



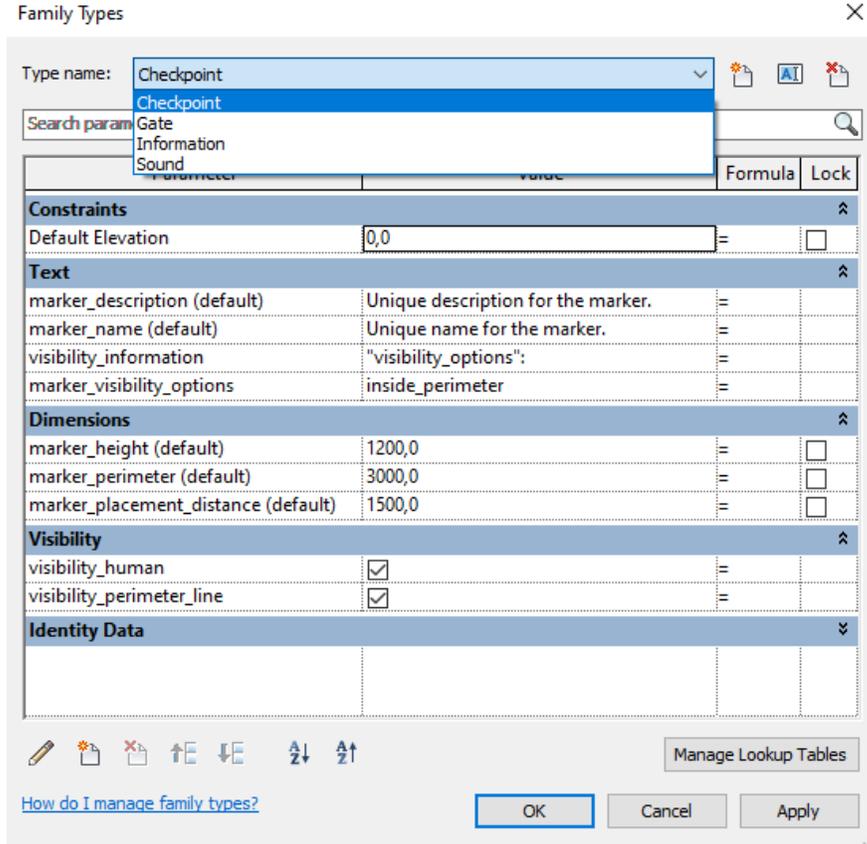
Upload Marker Parameter from Revit to VREVAL Platform for Checkpoints, Information, Sound & Gates

Edited by

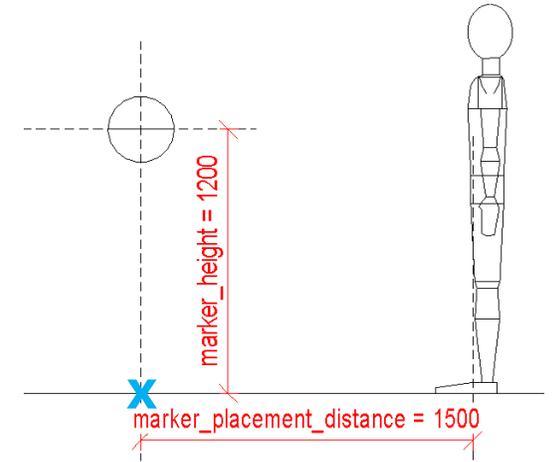
M.Sc. Olaf Kammler, René Weiser

contact: olaf.kammler@uni-weimar.de | InfAR - Bauhaus-Universität Weimar | 06/2021

