Video – IoT Devices in Packet Tracer

Hello everyone! This is our Cisco Packet Tracer, Internet of Things walk-through video. In this video we're going to walk through many different smart devices that exist here,

in this topology. So it's just a house, but all these IOT devices I put on top of it, they make it into an Internet of Things smart home. So where do we get all these devices from? Well here in the bottom left corner, we're at the default network devices, followed by routers or switches, hubs, wireless devices, even security or WAN. Where we are going is end devices. When I click on end devices, you'll see the common default category of PCs, printers, phones, and more. But besides that, we have other sub-categories, such as home. Here we'll find air conditioning units, smart appliances like coffeemakers and batteries and smoke detectors, even fans, lamps, and lawn sprinklers. All of these can be used to interact and work with a smart home network in Cisco Packet Tracer. So all we have to do is literally click on one, and click on your screen, and you've literally deployed it on your house. We do the setup later on. We have other categories like smart city. In smart city we can see streetlamps, we can even see wind detectors, and besides that, more lamps and even Bluetooth beacons. We can go further, and there's industrial categories. Or even further than that, power grid. This is great. So let's take a look at our smart house and see what we currently have deployed. We have our ceiling fan, we've got a smoke detector, our appliances a coffee maker, a smart door, even a garage door, and a solar panel. That solar panel charges a smart battery. And we even have this lawn sprinkler, which is not connected just yet. What's interconnecting all these though, is going to be this smart home gateway. The smart home gateway connects out to the cable modem, which goes out to the internet, and that goes out to a publicly reachable web server.

We're going to be using this home gateway though, for the remainder of our lab, followed by that lawn sprinkler. So I'm going to open up the home gateway by clicking on it. And here we can take a look; I'll zoom in. This device is going to be interconnecting our IOT devices, as well as it has network jacks and an internet port. At the top we see it has the wireless antenna as well. So I'm going to go ahead and click on the config tab, and let's take a look. With the basic settings, just the name. Follow we have an internet port, that's receiving an address from the public ISP. We see our public address in here. We have the LAN, and that LAN shows us the IP address for our Local Area Network inside of our house. This is how our user is going to reach this smart home gateway, and manage our house smart network. We have wireless, which'll be our wireless settings, a wireless name of wi-fi, with a password of secretkey. We'll be utilizing this later on as well.

Now for GUI, we don't see a GUI here. We see an index dot php file. This is how we're going to be interacting with our IOT devices, by using this index dot php page within our smart home gateway. We'll be accessing this using a web browser from our tablet inside of this house. In the attributes section, we'll see here mean time between or before failure, cost, power source, rack units, and wattage. We'll be using this at later times. So at this time we are done with this smart home gateway.

What we want to do now is interact with our IOT devices. We're going to be able to interact with them by linking them to our home gateway, or by literally interacting with them physically, such as I can hold down my left alt key, and while holding down left alt key I can left click on the coffeemaker. And that then turns on the coffeemaker; the red light is on. I can left click on it again while holding the left alt key, and it turns it off. Same thing with the door: open and close. Garage door, so forth. Even the lawn sprinkler: watering the lawn, not watering the lawn.

But why physically control it if we can control it through the network? So that's what we're going to do next. We're going to go to the tablet, open it up, and on our tablet, it's just a tablet, we can sit on the couch. Let's make sure we have an IP address from the smart home gateway. I'll go to my config tab, and wireless, and wireless I can see here that we've received an address successfully. We're hooked up to the wi-fi with a secret key. So I'll go to my desktop tab on my tablet, open my web browser, and I'll put in the IP address of the smart home gateway. That's 192.168.25.1. That's the default IP. It'll ask for a username and password, the default is admin. We'll do that for both. Once I hit submit, take a look! All these devices are registered to this smart home gateway. I can click on the garage door, for example, and what I can do is click that red button, and I can open the garage door from sitting on the couch on my tablet. Click it again and I can close the garage door. And same with things like maybe the coffeemaker. Coffeemaker is right here, I can click on the coffeemaker, and then that coffeemaker is red right now, I can click it and take a look: it's on. So we can control it! That's great! So what about the lawn

sprinkler? That lawn sprinkler isn't hooked up yet. In order to connect it, I'll click on my lawn sprinkler. And after clicking on it, I'll resize my window. I'll go in my config tab and inside of here, right now it says fast ethernet. What I would like to do is connect this via wireless. So I'm going to click my advanced tab, and then I have this IO config, it's input/output, I'll change the network adapter on the lawn sprinkler to a 1W. That's the wireless. From here I can go back to my config, I'll see we have a wireless interface. In the wireless interface I need to change the wireless network name to wi-fi, which is what my home gateway's giving off. The WPA2 pre-shared key password is exactly what the wi-fi gateway is using, and that was just secretkey. From there, I'll go to my DHCP, and now it connects...awesome! I've got an address. The lawn sprinkler is hooked up to my wi-fi. What I need to do now though is go to my settings on my sprinkler. And I will click on home gateway. We'll work more on this in the upcoming videos. By clicking home gateway, the lawn sprinkler will now be connected to my smart home gateway. So if I want to control that lawn sprinkler from my couch, I can go back to my tablet, there it is, the lawn sprinkler popped up. I'll close off the others. I can click on my lawn sprinkler, and I'll be able to turn on and water the lawn from my couch, check it out. Ah ha! I'm now watering the lawn from sitting on my couch using my tablet, through the smart home gateway that all these IOT devices are registering with.

So that's it. Play with Packet Tracer and build your own smart home network. Convenience, as well as the future of IT.to become a Cisco all-star.