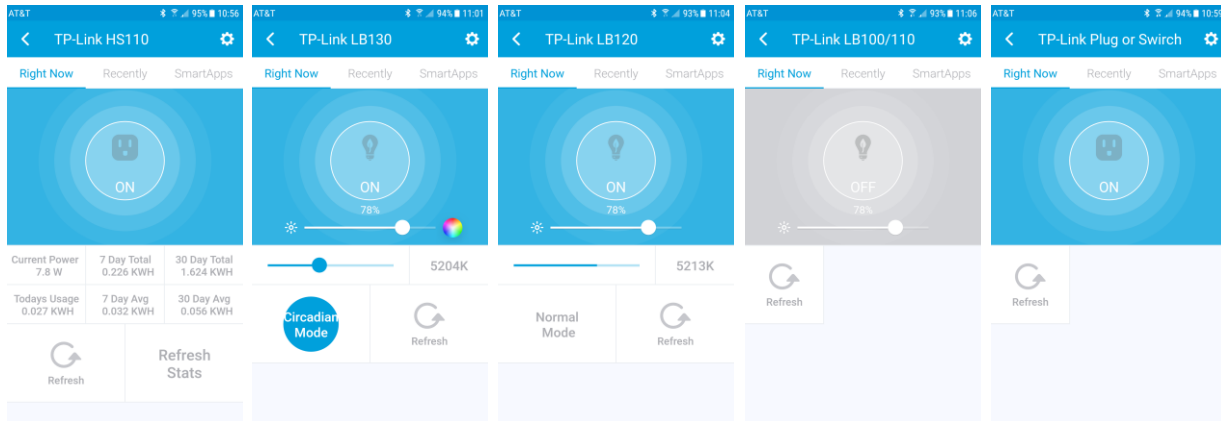# Installation Instructions for the TP-Link Devices to SmartThings

These instructions are for the installation of the TP-Link devices into the SmartThings platform. There are four aspects of this installation:

    a. The Windows 10 PC based node.js utility which provides the framework.
    b. Copy these files to the server PC.
    c. The node.js applet "TP-LinkServer.js", the interface between SmartThings and the TP-Link devices.
    d. The device handlers (one for each device type you use) that implement the TP-Link devices on your PC.

INSTALLATION FILES

Root directory
- "TP-LinkServer.js" – the single node.js server script.
- "TP-LinkServer.bat" – a MS Windows server start file.

DeviceHandlers directory
- "Hub TPLink Plug-Switch.groovy" – HS100, HS105, HS200, HS210, KP100.
- "Hub TPLink Energy Monitor Plug.groovy" – HS110, HS115.
- "Hub TPLink Soft White Bulb.groovy" – LB100, LB110, LB200, KB100.
- "Hub TPLink Tunable White Bulb.groovy" – LB120.
- "Hub TPLink Color Bulb.grooy" – LB130, LB230, KB130.
- "TP-Link SmartThing Implementation.pdf" – operational description.

    Documentation Directory
- "Instructions - TP-Link Server Install.pdf" - these instructions
- "Update from earlier versions.txt" - simplifed instructions to update only.
- "TP-Link SmartThing Implementation.pdf" - description of these devices as they appear on SmartThings.

UPDATE INSTALLATIONS

Installation Instructions for the TP-Link Devices to SmartThings

If you are updating, read the instructions in "Update from earlier versions.txt". These are greatly simplified.

PRE-REQUISITES

   - A Hub device that is always on and can run the node.js
     environment. Must be on the same LAN as the SmartThings and the
     TP-Link devices.
     - Windows PC, Stick PC, or tablet
     - Raspberry PI
     - MAC
     - Fire Tablet running 'Server.
     - Android device running 'Server Ultimate'.
   - Static IP address for your gateway PC. Assign through your
     router.
   - Static IP address for each of your TP Link devices

BASIC INSTALLATION STEPS - Index

   A. Install node.js application (free) (see below).
   B. Assign static IP addresses for your Bridge (PC or otherwise).
   C. Install the "TP-LinkServer.js" node.js applet.
   D. Install the Device Handler(s) into the SmartThings environment.
   E. Install the actual devices in SmartThings.
   F. (Windows PC) Set your Windows PC to auto-restart

A.   NODE.JS UTILITY INSTALLATION

(PC and MAC) Install this utility from this link directly. Ensure that you get the "msi" installer package, not just the "exe" binary.

      https://nodejs.org/en/download/

(Raspberry Pi) Check with the community on installing the package on the Raspberry Pi).