1. ABOUT VREVAL MARKER

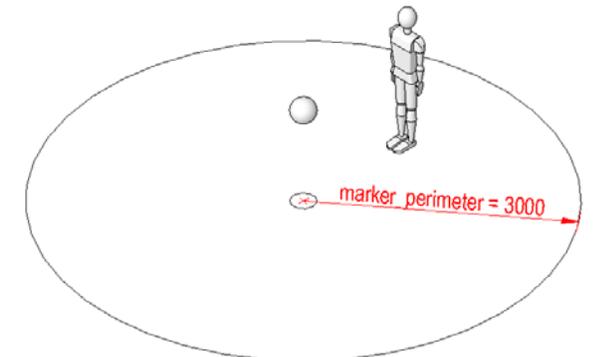


Parameter	Value	Upload to VREVAL Platform
marker_description	Revit 2D View visibility of perimeter circle	Yes
marker_name	Unique description for the marker.	Yes
marker_height	Distance Floor to Marker Object (1200,00 [mm])	Yes
marker_perimeter	Visibility boarder (inside perimeter = marker visible)	Yes
marker_placement_distance	Distance between Marker and Participant	Yes
visibility_human	Visible in Revit view	No
visibility_perimeter_line	Visible in Revit view	No



The marker location is the origin point of the Revit Family. (blue x)

The participant will be placed in the location of the human figure. The human can be rotated around the marker.



1. ABOUT VREVAL MARKER

Markers need to be created and imported through third party software (currently available only with Autodesk Revit and Dynamo).

From third party software the following marker parameters will be uploaded to the VREVAL Platform Database:

- (1) marker position
- (2) participant distance to marker
- (3) cad id
- (4) translation between CAD and Game engine coordinate system
- (5) Marker name
- (6) Marker description,
- (7) Marker visibility range perimeter
- (8) marker height above ground and
- (9) visibility settings.

There are four Marker Types:

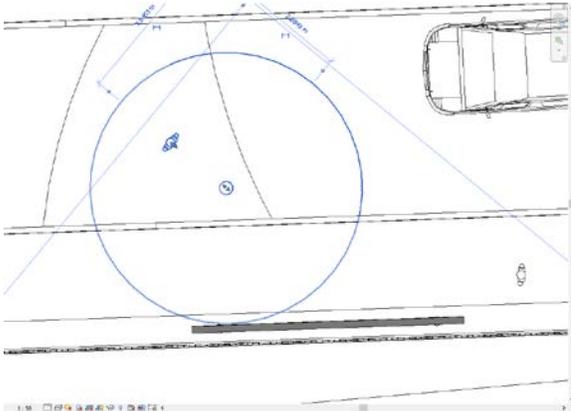
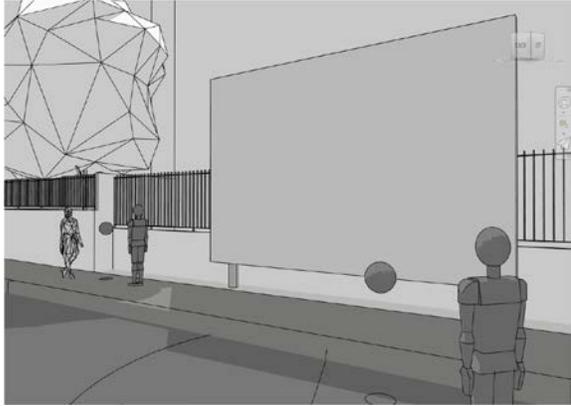
- Checkpoint
- Information
- Sound &
- Gate.

In order to upload the marker information to this project, an access token is needed. Access-tokens can be created at VREVAL Website and will remain valid for a limited amount of time.

1. PREPARE MARKERS IN REVIT

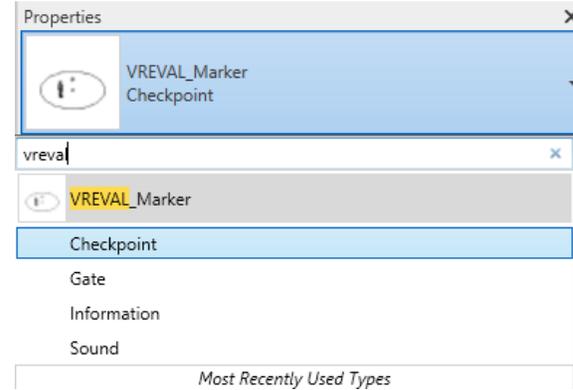
Step 1

Place the VREVAL Marker in your project environment.



