

Power Pivot - Manual

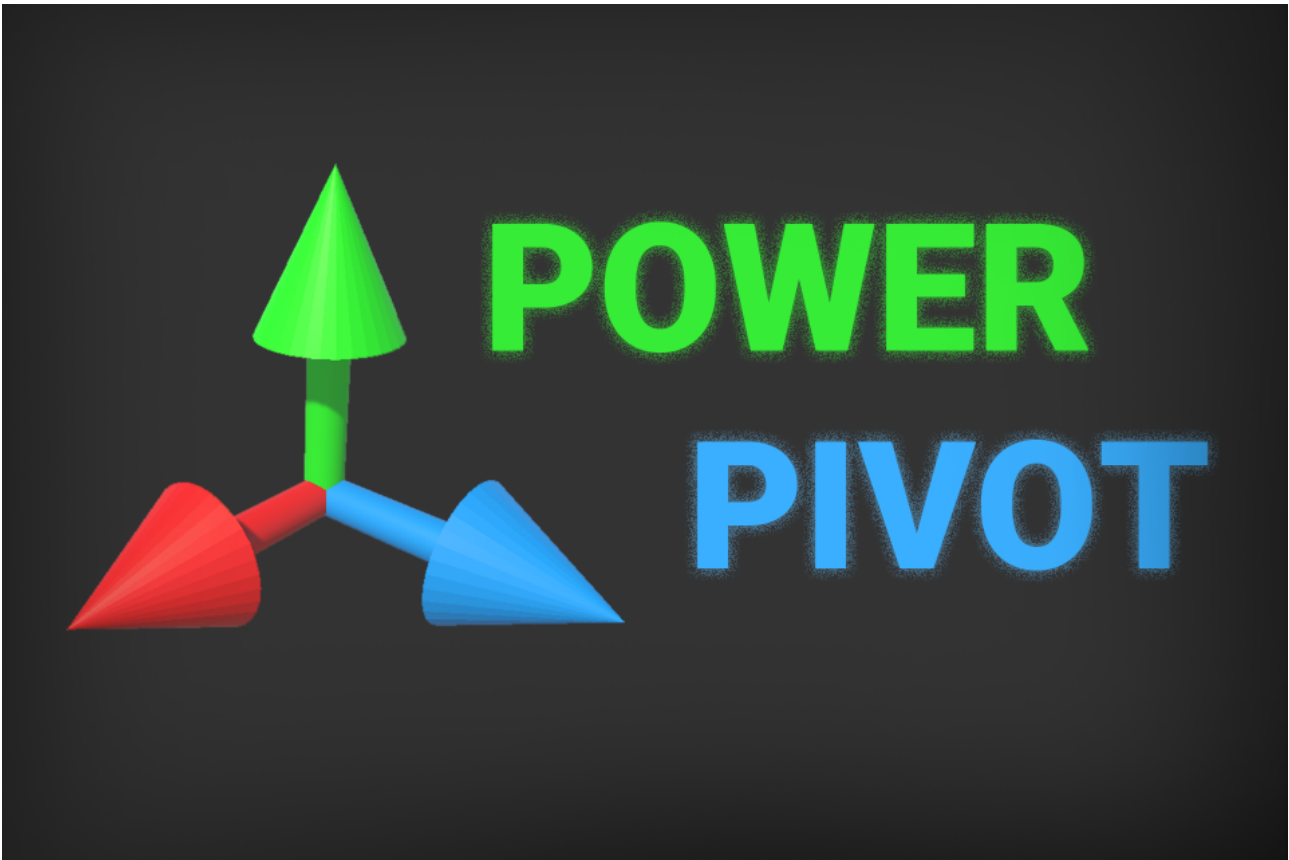


Table of contents

Overview.....	2
Virtual Pivot.....	3
Moving the cursor.....	5
Editing Pivots.....	7
Updating pivots after model changes.....	9
Scaling two axis at once.....	10
Parenting.....	11
Settings.....	12
FAQ.....	13
Can I also change the ROTATION of the pivot?.....	13
Why do I have to press ESC twice sometimes to exit the tool?.....	13
UNDO does not restore all my old pivot changes.....	13

Overview

This tool offers a couple of handy features:

1) A virtual pivot (called "cursor")

The cursor is used as a transformation origin. Simply press "v" while using the rotate or scale tool and it will activate.

2) Pivot editing

Creates a new mesh with edited vertex positions based on the virtual pivot position.

3) Scaling two axis at once

Very handy for making planes.

