

SAColliderBuilder Tutorial

History

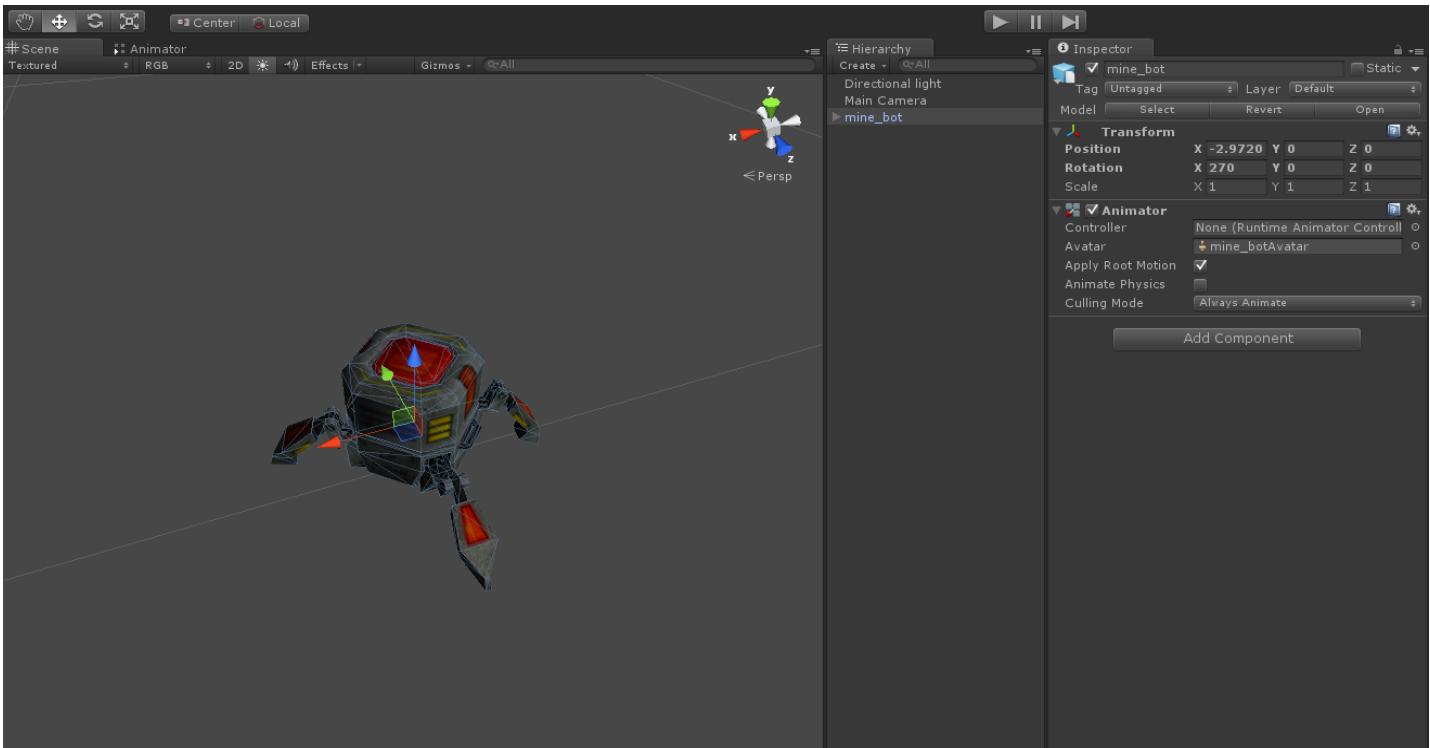
2014.04.18 Added Create Asset(4Prefab)

How about this

Automatic collider build tool for Unity.