Step 2

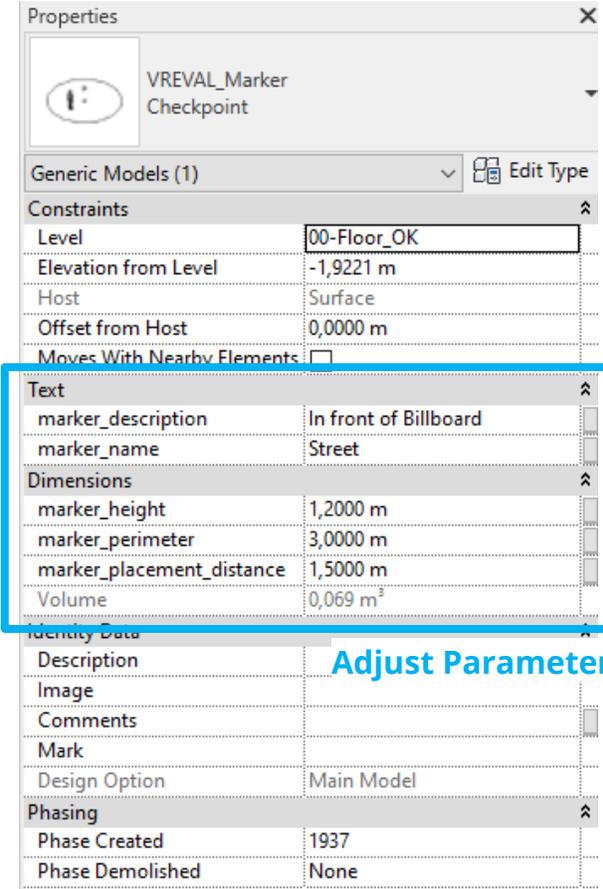
Choose the type of Marker.



- Checkpoint
- Information
- Sound
- Gate

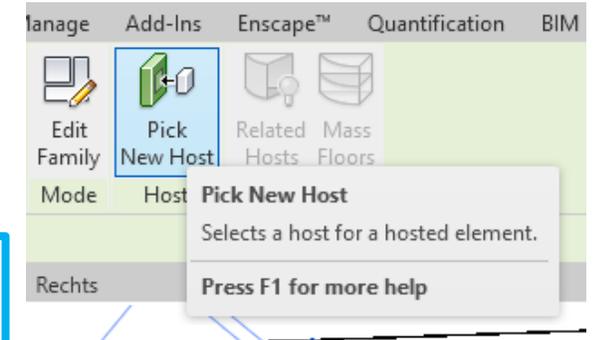
Step 3

Adjust the parameter of the marker.



Step 4

Check, if your Marker is located at a host without offset.
If marker "hovers" above ground, "Pick New Host" to set marker at host. (surface, topography, floor, ...)

