

The following are the steps required to set up a Revit MEP 2009 project utilizing a linked architectural file. These instructions are slightly different than what was required for a 2008 project and will most likely change for the 2010 version. These are based on my own experience and are in no way endorsed by Autodesk. If you are just beginning to use Revit MEP, I hope these instructions will help you get started on your first project.

Note: These instructions make reference to a local file creation script created by Dave Baldacchino (**Do U Revit?** Blog @ <http://do-u-revit.blogspot.com>). This script streamlines the process of opening Revit MEP files and I highly recommend it. You can download the script here: <http://forums.augi.com/showthread.php?p=741373#post741373>

1-Linking an Architectural Revit model

Save architectural Revit model(s) on the server in the appropriate job folder. If the file name ends with "Central", rename it. For example, if the file name is 4567 Office Arch Central.rvt, rename it to 4567 Office Arch.rvt.

1. Open the architectural file(s). Before clicking open, check the **Detach from Central** option. Accept any warning prompt that appears.
2. Once the file is open, go to **File --> Purge Unused...**
3. Click on **Check All** then click **OK**.
4. Save and close the file.
5. Start a new project.
6. Go to **File --> Import/Link --> Revit...**
7. Browse for the Revit building model file. Before clicking Open, check the **Origin to Origin** option. Click **Open**.

2-Copy/Monitor Levels

1. Once the file is open, double-click on one of the default elevation views within the Project Browser if not already selected.
2. Zoom (Zoom Region - ZR) into the edge of the building where it shows the Levels (typically on the right hand side of the elevation view).
3. Go to **Tools --> Copy/Monitor --> Select Link** (or Click the **Copy/Monitor toolbar** button and click **Select Link**.)
4. Select the building model by left-clicking on any part of it. In the Design bar (on the left), the **Copy/Monitor** mode is activated.
5. In the Copy/Monitor menu, click **Options**. The default options can remain as they are but can be edited as needed. Close Copy/Monitor Options.
6. In the Copy/Monitor menu, click **Copy**.
7. Individually click on each level of the building model. Allow time for Revit to process the information after each click. Accept any warnings that may appear.
8. Click **Finish Mode** in the Design Bar to close the Copy/Monitor menu

3-Creating floor plans

1. Go to **View --> New... --> Floor Plan...**
2. In the New Plan dialog box, the levels that you copied in the previous steps should be listed. Select each one and click **OK**. Floor plans default to 1/8"=1'-0" but can be changed

if needed.

3. By default, Revit sets these new floor plans up as Architectural plans. In the Project Browser, expand the Architectural heading and you'll see the new plans that you just created.

4-Copy/Monitor Grids

Copying grids allows you to stretch the grid lines and bubbles in your plans, sections, and elevations to fit your sheet views. It also allows you to monitor any changes to the grid layout. Once you copy grids, you will then need to turn off the linked architectural/structural grid lines.

1. Switch to a plan view.
2. Go to **Tools** → **Copy/Monitor** → **Select Link** (or Click the **Copy/Monitor toolbar** button and click **Select Link**.) Select the building model by left-clicking on any part of it. In the Design bar (on the left), the Copy/Monitor mode is activated.
3. In the Copy/Monitor menu, click **Copy**.
4. Individually click on each grid line of the building model. Allow time for Revit to process the information after each click. Accept any warnings that may appear.
5. Click **Finish Mode** in the Design Bar to close the Copy/Monitor menu.
6. Within each floor plan that was created in the previous section, you will need to turn off the grids within the linked architectural/structural file(s).
7. To do this, go to **Visibility Graphics** (VG) and click on the *Revit Links* tab.
8. Next to the link name click on **By Host View** and click the button next to **Custom**.
9. Next, click on the *Annotation Categories* tab.
10. Click on the list box and change **<By Host View>** to **<Custom>**
11. Scroll down the list of annotation categories and uncheck **Grids**.
12. Click **Ok** twice to exit out of Visibility Graphics.

5-Enable Room Bounding

Beginning in Revit MEP 2009, rooms are no longer required to be copy/monitored. Instead, room bounding elements are automatically carried into the MEP model when the architectural file is linked in. In order for these room boundaries to be "activated", you must manually change a setting.

1. Click on the linked architectural model and to go **Element Properties**.
2. In the Element Properties dialog box, click on **Edit/new...**
3. Under **Constraints**, check the box next to "**Room Bounding**".
4. Click **OK** to close the properties dialog boxes.

6-Adding Spaces & Space Tags

The concept of Spaces was introduced in Revit MEP 2009. Spaces allow for the engineer/designer to have control over how a building's interior volumes are calculated in building analysis software. Therefore, in order to tag a room, a Space must first be placed within the room bounding area. Placing Spaces can be a somewhat complex task to create them correctly. I will walk through a basic space application but will not go into the process any further in these instructions. Once spaces are placed, Space Tags can then be placed on each Space (room).

