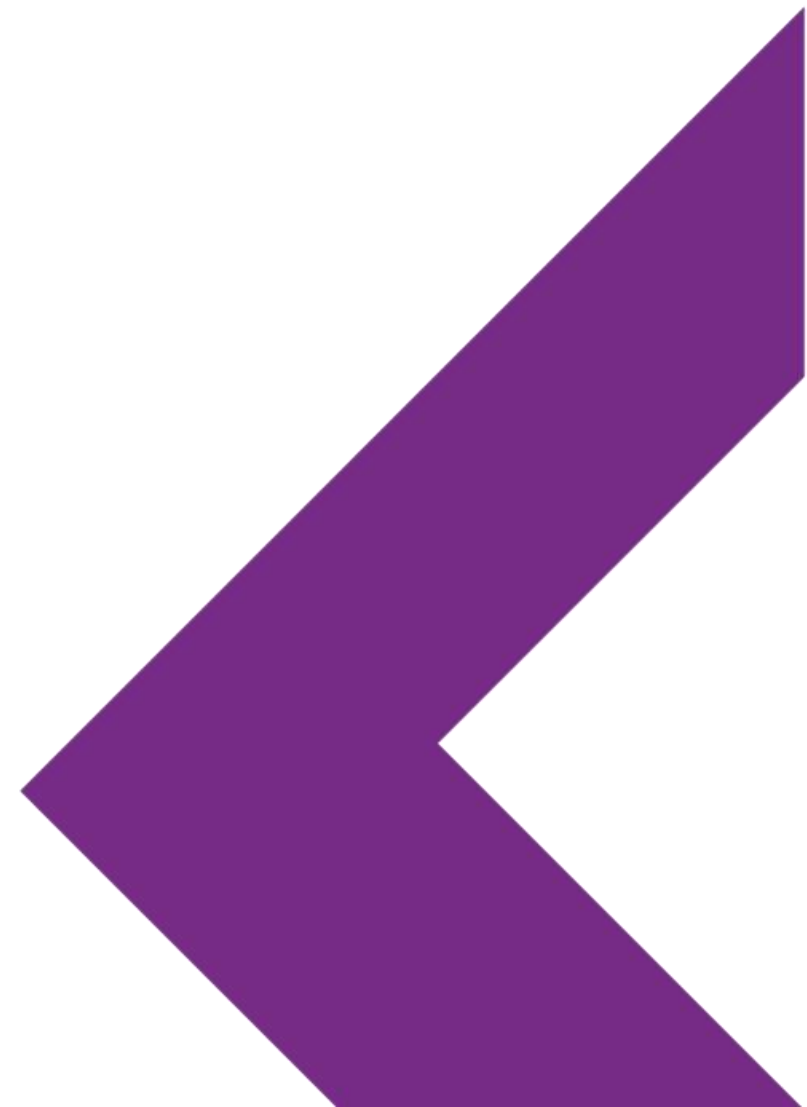


Buspro Gateway User Manual

Applicable for the debugging and configuration of Buspro Gateway via Buspro Setup Tool 2 and Buspro Studio software, as well as remote control by ON+ APP

Version: V1.0.0

Published on July 05, 2021



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1. Legal Statement & Update History

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1. Legal Statement

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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 5, 2021

2. Comparison of Software

- Difference between Buspro Setup Tool 2 & Buspro Studio.....[6](#)
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1. Difference between Buspro Setup Tool 2 & Buspro Studio

Functional Comparison	Buspro Setup Tool 2	Buspro Studio
Sign into IOT Platform to Proceed Project Management	Unsupported	Support
Create Project on IOT Platform	Unsupported	Support
Create Template for Batch Debugging/Testing	Unsupported	Support
Offline Edit	Unsupported	Support

2. Preparation

During the configuration process of Buspro Gateway done on Buspro Setup Tool 2 & Buspro Studio, the following tools might be included:

- Buspro Gateway (Model: HDL-MGWIP.430)
- A computer with Buspro Setup Tool 2 or Buspro Studio
- ON+ Application
- Dedicated Buspro cables

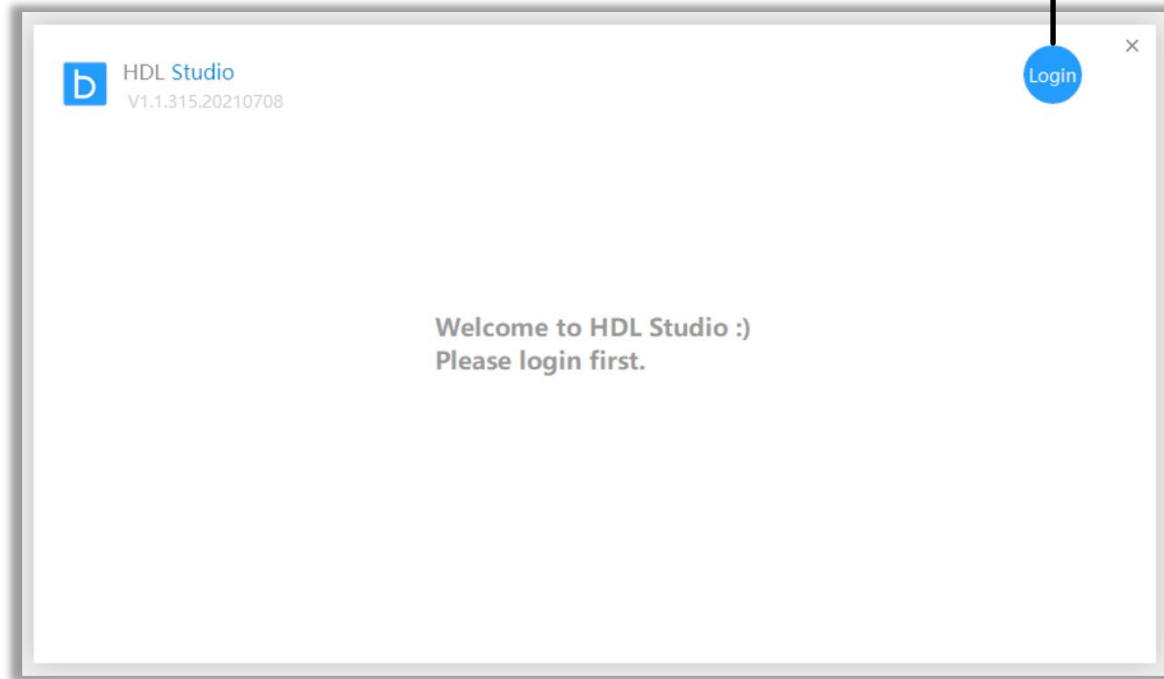
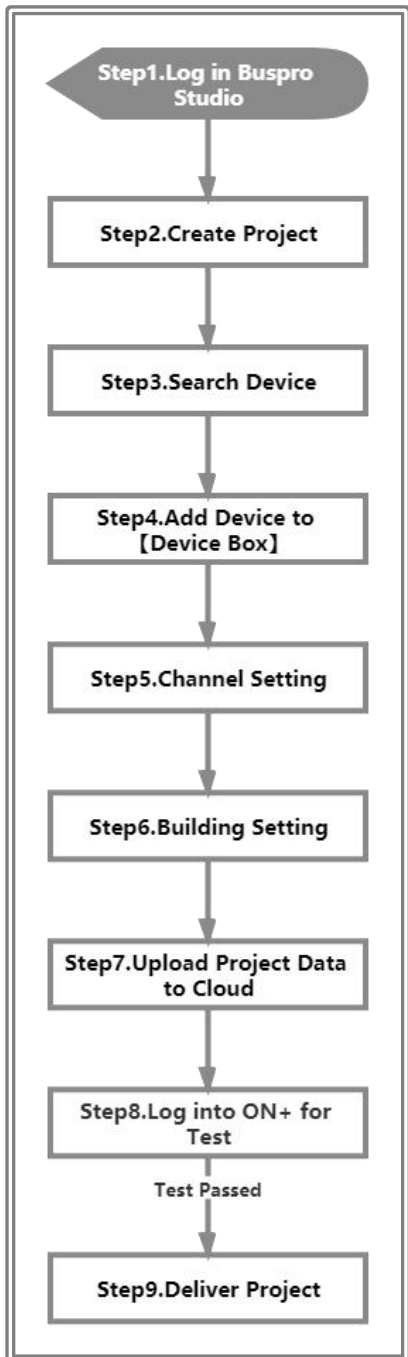
***Note:**

- As for Buspro Setup Tool 2, here it supports V10.05.180 and above.
- 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.

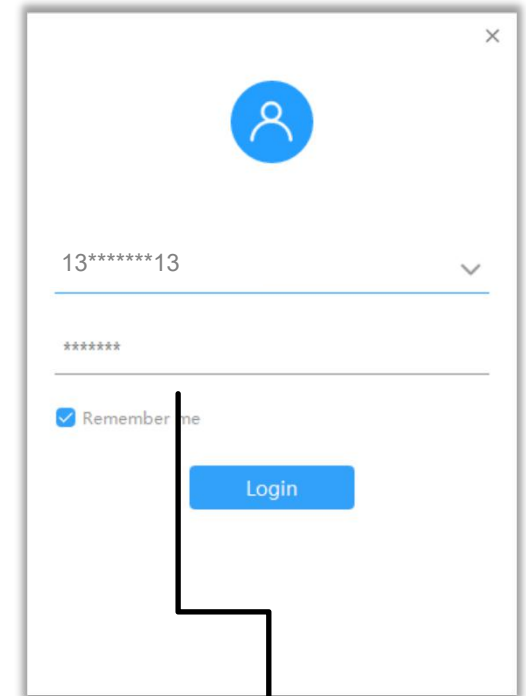
3. Buspro Studio Instruction

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- Add Device to 【Device Box】[15](#)
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Step 1 — Log in Buspro Studio



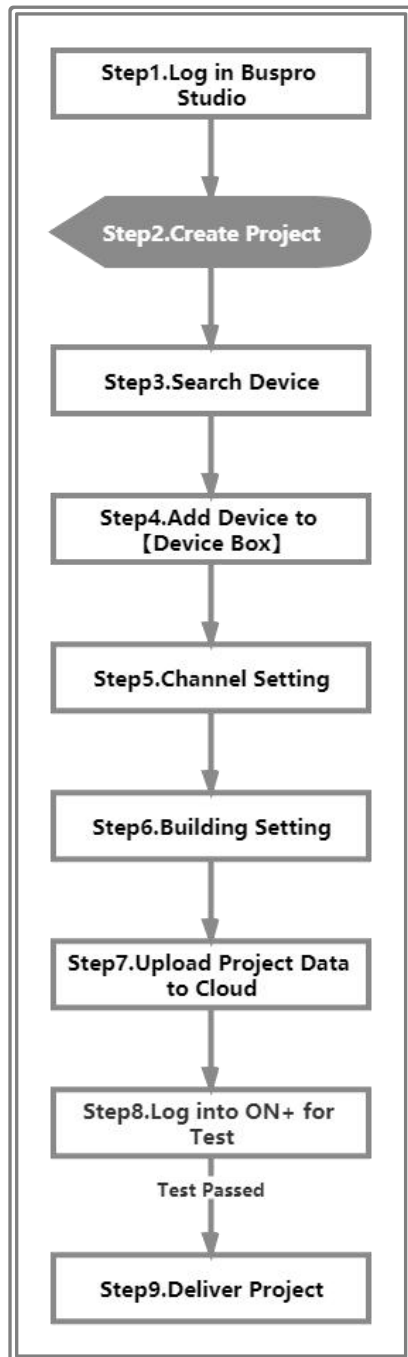
Click "Log in"



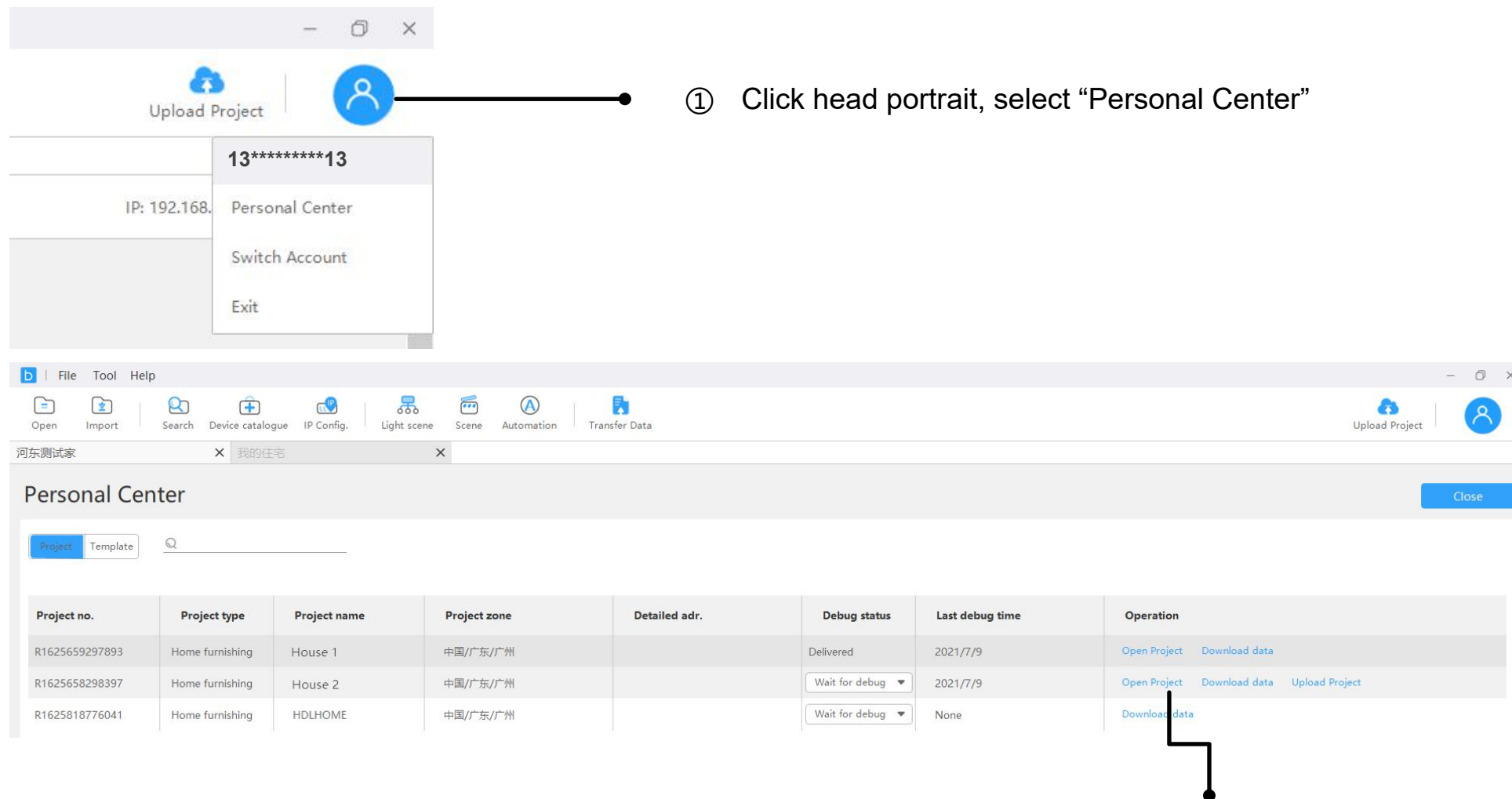
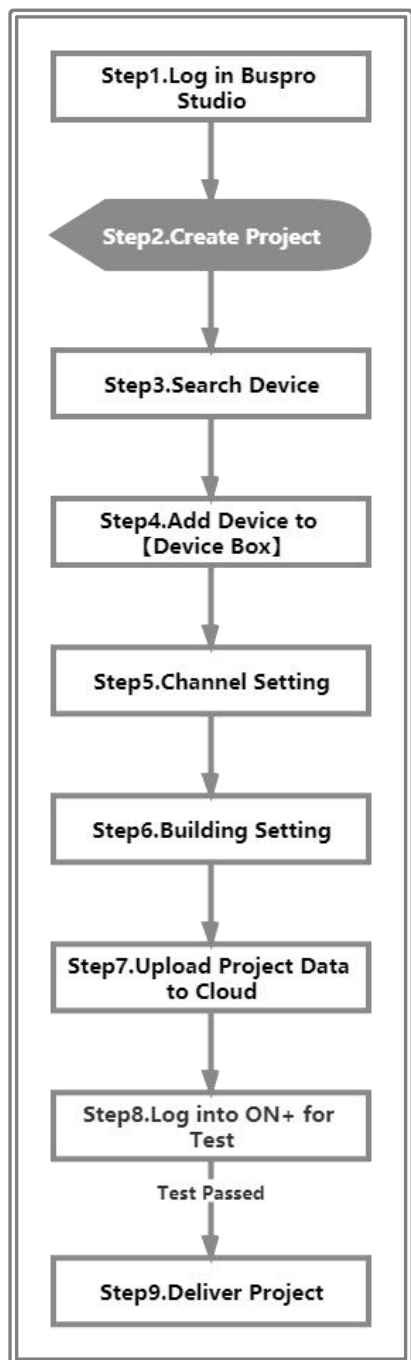
Input Account & Password

Step 2 — Buspro 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	Buspro 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

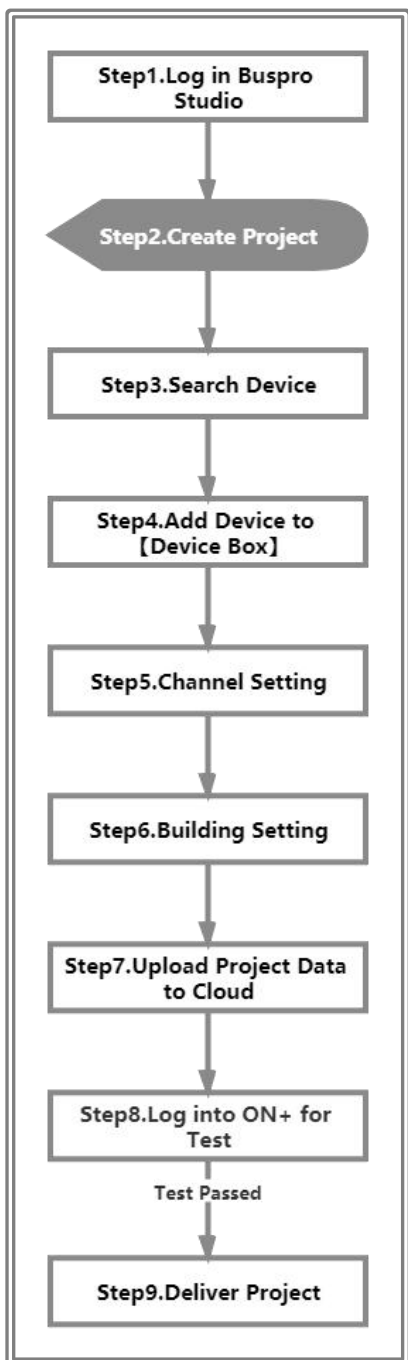


Option 1: Create by IOT Platform

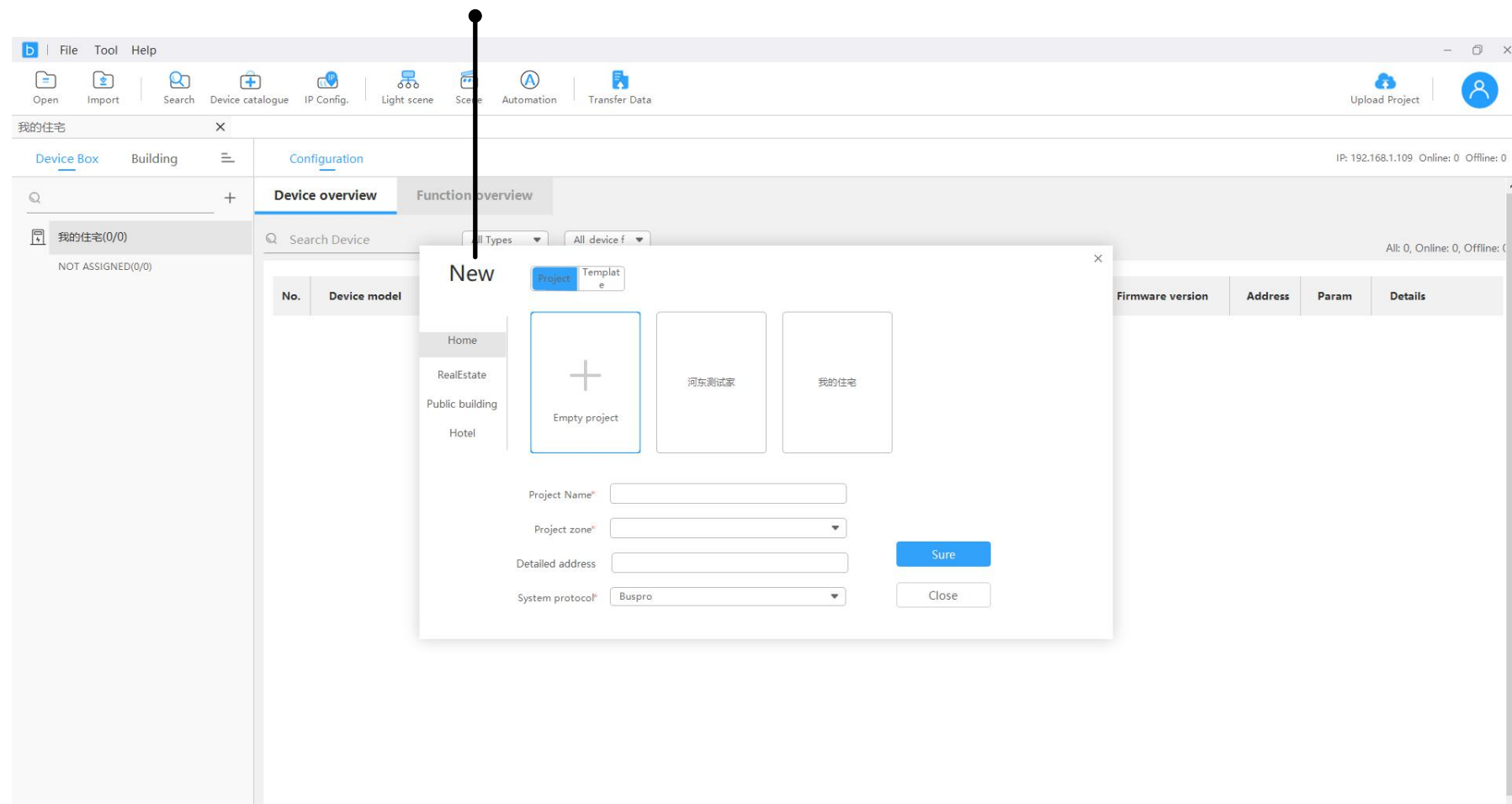


② Select project, click "Open Project"

