VDM-4050

AV over IP Controller

User Manual



Software Version: 1.0.0
Issuse Date: October 2020

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Safety Instruction

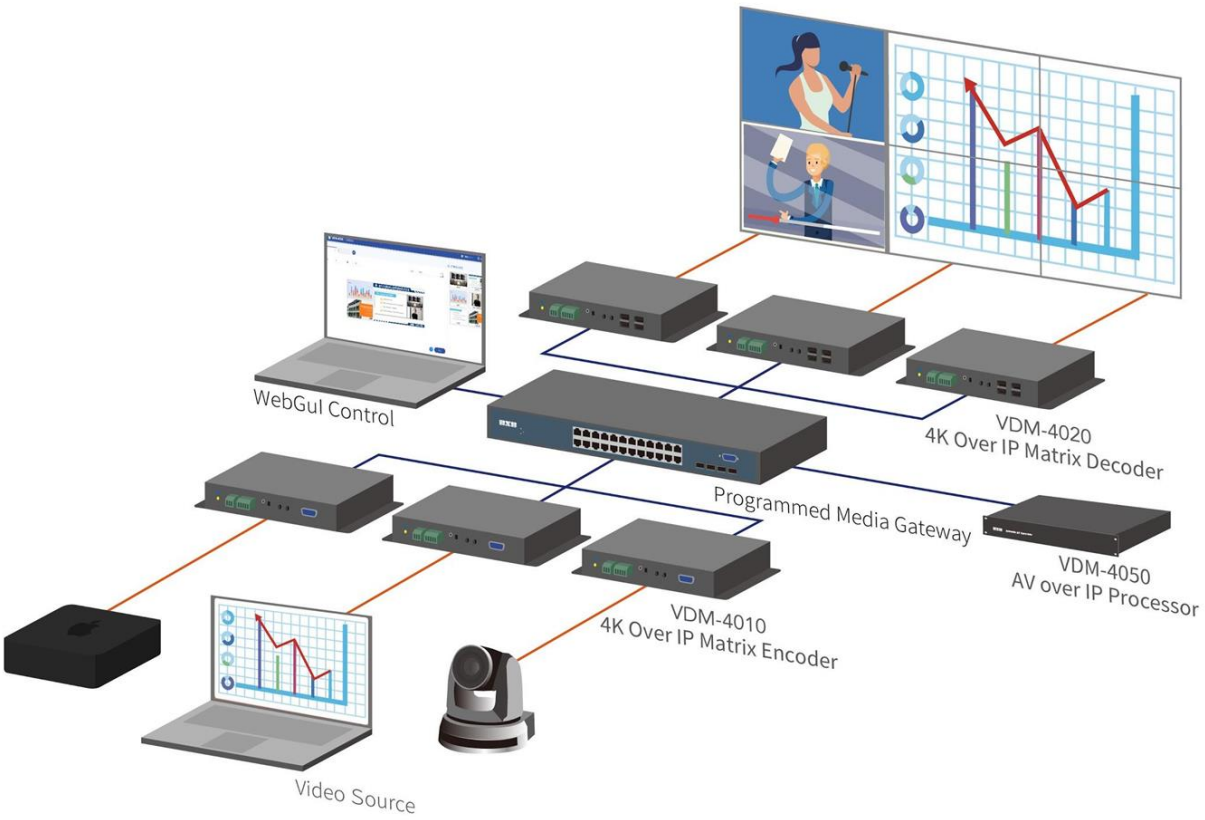
1. Read the instruction manual carefully before installing and using this unit.
2. Please keep this instruction manual properly preserved.
3. Please follow the instructions and be aware of warning indications.
4. Please do not use any spare parts without the recommendation of your dealer.
5. Use the fixing accessories offered by BXB. If the system is broken due to the improper fixing, BXB would not bear the responsibility for compensation.
6. Make sure the power cord has been fixed properly.
7. Do not use any extension cords as this would result in fire or short circuit.
8. Do not stuff anything or spill liquid of any kind onto or into this unit.
9. Contact maintenance technicians if the conditions below occur:
   a. Power cord or plug is damaged. b. Liquid has been spilled into this unit.
   c. The product does not work normally under normal operating conditions.
   d. The unit has been dropped or the cover has been damaged.
   e. The function cannot work completely.
10. To reduce the risk of damage caused by lightning strike, it is essential that all cables must be bonded well to the same grounding point.
11. Install this unit carefully. Impacting and fierce shaking should be avoided.
12. Do not disassemble or remodel this unit:
    a. High voltage and sensitive electrical circuit are inside of the unit. Do not disassemble it to prevent electric shock. If needed, please ask for help from the qualified technicians.
    b. The specification of any replaced spare part should be validated by manufacturer, or it may cause fire and short circuit.
13. Do not use this unit in the environment with improper temperature, moisture, and power level to avoid component damage. The adequate operation temperature is 0°C ~ 40°C (32 °F ~ 104 °F); relative humidity below 90%.
14. Do not expose the apparatus to rain and moisture. Please put it at a dry location to avoid any damage of the inside components. Adequate coverage is requisite if the unit is used outside.
15. Do not clean this unit and its accessories with liquid or chemical detergent. Just use a damp cloth for cleaning.
16. Do not switch on/off the power of this unit rapidly no matter it's operating or off. It can maintain the regular operation of the sensitive electronic circuit.

