

Houdini

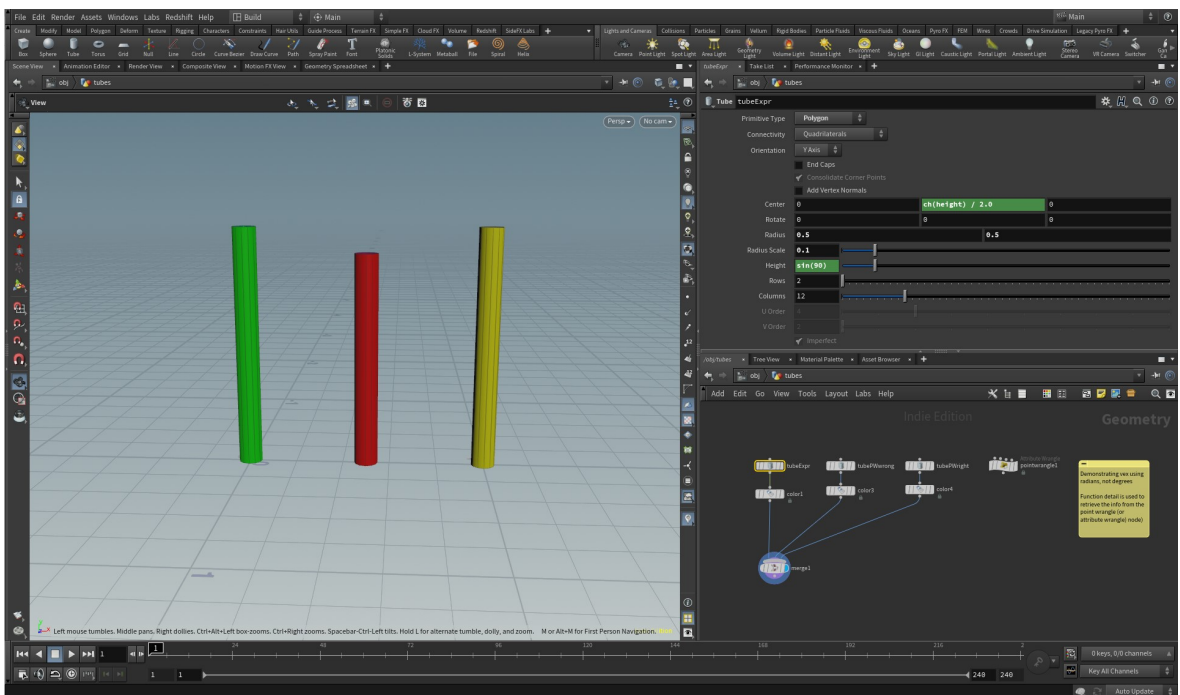
Tips for the Beginner

easy to learn

Ignore the hype - yes, Houdini has many aspects but you don't learn it all at once - it is beautifully modular and powerful - some things to keep in mind as you journey into the software

node based

It is node-based - like nuke and unreal blueprints, and even Maya (according to it's documentation, although really only appears in hypergraph)