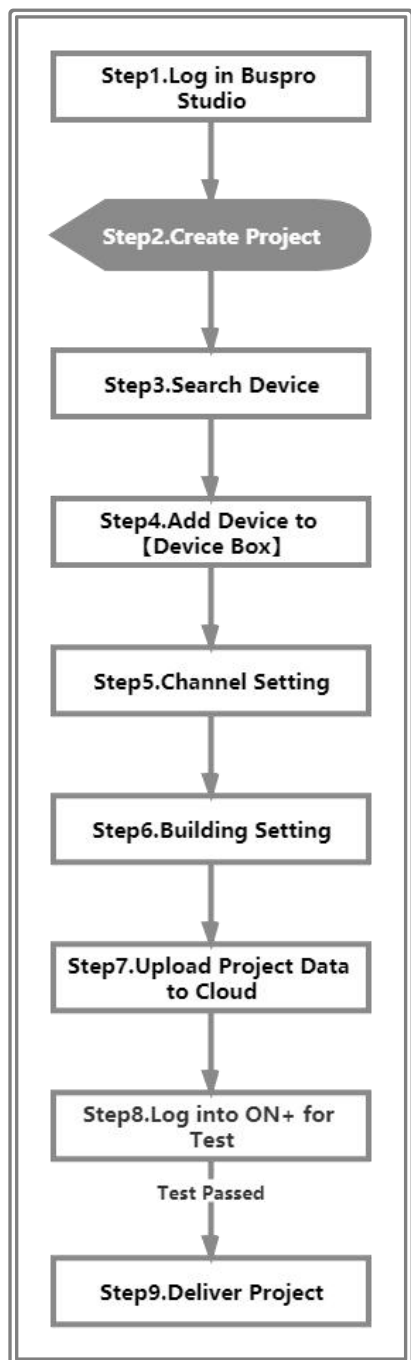
Option 2: Create by Buspro Studio



Click “New”



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



① Click “Empty Project”

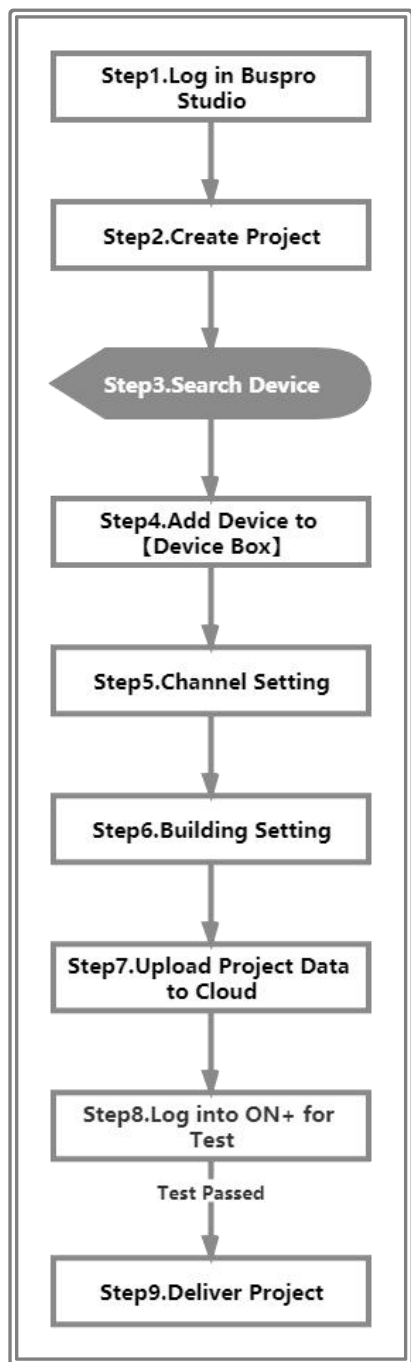
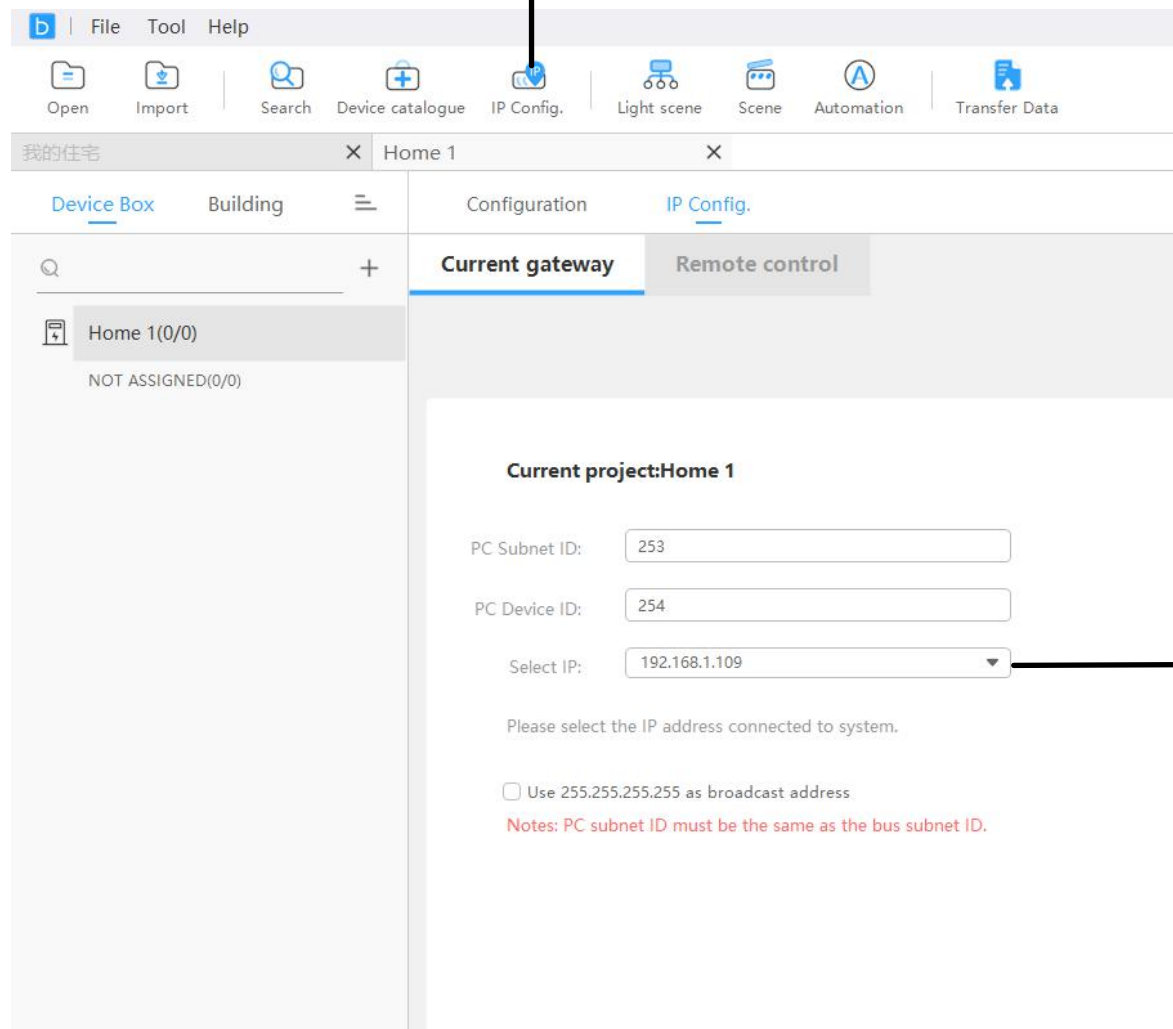
Select project type

② Input project name, zone, address and system protocol.

The screenshot shows the 'New Project' dialog box. On the left, there is a sidebar with project types: Home, RealEstate, Public building, and Hotel. The 'Home' type is selected. In the main area, there are three cards: 'Empty project' (highlighted with a blue border and a plus sign), '河东测试家', and '我的住宅'. Below the cards, there is a form with the following fields: 'Project Name*' (filled with 'Home 1'), 'Project zone*' (filled with 'China/Guangdong/Guangzhou'), 'Detailed address' (empty), and 'System protocol*' (filled with 'Buspro'). 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 Buspro Studio interface. The 'Search Device' step is highlighted. The interface includes a menu bar (File, Tool, Help) and a toolbar with icons for Open, Import, Search, Device catalogue, IP Config., Light scene, Scene, Automation, and Transfer Data. The main workspace is divided into a left sidebar and a right pane. The left sidebar shows a project tree with 'Home 1' selected. The right pane displays a table of 17 devices.

No.	Device model	Device name	Device remark	Device Type	Subnet ID	Device ID	Firmware version	Operate
1	HDL-MGWIP.430	Link gateway	HDL-MGWIP.430	Gateways	6	0	UnRead	Modify address
2	HDL-MR0416.431	4CH 16A High Power Switc...		Switches	6	1	UnRead	Point device Modify address
3	SB-DN-SEC250K	Security Command Module		System Devices	6	2	UnRead	Point device Modify address
4	HDL-MCLog.431	Logic Automation Module		System Devices	6	3	UnRead	Point device Modify address
5	HDL-MAC01.431	Air-conditioning controller		HVAC	6	4	UnRead	Point device Modify address
6	HDL-MW02.431	2CH Motorized Curtain Con...		Shading	6	5	UnRead	Point device Modify address
7	SB-DN-RS232N	RS232<->curtain controller		Others	6	7	UnRead	Point device Modify address
8	HDL-MDLED0605.432	6CH 5A Intelligent LED Dim...		Dimmers	6	10	UnRead	Point device Modify address
9	HDL-MSP07M.4C	Surface Mount 7in1 Sensor		Sensors	6	11	UnRead	Point device Modify address
10	HDL-MSD04T.40	4 Zone Dry Contact Modul...		Dry contact	6	13	UnRead	Point device Modify address
11	HDL-MIRCD4.40	4CH IR Emitter with Current...		IR	6	14	UnRead	Point device Modify address
12	HDL-MPTL14.46-A	Modern Series DLP Touch P...		Control panels	6	16	UnRead	Point device Modify address
13				Others	6	17	UnRead	Point device Modify address
14	HDL-MPL8.48-A	Modern Series DLP Smart P...		Control panels	6	18	UnRead	Point device Modify address
15	HDL-MC64-DALI.431	64CH DALI Ballast Dimming...		Dimmers	6	19	UnRead	Point device Modify address
16	HDL-MD0403.432	4CH 3A Leading Edge Dim...		Dimmers	6	21	UnRead	Point device Modify address
17	HDL-MC-48IPDMX.431	48CH DMX Scene Controller		Dimmers	6	22	UnRead	Point device Modify address

Step 4 — Add device as your need.

① Select device

② Click “Add to project”

Search Device									
									Add to project
									Close
No.	Device model	Device name	Device remark	Device Type	Subnet ID	Device ID	Firmware version	Operate	
1	HDL-MGWIP.430	Link gateway	HDL-MGWIP.430	Gateways	6	0	UnRead		Modify address
2	HDL-MR0416.431	4CH 16A High Power Switc...		Switches	6	1	UnRead	Point device	Modify address
3	SB-DN-SEC250K	Security Command Module		System Devices	6	2	UnRead	Point device	Modify address
4	HDL-MCLog.431	Logic Automation Module		System Devices	6	3	UnRead	Point device	Modify address
5	HDL-MAC01.431	Air-conditioning controller		HVAC	6	4	UnRead	Point device	Modify address
6	HDL-MW02.431	2CH Motorized Curtain Con...		Shading	6	5	UnRead	Point device	Modify address
7	SB-DN-RS232N	RS232<->curtain controller		Others	6	7	UnRead	Point device	Modify address
8	HDL-MDLED0605.432	6CH 5A Intelligent LED Dim...		Dimmers	6	10	UnRead	Point device	Modify address
9	HDL-MSP07M.4C	Surface Mount 7in1 Sensor		Sensors	6	11	UnRead	Point device	Modify address
10	HDL-MSD04T.40	4 Zone Dry Contact Modul...		Dry contact	6	13	UnRead	Point device	Modify address
11	HDL-MIRC04.40	4CH IR Emitter with Current...		IR	6	14	UnRead	Point device	Modify address
12	HDL-MPTL14.46-A	Modern Series DLP Touch P...		Control panels	6	16	UnRead	Point device	Modify address
13				Others	6	17	UnRead	Point device	Modify address
14	HDL-MPL8.48-A	Modern Series DLP Smart P...		Control panels	6	18	UnRead	Point device	Modify address
15	HDL-MC64-DALI.431	64CH DALI Ballast Dimming...		Dimmers	6	19	UnRead	Point device	Modify address
16	HDL-MD0403.432	4CH 3A Leading Edge Dim...		Dimmers	6	21	UnRead	Point device	Modify address
17	HDL-MC-48IPDMX.431	48CH DMX Scene Controller		Dimmers	6	22	UnRead	Point device	Modify address

Step 4 — Add device as your need.

① Click “Device Box” to check all devices

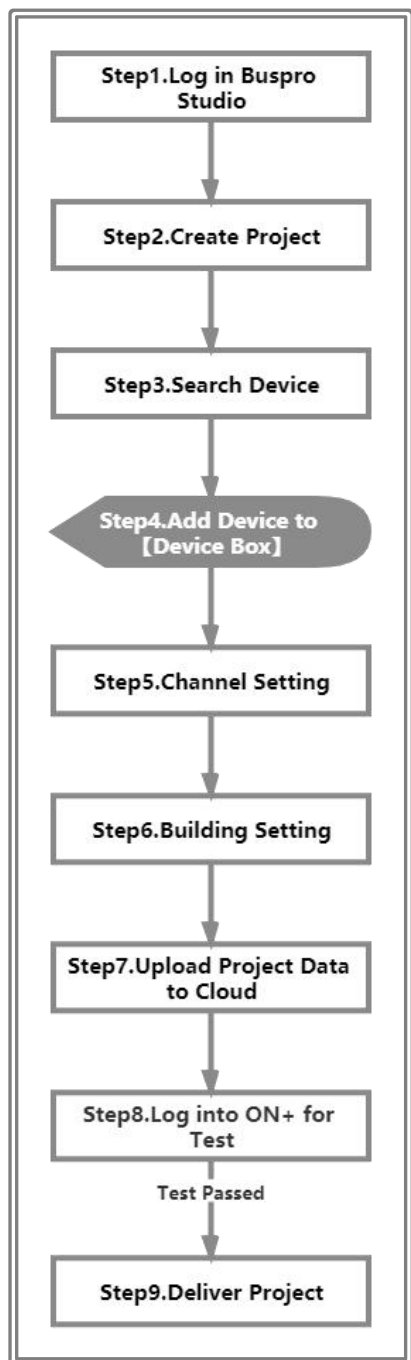
*"Device Box" refers to electric boxes.

The screenshot shows the HDL Buspro Studio interface. The 'Device Box' panel is open, displaying a list of devices under the 'Device overview' tab. The list includes columns for 'No.', 'Device model', and 'Device name'. The 'Function overview' tab shows a tree view of device categories. A red box highlights the 'Device Box' panel, and a red arrow points to the 'Device overview' tab.

No.	Device model	Device name
1	HDL-MGWIP.430	Link gateway
2	HDL-MR0416.431	4CH 16A High P...
3	SB-DN-SEC250K	Security Comma...
4	HDL-MCLog.431	Logic Automatio...
5	HDL-MAC01.431	Air-conditioning ...
6	HDL-MW02.431	2CH Motorized C...
7	SB-DN-RS232N	RS232 <-> curtai...
8	HDL-MDLED060...	6CH 5A Intellige...
9	HDL-MSP07M.4C	Surface Mount 7...
10	HDL-MSD04T.40	4 Zone Dry Cont...
11	HDL-MIRC04.40	4CH IR Emitter w...
12	HDL-MPTL14.46-A	Modern Series D...
13		
14	HDL-MPL8.48-A	Modern Series D...
15	HDL-MC64-DALI...	64CH DALI Ballas...
16	HDL-MD0403.432	4CH 3A Leading ...

② Unfold to see each device.

*Under current version, it requires to click each device once so as to read device-related data and upload to “Building”.



Step 4 — Add device as your need.

Click this gateway

The screenshot shows the HDL Buspro Studio software interface. On the left, a sidebar titled '我的住宅' (My Home) displays a tree view of devices. Under 'Gateways(1/1)', the device 'HDL-MGWIP.430(Link gateway)' is highlighted with a black box. A black arrow points from the text 'Click this gateway' to this highlighted device. The main window shows the 'Configuration' tab for 'Home 1'. The 'Basic setting' sub-tab is active, displaying various configuration fields:

- Network address:** DHCP is checked. Host IP: 192.168.1.111, Router IP: 192.168.1.1, Mask: 255.255.255.0, IP MAC: 02.81.C8.7B.7B.63, DNS1: 202.96.128.166, DNS2: 192.168.1.1.
- Connection:** Connect type is set to MQTT. Project group, Project name, Designer, and Website fields are empty. Connection of Gateway and Cloud is 'Online'. Connection of Gateway and Devices is 'Online'.
- Date and time:** Date is 2021/07/09, Time is 16:36:4. 'Auto adjust' is checked. 'Broadcast time' is unchecked.
- Geographical position:** Latitude and Longitude are both set to 000.00. 'Auto locate' is checked.

On the right side of the configuration window, there is a summary section for the selected device 'HDL-MGWIP.430'. It includes fields for 'Model No.', 'Link gateway', 'Device name', and 'MAC' (02.CE.06.7B.95.F8.1A.B1). There are buttons for 'Read', 'Transfer Data', 'Pointing device', 'Clear data', 'Data backup', 'Recover data', and 'Master'.

Step 4 — Add device as your need.