Caution: The static electricity treatment of printed circuit boards should follow ESD safety measure. Ground connection should also be done well.
Caution: Please be aware of the voltage accordance with that in your country.
Warning: Only qualified technicians can disassemble the cover of this unit. Before disassembling the top cover, it's essential to unplug the power. The power cord can be plugged in again only before the top cover has been put back.

Product Features

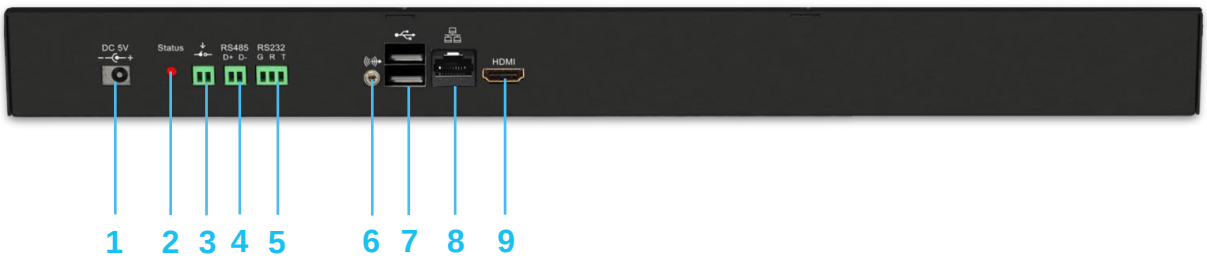
- Control multiple AVoIP devices (encoders and decoders) within the same network. Via the WebGUI interface, you don’t need any additional software to control and manage the system.
- Support scanning the TXs and RXs. You’re able to edit the device name, check the device status and set the MAC and IP address.
- Intuitive and easy-to-use programmable interface for self-defining the layout and switching the video matrix. You can also upload the scenario image for the ease of environmental control.
- Support video wall setting. Just click, drag, and move the video sources to make up to 10 types of video wall templates.
- Group the devices for the ease of video source management and switching.
- Real-time preview the images of TXs and RXs for quick control and adjustment.
- Easily turn on / off the image of the RX and restart the device.
- Support matrix switch: just one-click to switch video sources to the target receivers.
- Support zooming in the partial area of the image via easy drag-and-drop.
- Intuitive interface for self-defining the irregular video wall: greatly decreasing the complexity of settings.

