

2<sup>D</sup>OSE  
REF

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# Poser2D Window

bone width for creation

goal size of iksolver for creation

show cross of poser root

material for mesh operation

convert sprites to meshes by root of hierarchy

convert sprites to meshes by selections

edit last selected mesh

merge meshes of seletions to single one

merge meshes to single one by root of hierarchy

create bone

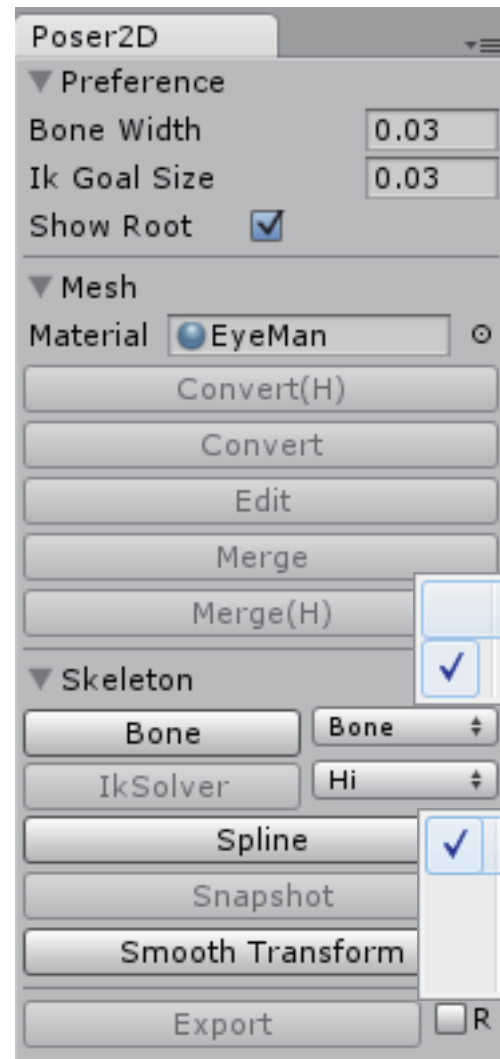
```
create iksolver
```

```
create spline
```

open the last selected poser to snapshot window

change transform smooth

export the last selected poser



Bone

### Pivot Bone

Hi

Limb

### Spline

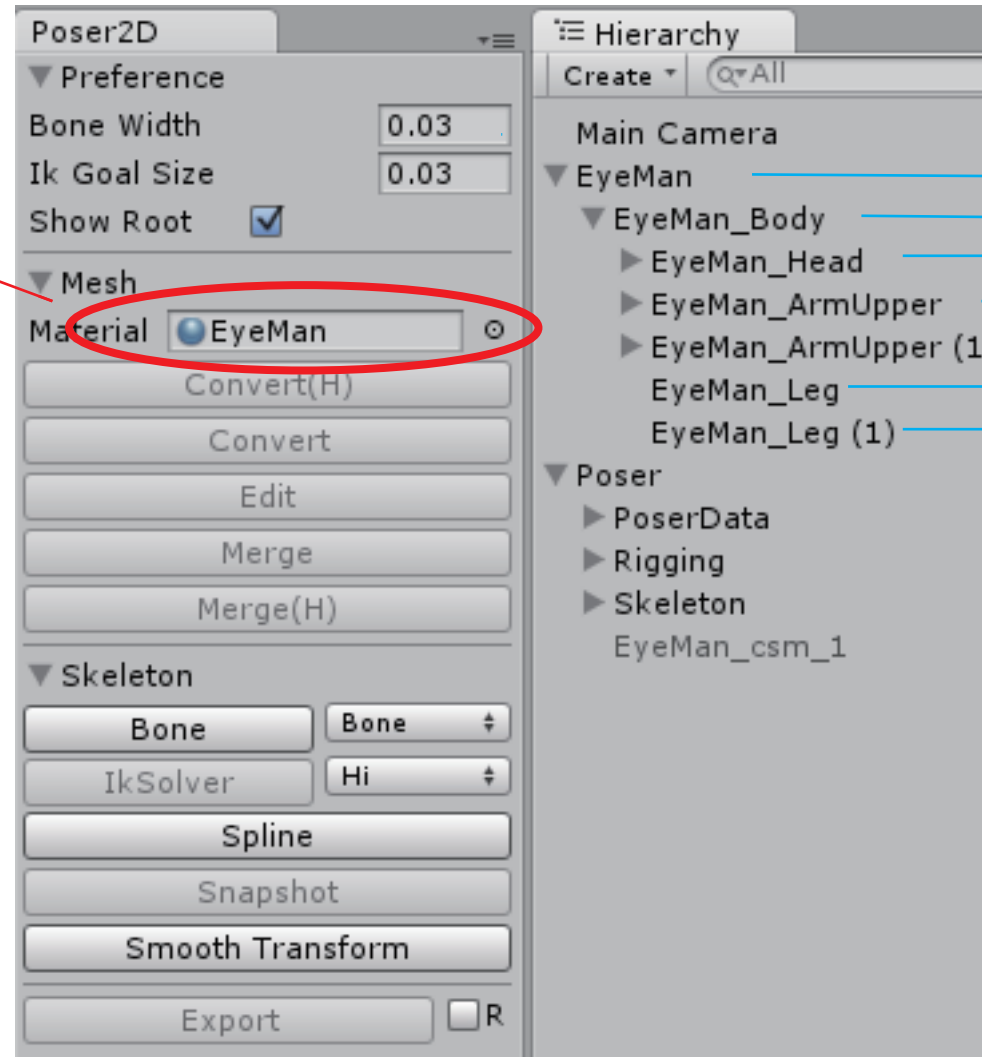
change type of bone

change type of iksolver

replace old export animations

# Mesh

convert or merge mesh need a material for a operation

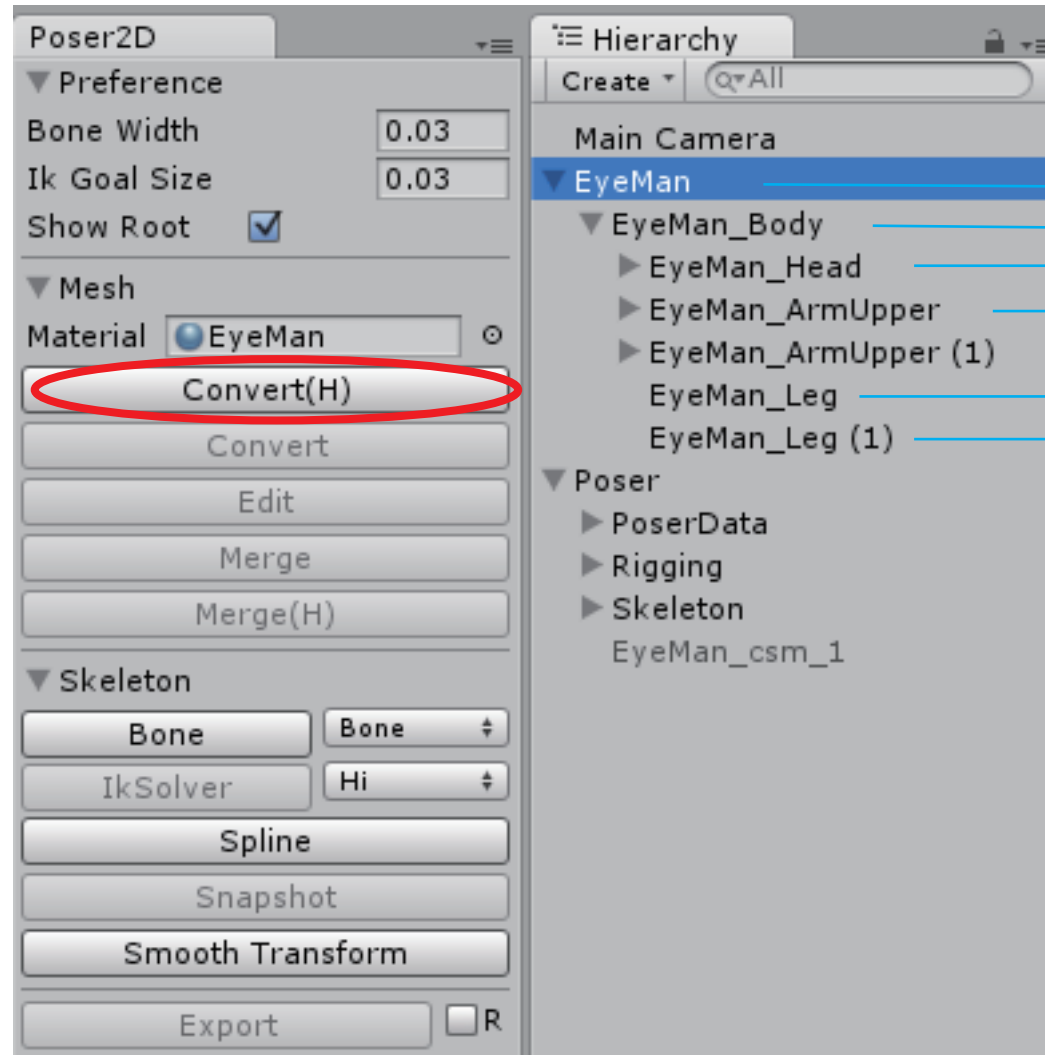


no sprite  
sprite  
sprite  
sprite  
sprite  
sprite  
sprite

# Mesh - Covert(H)

active button

there is at least one sprite in the last selection or children



no sprite

sprite

sprite

sprite

sprite

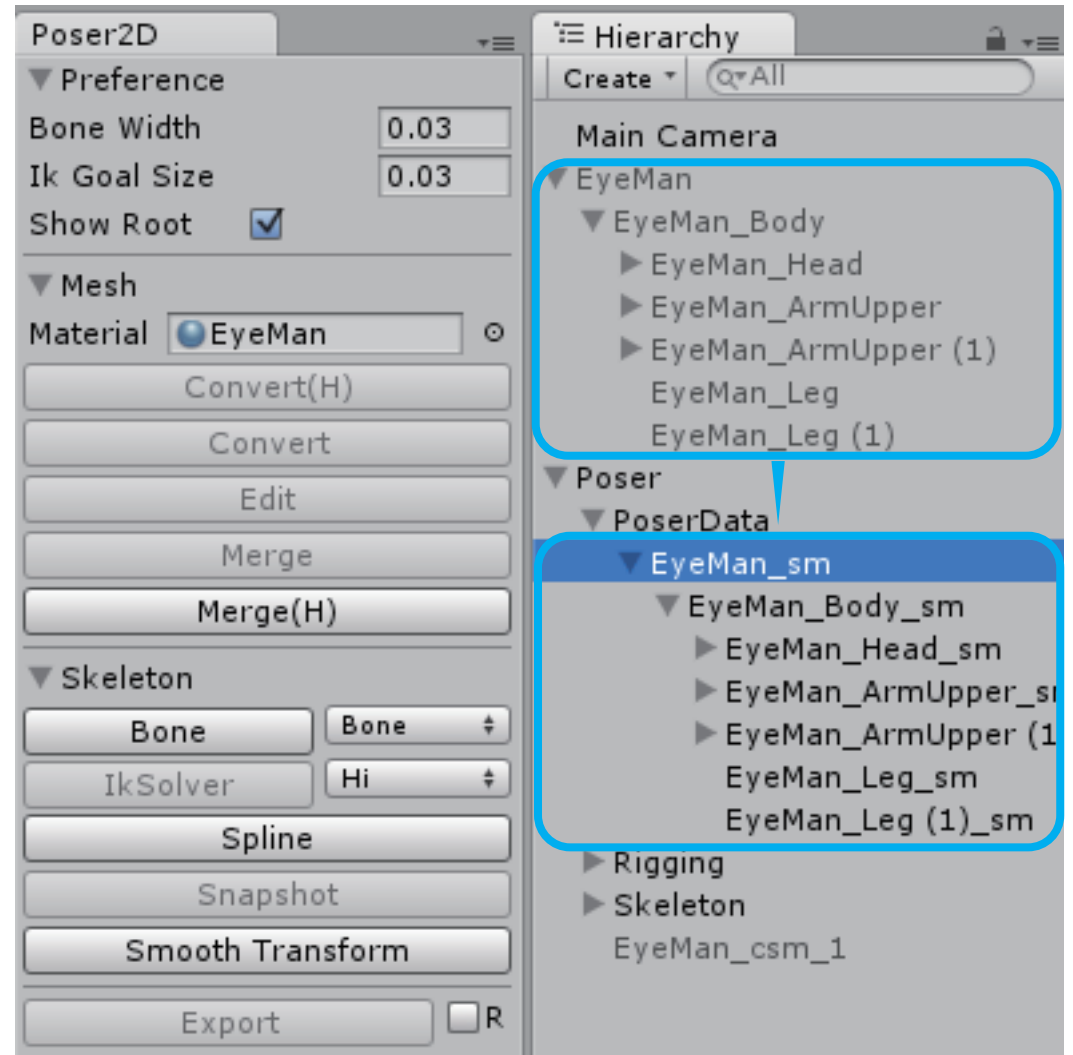
sprite

sprite

# Mesh - Covert(H)

click button

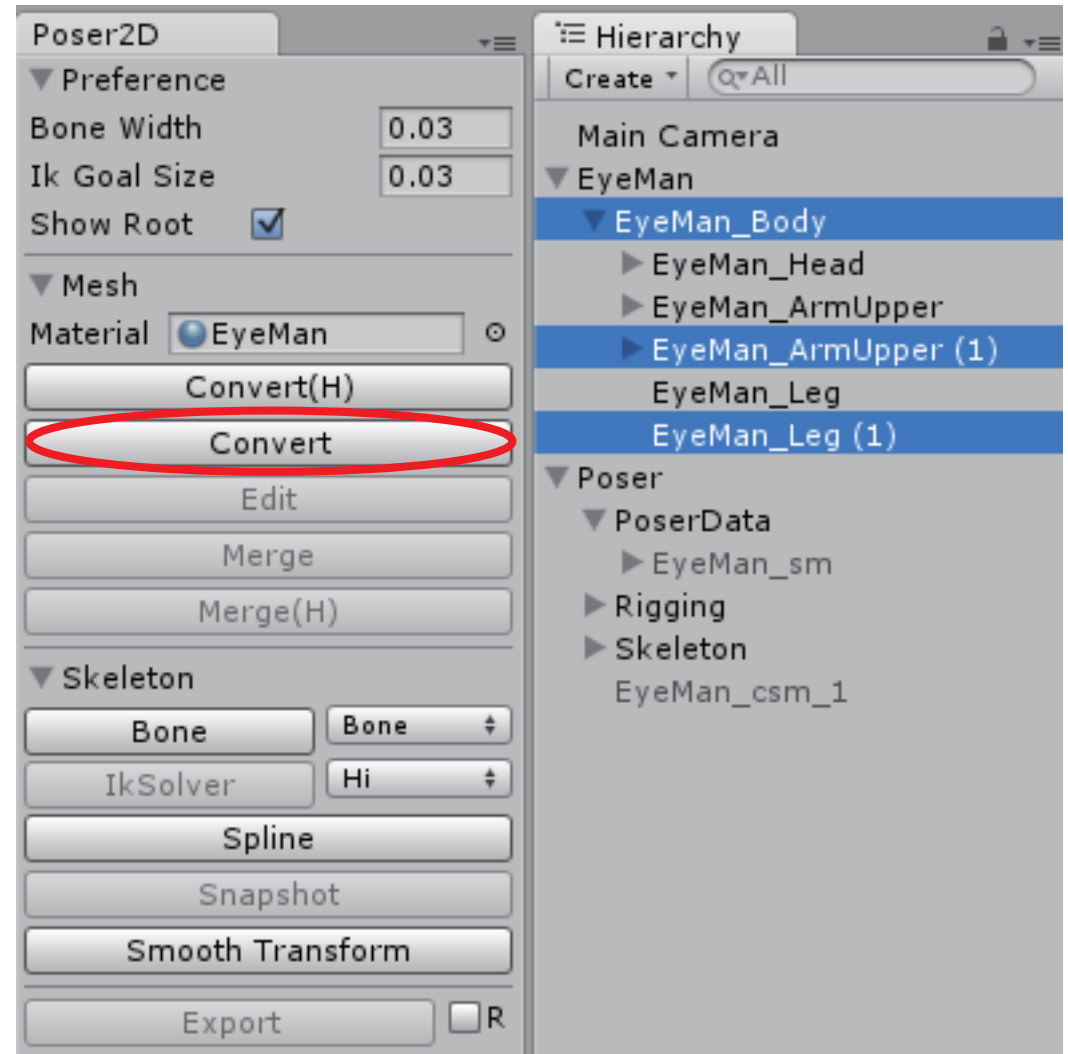
convert all sprites to meshes by hierarchy  
and attach to PoserData



# Mesh - Covert

active button

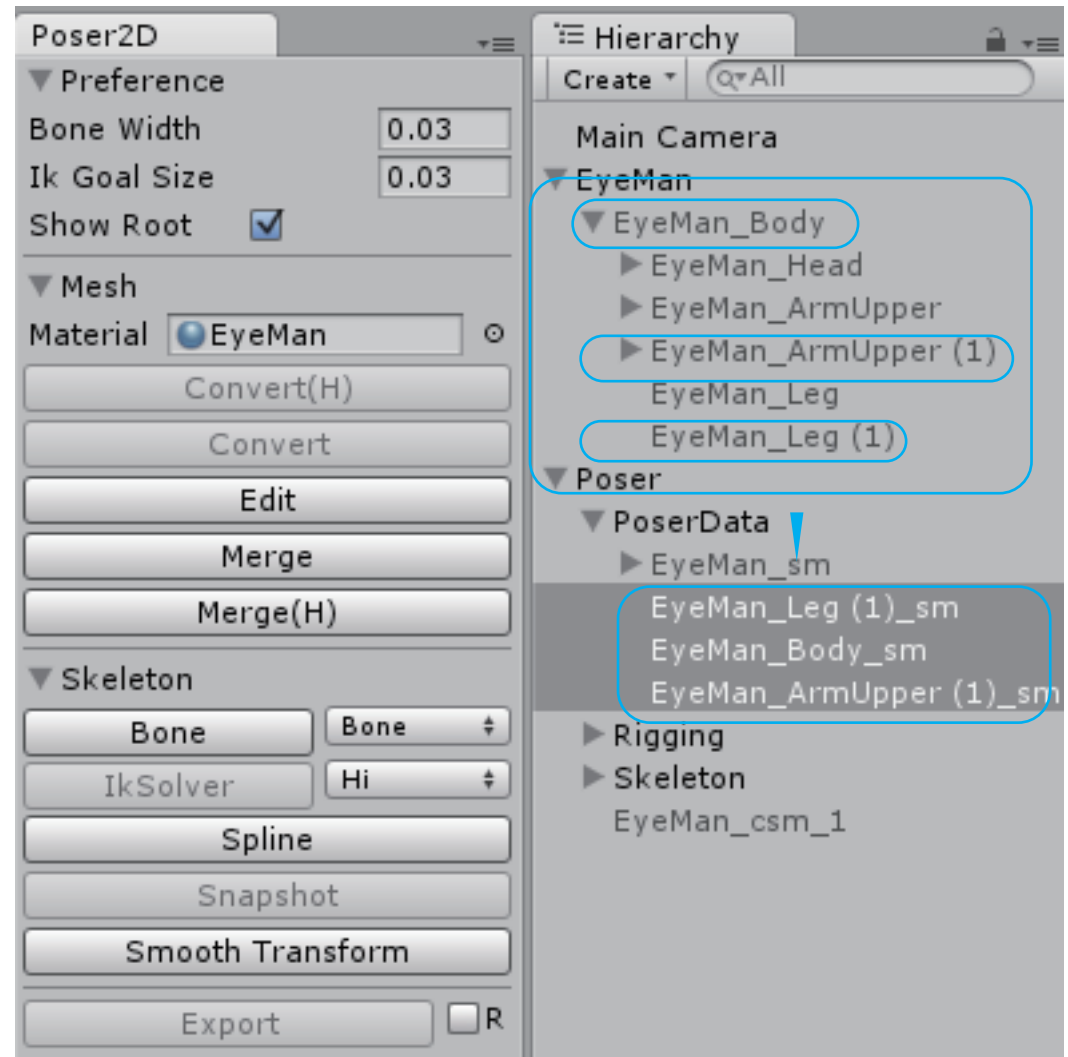
there is at least one sprite in selections