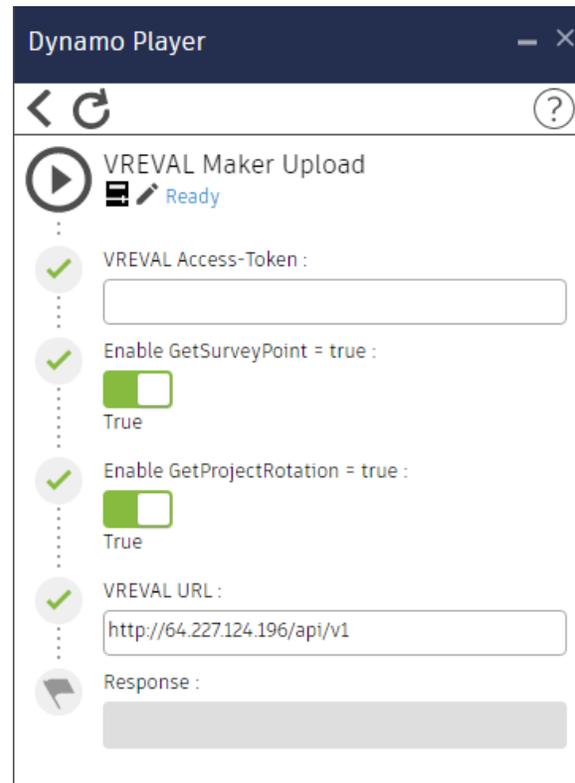


2. DYNAMO OR DYNAMO PLAYER

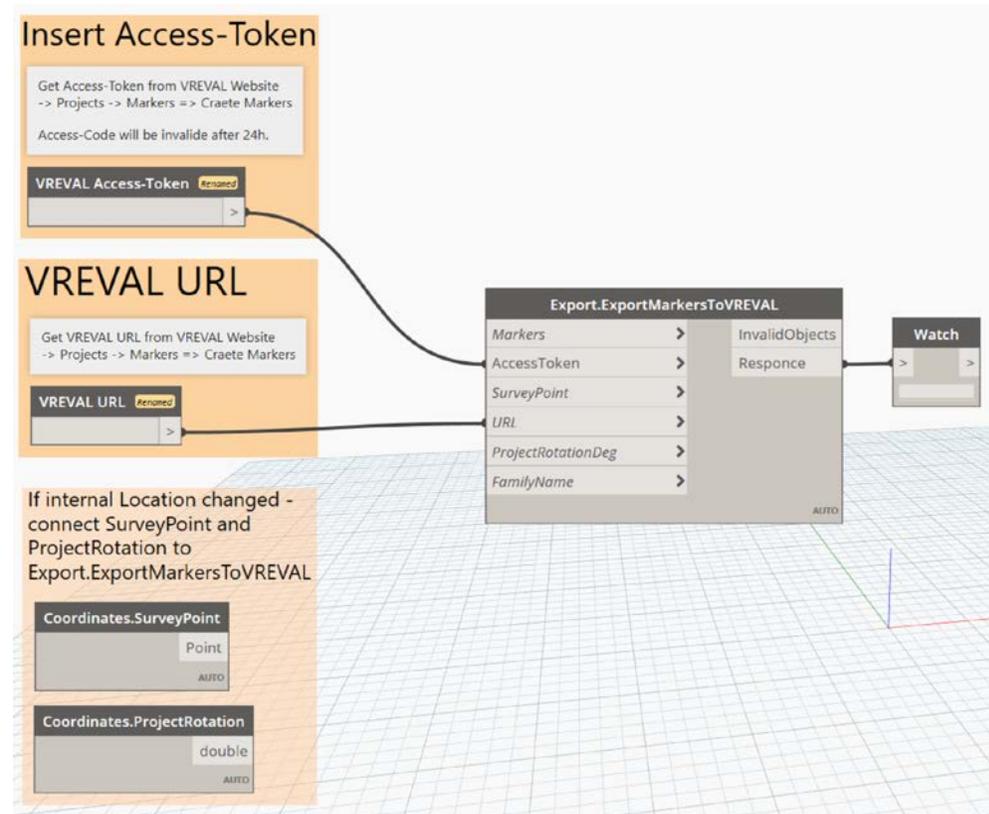
The upload of the VREVAL marker parameter and information can be done with a script in **Dynamo** or by running the **Dynamo Player**, if a script is already created.

2.1. explains, how to use the *Dynamo Player* with a premade *Dynamo Script* or the downloaded *Dynamo Script* from the *VREVAL Website*.

(Download from: Project -> Marker -> Create new Marker)



2.2. explains the basic, how to create the upload script from scratch and upload the VREVAL marker parameter and information.



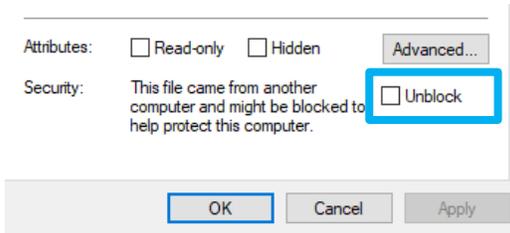
2.1. DYNAMO PLAYER

Step 1

Copy the unzipped VREVAL Package into the Dynamo Package folder.

Don't forget to unblock the Zip File before extracting.