Connection Diagram



Physical Description

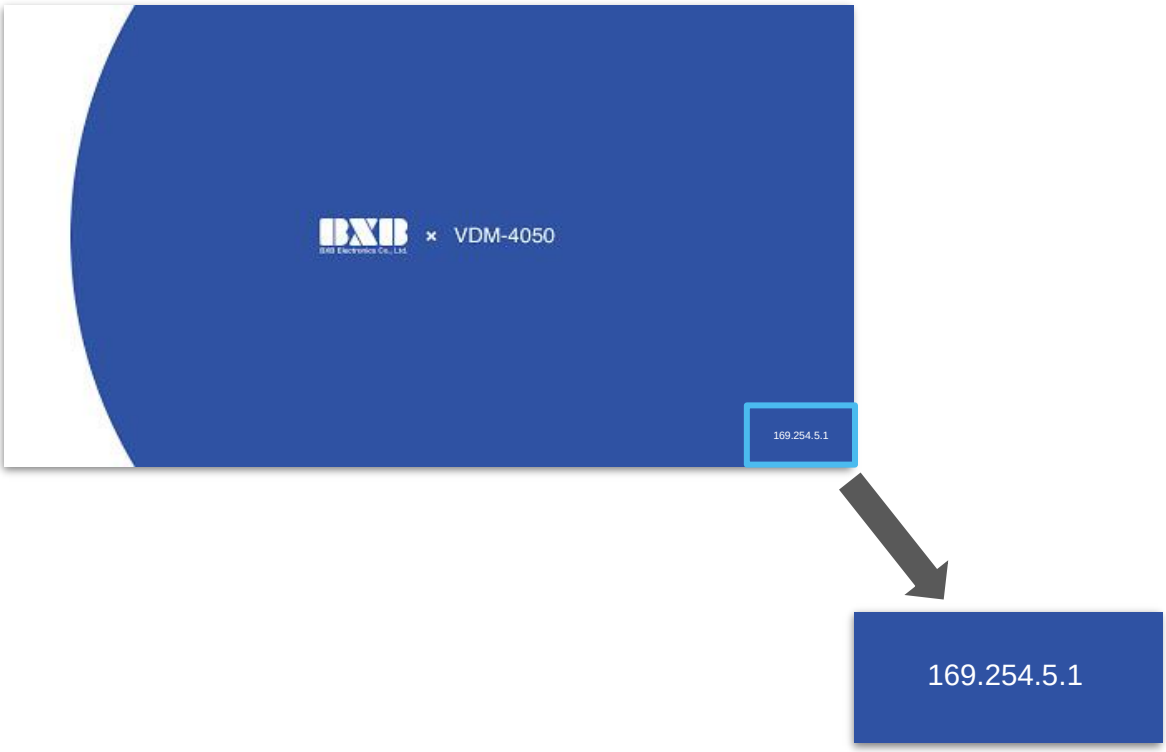
Rear View



1. **Power:** connect the transformer (AC100-230V to DC-5V) for power supply.
2. **LED Indicator:** indicate the link and power status. The light will flash when VDM-4050 receives power. The light will be off if there's a connection problem.
3. **Trigger IN:** for restoring the system (the default IP and password). Short-circuit is required before powering on again.
4. **RS-485:** for the expanded functionality.
5. **RS-232:** for the expanded functionality.
6. **Audio Output:** for the expanded functionality.
7. **USB:** for the expanded functionality.
8. **Ethernet:** connect to the Local Area Network (LAN) to control the conferencing equipment or PC for system settings and operations.
9. **HDMI:** connect to a monitor. The IP address will show at the bottom right of the screen.

The IP Address

Getting the IP Address: the IP address will be shown at the bottom right of the screen once you connect the VDM-4050 with a monitor via a HDMI cable.

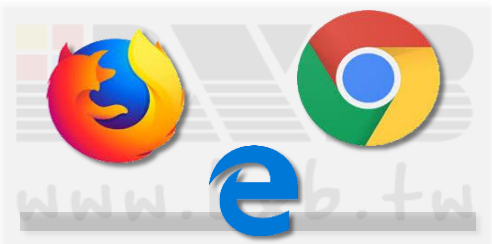


- ❏ The default IP address: 169.254.5.1
- ❏ The default account: admin
- ❏ The default password: 00000
- ❏ Please go to P42 for more information about changing the IP address.

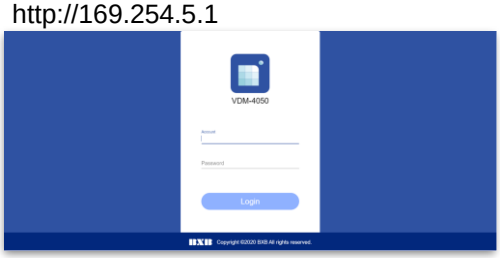
WebGUI Operation

Log In

You can operate the VDM-4050 via standard web browsers, such as Chrome、Microsoft Edge, and Firefox. Simply log in by entering the IP address.

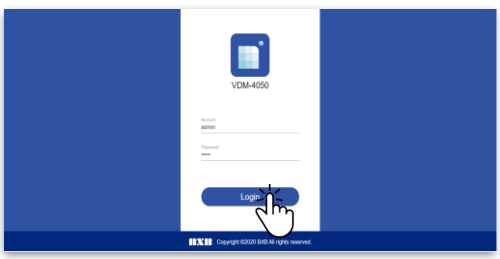


http://169.254.5.1



1 Open a Web browser

2 Type the IP Adress into the URL bar



3 Log in with the default account and Password

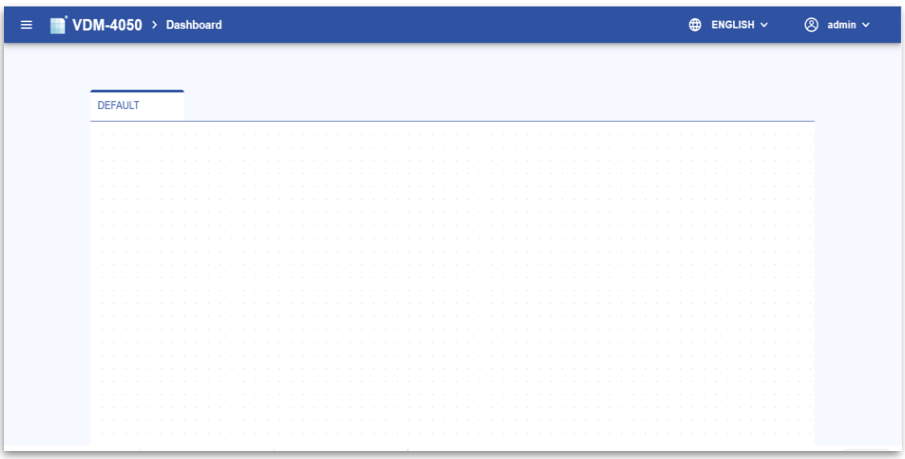
- The IP address of the VDM-4050 can be set as DHCP mode or static mode. If you cannot find the IP address, please get it from the bottom right of the screen. For more information, please go to page 42.

- To enter the dashboard of the VDM-4050, you need to log in with the admin account. The default account is “admin”; password “00000”. To change the password, please click “**admin**” > “**Change Password”** at the top right of the WebGUI interface.

