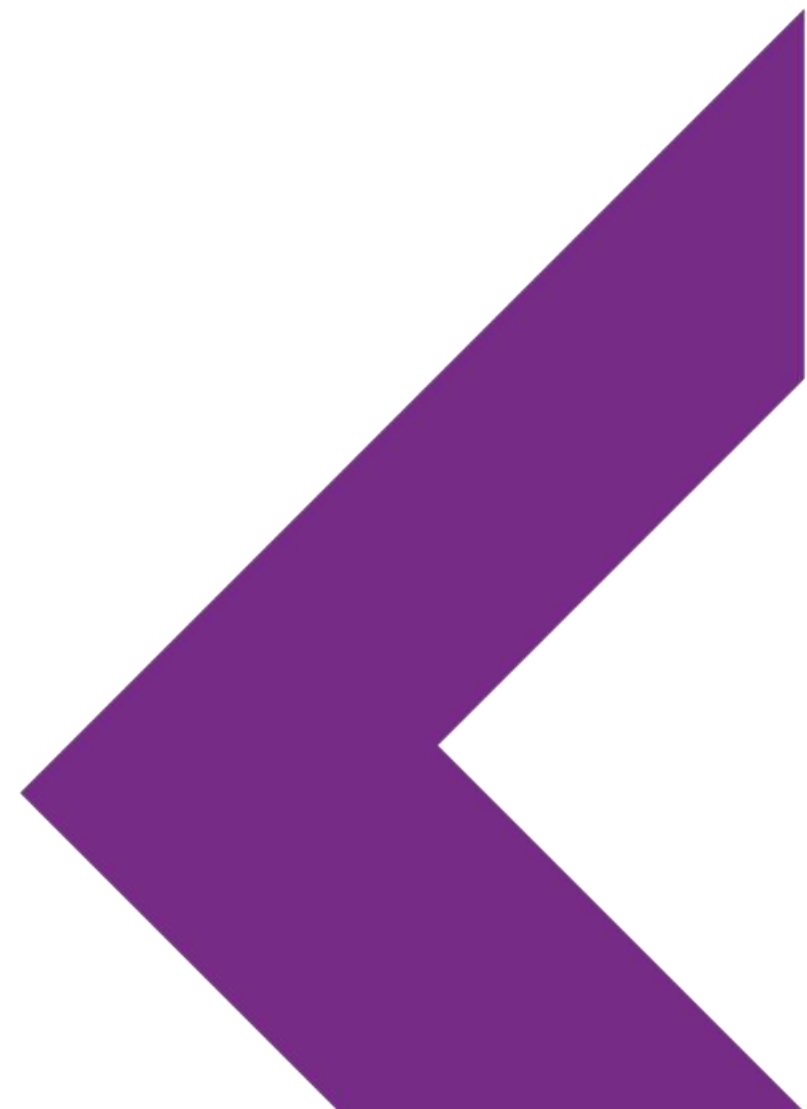


KNX Gateway User Manual

Applicable for the debugging and configuration of KNX Gateway via HDL Studio software, as well as remote control by ON+ APP

Version: V1.0.0

Published on July 14, 2021



Contents

1

Legal Statement & Update History

Intellectual Property Rights to This Document & Information about Every Update.....[4](#)

3

HDL Studio Instruction

Debugging & Configuration of KNX Gateway via HDL Studio.....[7](#)

2

Software Introduction

HDL Studio Introduction.....[5](#)

1. Legal Statement & Update History

- Legal Statement.....[4](#)
- Update History.....[4](#)

1. Legal Statement

HDL has all the intellectual property rights to this document and contents thereof. Reproduction or distribution for third parties are prohibited without written authorization from HDL. Any infringement of HDL’s intellectual property rights will be investigated the legal liability.

The contents of this document will be updated as the updates of product versions or other reasons. Unless otherwise agreed upon, this document is to be used as a guidance only. All the statements, information and recommendations in this document makes no warranty expressed or implied.

2. Update History

The form below contains the information of every update. The latest version contains all the updates of all former versions.

No.	Version	Update Information	Date
1	V1.0.0	Initial release	Jul 14, 2021

2. Software Introduction

- HDL Studio Introduction.....[6](#)

1. HDL Studio Introduction

Functional Comparison	HDL Studio
Sign into IOT Platform to Proceed Project Management	Support
Create Project on IOT Platform	Support
Create Template for Batch Debugging/Testing	Support
Offline Edit	Support

2. Preparation

During the configuration process of KNX Gateway done on HDL Studio, the following tools might be included:

- KNX Gateway (Model: M/GWASC.1)
- A computer with HDL Studio
- ON+ Application
- Dedicated KNX cables

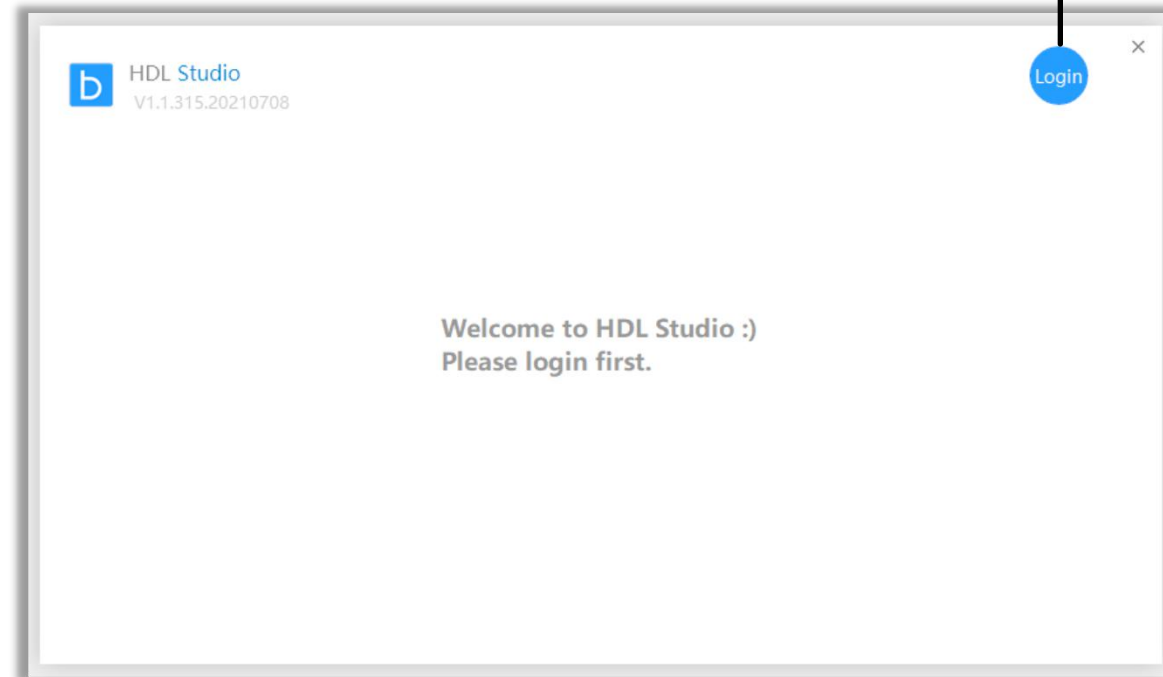
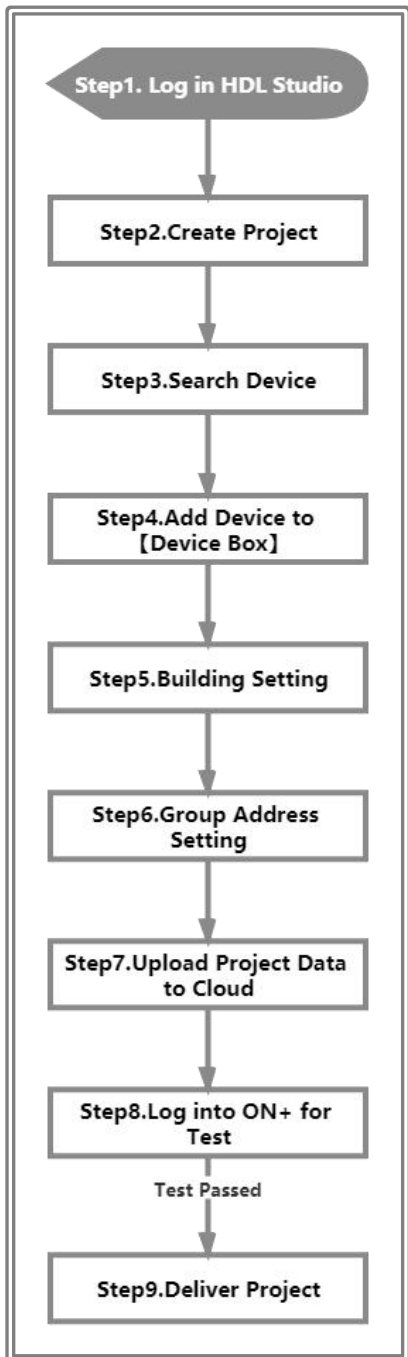
***Note:**

- ON+ Application supports extranet and local control.
- Please refer to the data sheet attached to the product for the information of installation, wiring, specifications, etc.
- The pictures in this user manual are for reference only and the actual product should prevail.

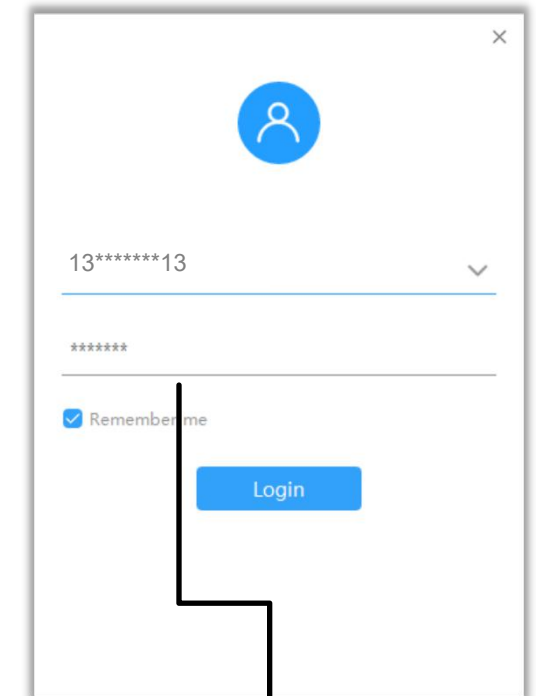
3. HDL Studio Instruction

- Log in HDL Studio.....[8](#)
- Create Project.....[9](#)
- Search Device.....[13](#)
- Add Device to 【Device Box】[15](#)
- Building Setting.....[19](#)
- Group Address Setting.....[20](#)
- Upload Project Data to Cloud.....[26](#)
- Log into ON+ for Test.....[27](#)
- Deliver Project.....[28](#)

