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.
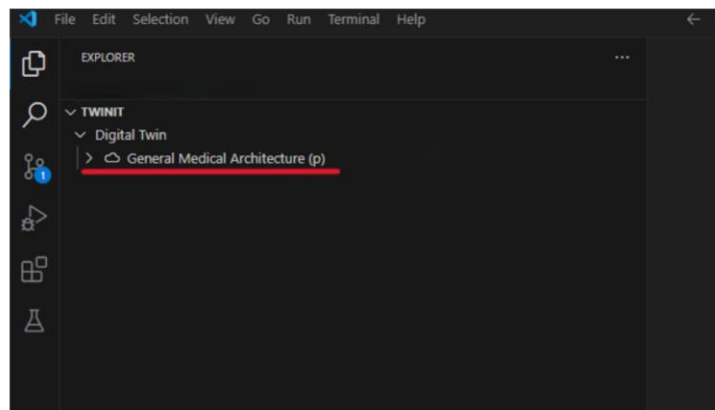
2. SETTING UP AN ASSET TWIN PROJECT

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".
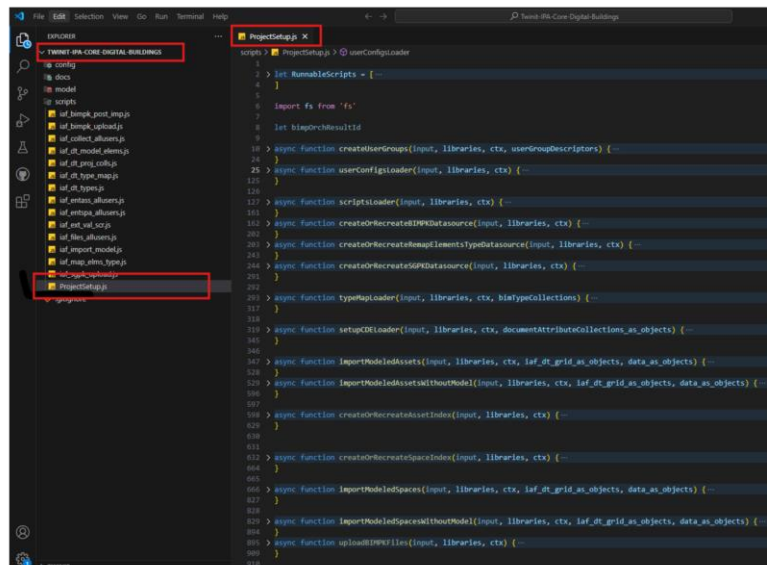
2. Project and Script Creation

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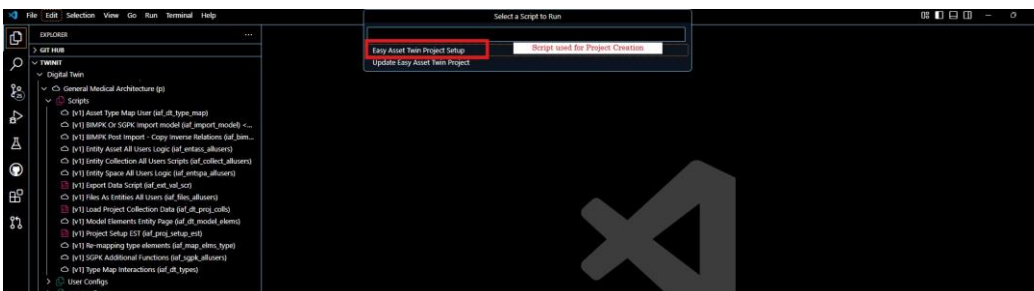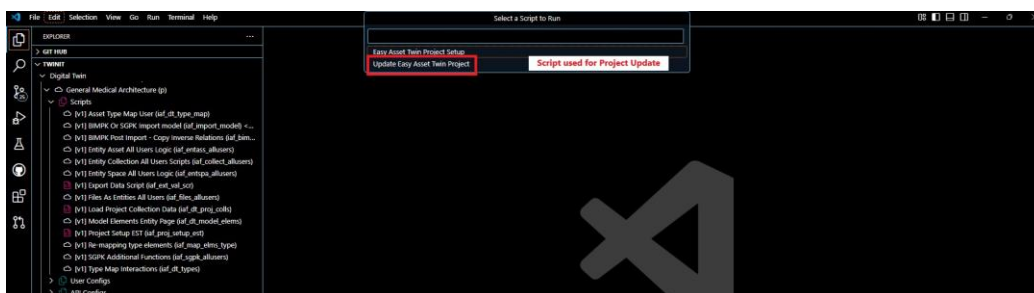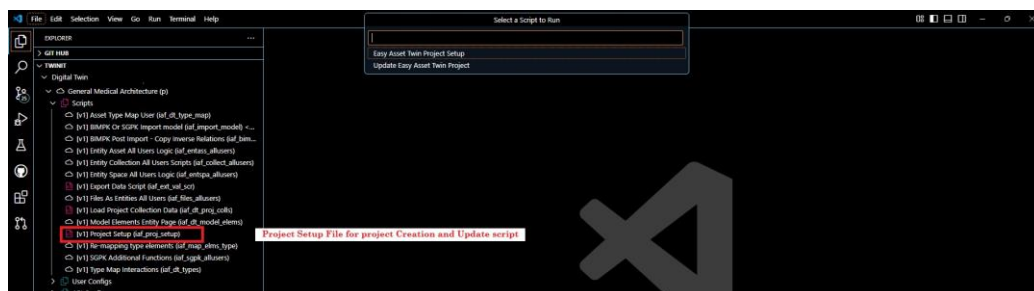- Create a "projectsetup" script under the project name > scripts.