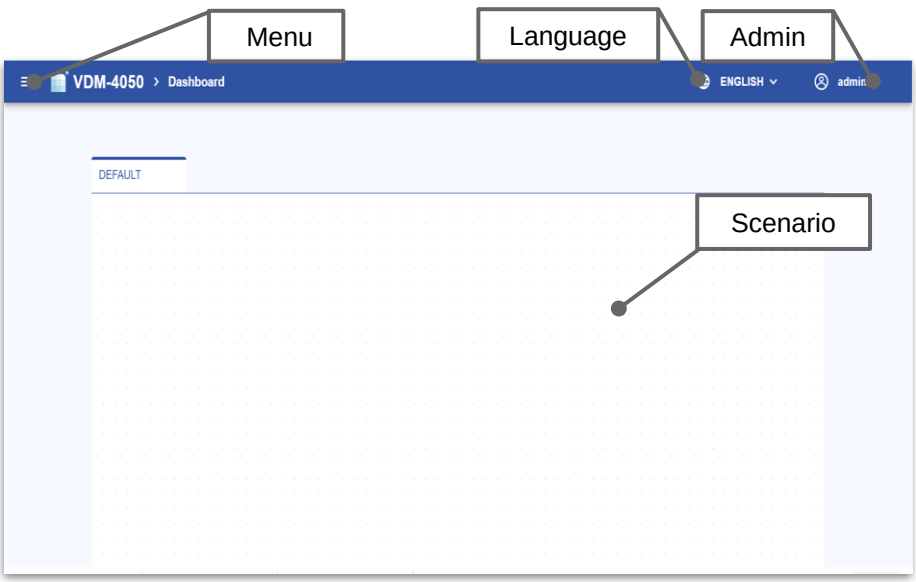
WebGUI Operation

Dashboard

After logging in, you can see the Dashboard page. You can use this page to quickly switch the matrix, perform the preset actions, and change the video wall layouts. For these functions, you need to go to the **Preset** page first.