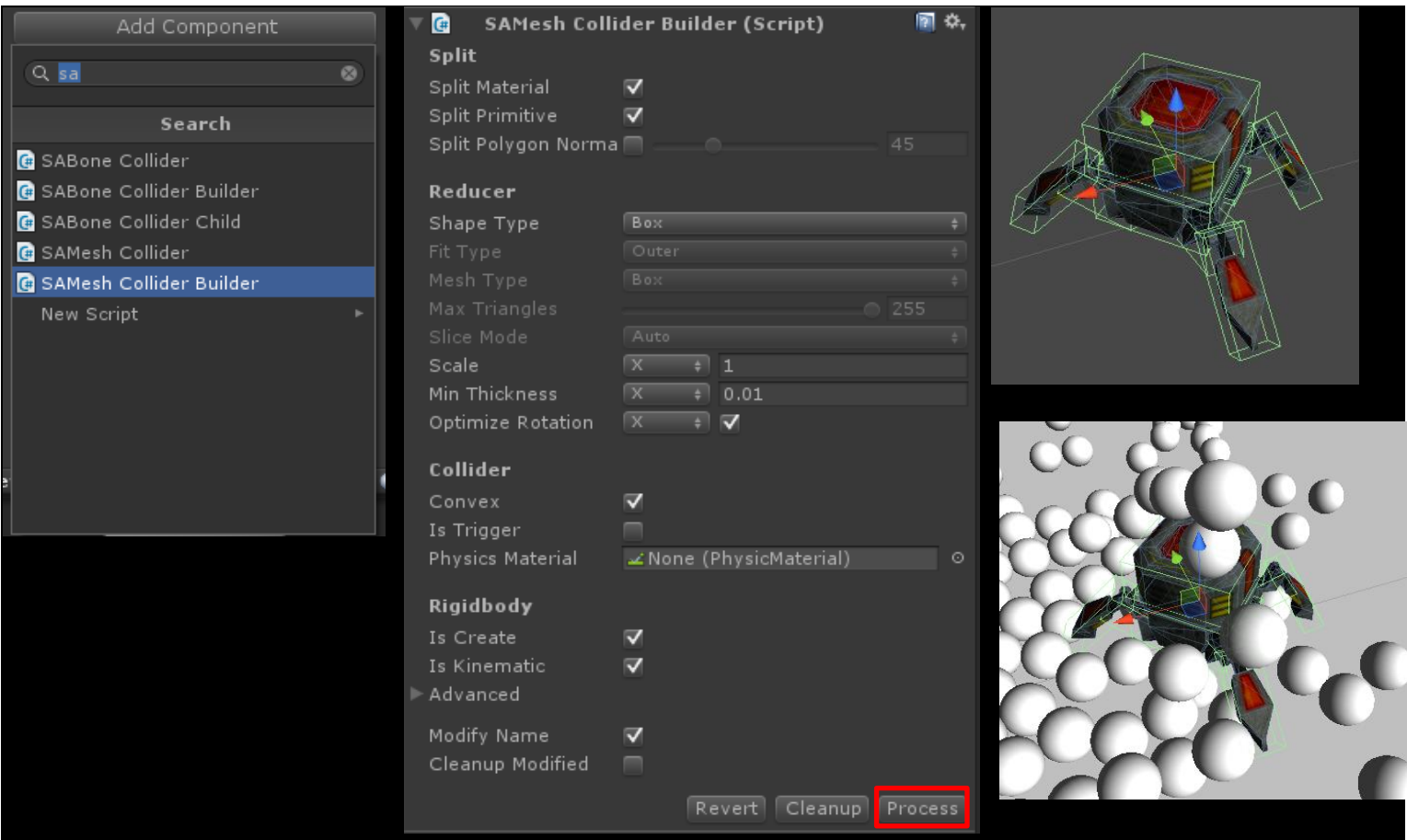
How to use SAMeshColliderBuilder

SAMeshColliderBuilder is build collider for Non-skinning mesh.
Select object include **MeshFilter**/**SkinnedMeshRenderer** self/child component in **Hierarchy**.