# Mesh - Covert

click button

create meshes from sprites of selections  
and attach to PoserData

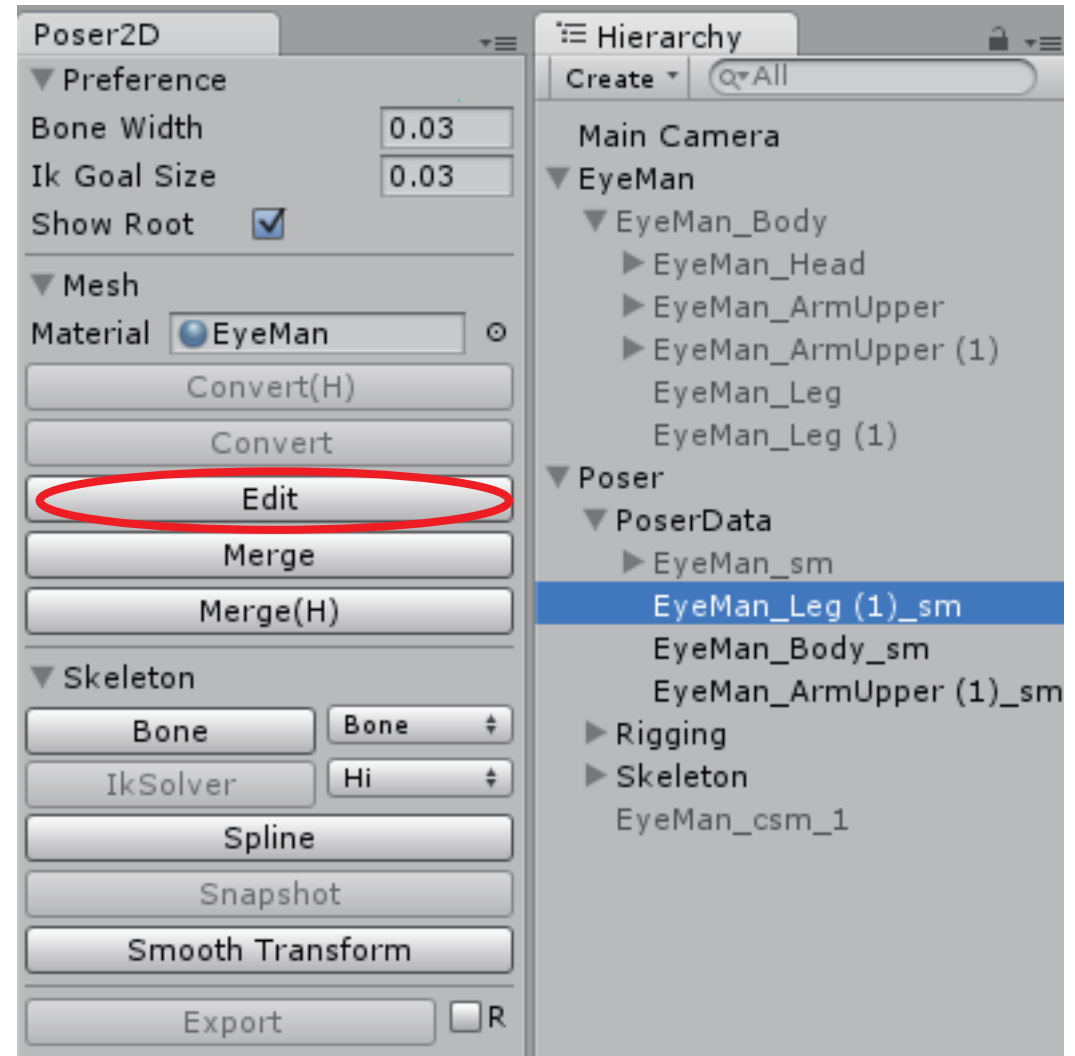




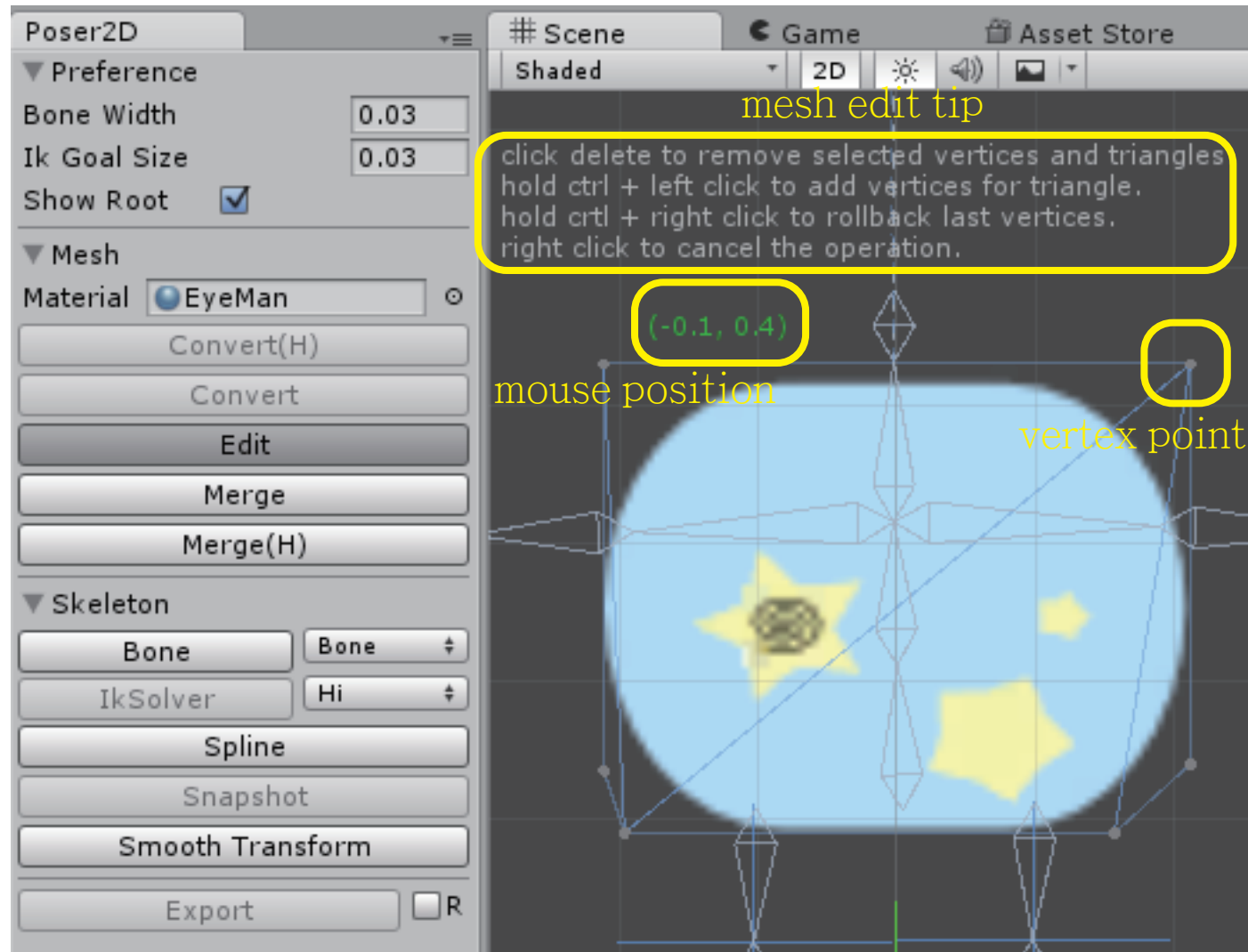
# Mesh - Edit

active button

there is a SkinBoneWeights in  
the last selection



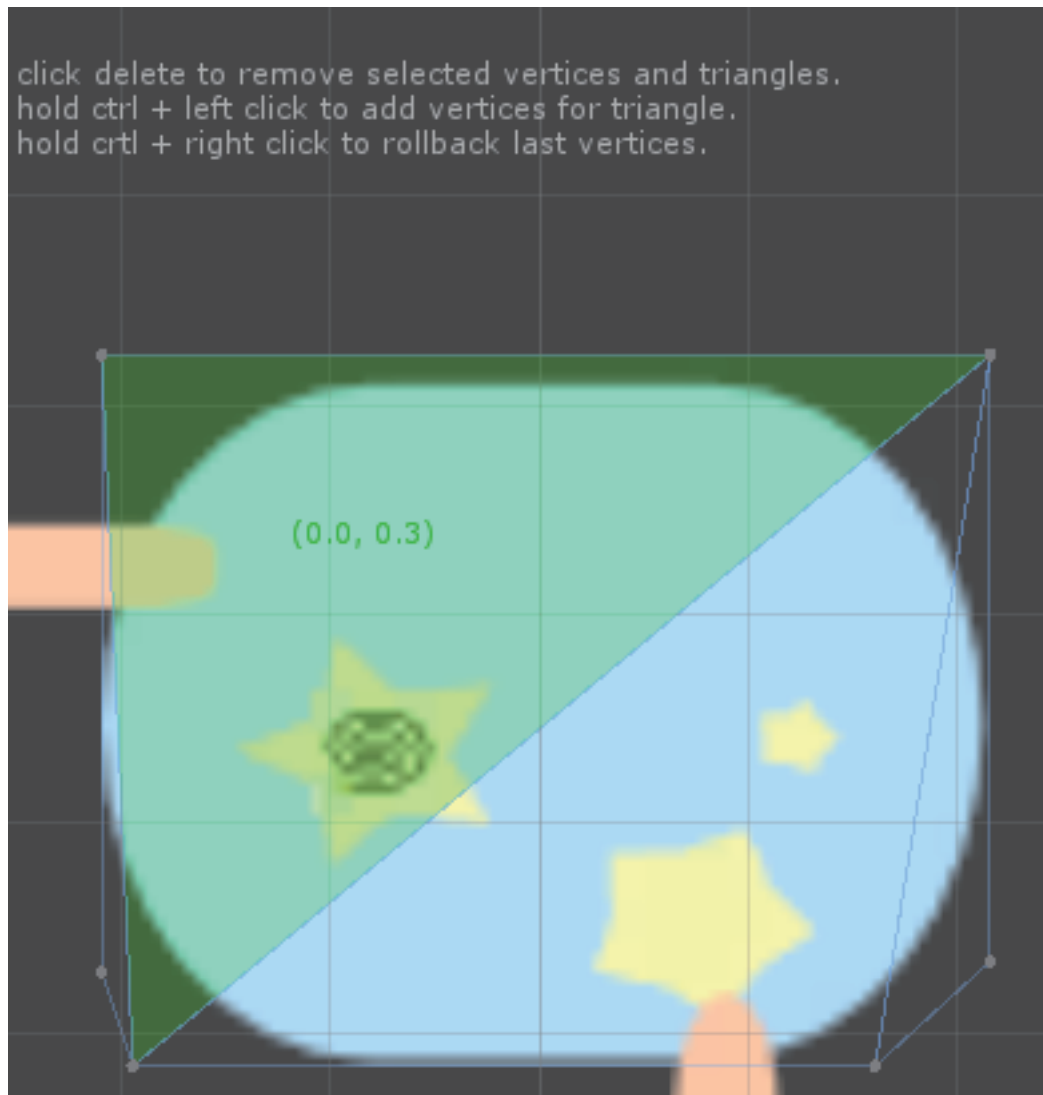
# Mesh - Edit



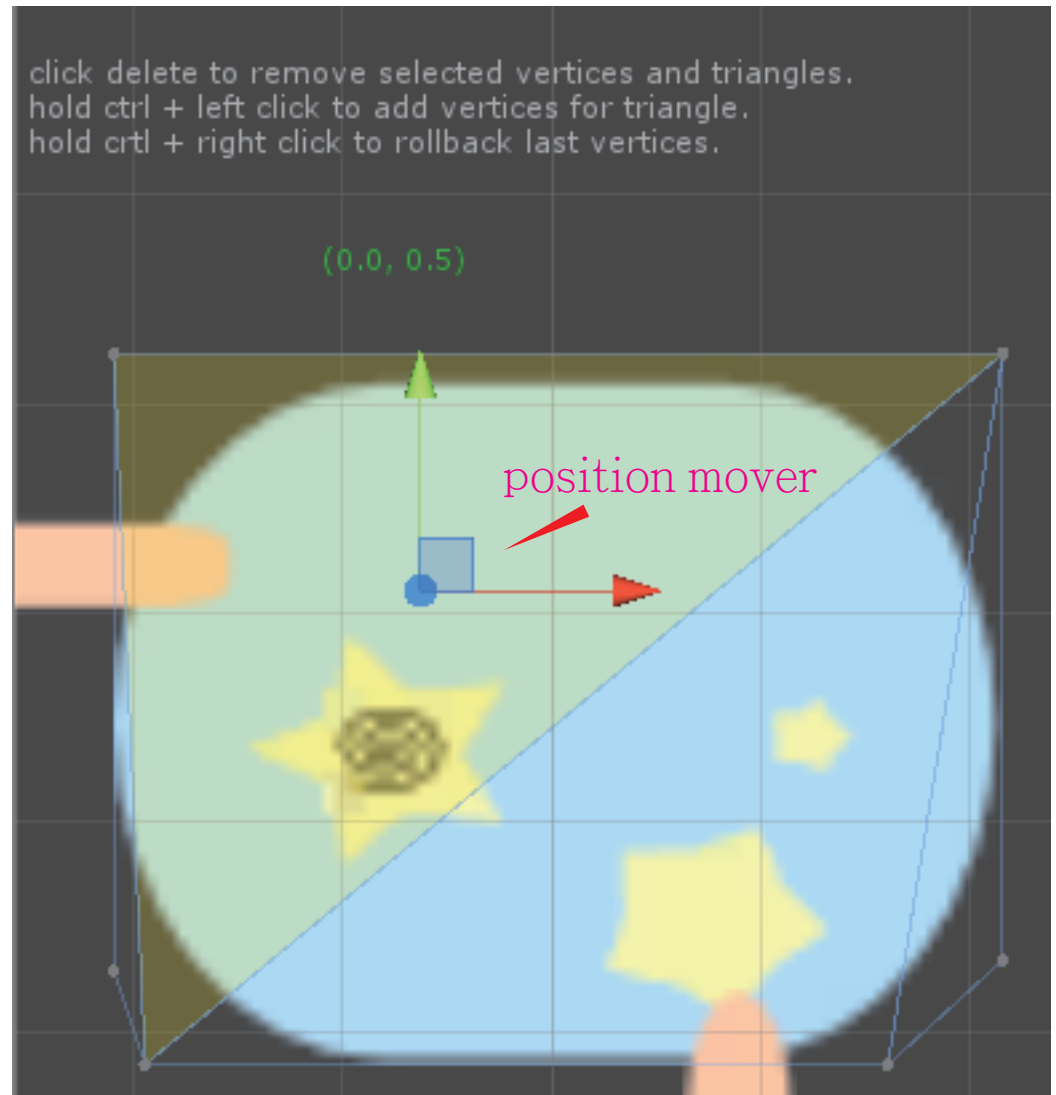
# Mesh - Edit

selected triangle could be moved by position mover.  
press delete button to remove the selected triangle from mesh

mouse hover triangle



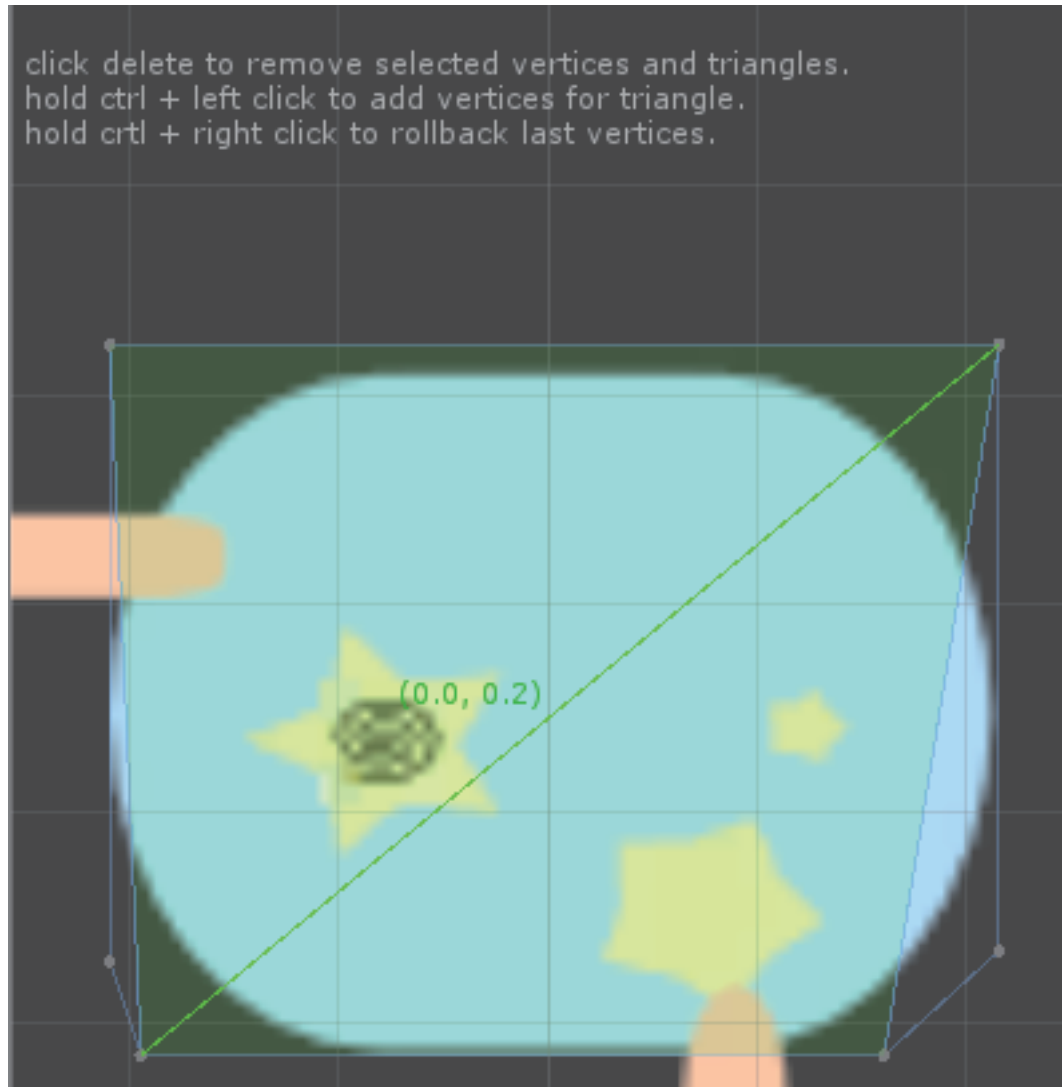
triangle be selected



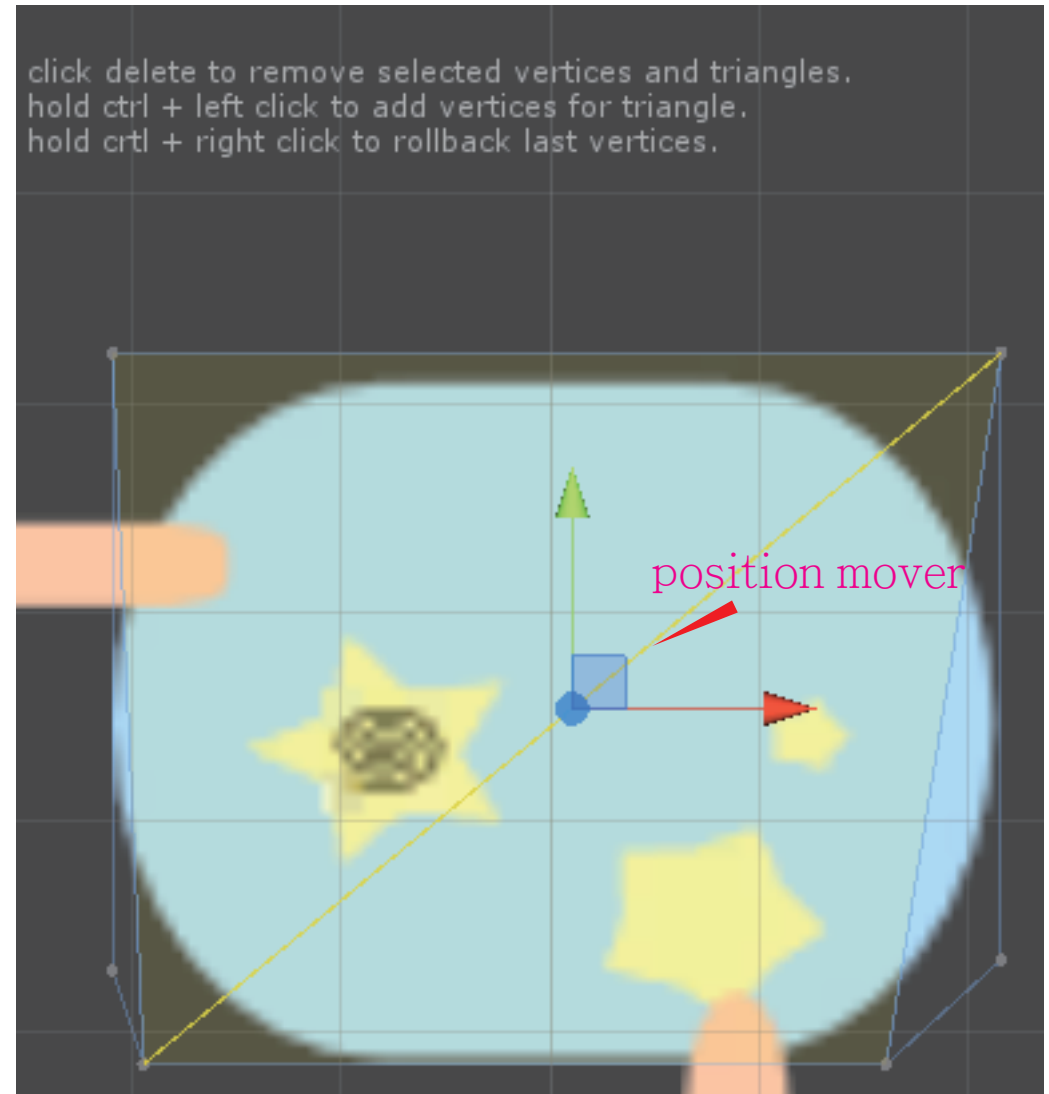
# Mesh - Edit

selected line could be moved by position mover.  
press delete button to remove the selected line from mesh

mouse hover line



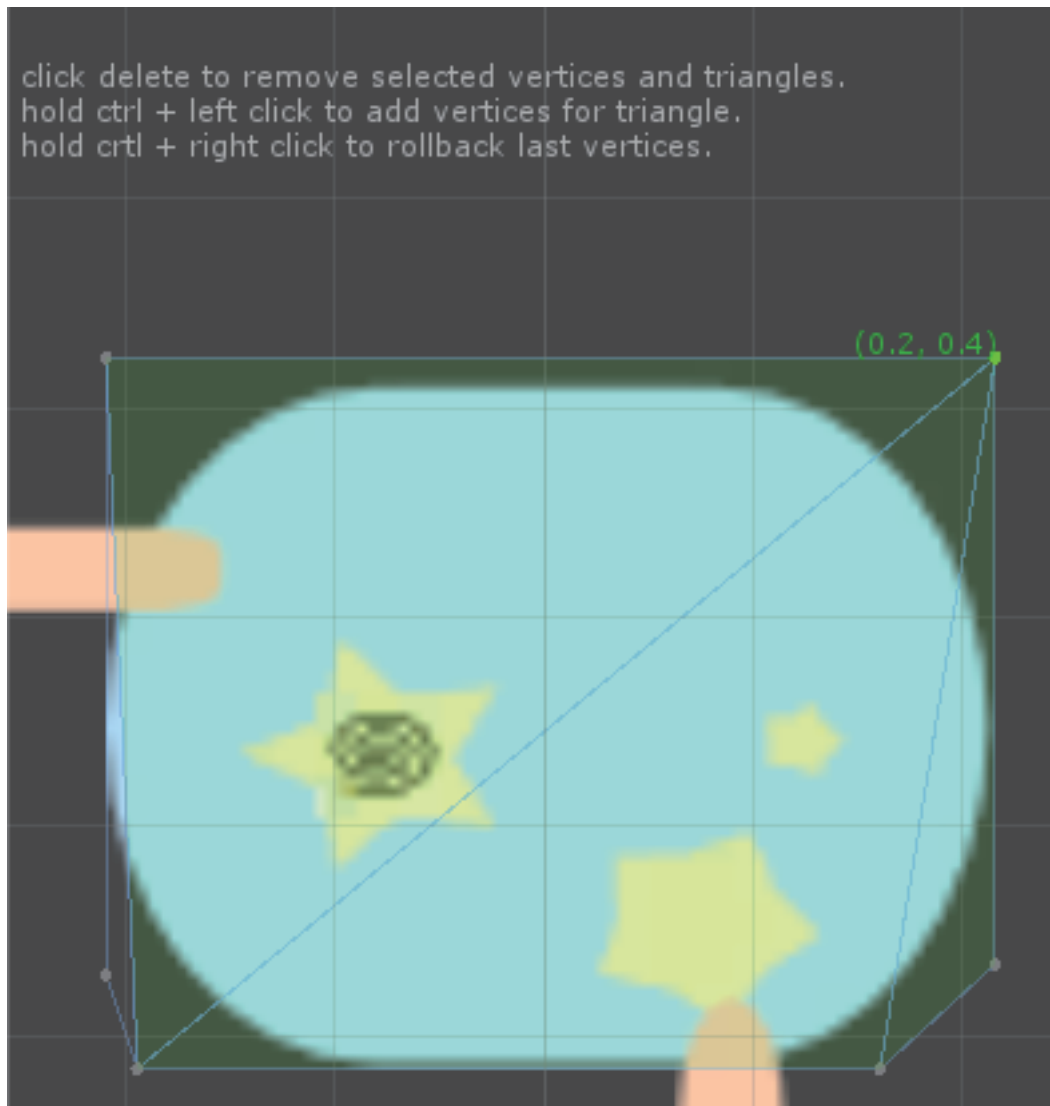
line be selected



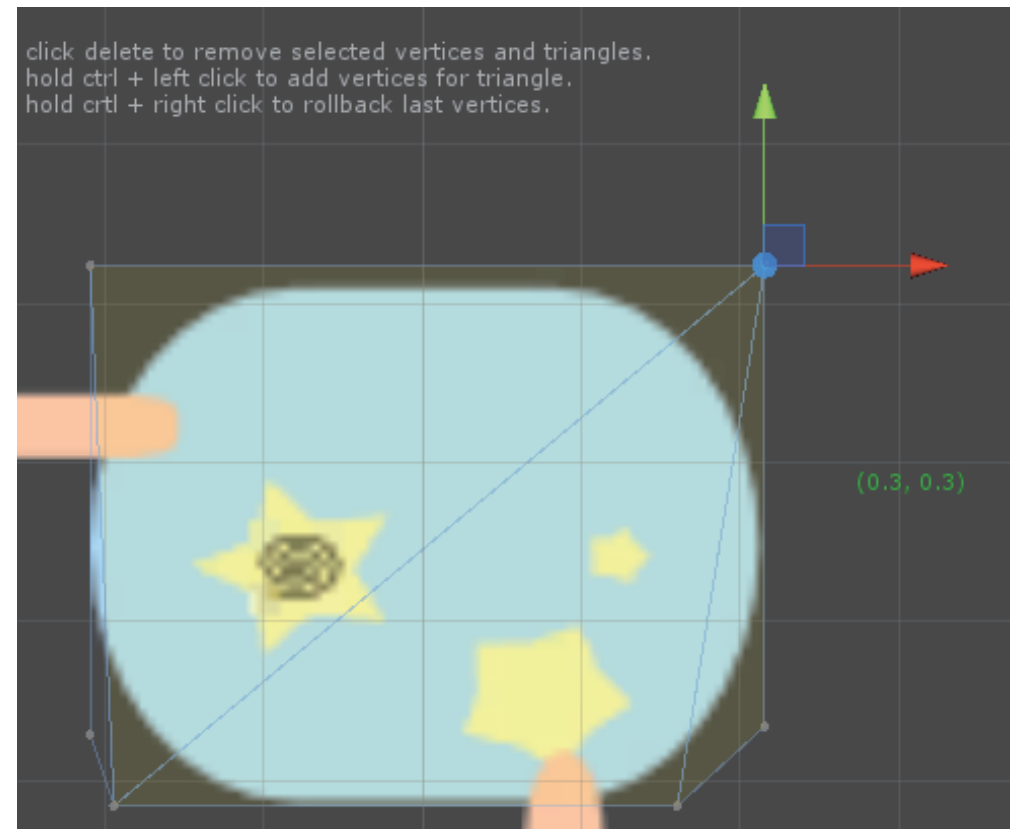
# Mesh - Edit

selected vertex could be moved by position mover.  
press delete button to remove the selected vertex from mesh