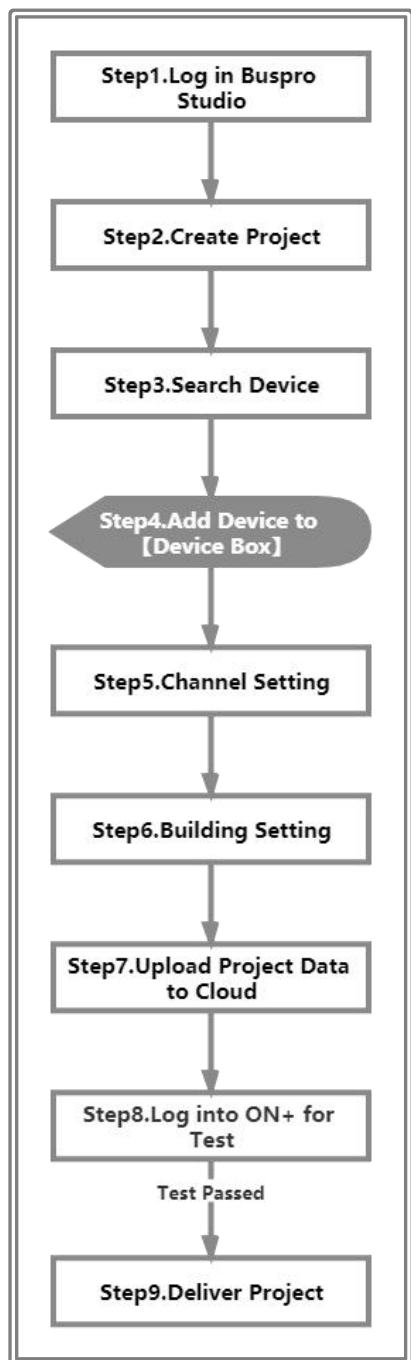
① “DHCP” is clicked by default

② Select “MQTT”

*Please note to make sure the connection status of gateway and Cloud is normal.

The screenshot displays the 'Configuration' page for a device (HDL-MGWIP.430). The 'Basic setting' tab is active. The 'Network address' section shows 'DHCP' selected. The 'Connection' section shows 'MQTT' selected. The 'Date and time' section shows the date '2021/07/09' and time '16:36:4'. The 'Geographical position' section shows 'Latitude: 000.00' and 'Longitude: 000.00'. The 'More' section shows 'Master' selected. The 'Project Information' section shows 'Home id: 0' and 'Gateway id: 1408658396696109057'. The 'Transfer Data' button is highlighted.

③ Click “Transfer Data”
*It requires extranet connection.



Step 5 — Channel setting

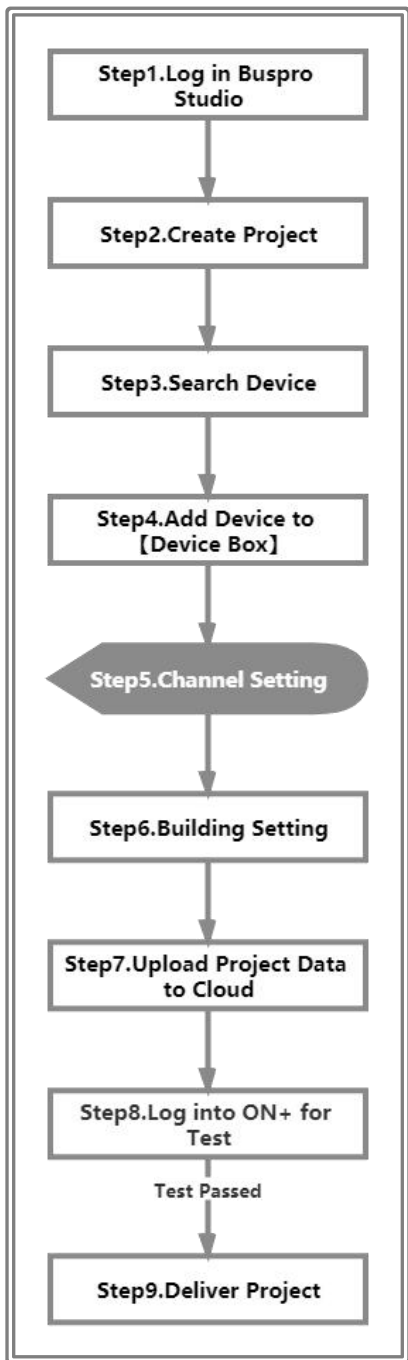
① Select the channel as needed

② Revise the channel name as needed, which corresponds to that shown in the function remark of ON+ APP.

③ Click “Transfer Data” after setting

The screenshot shows the HDL Buspro Studio software interface. The sidebar on the left displays a project tree for 'Home 1(18/18)'. Under 'Dimmers(4/4)', the '6CH 5A Intelligent LED Dimming Actuator' is selected and highlighted with a red box. The main configuration area shows the 'Channel setting' tab. It includes a 'Broadcast status' section with a 'Broadcast loop status' checkbox. Below this is a table with 6 columns: CH No., CH name, Building, Function, Lowest brightness (0-100%), Highest brightness (0-100%), Max dimming (0-100%), Dimming curve, and Test. The table contains 6 rows of channel data. A 'Transfer Data' button is visible in the top right corner of the configuration area.

CH No.	CH name	Building	Function	Lowest brightness (0-100%)	Highest brightness (0-100%)	Max dimming (0-100%)	Dimming curve	Test
1	r	NOT ASSIGNED	Lighting	0	100	100	Curve 1.0	⏻
2	g	NOT ASSIGNED	Lighting	0	100	100	Curve 1.0	⏻
3	b	NOT ASSIGNED	Lighting	0	100	100	Curve 1.0	⏻
4	调光器4	NOT ASSIGNED	Lighting	0	100	100	Curve 1.0	⏻
5	调光器5	NOT ASSIGNED	Lighting	0	100	100	Curve 1.0	⏻
6	调光器6	NOT ASSIGNED	Lighting	0	100	100	Curve 1.0	⏻



Step 5 — After channel setting, if you need to batch upload the device data, please proceed as below:

② Select the device as needed

① Click “Transfer Data”

③ Click “Sure upload”

The screenshot shows the HDL Buspro Studio interface with the 'Transfer Data' tab selected. The table below lists the online devices available for upload.

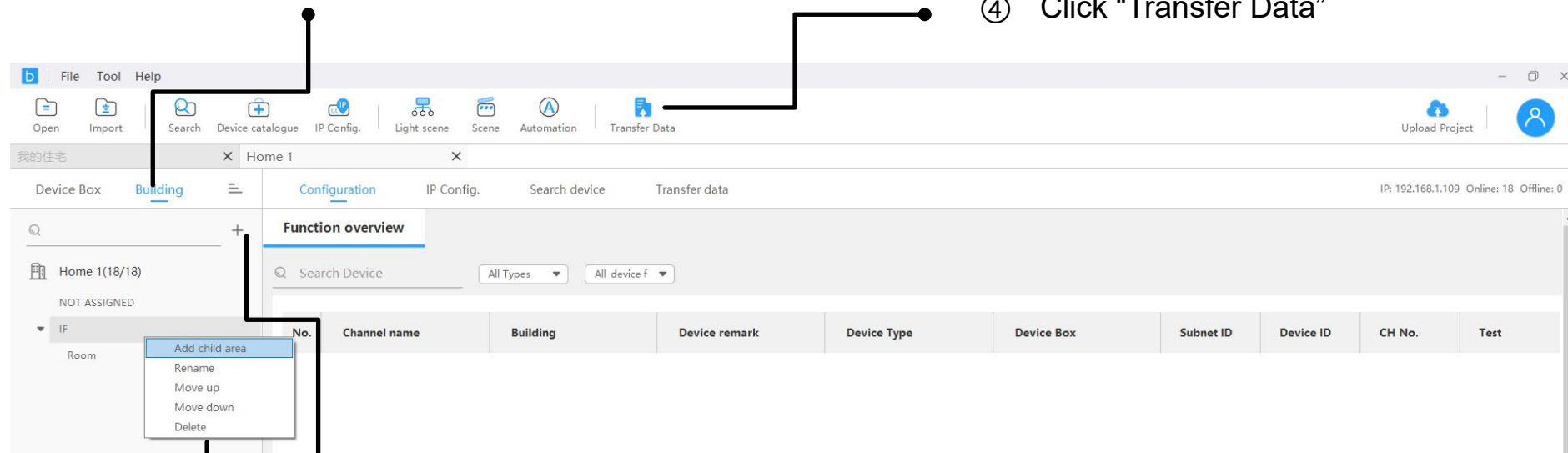
All/None	No.	Device model	Device name	Device Type	Device remark	Subnet ID	Device ID	Address	Param	Status
<input checked="" type="checkbox"/>	1	HDL-MGWIP.430	Link gateway	Gateways	HDL-MGWIP.430	6	0	✓	✓	Waiting
<input checked="" type="checkbox"/>	2	HDL-MR0416.431	4CH 16A High Power Switc...	Switches		6	1	✓	✓	Waiting
<input checked="" type="checkbox"/>	3	SB-DN-SEC250K	Security Command Module	System Devices		6	2	✓	○	Waiting
<input checked="" type="checkbox"/>	4	HDL-MCLog.431	Logic Automation Module	System Devices		6	3	✓	○	Waiting
<input checked="" type="checkbox"/>	5	HDL-MAC01.431	Air-conditioning controller	HVAC		6	4	✓	✓	Waiting
<input checked="" type="checkbox"/>	6	HDL-MW02.431	2CH Motorized Curtain Con...	Shading		6	5	✓	✓	Waiting
<input checked="" type="checkbox"/>	7	HDL-MDLED0605.432	6CH 5A Intelligent LED Dim...	Dimmers		6	10	✓	✓	Waiting
<input checked="" type="checkbox"/>	8	HDL-MSP07M.4C	Surface Mount 7in1 Sensor	Sensors		6	11	✓	✓	Waiting
<input checked="" type="checkbox"/>	9	HDL-MSD04T.40	4 Zone Dry Contact Modul...	Dry contact		6	13	✓	✓	Waiting
<input checked="" type="checkbox"/>	10	HDL-MIRC04.40	4CH IR Emitter with Current...	IR		6	14	✓	✓	Waiting
<input checked="" type="checkbox"/>	11	HDL-MPTL14.46-A	Modern Series DLP Touch P...	Control panels		6	16	✓	✓	Waiting
<input checked="" type="checkbox"/>	12	HDL-MPL8.48-A	Modern Series DLP Smart P...	Control panels		6	18	✓	✓	Waiting
<input checked="" type="checkbox"/>	13	HDL-MC64-DALI.431	64CH DALI Ballast Dimming...	Dimmers		6	19	✓	✓	Waiting
<input checked="" type="checkbox"/>	14	HDL-MD0403.432	4CH 3A Leading Edge Dim...	Dimmers		6	21	✓	✓	Waiting
<input checked="" type="checkbox"/>	15	HDL-MC-48IPDMX.431	48CH DMX Scene Controller	Dimmers		6	22	✓	✓	Waiting
<input checked="" type="checkbox"/>	16	HDL-MZBOX.A50B.30	HomePlay Network Player	Music	homeplay	7	115	✓	✓	Waiting

Step 6 — Building setting

① Select “Building”

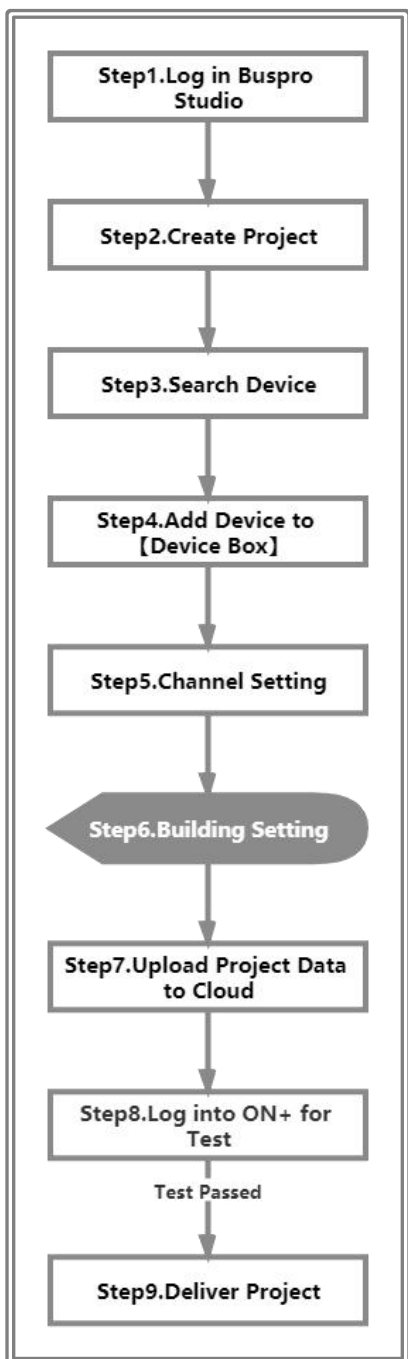
*“Building” refers to the function shown in ON+ APP.

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 — Building setting

Unfold to select the area as needed for the device

The screenshot shows the HDL Buspro Studio software interface. The 'Building' tab is selected, displaying a table of device configurations. A black arrow points to the 'Building' column header, indicating where to click to unfold the dropdown menu for selecting the area as needed for the device.

No.	Channel name	Building	Device remark	Device Type	Device Box	Subnet ID	Device ID	CH No.	Test
1	r	IF		Dimmers	NOT ASSIGNED	6	10	1	<input type="checkbox"/>
2	g	IF-Room		Dimmers	NOT ASSIGNED	6	10	2	<input type="checkbox"/>
3	b	IF-Toilet		Dimmers	NOT ASSIGNED	6	10	3	<input type="checkbox"/>
4	调光器4	IF-Room		Dimmers	NOT ASSIGNED	6	10	4	<input type="checkbox"/>
5	调光器5	IF-Toilet		Dimmers	NOT ASSIGNED	6	10	5	<input type="checkbox"/>
6	调光器6	IF		Dimmers	NOT ASSIGNED	6	10	6	<input type="checkbox"/>

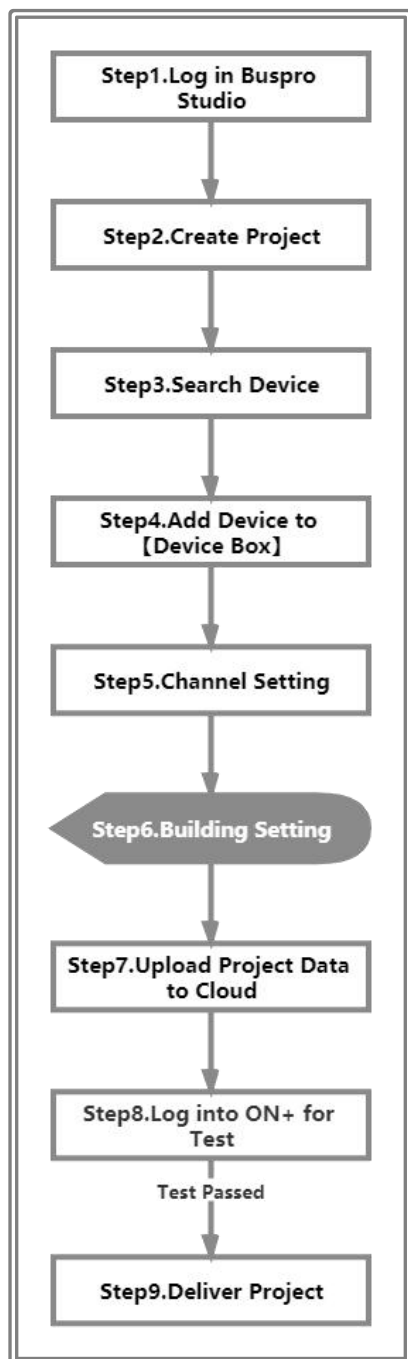
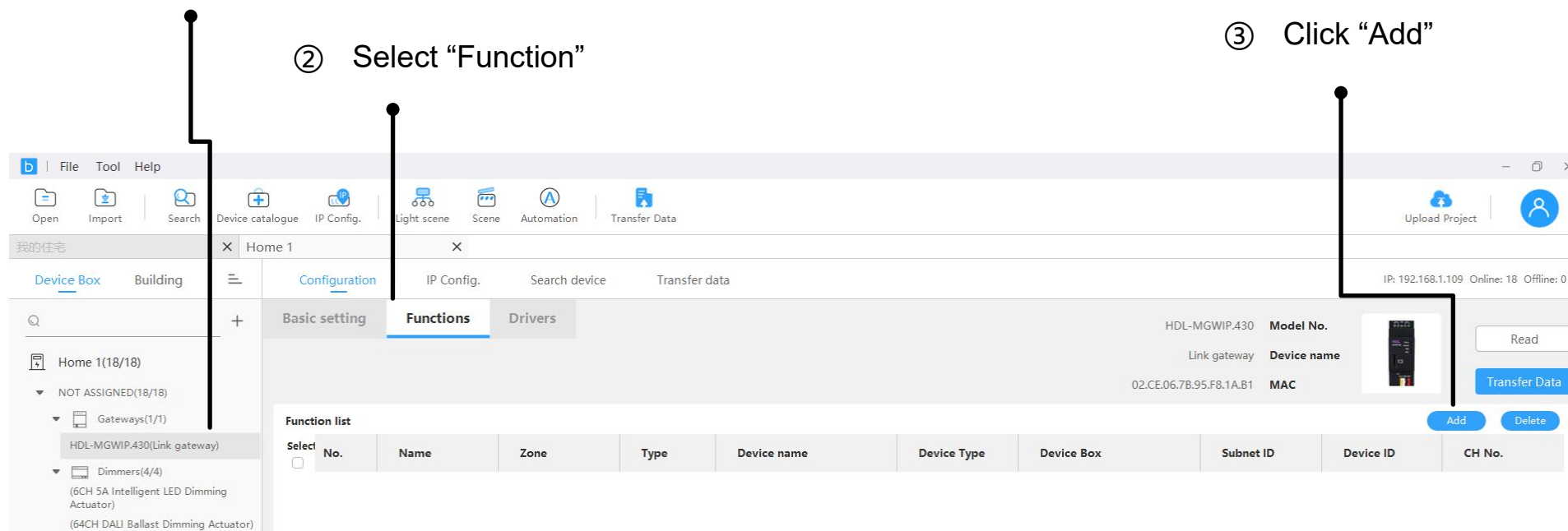
Step 6 — Building setting

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”

③ Click “Add”



Step 6 — Building setting

- ① Select the function you would like to upload to ON+ APP

Target library

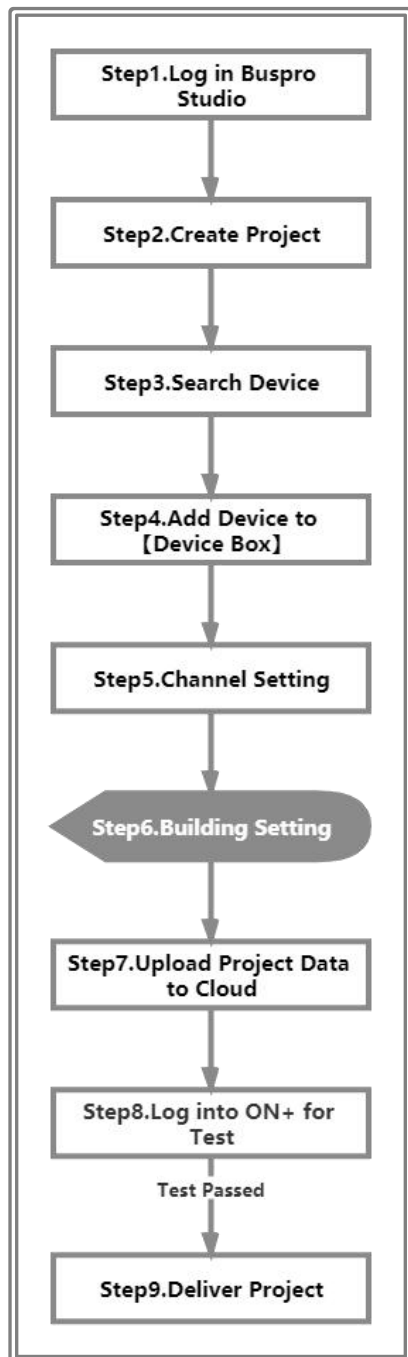
Search icon

All Types

Confirm to add

	Function/Sce...	Building	Function	Test
<input checked="" type="checkbox"/>	r	IF	Lighting	<input type="checkbox"/>
<input checked="" type="checkbox"/>	g	IF-Room	Lighting	<input type="checkbox"/>
<input checked="" type="checkbox"/>	b	IF-Toilet	Lighting	<input type="checkbox"/>
<input checked="" type="checkbox"/>	调光器4	IF-Room	Lighting	<input type="checkbox"/>
<input checked="" type="checkbox"/>	调光器5	IF-Toilet	Lighting	<input type="checkbox"/>
<input checked="" type="checkbox"/>	调光器6	IF	Lighting	<input type="checkbox"/>
<input checked="" type="checkbox"/>		NOT ASSIGNED	Sensor	<input type="checkbox"/>
<input checked="" type="checkbox"/>		NOT ASSIGNED	Brightness Sen...	<input type="checkbox"/>
<input checked="" type="checkbox"/>		NOT ASSIGNED	PIR sensor	<input type="checkbox"/>

