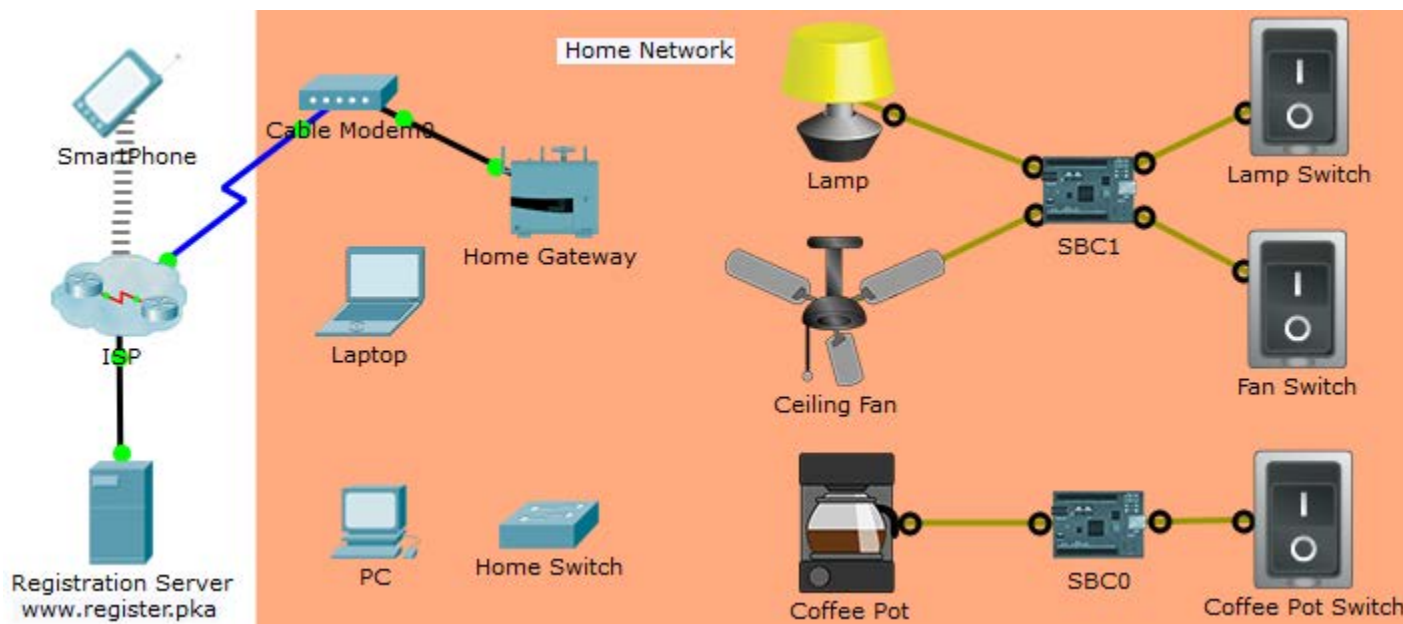


# Packet Tracer – Install and Configure IoT Devices

## Topology



## Background / Scenario

In this activity, you will connect the computing and IoT devices to the home network. All the IoT devices have been configured to work with rocker switches connected to single-board computer (SBC). The IoT devices need to be connected to the Home Gateway and registered with the registration server ([www.register.pka](http://www.register.pka)). You already have an account with the registration server:

Server Address: ....[www.register.pka](http://www.register.pka)

User Name: .....admin

Password:.....admin

After the IoT devices are connected to the home network and registered with the registration server, you will be able to control the IoT devices at home, or away from home, via the registration server.

## Part 1: Setting up the Home Network

### Step 1: Set up the wired network

- Connect any available FastEthernet port on **Home Switch** to any available Ethernet port on **Home Gateway** using a copper straight-through cable.
- Connect **FastEthernet0** port on **PC** to any available FastEthernet port on **Home Switch** using a copper straight-through cable.
- Click **PC**. Click **Desktop**. Click **IPConfiguration**. Select **DHCP** for the IP Configuration.

### Step 2: Set up the wireless network

- Click **Home Gateway**. Click the **Config** tab. Click **Internet** in the left panel.

- b. Click **DHCP** under Internet Settings. The **Home Gateway** will receive the settings from the ISP.
- c. Within **Home Gateway**, click **Wireless**.
- d. Change the SSID to **MyHomeGateway**. Change the Authentication to **WPA2-PSK**. Enter **CiscoloT** as the PSK Pass Phrase.
- e. Click **Laptop**. Click **Desktop**. Click **PC Wireless**.
- f. Click **Connect** tab. Select **MyHomeGateway** network. If wireless network name is not displayed, click **Refresh**.
- g. Click **Connect**. Enter **CiscoloT** as Pre-shared Key. Click **Connect**.

### Step 3: Connect the IoT devices to the network

IoT devices can be connected using wires or wirelessly. The coffee pot will be connected to the network using Ethernet cables. The lamp and the ceiling fan will be connected wirelessly.

- a. Connect the **Coffee Pot** to any available FastEthernet port using a copper straight-through cable.
- b. Click **Coffee Pot**. Click **Config**. Click **FastEthernet0**. Select **DHCP** for the IP Configuration.
- c. Click **Lamp**. Click **Config**. Click **Wireless0**. Enter **MyHomeGateway** as the SSID. Click **WPA2-PSK**. Enter **CiscoloT** as the PSK Pass Phrase. Select **DHCP** for the IP Configuration.
- d. Repeat step c for **Ceiling Fan**.

## Part 2: Interacting with IoT Devices

The IoT devices can be configured to be controlled directly, with switches, or through a web interface. In Part 2, you will connect the IoT devices to a registration server so you can control the IoT devices via a web interface.

### Step 1: Access the IoT devices locally

You can control the IoT devices directly by pressing **Alt** and clicking device at the same time.

- a. Click **Alt + Lamp** a few times. How many settings does the **Lamp** have, and what are the settings?

Click **Alt + Lamp Switch** a few times. How many settings does the **Lamp Switch** have, and what are the settings?

- b. Repeat with the **Ceiling Fan** and **Coffee Pot**.

### Step 2: Configure the IoT devices for remote access

To control the IoT devices remotely via a web interface, the devices need to be registered with a registration server.

- a. Click **Lamp**. Click **Config**.
- b. Under the IoT Server heading, click **Remote Server**. Provide the following information to connect to the registration server.  
Server Address: .....**www.register.pka**  
User Name: .....**admin**  
Password: .....**admin**

- c. Click **Connect** to connect to the server.
- d. Repeat steps a - c for **Ceiling Fan** and **Coffee Pot**.

### Step 3: Access the IoT devices remotely

- a. Click **Laptop**. Click **Desktop**.
- b. Click **Web Browser**. Enter **www.register.pka**. Enter **admin** as the Username and Password. Click **Sign In**.
- c. Click the chevron to view the device status and controllers.
- d. Turn on **Lamp** by clicking **Dim**. What happened to **Lamp** in the topology?  
What did you click to turn on the **Coffee Pot** from the **Laptop**?
- e. You can also control the devices while you are away from home by accessing the registration server. Click **SmartPhone**. Click **Desktop**. Click **Web Browser**. Enter **www.register.pka**. Enter **admin** as the Username and Password. Click **Sign In**.