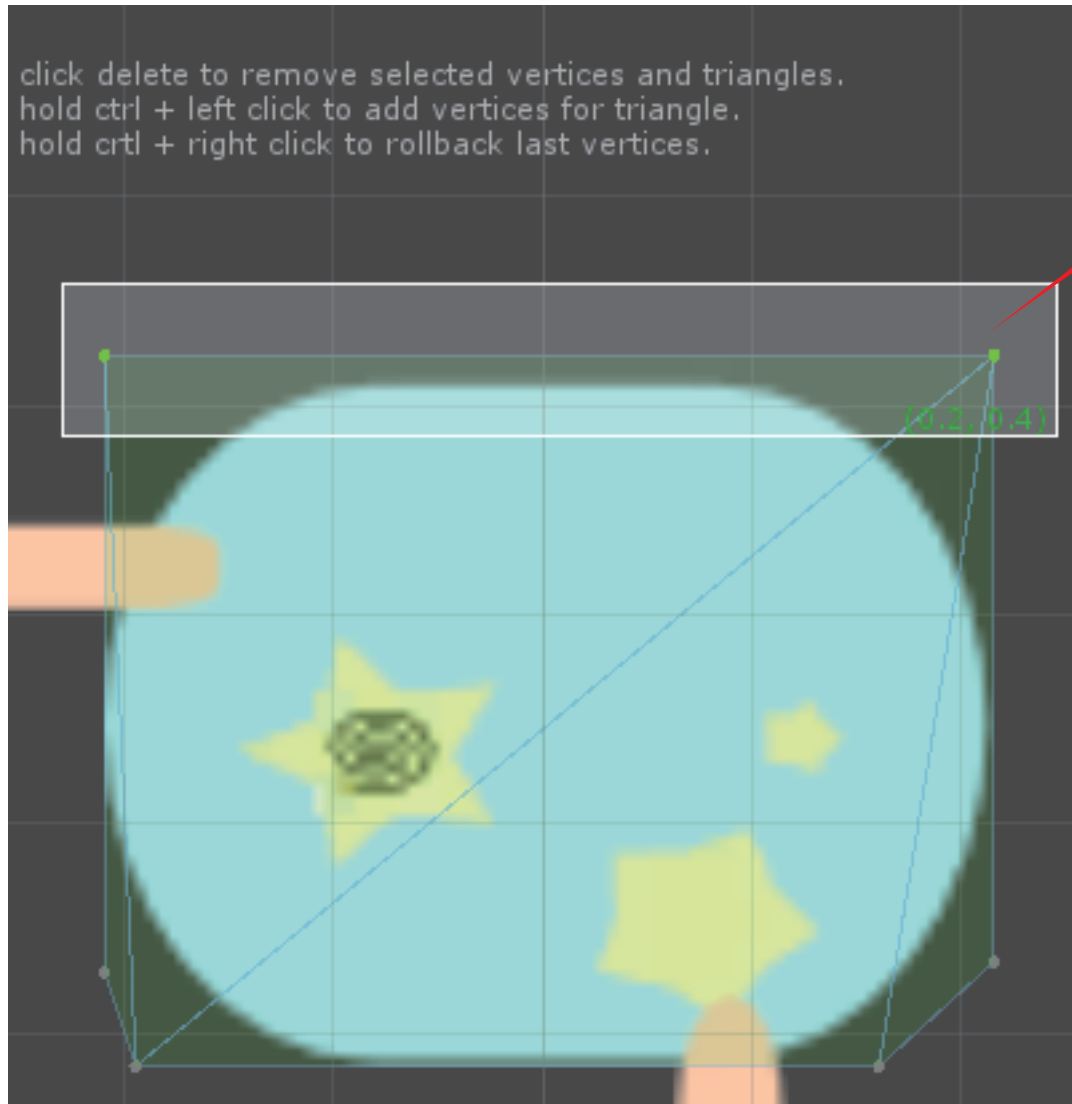
mouse hover vertex



vertex be selected



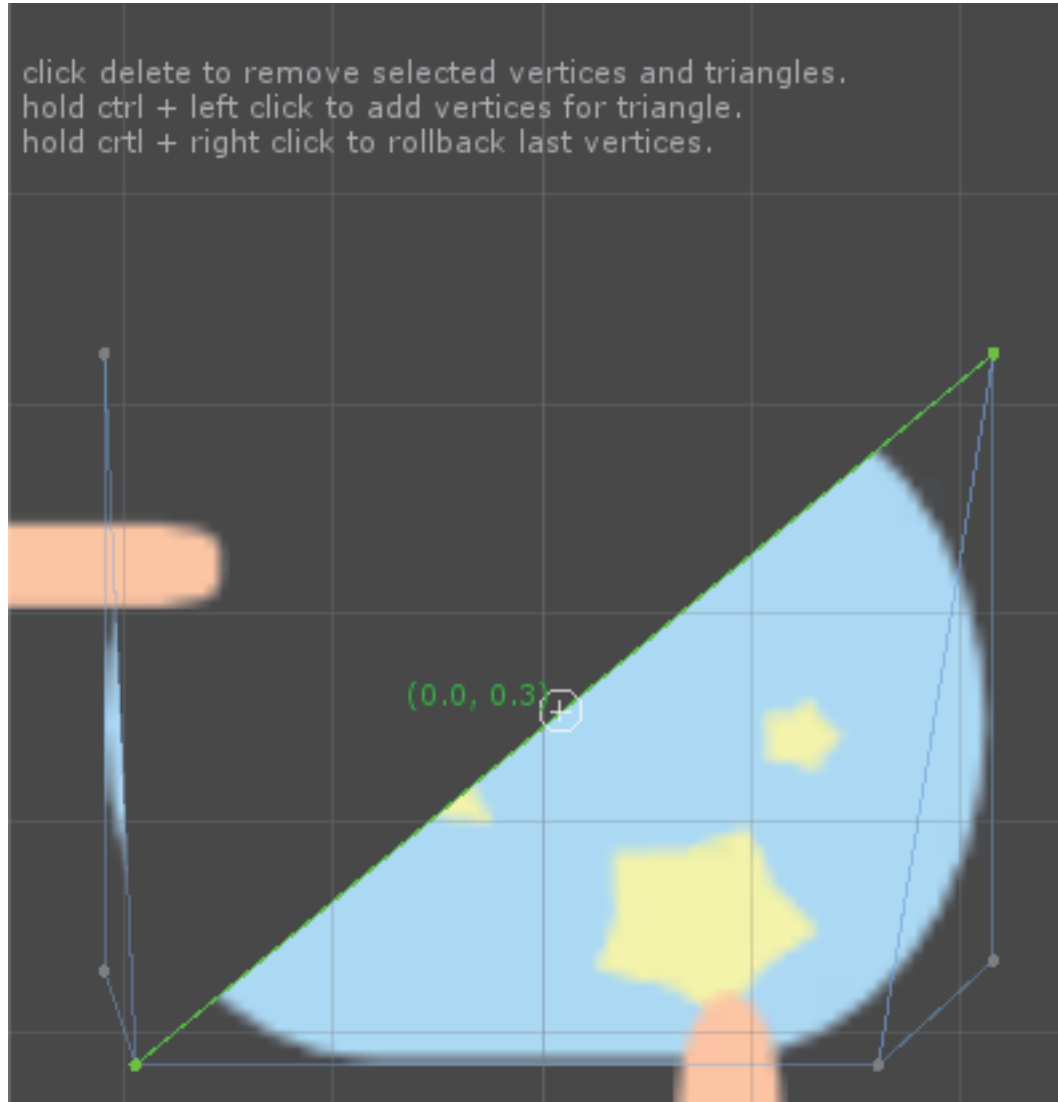
# Mesh - Edit



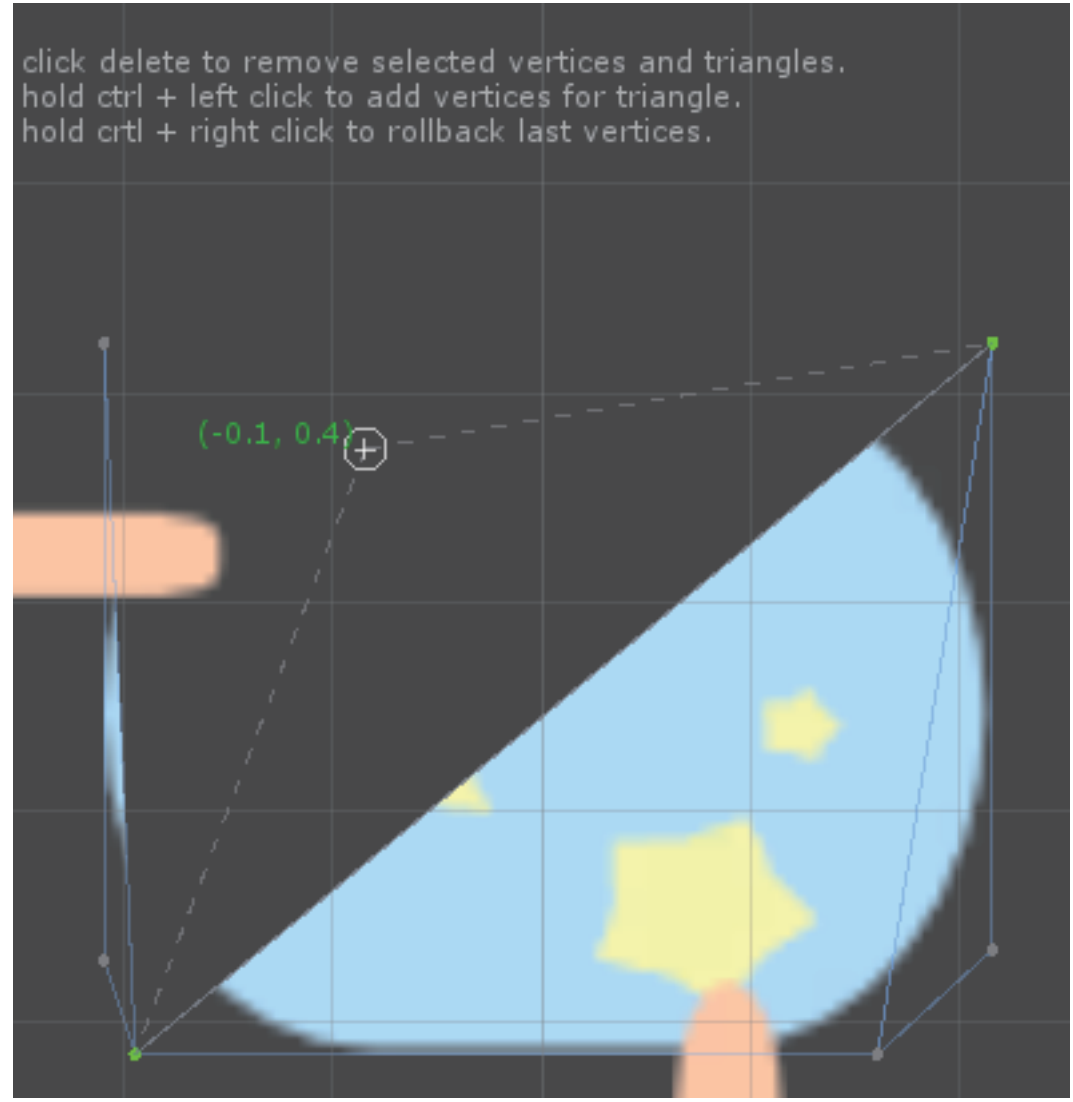
drag a rect to select multi vertices

# Mesh - Edit - Add Triangle (Hold Ctrl)

click to select line

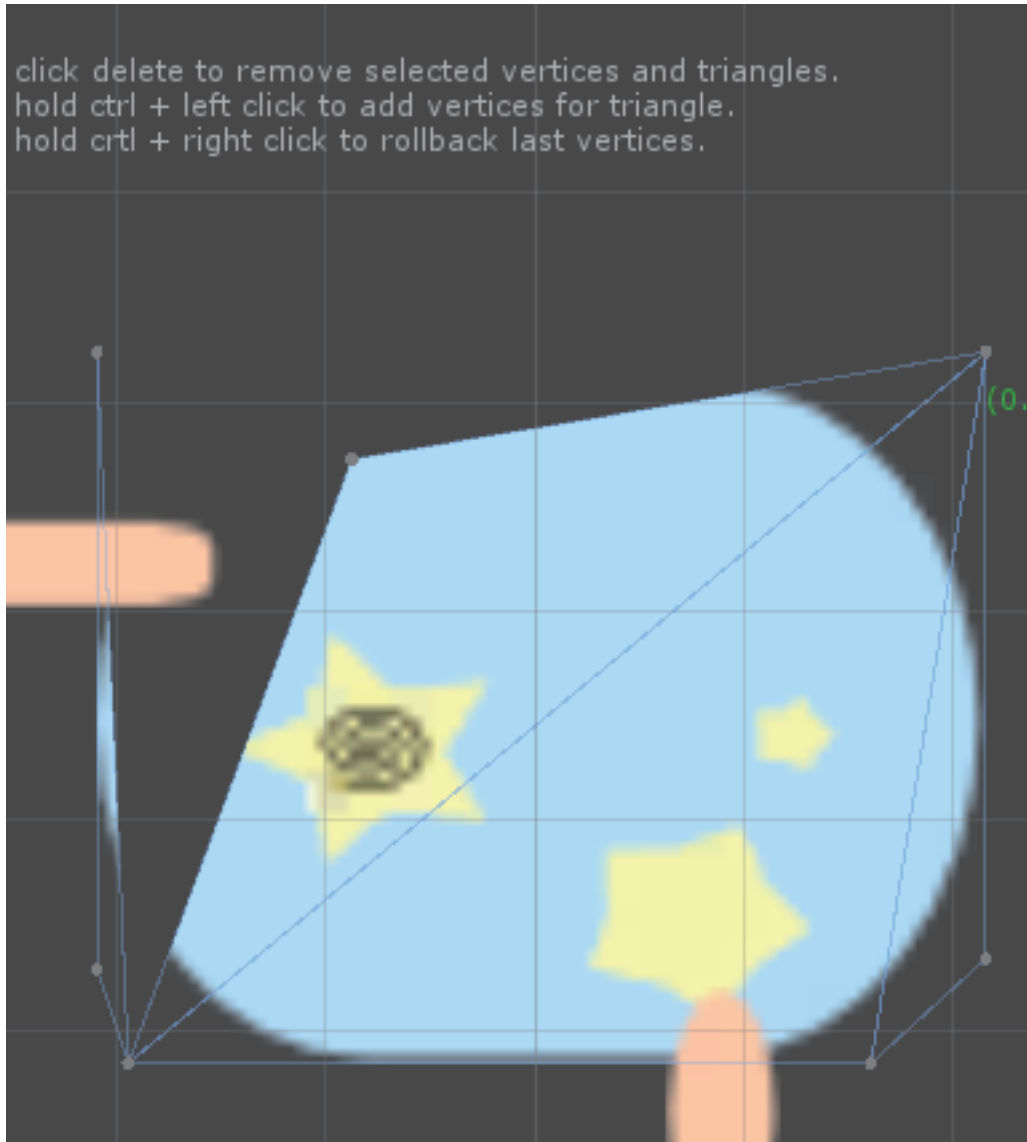


drag out to third point



# Mesh - Edit - Add Triangle (Hold Ctrl)

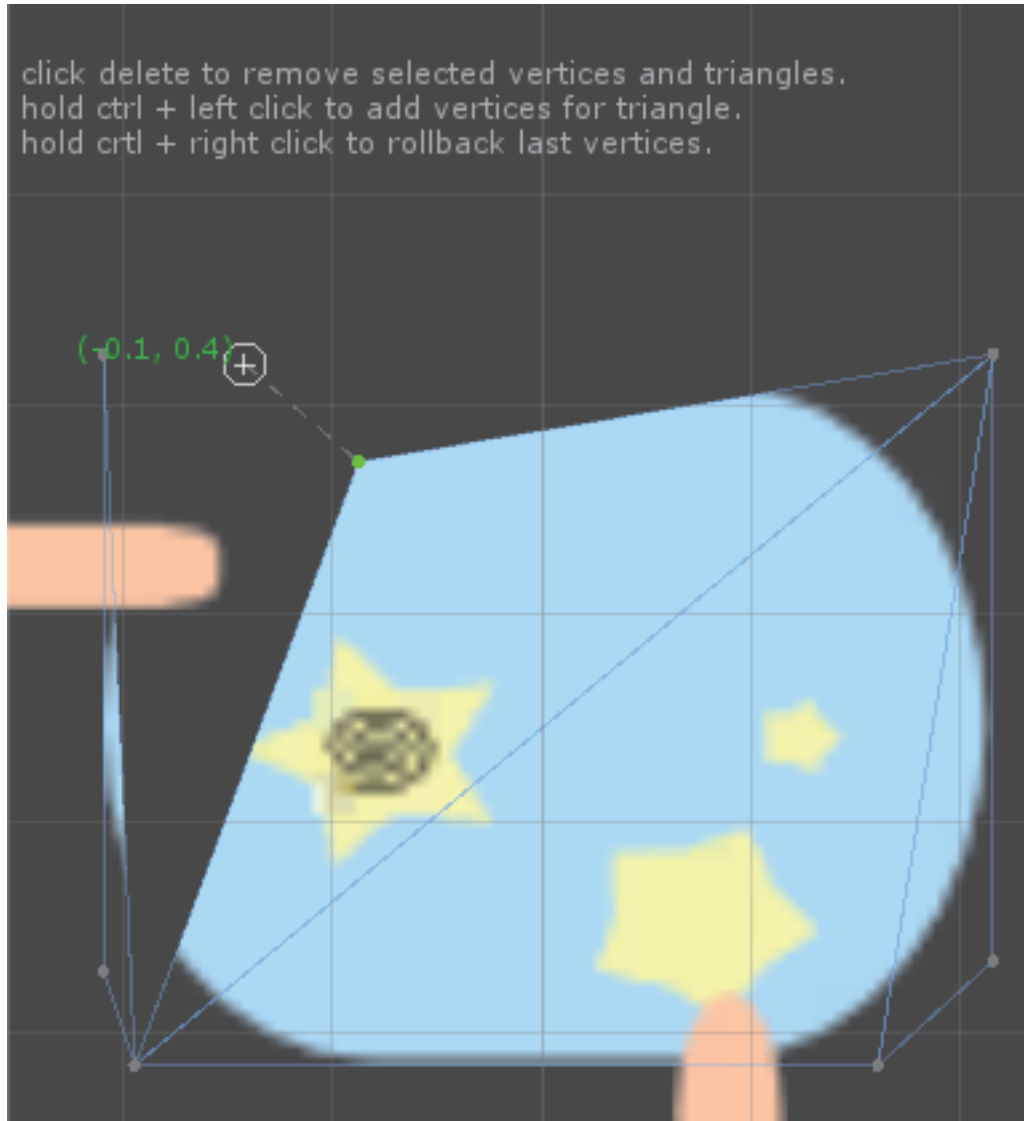
click to create a triangle



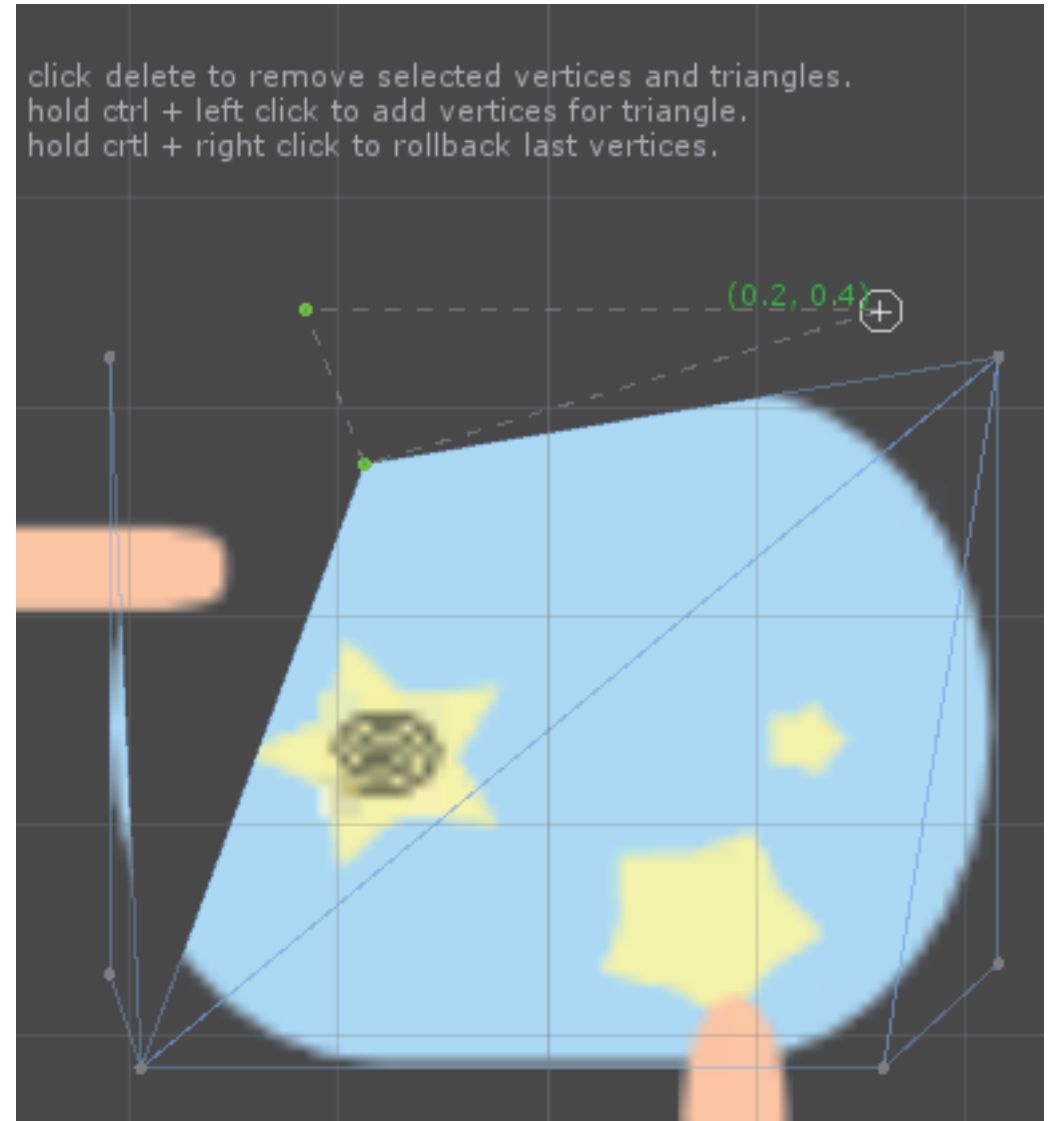


# Mesh - Edit - Add Triangle (Hold Ctrl)

click first point then moving to second point

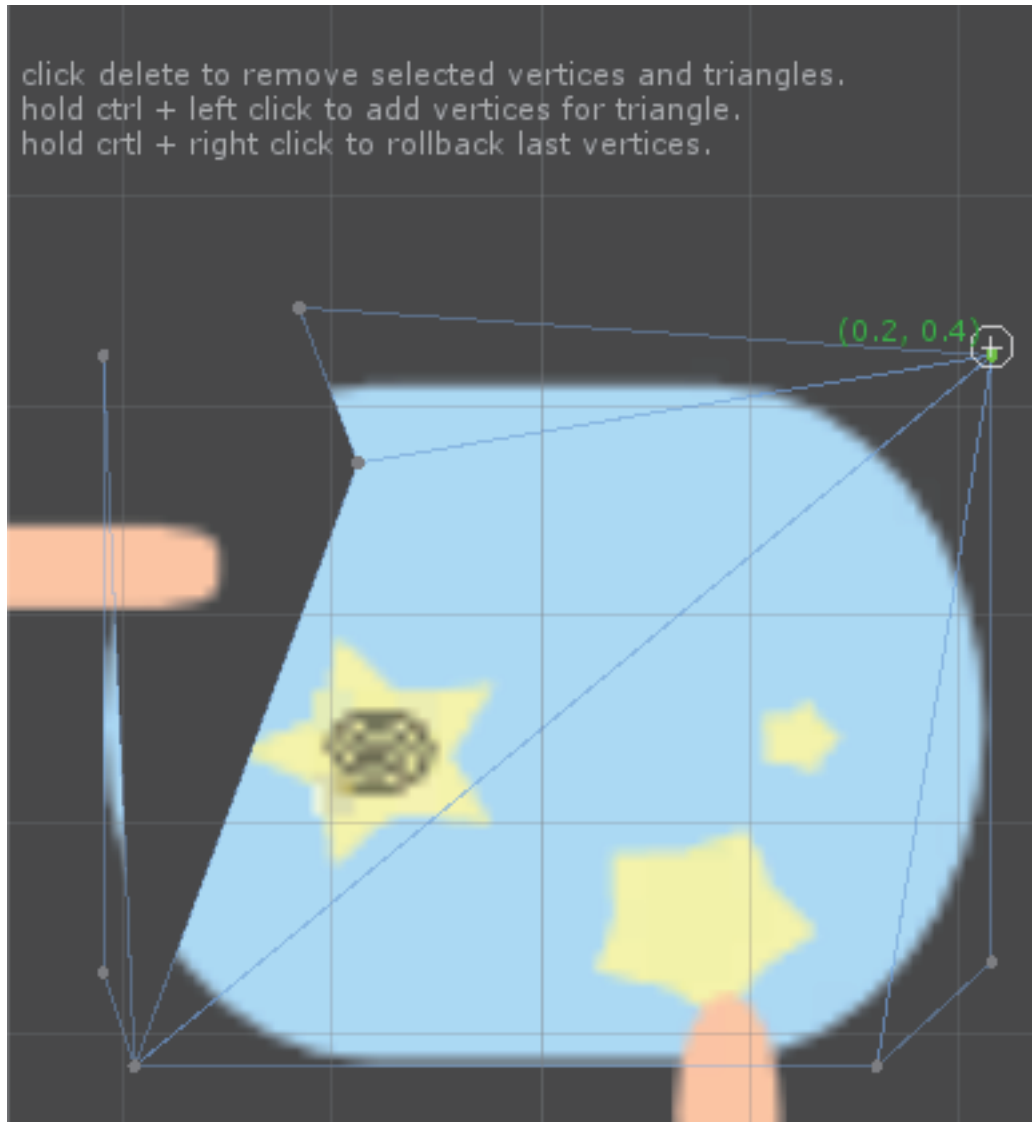


click second point then moving to third point



# Mesh - Edit - Add Triangle (Hold Ctrl)

click at third point to create a triangle



# Mesh - Merge

## Merge - active button

there is at least one SkinBoneWeights in the selections.

