

Asset Twin Setup

1. OBJECTIVE

- ✚ The Asset Twin Setup provides all the scripts and configurations you need to create and update an Asset Twin on Twinit.
- ✚ Here you find everything you need to create and update an example Asset Twin using a sample model and asset data.
- ✚ You will also find the documentation you need to be able to repurpose and reuse the example to create your Asset Twins.

2. SETTING UP AN ASSET TWIN PROJECT

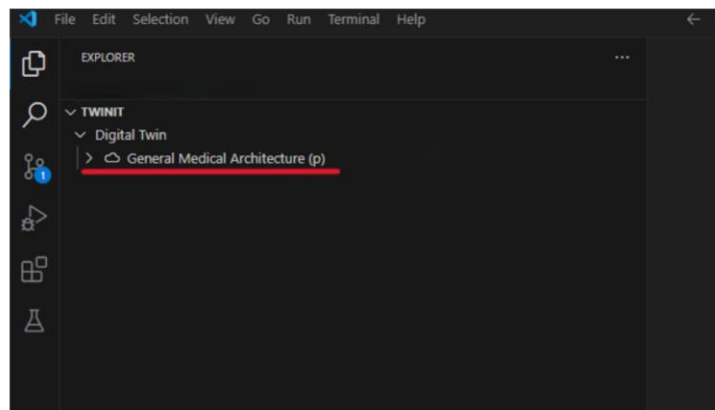
1. Config Sheet Preparation

Before the project execution begins, its mandatory to prepare the configuration sheet as per project model and script location details. This includes:

- ✚ Information about what user groups to create
- ✚ The location of the model to import
- ✚ What information to use to classify the model
- ✚ And more...
- ✚ To prepare the config sheet please refer the instruction documentation in [“EasyAssetTwin_Config_Sheet_Instructions.pdf”](#).

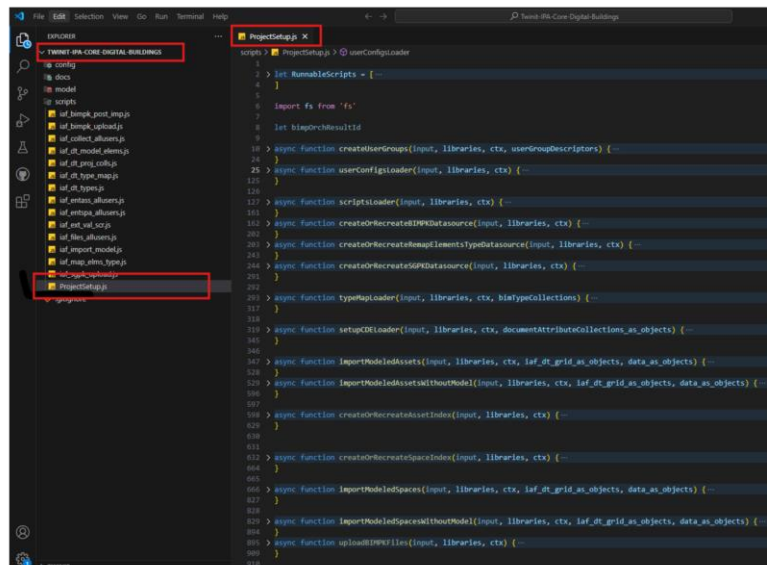
2. Project and Script Creation

- ✚ Create a new Twinit Project for your application using VS Code.
- ✚ Create a “projectsetup” script under the project name > scripts.