Step 1 — Log in HDL Studio



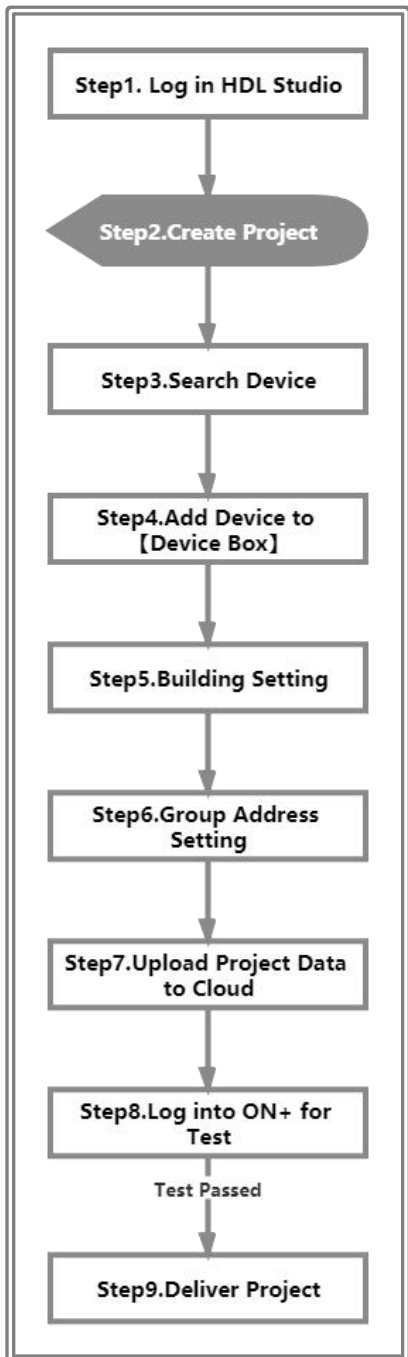
Click "Log in"



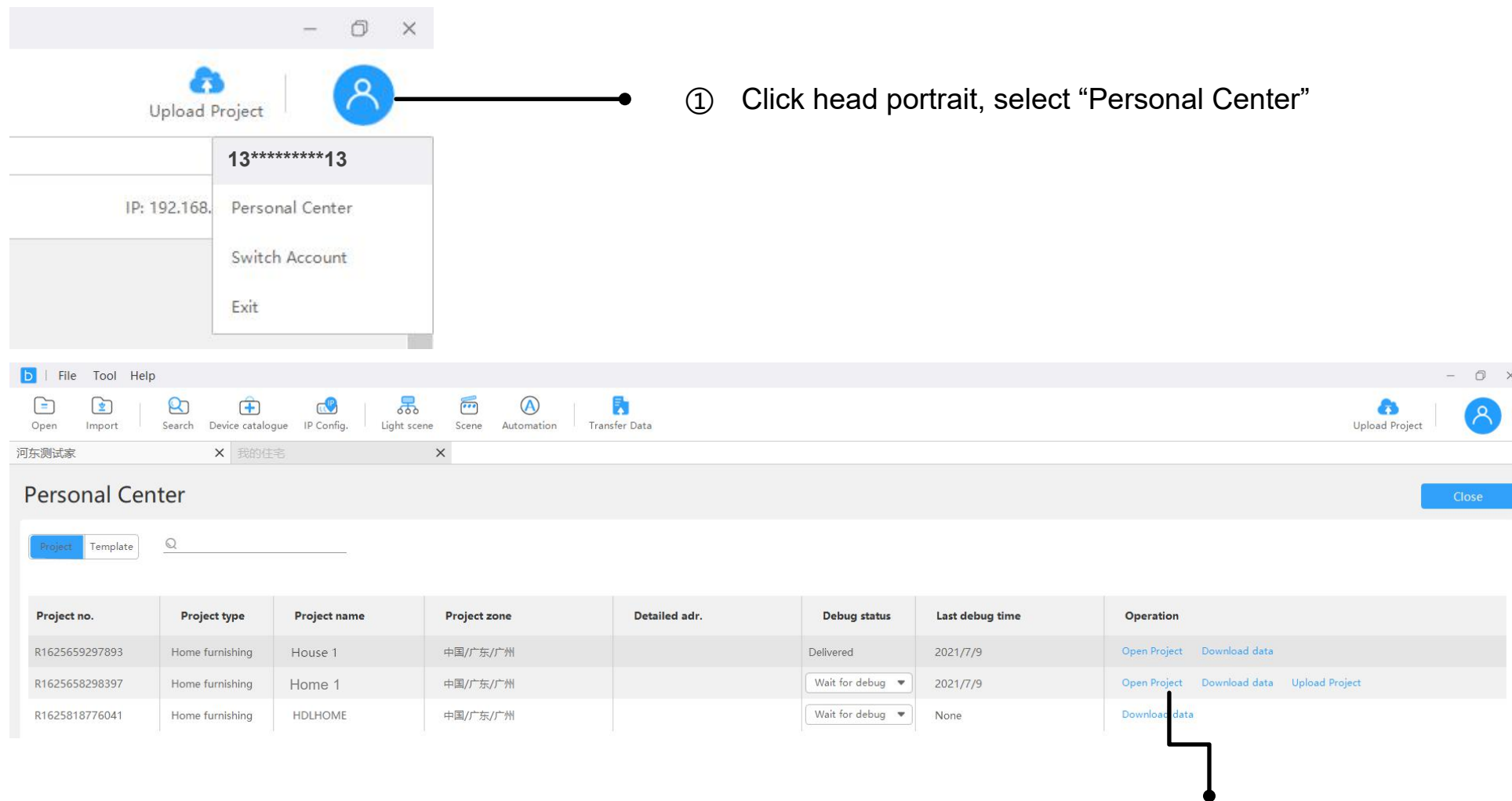
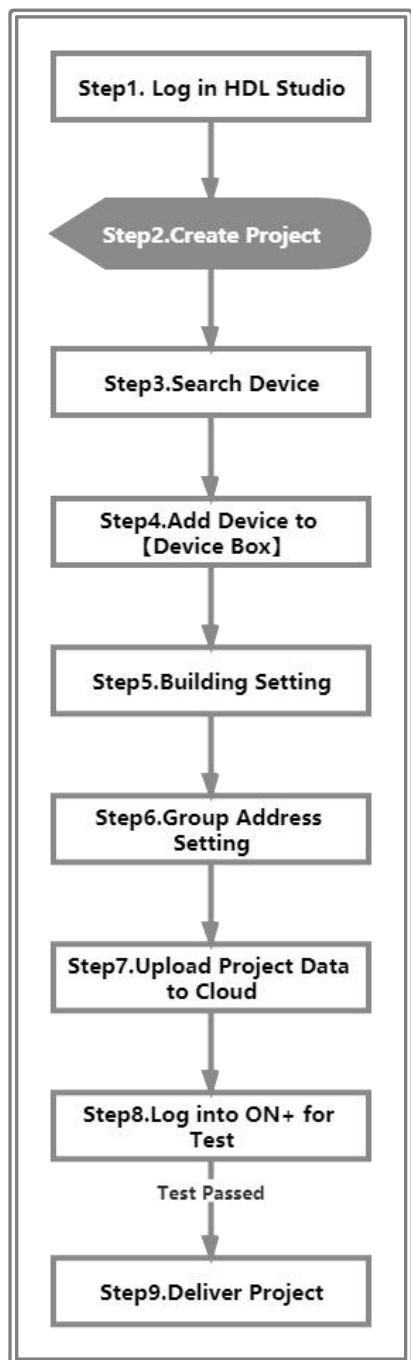
Input Account & Password

Step 2 — HDL Studio can be used together with IOT platform, which enables to create and manage projects by Cloud. So there are two options for creating projects, as shown below:

	Option 1	Option 2
Where to Create	IOT Platform	HDL Studio
Advantages	Manage and Control by IOT Platform	No need to log in/sign up, you can locally create and manage projects
Applicable for	Applicable for large-scale projects, batch residential projects	Applicable for single project, as well as for creating personal debugging/testing templates



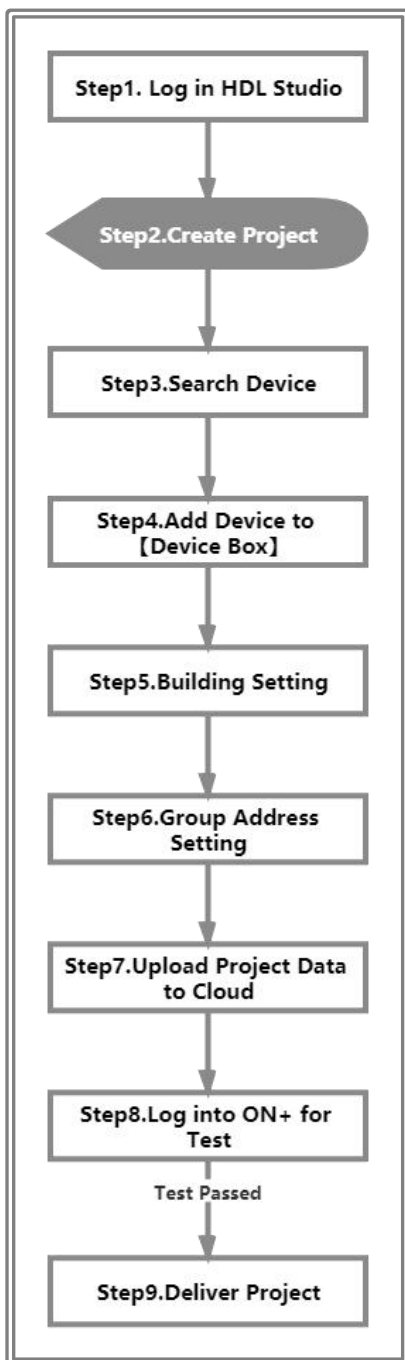
Option 1: Create by IOT Platform, download via HDL Studio