4) Parenting / Un-parenting

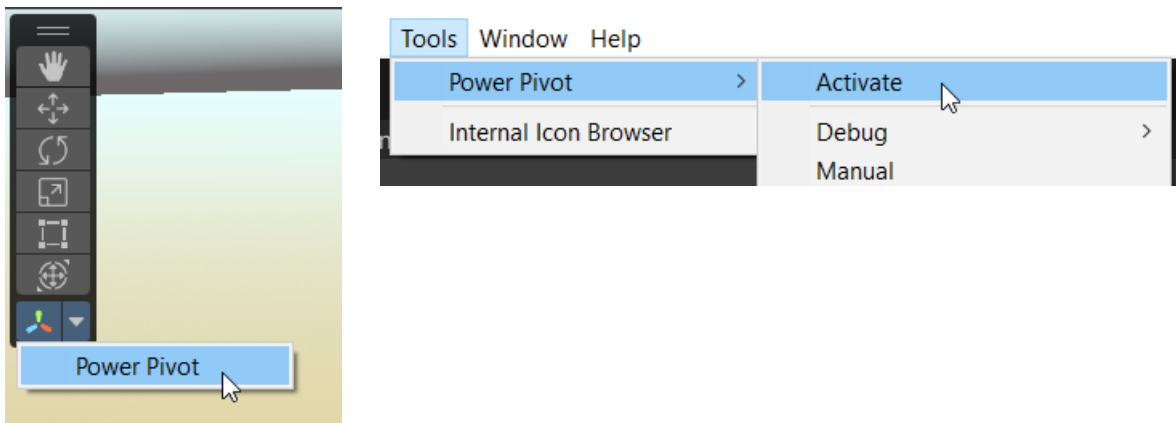
In case you need a permanent pivot change but do not want to change any meshes.

Virtual Pivot

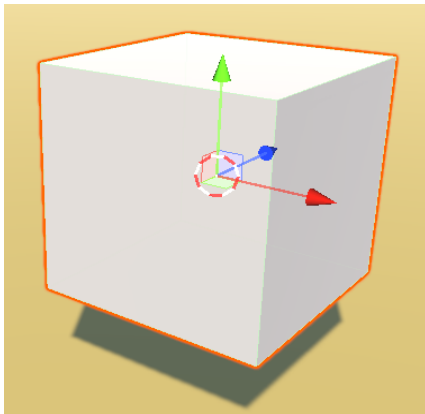
Press the „v” key (like you do for snapping) while using the Move, Rotate or Scale tool OR press „u” anytime to activate the power pivot tool.

Hint: All keys can be changed or disabled in the settings.

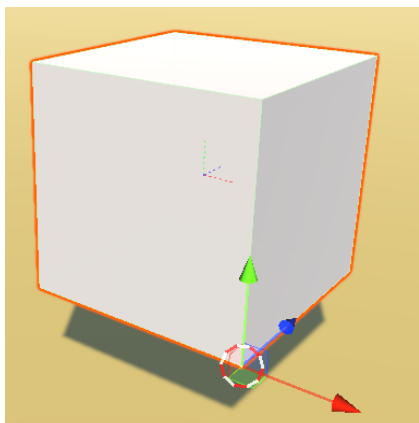
You will find it in the tools section of the SceneView too.



And you can activate it via **Tools > Power Pivot > Activate** (though you won't see much until you select an object).

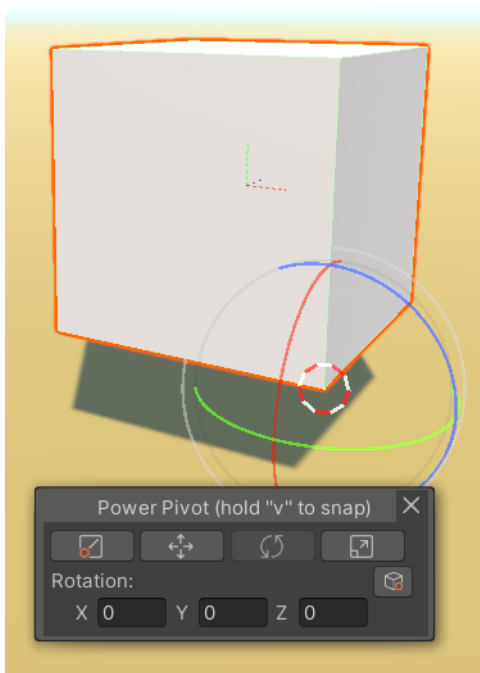


Once activated you will see the location of the virtual pivot (called „cursor”) as a white and red colored circle.



Press and HOLD „v” and move the mouse to snap the cursor to a new position.

Hint: Check the settings to customize the snapping behaviour.



Once the tool is active you can use the default shortcuts to switch between tools.

Default Keys:

„q“ = cursor (more on that later)

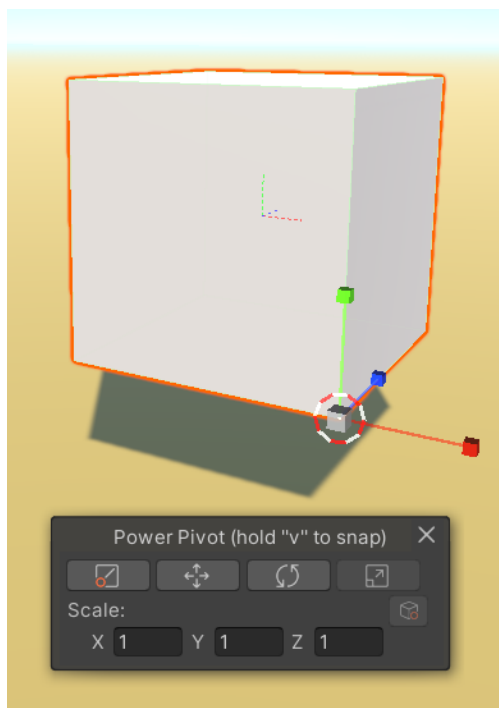
„w“ = move

„e“ = rotate

„r“ = scale

„Esc“ = exit the tool and return to the default tools

All keys for shortcuts adhere to the settings you have made in the Unity ShortcutManager. However you can modify them in the settings too.