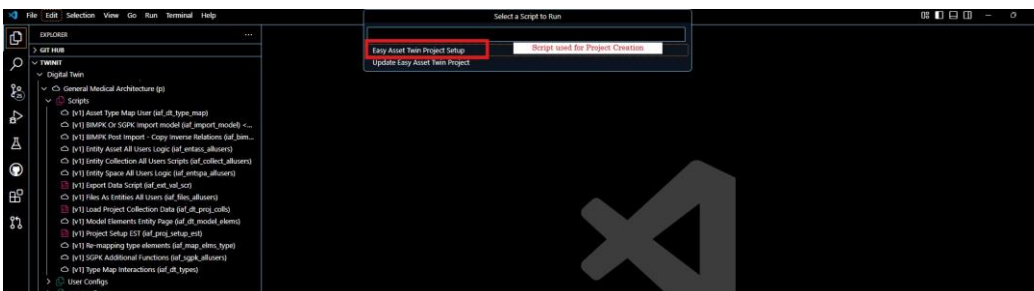
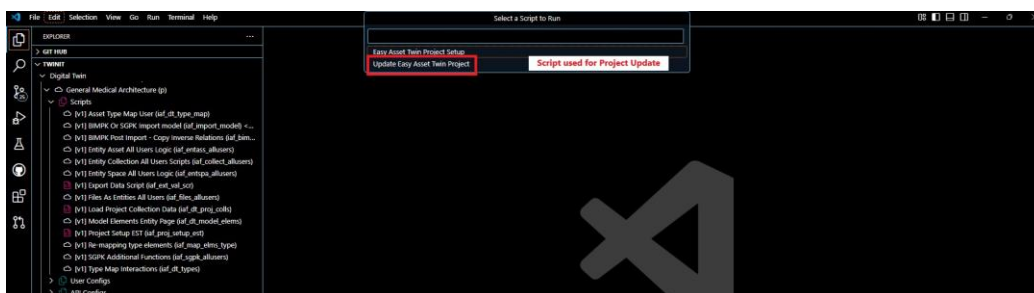
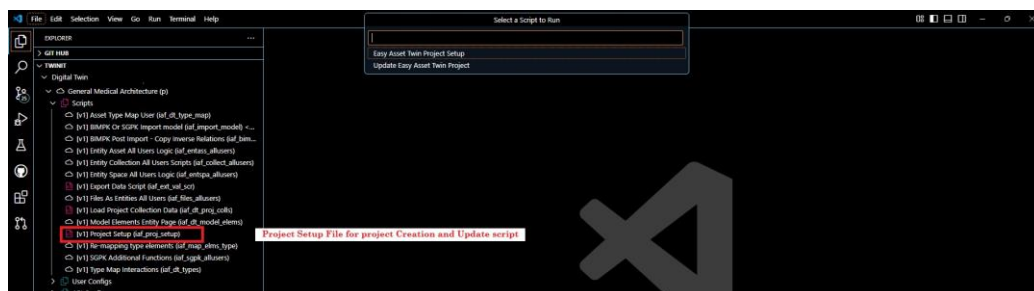
- ✚ Copy the script from [Twinit-IPA-Core-Digital-Buildings/Asset Twin Setup/scripts/ProjectSetup.js](#) and paste it in your newly created “project setup” and save.

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3. SCRIPT STRUCTURE

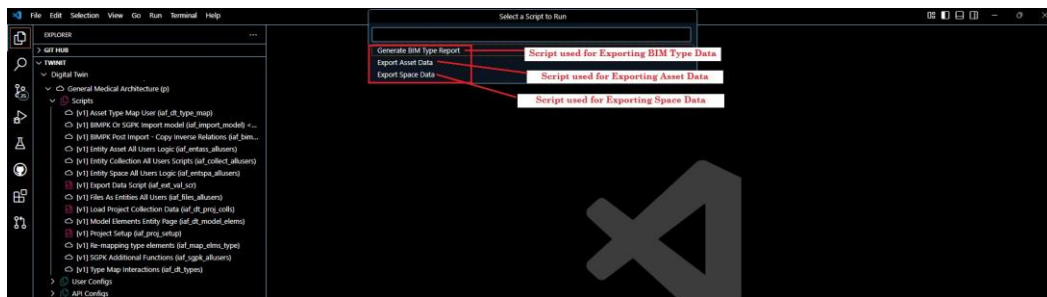
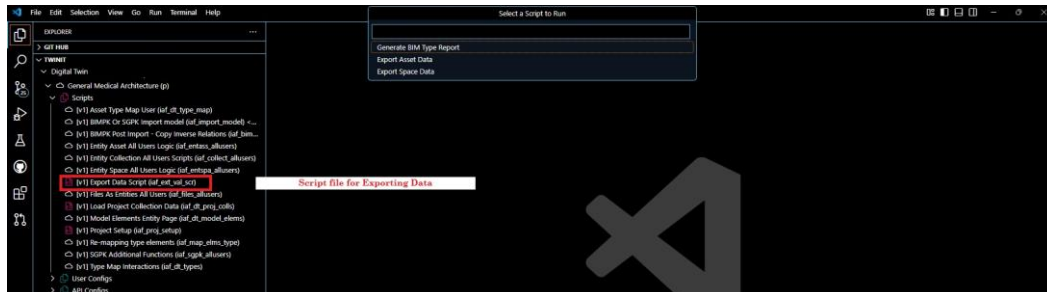
- We have two set of script function in Project setup
- "Easy Asset Twin Project Setup" – Used for creating the project
 - "Update Easy Asset Twin Project" – Used for updating the project