- 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.
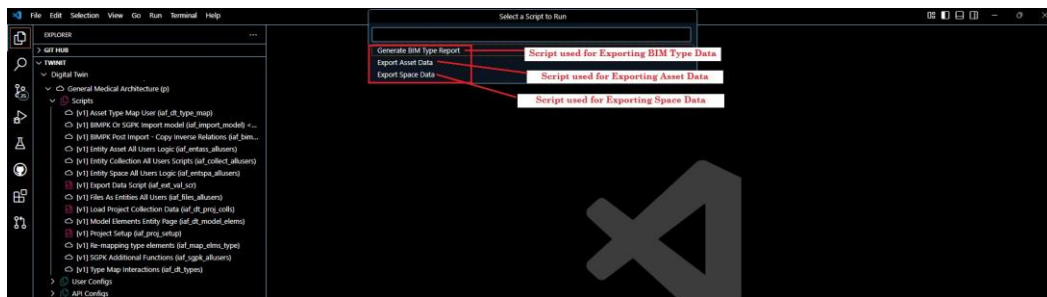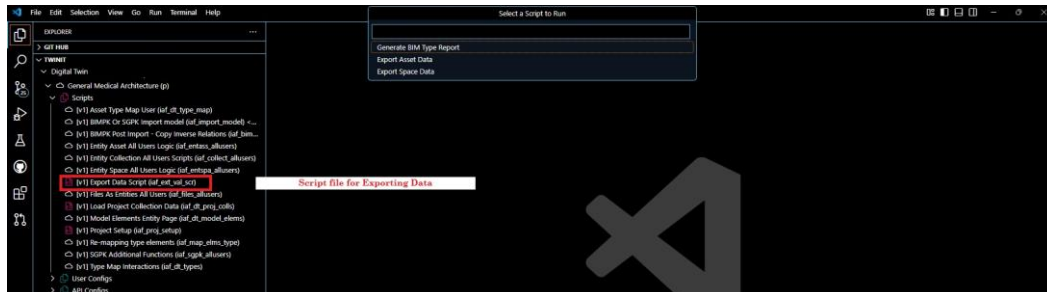
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3. SCRIPT STRUCTURE

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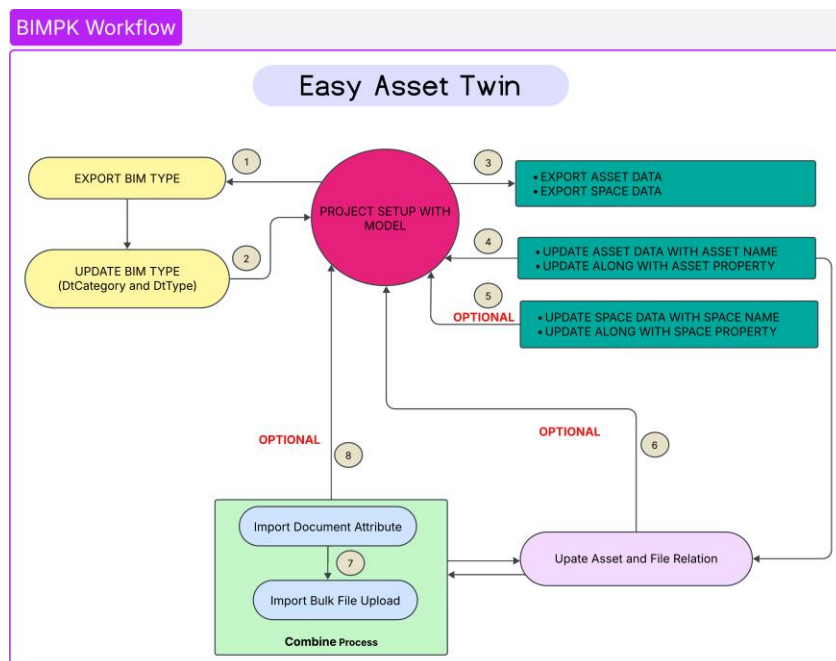 - "Update Easy Asset Twin Project" – Used for updating the project