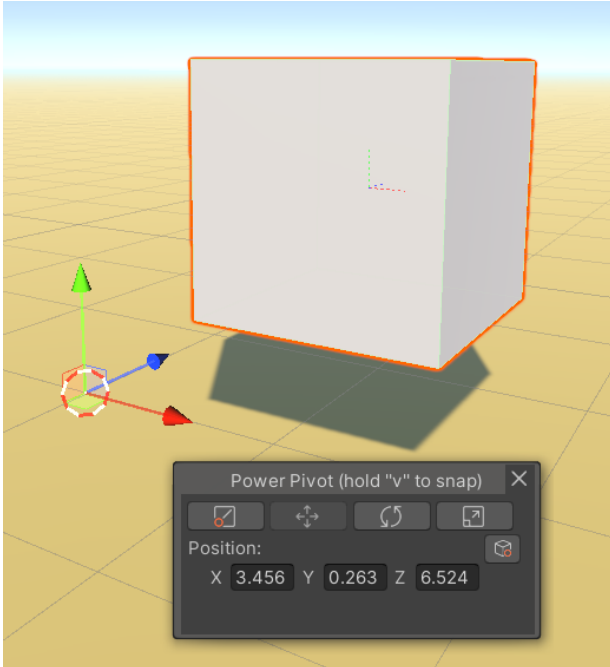


The cursor window will show which tool is active at the moment. It also provides some buttons and an input for the current transform.

The original pivot is always shown for reference (the dotted lines). You can snap the cursor onto it too.

Moving the cursor

As you've already learned the cursor can be snapped to any vertex by holding the snap key (usually „v”). Remember: you can snap on vertex, not just vertices of the selected object.

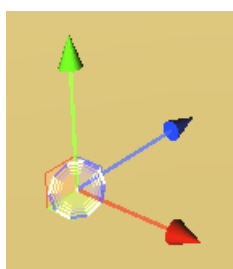
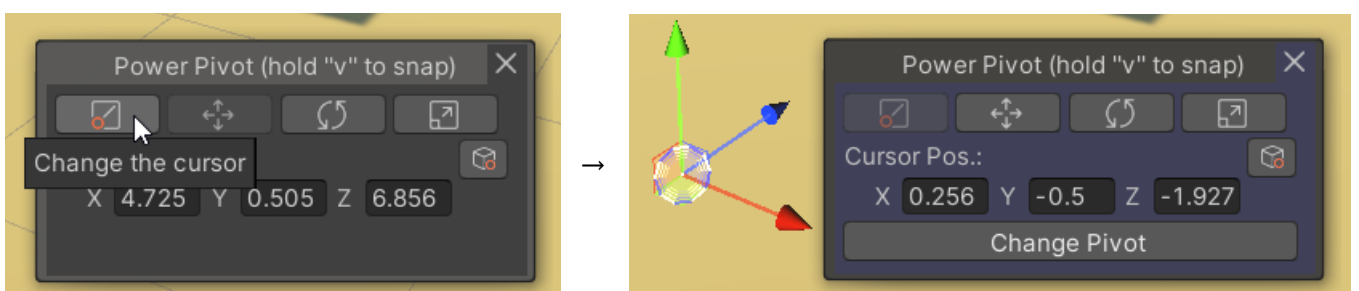


Did you notice the dotted lines in the center of the cube?

This is the original pivot. The cursor is a non-destructive transform tool.

Moving the cursor to an arbitrary position:

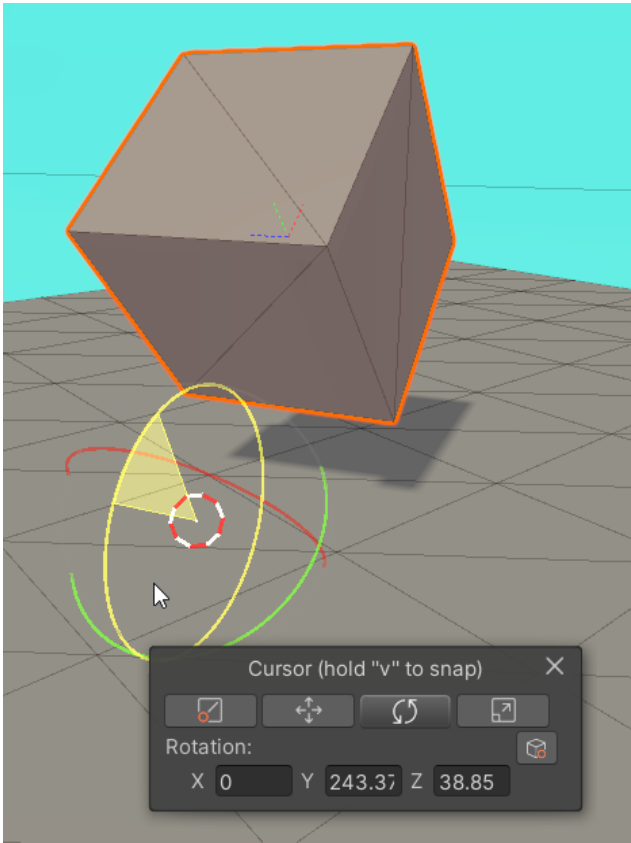
Sometimes there are no vertices to snap to -OR- maybe you simply want to enter the precise position of the cursor. To enter the cursor mode press „q” or the cursor button on the tool window.



You will notice the cursor color has changed to blue and white.

If you move it it will not change the object position but only the cursor position.

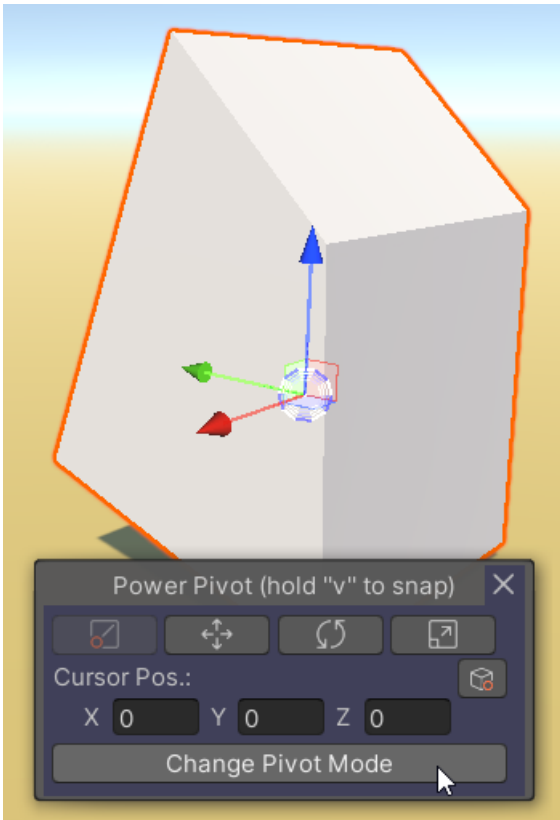
Once you are done press „Esc” to return to your previous tool or use „w”, „e” or „r” to return to a specific tool.



Using a custom cursors will allow to do transformations independently of any mesh or vertex.

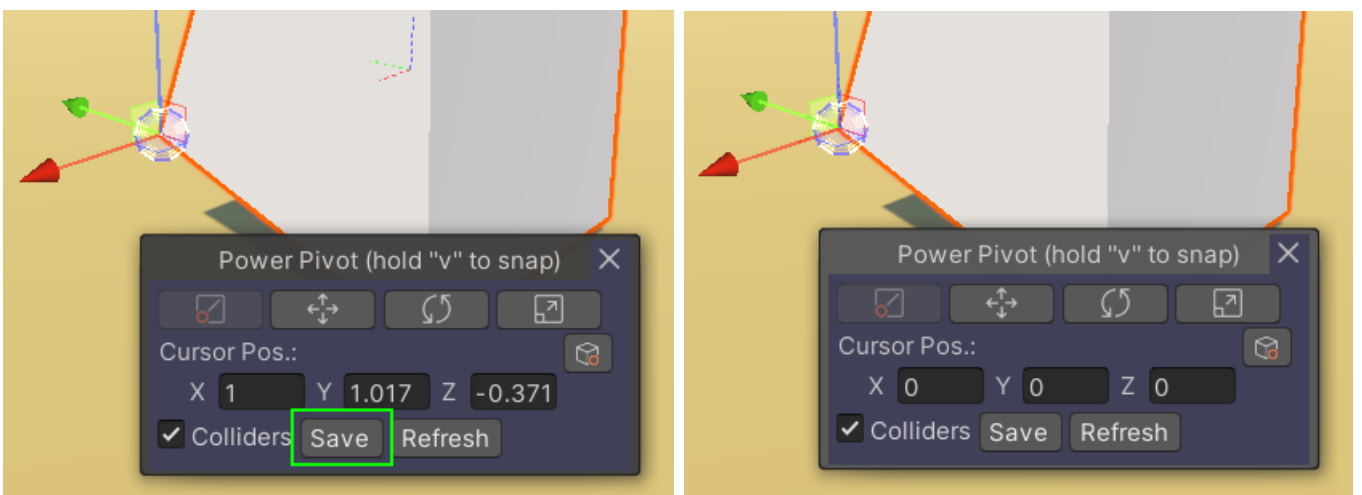
Editing Pivots

To modify a pivot permanently you will have to select the „Cursor“ tab and then enter the „Change Pivot Mode“.