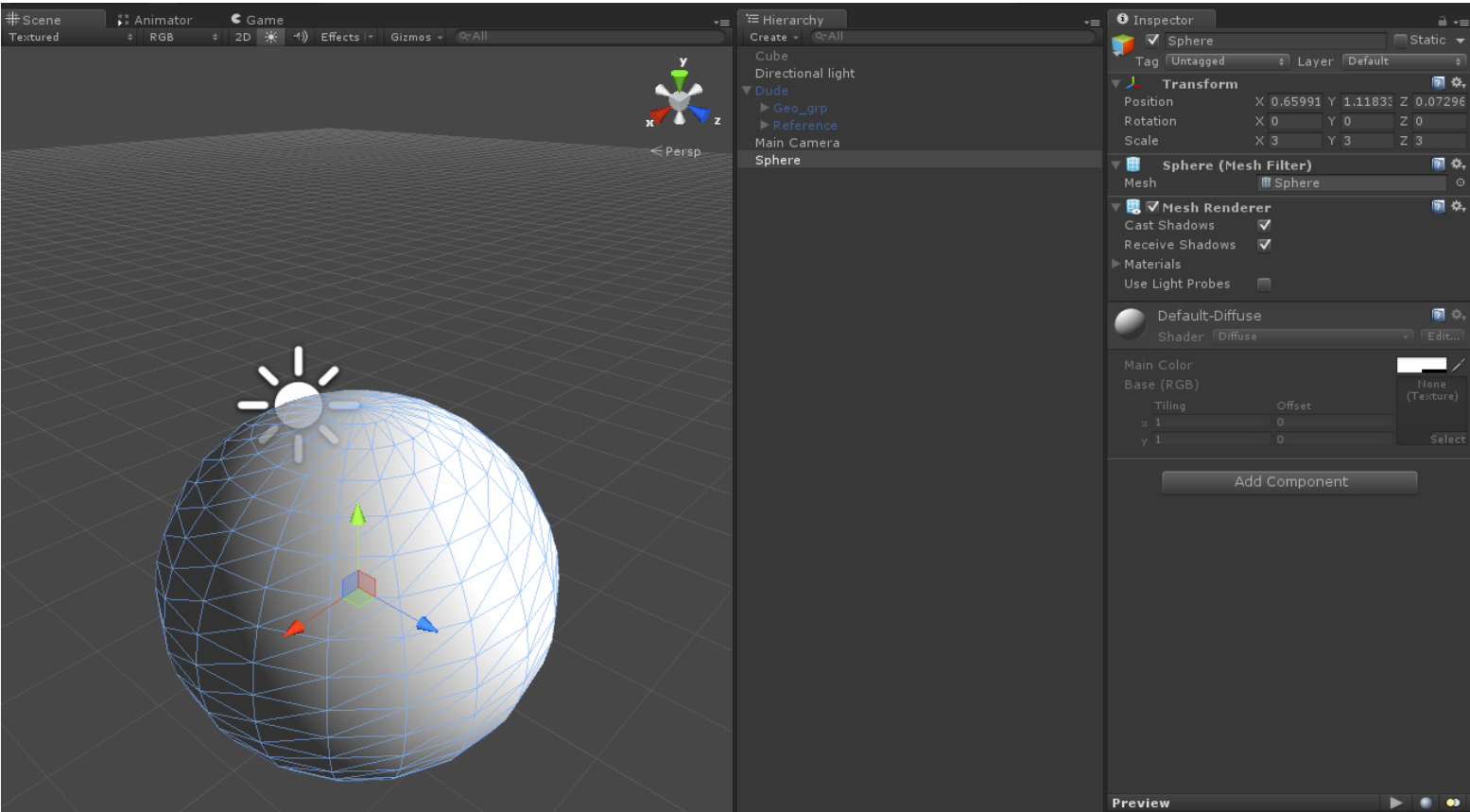


Add Component → **SAMeshColliderBuilder** to selected object.
I press the **Process** button as it is.