- ② Click “Confirm to add”



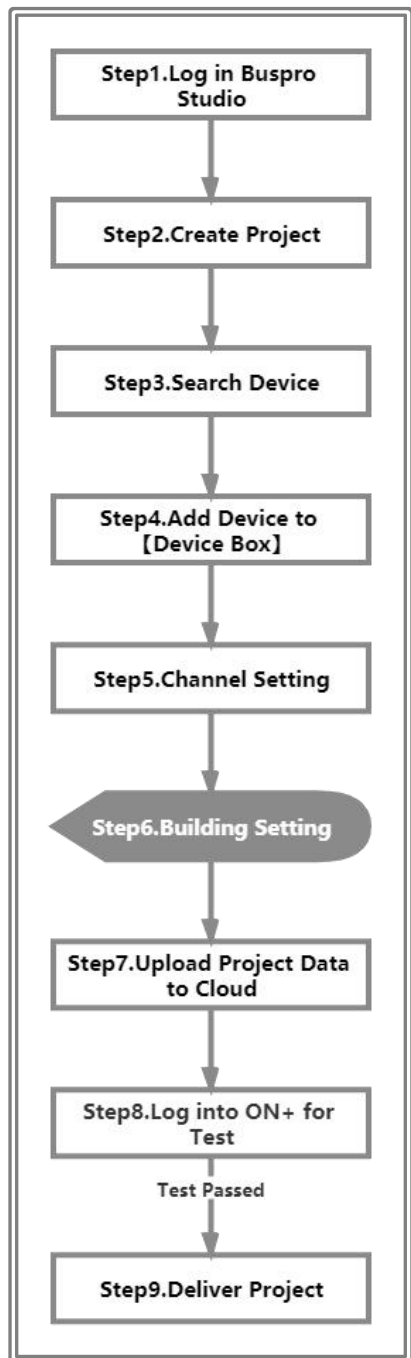
Step 6 — Building setting

- ① Select the function you would like to upload to ON+ APP again
- ② Click “Transfer Data”

The screenshot shows the HDL Buspro Studio interface. The 'Functions' tab is selected, displaying a table of functions. The 'Transfer Data' button is visible in the top right corner. Arrows from the instructions point to the 'Functions' tab and the 'Transfer Data' button.

Select	No.	Name	Zone	Type	Device name	Device Type	Device Box	Subnet ID	Device ID	CH No.
<input checked="" type="checkbox"/>	1	r	IF	Lighting		Dimmers	NOT ASSIGNED	6	10	1
<input checked="" type="checkbox"/>	2	g	IF-Room	Lighting		Dimmers	NOT ASSIGNED	6	10	2
<input checked="" type="checkbox"/>	3	b	IF-Toilet	Lighting		Dimmers	NOT ASSIGNED	6	10	3
<input checked="" type="checkbox"/>	4	调光器4	IF-Room	Lighting		Dimmers	NOT ASSIGNED	6	10	4
<input checked="" type="checkbox"/>	5	调光器5	IF-Toilet	Lighting		Dimmers	NOT ASSIGNED	6	10	5
<input checked="" type="checkbox"/>	6	调光器6	IF	Lighting		Dimmers	NOT ASSIGNED	6	10	6
<input checked="" type="checkbox"/>	7		NOT ASSIGNED			Sensors	NOT ASSIGNED	6	11	0

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



① Click “Scene”

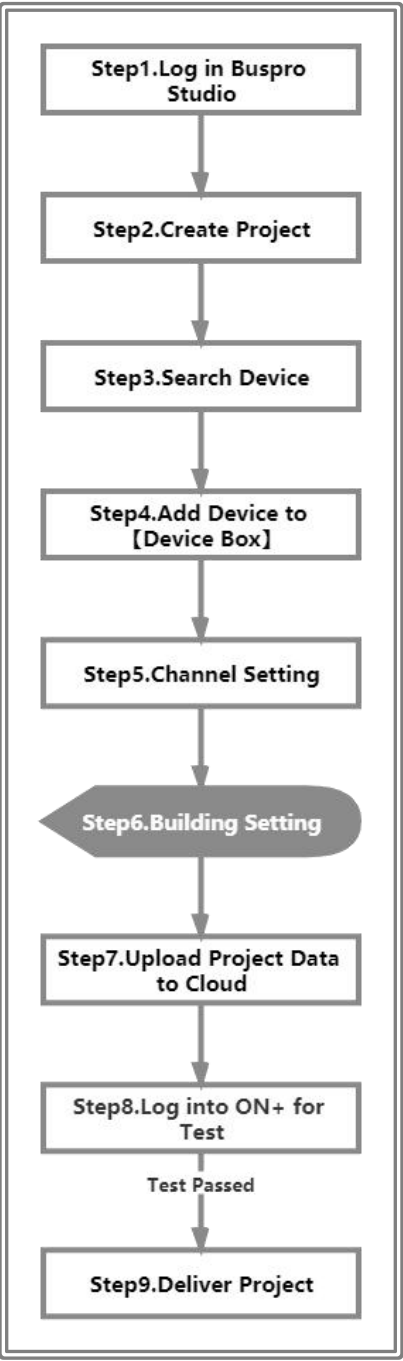
② Revise the scene name and assign area as needed

③ Click “Add”

The screenshot shows the Buspro Studio application window. The 'Scene' menu item is highlighted in the top toolbar. Below it, the 'Scene list' table is visible, containing one entry with the name 'Scene-1'. The 'Add' button is located at the top right of the table. The 'Scene config' section is also visible, showing fields for 'No.', 'Remark', 'Type', and 'Delay'.

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

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



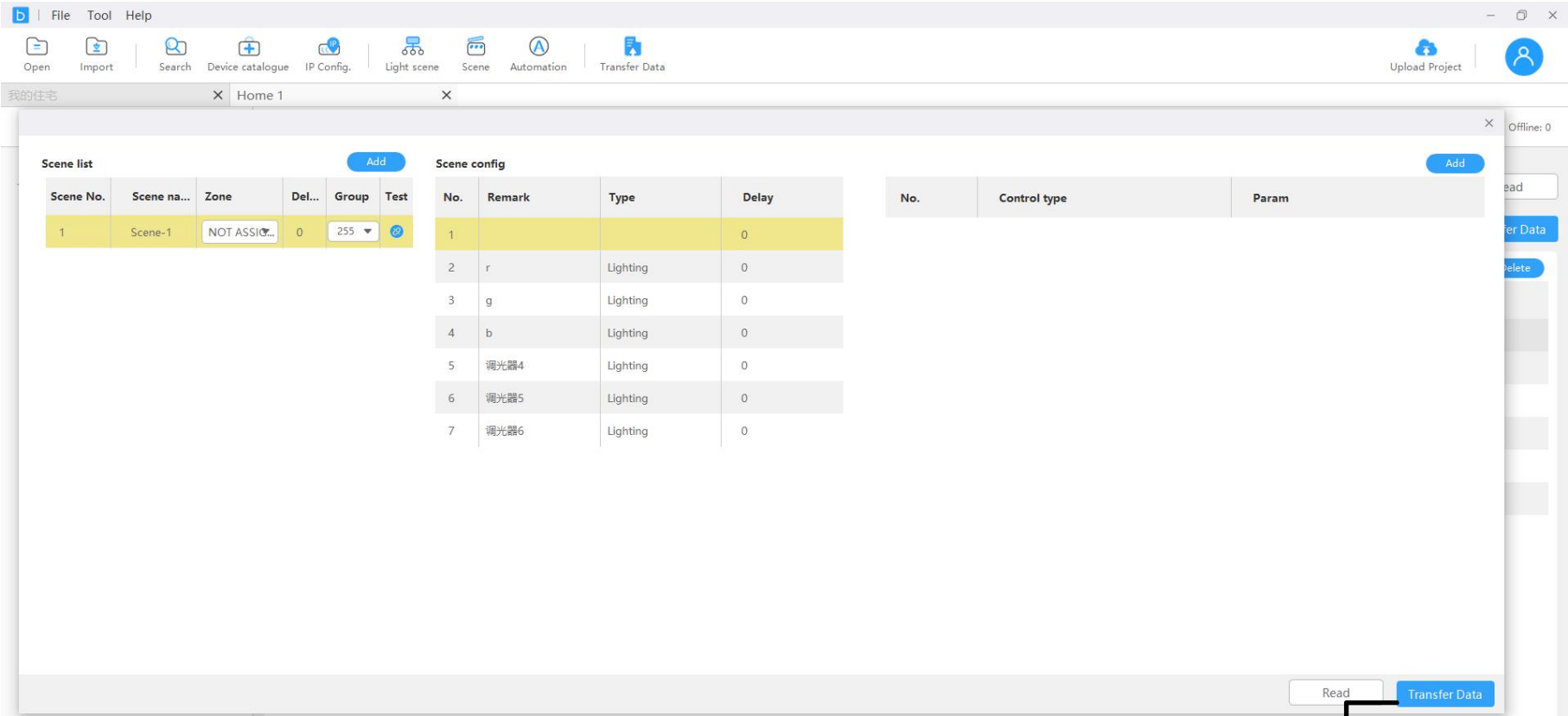
① Select function

Select	No.	Name	Type	Zone
<input checked="" type="checkbox"/>	1			NOT ASSIGNED
<input checked="" type="checkbox"/>	2	r	Lighting	NOT ASSIGNED
<input checked="" type="checkbox"/>	3	g	Lighting	NOT ASSIGNED
<input checked="" type="checkbox"/>	4	b	Lighting	NOT ASSIGNED
<input checked="" type="checkbox"/>	5	调光器4	Lighting	NOT ASSIGNED
<input checked="" type="checkbox"/>	6	调光器5	Lighting	NOT ASSIGNED
<input checked="" type="checkbox"/>	7	调光器6	Lighting	NOT ASSIGNED

Buttons: Cancel, Add Fun. On, Add Fun. Off

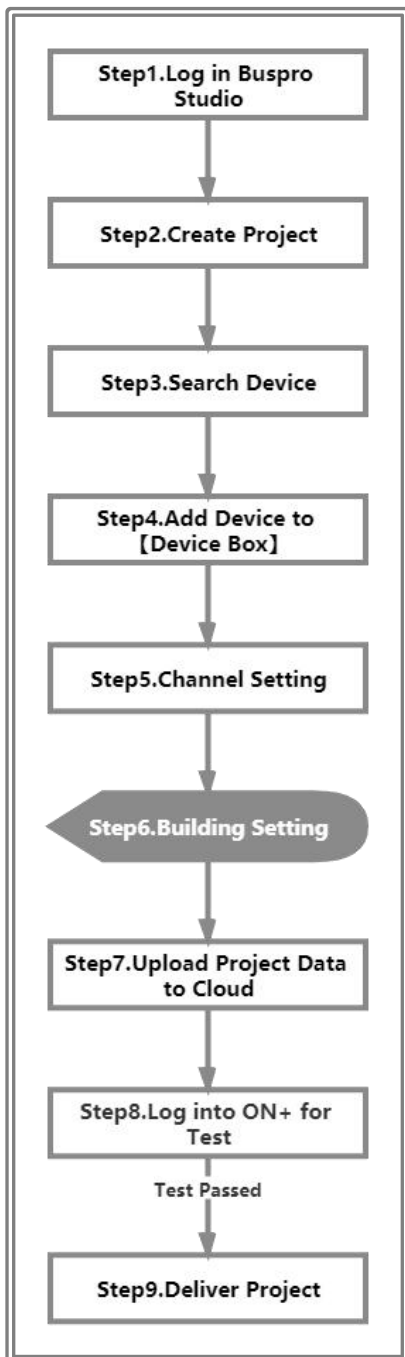
② Select the function status

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

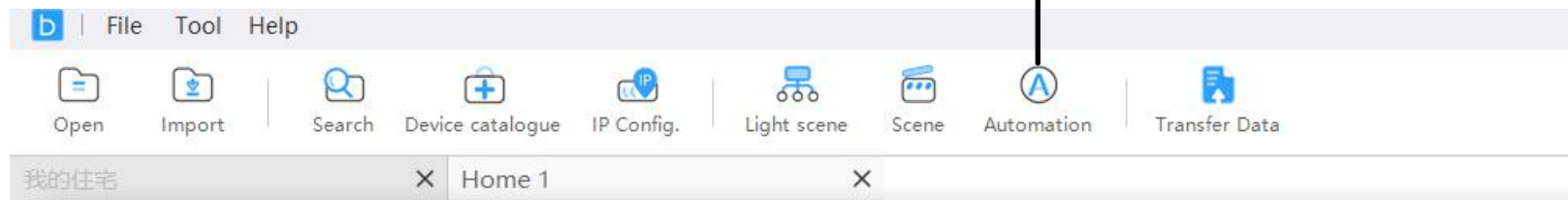


After scene setting, click “Transfer Data”.
When successfully uploading, close this page.

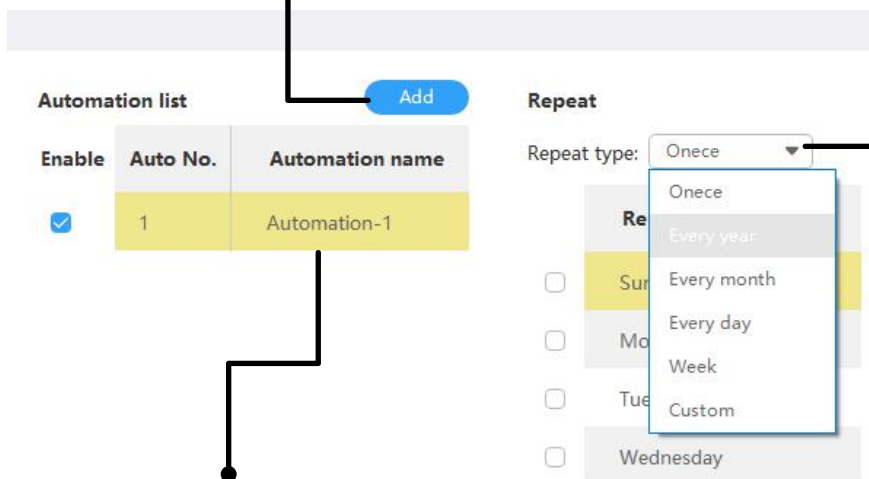
Step 6 — Automation setting



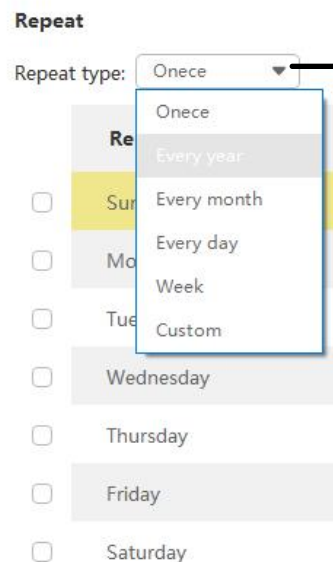
① Click “Automation”



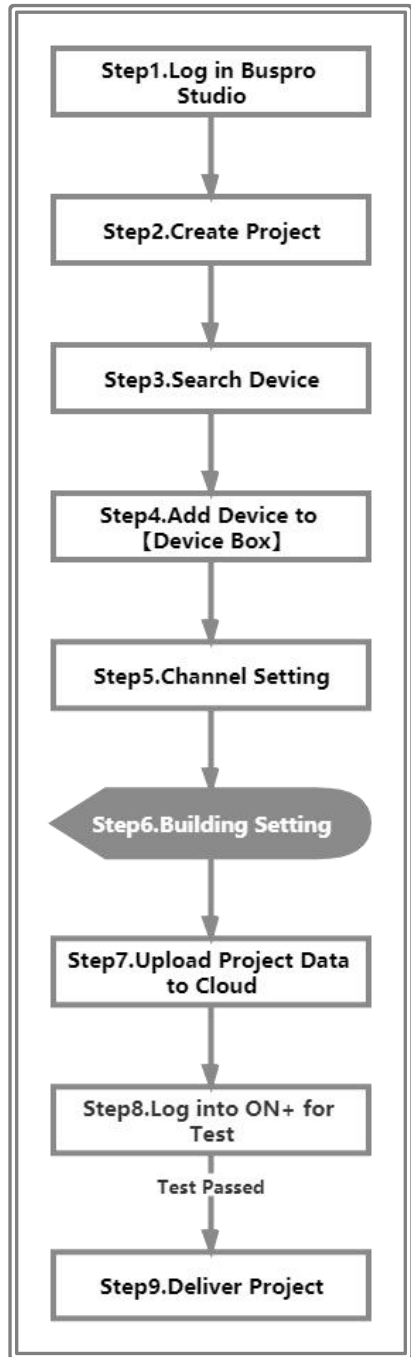
② Click “Add”



③ Double click to revise name

④ Select repeat type.
E.g., set as “every year”

Step 6 — Automation setting



① Select logic relationship, “And” or “Or”

② Click “Input setting” to set conditions for execution

③ Click “Add”

④ Select function

⑤ Set the function status

Input setting Output setting

Logic relationship And

N...	Type	Control type	Value	Comparator
1				
2	Lighting			
3	Lighting			

Function List

No.	Name	Type	Zone
1			NOT ASSIGNED
2	r	Lighting	NOT ASSIGNED
3	g	Lighting	NOT ASSIGNED
4	b	Lighting	NOT ASSIGNED
5	调光器4	Lighting	NOT ASSIGNED
6	调光器5	Lighting	NOT ASSIGNED
7	调光器6	Lighting	NOT ASSIGNED
8	DALI调光筒灯	Lighting	NOT ASSIGNED
9		Lighting	NOT ASSIGNED

Cancel Confirm

Input setting Output setting

Logic relationship And

N...	Type	Name
1		
2	Lighting	r
3	Lighting	g

Control type	Value	Comparator
Switch	OFF	N/A

Step 6 — Automation setting

① After setting conditions, click “Output setting”, i.e. execution target.