Project Setup File for project Creation and Update script

Update Easy Asset Twin Project — Script used for Project Update

Easy Asset Twin Project Setup — Script used for Project Creation

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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.
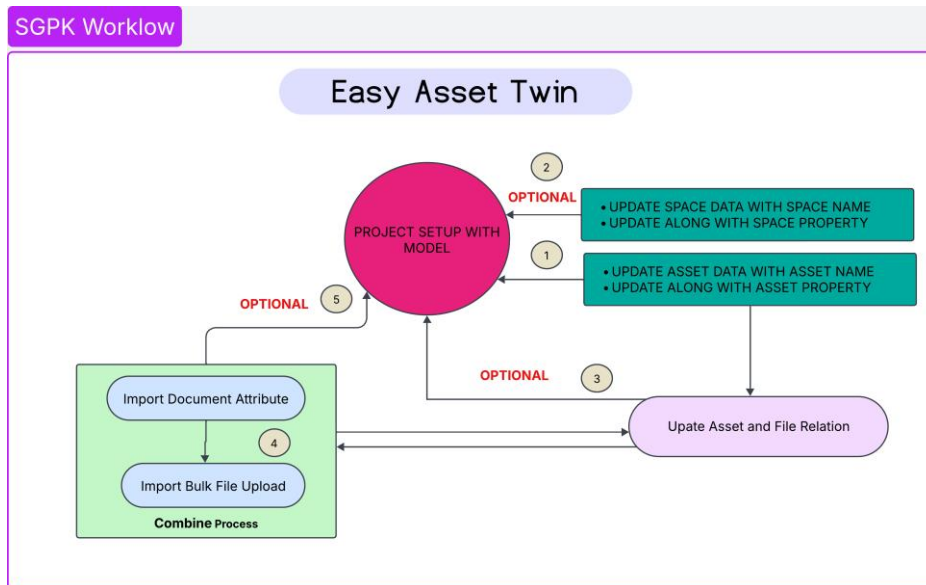- Second, "**Export the BIM Type data**"
  - Use "Export Data Script.js" file and right-click to choose "Run Script" option.