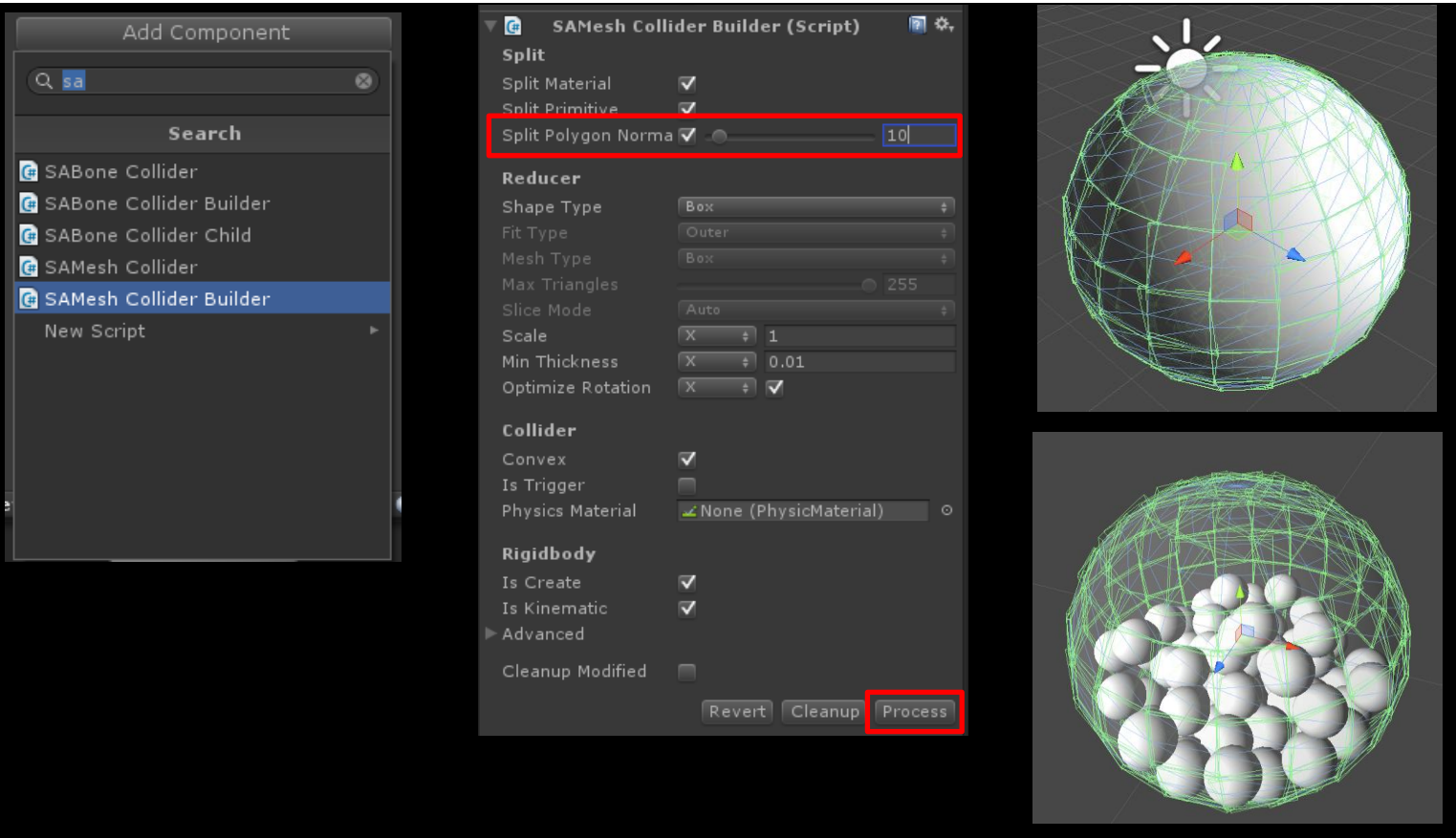
Collider is generated for the object that was placed in the scene, it is a success.
In default, BoxColliders are simple multi along the contour is automatically generated.



It corresponds to the generation of collider was hollowed out and circle shape, the contents.
Because the contents are not hollowed out the default Unity's collider,
it will not be able to generate a collision on the inside.