(right click at Zip File -> Properties)



Name	Änderungsdatum	Typ
Clockwork for Dynamo 2.x	04/06/2021 00:45	Dateiord
Crumple	18/06/2021 07:27	Dateiord
Genius Loci	04/06/2021 17:32	Dateiord
Spatial Analysis Dynamo 4.6.3	20/05/2021 19:12	Dateiord
spring nodes	04/06/2021 00:49	Dateiord
VREVAL	28/06/2021 10:01	Dateiord

Dynamo Package Folder Structure

E.g.: The package content (Add-on) VREVAL is located in the folder VREVAL

The default package folder is

`%USERPROFILE%\AppData\Roaming\Dyna
mo\Dynamo Revit`

**The structure
must be
maintained.**

And navigate to

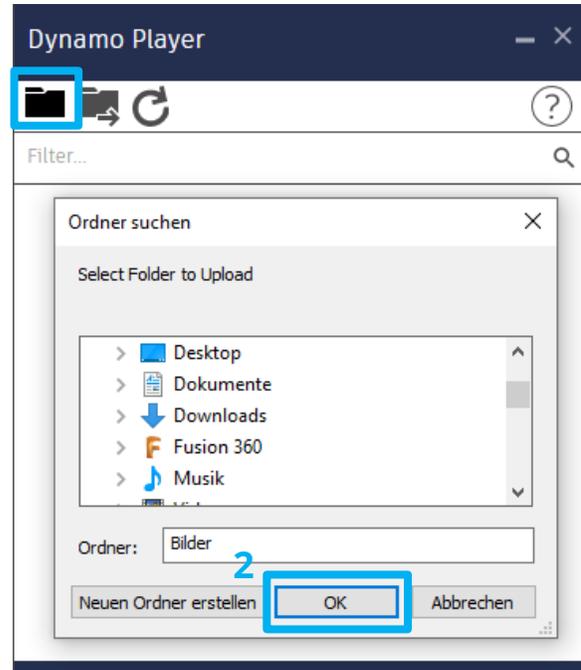
`\\DynamoVersion\\packages`

The Dynamo Package has the following structure.

Name	Änderungsdatum	Typ	Größe
bin	28/06/2021 10:01	Dateiordner	
dyf	21/01/2019 12:23	Dateiordner	
extra	21/01/2019 12:23	Dateiordner	
pkg	27/06/2021 21:29	JSON-Datei	1 KB

2.1. DYNAMO PLAYER

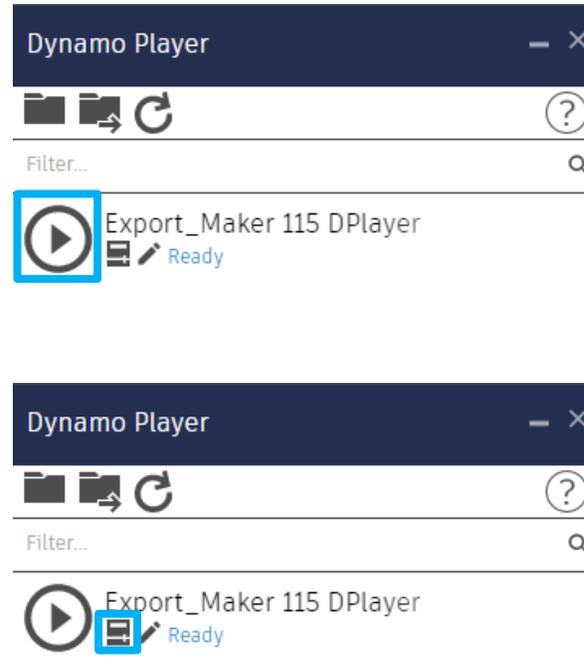
Step 2



Step 3

Open the Dynamo Player.

