

Cloud TP-Link to Smart Things Installation

This document provides basic installation instructions as well as a description of the Service Manager screens and errors during installation. It includes the following sections:

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1. Prerequisites

- a. A valid TP-Link Kasa account (must have login name and password).
- b. TP-Link devices installed and in 'Remote Control' mode (done in Kasa App)

2. Preparation for Installation

Prior to starting the installation procedure, the TP-Link devices must be installed through the Kasa Application. The following steps are recommended after initial installation:

- a. Assure you are happy with the Kasa 'Device Name'. This will be the initial name in the SmartThings interface (although it can be changed).
- b. Assure that all the devices you want to install are in 'Remote Control'.
- c. Run Firmware Update for the Kasa devices (optional).

3. Install the Service Manager

Starting from the TP-Link SmartThings Community page:

- a. Upper right: select "COMMUNITY".
- b. Upper right: select 'Additional Resources' - 'Developer Tools'.
- c. Log-in or follow instructions to obtain an account.

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- d. Select the 'My Location' Tab and select your location.
[NOTE: YOU MUST SELECT YOUR LOCATION. NOT DOING SO WILL CAUSE THE SERVICE MANAGER TO NOT APPEAR IN STEP 5C AND THE DEVICES TO INSTALL IN STEP 6B.]
- e. Select the 'My SmartApps' Tab.
- f. Select '+New SmartApp' at the top-right.
- g. Select the 'From Code' tab.
- h. Paste the contents of the file '(Cloud)TPLink Connect (unofficial).groovy' into the space.
- i. Select 'Create' then 'Publish'.
- j. Select the 'My SmartApps' tab again and verify;
 - 1) The Service Manager 'beta : TP-Link (unofficial) Connect' is in the list.
 - 2) The Status is listed as 'Published'.

4. Install the Device Handlers for Your Devices

Starting from completing the above steps:

- a. Select the 'My Device Handlers' tab.
- b. Select '+ Create New Device Handler' at the top-right.
- c. Select the 'From Code' Tab.
- d. Paste the contents of the below files (based on you devices) into the space:
[Note: Upgrading to Energy Meter versions are discussed in '7. Upgrading to Energy Meter.]
 - 1) All plugs and switches: '(Cloud)TP-Link_HS_Series.groovy'.
 - 2) LB100 or LB110 bulbs: '(Cloud) TP-Link_LB100_110.groovy'
 - 3) LB120 bulbs: '(Cloud) TP-Link_LB120.groovy'
 - 4) LB130 bulbs: '(Cloud) TP-Link_LB130.groovy'
- e. Select 'Create' then 'Publish'
- f. Select the 'My Device Handlers' tab and verify all Device Handlers are present and are 'Published'

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5. Run the Service Manager

[PLEASE OPEN UP 'LIVE LOGGING' AND IF AN ERROR OCCURS, PROVIDE THIS DATA TO AUTHOR WHEN REQUESTING ASSISTANTS]

From your smart phone SmartThings application:

- a. Select "Automation" (at bottom), then the 'SmartApps' tab.
- b. Select '+ Add a SmartApp' at the bottom.
- c. Select '+ My Apps' at the bottom
- d. Select the app 'TP-Link (unofficial) Connect'

6. Running the Service Manager

A description of the Service Manager pages and potential errors is contained in the section '8. Service Manager Pages'. The Service Manager pages also have instructions and will display errors when they are present.

- a. From the page 'TP-Link Device Service Manager' (Page A):
 - 1) Enter your TP-Link Login information (username and password).
 - 2) Select the area below 'What do you want to do?'.
 - 3) Select 'Initial Install'.
- 4) Select Next.
- b. The Service Manager should transition to the 'Select Your TP-Link Devices' page.
 - 1) Select in the area at the bottom.
 - 2) From the next page, select the devices you wish to install the select 'DONE'
 - 3) Select 'DONE' again.
- c. Successful Installation: The devices should install and a green banner should appear on the app display:

'Successfully added TP-Link (unofficial) Connect'.
- d. Installation Error Conditions. The below refers to the initial installation only. Other error conditions can be found in '8. Service Manager Pages'.

