Video – Creating a Thing in Packet Tracer

Hello everyone this is our Cisco Packet Tracer creating a thing walkthrough video. And this video's going to be awesome because we're going to start off at the most basic and coolest creation yet.

We're clicking on the components section and we're going to go to sensors. Within here, before we start from scratch, we're going to be utilizing an IoT device from the sensor sub category. So we're going to find that big red button known as the push button. I'm going to click on it and I'll click on my screen and now we have a thing that we can modify. So I'm going to click on the push button, let me resize the window, and we're going to play.

So with this push button, we'll start with the features. In the specifications tab, we see it's just a regular push button, the default value is low and when we push and hold the button it's going to send a digital value of high. Yes, the button is the color red. Now in order to actually interact with this button, we're going to hold down our alt key on our keyboard then we have to press and hold our mouse in order to actually interact. This is not a toggle switch. The button must be held in order for that signal to go. Now when it says remote control is not applicable, what that means is that with the current coding this cannot be hooked up to a registration server like a home gateway or that dedicated standalone IoT registration server. So let's work with this button and learn how the programming of IoT is in Packet Tracer.

So we'll click on advanced. And then I'll go to the top tabs and I'll click on the thing editor. Now to start off, let's flip out this button to something different, make it our own. We have a depiction of the button not pressed and the depiction of the button pressed. When the button is not pressed I'm going to click on that graphic and we see that we're sent to a default components directory for Packet Tracer with many different graphics. I'm going to go to my desktop and at my desktop, when the button is not pressed, I want to use the picture of a lighter that is off. For when the button is pressed, I'll click on that picture, go back to my desktop, and now I'll take a picture of a lighter that's on. I'm going to minimize my device configuration, and now I have my own IoT device which is my lighter here and it's not lit, but when I press and hold the alt key on my keyboard and I press and hold my mouse, as long as I'm holding it down, the lighter is lit, it's just a basic push button. Let's take a look at something a little bit different now.

We've got the lighter and now we're going to take a look at a toggle switch style of a push button. Here we have another push button, another red button in our sensors area. And we hover over it, it says toggle push button. We'll click on it and then we'll click on our screen. Now this toggle push button looks very similar to what we had before. I'm going to click on this, again we're going to see the specifications when it opens up. So we'll resize the window and here again we can take a look, we have low and high outputs but with this one we're actually switching between states with the press of a button. We don't have to press and hold. Just like we saw before there's no remote control for this thing by default, it's not built in for networking along with the programming.

So let's go back to our advanced button just like before, then we'll go to our thing editor and let's change out these graphics and make our own new thing. So when the button is pressed as we see here on the left I'm going to click on that graphic, go back to my desktop tab, and for when the button is pressed I'm going to use the picture of an on switch. When the button is not pressed, I'll click on that graphic and I'm going to switch it about to something of the off switch. So I'll use my own custom off switch graphic. And now when I minimize it, check it out, we've got this toggle push button. By default it's off. When I press and hold my alt key and I just give it a single click from my mouse, with a single slick it changes the state and toggles to on. Click it again just once without having to hold down my mouse and it goggles to off. Now this is awesome because we're able to build our own customized IoT devices based off of what we see here in Packet Tracer.

But in order to learn the programming behind it, what we can do is open up each one of our devices and we can go to the programming tab. In the programming tab we're able to take a look at the current code of our devices which we can see inside of here. You can scroll through and read how these devices are actually being utilized and how the programming code is being called upon. We can actually compare this against another device in order to be able to see the differences between something like a toggle switch and a push button itself. So take note of this code and be able to utilize this in order to build your own custom IoT device.

Now we'll minimize both devices, but what if we wanted to save these for the future? To save these devices for future usage inside of our own sub category of components, you can actually go to tools, custom device dialogue, and when you go to custom device dialogue we're able to actually click select and when you click select we can then choose a device that's on your screen. If I click on the toggle push button for example, now it goes to a template name of IoT four, it's just based off of the device name, I can change this. I can call this toggle switch and then custom. I can give it a description if I want as well, which is just going to be an off toggle switch. Now down here we have these check boxes and this is going to be based off of where the item's going to be located inside of Cisco Packet Tracer itself when I try to put it back into play on the topology. Well this toggle switch I'm going to have saved in the sensors area just like where we found our red on off push button and toggle button. When I click add I get a popup window and this will then let me save this inside of Cisco Packet Tracer. I use the default name and I'll click save. Now down below packet tracer moved and put me into a directory. If I go back to components and sensors, my device will show on the right side here at my next load of Packet Tracer. I can save the actual item as well which is my lighter by doing the same thing. Tools, custom device dialogue, select. I can click on that lighter and again I can name this as well. So lighter. And again I can put that in the sensors. Click add and I'll save this in my template directory of Packet Tracer as well. Now again, next time I load Packet Tracer, both of those will exist down below in the sensor's area on the right side. So the one thing about these devices that you add yourself, it will be local to your machine. When I want to load up Packet Tracer in the future, I now have the ability to instantly deploy the lighter and instantly deploy my toggle push button.

So make Cisco Packet Tracer your own, build your own IoT devices, compare the code behind the programming tabs, and have some fun.