## Merge(H) - active button

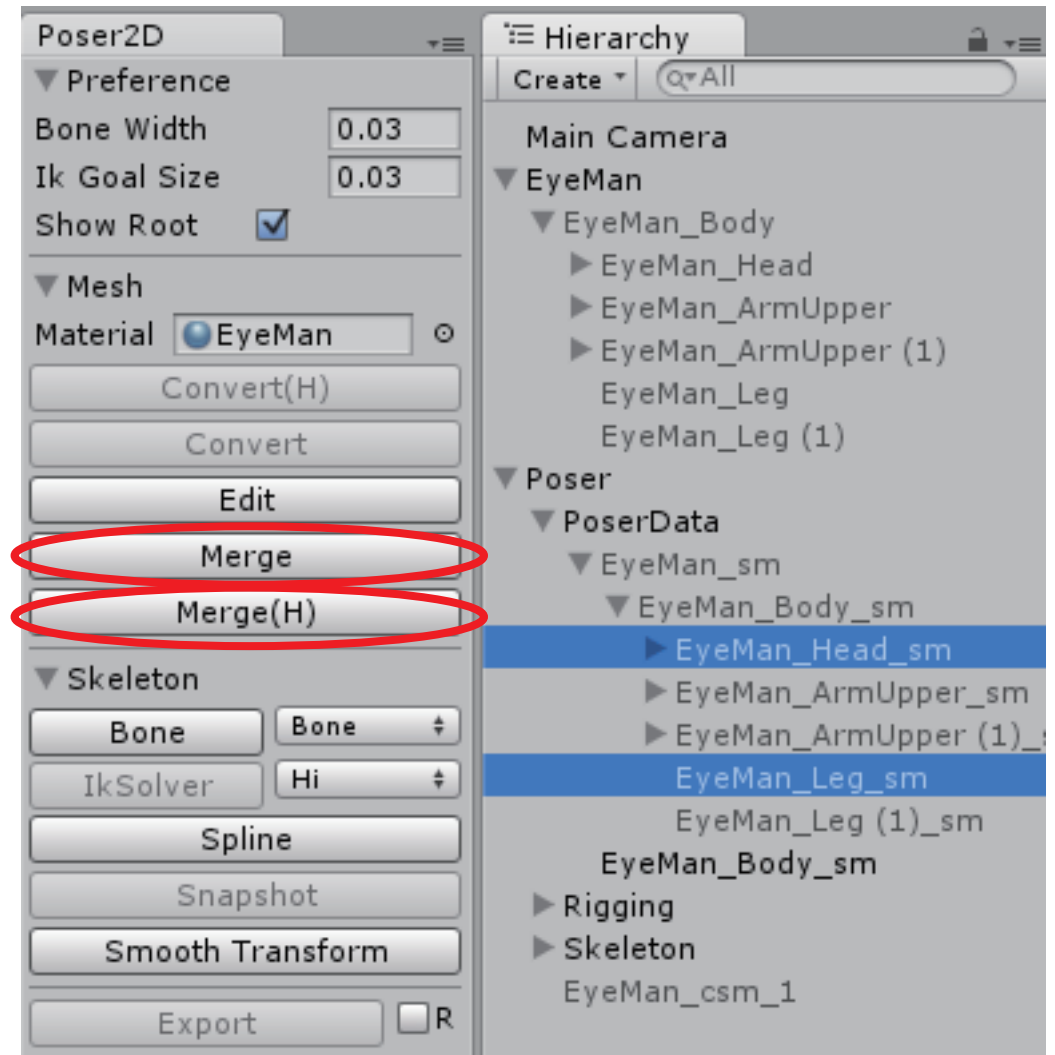
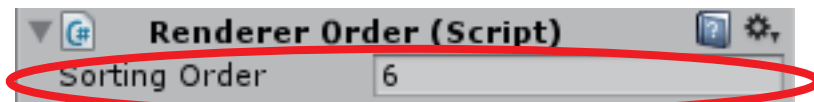
there is at least one SkinBoneWeights in the last selection or children

## click button

if there is not any Bone, warning will be displayed.

Choice the file path to save merged mesh

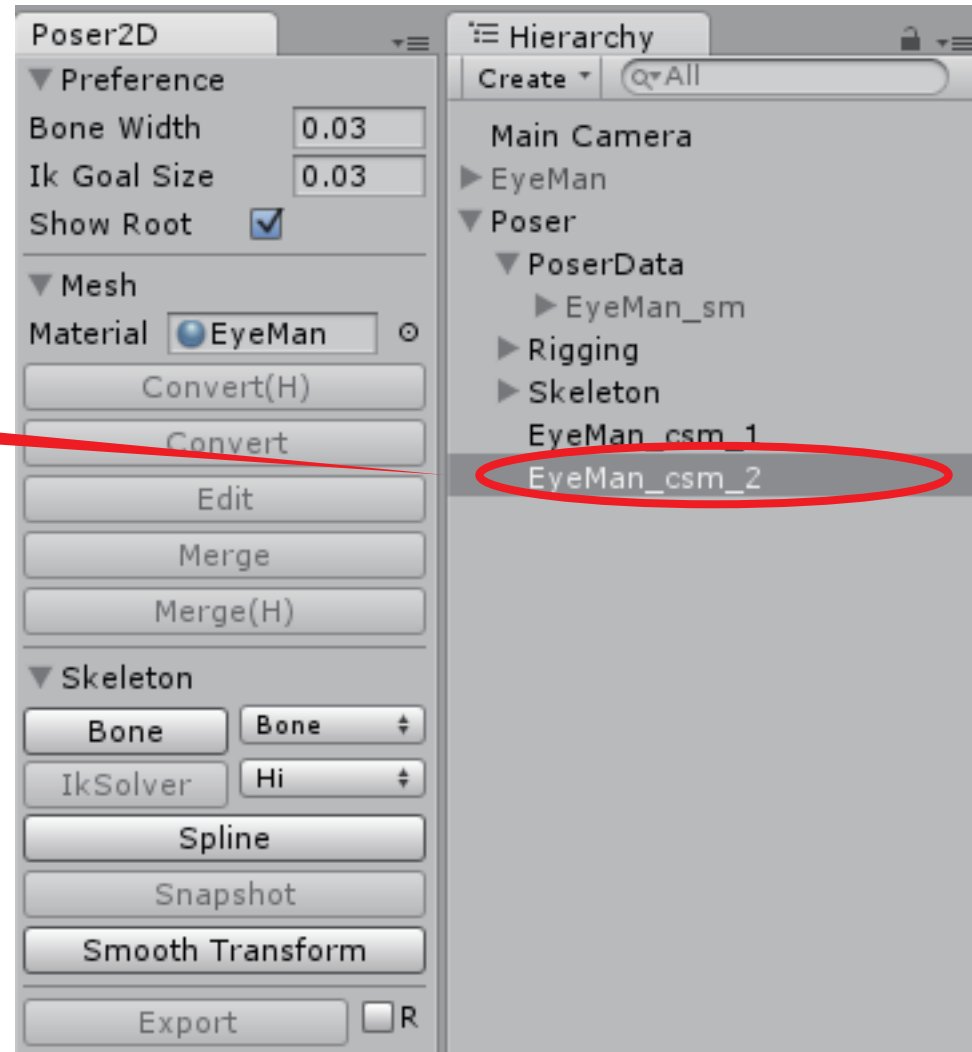
merge order depend by sortingOrder



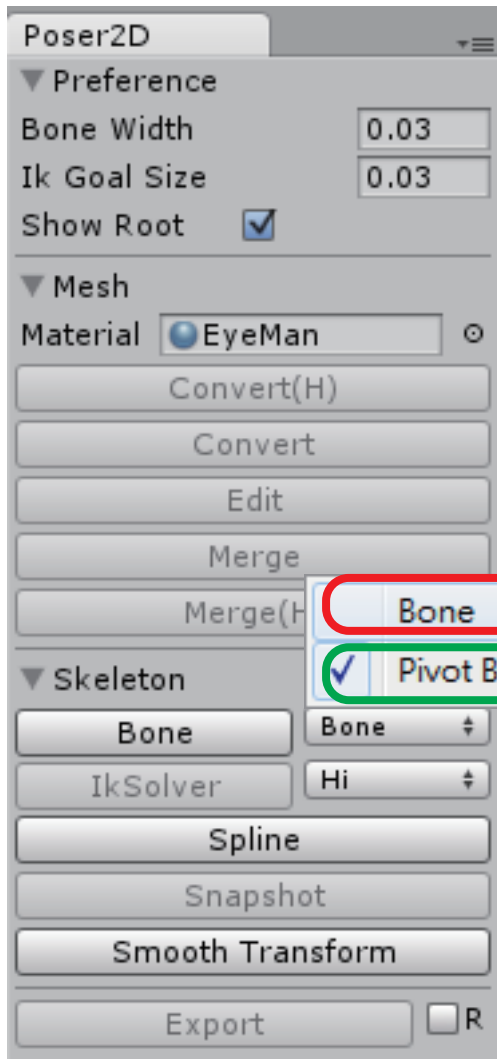
# Mesh - Merge

click Merge/Merge(H) button

select a saving path for merged mesh  
then merged mesh will be selected



# Skeleton - Bone

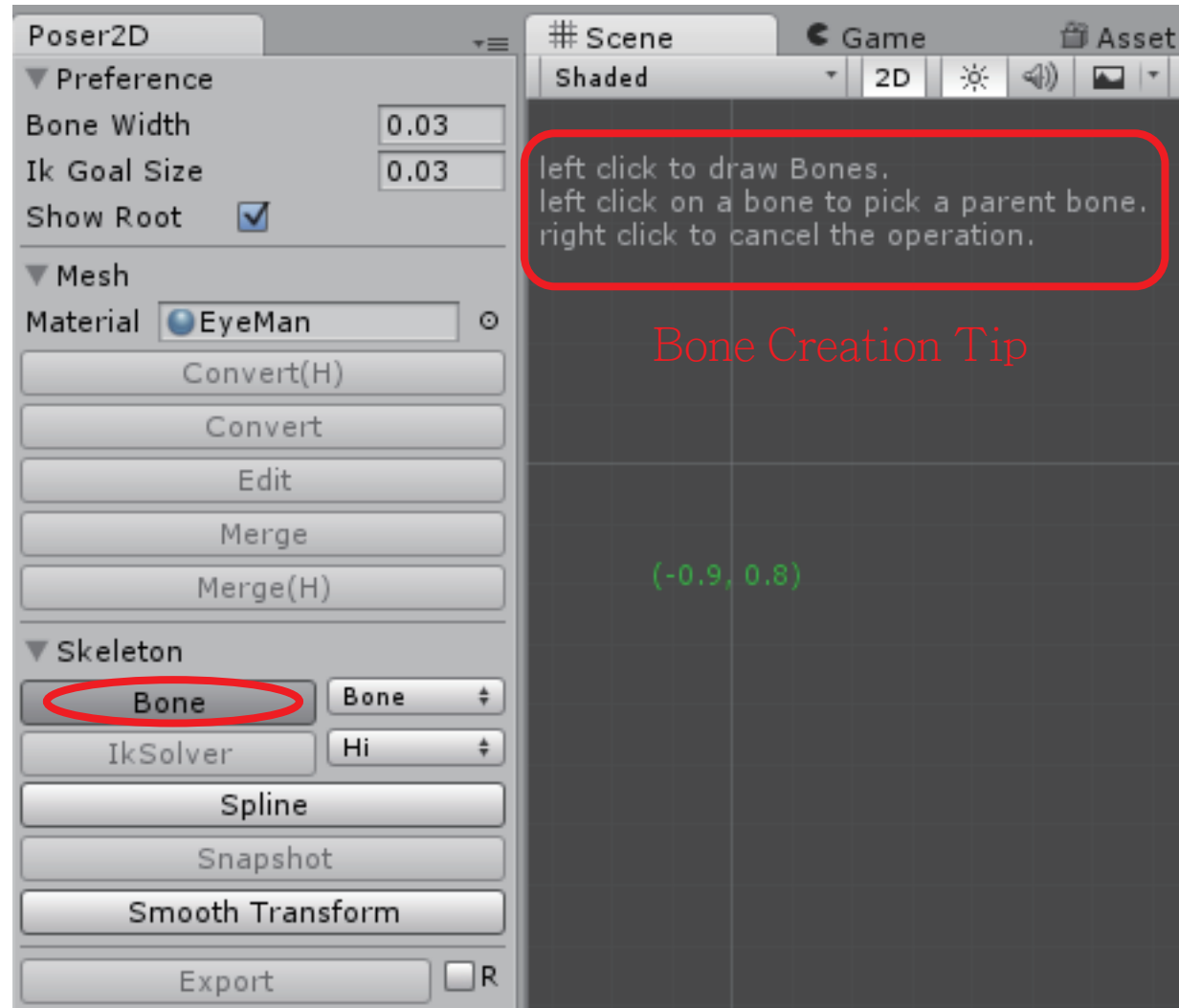


**Bone** - A child of **Bone** will influence rotation of parent **Bone**. Every time changed parent will recalculate relation to parent of **Bone**

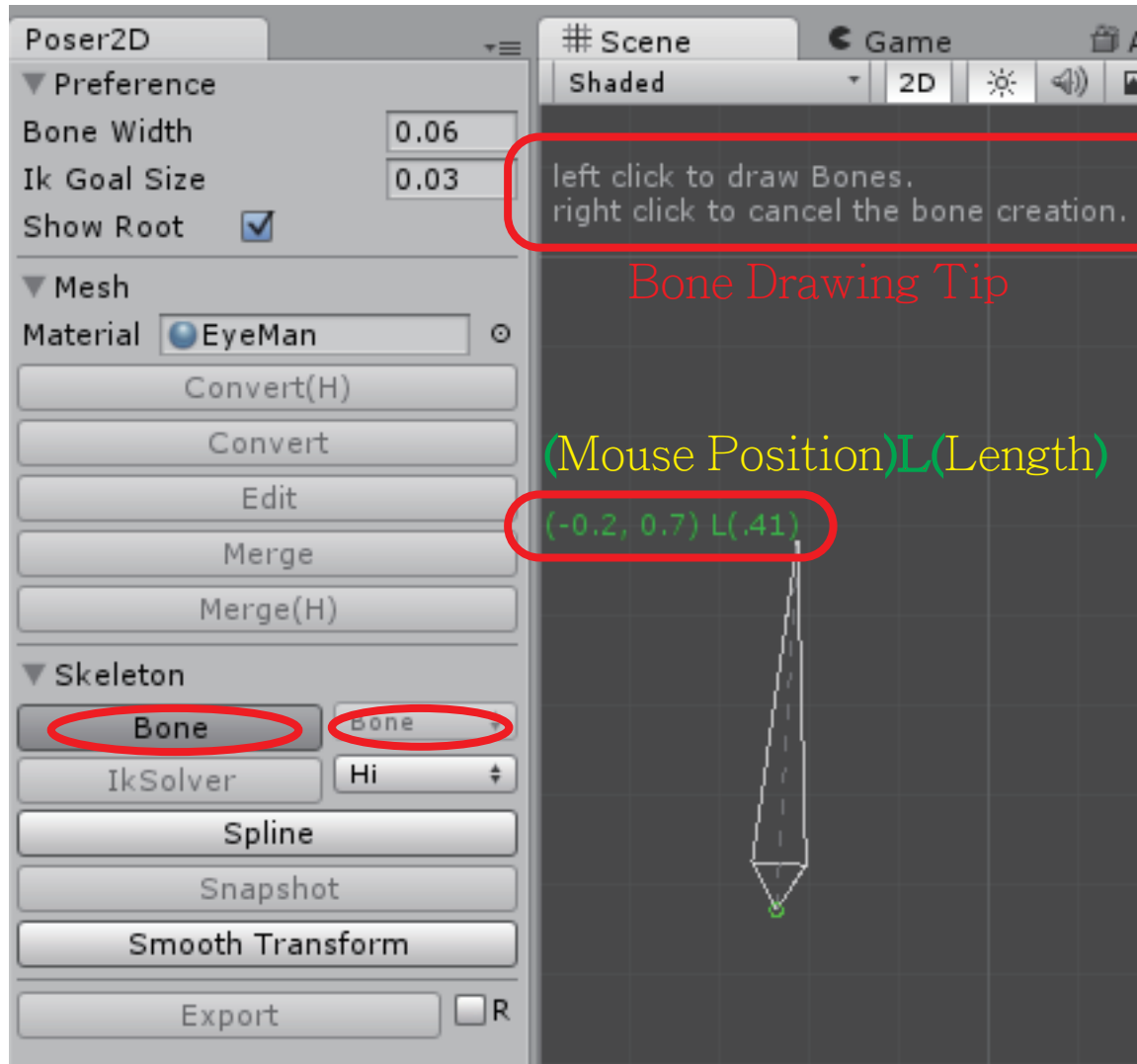
**Pivot Bone** - A child of **Pivot Bone** will not influence rotation of parent of **Bone**

