Video – Accessing and Monitoring Smart Devices

Hello everyone. This is our Cisco Packet Tracer Accessing and Monitoring Smarter Devices walk-through video. This video is going to be great. We have Packet Tracer and IOT coming together and utilizing something actually called a smart home gateway. We're going to build it from the ground up right here, right now.

To start it off we have an internet connection hooked to a cable modem. Now, we need to deploy a wireless gateway. This wireless gateway is going to be under the network devices in wireless then we'll find the home gateway. We can click on it and we'll deploy the home gateway. Over inside of this hallway, for example. After we have the home gateway deployed, we want to connect this thing via wires. To figure out what it has, we can click on it to open it up, and here what we can actually do a zoom in, open it up a little bit, expand, and take a look. We've got four ports for wired devices. Then we've got the port for internet connection. At the top we've got our wireless antennas. So let's go over to our cabling link. We'll click on our straight-through cable. Click on the modem, it's port, and we'll connect it to the internet port of our home gateway. So now what we need to do is open up our home gateway. Let's make sure we're getting in the address. We can go to our Config, into the internet port, and we'll click on DHCP. We're getting an address from the internet. That is awesome. We can click on LAN, and we'll see that we have an IP address given to us by default, which is 192.168.25.1. We'll use this in order to access the home gateway at a later time. We've got wireless, as well, where we can see our wireless network name is called HomeGateway. We'll put a password on. We'll just name this password. Make it easy. Awesome. So we're good to go.

In the GUI tab, we can see that we've got our file name for the registration server page, and it's set to on for both. At this time, we can close off that home gateway. Now we'll build out our end devices for our smart home. I'll click on end devices. We're going to go over to our home. Let's see, we'll take our ceiling fan. We'll click on that and put it right here. Awesome. A door would be nice. We'll click on the smart home door and put that at the front of our house. And maybe lastly, just for security, let's take a lamp. I like this light. Click on light. We'll put here in the front window. Awesome. So this time, now we want to interconnect these three devices to our home gateway. First, I'm going to click on the IOT fan. I'll click on that. So the fan opens up and here we can see basic info. It's a ceiling fan. And yes it is capable of hooking to our registration server. We'll be able to have off, a low speed, and a high speed. They give us some details of how to use it and interconnect it. Also to physically access it, we can just hold on the ALT key and left click on it to interact, as well. But mainly, we're going to connect this thing to a registration server. That's our goal for today. So, first off, we can use the default Config tab where it says FastEthernet. That allows us to physically plug in a cable from the fan to the wired port on the home gateway. If you want to hook through wireless, let's do this instead. We'll click on the Advanced button on the bottom right corner. Then we'll click on the I/O Config tab. Here we can click the network adapter, and let's put in a 1W, which is a wireless adapter. Now in the Config tab, we'll have wireless. The default name is HomeGateway. We just need to put in the WPA2-PSK password, and that was just going to be the word of password. So I can type that in. From there, I'll click my DHCP, and we'll get an address. And the fan is now up and running. Great. If you want to have access of this fan, though, with our home gateway, we need to go to our settings. And inside of settings, we'll select Home Gateway. Home Gateway allows us to have this device automatically hook up to the local home gateway that's reachable in my smart home network. Remote server will be in another video where we can target a publicly-reachable server that exists out in the internet and anyone inside of the Cisco Packet Tracer environment here, can remotely log in to our remote server and access your entire smart home from anywhere in the Packet Tracer simulated internet. We'll use that in a different video.

So the fan is done, so we're going to click on the light, and the light will open. So the light opens up. We'll resize it. There we go. Now we're going to click Advanced button, just like the last one. We'll go to our Input/Output Config, give us a 1W for wireless. Again, Config tab and Wireless, and HomeGateway is set by default. WPA2-PSK, the password of password. And then we'll click DHCP and make sure we get an address. The address will pop up. There it is. We'll go to Settings and we'll register with our Home Gateway. The light is done. At this time, we're going to do the door. We'll click on that and open it up. So the door opens up. We'll resize this just a little bit. And now again, Advanced, Input/Output Config, change the network adapter to 1W wireless. Config tab, Wireless, and we've got our HomeGateway the default wireless name. Select our WPA2-PSK, and that special password of

password for the wireless. Click on DHCP and the smart door here is going to get an address. It's on the network. Settings and Home Gateway.

So our three devices are all connected to the wireless network, but now we'd like to control them. So let's grab an end device, and let's grab a desktop PC. Maybe we could put this upstairs in this room. That's good. Now we need to give it a cable to connect that end PC over to the smart home gateway. So I'll grab the orange cable and we'll just go with a straight-through. For the straight-through, I'll click on the PC, FastEthernet, and we'll connect it to the home gateway Ethernet1. I can click a fast forward. Make sure that connection will be up and running. I can click on the PC. So go to my desktop tab on my PC that's sitting up here in this upper room. IP Config, DHCP. Make sure we get an address in the gateway. We do, and now we're going to open up the desktop and web browser. Set up our web browser. We're going to go to our 192.168.25.1. This is the IP of the home gateway. The username is admin. The default password is admin. I can click submit and check it out. We can see those three devices. Right now their names are IOT0, 1, and 2, accordingly, but we can rename those on the devices themselves. On the right side we can see the ceiling fan, light, and door. I can click on that ceiling fan, and again, we can control the speed. I can click Low. It starts to spin, little arrows around it. High, more arrows, it's moving a lot of air. Inside of the light, I can go there, and it's off by default. Dim, it lights up a little bit. On, it's full blast. And lastly, the door. IOT1 Door. I can lock the door. Ch-chink turns red, the door is now locked remotely. I can unlock the door. Also what we see here is the open it says red. That means it's closed right now. If I were to ALT click on it, the door's open. I can take look at that again and now it's green. It says the door is open. I can close that door. Red, the door is closed and, again, I can lock it. So we can manage the entire IOT smart network from sitting on this computer upstairs in our smart home.

So play with Cisco Packet Tracer. Build your own IOT smart home networks, and become a Cisco IOT all-star.