N...	Type	Name	Control type	Value
1	Lighting	调光器4	Switch	OFF
2	Lighting	调光器5	Dimming	51%

② Click “Add”

③ Set the function status

Enable	Auto No.	Automation name
<input checked="" type="checkbox"/>	1	Automation-1

Repeat type: Week

Repeat item

- ☒ Sunday
- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday

N...	Type	Name	Control type	Value
1	Lighting	调光器4	Switch	OFF
2	Lighting	调光器5	Dimming	51%

④ Click “Transfer Data” while completing setting

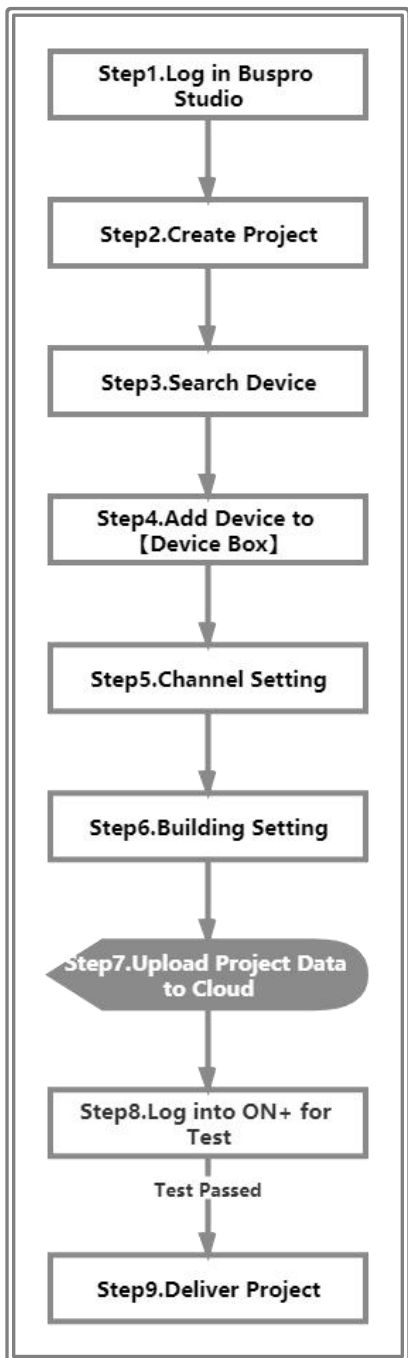
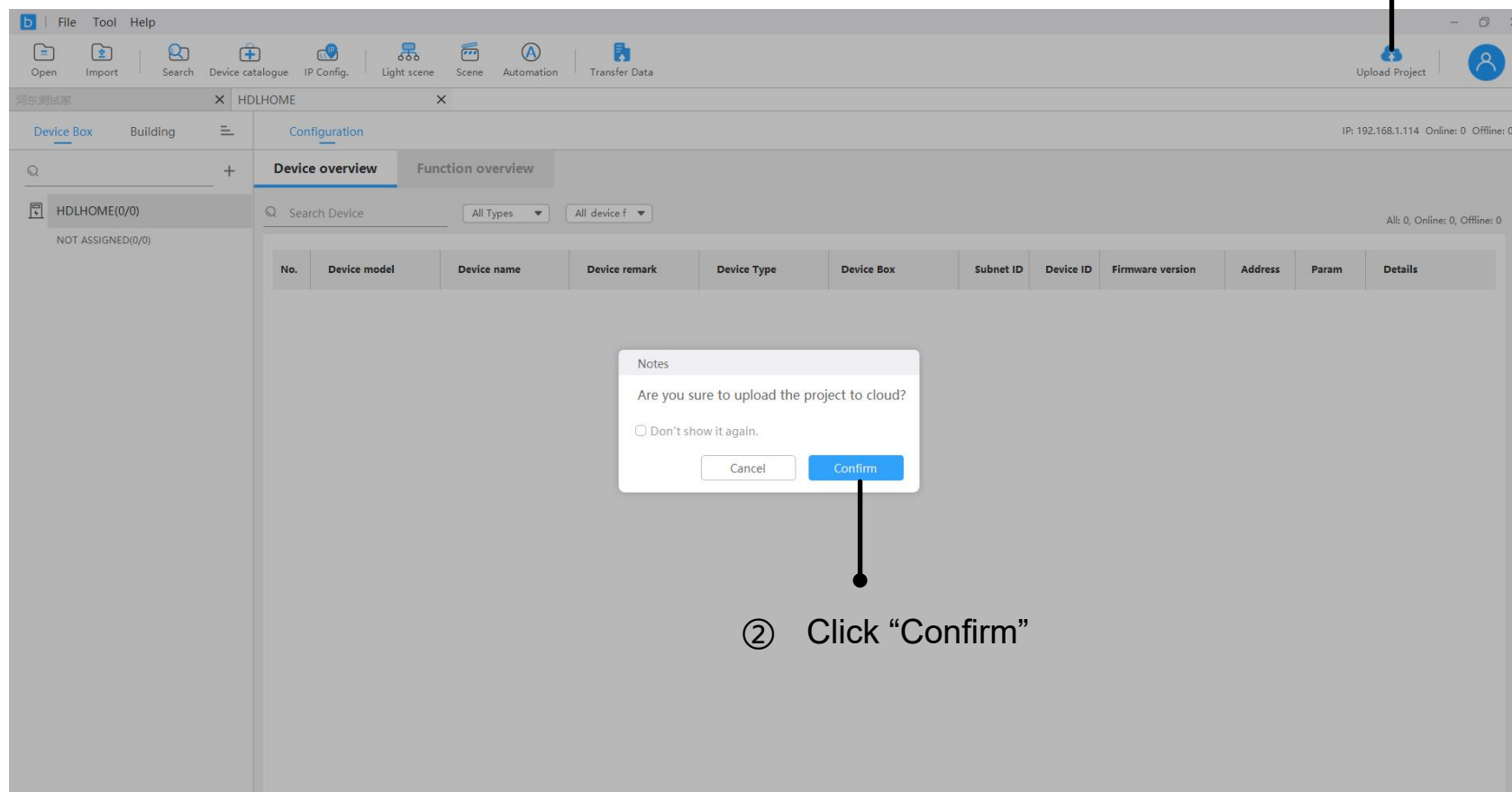
10% Uploading 10%

Read Transfer Data

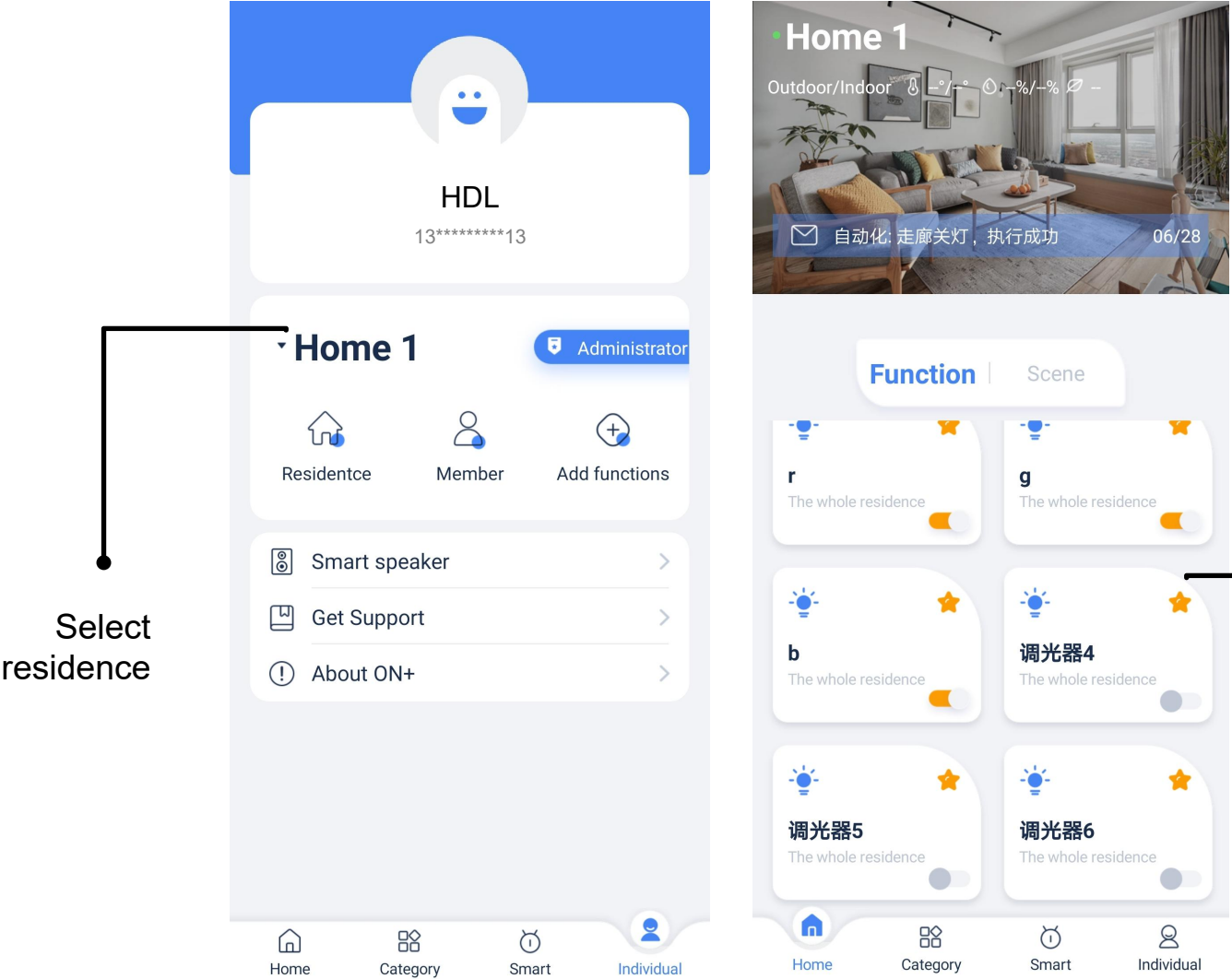
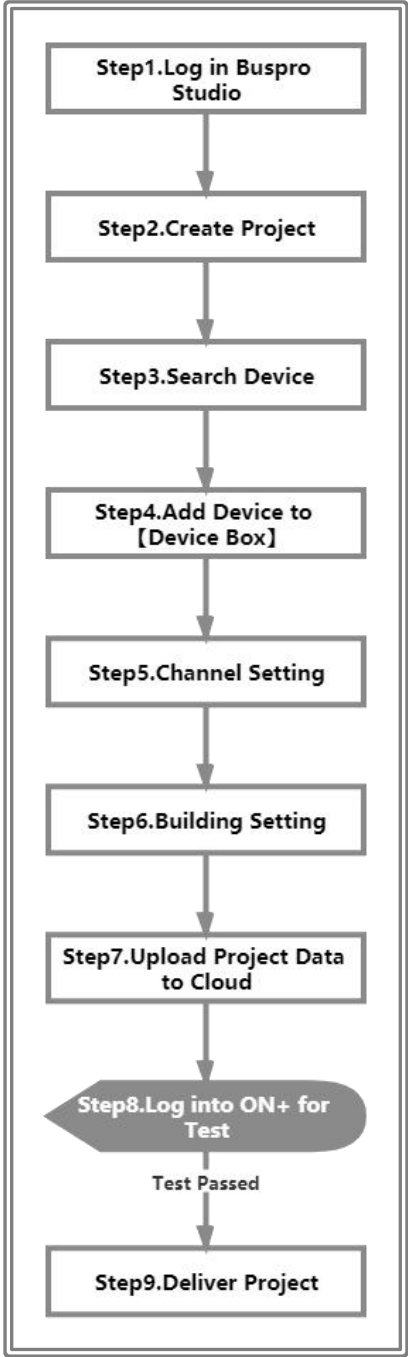
Step 7 — Upload data to Cloud after completing settings.

*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”

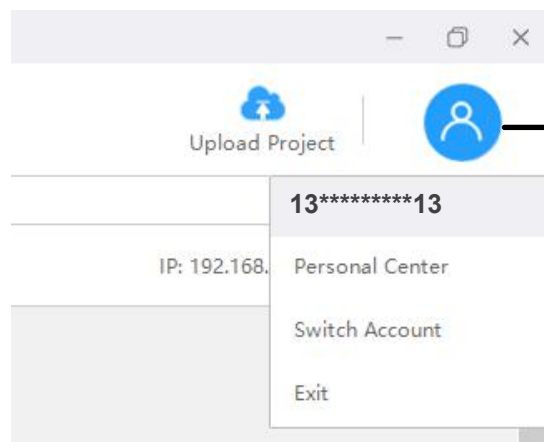


Step 8 — After uploading data, proceed logging in ON+ APP for testing.

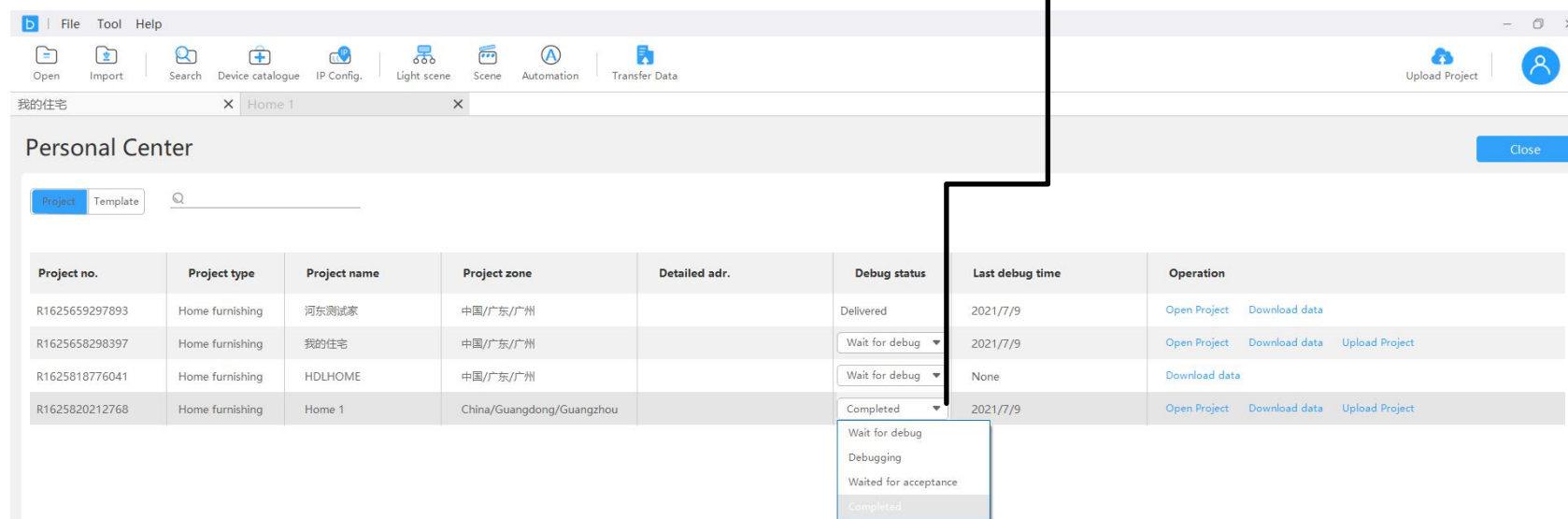


Set the function needed as favorites then proceed testing in Home page.

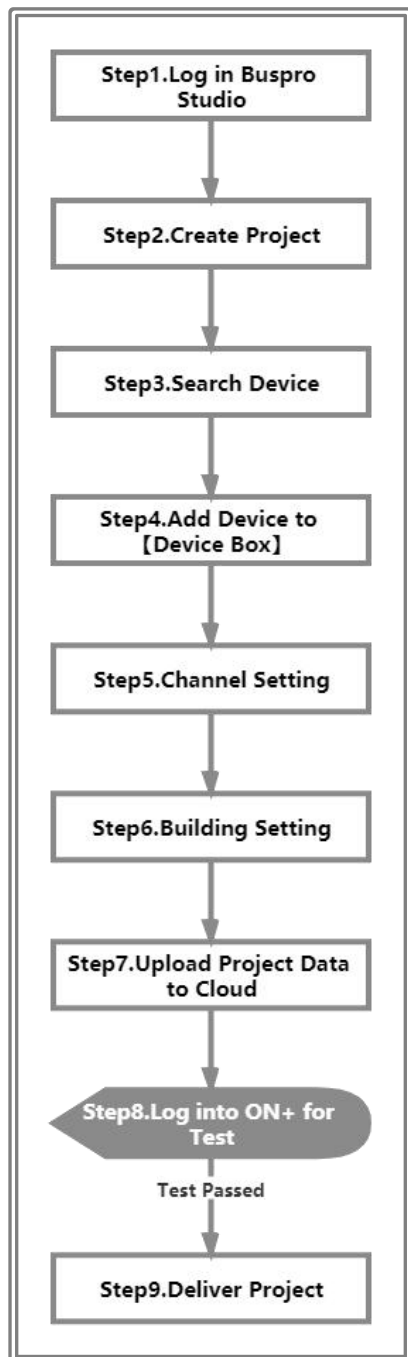
Step 8 — Deliver project when test is passed.



① Click head portrait, select “Personal Center”



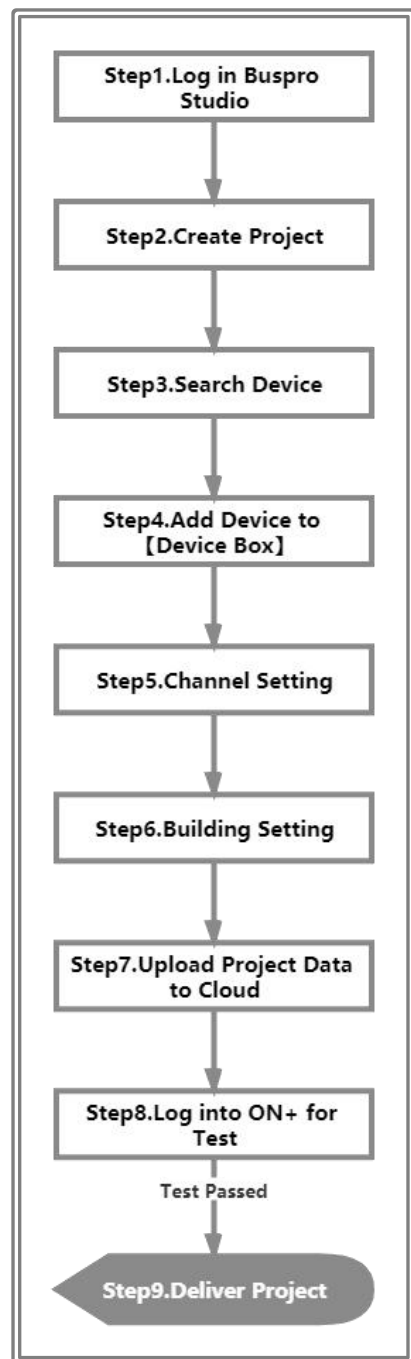
② Select the project and set it as “Completed”.



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.