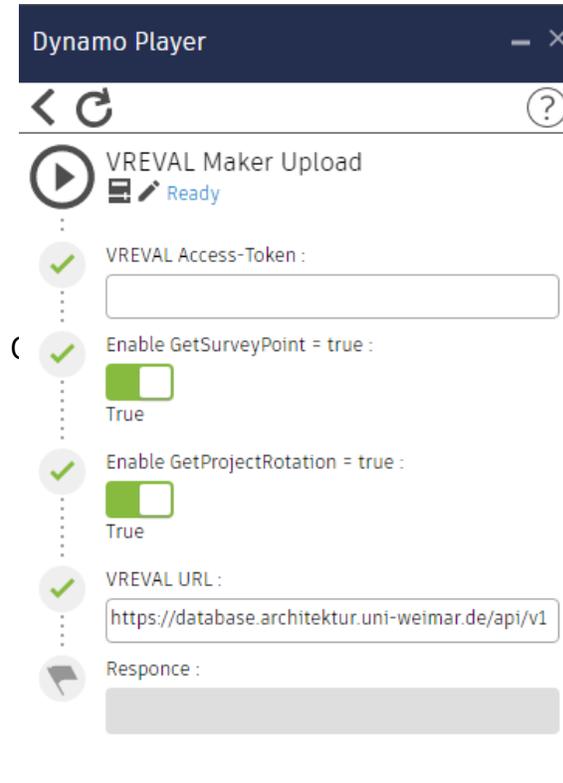
Select the folder displayed location of the Dynamo Access-Token(s) missing.



Step 4

Get Access-Token from VREVAL Website -> Project -> Marker and Create New Marker.

Access-Token is only valid for 24h.

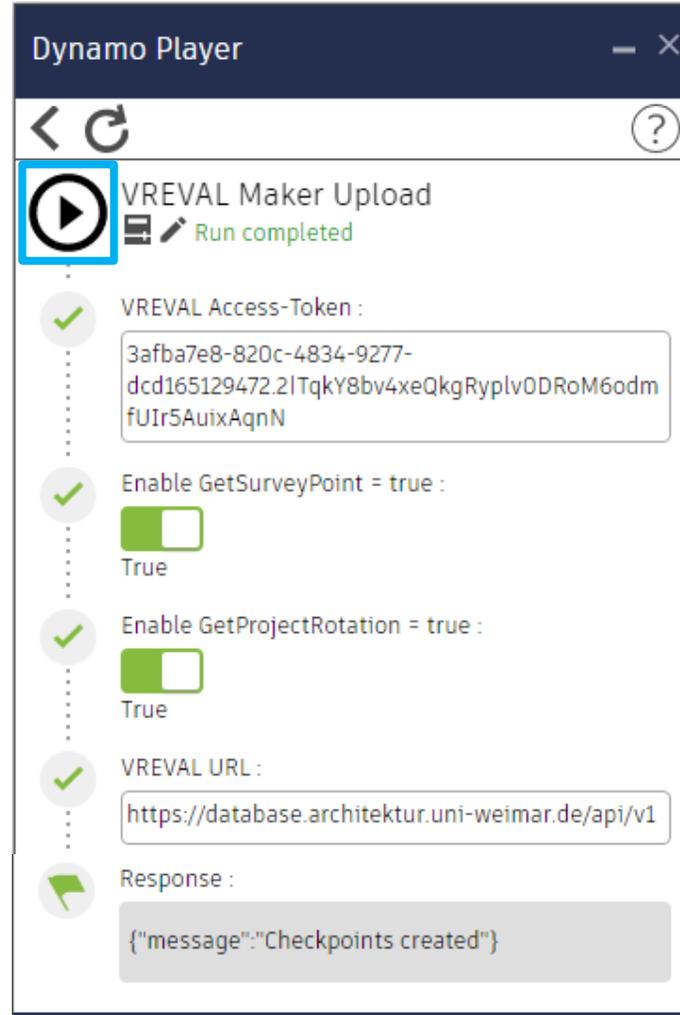


2.1. DYNAMO PLAYER

Step 5

Run the Dynamo Player.

If successful the data are written to VREVAL database, the following message is shown.



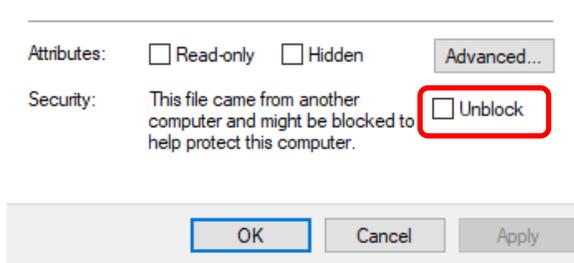
2.2. DYNAMO

Step 1

Copy the unzipped VREVAL Package into the Dynamo Package folder.

Don't forget to unblock the Zip File before extracting.