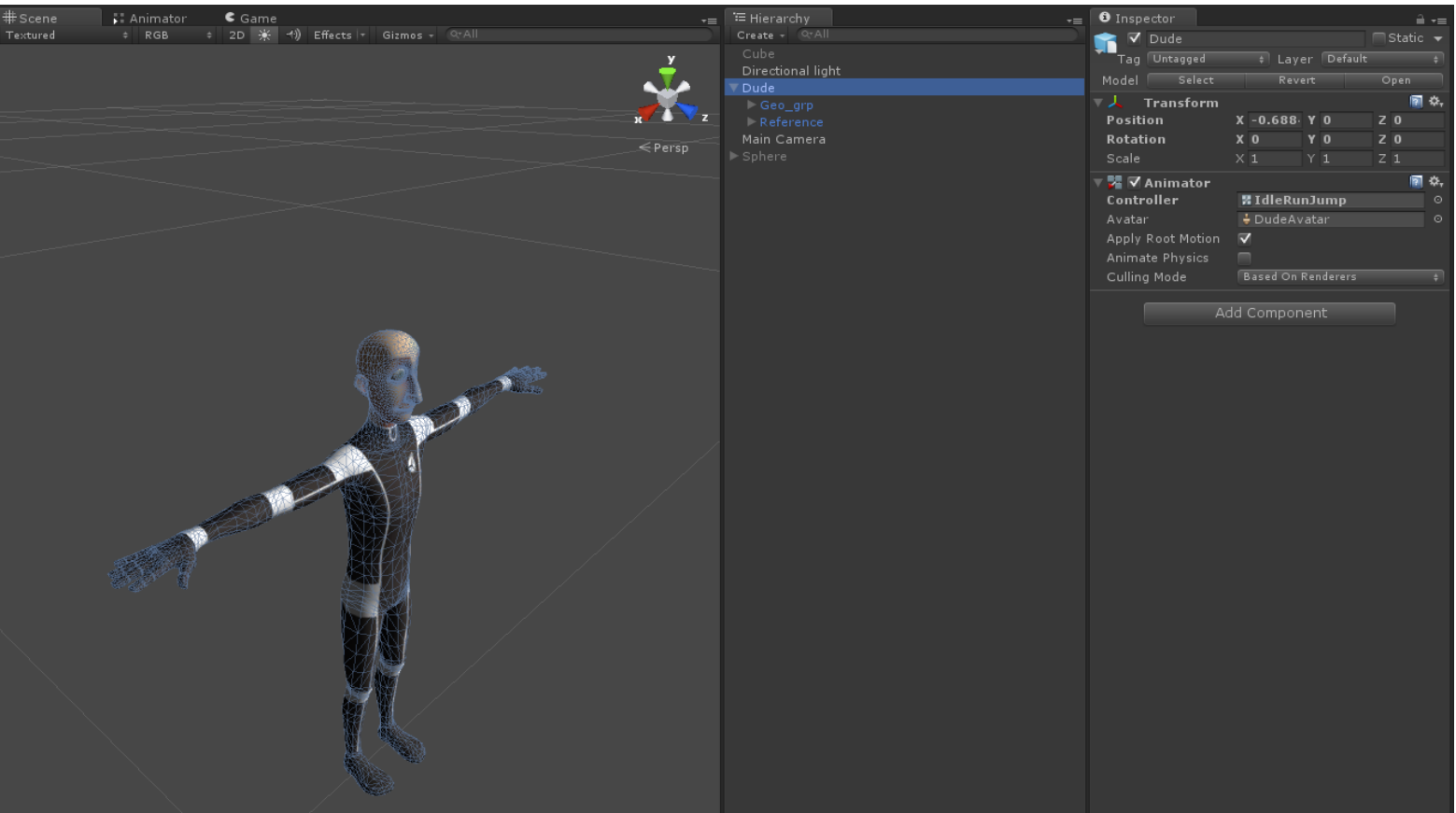
Add Component -> SAMeshColliderBuilder to selected object.
Check "Split Polygon Normal", input value "10" to right edit box, and press "Process" button.
If process succeeded, build colliders in selected object.



How to use SABoneColliderBuilder

SABoneColliderBuilder is build collider Skinning mesh.

Select object include **SkinnedMeshRenderer** self/child component in **Hierarchy**.