数智运营平台

project management / residential project

项目管理

家居项目

地产项目

酒店项目

公建项目

模板管理

project count (个) 16

to be debugged (个) 11

debugging (个) 0

to be accepted (个) 0

completed (个) 1

delivered (个) 4

input project number

input project name

please select region

select system protocol

select debug status

select debug personnel

start time

end time

select project sub-type

create project

query

reset

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

Step1.Log in Buspro Studio

Step2.Create Project

Step3.Search Device

Step4.Add Device to [Device Box]

Step5.Channel Setting

Step6.Building Setting

Step7.Upload Project Data to Cloud

Step8.Log into ON+ for Test

Test Passed

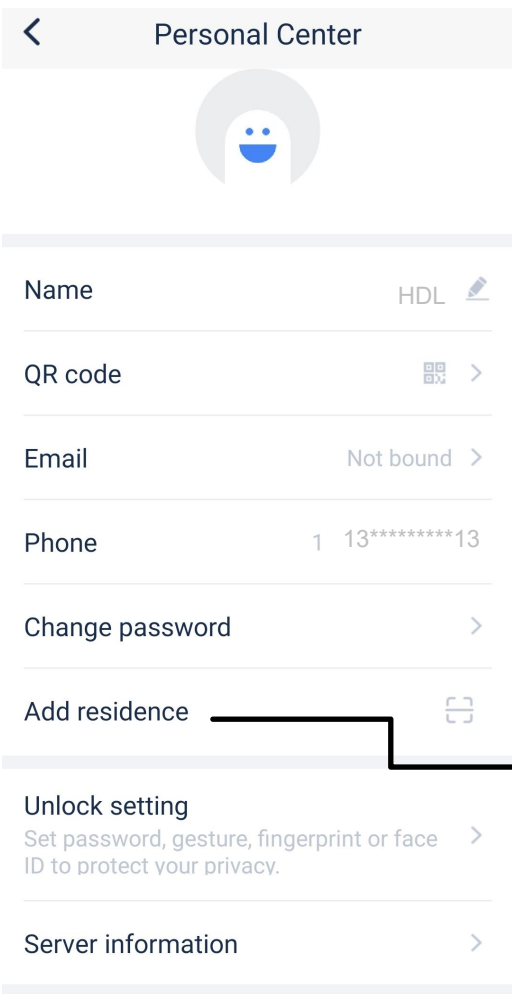
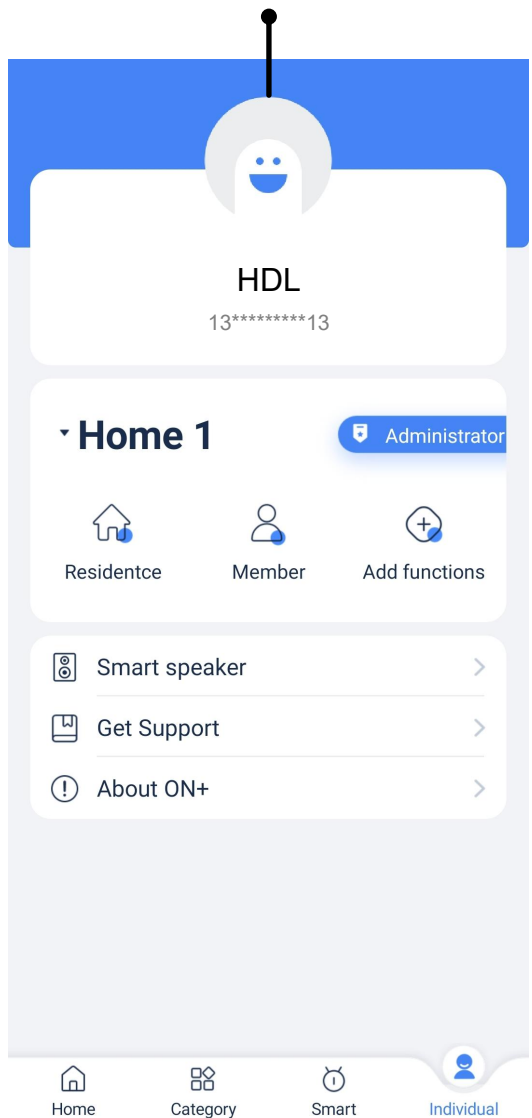
Step9.Deliver Project

How to Scan Deliver QR Code

① After signing up, click
“Add new residence”



② Click head portrait



③ Click “Add residence”

Log out

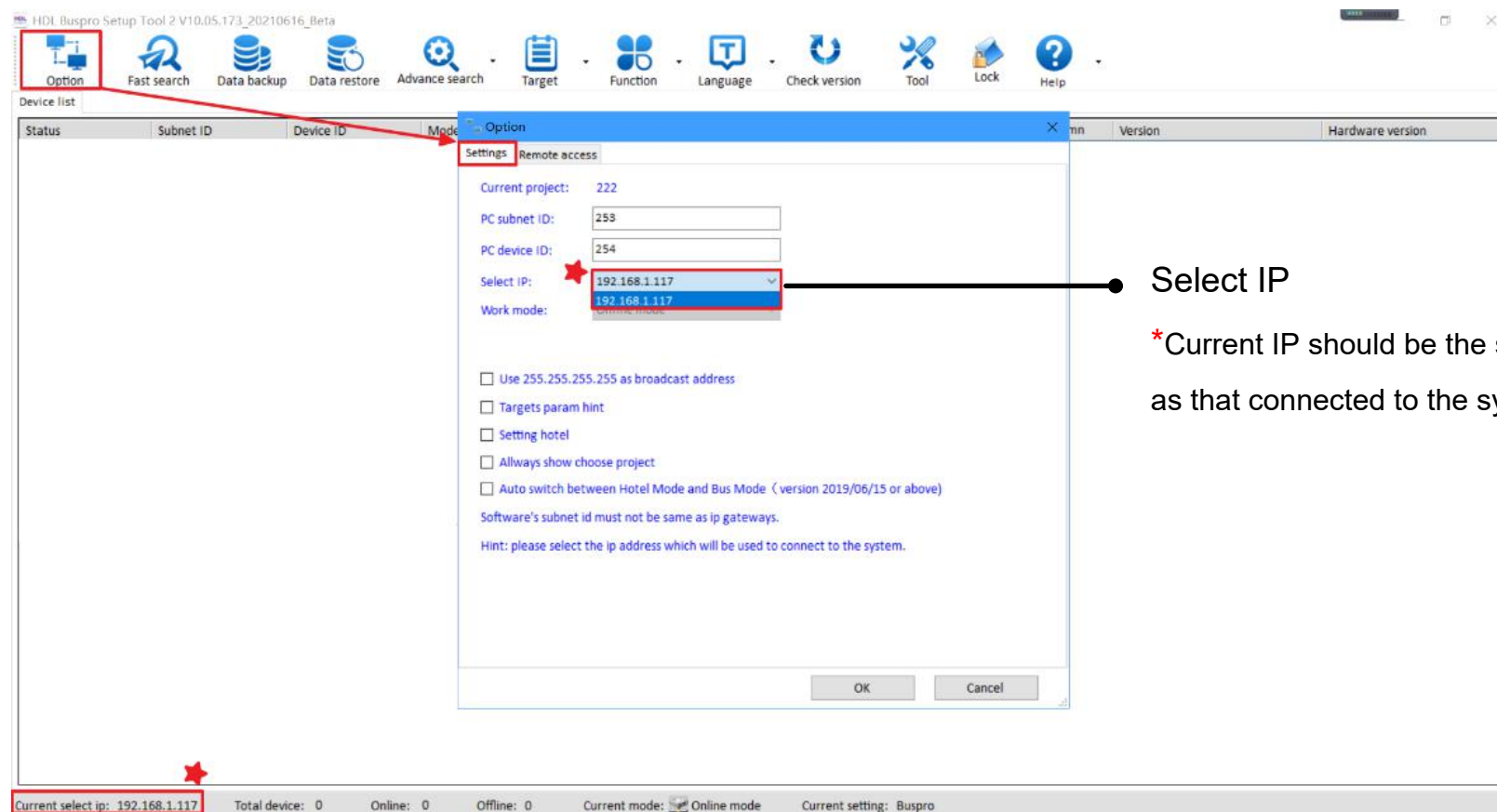
4. Buspro Setup Tool 2 Instruction

- Log into Buspro Setup Tool 2.....[39](#)
- Search Device.....[39](#)
- Create Project.....[41](#)
- Bind Gateway to Cloud.....[42](#)
- Upload Project Data to Cloud.....[54](#)
- Log into ON+ for Test.....[56](#)
- Deliver Project.....[59](#)
- Re-configure after Delivery.....[60](#)

Step 1 — Not Describe Here

Step 2 — Connect Buspro gateway to the system, and open Buspro Setup Tool 2 in the computer. Then proceed IP settings.

- ① Click “Option” to enter “Setting” page → Select IP, which will be used to connect to the system → Click “OK” to complete.



Select IP

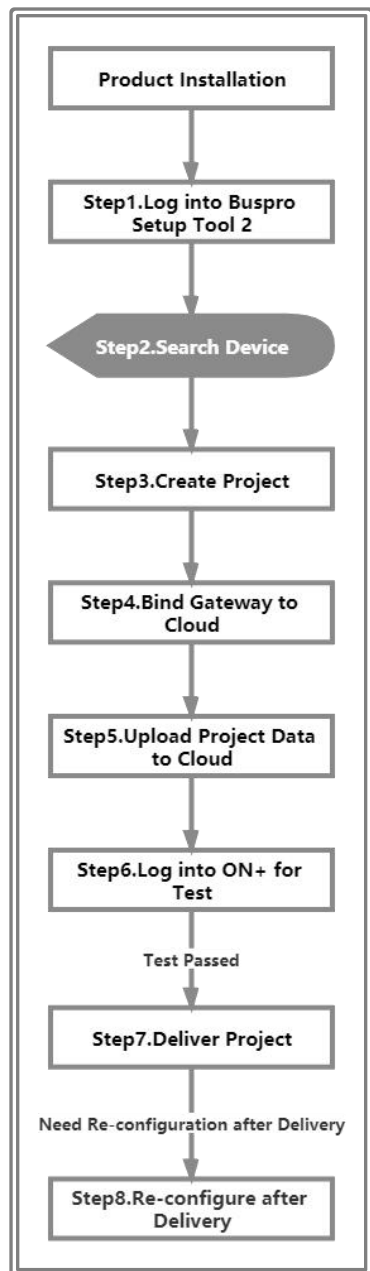
*Current IP should be the same as that connected to the system

Step 2 — After IP setting, please proceed searching for device, then open the configuration page.

- ② Click “Fast Search” → Double click the “Model” or “Description” column to enter configuration page of Buspro gateway

Double Click Double Click

Status	Subnet ID	Device ID	Model	Name	Description(double click this column)	Version	Hardware version
✓	1	0	HDL-MGWIP.430		Advance mesh	Unread	N/A
✓	1	1	HDL-MDLED0605.432	0605调光模块	6ch 5A intelligent LED dimming module	Unread	N/A
✓	1	2	HDL-MD0403.432	4路调光模块	4ch 3A leading edge dimming module	Unread	N/A
✓	1	3	HDL-MCLog.431	逻辑	Logic timer	Unread	N/A
✓	1	5	HDL-MVRV64.431	空调	Modbus VRV	Unread	N/A



Step 3 — Add residence as the followings:

Click “Option” → “Remote Access”

Select “MQTT 2.0”

Click the search icon, then you can see all residence created

The screenshot shows the HDL Buspro Setup Tool interface. The 'Option' menu is highlighted in the top bar. The 'Remote access' settings are shown in the 'Settings' panel, with 'MQTT 2.0' selected. The 'Add Home' dialog box is open, showing a list of homes. The 'Home Name' field is set to 'meeting room'. The 'Home Area' field is blank. The 'Add Home' button is highlighted. The 'Connect' button is also visible in the dialog box.

Numbered callouts indicate the following steps:

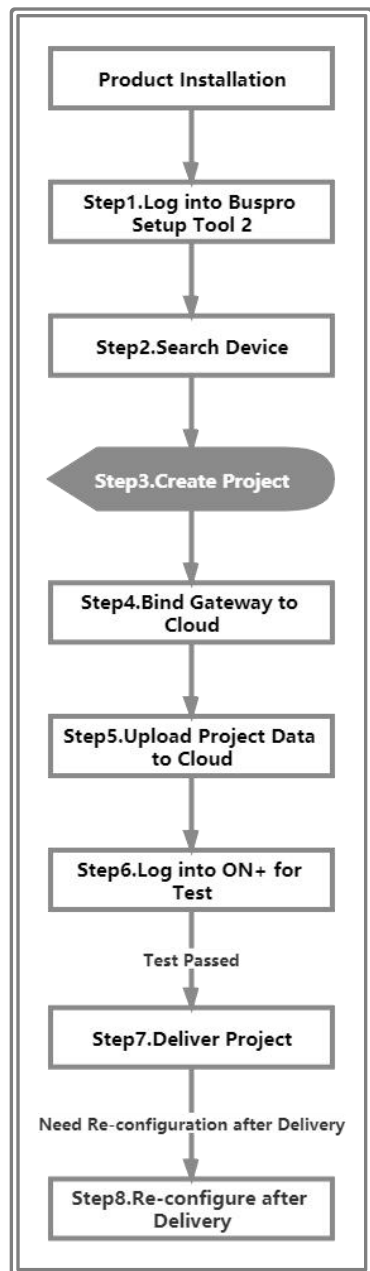
- Click the 'Option' menu.
- Select 'MQTT 2.0' in the 'Remote access' settings.
- Click the 'Add Home' button in the 'Add Home' dialog box.
- Click the search icon in the 'Add Home' dialog box.
- Input home name in the 'Home Name' field.
- Click the 'Connect' button in the 'Add Home' dialog box.

Please contact with salesman for agent account and password

Click “Connect” to make the newly created residence be connected with gateway.

Input home name.

* After adding home, if the column “Home Area” is still blank, please click the search icon again to completely show the residence-related information.



Step 4 — Bind the gateway to Cloud as the followings:

② Click “Network Information”

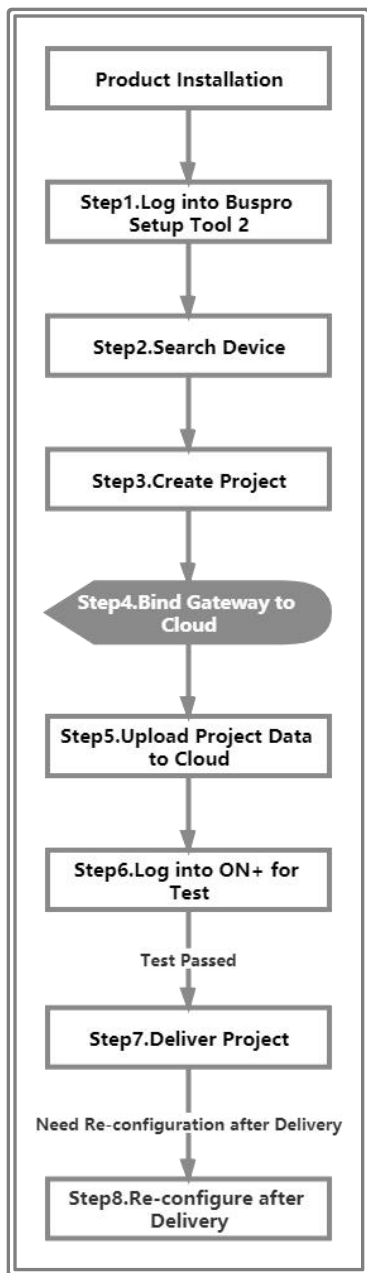
③ Select “HDL MQTT”

④ Select Home

⑥ The data will be set to this gateway, if you confirm, click “OK” to complete.

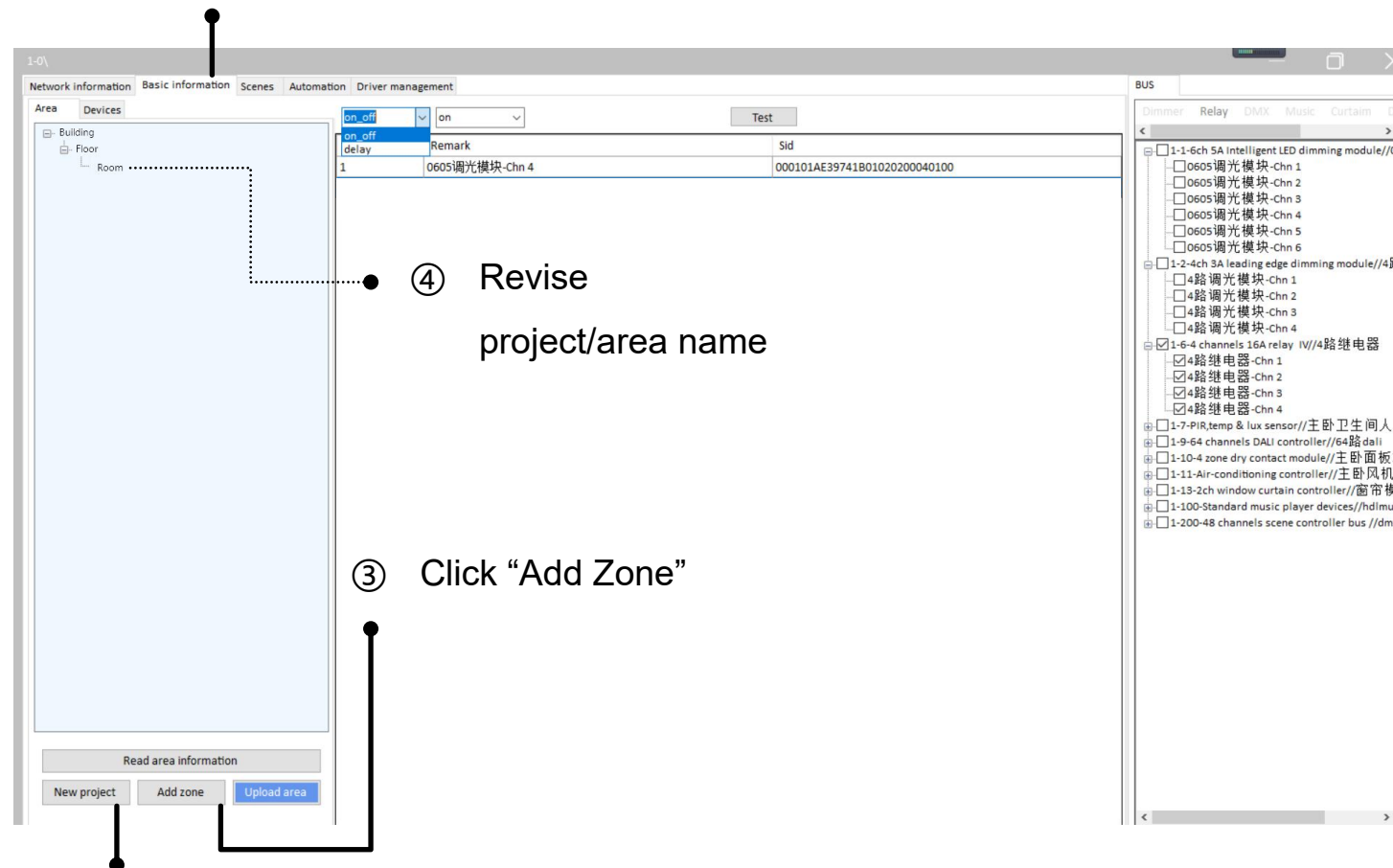
⑤ Click “Save”

The screenshot displays the configuration interface for the HDL-MGWIP430 gateway. The 'Network Information' tab is selected, showing fields for Name, IP, Router IP, IP MAC, Mask IP, DHCP, DNS I, and DNS II. The 'Connection preferences' section is also visible, showing a dropdown menu set to 'HDL MQTT', fields for User account, Group name, Project name, and Server Address. A 'Select Home' dropdown is set to 'meeting room'. A 'Save' button is present. A confirmation dialog box is overlaid on the screen, stating 'The remote configuration is modified successfully. Click refresh to view the remote status of the gateway.' with an 'OK' button. The 'Date setting for timer' section shows the date as 2021年 6月17日 and time as 11:49:48. The 'Location' section shows Longitude and Latitude fields. The 'AI+' section shows a Project Id field with the value 'ProjectAiPlus_02CE067B94A92C71' and a 'Save' button.

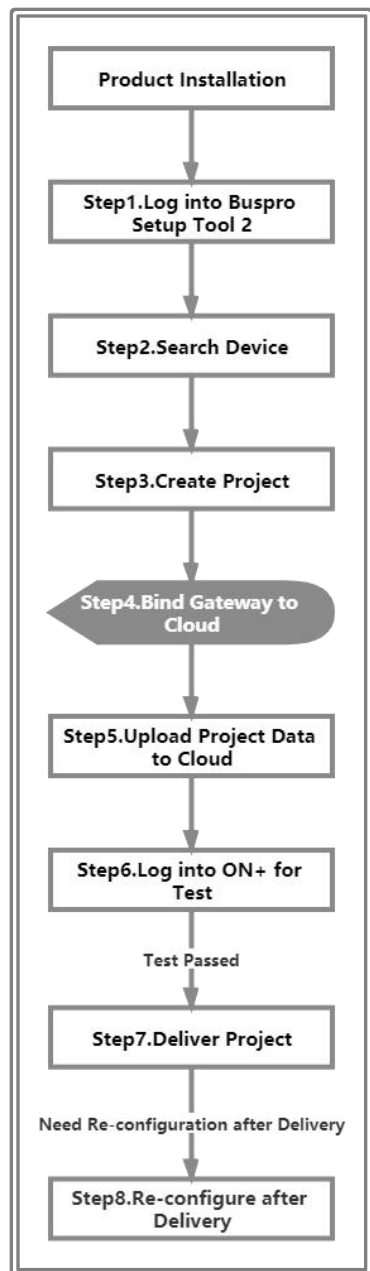


Step 4 — After binding the gateway to Cloud, proceed area setting as the followings:

① Click “Basic Information” → “Area”



② Click “New Project”



Step 4 — After binding the gateway to Cloud, proceed area setting as the followings:

- ① Click and enter the “Devices” page, select the function.

The screenshot displays the HDL software interface for device management. The 'Devices' tab is selected in the sidebar. The main table lists 10 devices, with the first 6 being dimming modules and the last 4 being relays. The right-hand panel shows a tree structure for area selection, with 'Building' highlighted. Annotations indicate the following steps:

- ① Click and enter the “Devices” page, select the function.
- ② Select device
- ③ Right click and select area

The current area can be shown here.