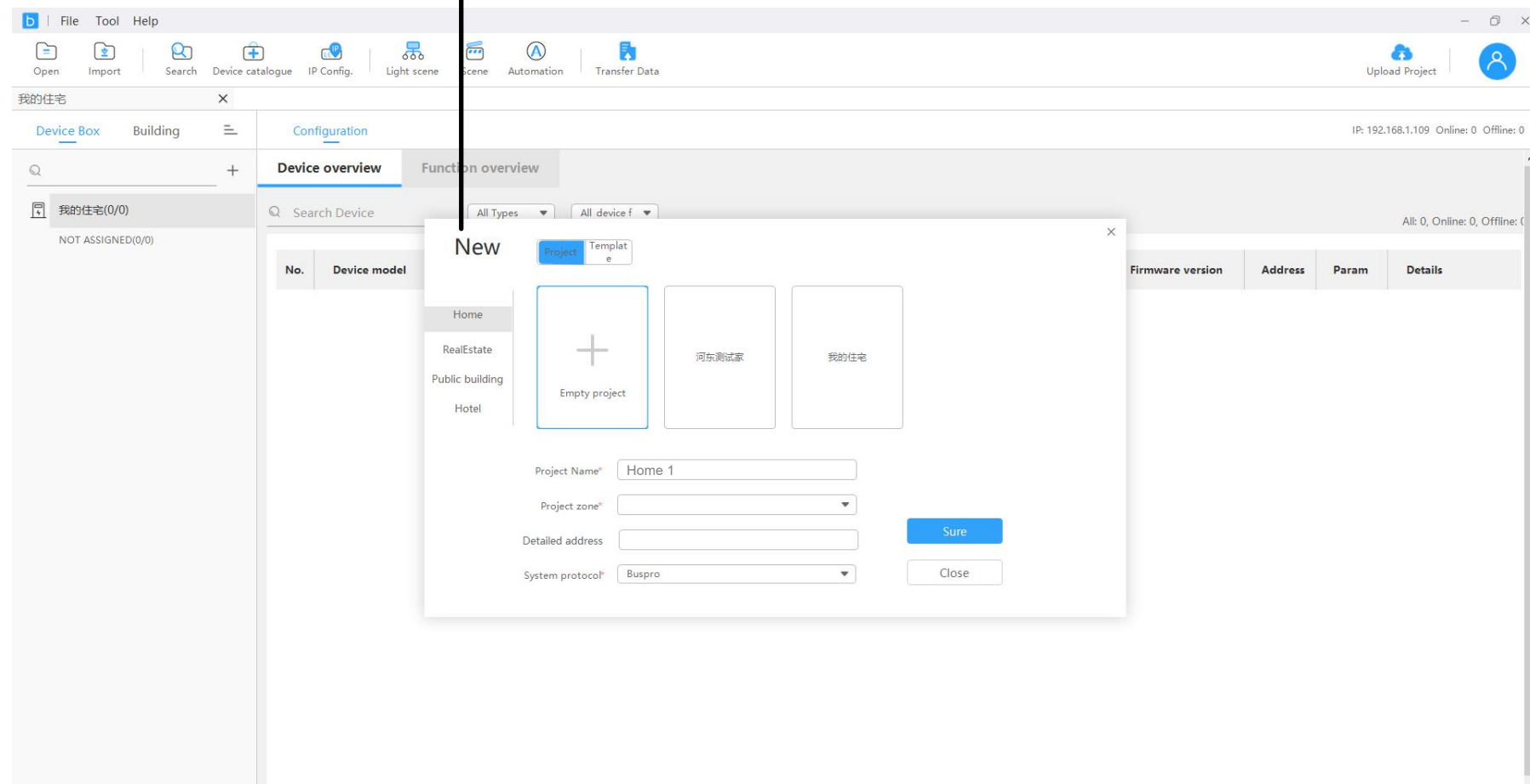
① Click head portrait, select "Personal Center"

② Select project, click "Open Project"

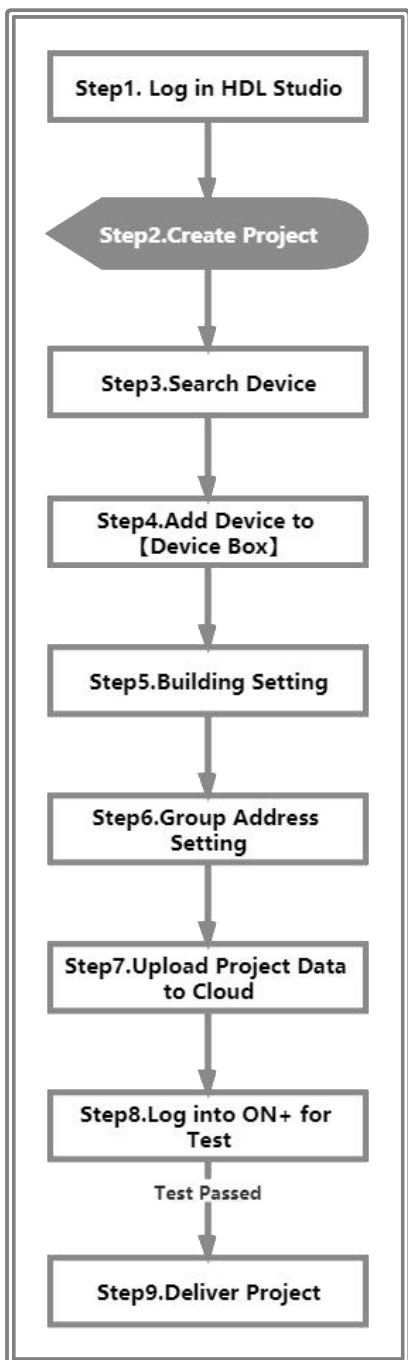
Option 2: Create by HDL Studio



Click “New”



Step 2 — After adding project, proceed editing project information.



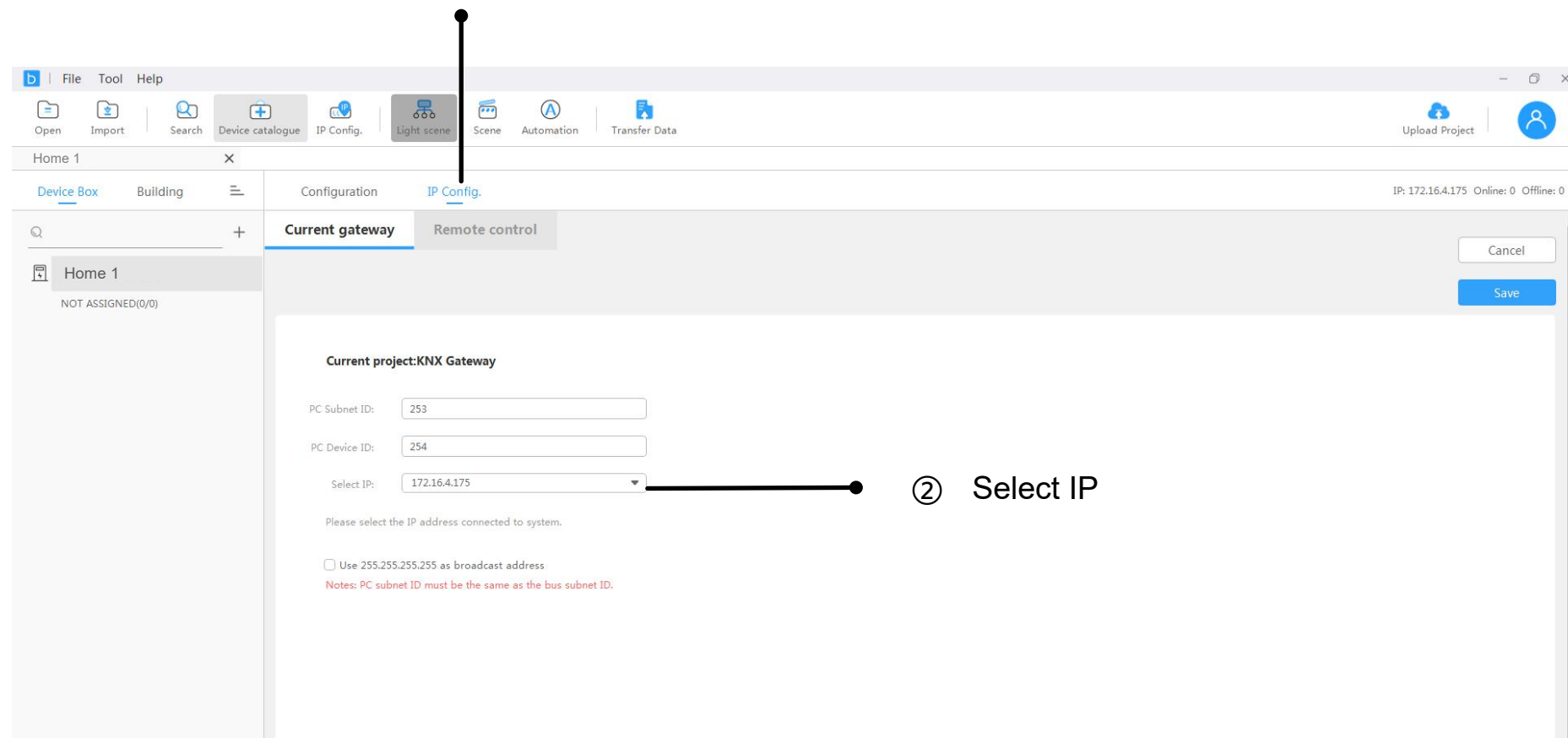
① Click “Empty Project”

Select project type

The screenshot shows the 'New' dialog box in HDL Studio. It has two tabs: 'Project' (selected) and 'Template'. On the left, there is a list of project types: 'Home', 'RealEstate', 'Public building', and 'Hotel'. The 'Home' type is selected, and a dotted line points from the 'Select project type' label to it. In the center, there are three large boxes: 'Empty project' (highlighted with a blue border and a plus sign), 'HDL', and 'My Home'. A solid line points from the '① Click “Empty Project”' label to the 'Empty project' box. Below these boxes, there is a form for project details. A solid line points from the 'Select project type' label to this form. The form contains the following fields: 'Project Name*' with the value 'Home 1', 'Project zone*' with a dropdown menu showing 'China/Guangdong/Guangzhou', 'Detailed address' (empty), and 'System protocol*' with a dropdown menu showing 'KNX'. To the right of the form are two buttons: 'Sure' (blue) and 'Close' (white).

Step 3 — Before searching device, please make sure current IP and device IP be kept at the same segment. If needed, you can revise as the followings:

① Click “IP Config.”



Step 3 — After making sure the current IP and device IP be kept at the same segment, proceed searching device.

① Click “Search”

② Now all devices searched can be shown here

The screenshot shows the HDL Studio interface. The top toolbar includes buttons for Open, Import, Search, Device catalogue, IP Config., Light scene, Scene, Automation, and Transfer Data. The 'Search' button is highlighted with a callout from the text '① Click “Search”'. Below the toolbar, the 'Device Box' and 'Building' sections are visible. The 'Search device' tab is active, showing a search bar and a table of devices. The table has columns: No., Device model, Device name, Device remark, Device Type, Subnet, Device I, and Firmware versio. One device is listed: No. 1, Device model M/GWASC.1, Device name Link gateway, Device remark, Device Type Gateways, Subnet 0, Device I 0, and Firmware versio UnRead. A callout from the text '② Now all devices searched can be shown here' points to the table.

No.	Device model	Device name	Device remark	Device Type	Subnet	Device I	Firmware versio
1	M/GWASC.1	Link gateway		Gateways	0	0	UnRead

Step 4 — Add device as your need.

