

# How to use the „MomenTumV2RevitLayouting“ Revit Plugin

## 1. Activate the „MomenTumV2RevitLayouting“ Plugin

At first we recommend to use the plugin with Revit 2016 or later, because there are probably some methods used which have not yet been implemented in earlier versions of the Revit API.

Before you can use the Revit plugin, you have to tell Revit to load the plugin's .dll file at every start of the program. In order to do this you go to the Revit add-in folder at the directory "C:\ProgramData\Autodesk\Revit\Addins\2016" as an example for Revit 2016. Maybe you have to activate the "Show invisible folders" option in the settings of your explorer to make the "C:\ProgramData\" folder visible.

In the above-mentioned directory you create a new text file with the following content:

```
<?xml version="1.0" encoding="utf-8"?>
<RevitAddIns>
  <AddIn Type="Command">
    <Assembly>
      ...\MomenTumV2RevitLayouting.dll          <!--location of .dll file-->
    </Assembly>
    <ClientId>502fe383-2648-4e98-adf8-5e6047f9dc34</ClientId>
    <FullClassName>MomenTumV2RevitLayouting.MomenTumV2RevitLayouting</FullClassName>
    <Text>MomenTumV2RevitLayouting</Text>
    <VendorId>ADSK</VendorId>
    <VisibilityMode>AlwaysVisible</VisibilityMode>
  </AddIn>
</RevitAddIns>
```

In the red marked line in the "Assembly" node you copy the path to the location of the MomenTumV2RevitLayouting.dll file and save your newly created text file as "MomenTumV2RevitLayouting.addin". The ".addin" suffix is very important, otherwise Revit ignores the text file and will not load the plugin at the next start of the program.

## 2. Select objects for conversion

There are just a few things to keep in mind to ensure a correct conversion.

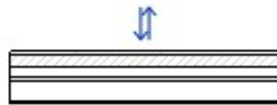
The first and essential is that the plugin only considers those parts of the building that are closed room areas and, this is the important condition, are marked as "Room" in Revit. To declare an enclosed area as a "Room" you will find the "Room" ribbon on the "Architecture" tab.

Architecture -> Room

Now you just have to move the cursor over a room area and Revit will automatically highlight the boundaries of it. With a click you define the highlighted area as a "Room". If you want to convert the whole floor or even the whole building into MomenTumV2 scenarios every walkable area has to be declared as "Room" by hand. It seems a bit inconvenient, but this allows you to easily convert, for example, a specific area of one floor. All unmarked areas will be ignored by the plugin even if they were theoretically accessible. At the entrance/exit doors of the building, the stair areas and at those doors which lead to an unmarked room area the plugin automatically creates origin and destination areas.

For each level of the building an own MomenTumV2 scenario will be created.

The second advice is not essential like the first one, because it does not affect the functions of the plugin, but it spares you some annoying manual corrections. If you create the building on your own or want to add some walls to an existing model, especially exterior walls, pay attention to place the wall correctly. To guarantee a correct conversion it is important that the outside face of the wall points into the outside direction. Default is the left side of the wall seen from the drawing direction. While drawing you are able to flip the wall by pressing the "space" key. If the wall is already created you can flip it afterwards by clicking on the inverse arrow pair shown on the picture below. The arrow pair is placed at the current outside face of the wall.

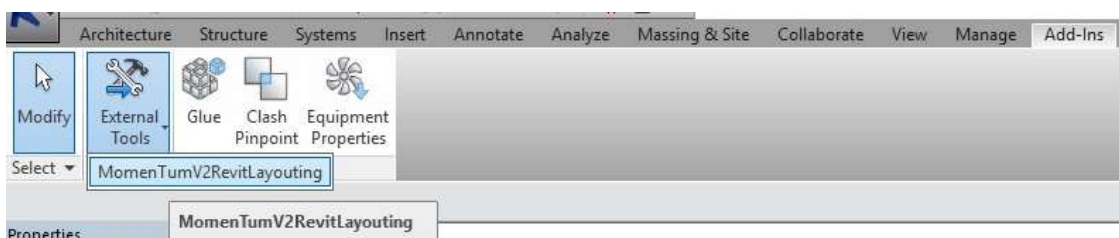


The last one is more an annotation than advice. The plugin is not able to convert stairs created by sketch into origin/destination areas. It does not influence the functionality of the conversion itself, but because those stairs are not directly accessible in the current Revit API they will not be converted. So please keep in mind to add those areas afterward in AutoCAD if you used sketches to create a stair. The plugin works fine with all kinds of stairs by components. It does not matter if the stair's run style is straight, winding, or spiral.