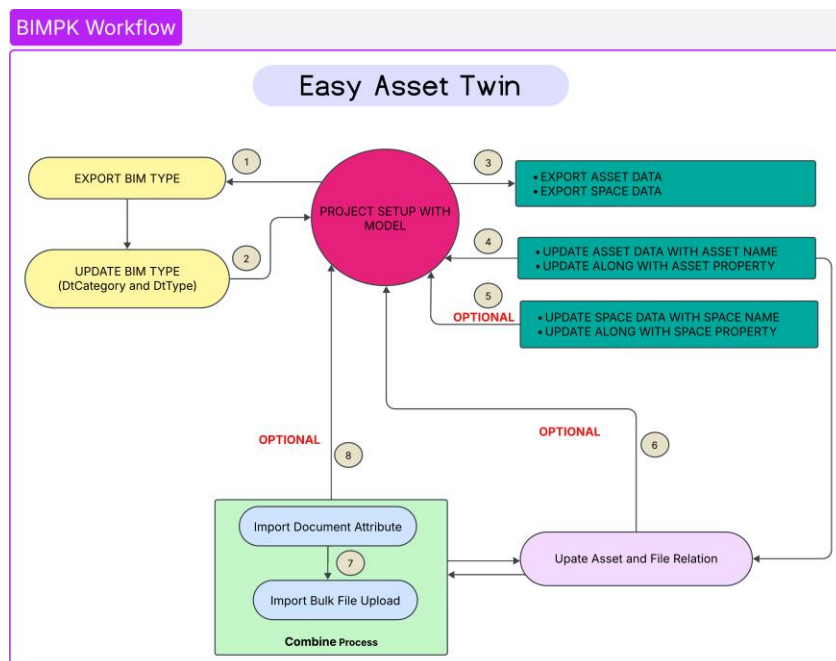
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For Exporting the project data

- "Export Data Script.js" file will 3 scripts
 - "Generate BIM Type Report" - Used for BIM Type Data export
 - "Export Asset Data" – Used for Asset Data export
 - "Export Space Data" - Used for Space Data export



4. ASSET TWIN SETUP WORKFLOW (BIMPK MODEL - REVIT)



First, **"Import Model"** with help of config sheet and project setup script.