① Select device

② Click “Add to project”

The screenshot shows the HDL Studio interface. On the left, the 'Device Box' is visible with a search icon and a plus sign. Below it, a message reads 'NOT ASSIGNED(0/0)'. On the right, the 'Configuration' tab is active, showing a 'Search device' button. At the bottom right, there is a blue 'Add to project' button and a grey 'Close' button. A status bar at the top right displays 'IP: 192.168.1.3 Online: 0 Offline: 0'.

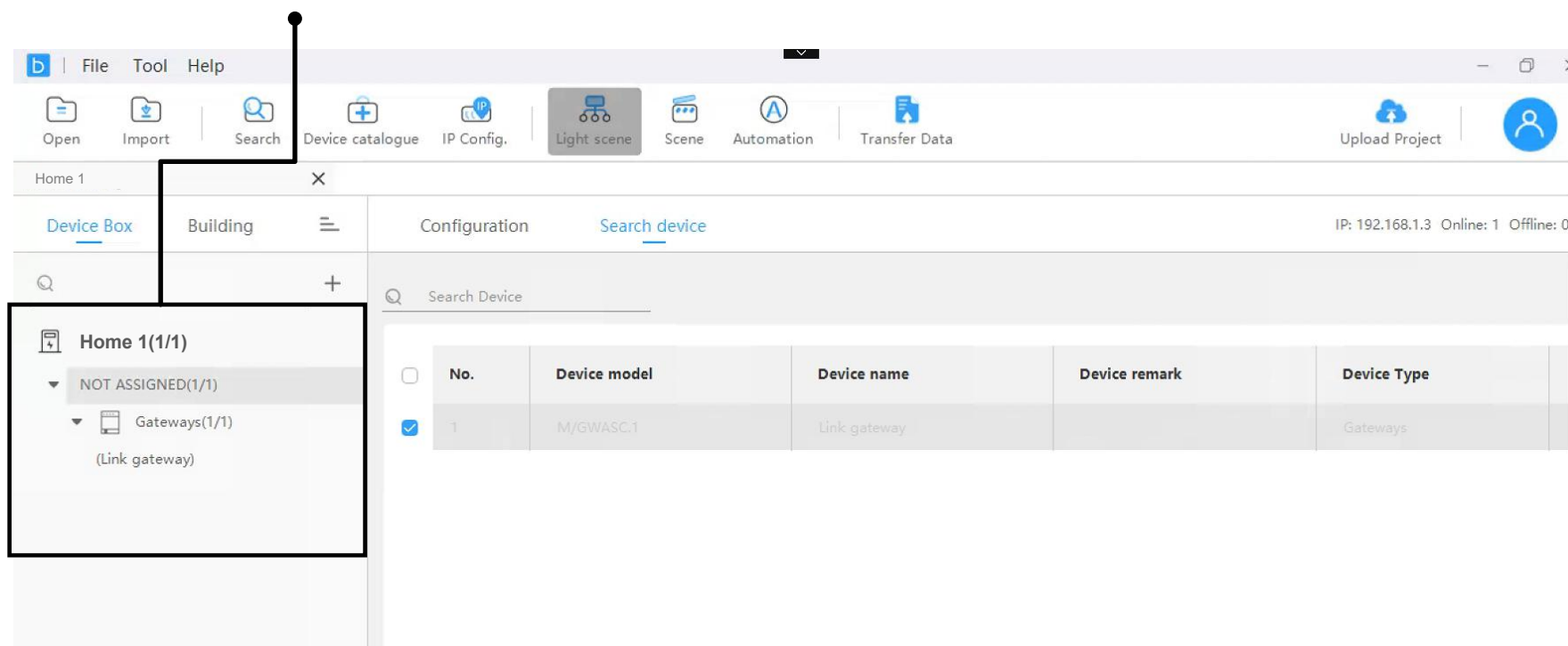
Device name	Device remark	Device Type	Subnet	Device I	Firmware version	Operate
Link gateway		Gateways	0	0	UnRead	Modify netw

Step 4 — Add device as your need.

Note: Only one gateway can be added for the corresponding project.

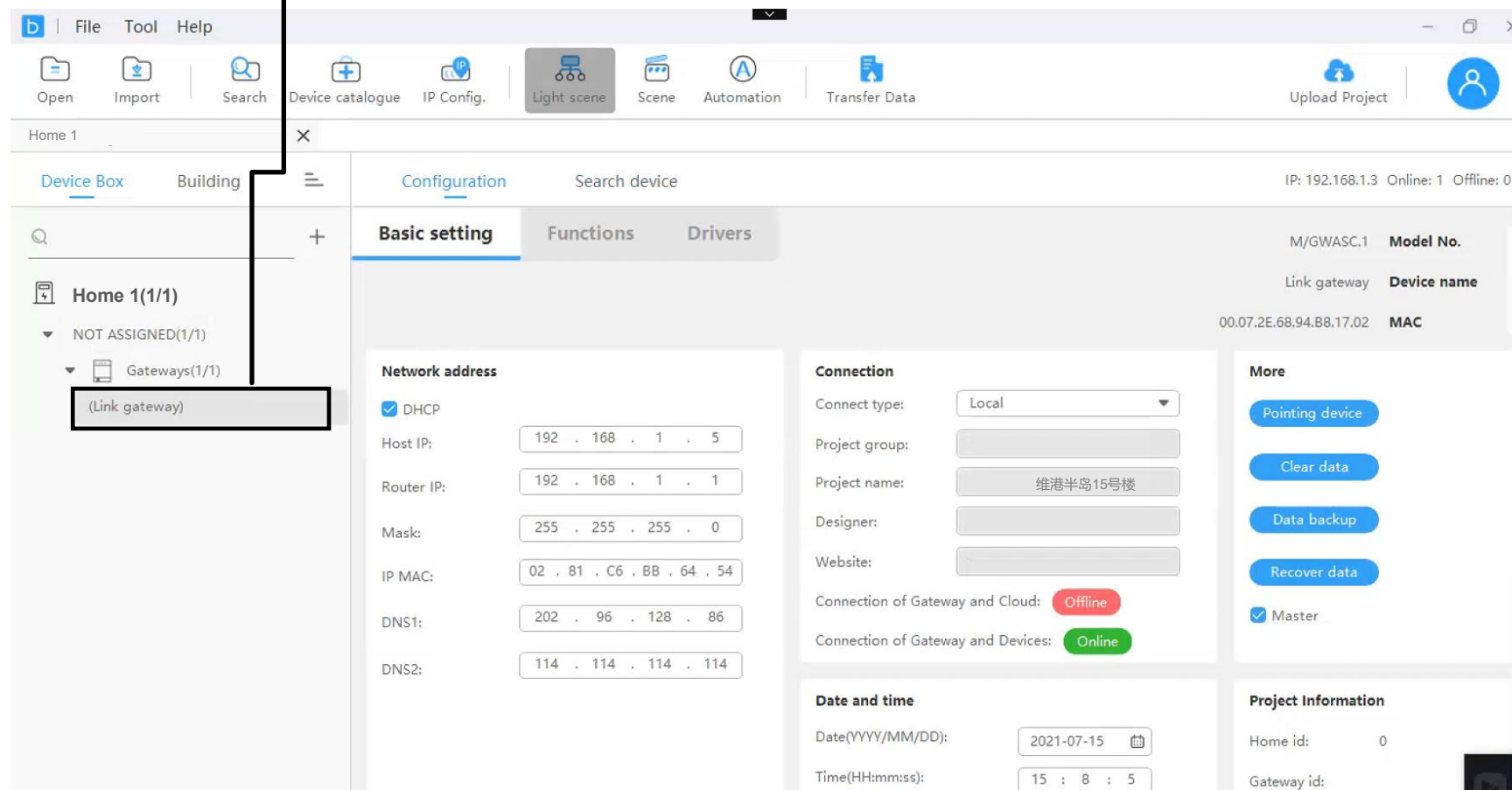
Click “Device Box” to check all devices

*“Device Box” refers to electric boxes.



Step 4 — Add device as your need.

Click this gateway



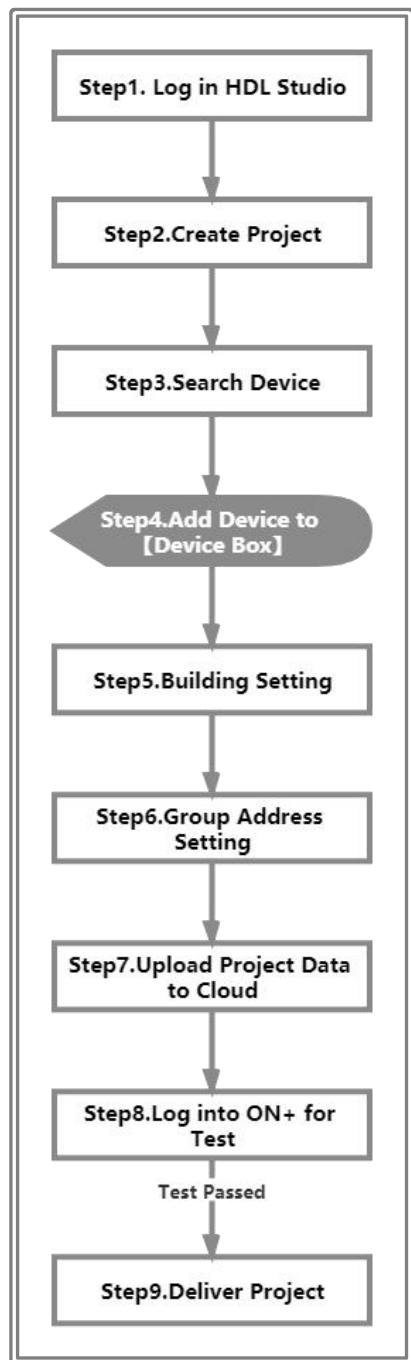
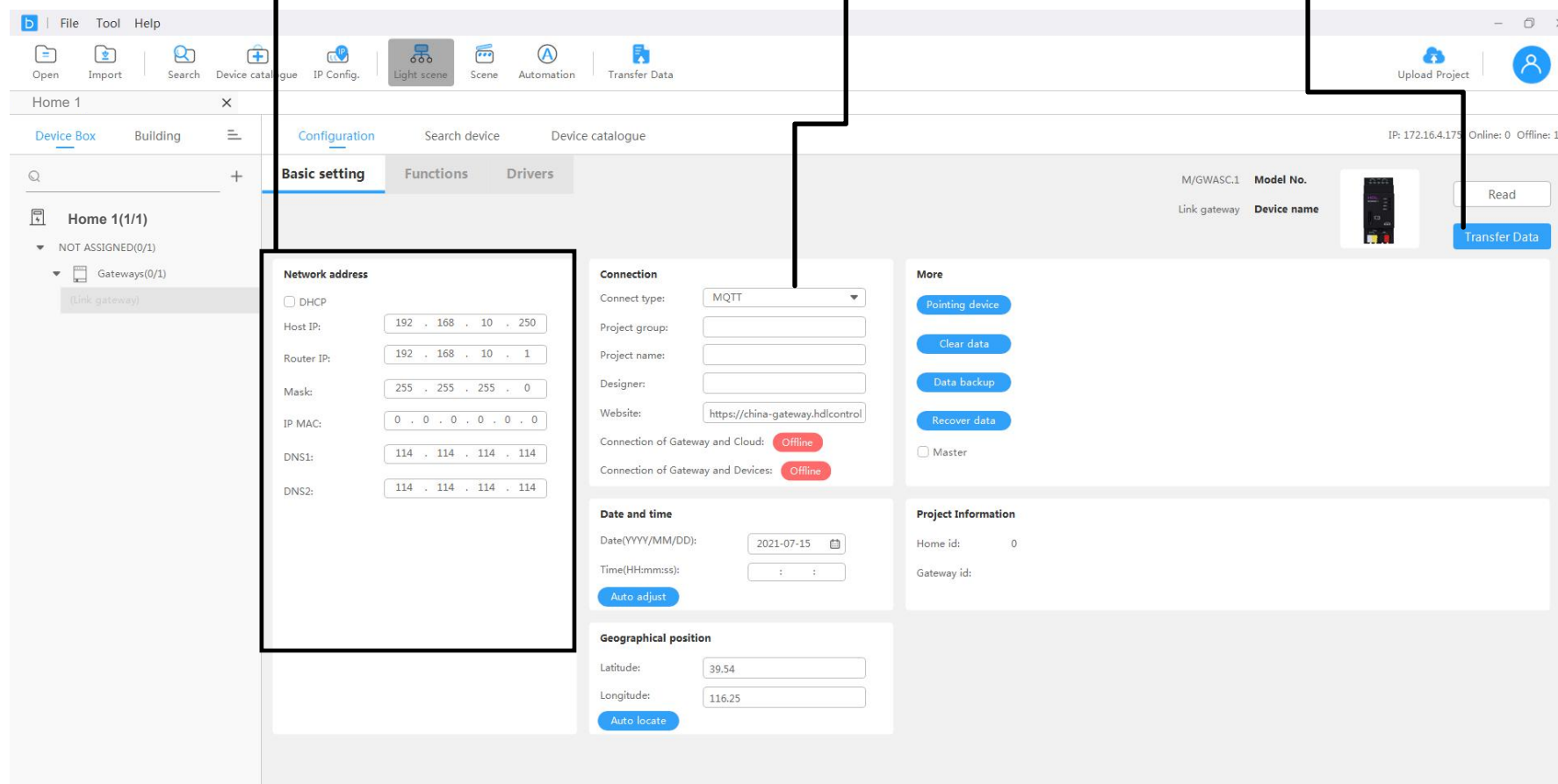
Step 4 — Add device as your need.