Dashboard Overview

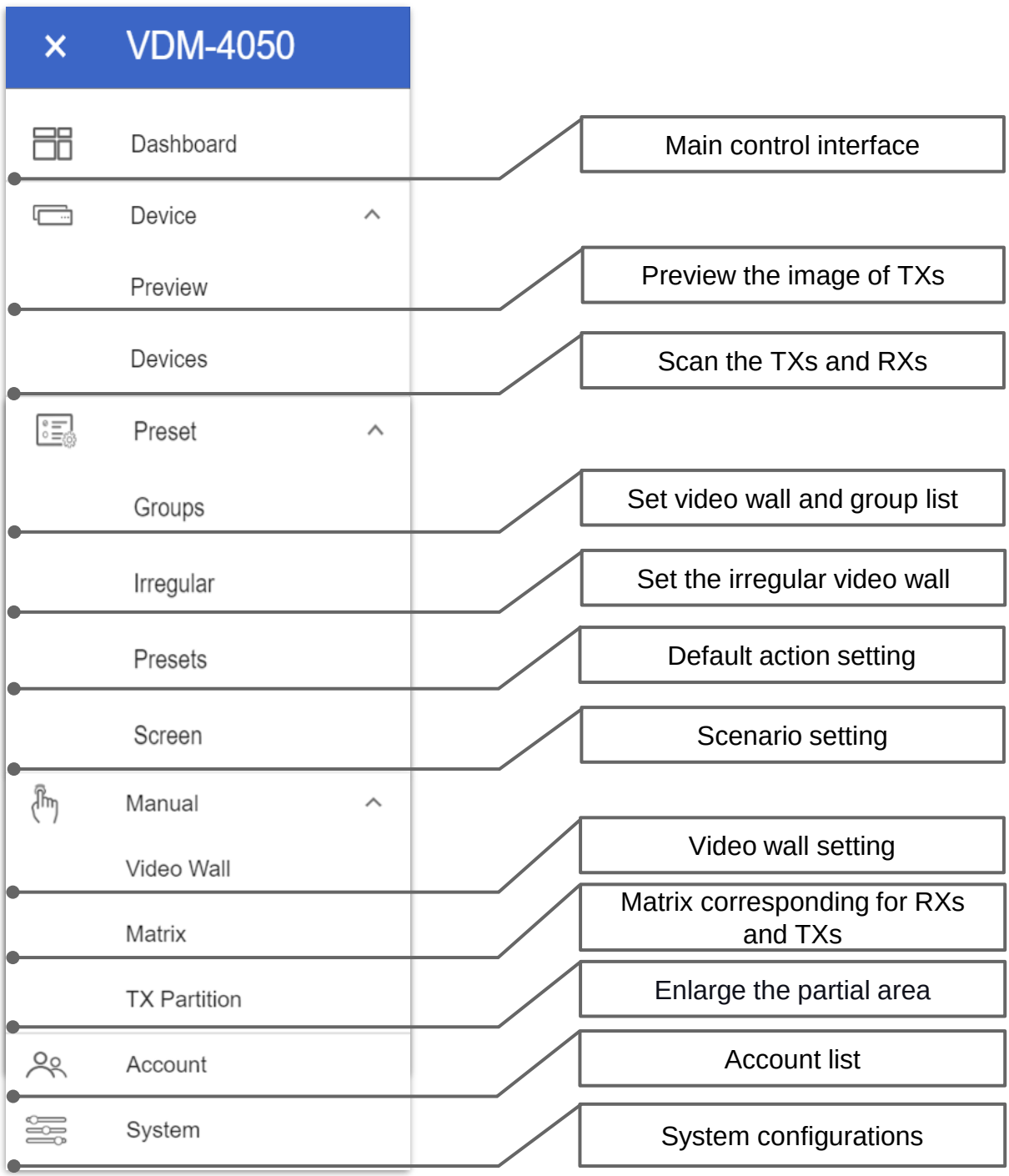


1. **Menu:** all build-in functions can be found right here.
2. **Language:** English and Mandarin available.
3. **Admin:** change the password / log out.
4. **Scenario Change:** quickly switch the matrix, perform the preset actions, and change the video wall layouts.

WebGUI Operation

Menu

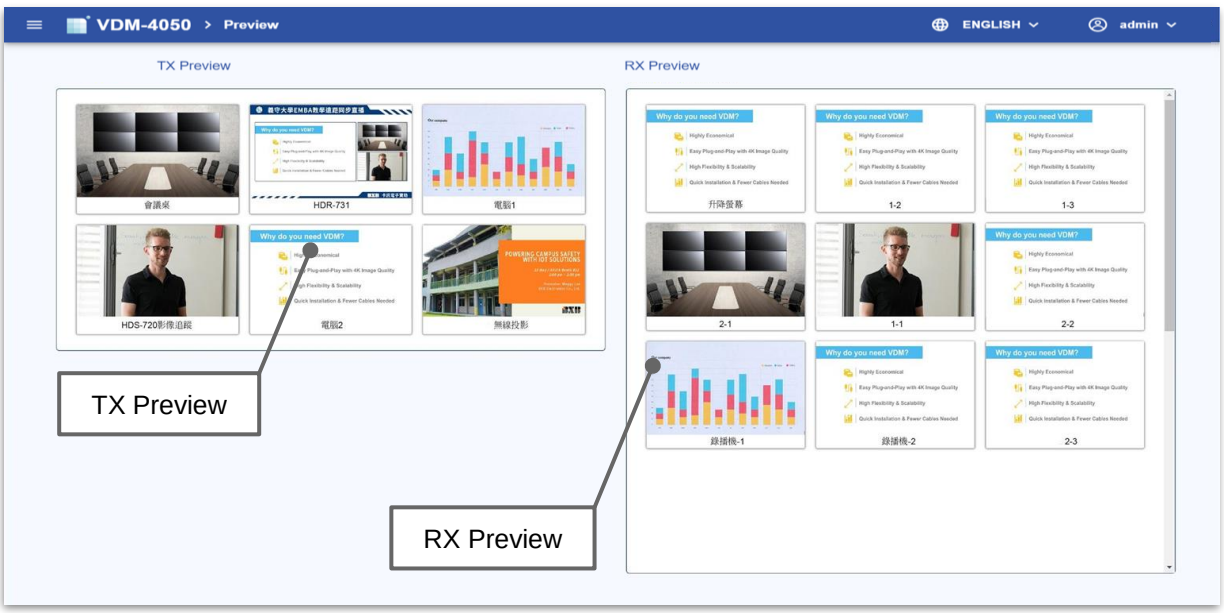
Click the ☰ button on the top left of the interface for more functions.



WebGUI Operation

Device - Preview

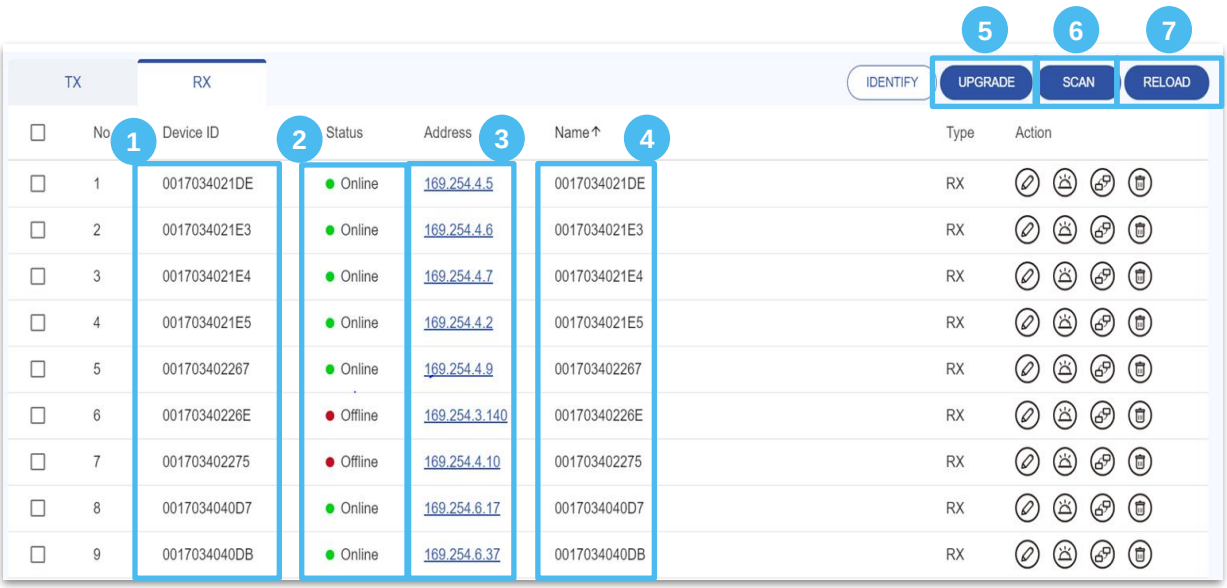
You can preview the images of TXs (Transmitters) and RXs (Receivers) to double-check the accuracy of devices' corresponding status and make the adjustments instantly.