### 3. Convert to .xml-file

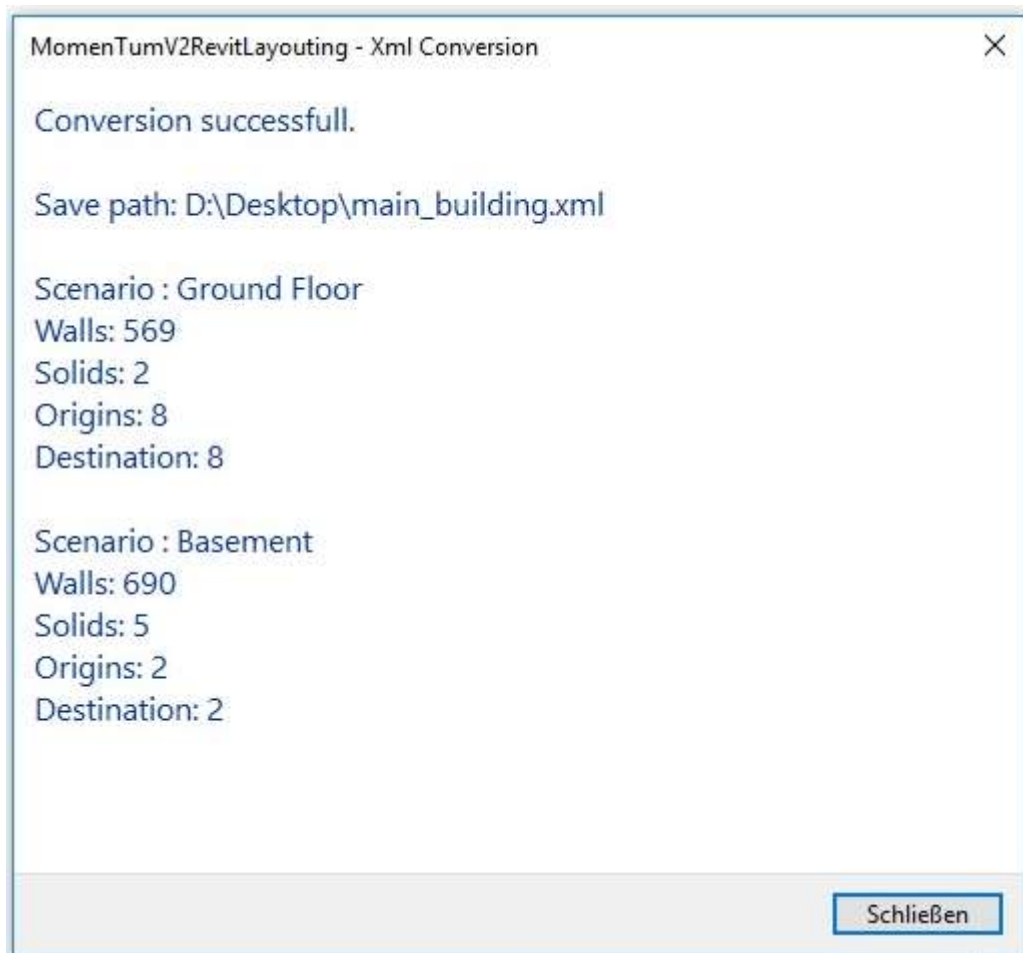
After all rooms you want to transfer into the MomenTumV2Simulation scenario have been placed you just have to click at the "Add-Ins" tab at the Revit menu bar, then on the „External Tools“ ribbon and select "MomenTumV2RevitLayouting".

**Add-Ins -> External Tools -> MomenTumV2RevitLayouting**



After this a window will pop up where you will be asked to select the directory you want the plugin to save the created .xml file and how it should be named.

After the successful conversion an overview window shows you some information about the created MomenTumV2 scenarios and their objects, like in the example below.



Now you can copy each scenario out of the created .xml file in separated ones and import them into AutoCAD by using the "MomenTumV2CADLayouting" AutoCAD plugin and edit them manually, e.g. to place intermediate or additional origin/destination areas.

If you directly import the created .xml file into AutoCAD all scenarios will be placed on top of each other, because two dimensionally viewed they share the same point of origin.