① “DHCP” is clicked by default

② Select “MQTT”

③ Click “Transfer Data”

*It requires extranet connection.

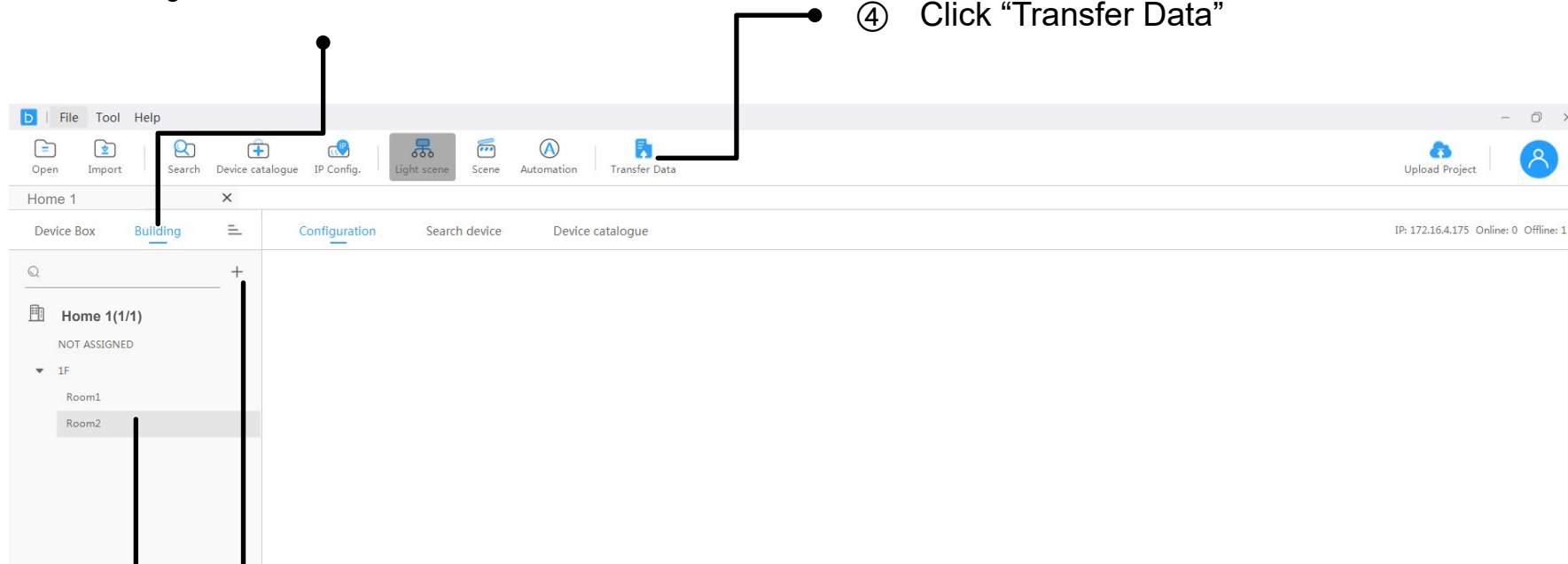


Step 5 — Building setting

① Select “Building”

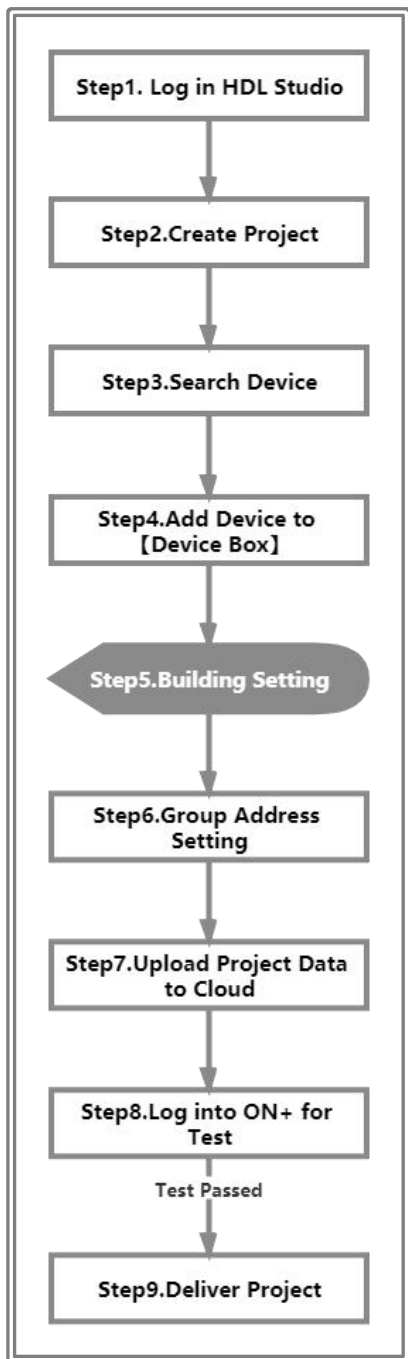
*“Building” refers to the function shown in ON+ APP.

④ Click “Transfer Data”



② Click 【+】 to create building

③ Click the new building → Right click to proceed adding sub-area → Double click to revise area name



Step 6 — Group address setting

After assigning area and configuration function, back to “Device Box” and proceed as below:

① Back to “Device Box” and select this gateway

② Select “Function”

Assign area for the function

③ Click “Add”

The screenshot shows the HDL Studio software interface. On the left sidebar, under 'Home 1(1/1)', the 'Gateways(0/1)' section is expanded, showing a '(Link gateway)' entry. The main window has tabs for 'Device Box', 'Building', and 'Configuration'. The 'Configuration' tab is active, with sub-tabs for 'Basic setting', 'Functions', and 'Drivers'. The 'Functions' sub-tab is selected, displaying a 'Function list' table:

No.	Name	Type	Zone
1	Light(1)	Lighting	1F-Room1
2	Light(2)	Lighting	
3	Light(3)	Lighting	
4	Light(4)	Lighting	

A dropdown menu is open for the 'Zone' column of 'Light(4)', showing options: 'NOT ASSIGNED', '1F', 'Room1', and 'Room2'. To the right of the table, there are input fields for 'Function name' (Light(4)), 'Area' (NOT ASSIGNED), 'Function type' (Lighting), 'Lighting type' (Switch), 'On/Off' (0/0/4), 'Status on/off' (0/1/4), and an 'Add' button. The 'Add' button is highlighted with a blue border.

Group address is kept the same as that in KNX ETS software.

* As for KNX ETS group address, please refer to next page.

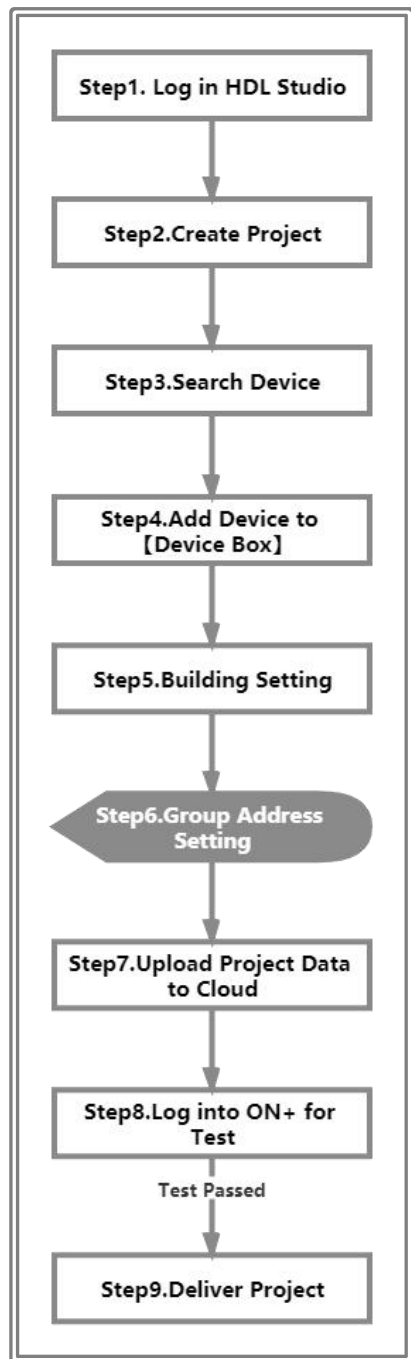
Step 6 — Group address setting

As below shown, in KNX ETS, the devices managed by the gateway can be configured with group address which is the same as the gateway channel.