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- 1) Return to the 'TP-Link Device Service Manager' with an error at the top. There was an error in getting the token or device list from the server.
Causes:
 - a) [error_code:-20600, msg:Account not found] – invalid username.
 - b) [error_code:-20615, msg>Password format error] – password is incorrect. Try again. If it still fails, try changing your TP-Link in the Kasa App.
- 2) After selecting 'Done' from the 'Select Your TP-Link Devices' page, you get the message:

'Error saving page'

One or more of your devices did not install. You should check for these errors and correct if noted.:

- a) You forgot to upload or publish your device handler.
- b) You accidentally uploaded two of the same device handler.
- c) Program error – contact author.

7. Upgrading to the Energy Monitor Function

Although a bother, this method to upgrade to the Energy Monitor functions allows users to use this function on selected devices instead of all of a certain device type. The steps are:

- a. Upload the corresponding Energy Monitor Device Handler for the device (as above). Device handlers are:

[Note: Only these TP-Link Devices support Energy Monitor functions. Loading them to other devices will cause errors.]

- 1) HS110 bulb – '(Cloud)TPLinkHS110EM.groovy'.
 - 2) LB110 – '(Cloud)TPLinkLB110EM.groovy'.
 - 3) LB120 – '(Cloud)TPLinkLB120EM.groovy'.
 - 4) LB130 – '(Cloud)TPLinkLB130EM.groovy'.
- b. Go to the 'My Devices' tab on the IDE.
 - c. Select the device and go to the bottom and select 'EDIT'

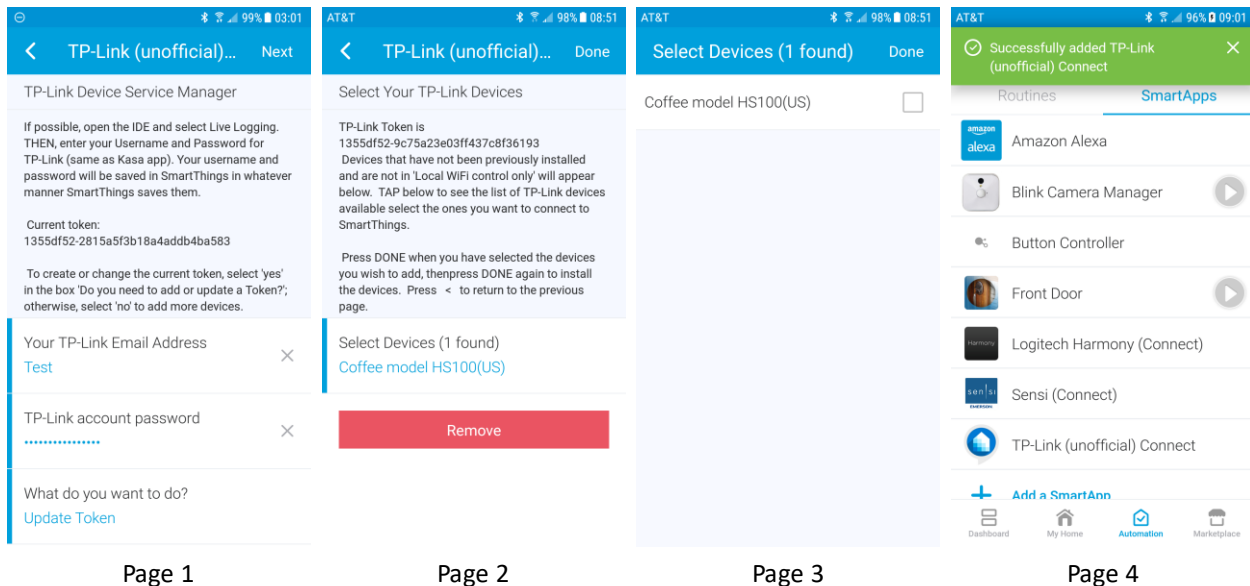
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- d. Go to the pull-down field 'Type *' and use the pull-down to select the Energy Monitor device handler.
- e. Select 'UPDATE' at the bottom.

8. Service Manager Pages and Error Conditions

The Service Manager is actually rarely accessed by the user; however, it provides installation, cloud-to-cloud communications, and updating the tokens (automatically and by user). Below are the pages for normal operations of the Service Manager.



Page 1 'TP-Link Device Service Manager'. This page is where the user enters the user-name and password as well as the action desired. There are three action options available when selecting 'What do you want to do?'.

