

Human Shaders for URP - Quick Start

Human Shaders for URP



This guide covers the shortest path from an existing URP character to a working Human Shaders setup.

1. Confirm URP

Human Shaders is built for the Universal Render Pipeline.

Before converting materials, confirm your project is using a Universal Render Pipeline Asset.

You can also verify this later from:

Tools > STL Dynamics > Human Shaders Studio > Diagnostics

2. Open Human Shaders Studio

Open:

Tools > STL Dynamics > Human Shaders Studio

The recommended order is:

```
Materials -> Texture Packing -> Skin Visibility -> Diagnostics
```

You do not need every workspace for every character.

If you already have a Skin, Hair, Eye, Tongue, Teeth, or Clothing profile selected, its Inspector provides Open Human Shaders Studio. That button opens the Materials workspace, switches to the matching shader family, and places the profile in the Optional Profile field. Profile Inspectors intentionally do not apply materials directly.

Project Create Menu

When creating Human Shaders assets manually, use the centralized Project-window menu:

```
Create > STL Dynamics > Human Shaders > Materials > ...  
Create > STL Dynamics > Human Shaders > Profiles > ...
```

Material assets and profile assets now live under the same Human Shaders root.

3. Convert the Skin

1. Select the character's skin renderer, or select the character root and enable Include Child Renderers.

2. Open the Materials workspace.
3. Choose Skin.
4. Optionally assign a Human Skin Profile.
5. Click Create + Assign Human Skin Materials.

The Studio creates a new material rather than modifying the source material.

The skin shader is:

```
STL Dynamics/Human/Skin
```

At minimum, assign a base/albedo texture. For higher quality, also use:

- Normal Map
- Skin Map
- Detail Normal where available

Skin Map channels

```
R = Ambient Occlusion  
G = Roughness  
B = Specular Mask  
A = Thickness
```

4. Convert Hair

1. Select the hair renderer.
2. Choose Hair in the Materials workspace.
3. Choose the intended Surface Mode.
4. If using Cutout, choose a Coverage mode.
5. Convert the material.

Hair supports:

Surface modes

```
Cutout  
Transparent
```

Cutout coverage modes

```
Hard Cutout  
Alpha To Coverage  
Dithered
```

Typical hair inputs include:

- Base Color
- Strand Opacity
- Normal
- Hair Map
- Comb / Flow Map

Hair Map channels

```
R = Ambient Occlusion  
G = Roughness  
B = Specular Mask  
A = Transmission
```

If your source stores smoothness instead of roughness, the Texture Packing workspace can invert the green channel.

5. Convert Eyes

Select the eye renderer and convert it with the Eye material type.

The Eye shader supports:

- Sclera tint and roughness
- Sclera scattering
- Redness
- Iris tint and brightness
- Pupil dilation
- Limbal ring
- Iris depth / concavity
- Cornea response
- Reflection probes
- Wet / tear-film response

Typical eye inputs:

- Base texture
- Eye Mask
- Surface Normal
- Occlusion

Eye Mask channels

```
R = Iris  
G = Pupil  
B = Redness / Veins  
A = Wetness / Tear Pooling
```

6. Convert Tongue and Teeth

Use the same Materials workflow for mouth surfaces.

Tongue

The Tongue shader provides:

- Tissue roughness
- Subsurface response
- Transmission
- Saliva film

- Wetness
- Reflection response

Tongue packed map:

```
R = Occlusion  
G = Roughness  
B = Saliva Pooling  
A = Thickness
```

Teeth

The Teeth shader provides:

- Dentin response
- Enamel response
- Moisture
- Incisal transmission
- Opalescence
- Detail and staining

Teeth packed map:

```
R = Occlusion  
G = Roughness  
B = Enamel Thickness  
A = Incisal Translucency
```

7. Convert Clothing

1. Select the clothing renderer.
2. Choose Clothing.
3. Choose a material preset.
4. Enable Transparent / Sheer only when needed.
5. Convert.

Available clothing presets:

```
Woven  
Knit  
Denim  
Satin / Silk  
Velvet  
Leather  
Synthetic
```

Clothing supports fabric roughness, fiber sheen, anisotropy, transmission, clear coating, wetness, detail normals, variation, and fiber direction.

Clothing Map channels

```
R = Occlusion  
G = Roughness  
B = Fiber Sheen Mask  
A = Thickness
```

8. Tune the Materials

Each Human Shader has a dedicated custom material Inspector.

Useful starting points:

- Tune roughness before pushing specular strength.
- Use detail normals for close-up surface breakup.
- Use transmission selectively.
- Keep reflection-probe contribution reasonable for the scene.
- Test wetness and clear coat under moving lights.
- Test skin and mouth shaders at close range.
- Test hair against both bright and dark backgrounds.

9. Optional: Set Up Skin Visibility

If clothing intersects the body, use the Skin Visibility system rather than permanently editing the body mesh.

Open:

Human Shaders Studio > Skin Visibility

For the fastest setup, see:

[Skin Visibility Quick Start](#)

10. Run Diagnostics

Open:

Human Shaders Studio > Diagnostics

Click Run Validation.

Resolve errors first, then review warnings such as:

- Project is not using URP.
- Normal texture is not imported as a Normal Map.
- Packed data map has sRGB enabled.
- Legacy UV skin-visibility masks are still in use.
- A visibility profile has no runtime region ID.
- Duplicated visibility profiles share the same region ID.

You can also select Human Shader materials and click:

Synchronize Selected Materials

This refreshes shader keywords, render queues, surface states, and feature toggles without replacing textures or authored values.

Done

Your basic character pipeline is now:

```
Original Character
|
v
Human Shaders Studio
|
+-- Skin
+-- Hair
+-- Eyes
+-- Tongue
+-- Teeth
+-- Clothing
|
v
Optional Packed Maps
|
v
Optional Skin Visibility
|
v
Diagnostics
```