Select the device as needed

List of group address

Group Address	Length	C	R	W	T	U	Data Type	Priority
0/0/1	1 bit	C	-	W	-	U	switch	Low
0/1/1	1 bit	C	R	-	T	-	switch	Low
0/0/2	1 bit	C	-	W	-	U	switch	Low
0/1/2	1 bit	C	R	-	T	-	switch	Low
0/0/3	1 bit	C	-	W	-	U	switch	Low
0/1/3	1 bit	C	R	-	T	-	switch	Low
0/0/4	1 bit	C	-	W	-	U	switch	Low
0/1/4	1 bit	C	R	-	T	-	switch	Low
0/0/5	1 bit	C	-	W	-	U	switch	Low
0/1/5	1 bit	C	R	-	T	-	switch	Low
0/0/6	1 bit	C	-	W	-	U	switch	Low
0/1/6	1 bit	C	R	-	T	-	switch	Low
0/0/7	1 bit	C	-	W	-	U	switch	Low
0/1/7	1 bit	C	R	-	T	-	switch	Low
0/0/8	1 bit	C	-	W	-	U	switch	Low
0/1/8	1 bit	C	R	-	T	-	switch	Low



Step 6 — Group address setting

① Select the gateway again

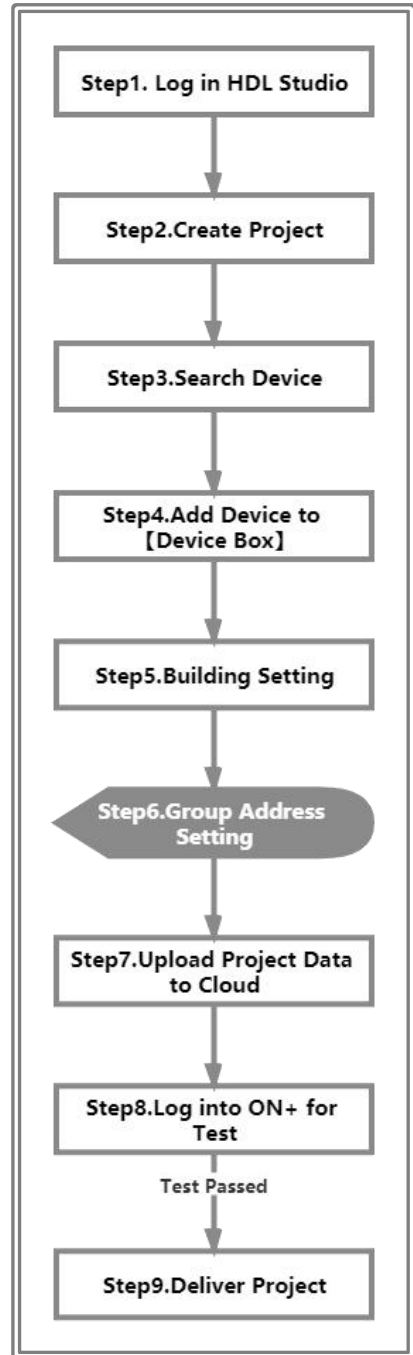
② Click “Transfer Data”

The screenshot shows the HDL Studio software interface. The main workspace is divided into several sections:

- Left Panel:** Contains a tree view showing the project structure. Under 'Home 1(1/1)', there is a 'Gateways(0/1)' folder with a '(Link gateway)' button.
- Top Panel:** Contains tabs for 'Basic setting', 'Functions', and 'Drivers'. The 'Functions' tab is currently selected.
- Function list:** A table with columns 'No.', 'Name', 'Type', and 'Zone'. It lists four functions: Light(1), Light(2), Light(3), and Light(4). The 'Zone' column for Light(4) is set to 'NOT ASSIGNED'.
- Group address:** A section with input fields for 'Function name', 'Area', 'Function type', 'Lighting type', 'On/Off', and 'Status on/off'. The 'Function name' is set to 'Light(4)'.
- Add function:** A section with input fields for 'Function name', 'Function type', 'Lighting type', 'On/Off', 'Status on/off', and 'Add'. The 'Function name' is set to 'Light'.
- Right Panel:** Contains a 'Read' button and a 'Transfer Data' button.

A callout line points from the 'Transfer Data' button to the 'Transfer Data' text label.

Step 6 — After completing the previous steps, proceed scene setting.



① Click “Scene”

The screenshot shows the HDL Studio interface with the 'Scene' tab selected. The 'Scene list' table contains two entries: 'Scene-1' and 'Scene-2'. The 'Function list' dialog is open, showing a table of functions to be assigned to the scene.

Scene No.	Scene name	Zone	Delay	Group	Test
1	Scene-1	1F-Room1	0	255	
2	Scene-2	NOT ASSIGNED	0	255	

No.	Remark	Type	Delay
No.	Remark	Type	Delay

No.	Control type	Param
No.	Control type	Param

Select	No.	Name	Type	Zone
<input checked="" type="checkbox"/>	1	Light(1)	Lighting	1F-Room1
<input checked="" type="checkbox"/>	2	Light(2)	Lighting	1F-Room1
<input checked="" type="checkbox"/>	3	Light(3)	Lighting	1F-Room2
<input checked="" type="checkbox"/>	4	Light(4)	Lighting	NOT ASSIGNED

② Revise the scene name and assign area as needed

③ Click “Add”

Step 6 — After completing the previous steps, proceed scene setting.

① Select function

Function list

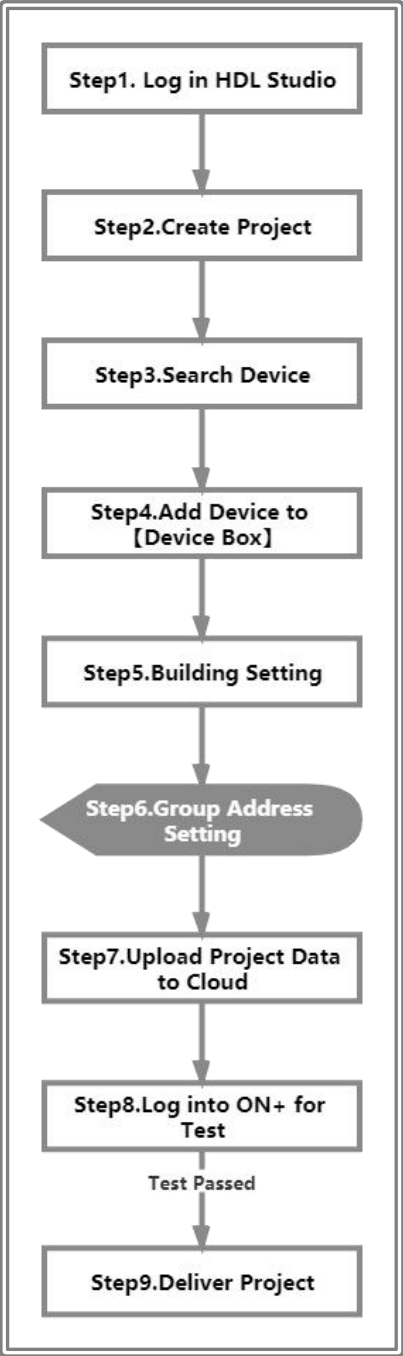
Select	No.	Name	Type	Zone
<input checked="" type="checkbox"/>	1	Light(1)	Lighting	1F-Room1
<input checked="" type="checkbox"/>	2	Light(2)	Lighting	1F-Room1
<input checked="" type="checkbox"/>	3	Light(3)	Lighting	1F-Room2
<input checked="" type="checkbox"/>	4	Light(4)	Lighting	NOT ASSIGNED

Cancel

Add Fun. On


Add Fun. Off

② Select the function status



Step 6 — After completing the previous steps, proceed scene setting.

Click 【×】 after completing setting



Scene list

Add

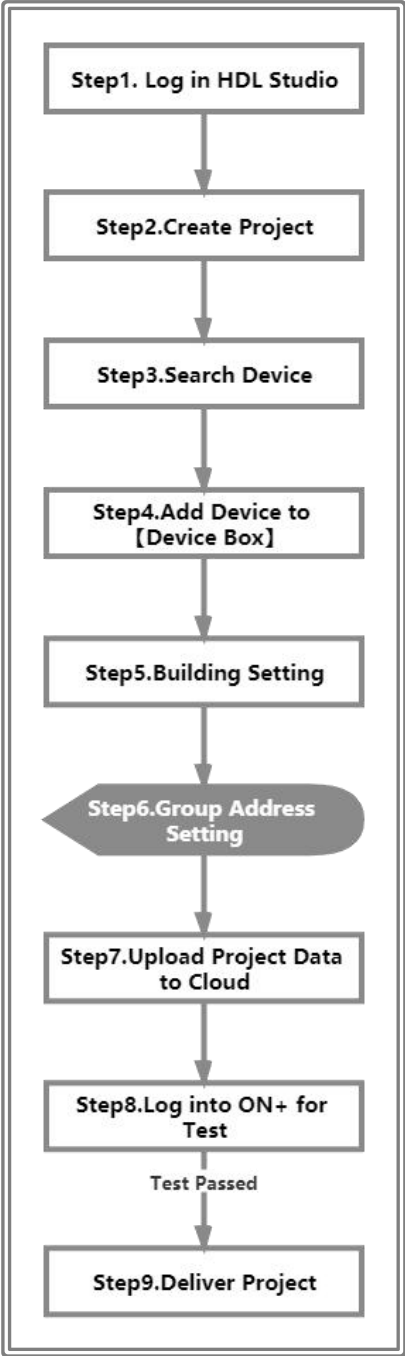
Scene No.	Scene na...	Zone	Del...	Group	Test
1	Scene-1	NOT ASSI...	0	255	

Scene config

Add

No.	Remark	Type	Delay
1			0
2	r	Lighting	0
3	g	Lighting	0
4	b	Lighting	0
5	调光器4	Lighting	0
6	调光器5	Lighting	0
7	调光器6	Lighting	0