- 'Initial Install' – This should be used **ONLY** for when you are completing an initial installation. This option (1) obtains a token, and (2) starts adding devices.
- 'Add Devices' – This is the most common selection, for when you add new devices to your configuration.
- 'Update Token' – This is for user update to the token.

[Note: Do not use 'Initial Install' and 'Update Token' too often. It is not known how TP-Link will handle too frequent requests for token.]

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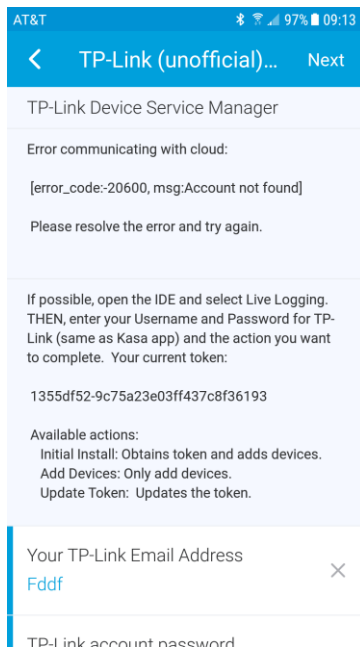
Page 2 ‘Select Your TP-Link Devices’. This page will display the option to select the devices to install. When you tap in the ‘Selected Devices’ area, devices available for installation will be shown and you can select those devices on **Page 3**.

Page 3 ‘Select Devices (n Found)’. This page displays the new devices found. You can select all or none followed by pressing ‘Done’. This page will not display:

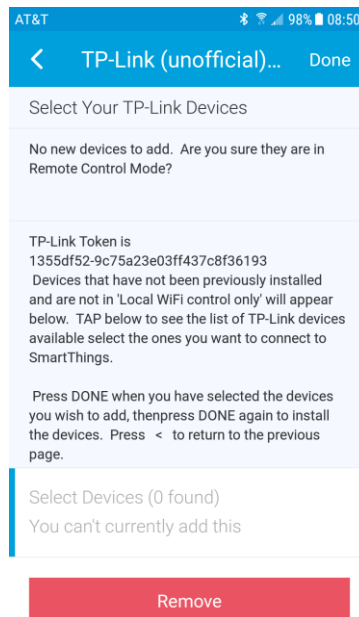
- Devices that are already installed.
- Devices that are not in ‘Remote Control’ as set in the Kasa app.

Page 4. ‘Success’. This is the message if the add device was successful.

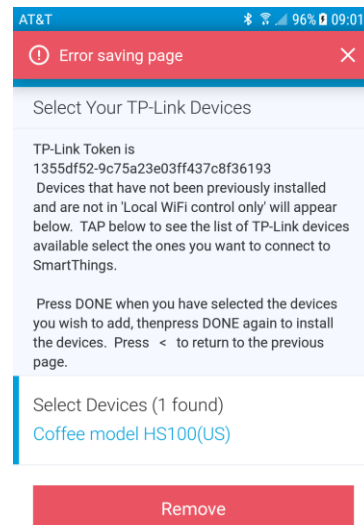
However, in case things do not go as planned, the Service Manager (and SmartThings) has pages that display error conditions.



Page 5



Page 6



Page 7

Page 5. ‘TP-Link Device Service Manager’ Error. This page displays anytime a communications error occurs while installing or adding devices. It can contain several common messages:

- [error_code:-20600, msg:Account not found] – invalid account username.
- [error_code:-20615, msg:Password format error] – invalid password. Try again. If it still fails, try changing your TP-Link in the Kasa App.

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- [error_code:-20651, msg:Token expired] – Usually on Add Device (should not occur). Do a manual Update Token.
- Other messages. Usually are network errors of some sort. Validate your network is working. Exit and try again later, or contact developer.

Page 6. 'Select Your TP-Link Device' Error. This page has one error: 'No new devices...'. If you encounter this, remember, this page will not list:

- Devices that are already installed.
- Devices that are not in 'Remote Control' as set in the Kasa app.

Page 7. 'Select Your TP-Link Device' Install Error. This error is generated by SmartThings. Possible causes:

- You forgot to upload or publish your device handler.
- You accidentally uploaded two of the same device handler.
- Program error – contact author.