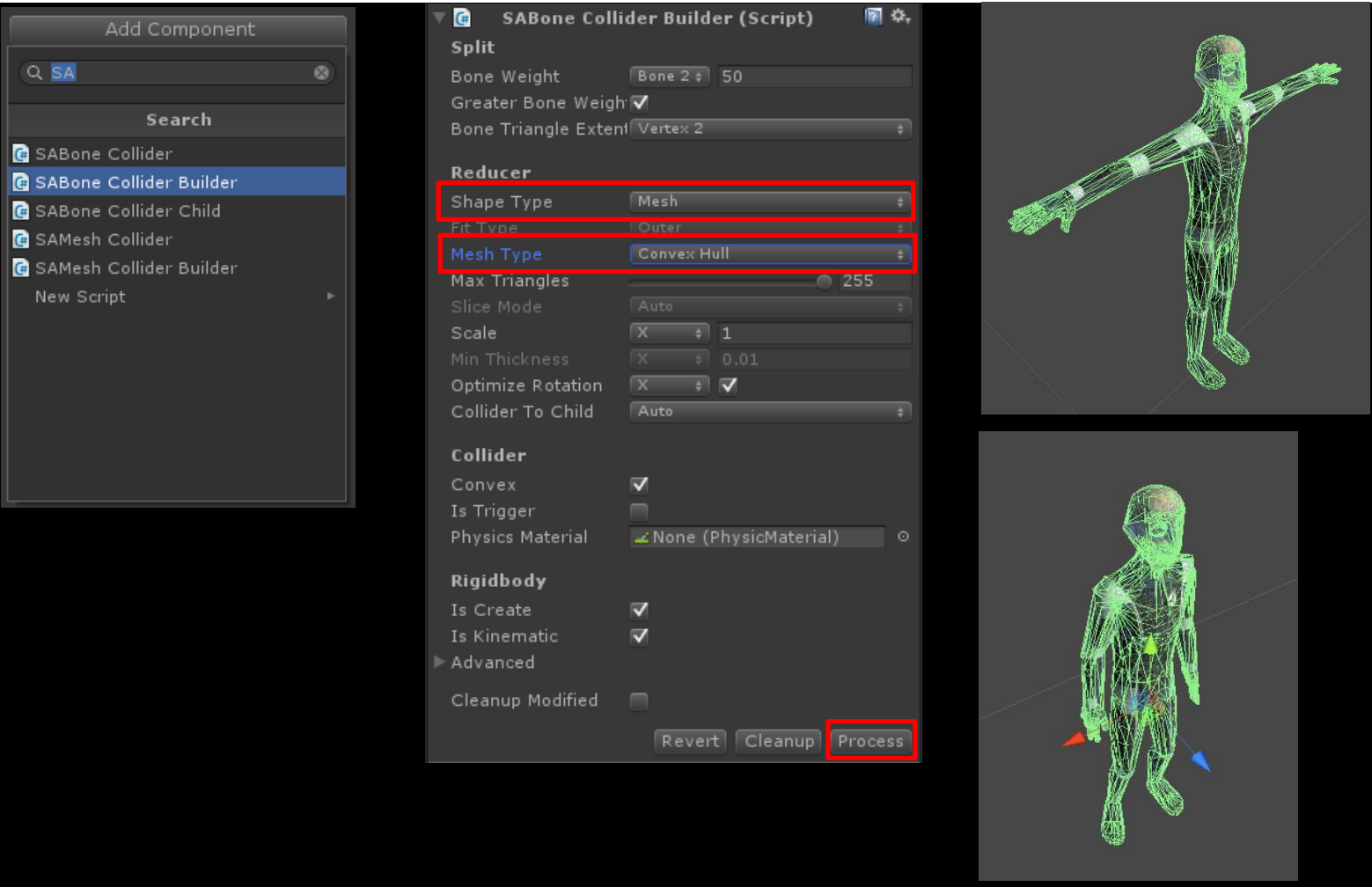


Add Component -> SABoneColliderBuilder to selected object.

Select **Mesh** in **Shape Type**, Select **Convex Hull** in **Mesh Type**, and press **Process** button.

If process succeeded, build colliders in selected object.

- ⊗ Because it is a state that still unnecessary collision is generated many in this state, please do fine tuning, which will be described later.
- ⊗ It is a confirmed operation primarily for. You can see the collider from being deformed in conjunction with the animation.



Optimize child colliders

Optimizable child collider in split children by **SAMeshColliderBuilder** or processed bone children by **SABoneColliderBuilder**. Specifically, I can do the following.

Remove unwanted collision.

Substitution for the Box and Capsule and simplified the profile.

