

Assignment 2-Packet Tracer – Connect and Configure IoT Devices to a Registration Server for a Smart Office

1. Download file named Registration server Packet tracer from <https://static-course-assets.s3.amazonaws.com/I2PT/en/index.html#6.2.1.2> once you log on to netacad.com
2. Save the file as **StudentID_Firstname_ITC560.pkt**
3. Add a registration server and set it up for IoT network
 - i. Add a registration server
 - a. Place the Generic server onto the workspace.
 - b. Find the Generic server in the **End Devices Selection** box and drag it to the workspace (Select End Devices-> Generic Server)
 - ii. Connect the Registration Server.
 - a. Using a **Copper Straight-Through** cable, connect the server to the **Wireless Router** through the **cable internet** and cable modem.
 - iii. Enable the registration server service.
 - a. Click the **Registration Server** in the workspace to open the **Registration Server** configuration window. Click the **Services** tab and then click the **IoT** service in the left pane. Click the **“On”** button to enable the service.
 - iv. Configure the registration server.
 - a. Click the **Config** tab. In the Global Settings window change the **Display Name** to **StudentID_Name_IoT Registration Server** (Your studentID and your name followed by Registration Server) and change the **DHCP/DNS IPv4** setting from the default **Static** to **DHCP**.
 - b. Verify that the server has received an IPv4 address from the Home Gateway by clicking the **Desktop** tab and then the **IP Configuration** icon.(My server IP address is 209.185.220.3, yours could be different). Please note your IP address for your server. Close the **Registration Server** window.
4. Register Tablet to the Registration Server
 - i. Click the **Tablet** icon to open the **Config** tab. Select **Wireless** tab from left. Enter **OfficeNetwork** for **SSID**. Then select **WPA2-PSK** and enter **PSK Pass**

Phrase as Student ID. AES is automatically chosen for **Encryption**. If not select AES from drop down menu.

- ii. 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**.
- iii. Because there is no IoT account created yet, one will need to be created. Click the **Sign up now** option.
- iv. Select a **username(Your StudentID)** and **password (Your Student ID)** and then click **Create** to create the IoT account.(It is a must only your studentID should be chosen for both username and password)
- v. No devices show up under the URL box as we have not set up IoT Server – Devices window there are no IoT devices listed. This is because all the devices are still registered with the Home Gateway.

5. Set up Wireless Router at office

- i. Select **Config** tab then **Settings** tab on the left. Set **Display Name** as **StudentID Wireless Router**.
- ii. Select **Wireless** tab from left. Enter **OfficeNetwork** for **SSID**. Then select **WPA2-PSK** and enter **PSK Pass Phrase as Student ID. AES** is automatically chosen for **Encryption**. If not select AES from drop down menu.
- iii. Follow **6.ii** for all end devices (IoT) connected to the wireless router.

6. Configure the Smart Devices to register with your Registration Server.

- i. Click the **Device** icon in the workspace to open the device configuration window
- ii. Click the **I/O Config** tab-> Network Adapter->choose **PT-IOT-NM-1W**(This is a wireless network adapter).
- iii. Next **Config** tab.
 - a. Select **Wireless** tab from left. Enter **OfficeNetwork** for **SSID**. Then select **WPA2-PSK** and enter **PSK Pass Phrase as Student ID. AES** is automatically chosen for **Encryption**. If not select AES from drop down menu (As in 6.ii).
 - b. Select **Setting** tab from the left under the **Config** tab. Set **Display Name** as **Smart Device**. Set **Gateway/DNS IPV4** to

DHCP. Change the **IoT Server** type from **Home Gateway** to **Remote Server**. Enter the **IP address** of the **StudentID_Name_IoT Registration Server** and the IoT account **Username (Student ID)** and **Password(Student ID)** created. Next, click the **Connect** button. Once connected you will see Refresh button.

- iv. Now do step **5.i**, you should be able to see the device listed under your URL once you log in with username StudentID and password StudentID..