Collaboration Explorer"** panel press **"Real-time Collaboration"** icon. The other user must click the same icon in his/her local pc.



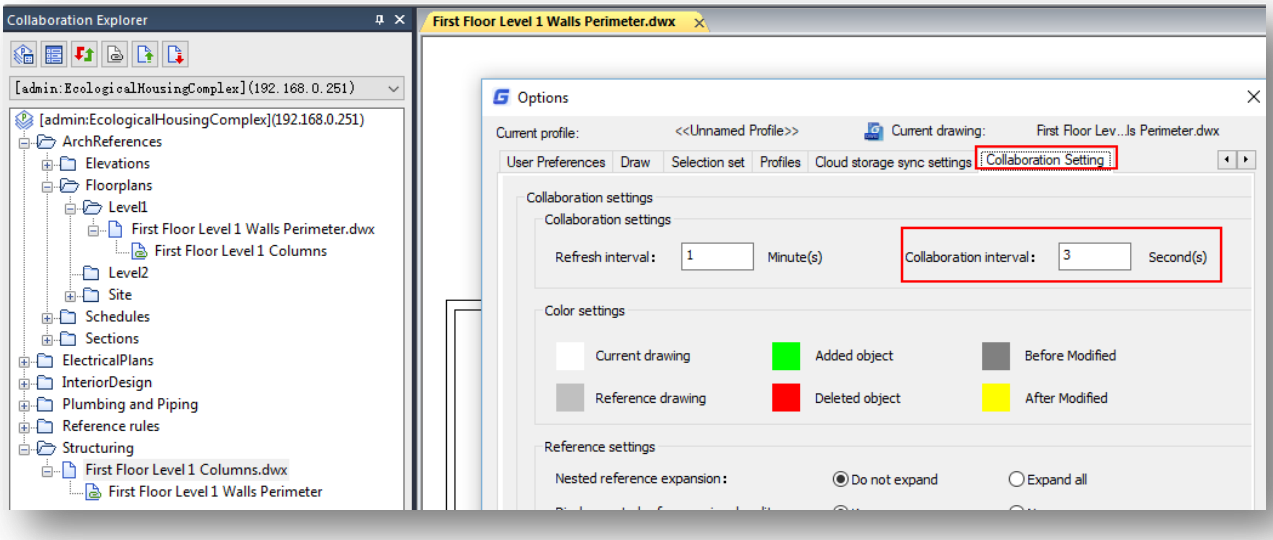
8.- The other user can start drawing based on the referenced file (gray out by default). For example, the user can place some columns to intersected walls. After that, the user must save the file and upload it to server.



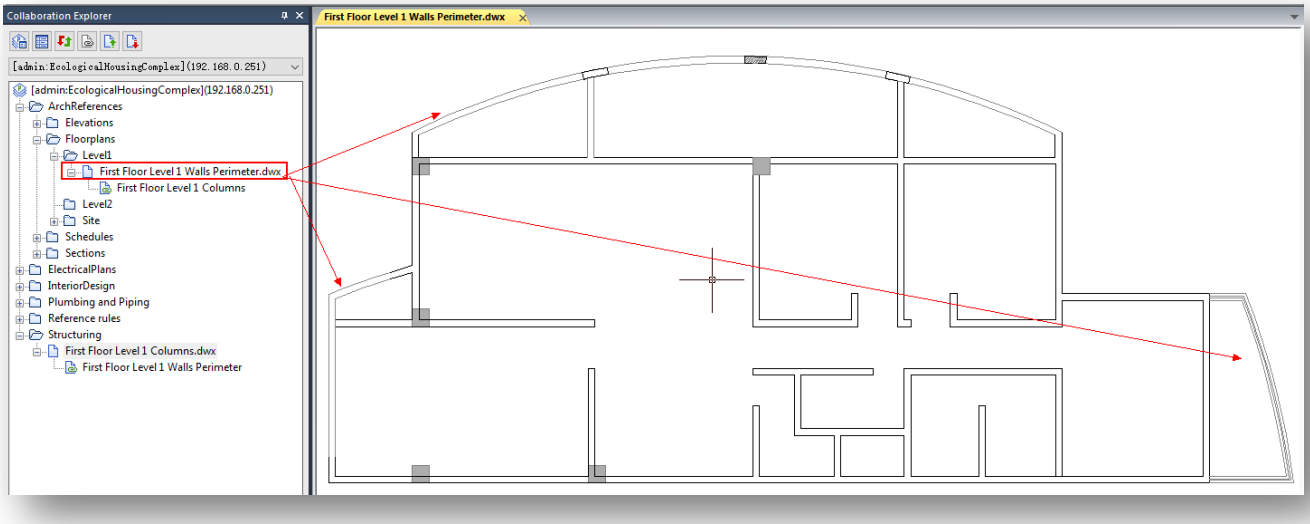
9.- You must update the project to see the reference file (gray out by default) modifications.