(right click at Zip File -> Properties)



The default package folder is

`%USERPROFILE%\AppData\Roaming\Dynamo\Dynamo Revit`

And navigate to

`\[DynamoVersion]\packages`

Tip

Download the VREVAL Package from the VREVAL Website.

The package can be found
Project -> Marker -> Create new Marker.
Download the package

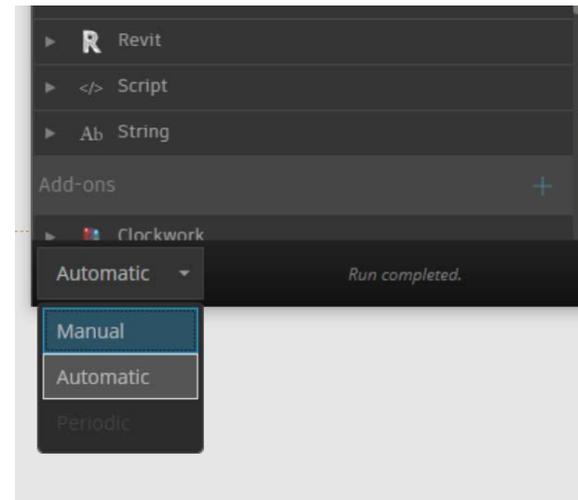
Step 2

Open Dynamo in Revit

Create a **New** Home Workspace.

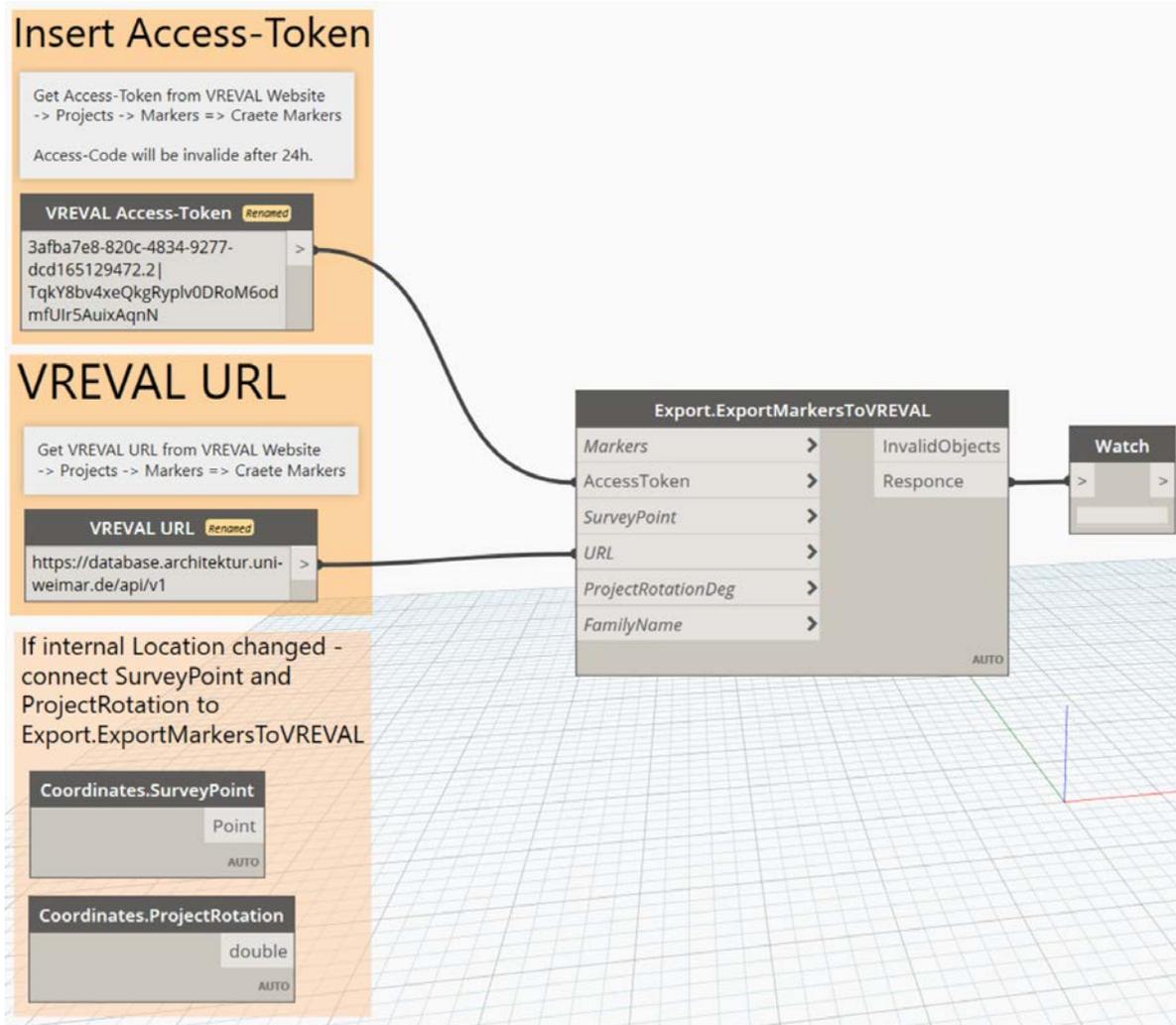
Change the Run Sequence from **Automatic** to **Manual**.