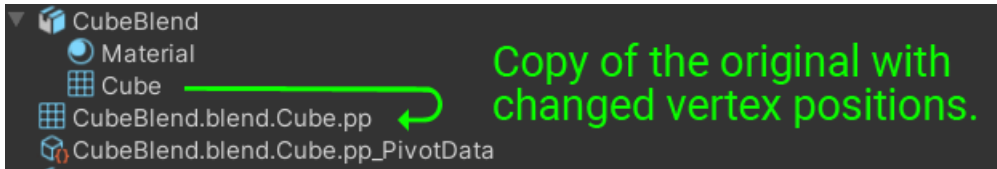
Once enabled you will get a „Save“ and a „Refresh“ button. If you hit „Save“ then a COPY of the mesh, with the pivot at the position of the cursor, will be generated in your Assets folder.

Notice how the dashed lines (indicating the original pivot) vanish if you hit save. That's because the pivot has been changed to the cursor position (they are now both at the same place).



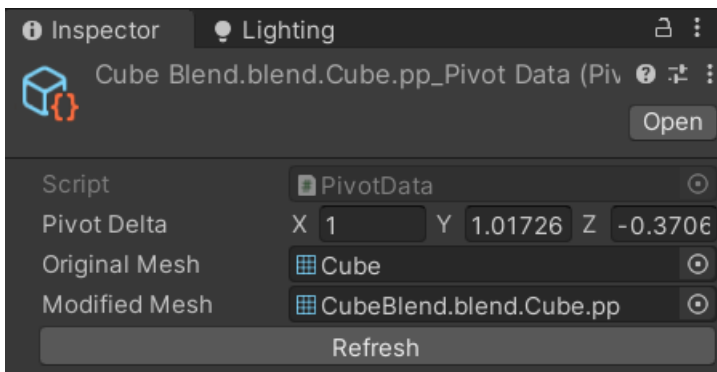
Here is what happened behind in the scenes:

1) First a COPY of the mesh has been generated. You can find it at the location of your original model. Do NOT change the name of it and always keep it at the same location as your original model. That new model name ends with „.pp“ which stands for „PowerPivot“ (surprise).



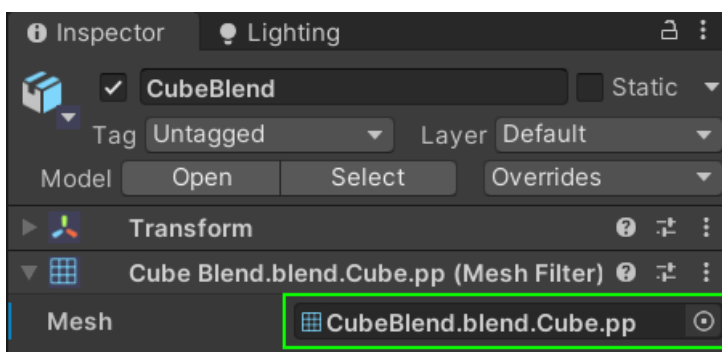
There has also been generated a file ending with „.pp_PivotData“.

It contains a reference to the original mesh, the new copy (with displaced vertices) and the info on how much the pivot has been moved. This is kept around so we can always re-apply the pivot change to the original model in case the original model changes.



2) The model with the changed vertices has been assigned as the new mesh to your game object in the scene.

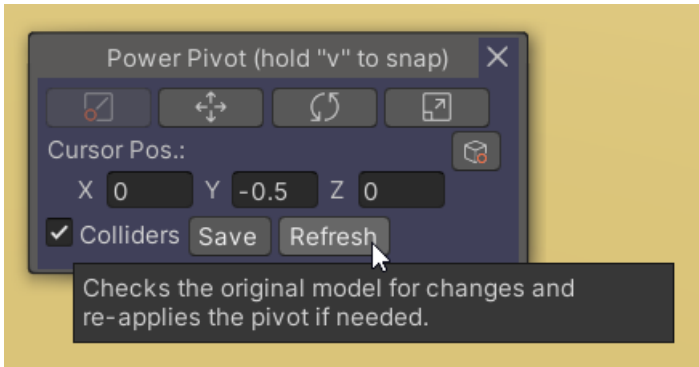
You can see it in the inspector.



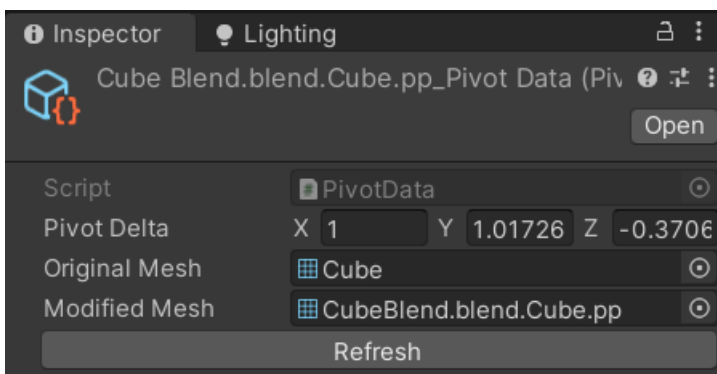
HINT: You can press CTRL + Z to undo the process.