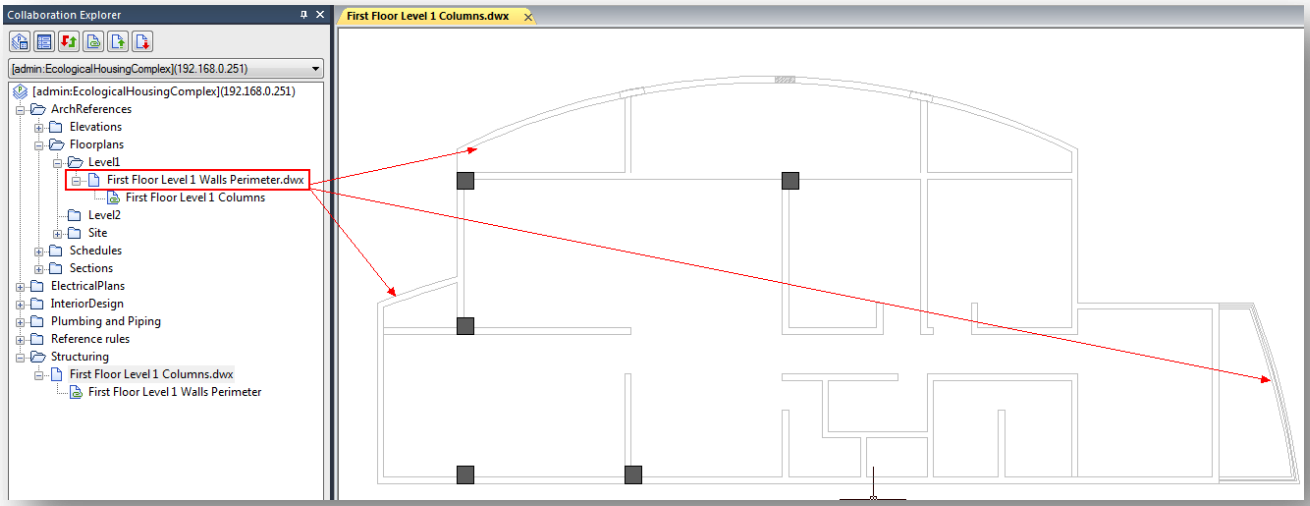
10.- Both you and the other user can streamline their work and download the latest changes made much faster than previously steps. Just type **"OPTIONS"** command to open the **"Options"** dialog box, under **"Collaboration Setting"** dialog box, you can find two options under collaboration settings title. You just need to input a lower value for **"Collaboration interval"** option. For example, you can input 3 seconds. Then click **"Apply"** button, and finally press **"OK"** button to confirm and exit.



