Video – Connect IoT Devices to a Registration Server

Hello everyone! This is our Cisco Packet Tracer connecting IoT devices to a designated registration server walkthrough video. Now, this video's going to be great because we're going to step away from the home gateway wireless router and we're going to switch out to using a server that exists on the internet to interconnect our IoT devices.

So where do we find the server? Well, inside the End Device category, we can then click on End Devices. If you take a look in here, you'll find the third item over is Server. Now, we've already have a server deployed, so we don't need to deploy another one. We're just going to click on the server that is currently on our screen. It's called Web Server, but we're going to rename that. When I click on this server we can go into our Physical tab. Let's have our Physical tab, we can see all these different interfaces that we can click and deploy on our server. We can use the default wired network card that's on our server now, but keep in mind, you can power it off and install any network cards that you like. So let's head over to that Services tab. In the Services tab we have all these different services that we can deploy on our network There's a lot of items here that didn't exist in the home gateway deployment that we did in the previous video. We can set this up as a web server, a DHGP sever for addressing, TFTB for hosting for files, DNS, and all the way including even email! Right now, we're interested in the IOT registration server. So we're going to click on IoT and we have the ability to turn on or off the IoT Registration Service.

So we'll just go ahead and click on. At this point and time our device inside of our house network should be able to connect and register to this cloud server on the internet. We need to do some configuration, but first let's go to the Config tab and we can rename this from Web Server to Cloud IoT Server. Make it official! Awesome. So, after we do that, you don't need to click apply or anything. We can just go ahead and close off the Cloud IoT Server. First, let's make sure our devices in our house have access to the Cloud IoT Server. So we can click in the Tablet PC0 and inside of here we can go ahead and click our IP configuration area. Make sure we have our addressing coming down to the tablet PC, which we do. And now what we can do is open up a web browser, so we'll close out of our IP Config, open our web browser, and we're going to type in the IP address or the URL that we can reach the IoT server. The URL is www.cisco.com and we can hit enter. And now we are actually gaining access to that Cloud IoT server.

But right now we don't have an account on it so we need to use the sign up now button. So we'll click sign up now and we'll create a username of admin with a password of cisco. Just admin and cisco. This is our new account we're going to use. I can click create. So now that the cloud server has been configured, so now we actually have to be able to connect devices to it. Now, this is going to be very easy to do. We have an account of admin with a password of cisco; our laptop is able to reach the IoT server, so now we can just minimize the Tablet PC and we have all these IoT home devices that we would like to connect to that registration server. So I can click on the smoke detector. So as that opens I'll just resize it so it fits in our video. And now in the smoke detector. You might have more tabs here if you're in what's called the advance mode. You don't have to have those. I can turn that off. We're going to go into our Config tab. And in the config tab, in the main global settings area, where we're at by default, you can scroll to the bottom and you can see remote server. Not just register with a Home Gateway and do everything automatically with no interaction. We're going to use remote server. Remember the Server Address. I could either type in the IP, which is on the Cloud IoT server or I could type in the server address of www.cisco.com which is the URL that's being resolved for the IP on Cloud IoT Server using DNS. For the username we've had set up admin, we did that together. And the password was cisco, which we also set together. I can go ahead and I can click the connect button. Once it says refresh, you know it went through. The smoke detector has now registered itself with a server on the web. I can minimize the smoke detector and go back to the tablet. And on the tablet, take a look! We're still on that website, which is going to be the Cloud IoT Server, and now the smoke detector is here. And it says red, which is good! That's no smoke. That's alright. So we can minimize the tablet, which is working beautifully, connecting to that Cloud IoT Server. And now we'll go ahead and click on the fan. Fix our window, then again, head on over to our Config tab. And in that Config tab, we have to go and do remote server, and again, put in that web address. And our creds. From clicking connect, it will come through. Connecting and refresh, we are hooked up! So the fan is done. The smoke detector is done. Go ahead and finish up the smart lamp and the smart door. So it's just quick repetition, it doesn't take too long to do.

Especially when you're using a URL for your target. And we'll just head on over while that works. And do the last one, which is a lamp. So the lamp is the last item and then we can sit anywhere in the world with an internet connection and we're going to be able to access all these smart devices by reaching that Cloud IoT Server on the web. And that's the best part. Because you have this IoT, in meta things network deployed with all these devices interconnected and they're all hooking up to this remote server on the web.

So this tablet here doesn't have to be in our house. This tablet could be anywhere in the world that has an internet connection. As long as it can reach that internet server, we can control all these devices in the house and check the status on everything. So now that all the IoT devices are hooked up to that cloud server, we can go back on the tablet and look. You can see 'em all. We've got the smoke detector, the fan, the door, and the lamp. And from anywhere in the world! I can lock or unlock the front door. Also, I can see if the door is opened or closed with a red for closed or green for open status. With a smart lamp you can control if the lamp is on or off, or if it's going to be high or dimmed. Just for an example, with some of these devices, like the door, don't forget that you can hold onto your alt key on your keyboard and you can left-click on the door to open it. Check it out, the door is open, we can go back to our tablet and now the door is green. It is open. So this awesome! This is Cisco Packet Tracer using an IoT Registration Server on the internet and being able to simulate these real life IoT networks.

So again, put the time in, play with Cisco Packet Tracer, and you will find the most phenomenal and awesome things to configure.