Updating pivots after model changes

Since the model with changed pivot is a COPY of the original mesh it will not update if your model changes. To update the changed mesh too you will have to select the object and press the „Refresh“ button under „Change Pivot“.



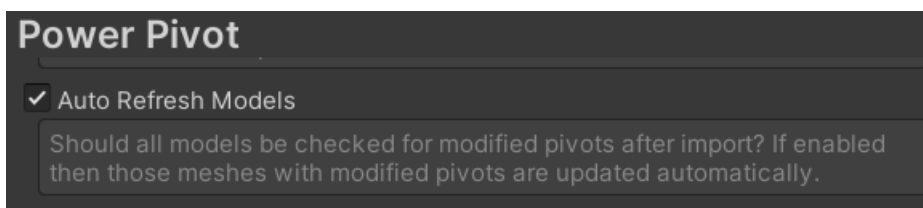
HINT: You can also use the PivotData object to refresh the model:



Enabling auto refresh:

If your model changes often then it might be cumbersome to hit that „Refresh“ button all the time.

To automate this you can enable the „Auto Refresh Models“ option in the settings. This will check any changed model upon import and recreate the pivot model if needed.

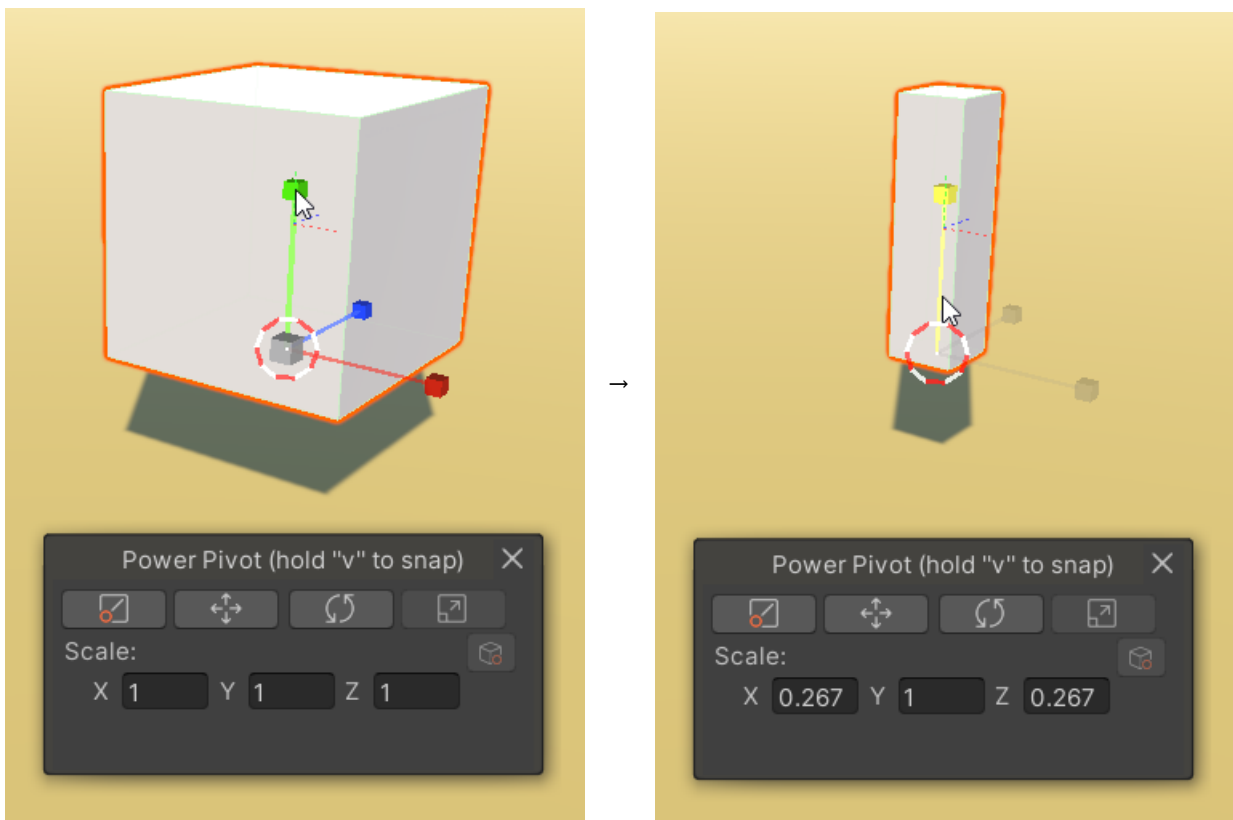


Scaling two axis at once

Hold the left „SHIFT“ key while dragging one axis. This will make the other two perpendicular axis scale simultaneously.