B.   ASSIGN STATIC IP ADDRESSES

Assigning Static IP addresses is done through your router. It will vary from router to router.

EXAMPLE:, for a TP-Link Archer 3150) the steps are:
   a. Log in and go to the Advanced tab.
   b. select "Network" - "DHCP Server" at the left sice.
   c. Go to the Address Reservation section and select Add.
   d. Fill in the MAC ADDRESS, IP, and Description.
   e. Reboot the Router and check that IPs have not changed.

Installation Instructions for the TP-Link Devices to SmartThings

C.   INSTALL THE TP-LINKSERVER.JS APPLET

   1. Copy the files "TP-LinkHub_v2.js" and "TP-LinkHub_v2.bat" (PC install) to a convenient location on your bridge computer. My install was at "C:\\TPLink" which greatly shortened the path in the batch files.

   2. (Windows PCs) Open the batch file "TP-LinkServer.bat" and edit to change the directory to where the files were copied. Test this file. It should open a window similar to the below:

            Sun 05/28/2017
            12:27 PM
            v6.10.3   - this is the node.js version
            TP-Link Device Bridge Application

   3. (Windows PCs) Schedule this file to autostart on your PC.

      a. Go to Windows Scheduler (Control Panel -> System and Security -> Administrative Tools -> Task Scheduler)

      b. 'Create Basic Task' and schedule "TP-LinkServer.bat" to start every time you log on.

   4. (Windows PCs) Reboot the server and log-in. the batch file "TP-LinkServer.bat" should run automatically. This should start the server in a separate window on your display.

D.   INSTALL THE DEVICE HANDLERS ON SMARTTHINGS

   1. Log in to SmartThings IDE. (You may have to create an acccount.)

   2. After log in, go to "My Locations" and select your current location.

   3. Go to "My Device Handler" and select "+ Create New Device Handler". You will need to do this for each device type you install.

   3. Select the tab "From Code".

   4. Open the GROOVY file associated with your device and copy the contents.

   5. Past the contents into the the IDE window. Select "Create" at the bottom.

   6. On the next page that opens, click "Publish", then "For Me" near the top-right of the page.

Installation Instructions for the TP-Link Devices to SmartThings

E.   INSTALL THE ACTUAL DEVICES ON SMARTTHINGS

   1. Go to "My Devices" in IDE, click on New Device in the top right
      corner (you will repeat this step for each of the outlets you
      have)

      o Name - enter an **explicit name for the device**. Must be the
         device ID from the packaging. List: KB100, KB130, KP100,
         HS100, HS105, HS110, HS115, HS200, HS210, LB100, LB110, LB120,
         LB130, LB200, LB210.

      o Label - enter a label, this is what will show in the
         SmartThings app, (i.e., "Den Lamp", "Bedroom Fan").

      o Device Network Id - enter a unique ID (i.e., "LB100-1",
         "LB120-1", and "LB120-2").

      o Type - select the appropriate groovy file name from the drop
         down list (should be near the bottom of the list).

      o Version - Published

      o Location and Hub - select for your setup

      o Group - leave blank for now, you can assign to a room later
         through the app

      o   Click Create

   2. Open SmartThings on your smart phone and select your device. Go
      to the Settings page.
      a. Device IP. Enter the IP Address for your TP Link device.
      b. Gateway IP. Enter the IP Address of the server PC.

   3. Test the functions of your device.

F.   SET YOUR WINDOWS PC TO AUTO-RESTART (WINDOWS PC ONLY)

   1. Set Windows to automatically Log you in. See site:

         https://www.cnet.com/how-to/automatically-log-in-to-your-
         windows-10-pc/

   2. Go to the BIOS power setting and set PC to NEVER go into standby.

   3. Reboot your PC. It should automatically run the node app.

   4. Test your device(s).

   5. (You can now disconnect /power off monitor, mouse, and keyboard.)