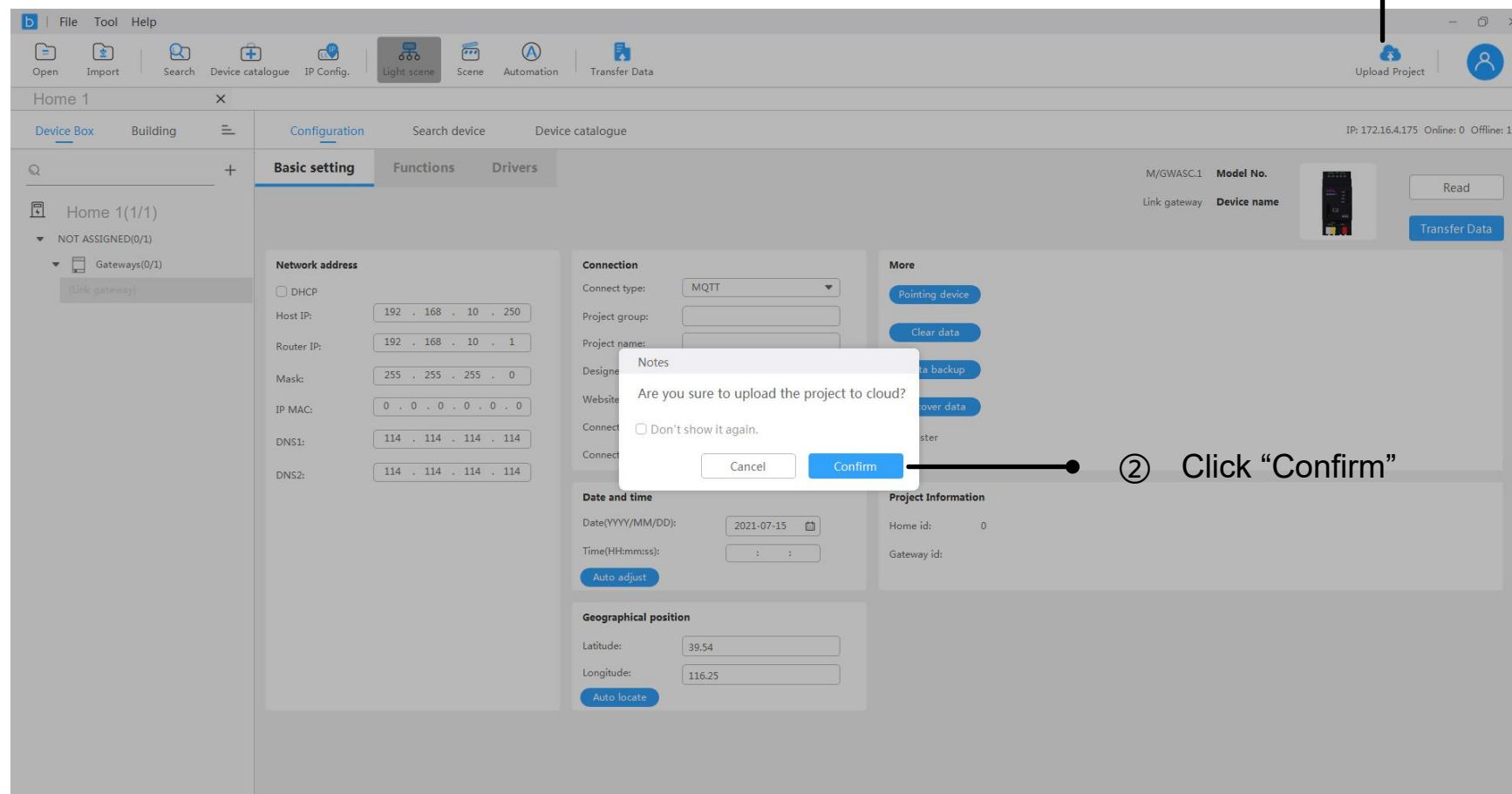
No.	Control type	Param
-----	--------------	-------



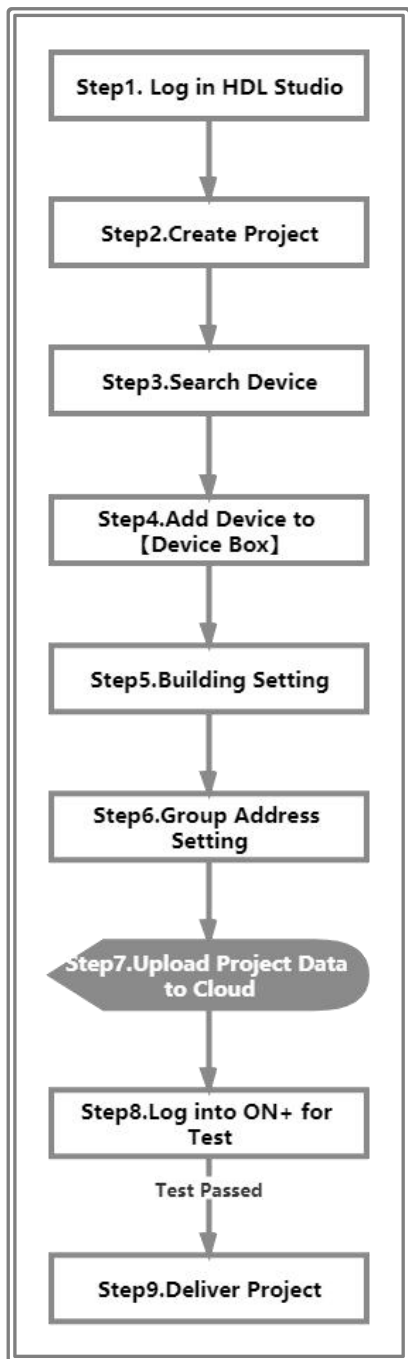
Step 7 — Upload data to Cloud after completing settings.

***It is OK to proceed settings when there is no external network; while uploading data to Cloud, please make sure there is valid extranet.**

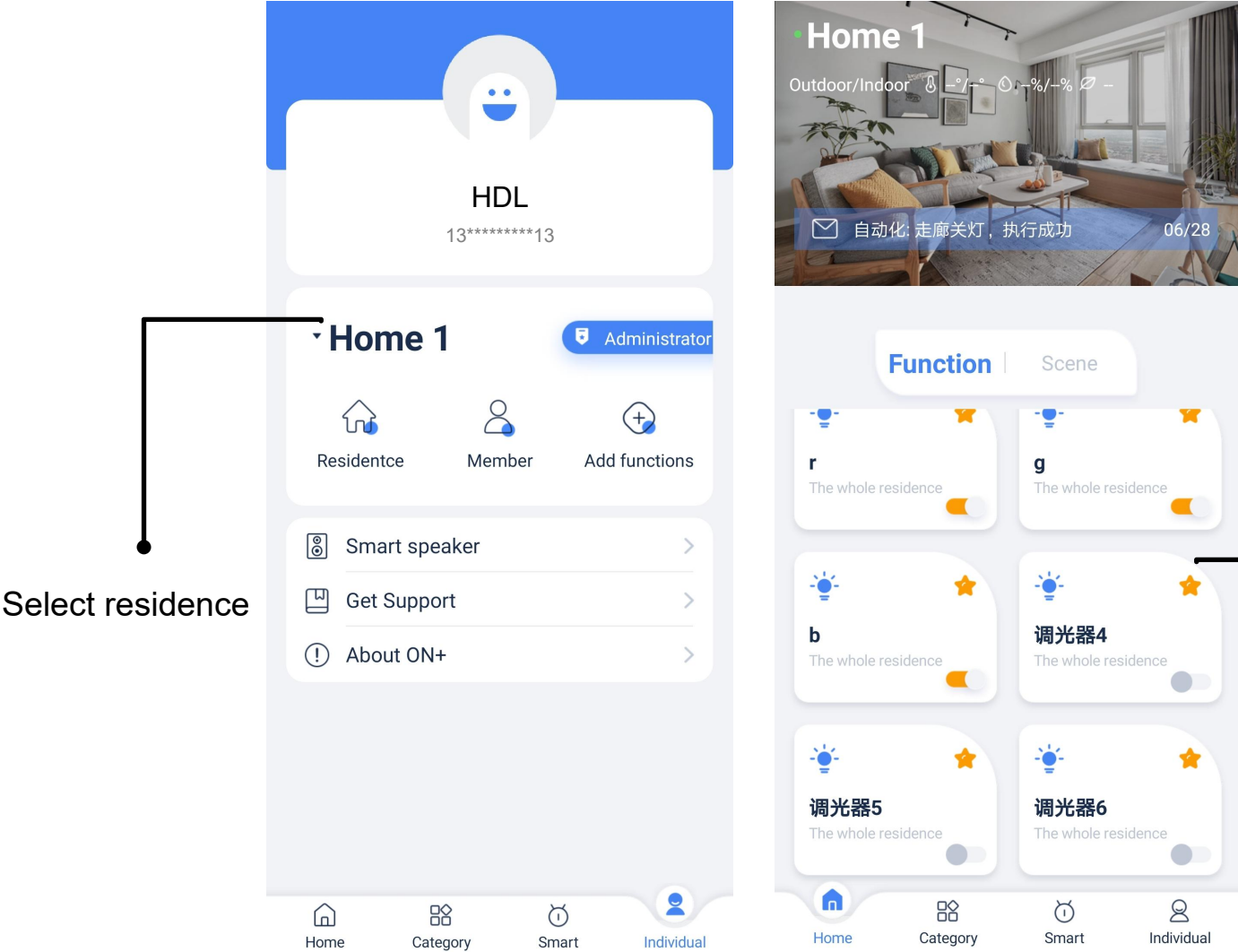
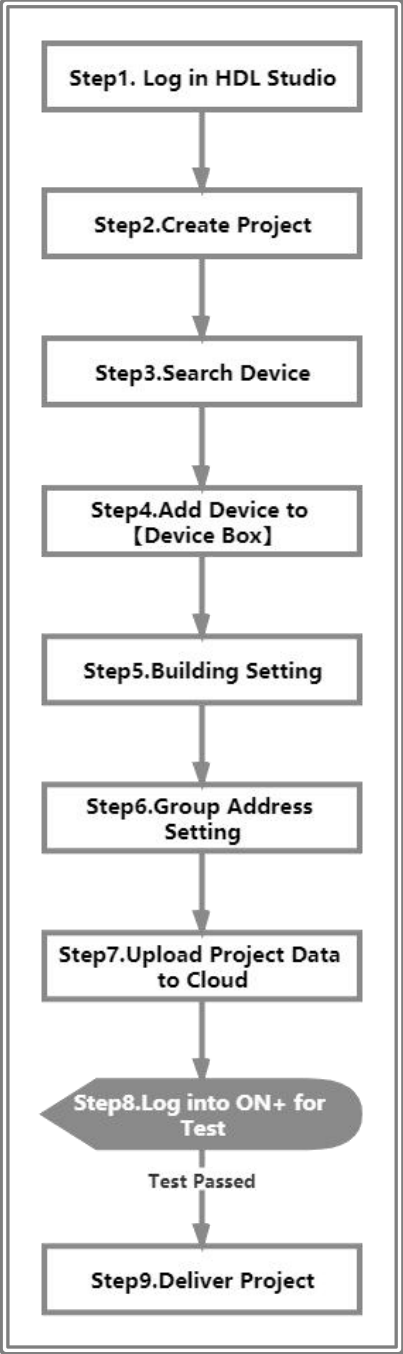
① Click “Upload Project”