If on Automatic mode, Dynamo will run each time a change is made.



2.2. DYNAMO

Step 3



Marker

Use "Select model element(s)" to upload only selected marker.

Access-Token

Get Access-Token from VREVAL Website -> Project -> Marker and Create New Marker.

Access-Token is only valid for 24h.

SurveyPoint

Overwrite project survey point, if moved away from project origin.

ProjectRotationDeg

Overwrite ProjectRotationDeg, if changed (default 0°).

FamilyName

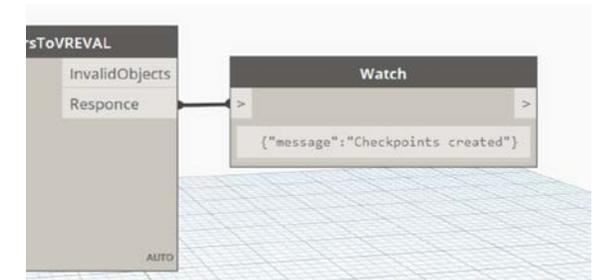
If family name changed, overwrite name. family type must be

- Checkpoint
- Information
- Sound
- Gate

Step 4

Run the Script, if in Dynamo runs in **Manual** mode

If successful the data are written to VREVAL database, the following message is shown.



3. VREVAL WEBSITE

The uploaded marker will be displayed as follows.
The marker can be edited or deleted.

Markers Click to collapse/expand

Name	Type	CAD ID	Updated at	Created at	Actions
Floor-01-BalconyStreet_Destination	Checkpoint	4402857	3 minutes ago	Jun 20, 2021 14:31	
Street	Checkpoint	4403070	3 minutes ago	Jun 20, 2021 14:31	
Floor-01-BalconyStreet	Checkpoint	4403476	3 minutes ago	Jun 20, 2021 14:31	
Street_Tree	Checkpoint	4403561	3 minutes ago	Jun 20, 2021 14:31	
EntranceMHL	Checkpoint	4403985	3 minutes ago	Jun 20, 2021 14:31	

The marker information and parameter can be edited
- except CAD ID and Marker Position.

[←](#) Edit Marker

MARKER NAME
Street

MARKER DESCRIPTION
In front of Billboard

TYPE
Checkpoint

Location, where the participant is placed and starts or finishes a task. Location, where the participant can gain information or answer question about the task. Location, where evaluation results of linked task are stored.

AVATAR INFORMATION

MARKER HEIGHT ABOVE GROUND [meters]: 1,2

VISIBILITY RANGE PERIMETER [meters]: 3

PLACEMENT DISTANCE TO MARKER [meters]: 1.5

CAD INFORMATION

CAD ID: 4403070

SURVEY POINT

X: 0 Y: 0 Z: 0

MARKER POSITION

X: 10.5892057 Y: -1.92207992 Z: 6.37712

MARKER ROTATION

X: 0 Y: 50.5108528 Z: 0

[BACK](#) [SAVE](#)