Second, **"Export the BIM Type data"**

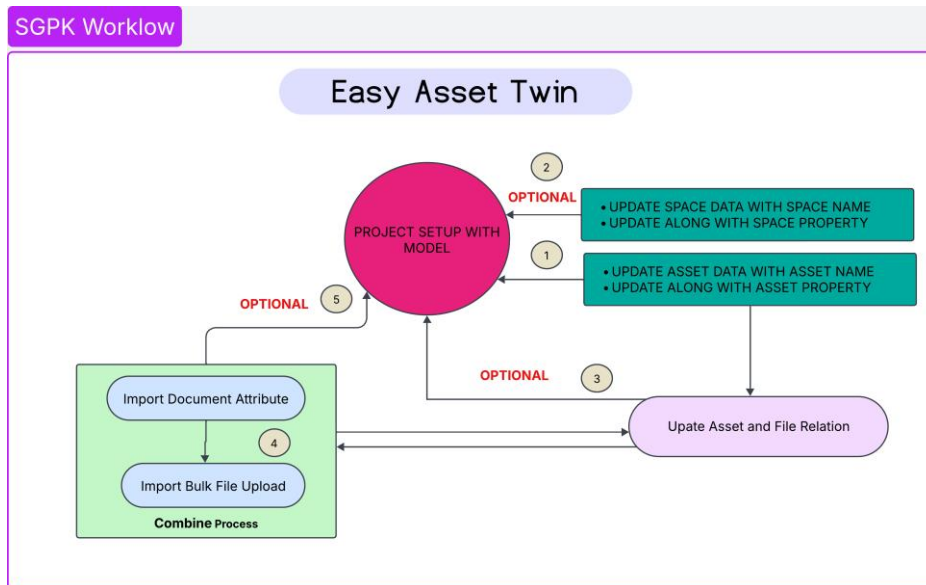
- Use "Export Data Script.js" file and right-click to choose "Run Script" option.

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- A prompt display as “Select a Script to Run choose” now choose "Generate BIM Type Report"
- Now this function will execute and export the BIM Type Data from model which will have “blank” DtCategory and DtType.
- ✚ Third, **“Update the Exported BIM Type data”**
 - From exported BIM Type data add DtCategory and DtType properties.
 - Copy & Paste the data in config sheet under BIM Type sheet.
 - Re-update the project with current BIM Type data by using "Update Easy Asset Twin Project".
- ✚ Fourth, **“Export Asset and Space Data”**
 - Use "Export Data Script.js" file and right-click to choose “Run Script” option.
 - A prompt display as “Select a Script to Run choose” now choose "Export Asset Data" & “Export Space Data"
 - Now these functions will execute and export the “Asset Data” & “Space Data” from model which will have blank -“Asset Name” & “Space Name”
- ✚ Fifth, **“Update project with updated Asset and Space Data”**
 - Now from exported asset data fill the Asset Data with unique “Asset Name” for every element.
 - Now from exported space data fill the Space Data with unique “Space Name” for every element.
 - Copy & Paste the data in config sheet under “Assets” and “Spaces” sheet, also update the “Asset Property Info” & “Space Property Info” sheet with properties detail as config instructions.
 - Also possible to Re-update the project with updated Asset and Space data along with property info sheet by using "Update Easy Asset Twin Project".
- ✚ All below function are **optional** it can be used by either "Easy Asset Twin Project Setup" (or) "Update Easy Asset Twin Project"
 - **Document Attribute**
 - Fill the “Document Attributes” config sheet with values and use any of the above script.
 - **File Upload**
 - Fill the “File List” config sheet with file name and attribute values and use any of the above script.
 - Make sure the “Files Path” is provided in path sheet to auto pick the files for upload.
 - After the execution the file upload status are stored in given “Report path”
 - Successfully_Upload (**Files that are successfully uploaded**)
 - Failed_To_Upload (**Files that are failed to upload**)
 - Missing_File_In_Sheet (**Files that are missed in sheet to upload**)
 - Missing_File_In_Folder (**Files that are missed in folder to upload**)
 - Before using this function ensure the document attribute are updated in project, else the attributes and properties will not be displayed in project UI.
 - **Asset and Space Relation**
 - Fill the “Assets and Files” config sheet with values and use any of the above script.
 - Before using this function ensure the Asset data are updated in project, else the relation will not be created.

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5. ASSET TWIN SETUP WORKFLOW (SGPK MODEL - NAVIS)