# Skeleton - Bone - Bone

click button  
bone creation mode

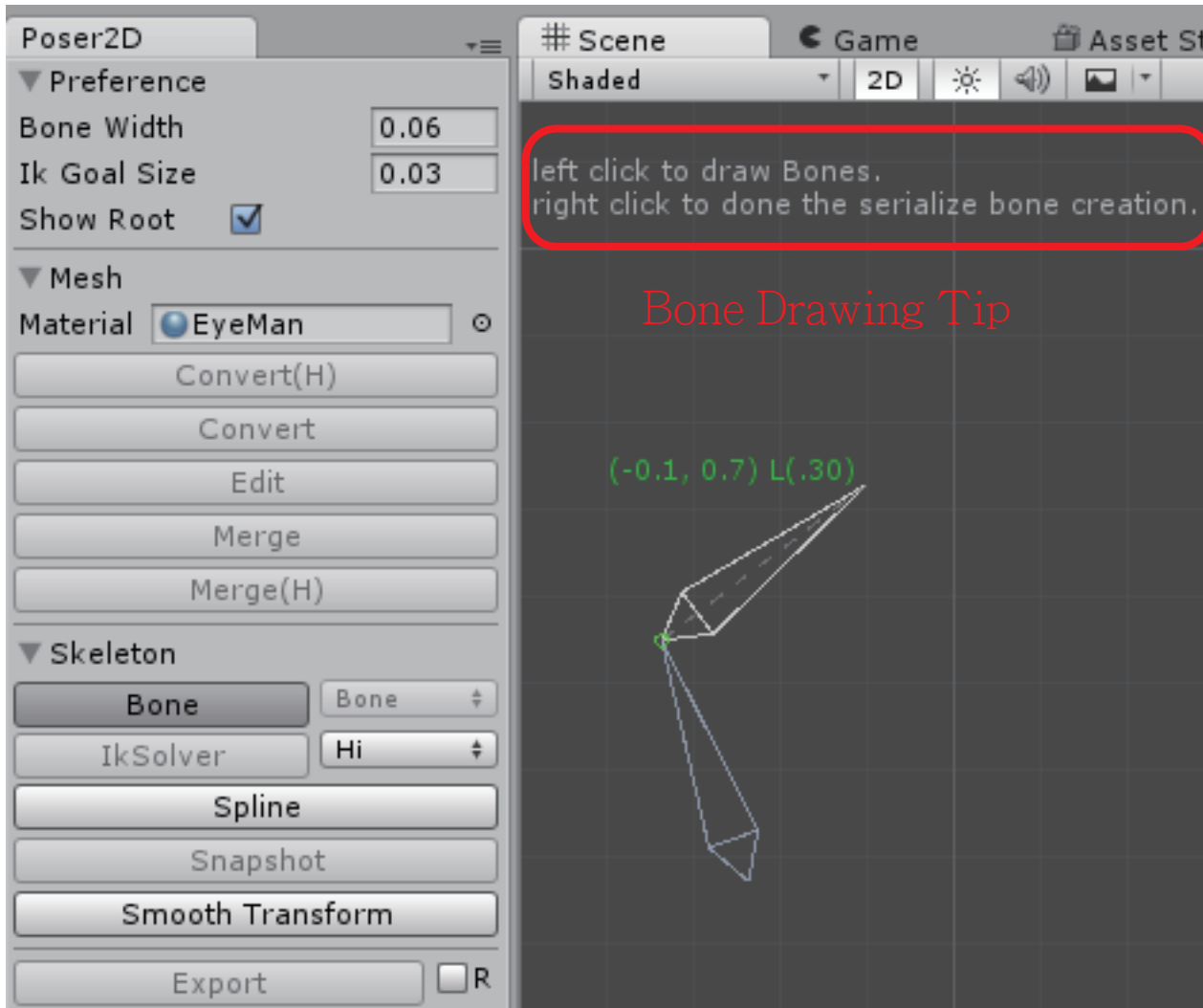


# Skeleton - Bone - Bone - 1



left click then moving out to  
draw a bone

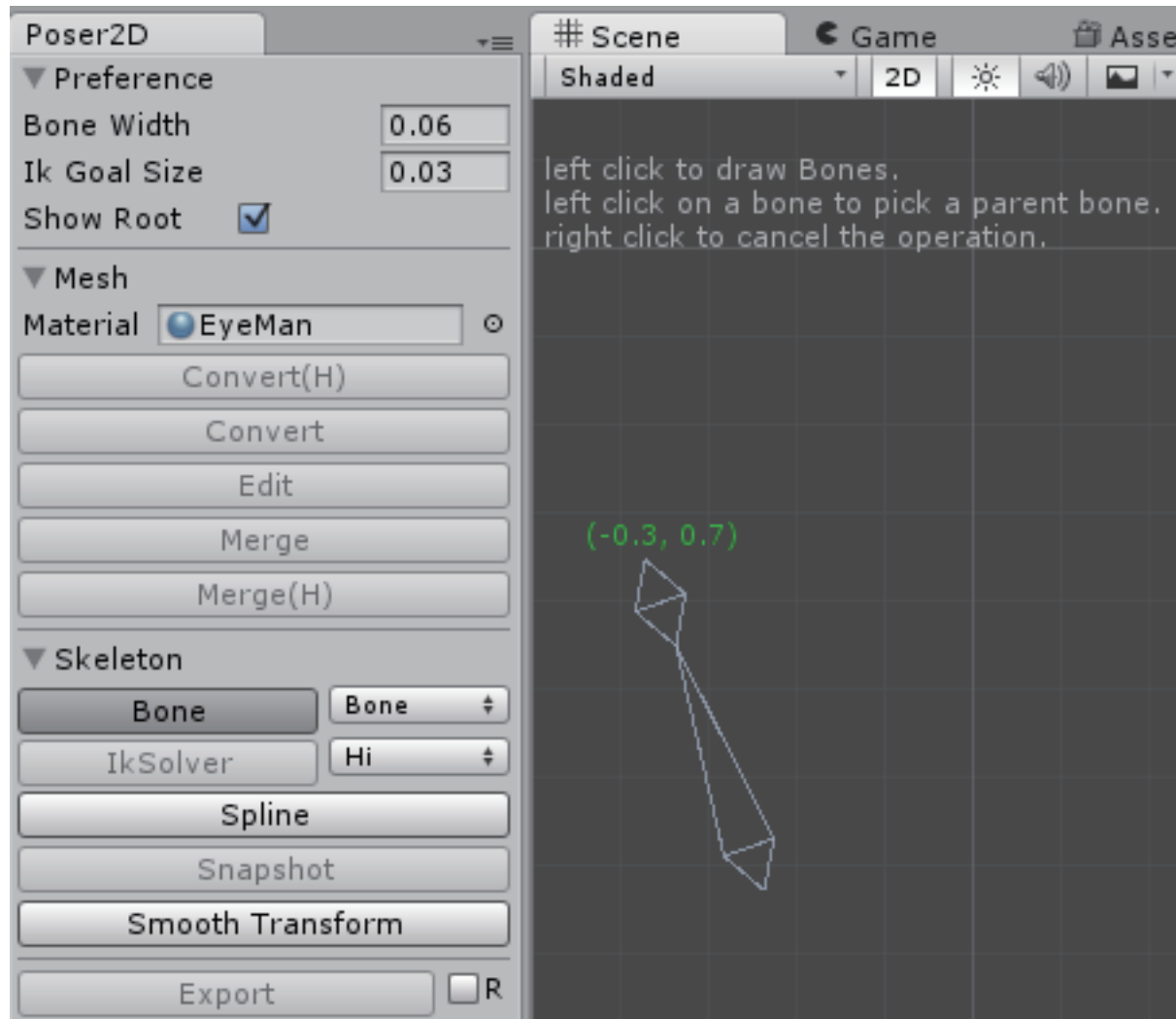
# Skeleton - Bone - Bone - 2



left click to created a bone then  
moving out to draw next child bone

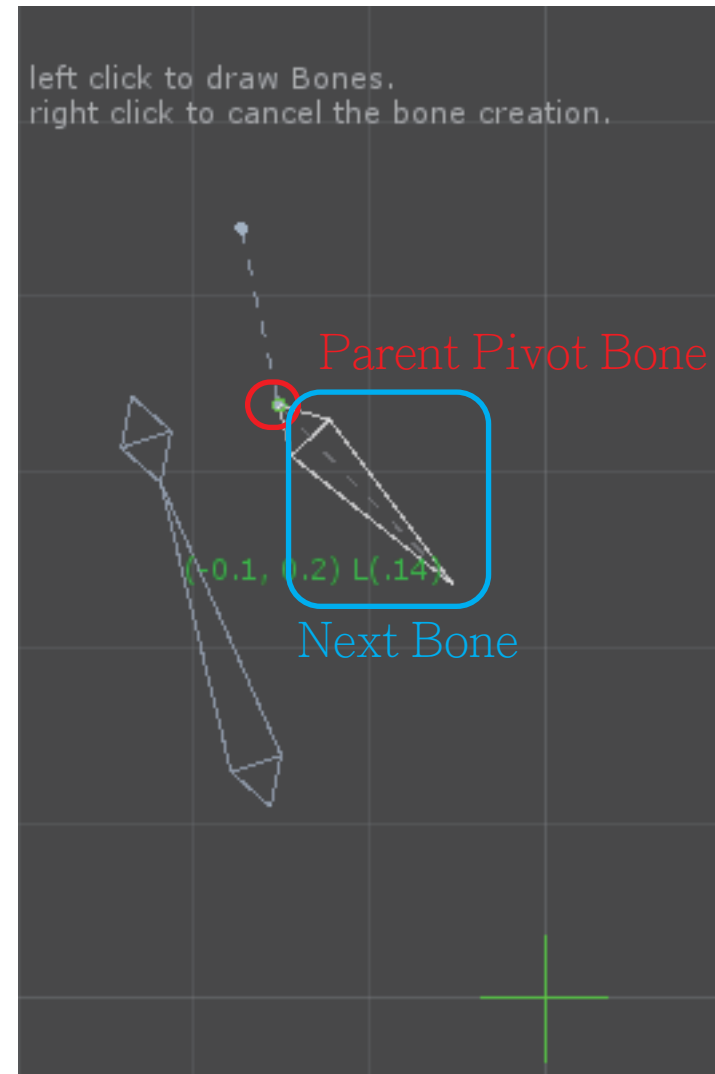
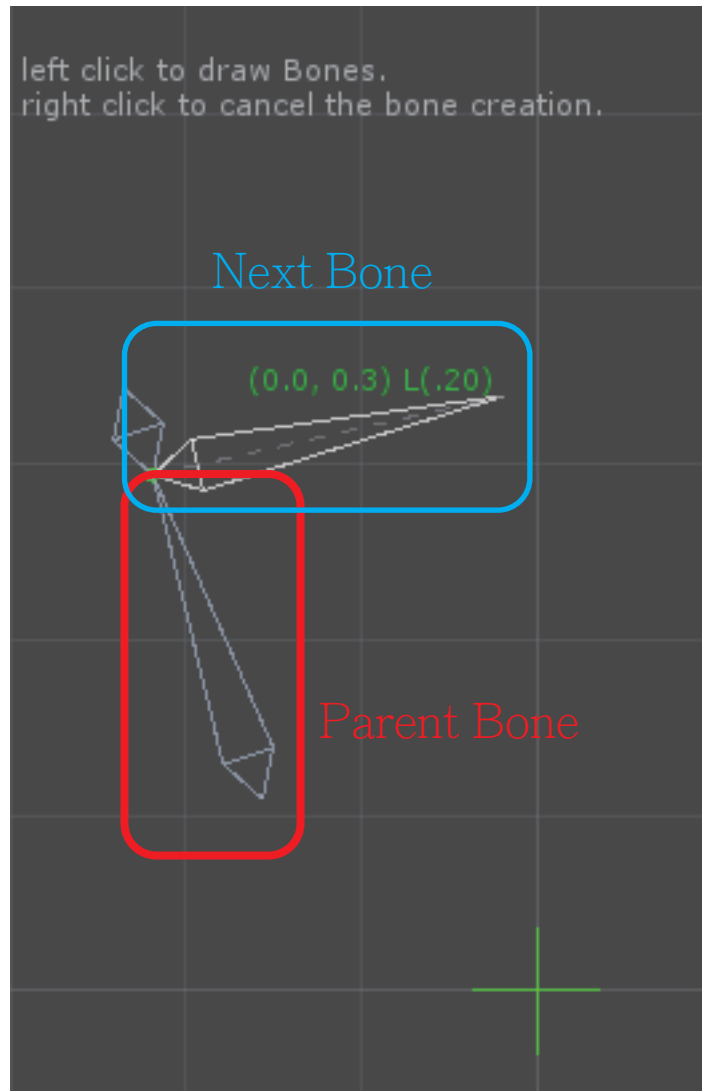


# Skeleton - Bone - Bone - 3

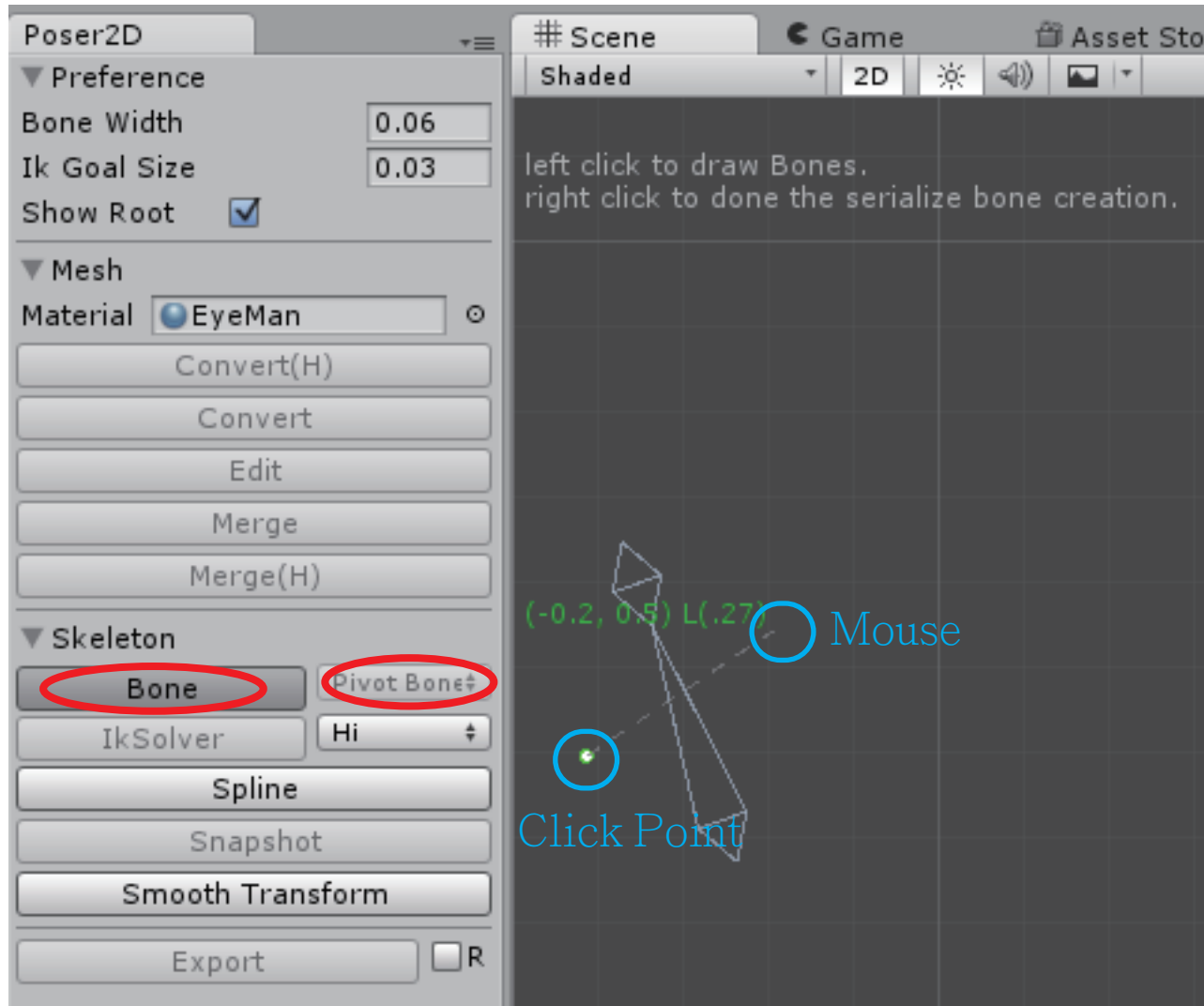


right click to created a bone then  
finish the bone creation

# Skeleton - Bone - Bone - PickParent

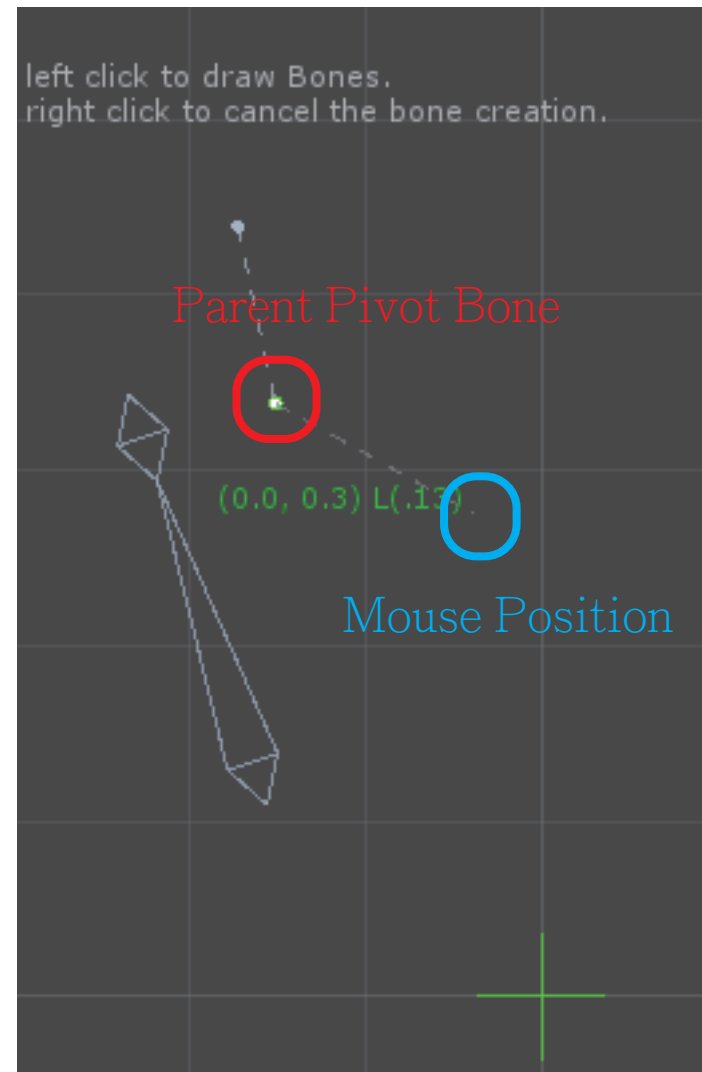
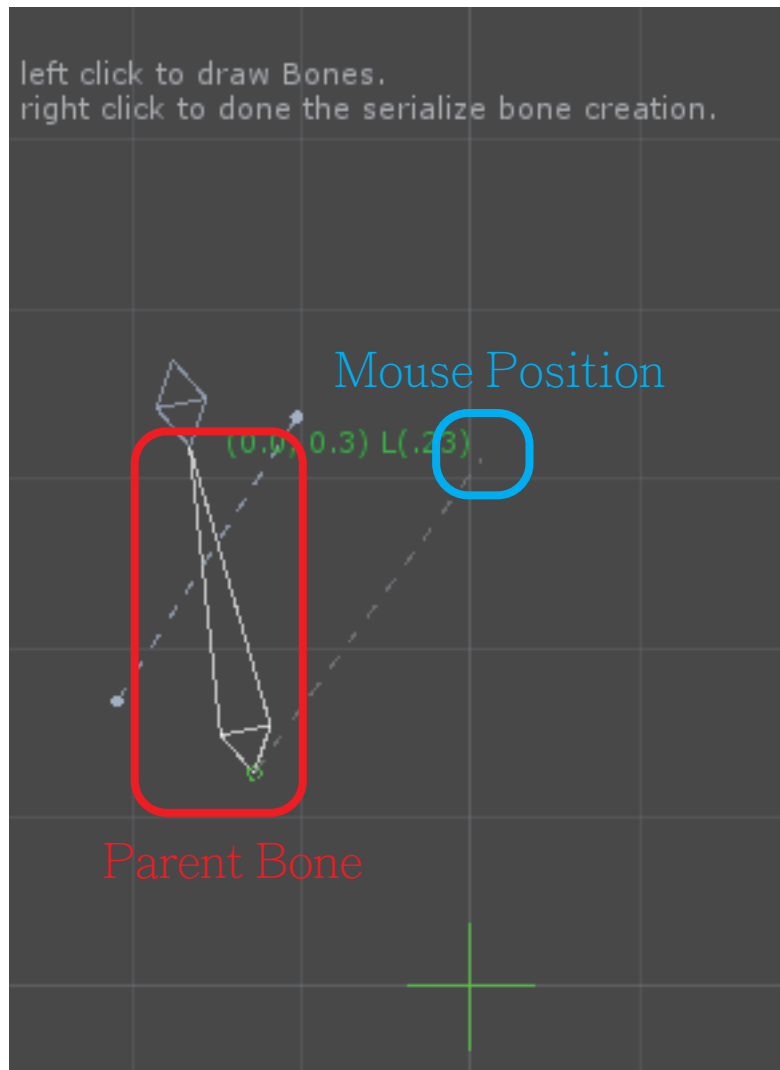


# Skeleton - Bone - PivotBone



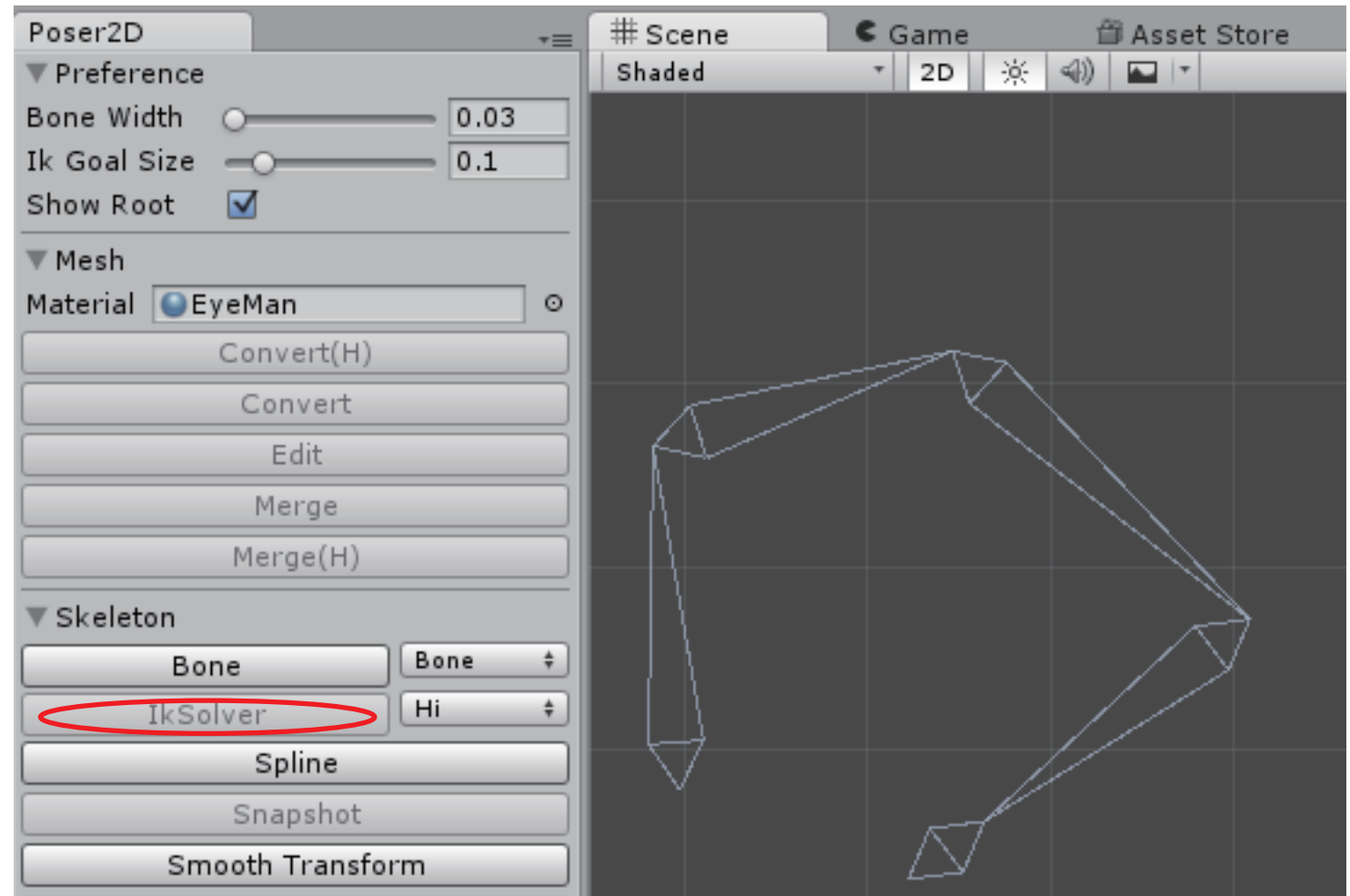
left click to create a pivot bone then moving out to create next one.