② Click “Confirm”

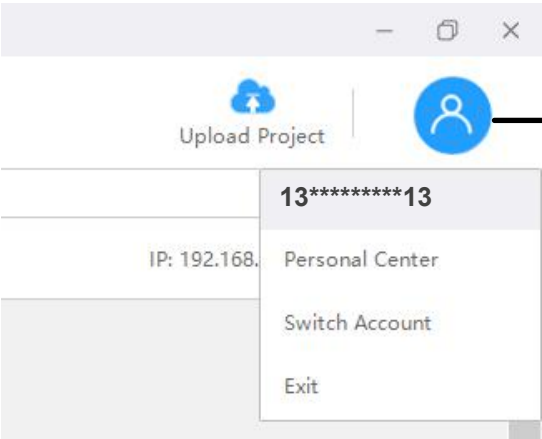
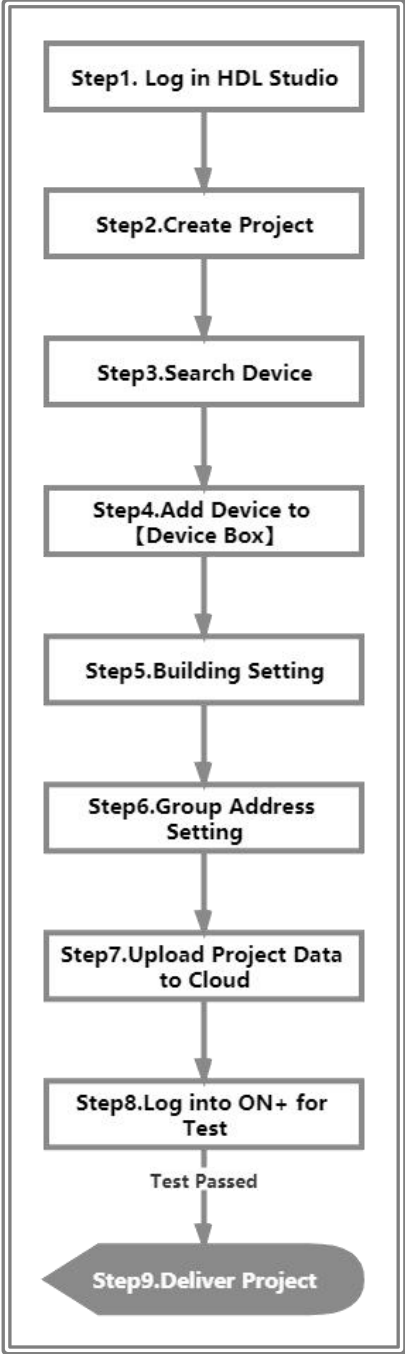


Step 8 — After uploading data, proceed logging in ON+ APP for testing.



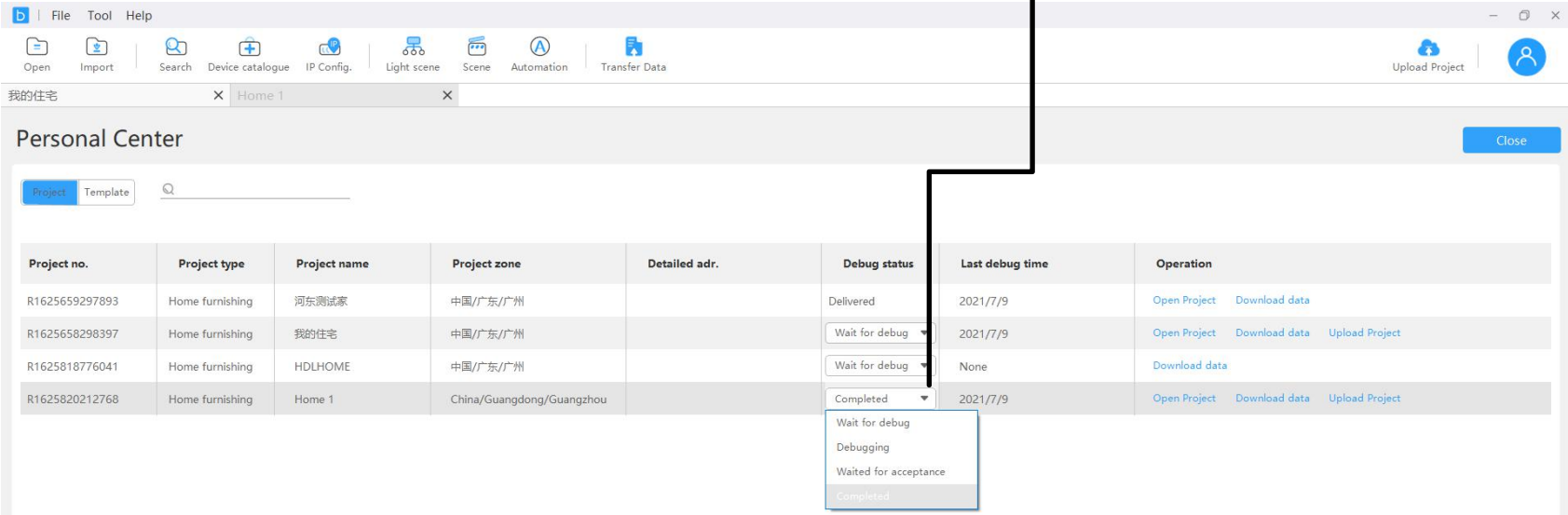
Set the function needed as favorites then proceed testing in Home page.

Step 8 —— Deliver project when test is passed.



① Click head portrait, select “Personal Center”

② Select the project and set it as “Completed”.



Step 8 — Now please inform the relevant administrator to log in IOT platform and proceed project delivery.



Click this tab

Step 8 — Now please inform the relevant administrator to log in IOT platform and proceed project delivery.

- ① Select “项目管理 (Project Management)”
→ Select residential type

- ② Select the project as needed, click “deliver QR code”. Show it to the residence owner for scanning (see next page for more details).

*The QR code is valid for the first scanning. Since then, it is bound to the administrator’s account by default.

The screenshot shows the HDL Project Management interface. The sidebar on the left includes the HDL logo, the text “数智运营平台”, and a list of navigation options: “项目管理” (Project Management), “家居项目” (Home Project), “地产项目” (Real Estate Project), “酒店项目” (Hotel Project), “公建项目” (Public Building Project), and “模板管理” (Template Management). The main content area is titled “project management / residential project” and displays a summary of project statistics: project count (16), to be debugged (11), debugging (0), to be accepted (0), completed (1), and delivered (4). Below the statistics are search filters for project number, name, region, system protocol, debug status, personnel, start/end time, and sub-type. A “create project” button is visible. The main table lists projects with columns for project number, name, sub-type, region, full address, debug start/end time, system protocol, debug status, and operation. The first project listed is R1625820212768, Home 1, China-Guangdong-Guangzhou, with a status of “completed” and operation buttons for “distribute debug”, “deliver QR code”, and “edit”.

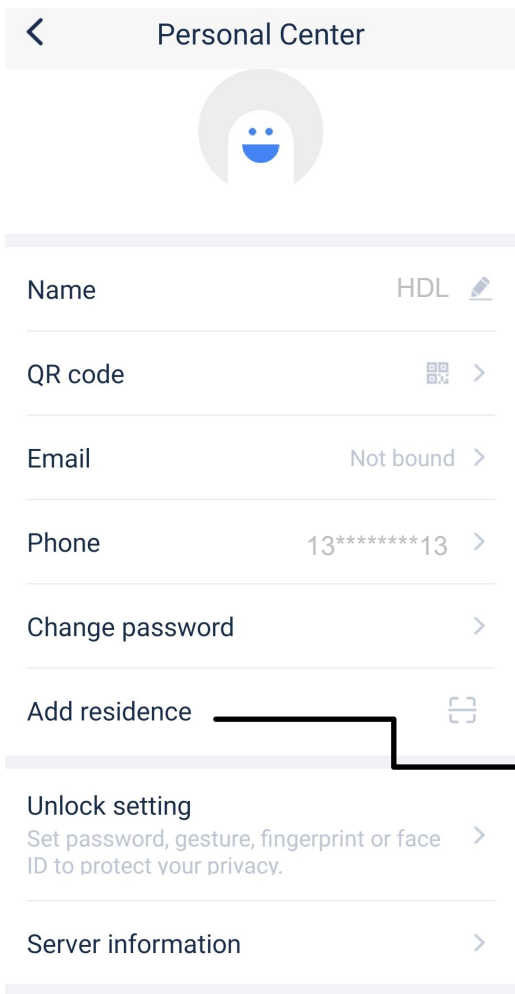
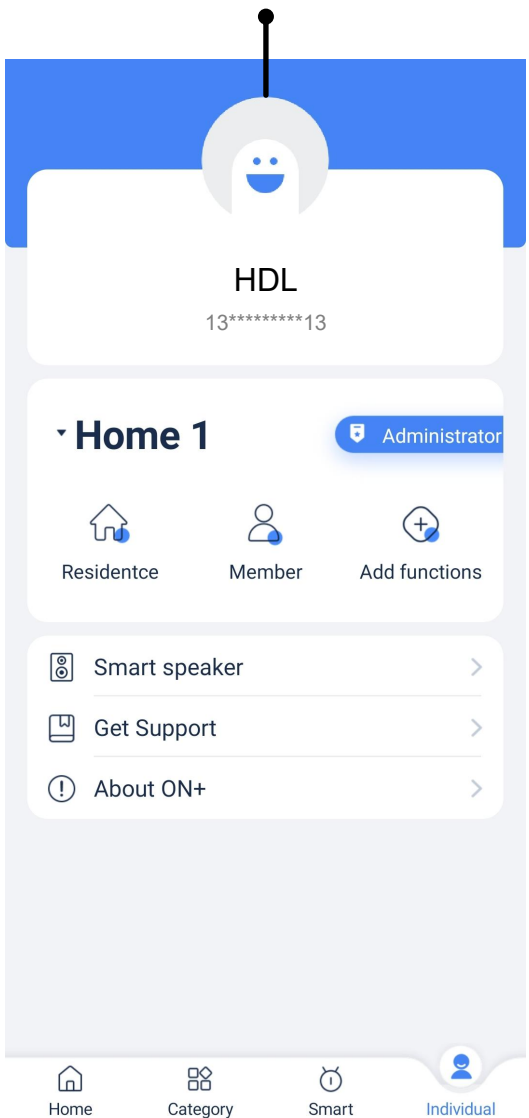
project number	project name	project sub-type	region	full address	debug start time	debug end time	system protocol	debug status	operation
R1625820212768	Home 1		China-Guangdong-Guangzhou	-	-	-	Buspro	completed	distribute debug, deliver QR code, edit

How to Scan Deliver QR Code

① After signing up, click
“Add new residence”



② Click head portrait



③ Click “Add
residence”