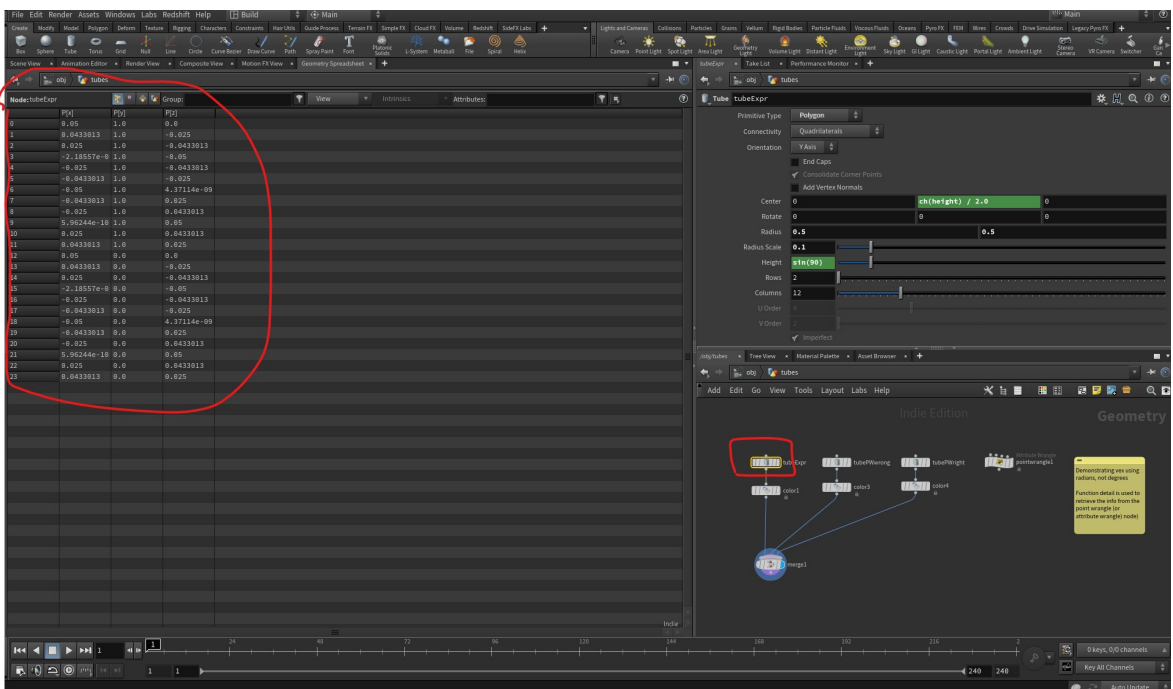


Examples here of nodes, parameters, expressions and functions! Sticky notes too

attributes

Attributes are information stored with the node, so for example when you uv you are adding a uv attribute, if you add a color a color attribute, and so on. The geometry spreadsheet can be helpful for understanding this. There are types of attributes, point, vertex, primitive and detail. This relates to our next concept - context.

Geometry Spreadsheet displays point (below) as well as vertex, primitive and detail

