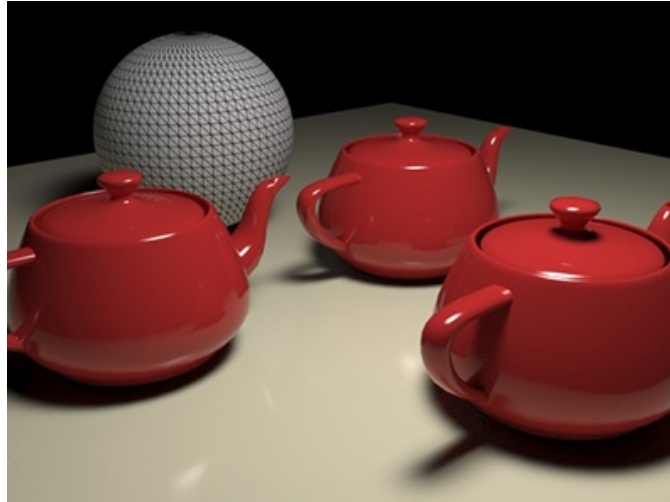


Introduction to Operators



This short tutorial will cover how to use the *set_parameter*, *collection*, and *disable* operators to change the lights and self-shadowing of some teapots and alter the shading of the sphere. The scene contains two lights casting shadows on three teapots and a sphere with a simple *utility* shader assigned to it.

- ✔ Use the *Ignore Operators* flag in *Diagnostics > Feature Overrides* to check what the render looks like without any operators.

The scene file can be downloaded [here](#).

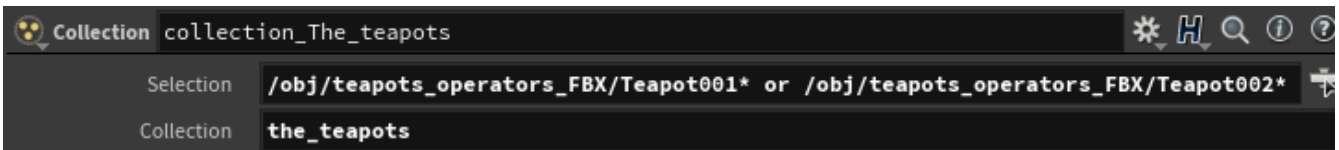
- Start by creating an *Arnold ROP* in *Output*.

Collection

We will use the *Collection* operator to reference a selection. This can be used to avoid writing a selection multiple times (optional in this case).

- Create a *Collection* Operator containing two teapots. Under *Selection* add the following (we will apply a *Set Parameter* that will only affect these two teapots):

```
/obj/teapots_operators_FBX/Teapot001* or /obj/teapots_operators_FBX/Teapot002*
```



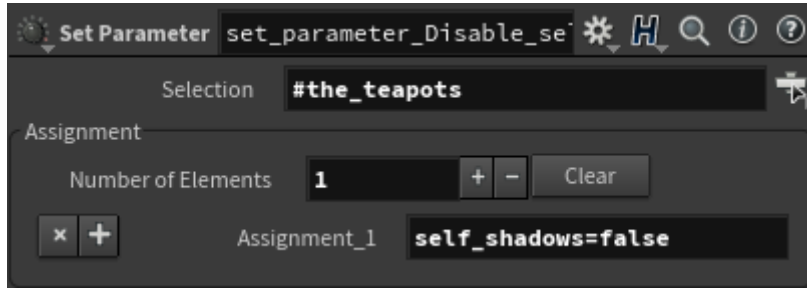
Teapot Collection

Set Parameter (Disable Self Shadows on the Teapots)

- Create a *Set Parameter*. Create the following expression:

```
self_shadows=false
```

```
#the_teapots
```

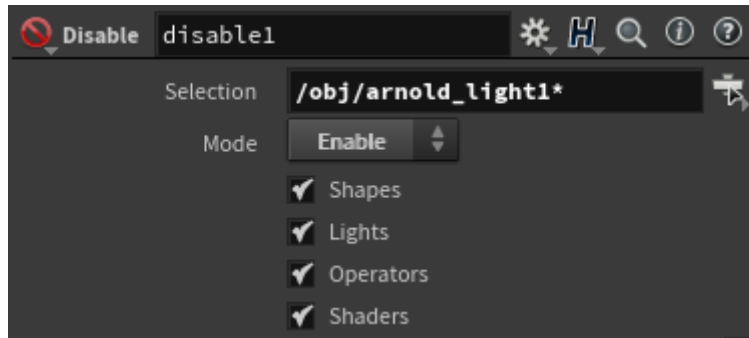


Disable Light

We can turn off one of the lights by using the *Disable* operator.

- Create a *Disable* operator and under *Selection* enter for the following Arnold light:

`/obj/arnold_light1*`



ArnoldLight001 disabled

Set Parameter: Sphere Utility Shader

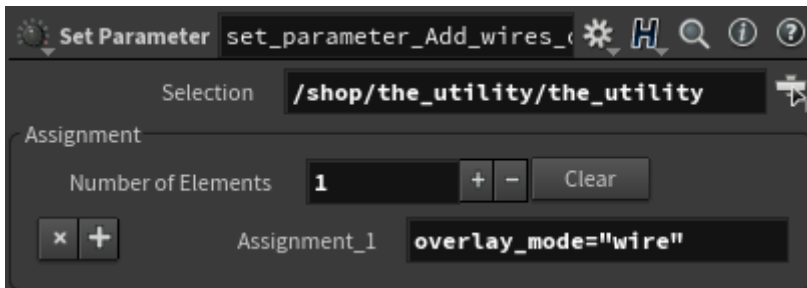
Now we will change the *Overlay Mode* for the spheres *Utility* shader.

- Assign a *Utility* shader to the sphere and rename it to *the_utility*.
- Create another *Set Parameter* and under *Expression* enter the following:

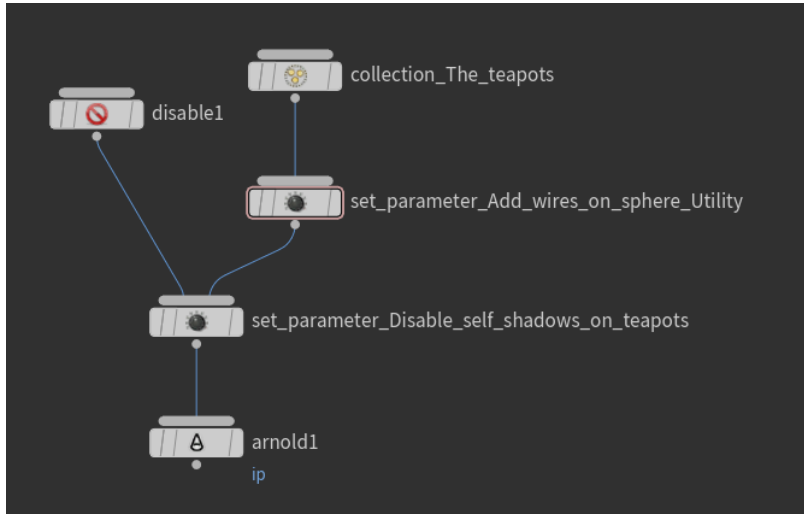
`overlay_mode="wire"`

- Under *Selection* enter the following:

`/shop/the_utility/the_utility`



Utility shader altered with *Set Parameter*



Final Operator Graph output