CISCO Academy

Packet Tracer – Connect IoT Devices to a Registration Server

The Smart Home Network



Objectives

Part 1: Add a Registration Server to the Network

Part 2: Register IoT Devices to the Registration Server

Background / Scenario

In this activity you will add a registration server and several IoT devices to an existing home network and monitor those devices through the registration server.

Part 1: Add a Registration Server to the Network

Step 1: Open the Registration_Server.pkt file and save the file to your computer

Step 2: Add a registration server on the network

a. Place the **Server** end device onto the workspace and connect it to the home gateway.

Find the Server in the End Devices Selection box and drag it to the workspace.



b. Connect the server to the wireless router.

Using a copper straight-through cable, connect the server to the wireless router.

c. Enable the registration server service on the server.

Click the server in the workspace to open the configuration window. Click the **Services** tab and then click the **IoT** service in the left pane. Click the **"On**" button to enable the service.

🤻 Server1						-		×
Physical Config	Services	Desktop	Programming	Attributes				
SERVICES					Registration Server			
DHCP	Service	e			On		0 0	ff
DHCPv6								
TFTP								
DNS								
SYSLOG								
AAA								
NTP								
EMAIL								
FTP								
IoT								
VM Management								
Radius EAP								
							Delete	

d. Configure the server.

Click the **Config** tab. In the **Global Settings** window change the **Display Name** to **Registration Server** and change the **DHCP/DNS IPv4** setting from the default **Static** to **DHCP**.

-	-		×
Programming Attributes			
Global Settings			_
Registration Server			
IS IPv4			
192.168.25.1 209.165.220.220			
	Programming Attributes Global Settings Registration Server NS IPv4 192.168.25.1 209.165.220.220	Programming Attributes Global Settings Registration Server NS IPv4 192.168.25.1 209.165.220.220	Programming Attributes Global Settings Registration Server NS IPv4 192.168.25.1 209.165.220.220

Verify that the server has received an IPv4 address from the home gateway by clicking the **Desktop** tab and then the **IP Configuration** icon.

🤻 Registrat	ion Server									-	-	×
Physical	Config	Services	Desktop	Programming	Attributes							
IP Configura	tion											х
-IP Configu	ration											
DHCP				◯ Static								
IP Addres	s			192.168.2	25.107							
Subnet M	ask			255.255.2	255.0							
Default G	ateway			192.168.2	25.1							
DNS Serv	er			209.165.2	220.220							

Note that, in this example, the IPv4 address assigned to the server is 192.168.25.107. Yours may be different.

Close the **Registration Server** window.

Part 2: Register Devices to the Registration Server

Step 1: Create a registration server account

a. Click the **Tablet** icon to open the **Tablet** configuration window. Click the **Web Browser** icon in the **Desktop** tab. Enter the IPv4 address of the **Registration Server** in the **URL** box and then click **Go**.

Because there is no IoT account created yet, one will need to be created. Click the **Sign Up Now** option.

🥐 Tablet PC0		_		×
Physical Config Desktop Programming Attributes				
Neb Browser				х
< > URL http://192.168.25.107	Go		Stop	
Registration Server Login				^
Username:				
Password:				
Sign In				
Don't have an IoE account? <u>Sign up now</u>				

Select a username and password and then click Create to create the IoT account.

🥐 Tablet PC0	_		×
Physical Config Desktop Programming Attributes			
Web Browser			х
< > URL http://192.168.25.107	Go	Stop	
Registration Server Login			^
Username: admin Password: •••••			
Sign In			
Don't have an IoE account? <u>Sign up now</u>			

Notice in the **IoT Server – Devices** window there are no IoT devices listed. This is because all the devices are still registered with the home gateway.

🥐 Tablet PC0	- 🗆 ×
Physical Config Desktop Programming Attributes	
Web Browser	X
< > URL http://192.168.25.107/home.html	Go Stop
IoT Server - Devices	Home Conditions Editor Log Out 🔨

Close the **Tablet PC0** window.

Step 2: Register IoT devices to the registration server

a. Configure the ceiling fan to register with the registration server.

Click the **Ceiling Fan** icon in the workspace to open the device configuration window and then click the **Config** tab. Change the **IoT Server** type from **Home Gateway** to **Remote Server**. Enter the IP address of the registration server from Part 1, and the IoT account **Username** and **Password** created in Step 1 above. Next, click the **Connect** button.

CLOBAL	LISDIAV Name	celling Fan	
GLOBAL	Serial Number	PTT0810025V	
Algorithm Settings	ochar Number		
Files	Gateway/DN	6 IPv4	
INTERFACE	DHCP		
	O Static		
	Gateway	192.168.25.1	
	DNS Server	200 485 220 220	
	DN3 Server	203.103.220.220	
	Gateway/DN	\$ IPv6	
	O DHCP		
	O Auto Cor	fig	
	Static		
	IPv6 Gatewa		
	IPv6 DNS Se	ver	
	InT Server		
	O None		
		away	
		eway	
	Remote :	erver	
	Server Addr	ss 192.168.25.107	
	User Name	admin	

Close the Ceiling Fan window.

b. Configure the lamp and the door IoT devices to register with the registration server in the same manner.

Step 3: Verify that the IoT devices are registered to the registration server

Access the IoT registration server through the wireless **Tablet** web browser using credentials from Step 1 above.

The three IoT devices, the ceiling fan, the lamp, and the door should now be registered with the IoT server.

Tablet PC0	- 0
hysical Config Desktop Programming Attributes	
eb Browser	<u>د</u>
< > URL http://192.168.25.107/home.html	Go Stop
DT Server - Devices	Home Conditions Editor Log Out
 Ceiling Fan (PTT0810C2SY) 	Ceiling Fan
•	Light
▶ Lamp (PTT081073EE)	

Close the Tablet PC0 window.

Step 4: Close Packet Tracer