WebGUI Operation

Device - Devices

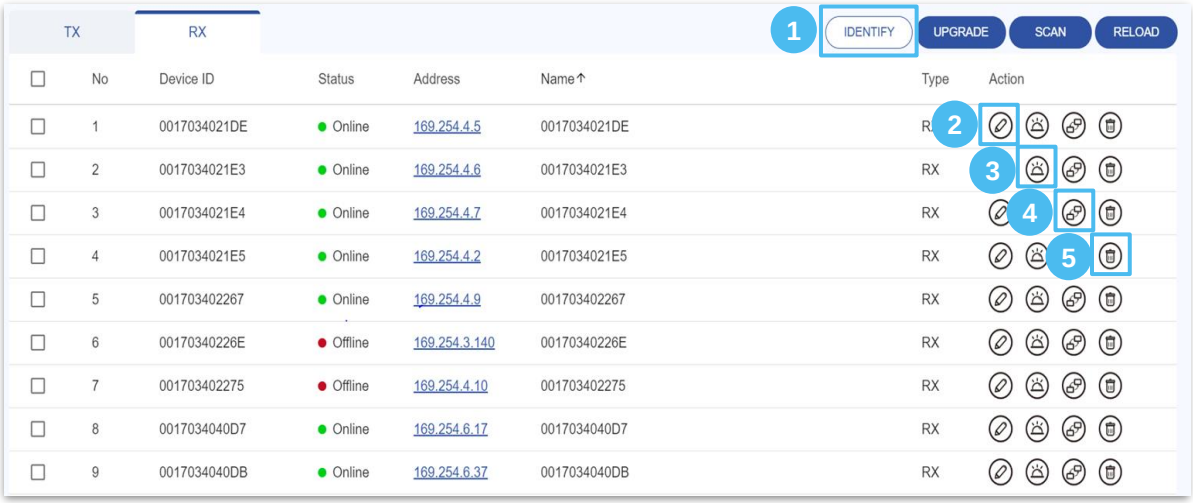
Quickly scan the input and output devices, edit the name of the devices, check the device status, and set the MAC and IP Address.



1. **Device ID:** MAC address of the device.
2. **Status:** connection status (Online: normal; Offline: abnormal condition, unable to control the device).
3. **Address:** the IP address of TXs and RXs. Click for IP configurations.
4. **Name:** the name of the devices (editable).
5. **UPGRADE:** upgrade the firmware.
6. **SCAN:** scan all the connected devices in the system.
7. **RELOAD:** re-detect the TXs and RXs to check the connection status.