Example, if you need optimize bone collider,

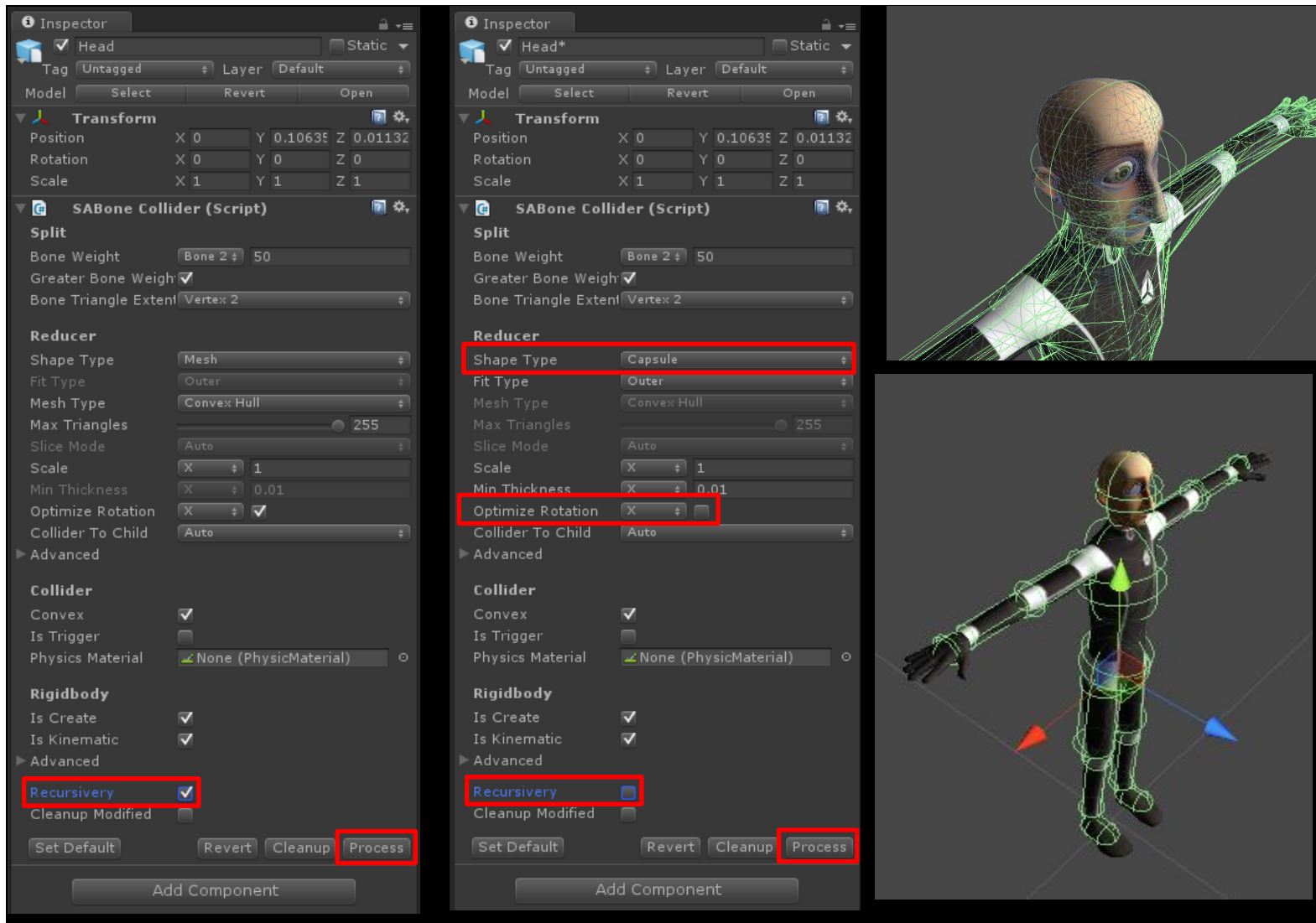
① Select "Head" object in Hierarchy, select "Recursivity", and press "Cleanup" button.
(Cleanup head children recursivity.)

② Select "Capsule" in Shape Type, uncheck "Optimize Rotation",
uncheck "Recursivity", and press "Process" button.

If process succeeded, replaced head collider.

To automatically calculated from the weight of bone, size can be used to generate a collider pretty easily.

By applying the arms, torso, legs, and this can be produced in a short time collider simplified optimized for the human body.



Options

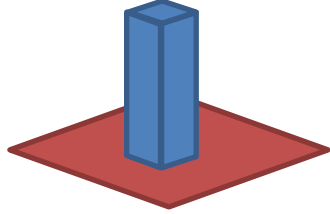
Split (Mesh Collider)

Split Material

Split the mesh at the boundary of the material.