# Skeleton - Bone - PivotBone - PickParent

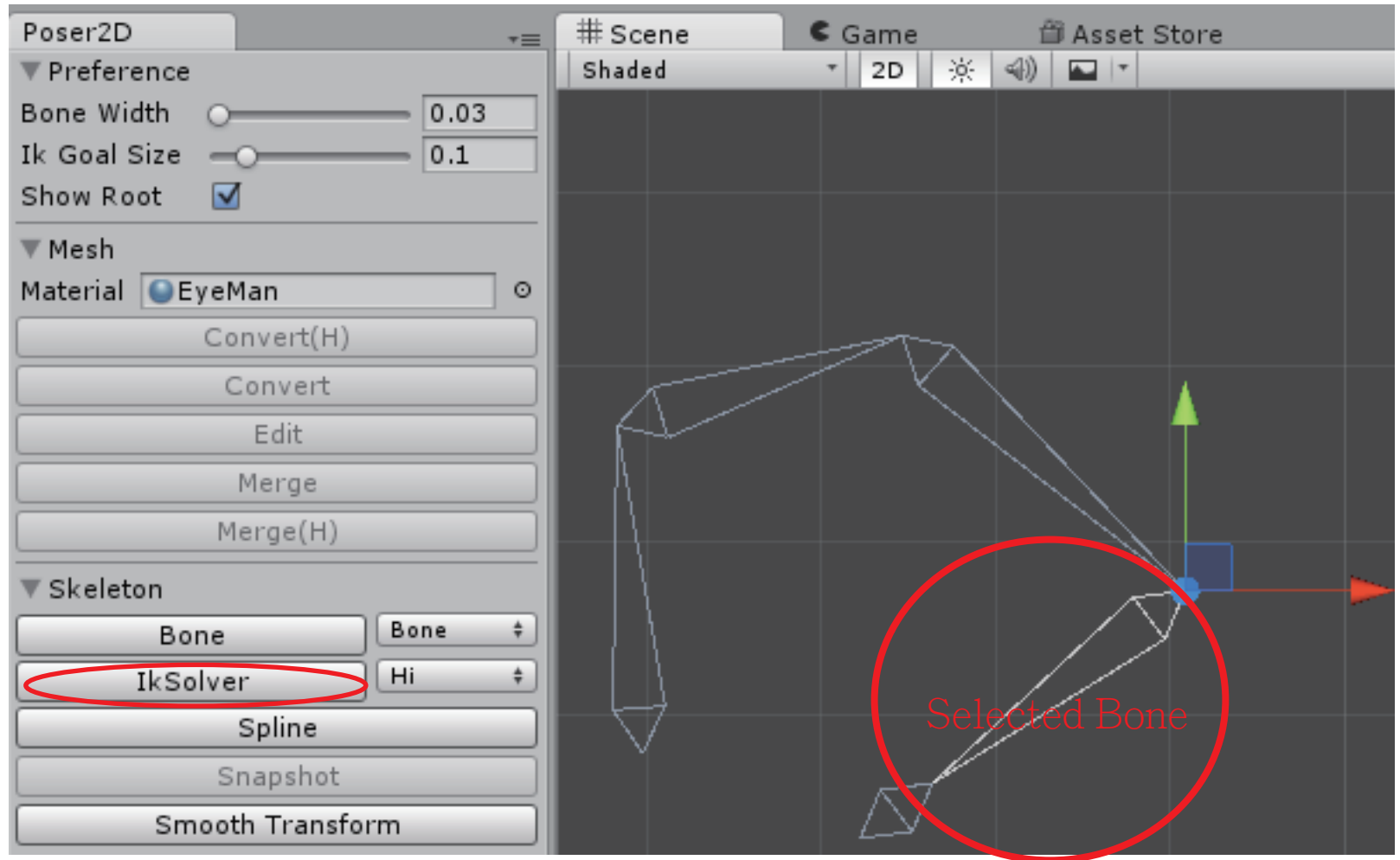


# Skeleton - IkSolver - Unactive

select a **Bone** to active  
IkSolver button



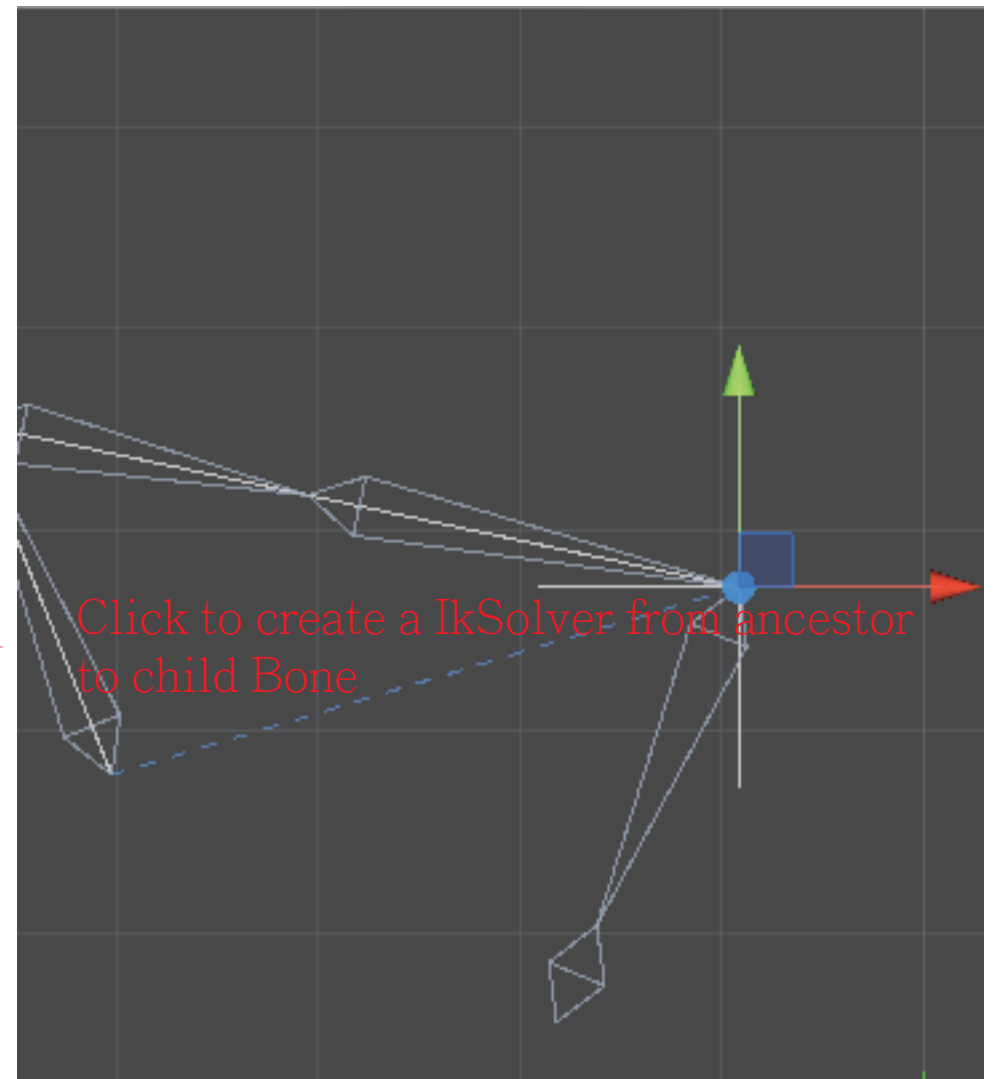
# Skeleton - IkSolver - Active



Click IkSolver button to create a IkSolver.

# Skeleton - IkSolver - Creation

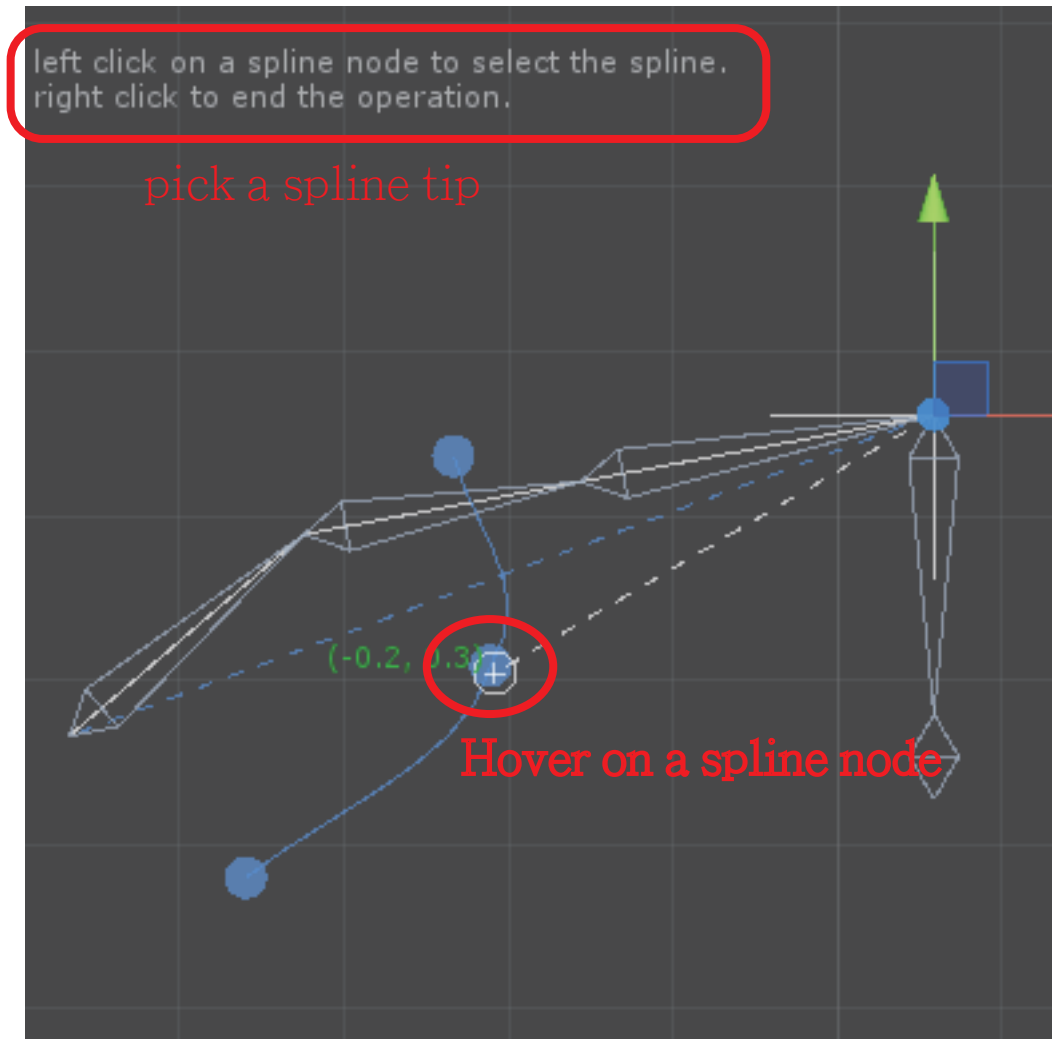
IkSolver Limb is only from ancestor to child bone with max 2 levels



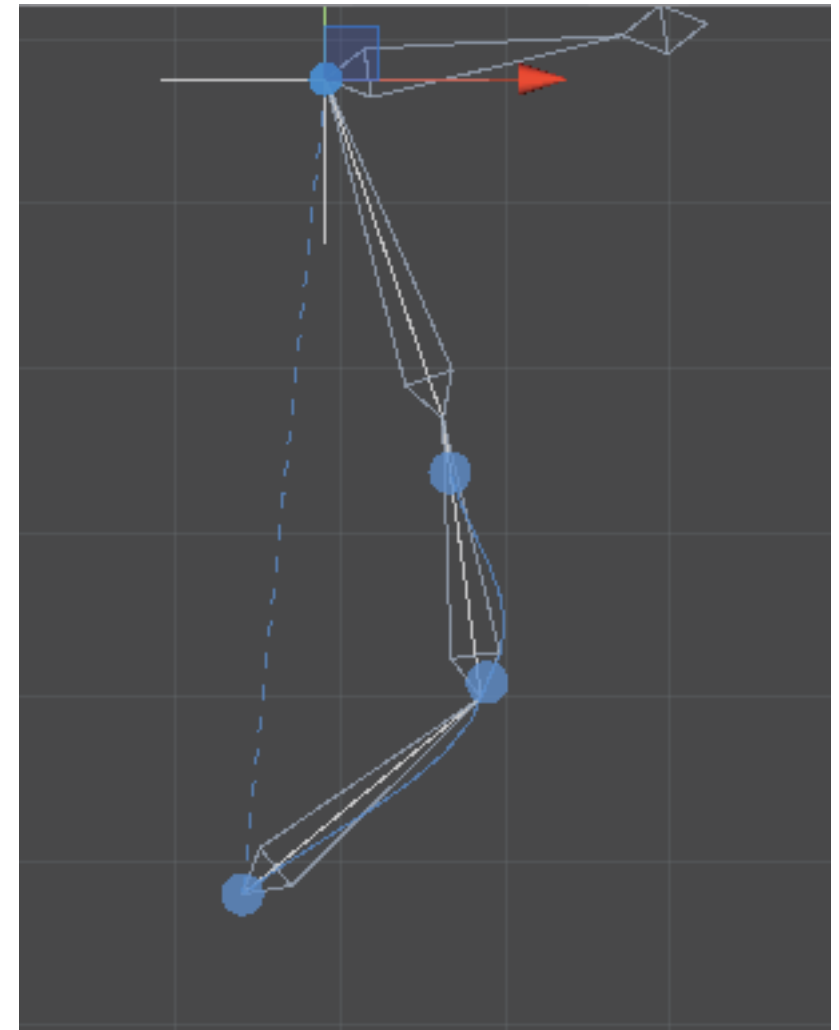
# Skeleton - IkSolver - Creation - Spline

after created IkSolverSpline, you could assign a spline to IkSolverSpline

before left click on the spline node

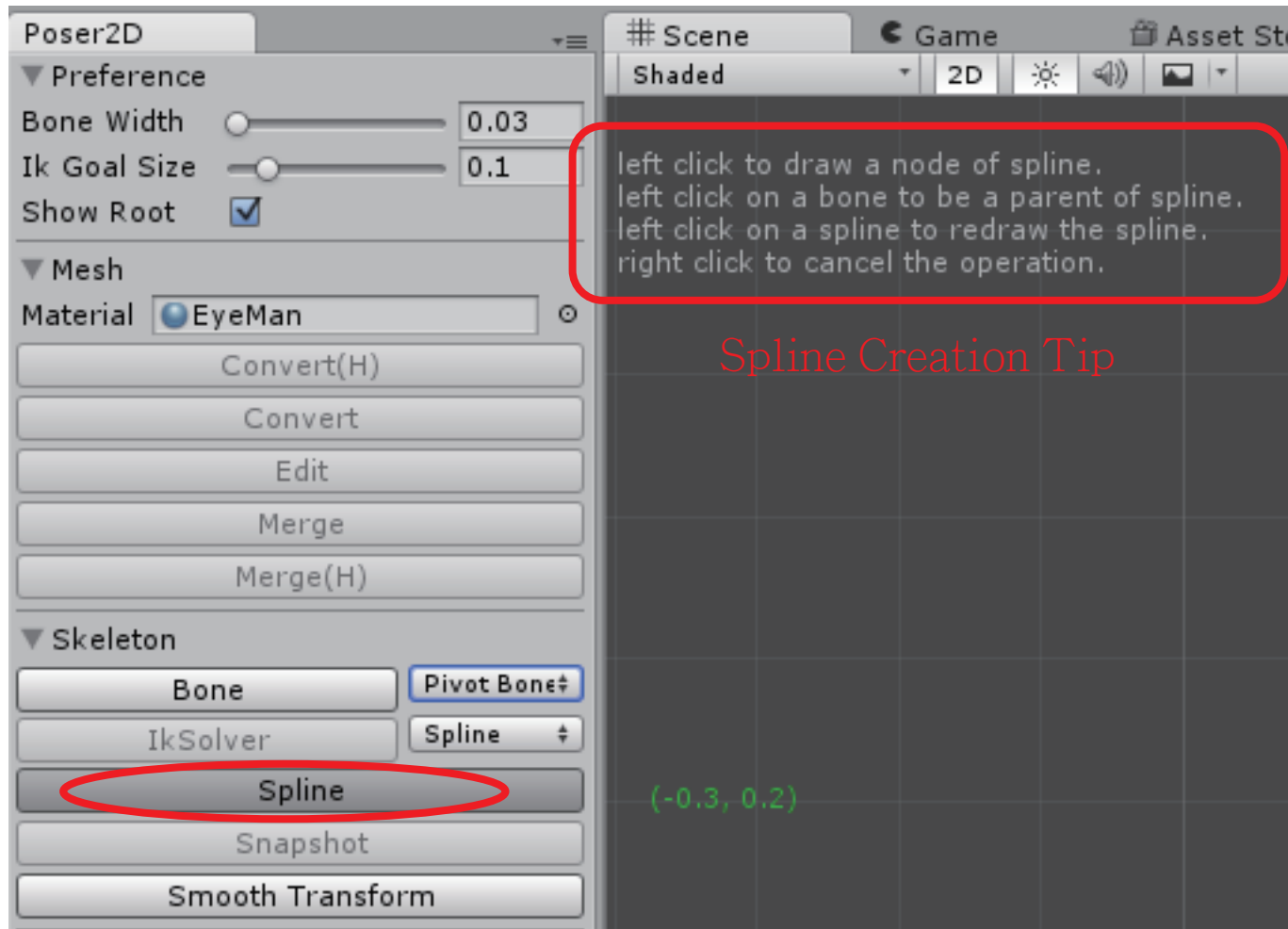


after left click on the spline node





# Skeleton - Spline - Creation

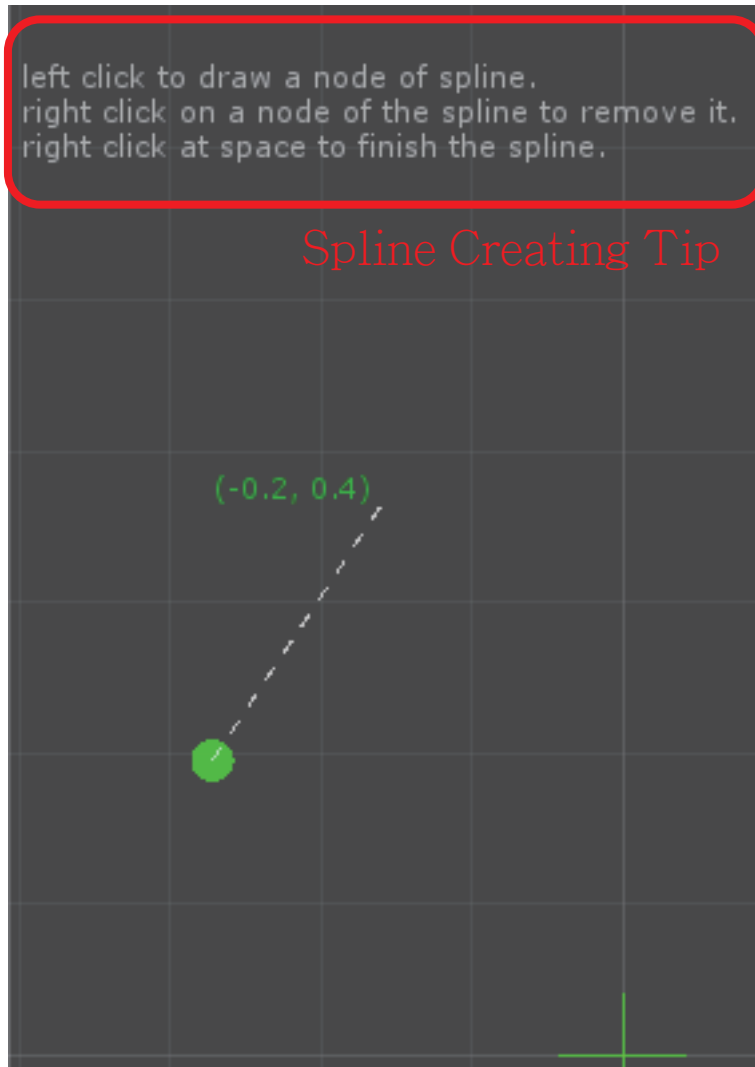


Bone or PivotBone

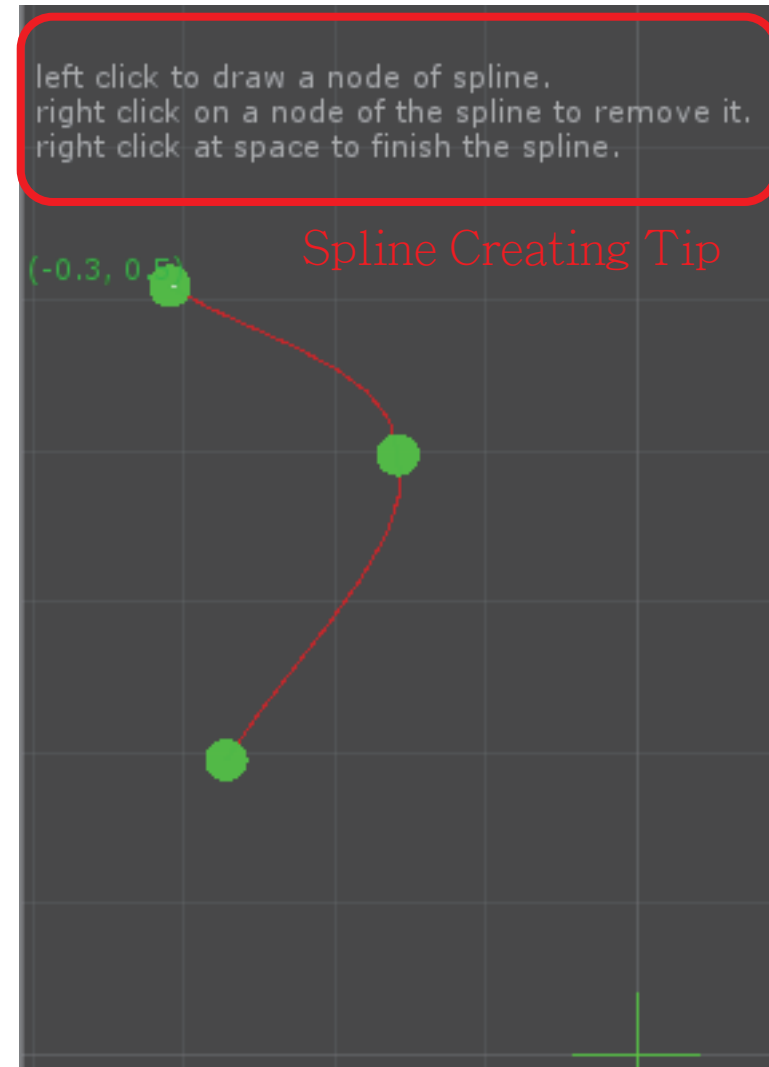
# Skeleton - Spline - Creation

Step1: left click and move mouse  
Step2: left click and move mouse  
Step3: right click at space to finish

Step1



Step2

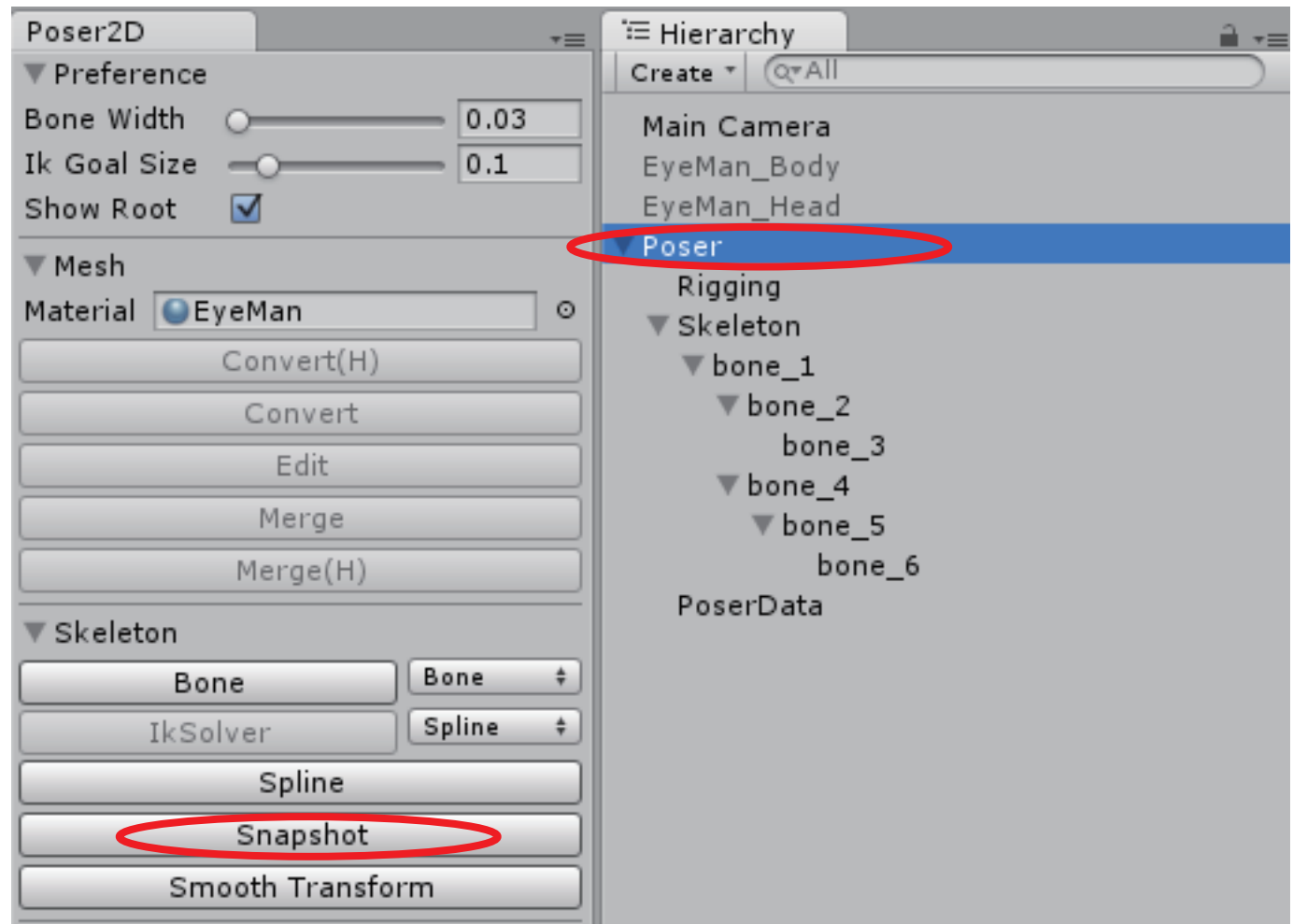


# Skeleton - Snapshot

active button

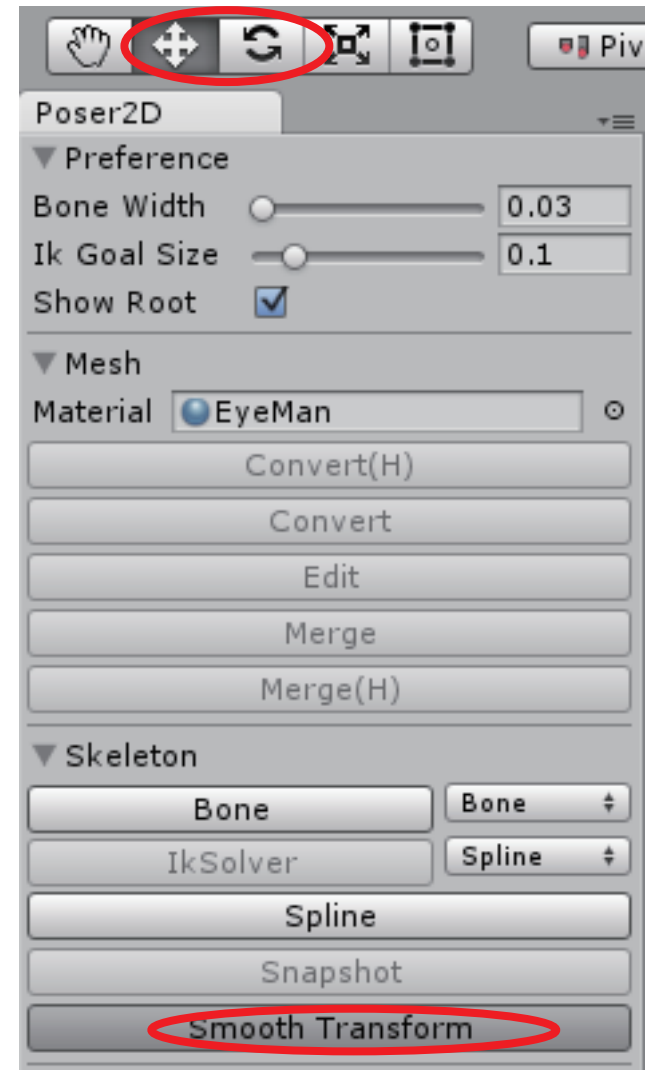
select a Poser.

click it to open snapshot window



# Skeleton - SmoothTransform

smooth transform mode can use move and rotation in tools.  
let Bone move smooth to influence his parent Bone.  
it is only effect in the last selected transform.