ID	Remark	Sid	当前所属区域
1	0605调光模块-Chn 1	000101AE39741B01020200010100	
2	0605调光模块-Chn 2	000101AE39741B01020200020100	
3	0605调光模块-Chn 3	000101AE39741B01020200030100	
4	0605调光模块-Chn 4	000101AE39741B01020200040100	
5	0605调光模块-Chn 5	000101AE39741B01020200050100	
6	0605调光模块-Chn 6	000101AE39741B01020200060100	
7	4路继电器-Chn 1		(Room) Floor
8	4路继电器-Chn 2		
9	4路继电器-Chn 3		
10	4路继电器-Chn 4		

Step 4 — After binding the gateway to Cloud, proceed area setting as the followings:

Back to the “Area” page, now the current area for the device you selected can be shown.

The screenshot displays the HDL software interface for area configuration. The 'Area' tab is selected in the sidebar. The main table lists two areas:

on_off	Remark	Sid
on_off	0605调光模块-Chn 4	000101AE39741B01020200040100
on_off	4路继电器-Chn 1	0001011E2A691802020100010101

At the bottom of the interface, there are buttons for 'Read area information', 'New project', 'Add zone', and 'Upload area'. A callout points to the 'Upload area' button, indicating that clicking it will upload the area data to the gateway.

Step 4 — After binding the gateway to Cloud, proceed device setting as the followings:

Click “Devices”

Now the device added can be shown here.

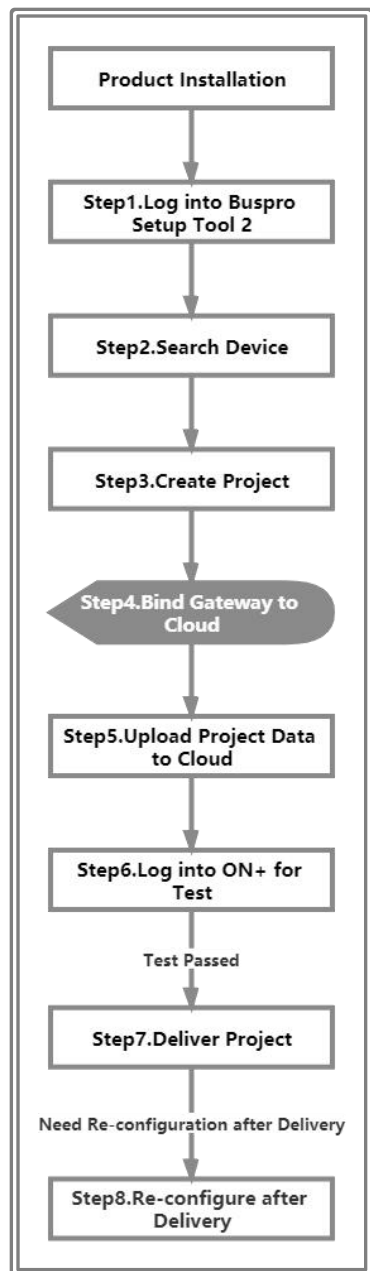
The screenshot shows the HDL software interface with the 'Devices' tab selected. The table below lists the devices currently added to the system:

Id	Device Name	Sid	Current Region
1	0605调光模块-Chn 1	000101AE39741B01020200010100	
2	0605调光模块-Chn 2	000101AE39741B01020200020100	
3	0605调光模块-Chn 3	000101AE39741B01020200030100	
4	0605调光模块-Chn 4	000101AE39741B01020200040100	
5	0605调光模块-Chn 5	000101AE39741B01020200050100	
6	0605调光模块-Chn 6	000101AE39741B01020200060100	
7	4路继电器-Chn 1	0001011E2A691B02020100010101	
8	4路继电器-Chn 2	0001011E2A691B02020100020101	
9	4路继电器-Chn 3	0001011E2A691B02020100030101	
10	4路继电器-Chn 4	0001011E2A691B02020100040101	

On the right sidebar, the 'Add' button (加) is highlighted with a red box. Below the table, the 'Upload devices and functions list' button is also highlighted.

Select the device, right click and select “(加) Add”

Click “Upload Devices and Functions List”, then the device you added can be uploaded to the gateway.



Step 4 — After binding the gateway to Cloud, proceed device testing as the followings:

① Click “Devices”

② Select function

④ Proceed functional configuration

③ Select device

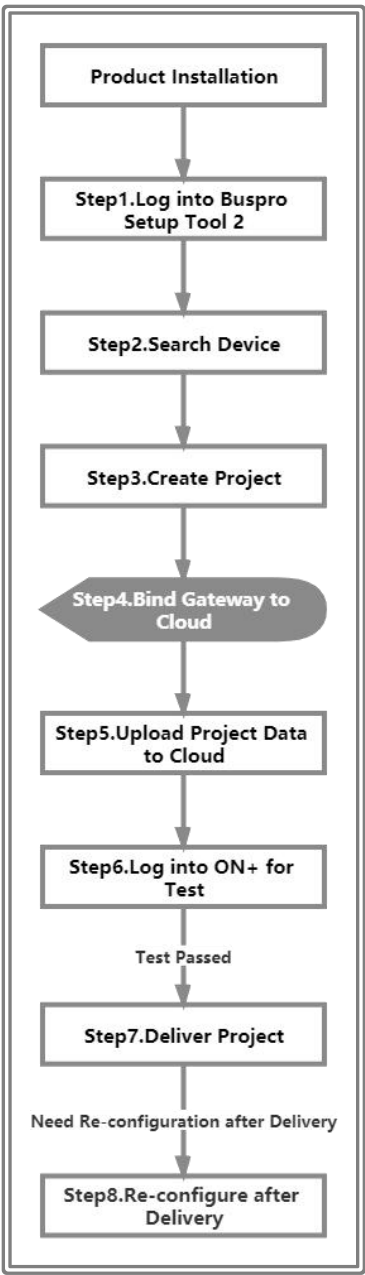
⑤ Click “Test”

⑥ Right click to proceed functional configuration

The screenshot shows the 'Devices' tab in the HDL software. A table lists 10 devices with columns for ID, Remark, Sid, and 当前所属区域. A right-click context menu is open over device 7, showing options like 'Delete', 'Import Remark', 'Choose zone', and '切换类型'. The '切换类型' option is selected, and a sub-menu shows '电器插座' and '普通继电器'.

ID	Remark	Sid	当前所属区域
1	0605调光模块-Chn 1	000101AE39741B01020200010100	
2	0605调光模块-Chn 2	000101AE39741B01020200020100	
3	0605调光模块-Chn 3	000101AE39741B01020200030100	
4	0605调光模块-Chn 4	000101AE39741B01020200040100	
5	0605调光模块-Chn 5	000101AE39741B01020200050100	
6	0605调光模块-Chn 6	000101AE39741B01020200060100	
7	4路继电器-Chn 1	000101AE39741B01020200070101	
8	4路继电器-Chn 2	000101AE39741B01020200080101	
9	4路继电器-Chn 3	000101AE39741B01020200090101	
10	4路继电器-Chn 4	000101AE39741B01020200100101	

⑦ Click “Upload Devices and Functions List”, then the device you added can be uploaded to the gateway.



Step 4 — After binding the gateway to Cloud, proceed scene setting as the followings:

① Click “Scenes” *As for “Group ID”, please skip to next page.

④ Complete scene configuration

ID	Remark	Delay(0-3600s)	group_id	Scene
1	party	1	1	1

② Click “Add Scene”

③ Revise the name

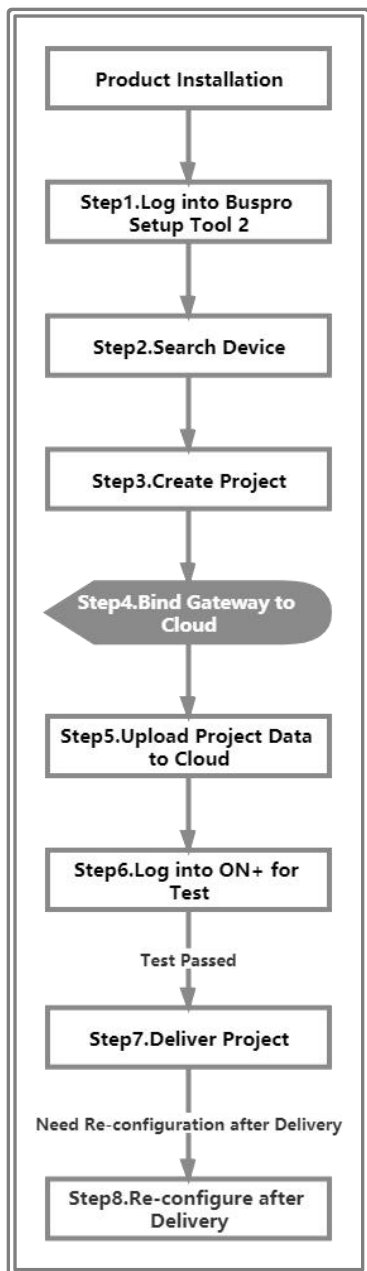
⑤ Click “Sure” to complete settings

⑥ Click “Upload Scene List”, then the scene you created can be uploaded to the gateway.

a) Select device, right click and select “(加) Add”

b) Proceed functional configuration

c) Set delay time



Step 4 — After binding the gateway to Cloud, proceed setting scene group ID as the followings:

If Scene 1 and 2 are set in the same group, they will be mutually exclusive, i.e., when Scene 1 has been triggered, once Scene 2 will automatically shut down.

a) Please refer to steps on previous page to create Scene 2.

b) Set Scene 1 and Scene 2 in the same group “1”. Once Scene 1 is triggered, the relevant device in Scene 2 will automatically turns off.

ID	Remark	Delay(0-3600s)	group_id	Scene
1	party	1	1	1
2	Scene No:0002	1	1	2

ID	name	Functions	Delay(0-3600s)
1	4路继电器-Chn 4	on_off(on);	0
2	4路继电器-Chn 1	on_off(on);	0
3	4路继电器-Chn 2	on_off(on);	0
4	4路继电器-Chn 3	on_off(on);	0

GW Devices

- ☐ 0605调光模块-Chn 1
- ☐ 0605调光模块-Chn 2
- ☐ 0605调光模块-Chn 3
- ☐ 0605调光模块-Chn 4
- ☐ 0605调光模块-Chn 5
- ☐ 0605调光模块-Chn 6
- ☐ 4路继电器-Chn 1
- ☐ 4路继电器-Chn 2
- ☐ 4路继电器-Chn 3
- ☐ 4路继电器-Chn 4

4路继电器-Chn 4

on_off (selected) on

Delay(0-3600s) 0 (s)

Sure

Get scenes list

Add scene Delete scene Upload scene list

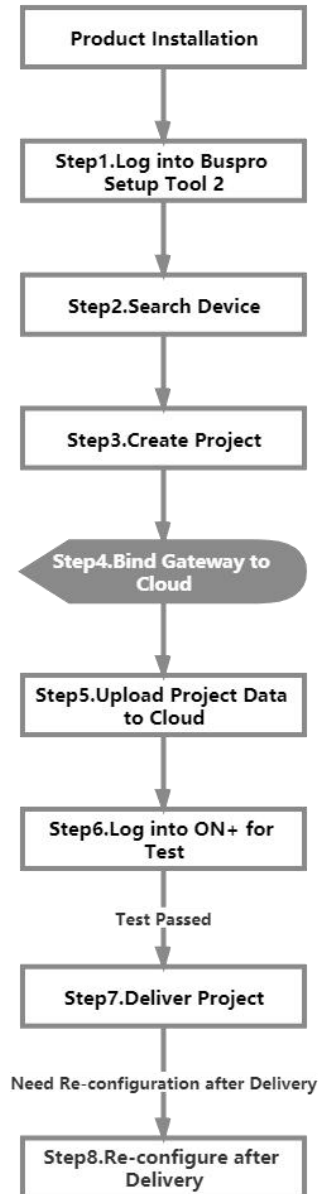
Step 4 — After scene settings, proceed scene testing as the followings:

The screenshot shows the HDL software interface with the 'Scenes' tab selected. A context menu is open over the first scene, showing options: Delete, Test, and Import. An arrow points from the text 'Select scene → Right click and select “Test”' to the 'Test' option in the menu.

ID	Remark	Delay(0-3600s)	group_id	Scene
1	party	0	1	1

ID	name	Functions	Delay(0-3600s)
1	4路继电器-Chn 4	on_off(on);	0
2	4路继电器-Chn 1	on_off(on);	0
3	4路继电器-Chn 2	on_off(on);	0
4	4路继电器-Chn 3	on_off(on);	0

At the bottom of the interface, there are buttons for 'Get scenes list', 'Add scene', 'Delete scene', and 'Upload scene list'. On the right side, there is a 'GW Devices' panel with a list of devices and a 'SidName' dropdown menu.



Step 4 — After binding the gateway to Cloud, proceed automation setting.

As below example shown, create automation “the 4th of the month, from 10:30 to 11:30, automatically turn off ‘4路继电器-Chn 1’”.

③ Set time condition. E.g., select the 4th of the month, from 10:30 to 11:30

④ Select device

② Revise the name

④ Select automation relation

① Click “Add Single Automation”

⑧ Click “Upload Automation List”, then the automation created can be uploaded to the gateway.

⑤ Click “Add New Input”

⑦ Click “Add New Output”

⑥ Select device again, then proceed functional configuration

The screenshot displays the HDL software interface for automation configuration. The 'Automation' tab is selected, showing a table of automation rules. A dialog box for adding a single automation is open, with fields for Name, Type, Value, and Comparator. The 'Time and date' section is configured for 'Monthly' on the 4th day, from 10:30 to 11:30. The 'Input' section is set to '4路继电器-Chn 1' with a delay of 0 to 5 seconds. The 'Output' section is set to 'on_off' with a value of 'off'. The 'Cycle Items' list shows '04'. The 'GW Devices' list on the right shows various devices, including '0605调光模块-Chn 1' through 'Chn 6' and '4路继电器-Chn 1' through 'Chn 4'. The 'Add new input' and 'Add new output' buttons are highlighted.

Step 4 — After binding the gateway to Cloud, click the tab “Driver Management” to check and manage driver.

HDL-LINK is core driver. Buspro is system software developed by HDL.

*Please DO NOT disable or uninstall them.

Green means that the driver runs normally; red means that the drivers fail to run because of software faults.

If needed, select one of the drivers then right click to choose “Driver Uninstall”.

Driver Management

Enable	Driver Name	Driver State	Version in Gateway	Driver Code
<input checked="" type="checkbox"/>	HDL-LINK	Green	HDL_V0.01U_2020/12/22_2051	040004FB
<input checked="" type="checkbox"/>	buspro	Red	HDL_V0.01_202012212200	07000000

Driver Uninstall

Select drive file to upload Refresh drive status

Step 5 — Upload all data of the gateway to Cloud.

The screenshot shows the HDL Buspro Setup Tool 2 interface. The 'Device list' table contains the following data:

Status	Subnet ID	Device ID	Model	Name	Description(double click this column)	Version	Hardware version
✓	1	0	HDL-MGWIP.430		Advance mesh	Unread	N/A
✓	1	1	HDL-MDLED0605.432		h 5A Intelligent LED dimming module	Unread	N/A
✓	1	2	HDL-MD0403.432		h 3A leading edge dimming module	Unread	N/A
✓	1	3	HDL-MCLog.431		logic timer	Unread	N/A
✓	1	6	HDL-MR0416.431		channels 16A relay IV	Unread	N/A
✓	1	7	HDL-MSP07M.4C		h,temp & lux sensor	Unread	N/A
✓	1	9	HDL-MC64-DALI.431		channels DALI controller	Unread	N/A
✓	1	10	HDL-MSD04.40		one dry contact module	Unread	N/A
✓	1	11	HDL-MAC01.431		-conditioning controller	Unread	N/A
✓	1	12	HDL-MPL8.48-A		P panel with AC music clock floor he...	Unread	N/A
✓	1	13	HDL-MW02.431		h window curtain controller	Unread	N/A
✓	1	22	SB-DN-SEC250K		vanced security controller	Unread	N/A
✓	1	28	HDL-MPTL4C.48		anite Display	Unread	N/A
✓	1	120	HDL-MIRC04.40		rared signal emission,remote receiv...	Unread	N/A
✓	1	200	HDL-MC-48IPDMX.431	dmx彩色	48 channels scene controller bus	Unread	N/A
✓	11	100	HDL-MZBOX.A50B.30	hdlmusic	Standard music player devices	Unread	N/A

A context menu is open over the first row, with 'Upload device to cloud' selected. The status bar at the bottom shows: Current select ip: 192.168.1.117, Total device: 16, Online: 16, Offline: 0, Current mode: Online mode, Current setting: Buspro.

- ① Back to Buspro Setup Tool 2 homepage, right click the “Advance Mesh” and select “Upload Device to Cloud”

Step 5 — Upload all data of the gateway to Cloud.

Choose project

Project list(Double-click to open the selected project)

ID	Project name	Account	Last write time	Synchronized	User	status	GatewayID
5	0420-一端口	V2.0	2021/4/22 3:52:16	✓	13*****13	未交付	1384323158943596...
6	111	V2.0	2021/4/20 2:10:35	✓	13*****13	未交付	1384328612172136...
7	0420-A网关	V2.0	2021/4/20 3:08:55	✓	13*****13	未交付	1384343294589140...
8	空气质量传感器	V2.0	2021/4/23 1:43:18	✓	13*****13	未交付	1385408909043265...
9	展箱测试	V2.0	2021/4/26 2:15:04	✓	13*****13	未交付	1386504069307101...
10	尹某	V2.0	2021/4/26 5:08:48	✓	13*****13	未交付	1386547788823588...
11	123	V2.0	2021/5/7 6:24:31	✓			1390553109267197...
12	1111	V2.0	2021/5/7 6:44:26	✓			1390558123415023...
13	hello	V2.0	2021/5/7 8:23:39	✓			1390583091750219...
14	泰兴HDL	V2.0	2021/5/29 3:15:46	✓			1398478144745222...
15	0603	V2.0	2021/6/3 5:13:59	✓			1400319834326032...
16	Lily-A	V2.0	2021/6/16 13:51:08	✓			1405161018684739...
17	一端口住宅	V2.0	2021/6/17 3:37:26	✓			1405368965318811...
18	meeting room	V2.0	2021/6/17 3:49:08	✓	13*****13	未交付	1405371910458417...
19	测试	V2.0	2021/6/17 6:00:00	✓	13*****13	未交付	1405404844976480...
20	20210617	V2.0	2021/6/17 6:00:54	✓	13*****13	未交付	1405405068667101...

Project name: Create new

已登录!

Work mode: Online mode

Account: 13*****13


Password: *****

Login

Upload Download

☐ Auto Login

☐ Always show choose project

Current Homelid: 

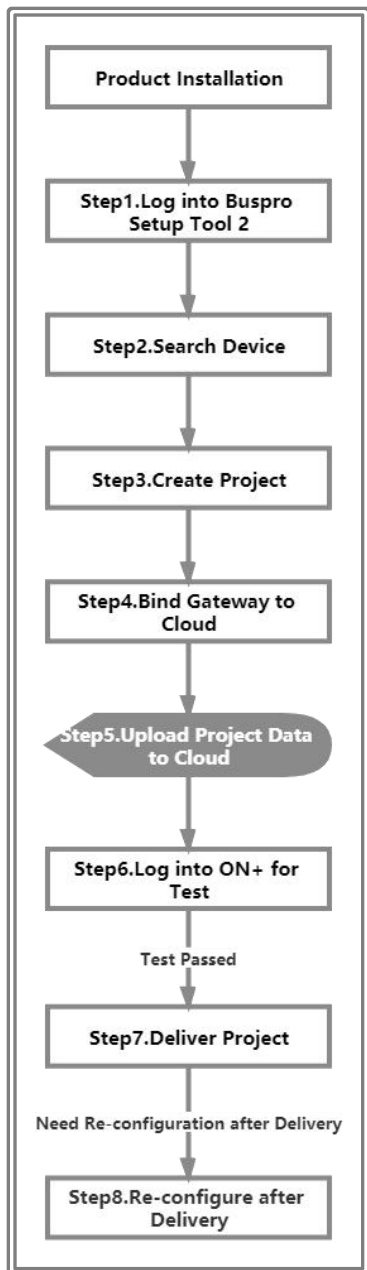
已成功上传到1405371910458417154

确定

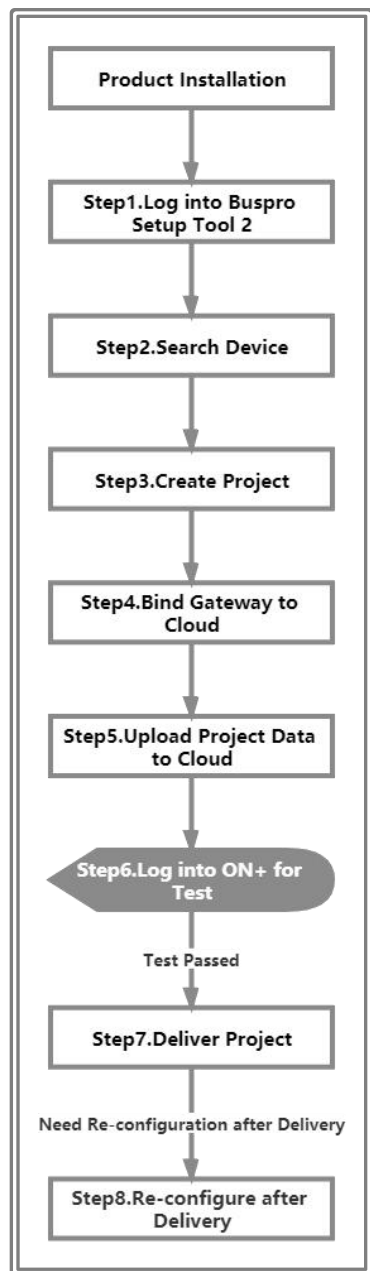
② Contact with salesman for agent account and password.