Split Primitive

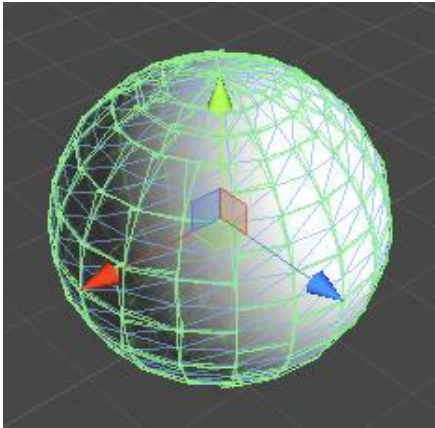
Split the mesh at the boundary of the primitive that is not contiguous.



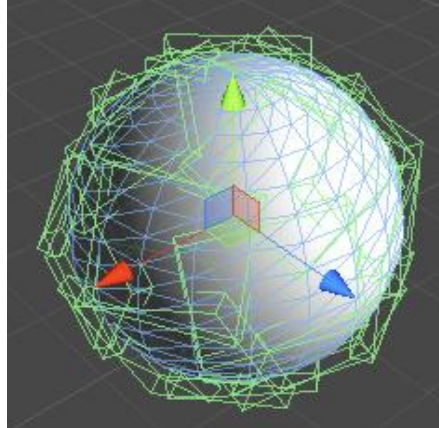
Split Polygon Normal

Split the mesh with a large part of the difference between the normal.

Value = 10



Value = 40



Split (Bone Collider)

Bone Weight

Extract vertex greater than bone weight.

Greater Bone Weight

Extract vertex the greater bone weight.

Bone Triangle Extent

Extent triangle per extracted vertices.

Disable ... No extent.

Vertex 2 ... Extent triangle contains extracted line.

Vertex 1 ... Extent triangle contains extracted point.

Reducer

Shape Type

None ... No create collider.

Mesh ... Create MeshCollider.

Box ... Create BoxCollider.

Capsule ... Create CapsuleCollider.

Sphere ... Create SphereCollider.

Fit Type(Sphere, Capsule)

Innter ... Inner fitting for Box -> Sphere Collider.

Outer ... Outer fitting for Box -> Capsule Collider.

Mesh Type

Raw ... No reduction.

Convex Hull ... Polygon reduction use Hull.

Convex Boxes ... Polygon reduction use Boxes slicing.

Box ... Create AABB bouding box.

Max Triangles(Convex Boxes, Convex Hull)

Specify the polygon reduction level.

Slice Mode(Convex Boxes)

Slice arrow(X/Y/Z) for Convex boxes.

Scale

Collision scale.

Min Thickness(Convex Boxes, Box, Capsule, Sphere)

Collision min thickness.

Optimize Rotation

Searching option for AABB bounding box.If not set dimension(X/Y/Z), lock target angle.

Collider To Child(Bone Collider)

Auto ... Automatically determines.

On ... Create a child object collision.

Off ... Create a parent object collision.

Collider**Convex**

See `UnityEngine.Collider.convex`

<http://docs.unity3d.com/Documentation/ScriptReference/Collider-isTrigger.html>

Is Trigger

See `UnityEngine.Collider.isTrigger`

<http://docs.unity3d.com/Documentation/ScriptReference/Collider-isTrigger.html>

Physics Material

See `UnityEngine.Collider.material`

<http://docs.unity3d.com/Documentation/ScriptReference/Collider-material.html>

Create Asset(4Prefab)

Create mesh collider assets in model folder.

(SABoneColliderBuilder & Shape Type as Mesh only. Fix for prefab instance.)

Rigidbody**Is Create**

Create `UnityEngine.Rigidbody`.

Is Kinematic

See `UnityEngine.Rigidbody.isKinematic`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-isKinematic.html>

Mass

See `UnityEngine.Rigidbody.mass`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-mass.html>

Drag

See `UnityEngine.Rigidbody.drag`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-drag.html>

Angular Drag

See `UnityEngine.Rigidbody.angularDrag`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-angularDrag.html>

Use Gravity

See `UnityEngine.Rigidbody.useGravity`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-useGravity.html>

Interpolation

See `UnityEngine.Rigidbody.interpolation`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-interpolation.html>

Collision Detection Mode

See `UnityEngine.Rigidbody.collisionDetectionMode`

<http://docs.unity3d.com/Documentation/ScriptReference/Rigidbody-collisionDetectionMode.html>

Other**Modify Name**

If modified object manually, added postfix to gameObject name.

Cleanup Modified

Cleanup modified children in "Cleanup".

Recursivity(Bone Collider)

Feedback properties for children.