WebGUI Operation

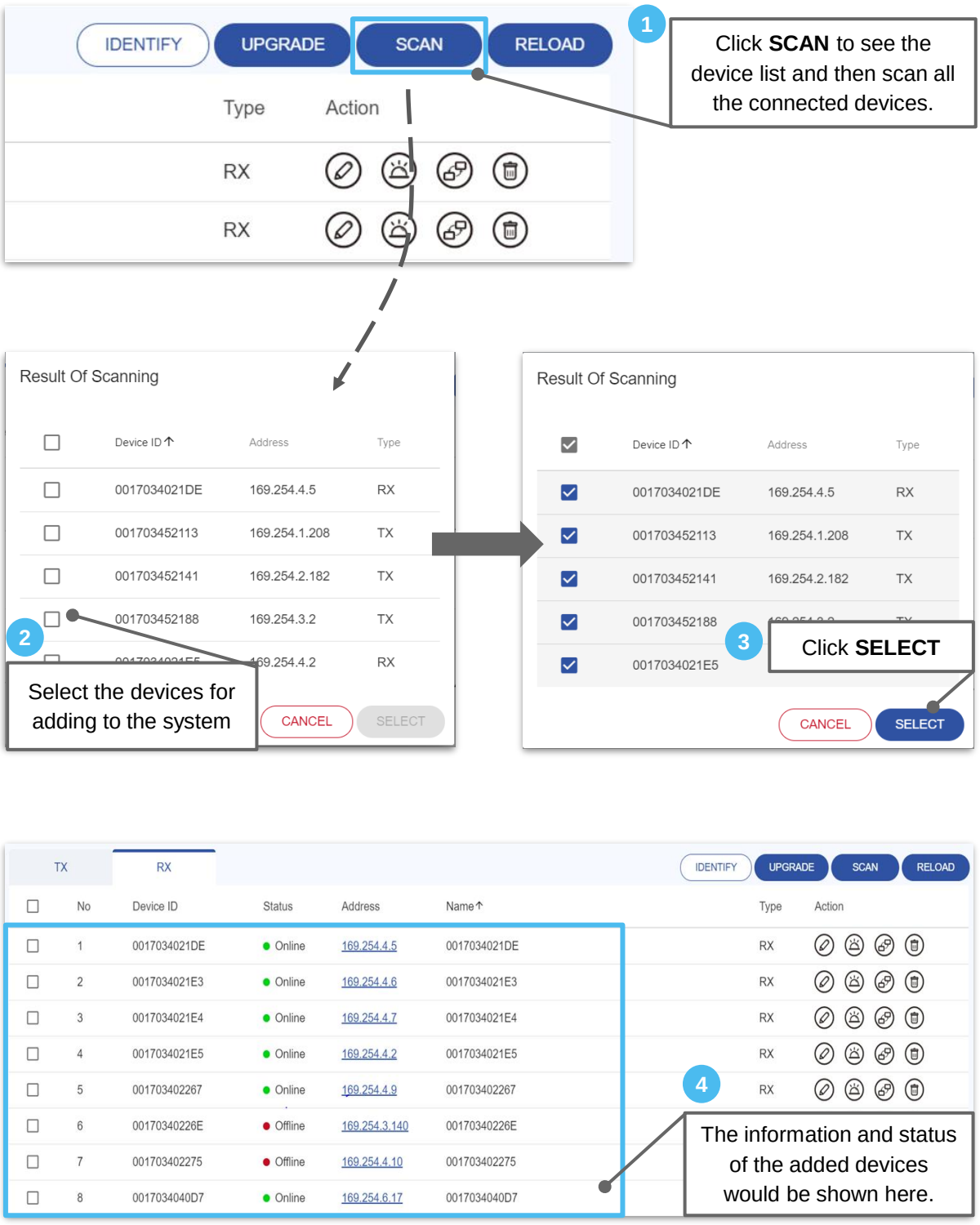
Device - Devices



1. **IDENTIFY:** quickly identify the screen corresponding with each RX. The ID number will be shown at the center of the screen.
2. **Edit:** edit the name of the device.
3. **Flash:** click and then the indicator light on the device will flash quickly, which helps easily identify the RXs and TXs.
4. **Replace:** replace the settings of TXs and RXs.
5. **Delete:** delete the RX or TX from the list.

❑ Devices - Scan

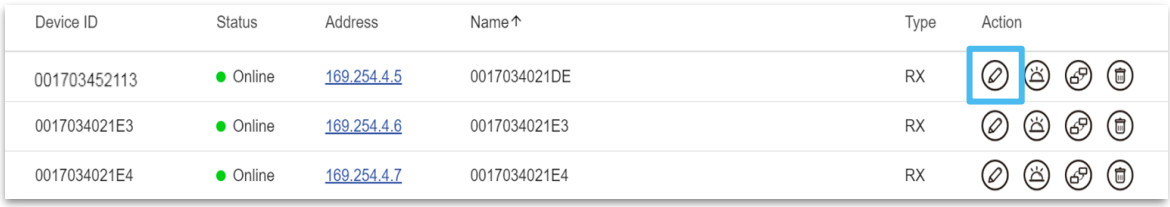
Scan all the connected transmitters (TXs) and receivers (RXs).



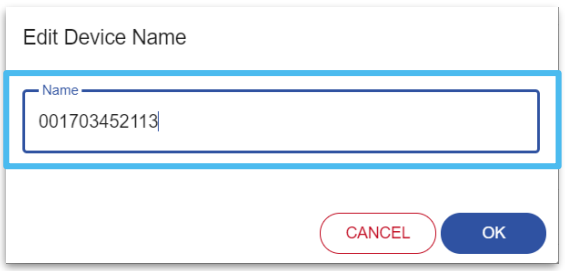
WebGUI Operation

❑ Devices - Edit

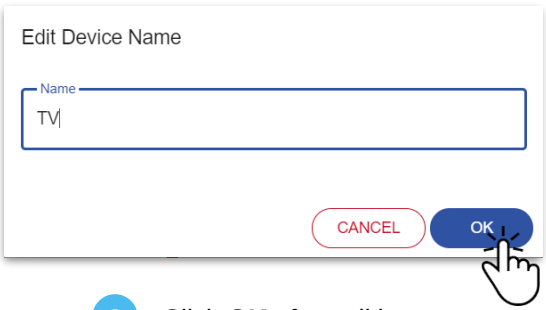
Edit the name of the receivers and the transmitters for easy identification.



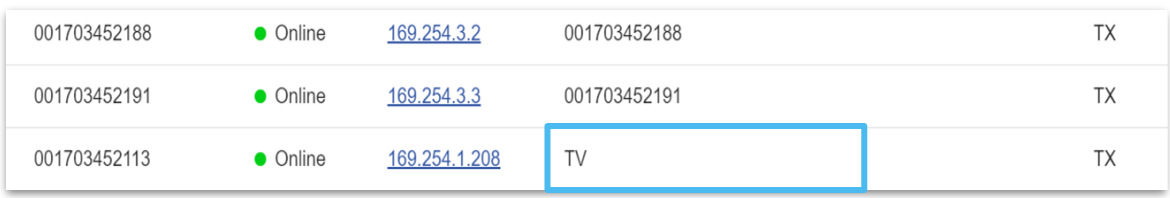
1 Click to edit the name of the device.