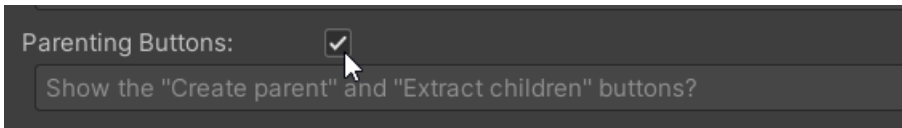
Hint: You can change the key to press in the settings.

In the example below we are dragging DOWN on the green up-axis while HOLDING SHIFT:

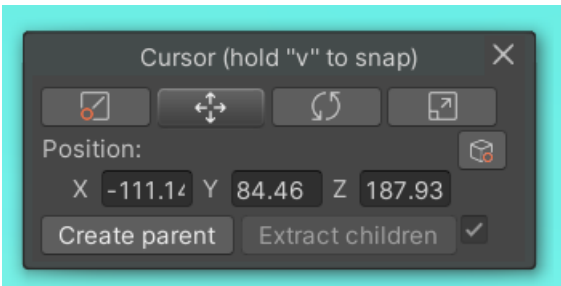


Parenting

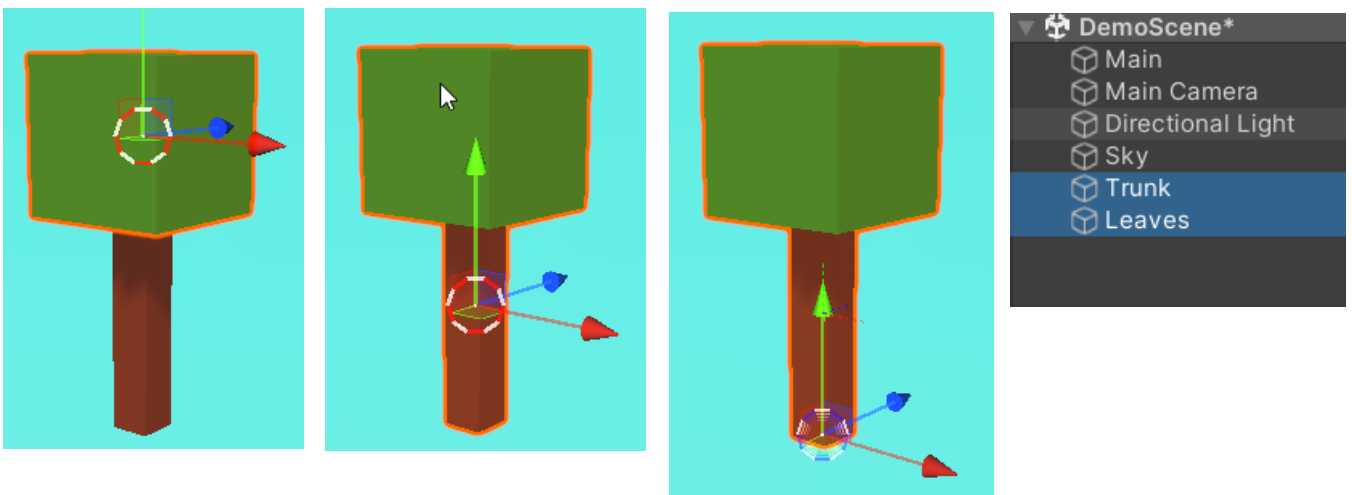
In the settings you can enable the „Parenting buttons“.



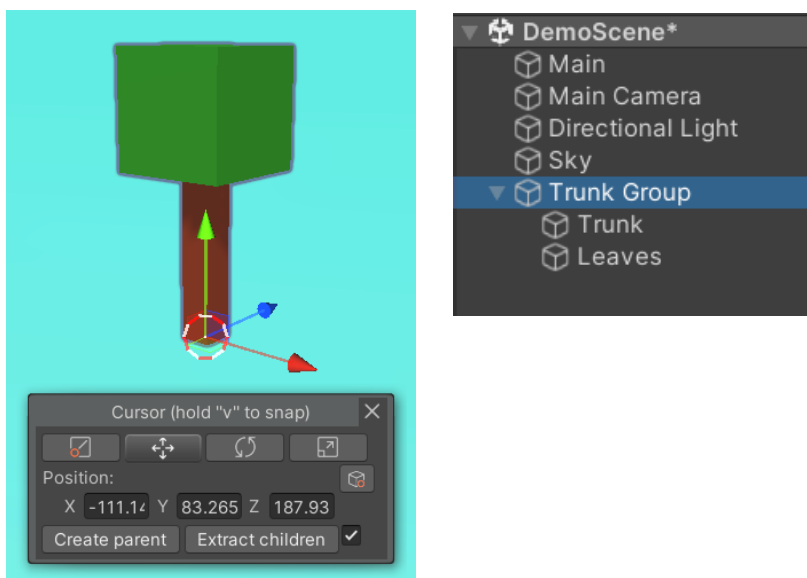
They will then be shown in the cursor window.