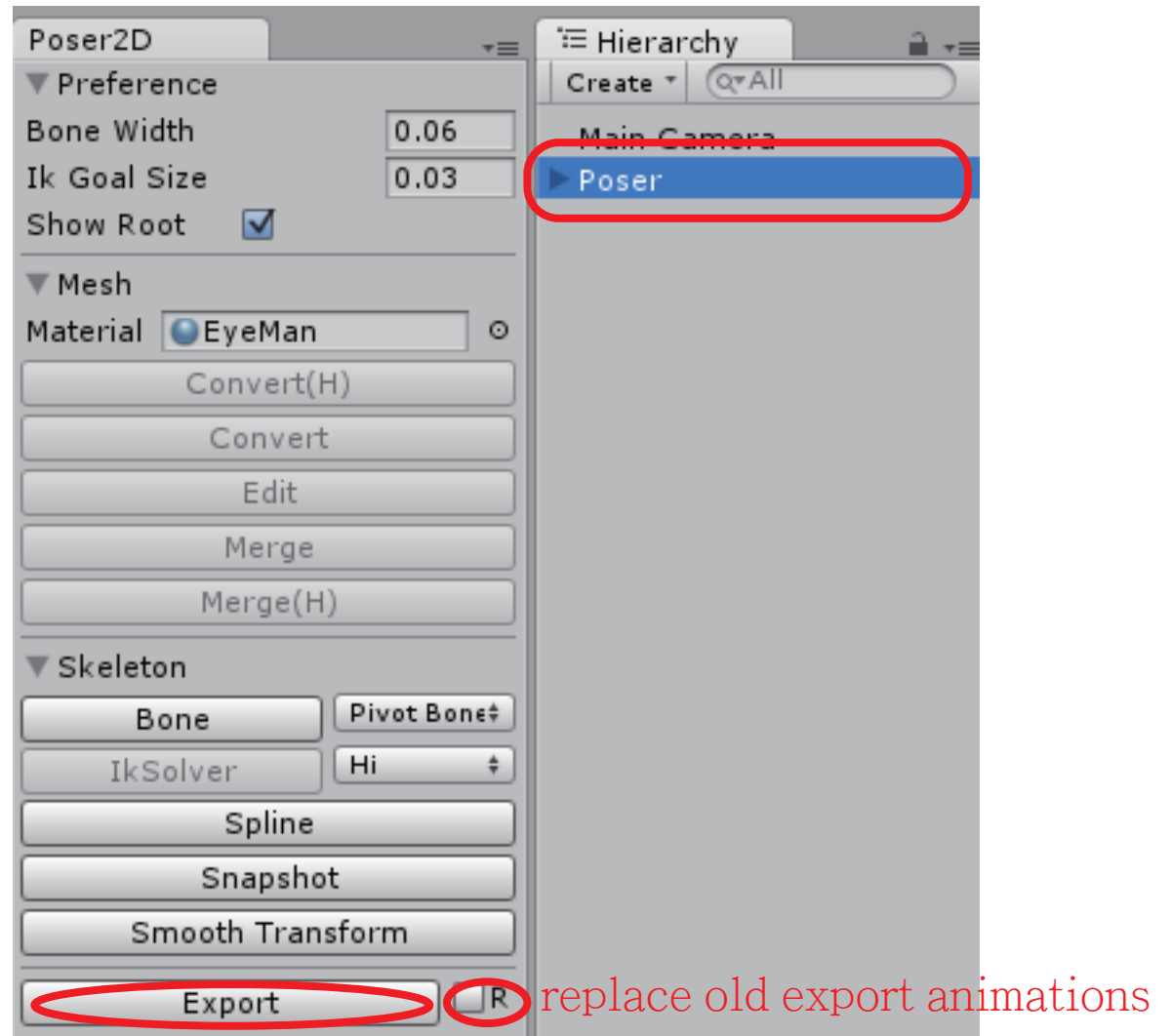
# Export

active button:

the poser of the last selection

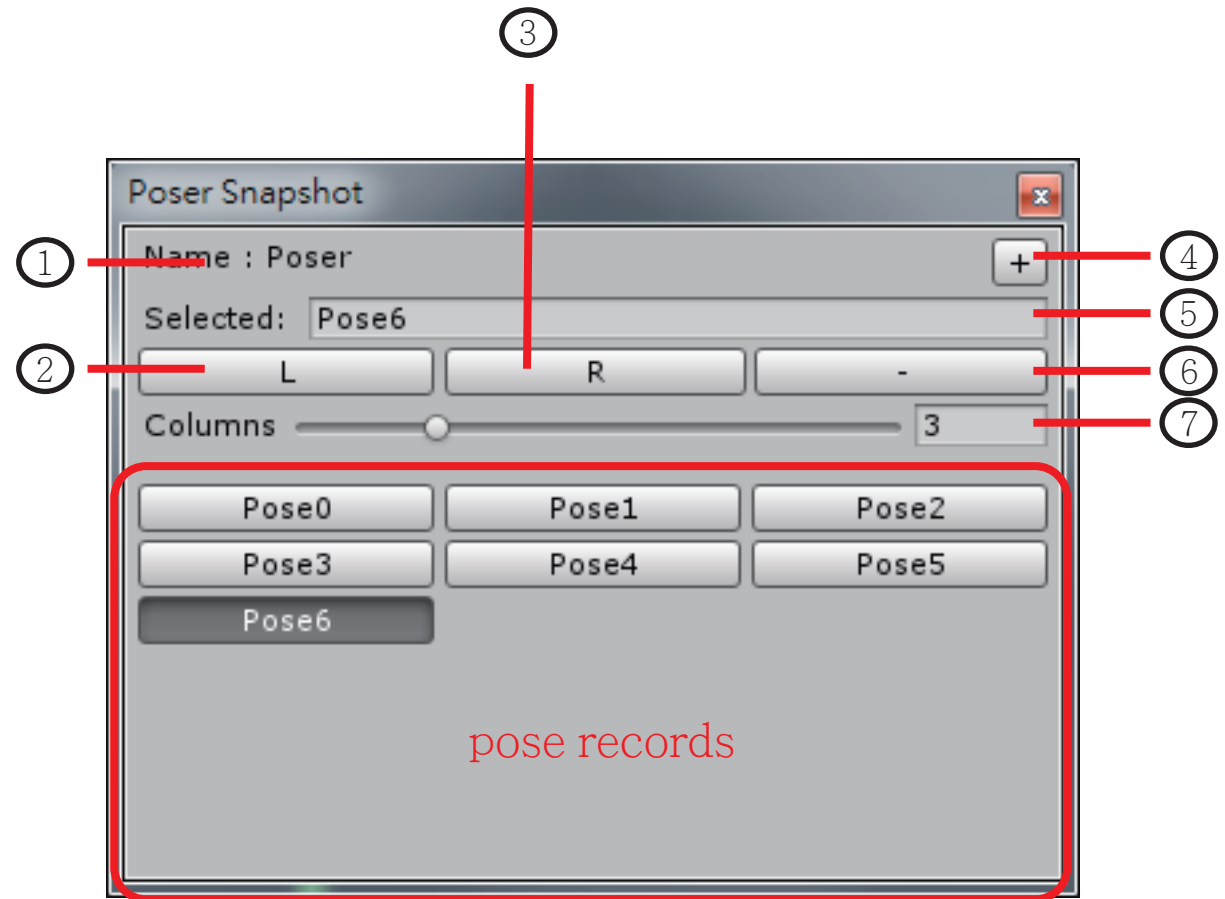
click button:

create a prefab from the poser  
and export all animations (strip  
all edit data) in the same folder



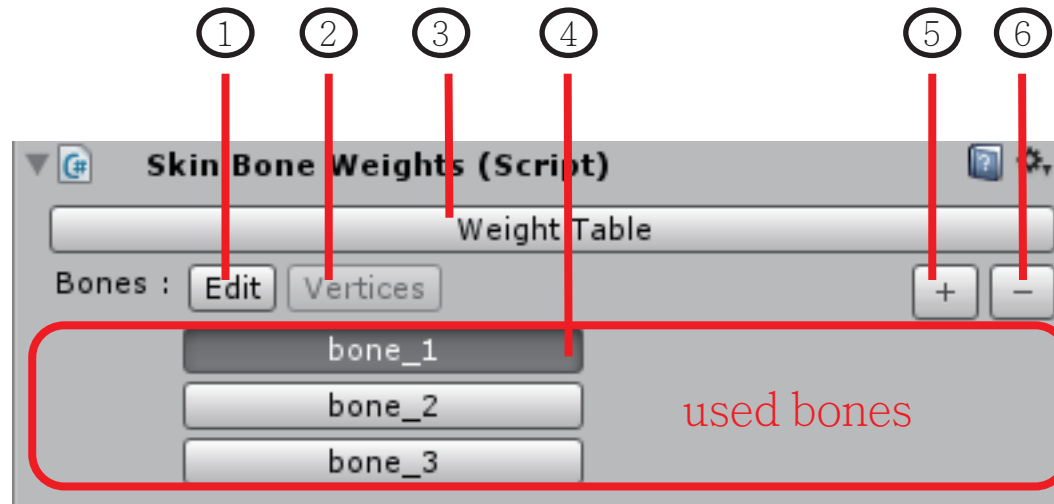
# Snapshot Window

- 1 - name of the selected Poser
- 2 - load the selected pose record
- 3 - reset the selected pose record
- 4 - add new pose record
- 5 - name of the selected pose record
- 6 - remove the selected pose record
- 7 - column number of pose records



# SkinBoneWeights

- 1 - edit bone data button
- 2 - show vertices button (relation with selected bone)
- 3 - open bone weight table
- 4 - selected bone for edit
- 5 - open bone picker window
- 6 - remove selected bone



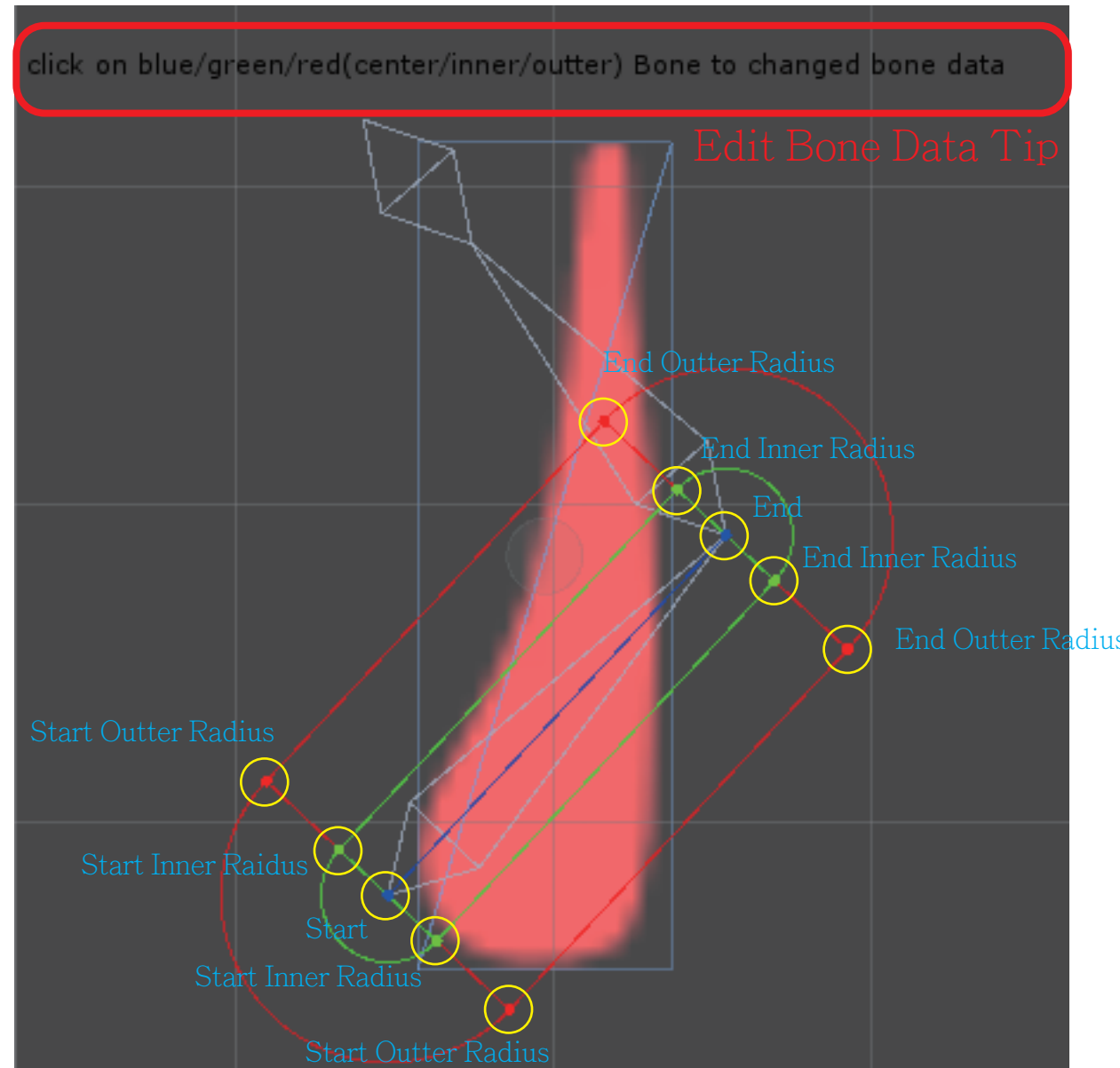
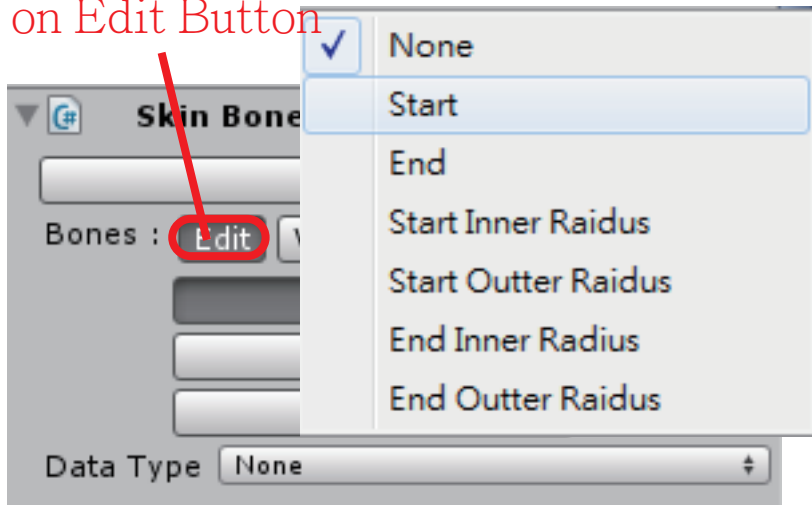
# SkinBoneWeights - Edit Bone Data

click on yellow circle to select data  
type to change.

Bone Data Type:

- 1 - Start
- 2 - End
- 3 - Start Inner Radius
- 4 - Start Outer Radius
- 5 - End Inner Radius
- 6 - End Outer Radius

Click on Edit Button

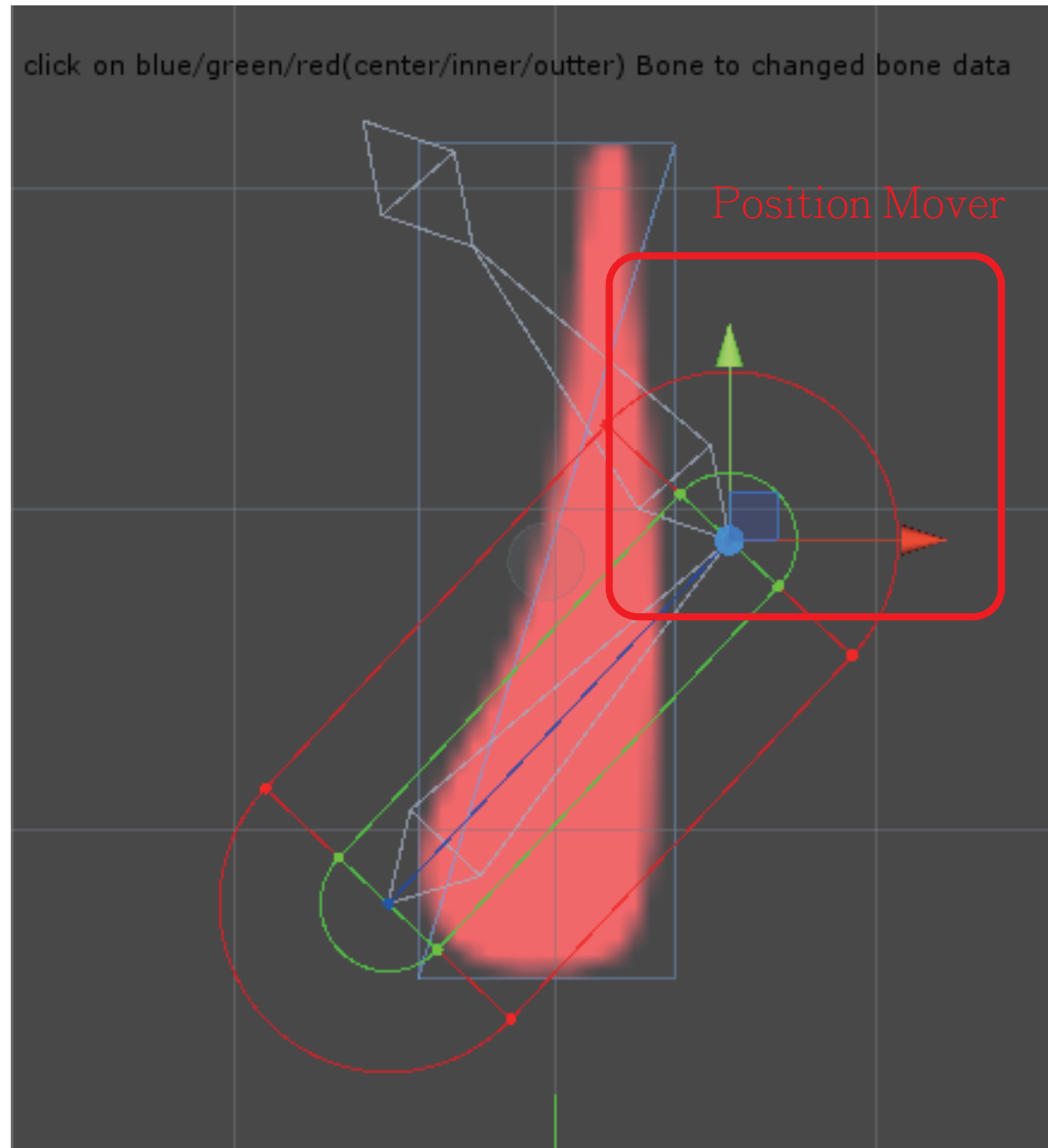
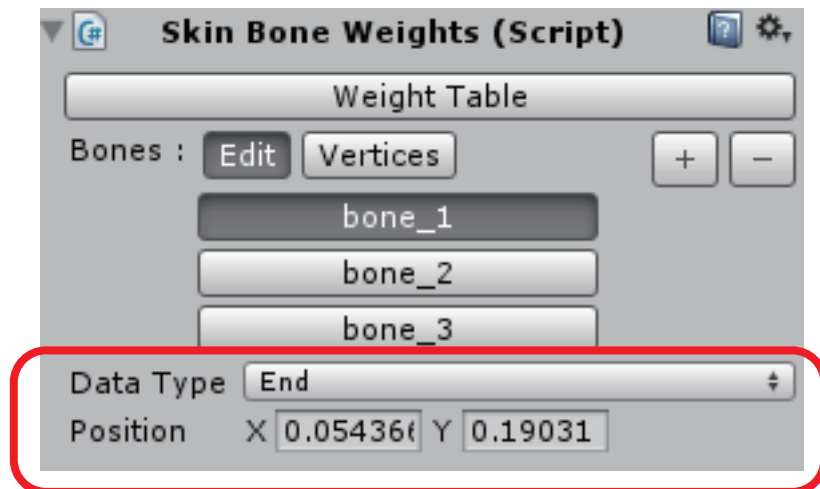