1. In the mechanical design bar, click on **Space**.
2. In the Type Selector bar, set the **Upper Limit** and **Offset**. For example, if you are placing a Space on Level 1, you'd set the Upper limit to Second floor with an Offset of 0'-0". Also, to automatically tag the space when it is placed, be sure to check the "Tag on placement" box.
3. Next, place the cursor over a room and an "X" will appear within the room boundary (which will be high-lighted in green).
4. Click within the room to place the Space.
5. A Space will be placed within the room boundary and tagged with a Space Tag.
Optional - The Space Tag included with Revit MEP tags the Space with the Space Name and Space Number. In order for the tag to display the architect's room name and number, the tag must be modified.
6. Click on the Space Tag and click the **Edit Family** button.
7. Within the Space Tag family, click on "Space Name" and then click the **Edit Label...** button.
8. In the Edit Label dialog box, click on the Name "Label Parameter" and click the remove button.
9. From the Category Parameters list, select Room Name and click the add button.
10. Follow the same procedure for the Space Number (replace it with the Room Number parameter).

Update: There is now a external tool that will automatically rename the space names and numbers to match the room names and numbers. By using this tool, you can use the OTB (out of the box) Space Tag. Note: The Space Naming Utility is only available to Autodesk Subscription members.

7-Creating the Central File

At this point, the project file has been set up and is ready to be saved to the project server as the Central File.

1. Go to **File -->Worksets...** Click **Ok** in the Worksharing dialog box.
The Worksets dialog box will then appear showing the two default worksets. Click **OK**. (After clicking OK, Revit MEP will update the file and enable worksharing. This may take some time, so be patient).
2. Once the worksharing process is complete, Go to **File --> Save As**. Click on the **Options...** button and verify that **Make this the Central location after save** option is checked. (It may already be checked and grayed out which is okay). Click **OK**.
3. Save the file in the appropriate project folder and name it in the following format: (Project #)-(Project Name)-MEP(version #) Central.rvt

For example: **5432-Office Building MEP09 Central.rvt**

(This format will allow the local file creation script to work properly)

4. Close the Central file.

8-Creating a local File

1. As mentioned earlier, these instructions make reference to a local file creation script. Prior to creating a local file, you will need to create a folder on your local drive (C:) named **Revit Local Files**. You will also need to copy the local file creation application (Revit

Make Local.exe) into the same folder as your MEP central file on your project server.

2. Browse for the project drawing folder using Windows explorer.
3. Double-click the application named "**Revit Make Local.exe**"
You may get a "Security" warning dialog box. Click **OK** to accept.
You may get an "Application not found" warning dialog box. Click **OK** to accept.
4. The application will automatically:
 - Create a project folder within your **Revit Local Files** folder (if not already created)
 - Check for the version number of the Revit MEP file
 - Create a new local file with your user name at the end of the file name
 - Open the local file.

To simplify the process, you can create a shortcut to the **Revit Make Local.exe application** and place it on your desktop then rename the shortcut based on the project name.

9-Setting up MEP Floor Plans

In previous steps, floor plans were created based on the levels that were Copied/Monitored. When these plans were created, they defaulted to an Architectural discipline. In order to create plans for the MEP disciplines (Mechanical, Plumbing, Power, Lighting, Systems, Fire Protection) you must duplicate the Architectural plans and change their discipline settings. Prior to duplicating the architectural plans, make sure all spaces are placed and tagged, views are cropped as required, and grid bubbles are adjusted. Otherwise, you'll be doing these things in all of MEP you are getting ready to create. It is much more efficient to do it once than multiple times.

1. To create a MEP floor plan, right-click on the appropriate floor plan in the project browser and choose the **Duplicate with Detailing** option (this will copy the space tags).
2. When you duplicate a floor plan, the plan will be named Copy of Level 1, for example.
3. Right-Click on the duplicated floor plan and select **Properties...**
4. Set the **Discipline** and **Sub-Discipline** for the duplicated floor plan as required. If a Sub-Discipline you need isn't listed, you can type one in.
5. After you set the Discipline and Sub-Discipline, the floor plan will automatically be moved into a new location within the Project Browser base on those settings.
6. Right-Click on the new floor plan and select Rename. To simplify things, name the view how you want it to appear in the plan title on the plot sheet. For example, a first floor mechanical plan could be named FIRST FLOOR MECHANICAL PLAN.
7. Follow this procedure for any MEP plan you wish to create.

The steps listed above obviously do not explain everything you need to know to complete a Revit MEP project, but will help you get your floor plans created so you can start adding MEP objects to your model.

If you find any errors in these instructions, please contact me at support@revitgarage.com and I will correct them and update the document.

Thanks,

Revit Garage