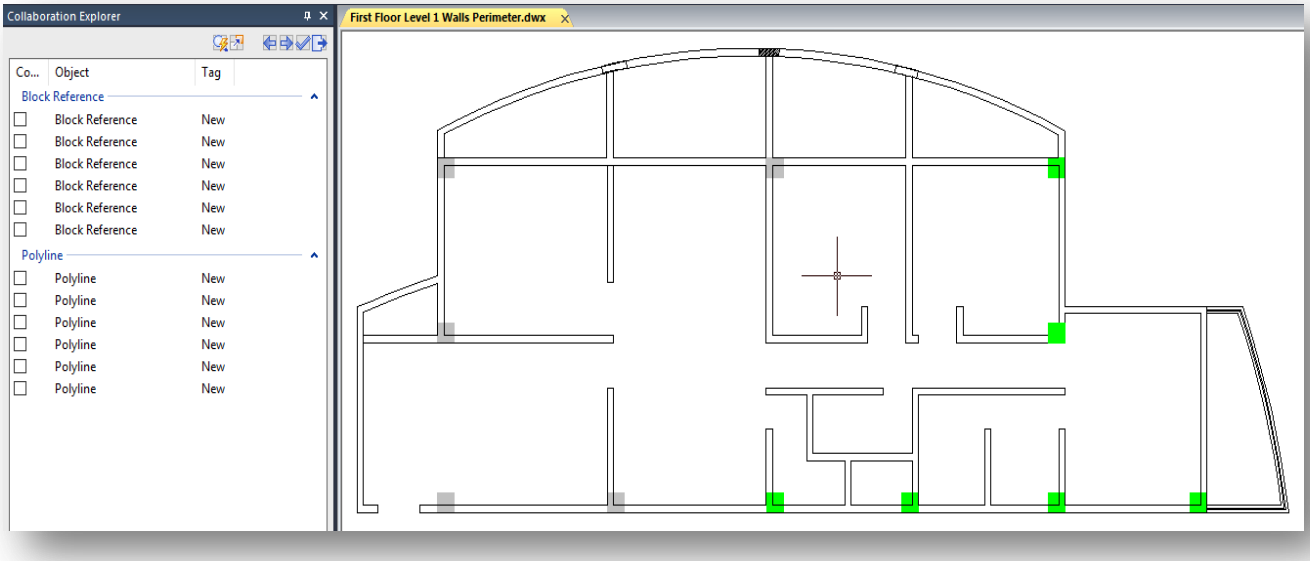
11.- Now you can modify your drawing as needed. You don't need to click **"SAVE"** and **"COMMIT"** button either. The modification will be uploaded to server automatically, refreshing your project directory.



12.- The other user will see the modification of reference drawing after 3 seconds according to refresh interval set up previously.



13.- You and the other user can also compare between revisions. Refer to topic **13.2 Compare an Specified Revision of Drawing Reference** if you don't know how to compare with specified revision.



Glossary of Terms

-Project or Server Administrator: A user who install GstarCAD Collaboration Server program to create and setup a project directory.

-Power User Type: User created and assigned by project administrator that can login and access to server through Collaboration Administration tool. This user can create a local project repository, add users, groups, assign roles and permissions.

-Common User Type: User created and assigned by project administrator that can only checkout or load a project by login to server. This user is not able to access to Collaboration Administration tool and neither create a local project repository.

-Role: Is one or more groups containing participant members created by the project administrator. Each group will accomplish specific functions during project life cycle. When a project directory (tree of folders and subfolders) is created, each group will be assigned to its respective folder.

-Permission: Is the action of officially allowing to a group created to do a specific thing; consent or authorization. The GstarCAD Collaboration System supports five kinds of permissions; Read-only, Read-only & Export, Read & Write, Read & Write & Export, Deny all.

-Project Directory: Are folders and subfolders created by project administrator within permission process just after created the roles (groups) for the project. The project directory will be downloaded from server and deployed to collaboration explorer panel after checkout process.

-Checkout: Browse and select available projects from server.

-Commit: Upload data from local machine to server, submit.

-Update: Download data from server to local machine.

-Show Log: User can access and call back files committed and stored from server.

-Reference Rule: Consists on hide unnecessary layers of a drawing file before being referenced.