③ Select the project for residence you would like to upload, then click "Upload".

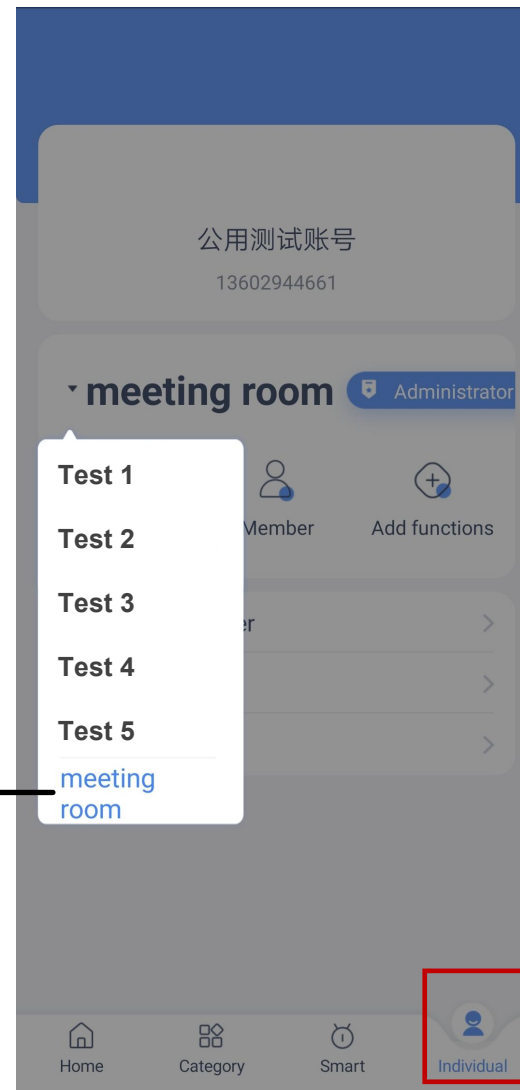
④ Click "确定(sure) to complete



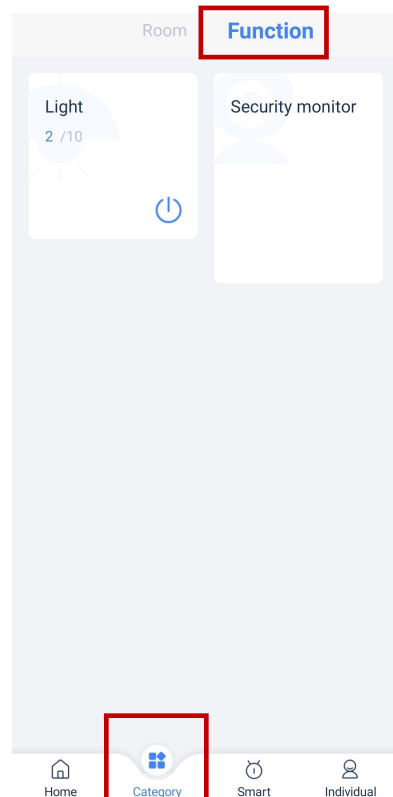
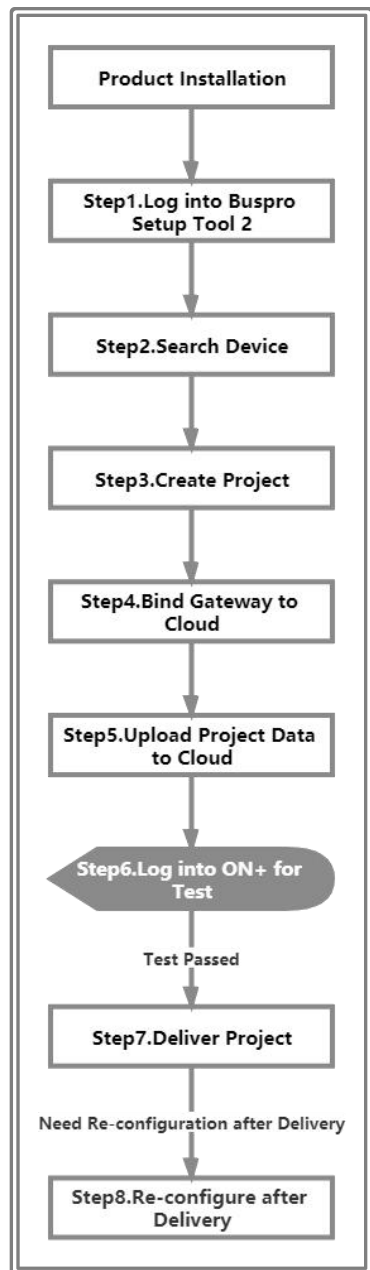
Step 6 — After uploading all data of the gateway to Cloud, you can use ON+ APP to proceed device configuration and remote control, as the below steps shown:



Click the tab “individual”
to select your desired
residence.



Step 6 — After uploading all data of the gateway to Cloud, you can use ON+ APP to proceed device configuration and remote control, as the below steps shown:



Click “Category” → “Function” → “Light” to proceed functional configuration and remote control for lighting and dimmer devices.



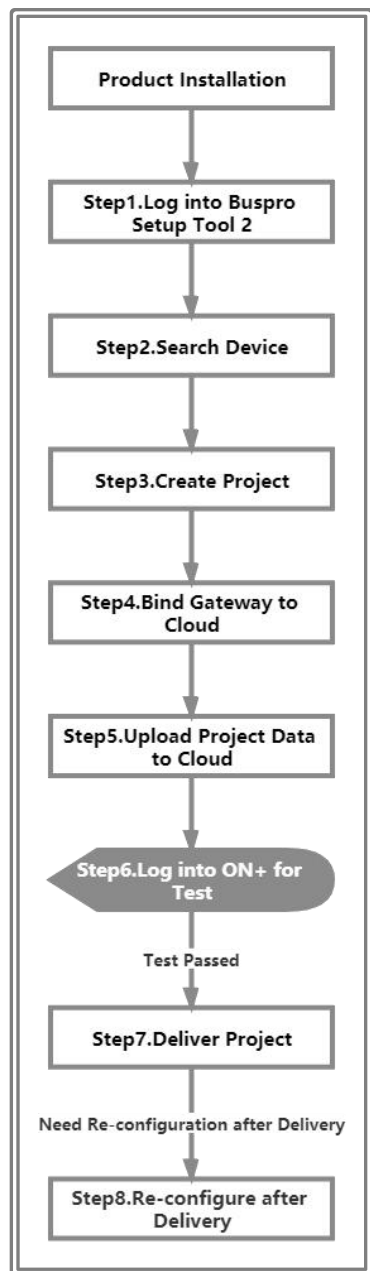
Click this icon to set the function as favorites

Click this icon to turn on/off

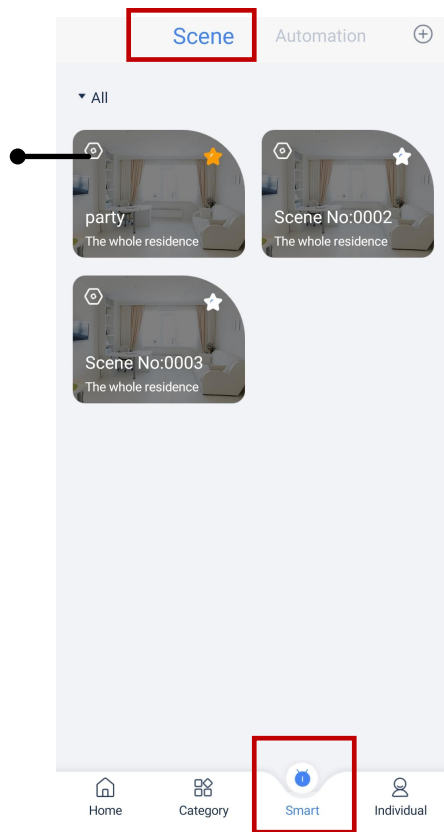


Click “Home” → “Function”, now you can see the function you set as favorites.

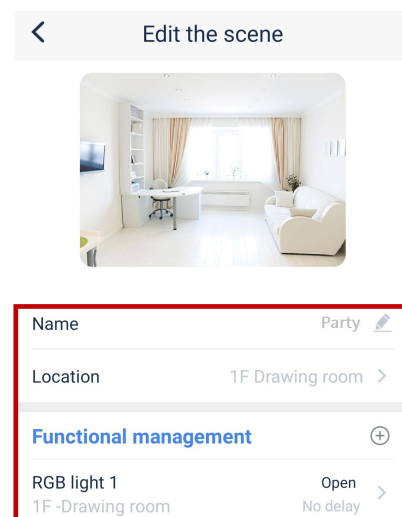
Step 6 — After uploading all data of the gateway to Cloud, you can use ON+ APP to proceed device configuration and remote control, as the below steps shown:



Click this icon to proceed scene editing

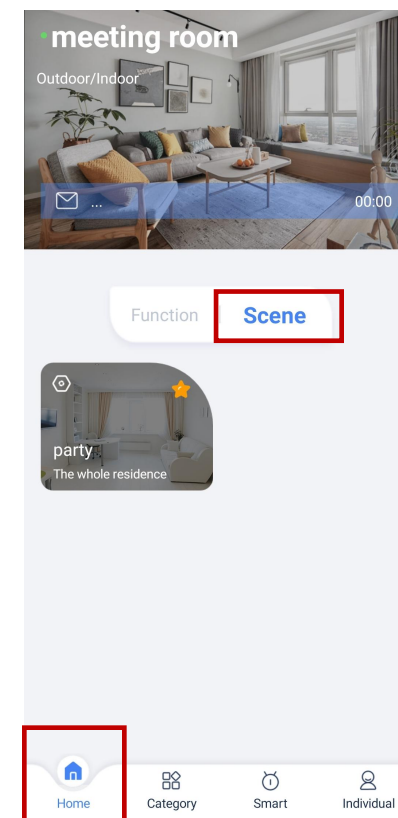


Click “smart” → “Scene”, now you can see all of the scenes created



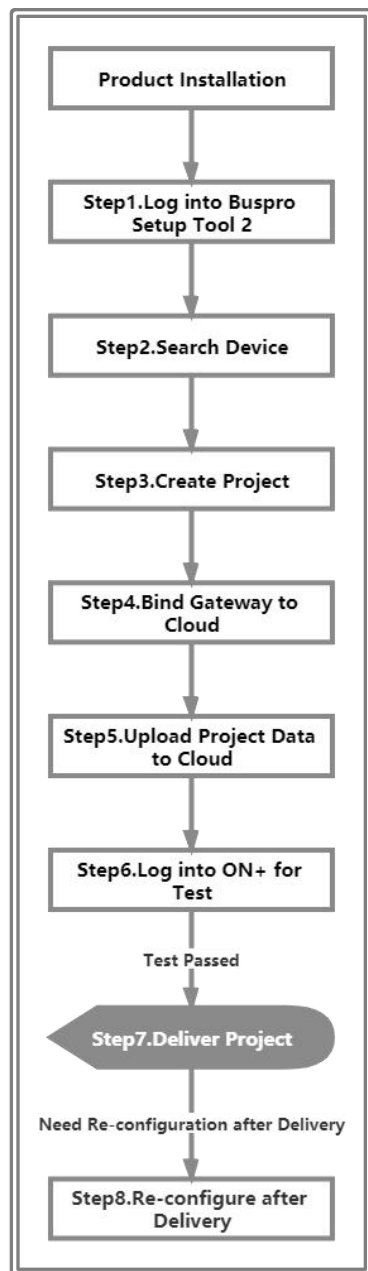
Delete

Edit Scene



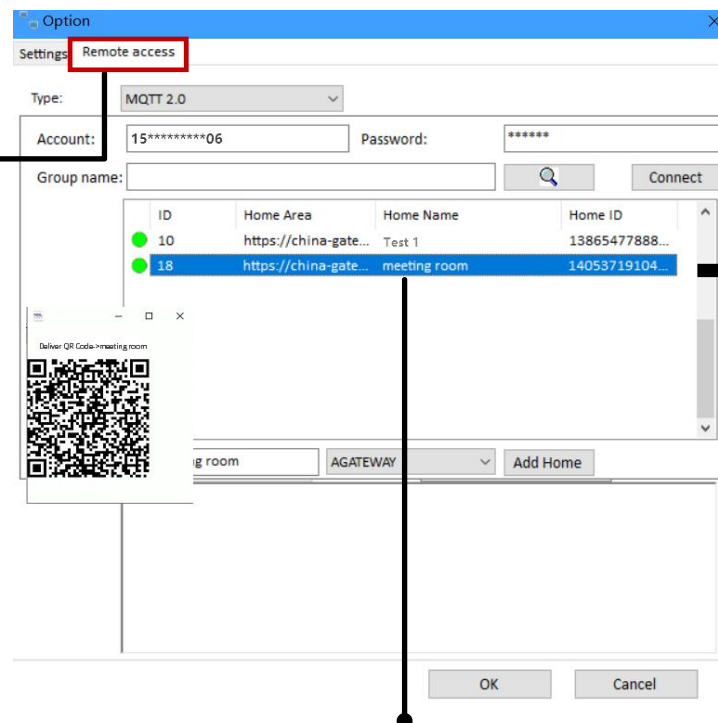
Click “Home” → “Scene”, now you can see the scene you set as favorites.

Step 7 — Back to Buspro Setup Tool 2, proceed project delivery.



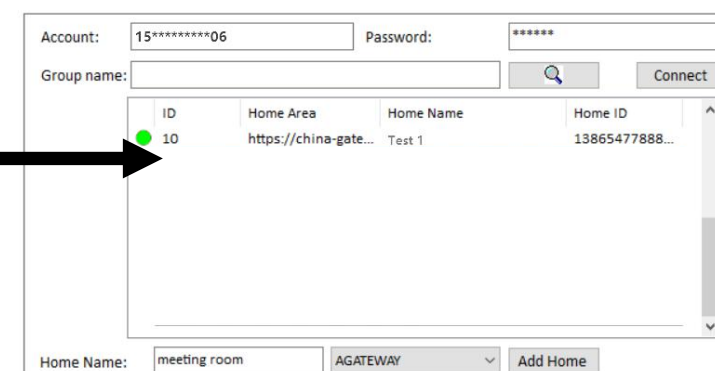
Before Delivery

- ① Click “Option” → “Remote Access”



- ② Select the project you would like to deliver, right click to get deliver QR code.

After Delivery

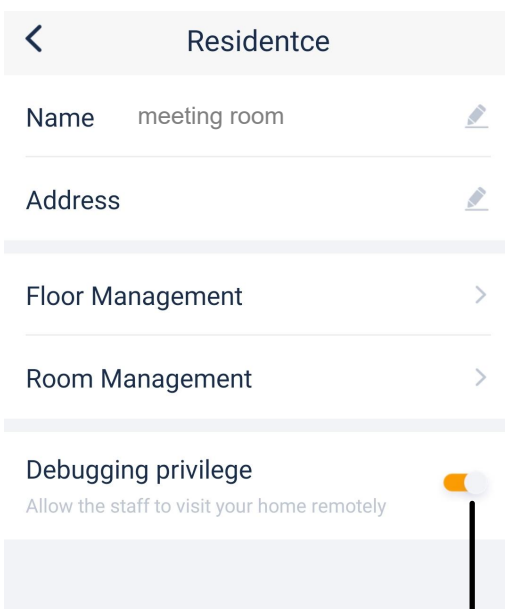


Once the code is scanned successfully by the owner, the project is formally delivered.

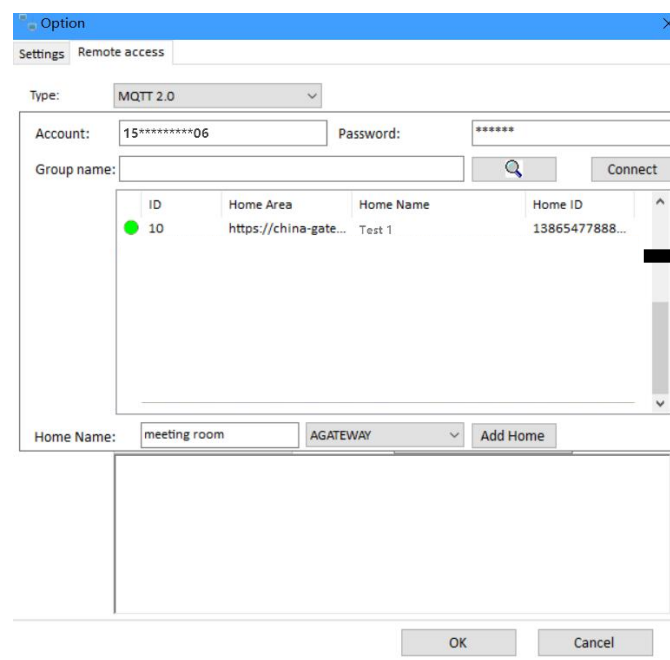
*The project delivered will not be shown in Buspro Setup Tool 2.

Step 8 — After project delivery, if needed, you can turn on the “Debugging privilege” via ON+ APP, then back to Buspro Setup Tool 2 to proceed debugging and re-configuration.

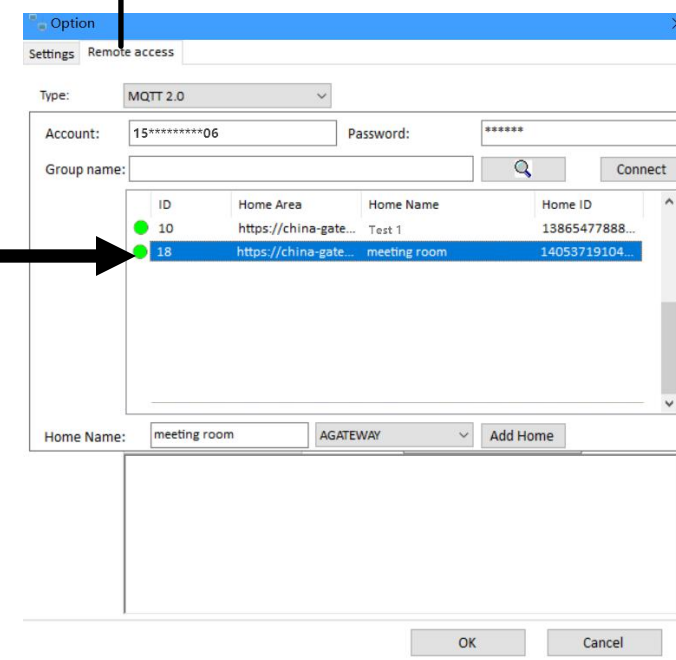
- ② Click “Option” → “Remote Access”, the project delivered can be shown again.



- ① Enter “Residence” → Turn on “Debugging privilege”



Before Turning on “Debugging privilege”



After Turning on “Debugging privilege”

*After turning on “Debugging privilege”, the authorization belongs to the previous debugging personnel by default; i.e., new personnel is still not allowed to proceed re-configuration for the project delivered.