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- o A prompt display as "Select a Script to Run choose" now choose "Generate BIM Type Report"
- o 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"**
  - o From exported BIM Type data add DtCategory and DtType properties.
  - o Copy & Paste the data in config sheet under BIM Type sheet.
  - o Re-update the project with current BIM Type data by using "Update Easy Asset Twin Project".
- ⬦ Fourth, "**Export Asset and Space Data"**
  - o Use "Export Data Script.js" file and right-click to choose "Run Script" option.
  - o A prompt display as "Select a Script to Run choose" now choose "Export Asset Data" & "Export Space Data"
  - o 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"**
  - o Now from exported asset data fill the Asset Data with unique "Asset Name" for every element.
  - o Now from exported space data fill the Space Data with unique "Space Name" for every element.
  - o 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.
  - o 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"
  - o **Document Attribute**
    - ▪ Fill the "Document Attributes" config sheet with values and use any of the above script.
  - o **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.
  - o **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.
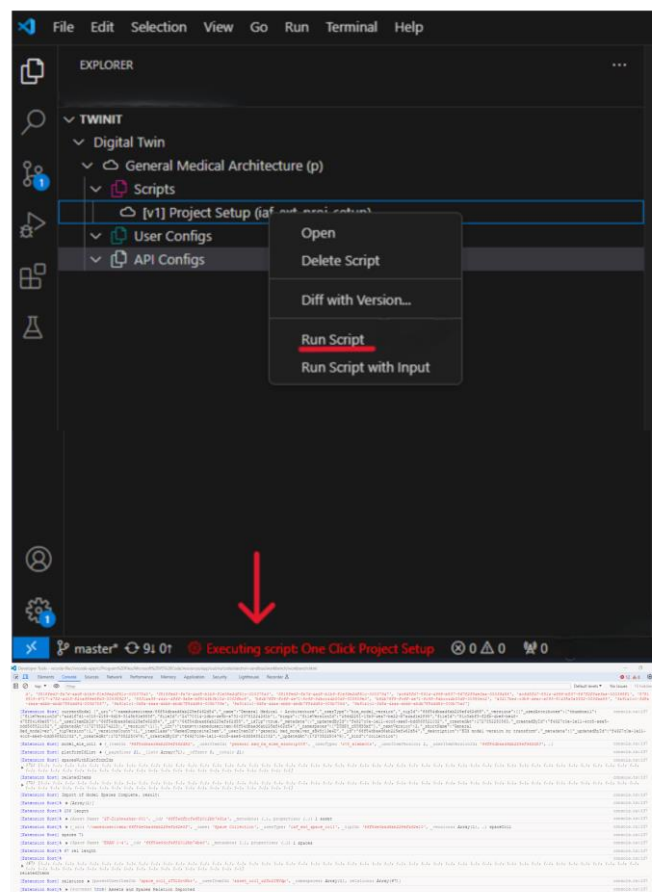
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- First, **"Import Model"** with help of config sheet and project setup script.
- Second, **"Update project with Asset and Space Data"**
    - Get the asset data and fill with unique "Asset Name" for every element.
    - Get the space data and fill 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)
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- o **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.

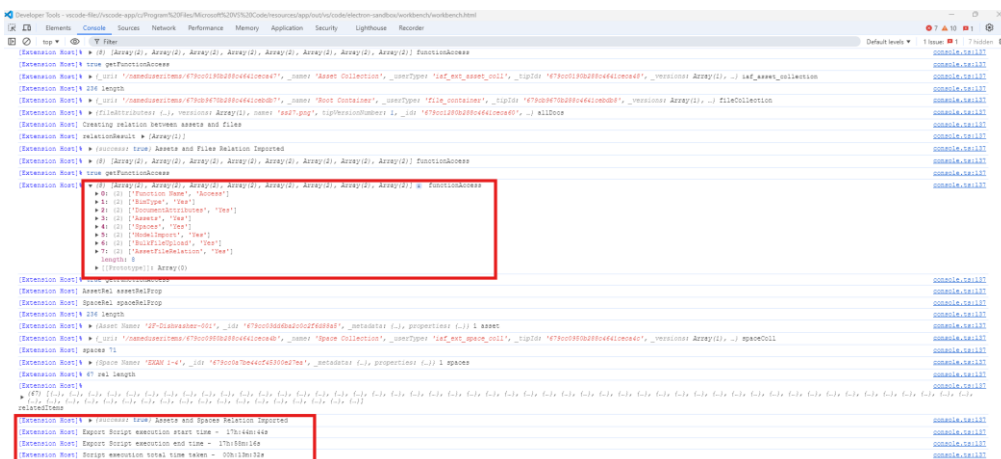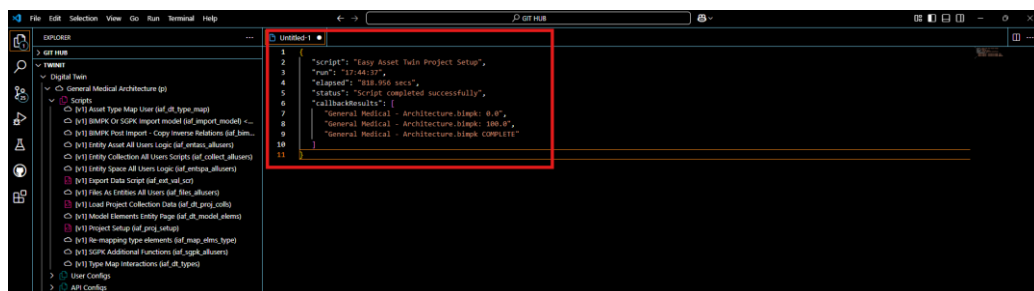## 6. EXECUTION PROCESS FOR ASSET TWIN CREATION SETUP

- ♣ 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:
  - o During execution if any path (or) data is missed the missing reports are stored in given "Report Path" as "Missing_Sheet_Report" file.

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]**

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Navigator View

Asset View

Space View

Asset Twin Setup