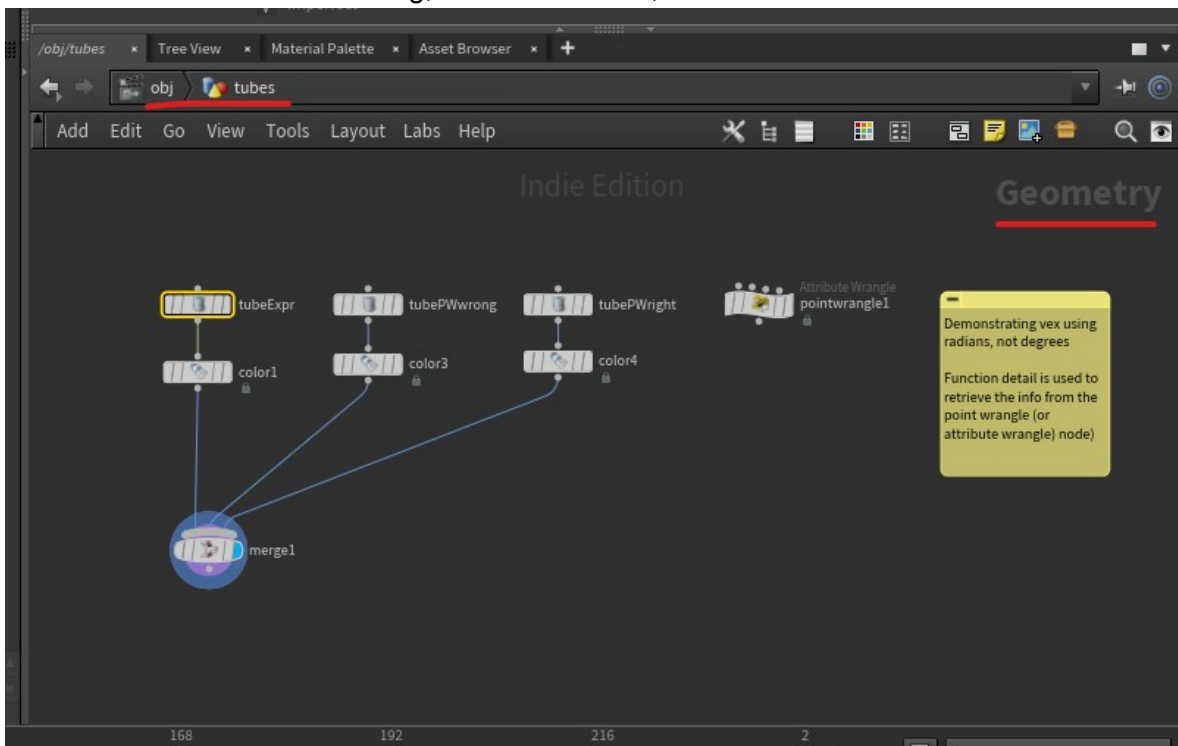


Think of it as information that follows the node around

contextual

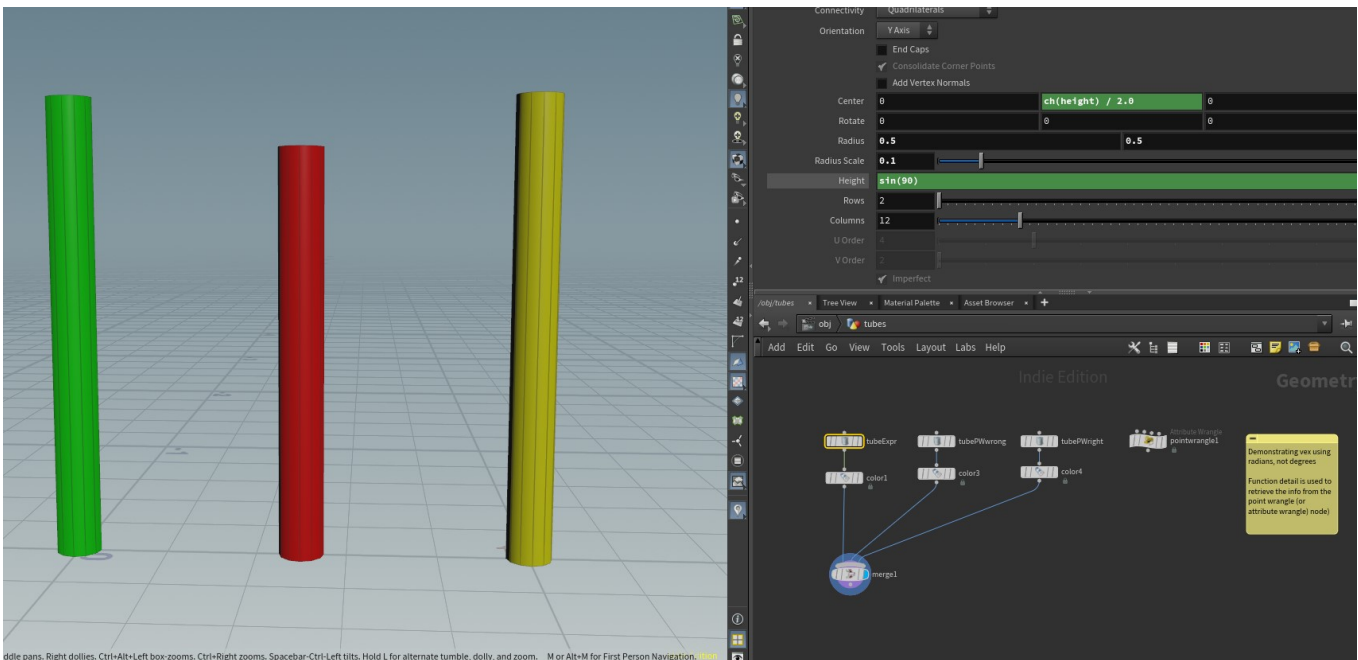
We will mostly be working in the geometry context. The top level is obj where everything is and as we explore you will be introduced to other contexts like dynamics, rendering and so on.

Most commonly you are in the obj/geometry context - but you could be other contexts as well such as "out" for rendering, "mat" for shader, and so on



function do things for you

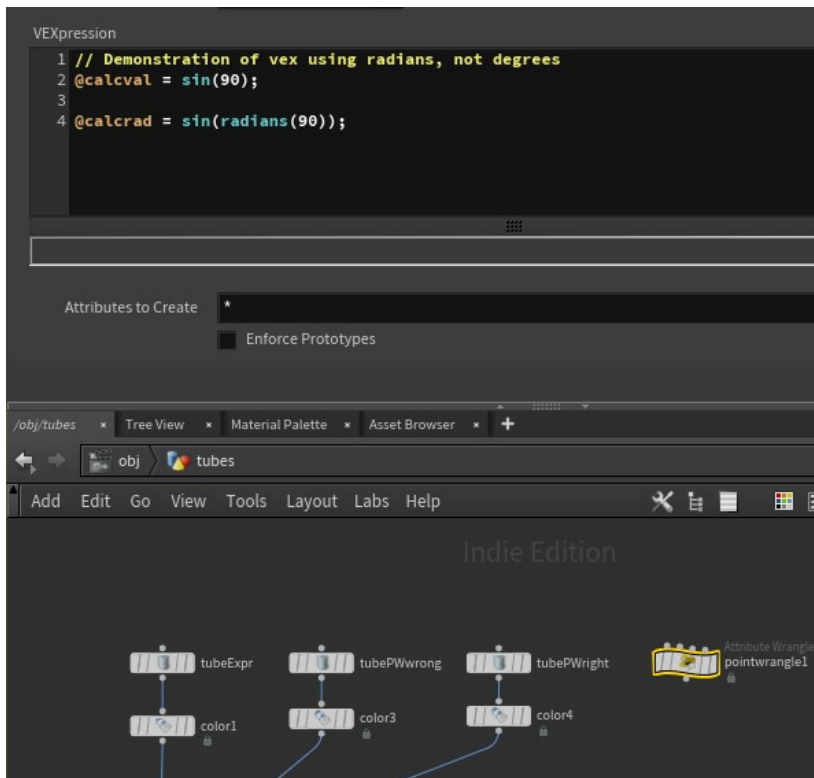
Functions are a concept from programming class that will help you understand expressions. Inline functions go off and return something. For example if you give \sin an argument $\sin(90)$ then it will return a value (1 if it is expecting degrees and .893997 if it is expecting radians. Expressions use degrees, but vex uses radians.



multi lingual

In Houdini you can use multiple languages. There are many ways to add functionality and proceduralism. We will start with hscript and vex in this course, but you can also use python, vops and so on.

Below is an example of vex code which is adding a detail attribute that can be referenced



modular

The reason Houdini is easy to learn is it lends itself very well to modular design - breaking down a big problem into littler manageable problems.

lots of nodes

Yes, there are a lot of nodes. You will continue to discover the more you use Houdini - you will learn the commonly used nodes, but if you are in need of something - take a look at the tab menu - likely someone has provided that functionality for you.

Hit Tab and type the letter "c"

custom nodes

If not, as you become more advanced users you can also easily build your own. We'll discuss SideFX labs and HDAs.