# SkinBoneWeights - Edit BoneData - Start / End

Start  
End

drag **Position mover** to move position  
or modify position value in inspector

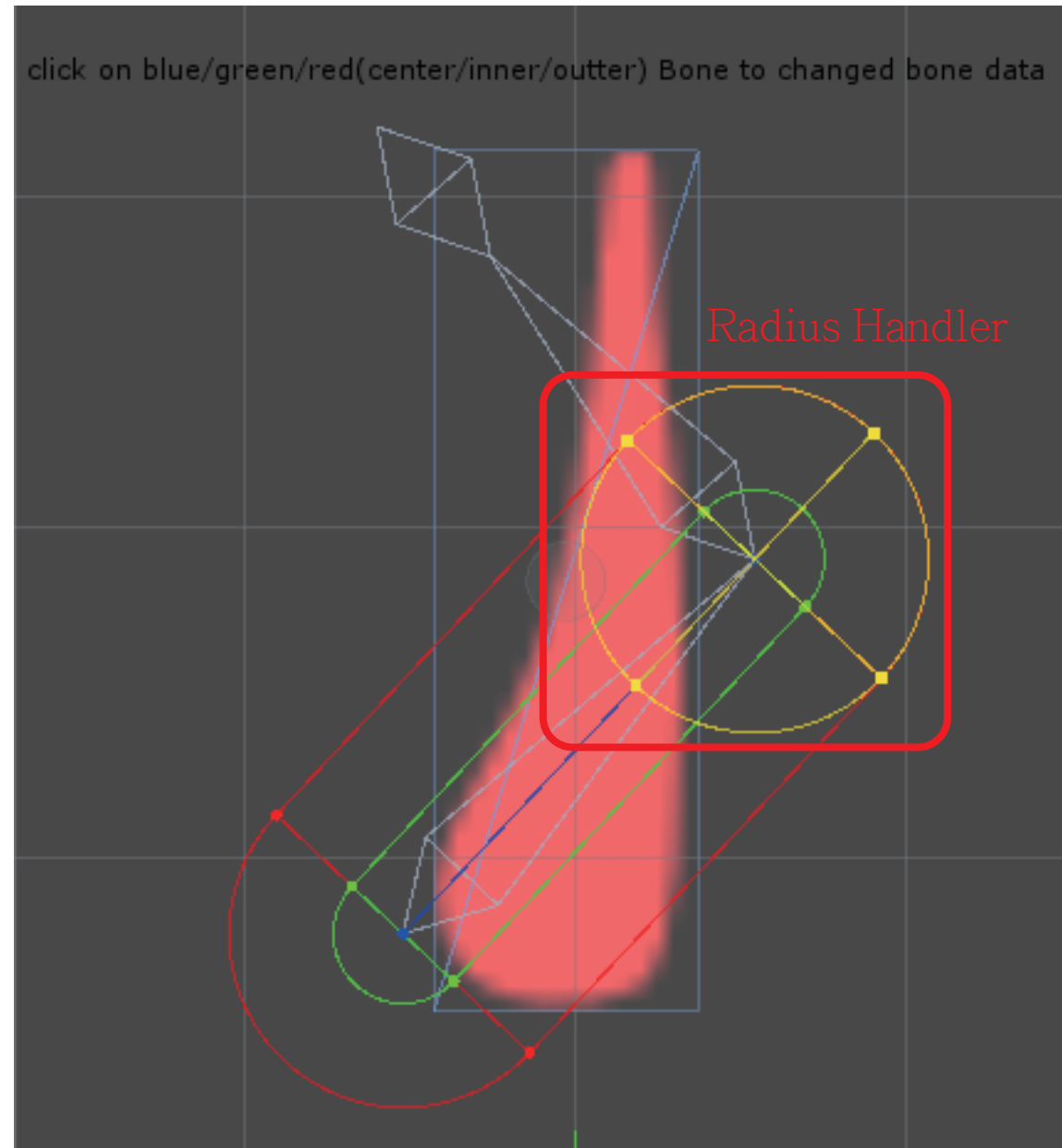
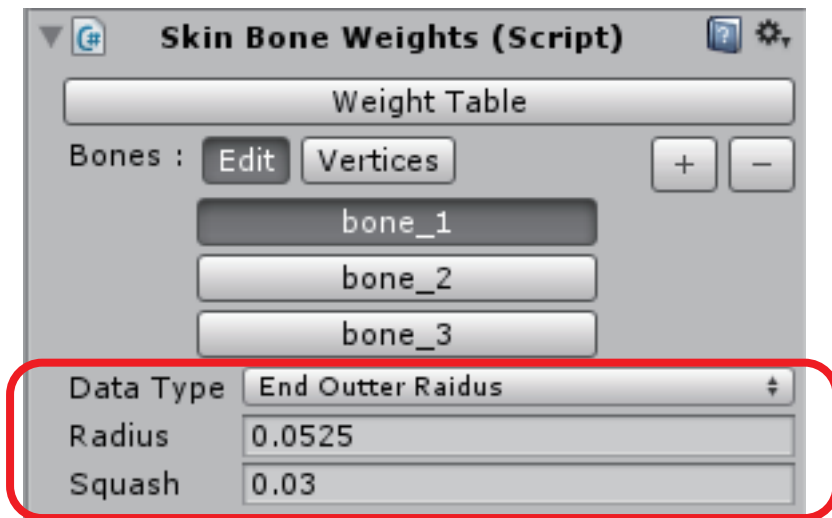


# SkinBoneWeights - Edit BoneData - Radius

Start Inner Radius  
Start Outer Radius  
End Inner Radius  
End Outer Radius

drag **Radius Handler** to change radius  
or modify radius value in inspector

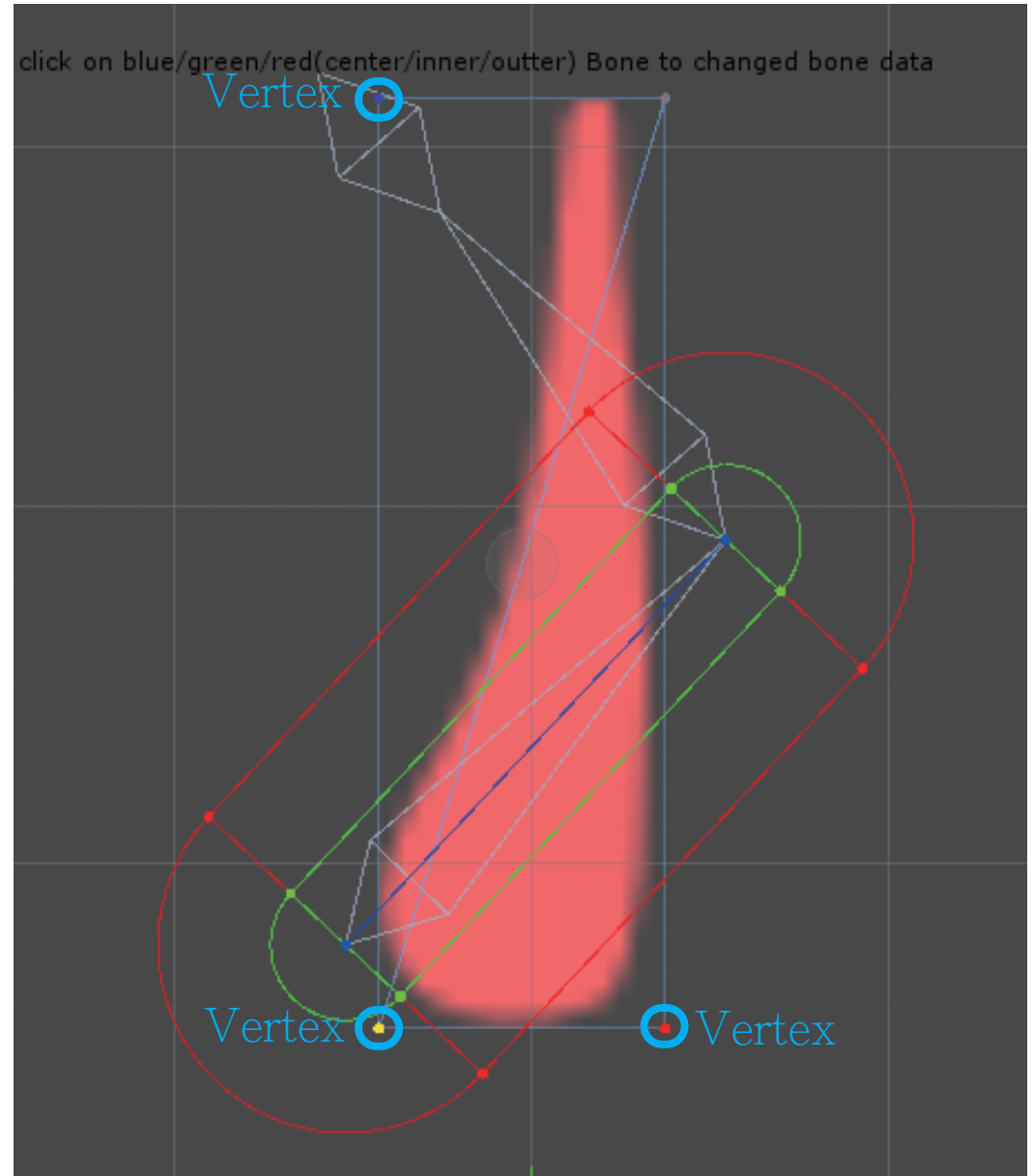
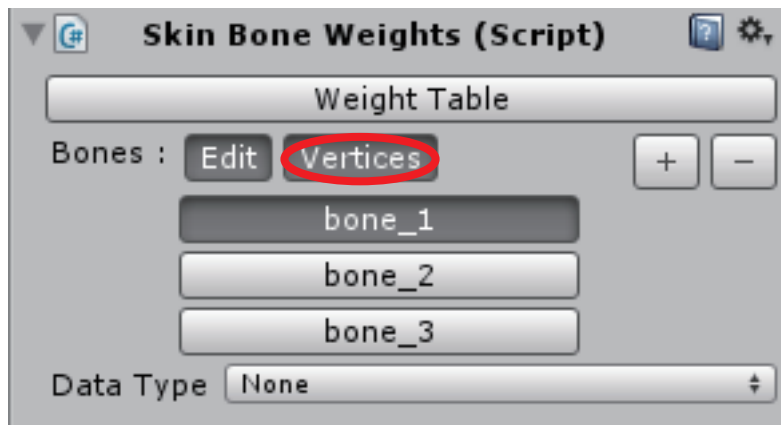
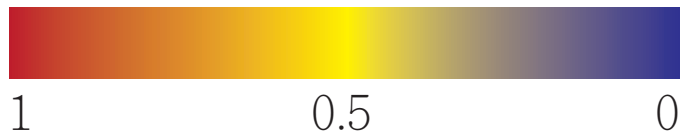
squash to push radius value when inner  
and outer too closed



# SkinBoneWeights - EditBoneData - Vertices

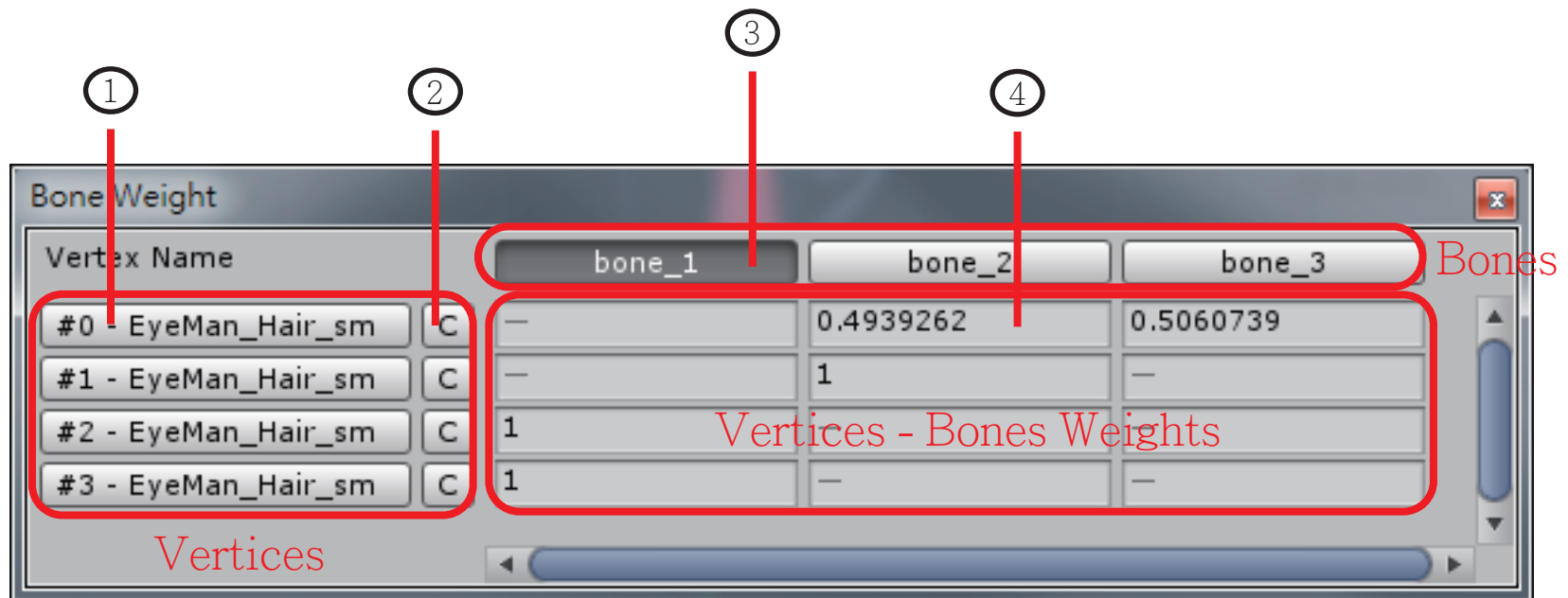
click on **Vertices Button** to show vertices of relation of the selected bone

Weight Color of Vertex



# SkinBoneWeights - Bone Weight Table

- 1 - vertex toggle, pressed will be displayed when editing bone data in SkinBoneWeights
- 2 - weight custom toggle, pressed will not auto updated bone weight of the vertex when changed bone data (add bone or remove bone will auto untoggle).
- 3 - bone mutex toggle, pressed will changed the selected bone in SkinBoneWeights.
- 4 - weight of the column bone and the row vertex



# SkinBoneWeights - Bone Picker

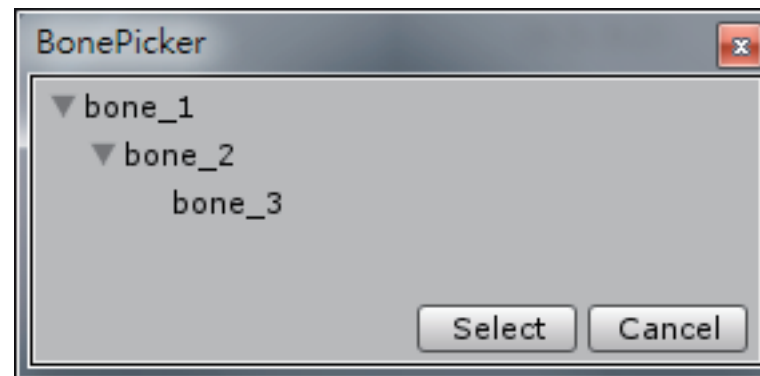
left click to select a bone.

ctrl + left click to add a selected bone.

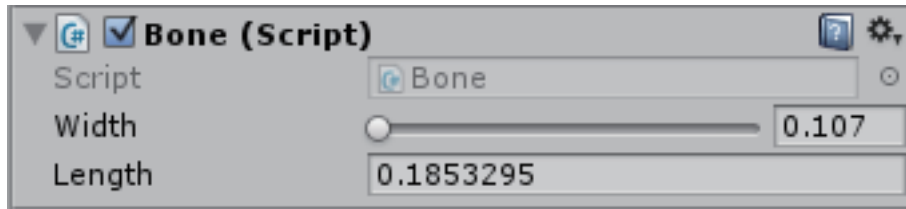
shift + left click to select bones from last selected bone to click bone.

click Select button to add selected bones to SkinBoneWeights.

click Cancel to cancel this operation.

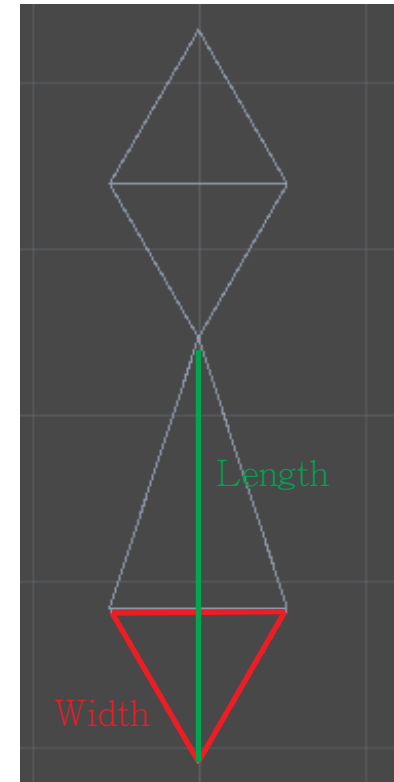


# Bone

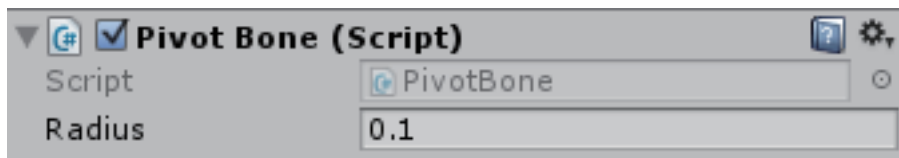


Width : used when bind bones to mesh to initial bone data.

Length : used when bind bones to mesh to initial bone data  
or calculate position for creating a child bone



# Pivot Bone



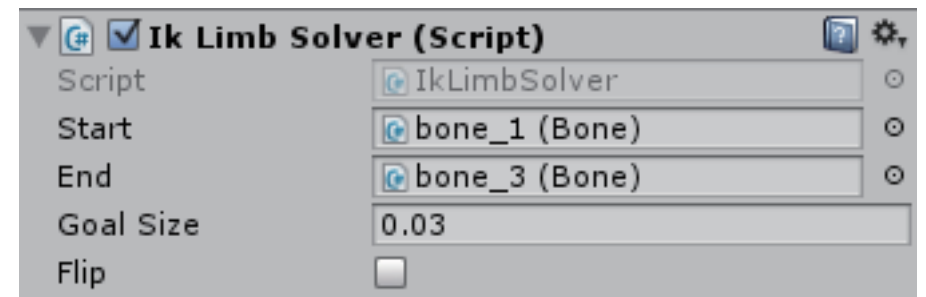
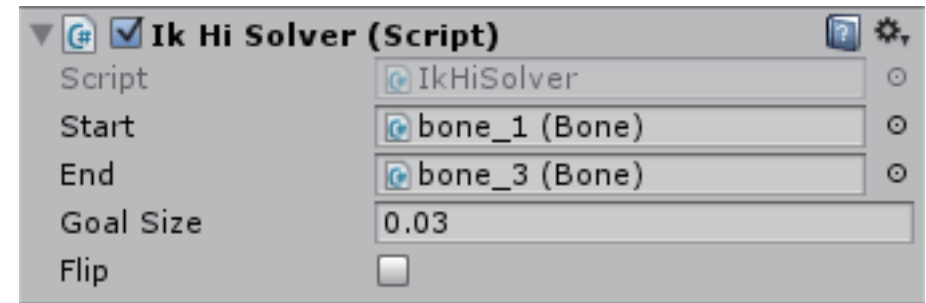
Radius : used when bind bones to mesh to initial bone data.

bone data is in SkinBoneWeights for calculation of bone weight of vertex

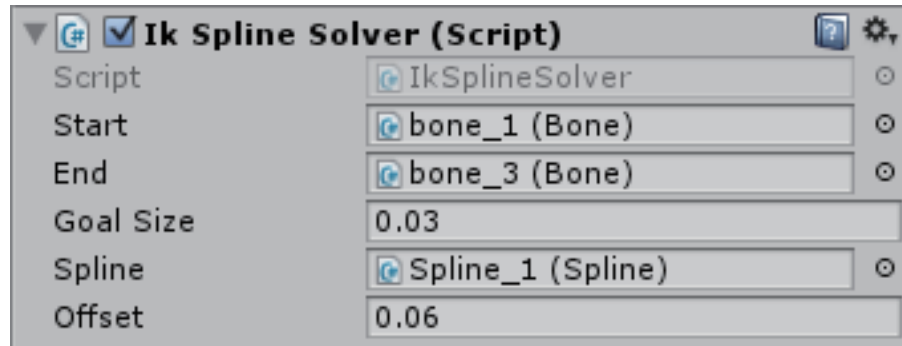
# IkHiSolver, IkLimbSolver



Start : first ancestor Bone node  
End : last posterity Bone node  
Goal Size : size of visual IkSolver for pick  
Flip : flip caculation of IkSolver

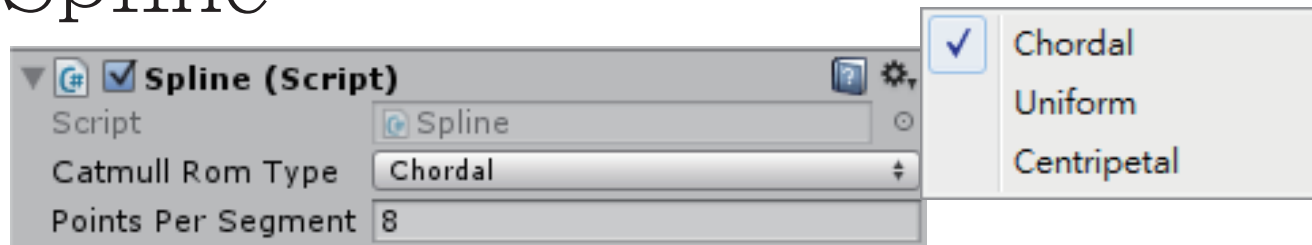


# IkSplineSolver



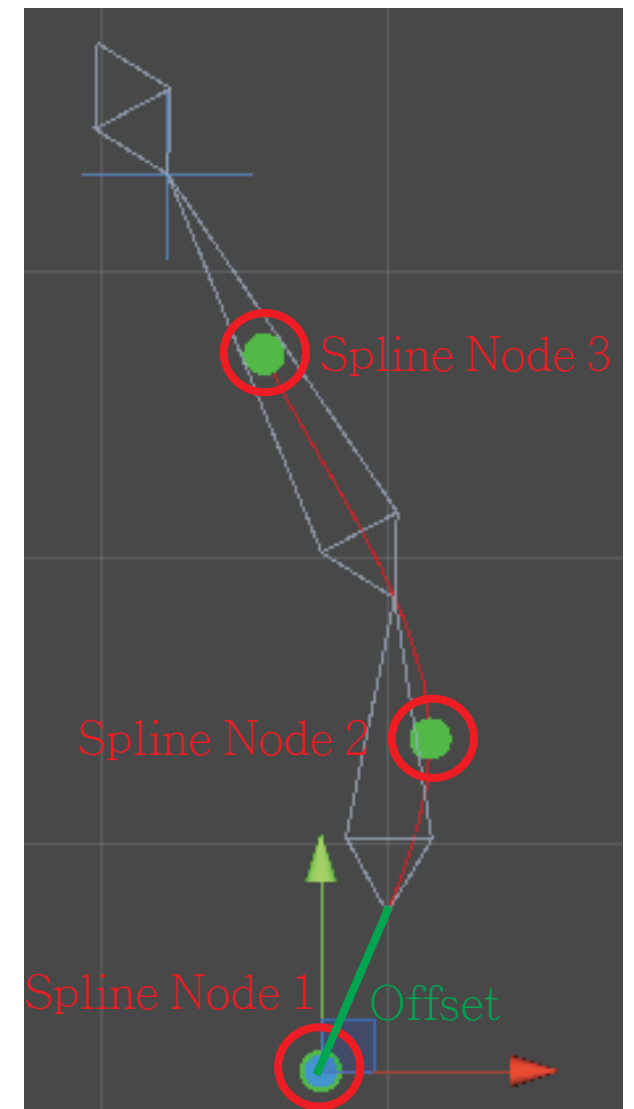
Start, End, Goal Size are same as IkHiSolver  
Spline : used spline for IkSplineSolver  
Offset : distance to **Spline Node1**

## Spline



Catmull Rom Type : calculation type for curve of spline(show difference at next page)

Points Per Segmenet : points amount between 2 nodes of spline





# Catmull Rom Type

[http://www.cemyuksel.com/research/catmullrom\\_param/catmullrom.pdf](http://www.cemyuksel.com/research/catmullrom_param/catmullrom.pdf)  
url is more detail about Catmull Rom Type