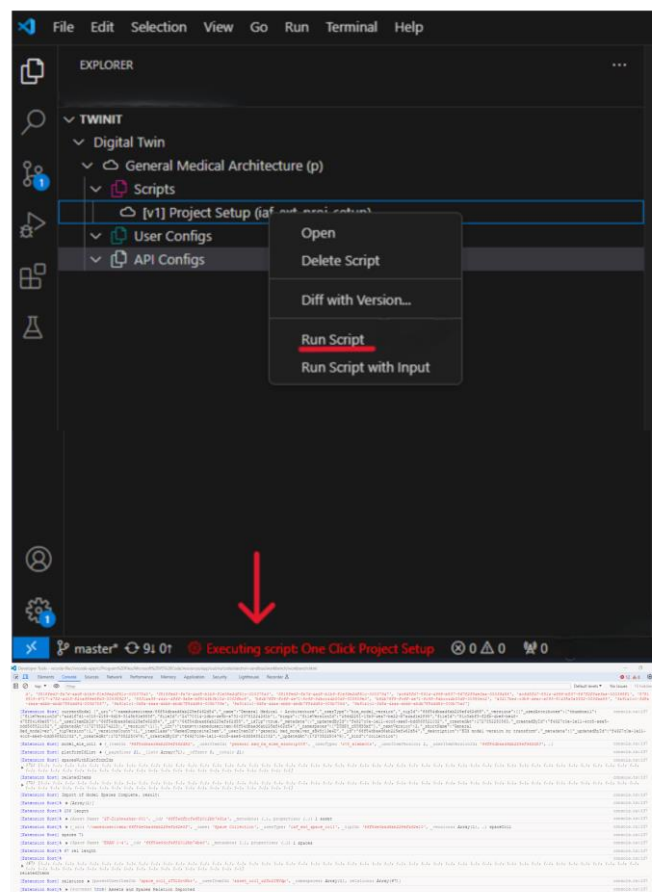
- ✚ First, **"Import Model"** with help of config sheet and project setup script.
- ✚ Second, **"Update project with Asset and Space Data"**
 - Get the asset data and fill with unique "Asset Name" for every element.
 - Get the space data and fill with unique "Space Name" for every element.
 - Copy & paste the data in config sheet under "Assets" and "Spaces" sheet, also update the "Asset Property Info" & "Space Property Info" sheet with properties detail as config instructions.
 - Also possible to Re-update the project with updated Asset and Space data along with property info sheet by using "Update Easy Asset Twin Project".
- ✚ All below function are optional it can be used by either "Easy Asset Twin Project Setup" (or) "Update Easy Asset Twin Project"
 - **Document Attribute**
 - Fill the config sheet with Document Attributes values and use any of the above script.
 - **File Upload**
 - Fill the config sheet with File List with file name and attribute values and use any of the above script.
 - Make sure the "Files Path" is provided in path sheet to auto pick the files for upload.
 - After the execution the file upload status are stored in given "Report path"
 - Successfully_Upload (Files that are successfully uploaded)
 - Failed_To_Upload (Files that are failed to upload)
 - Missing_File_In_Sheet (Files that are missed in sheet to upload)
 - Missing_File_In_Folder (Files that are missed in folder to upload)
 - Before using this function ensure the document attribute are updated in project, else the attributes and properties will not be displayed in project UI.

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- **Asset and Space Relation**
 - Fill the config sheet with Assets and Files with values and use any of the above script.
 - Before using this function ensure the Asset data are updated in project, else the relation will not be created.

