There are several ways to make pipes or tubes in Blender. The simplest is to add a Cylinder to your scene and immediately after creating it change the Cap Fill Type to Nothing.

Then use the Solidify and Edge Split modifiers to give it thickness.
The second way is to use a Boolean modifier. Place a default cylinder with Ngon caps in the scene and use Shift-D to duplicate it, hitting Enter immediately to keep it in place. Use S-Z to increase its height, and then S-Shift-Z to reduce its cross section.

Name the outer one 1-pipe. Then apply a Boolean modifier to it, choose the Operation to be Difference, and the Object to be the second cylinder. In Shaded view you won’t see much change, but in Wireframe you’ll see a tube created out of the first cylinder – but the second is still visible. You have to hide it in the Outliner to see the new pipe (if you delete it this will destroy the boolean modifier).

Blender keeps the original object so the result can be animated: the pipe is drilled out by animating the core moving down through it and making the core object non-rendering. Again, use Smooth shading with Edge Split to remove the faceting.
The third way is to use a curve and modify its properties. This can also be used for ropes, wires, and power lines.

Add a Bezier curve to the scene and go into Edit mode. Bezier curves are the easiest ones to edit, and are controlled by handles the same way a pen tool works in Illustrator or Inkscape. Select one of the ends and use E to extrude it; the new vertex will have the same handle size and orientation as the previous selection, so you will probably have to adjust the handles. If you want a closed curve then Alt-C will toggle this, however it is easier to see what is happening if ends are present (and there is no point in cutting out a closed loop of pipe). Note that you can only extrude from end points (so no T shaped curves)

Make a three dimensional Bezier curve by creating a Bezier curve primitive, going to Edit mode and adding nodes by selecting an end node and either using E and dragging, or by holding down Control and left clicking. Move one of the nodes up from the XY plane.

In the Object Data tab in Properties, choose the Fill to be Full.

Then increase the Bevel depth in the Geometry panel. This will create a square tube. To increase the number of sides increase the Resolution number. 1 gives you 6 sides, 2 gives you 8, and so on. By default these are smooth shaded. To increase the weight of any node select it and use Alt-S. To subdivide a segment (ie add a node between two existing ones) select two neighboring nodes, hit W, and choose Subdivide from the menu.
Add Solidify and Edge Split modifiers to give the pipe thickness and smoothness. The pipe remains fully movable by selecting its vertices or their handles. However it is not easy to animate subobject items in Blender (see 133-TheHookModifier). If you want to animate it or apply the modifiers, convert it to a to a mesh with Alt-C (keeping an editable backup copy on another layer). For animation then add an armature. In the image above I have added an outline by checking the Edge option in the Post Processing panel of the Render tab in Properties.

Remember that if you need Y or T joints for pipes those are an included addon in User Preferences. Go to the Addons tab and the Add Mesh category (or search for pipe) and check Add Mesh: Pipe Joints.

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