First select multiple objects. Then position the cursor and hit the „Create parent“ button.

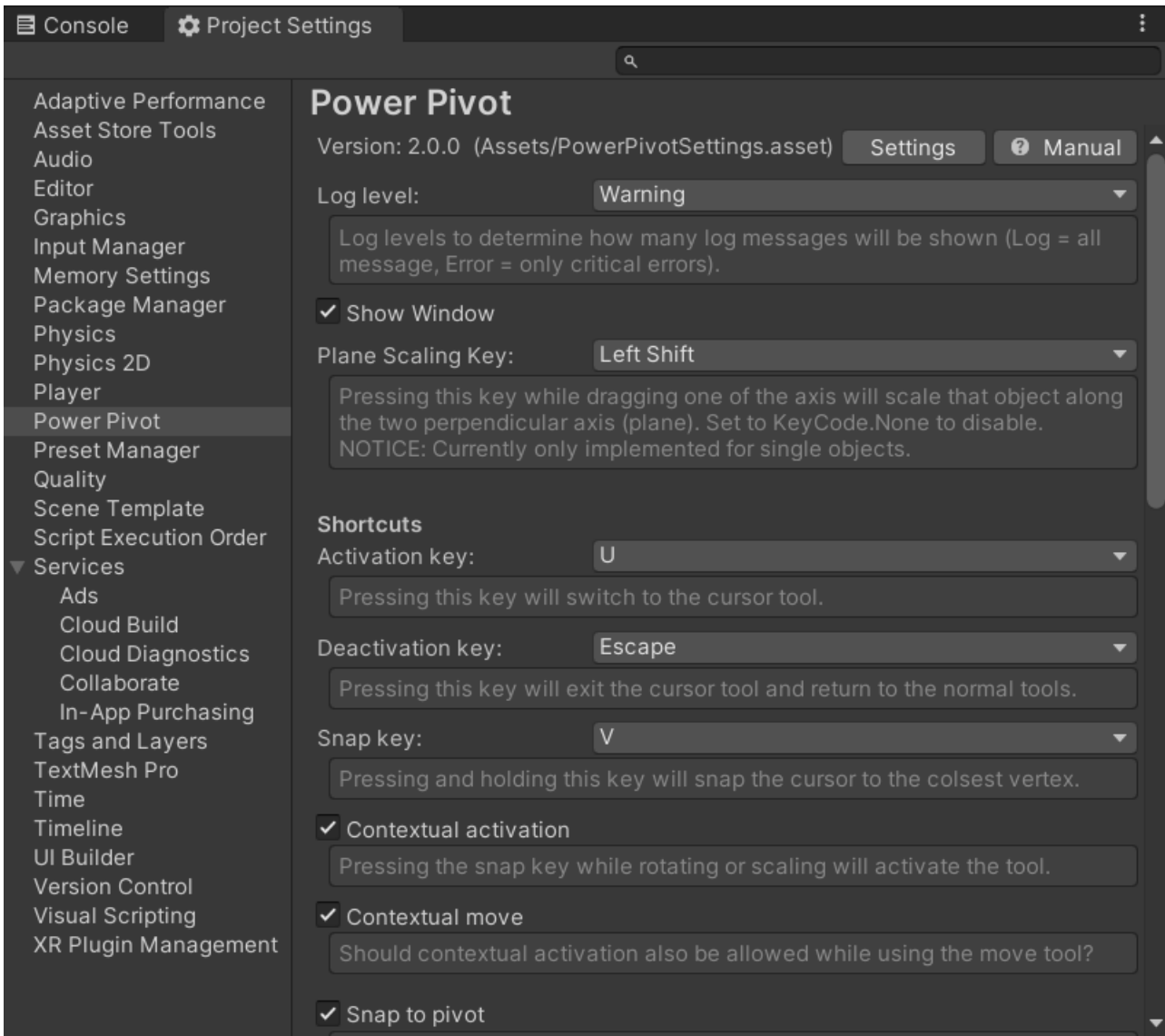


A parent object will be created with the children placed in it and a pivot at the cursor position.



Settings

The settings are stored in a Scriptable Object located under Assets/. You can access them via the „Project Settings“ menu or via Tools > Power Pivot > Settings.



FAQ

Here are some frequently asked questions.

If you can't find your answer here please write to office@kamgam.com. Please include your exact Unity version and your invoice number.

Please also try updating to the most recent LTS release of your Unity version and the most recent version of the asset before submitting a request.

Can I also change the ROTATION of the pivot?

Sorry, at the moment this is not supported.

Why do I have to press ESC twice sometimes to exit the tool?

If you are in the cursor editing mode then the first press to ESC will only exit the cursor mode and only the second press to ESC will close the tool.

UNDO does not restore all my old pivot changes.

At the moment only the most recent pivot change is stored as an undo action. It's not the to-investigate list but not with a very high priority since this is rarely needed.