6. EXECUTION PROCESS FOR ASSET TWIN CREATION SETUP

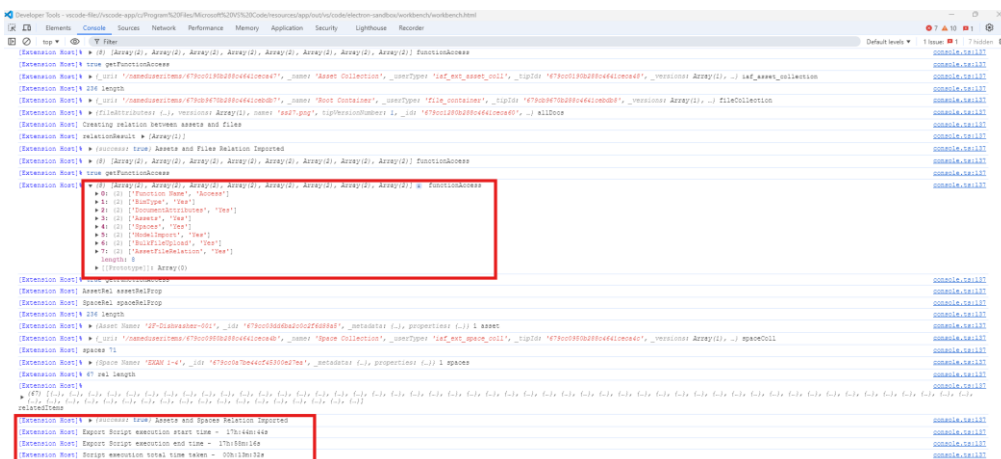
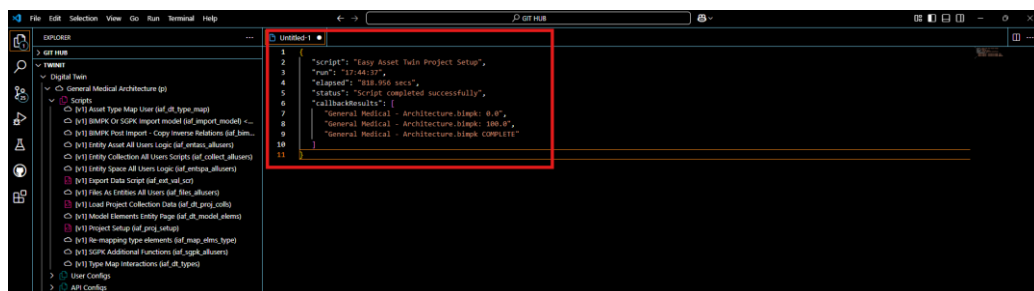
- ✚ To run the script right click your project setup script and select “Run Script”.
- ✚ It will display a prompt drop-down on top of VSCode, let select “Easy Asset Twin Project Setup” option.
- ✚ Now the second prompt will be displayed to select “Config_sheet” from folder location. Select the config sheet from the repository cloned path.
- ✚ Once Project is completed successfully, it will load all your Scripts and Userconfig under the project name.
- ✚ During execution monitor the console of VS Code for the execution status and error logs. (By Selecting 3 Dots on more option next to Twinit and Select “Toggle Log View”)
- ✚ Execution Time represent the completion status of setup.
- ✚ It's ready to view the project in frontend
- ✚ **Note:**
 - During execution if any path (or) data is missed the missing reports are stored in given “Report Path” as “Missing_Sheet_Report” file.



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7. EXECUTION PROCESS FOR ASSET TWIN UPDATE SETUP

- To update project run the update script right click your setup script and select “Run Script”.
- It will display a prompt drop-down on top of VSCode, let select “Update Easy Asset Twin Project” option.
- Now the second prompt will be displayed to select updated “Config_sheet” from folder location. Select the config sheet from the repository cloned path.
- Once Project is completed successfully updated, it will update and version all your Userconfig under the project name.
- During execution monitor the console of VS Code for the execution status and error logs. (By Selecting 3 Dots on more option next to Twinit and Select “Toggle Log View”)
- Execution Time represent the completion status of setup.
- It’s ready to view the changes in project frontend
- Note:**
 - During execution if any path (or) data is missed the missing reports are stored in given “Report Path” as “Missing_Sheet_Report” file.



8. PROJECT FRONTEND VIEW

- On successful completion of “Project Setup” view project in front end with multiple user role and all features. [Refer below screenshots for actual “Easy Asset Twin” project frontend display]

Asset Twin Setup

Navigator View

Showing 142 Entities

Name	dCategory	dType	Level	Asset Element ID
1F-Doors-001	Architectural Elements	Doors		
1F-Doors-002	Architectural Elements	Doors		
1F-Doors-003	Architectural Elements	Doors		
1F-Doors-045	Architectural Elements	Doors		
1F-Doors-046	Architectural Elements	Doors		
1F-Doors-047	Architectural Elements	Doors		

SEARCH

Asset Properties

Asset Properties	Classification	Information	Other
dCategory	Architectural Elements		
dType	Ladder		
Revit Family	Ladder		
Revit Type	Standard		

Asset View

Quick Search

Group By

Filter By

142 Assets

1F-Doors-045

Asset Properties

Asset Properties	Classification	Information	Other
dCategory	Architectural Elements		
dType	Doors		
Revit Family	Double-Glass-Old Acting w-Metal Frame		
Revit Type	68" x 84" - Full Glass		

Files

Name	File Discipline	File Type	Levels And Locations
test.png	Building Survey		

Space View

Search

Group By

Filter By

1 Space

CONFERENCE

Space Properties

Space Properties	Classification	Information	Other
Space Name	CONFERENCE		
Revit Family			
Revit Category	OST_Rooms		
Name	CONFERENCE		
Number	2006		
Area	231.6875 sqm		
area_mom	sqm		
Other			
SpaceRel	2480		

Assets

Name	dCategory	dType
2F-Doors-054	Architectural Elements	Doors
2F-Doors-073	Architectural Elements	Doors
2F-Lighting Fixtures-008	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-009	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-010	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-011	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-012	Electrical Elements	Lighting Fixtures

Asset Twin Setup

Bulk File Upload View

Quick Search
Enter text to search for...

Group By
Originator

Filter By
Choose filters

Originator
Ashlock Roller Shutters

FETCH

Bulk File Uploaded

Showing 97 Files

Name	Contributor	Levels And Locations	Document Type	File Discipline
ss4.png	Bernard Smith		3D model file	Building Survey
ss40.png	Bernard Smith		3D model file	Building Survey
ss41.png	Bernard Smith		3D model file	Building Survey
ss42.png	Bernard Smith		3D model file	Building Survey
ss43.png	Bernard Smith		3D model file	Building Survey
ss44.png	Bernard Smith		3D model file	Building Survey
ss45.png	Bernard Smith		3D model file	Building Survey
ss46.png	Bernard Smith		3D model file	Building Survey
ss47.png	Bernard Smith		3D model file	Building Survey
ss48.png	Bernard Smith		3D model file	Building Survey
ss49.png	Bernard Smith		3D model file	Building Survey
ss5.png	Bernard Smith		3D model file	Building Survey
ss50.png	Bernard Smith		3D model file	Building Survey
ss51.png	Bernard Smith		3D model file	Building Survey
ss52.png	Bernard Smith		3D model file	Building Survey

Space and Asset Relation View

Search
Enter text to search for...

Group By
Space Name

Filter By
Choose filters

Tree Search
ACCOUNTING 1
AV 1
BREAK ROOM 1
CLEAN LINEN 1
CLOSET 1
CONFERENCE 1
CONSULT 1 1
CONSULT 2 1
CONSULT 3 1
COORDOR 1
DR OFFICE - 1 1
DR OFFICE - 2 1
DR OFFICE - 3 1
DR OFFICE - 4 1
DR OFFICE - 5 1
DR SCRUB 1

DR OFFICE - 1

Space Properties

Space Name: DR OFFICE - 1
Revit Family: OST_Rooms
Revit Category: OST_Rooms
Classification: DR OFFICE - 1
Name: DR OFFICE - 1
Number: 2018
Area: 156 sqm
area_uom: sqm
Other: 2480
SpaceRel: 2480

Assets

Name	dCategory	dType
2F-Doors-054	Architectural Elements	Doors
2F-Doors-073	Architectural Elements	Doors
2F-Lighting Fixtures-008	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-009	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-010	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-011	Electrical Elements	Lighting Fixtures
2F-Lighting Fixtures-012	Electrical Elements	Lighting Fixtures

Asset and Files Relation View

Quick Search
Enter text to search for...

Group By
dCategory dType

Filter By
Choose filters

Tree Search
Architectural Elements 142
Electrical Elements 38
HVAC Elements 4
Plumbing Elements 38
Security Elements 8
Specialty Elements 6

GF-Doors-035

Asset Properties

dCategory: Architectural Elements
dType: Doors
Revit Family: Single-Flush-w-Metal-Frame
Revit Type: 36" x 84"

Files

Name	File Discipline	File Type	Levels And Locations
ss11 - Copy.png	Building Survey		
Asset2 - Copy.png	Building Survey		
ss8 - Copy.png	Building Survey		