2 Type in the name.



3 Click **OK** after editing.

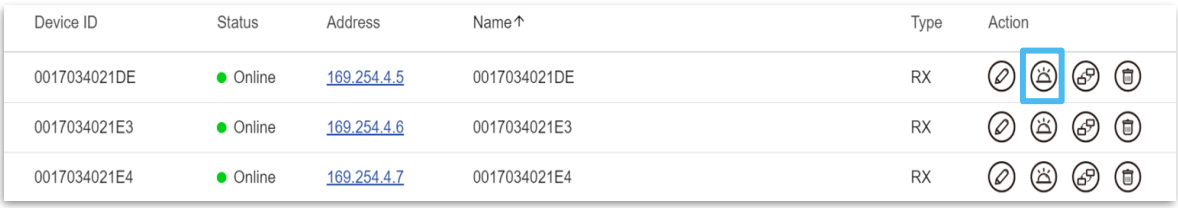


4 The device name has already been changed.

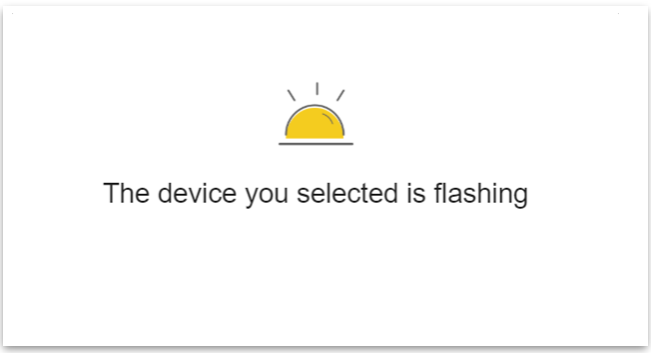
WebGUI Operation

❑ Devices - Flash

Easily identify the RXs and TXs from the indicator light on the device.



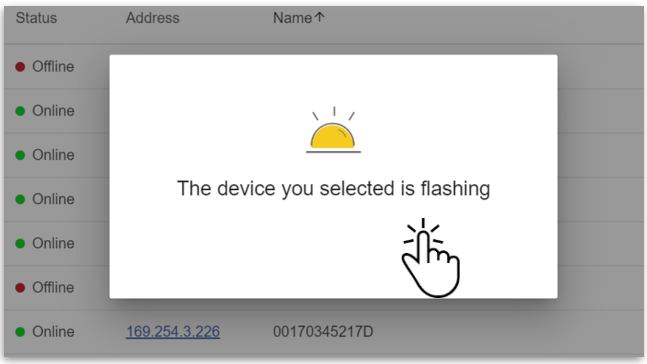
1 Click the **Flash** button. Meanwhile, the indicator light on the device flashes.



2 After clicking the **Flash** button, a pop-up window will appear to indicate that the light of the selected device is flashing.



3 The indicator light will flash for about 10 seconds.



4 After finishing flashing, click on anywhere to close the window.

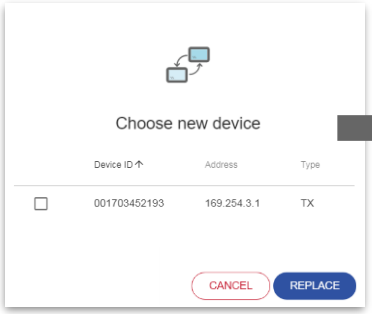
❑ Devices - Replace

When you add or replace devices, the parameters of the original device can be moved to the new device directly (e.g., device name).



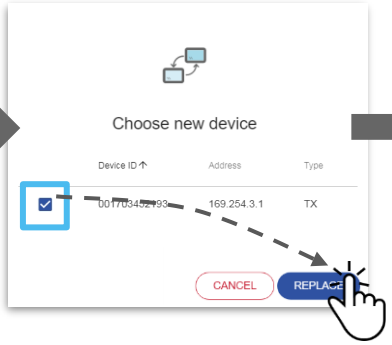
1 Click the **Replace** icon to copy the name of the selected device to another device.

2



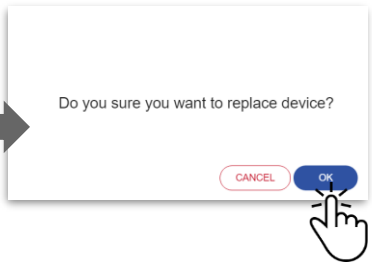
The pop-up window appears for choosing the new device.

3



Select the device and then click **REPLACE.**

4



Click **OK** to finish replacing the device.

6	001703452188	Online	169.254.3.2	001703452188
7	001703452191	Online	169.254.3.3	001703452191
8	001703452193	Online	169.254.3.1	PC

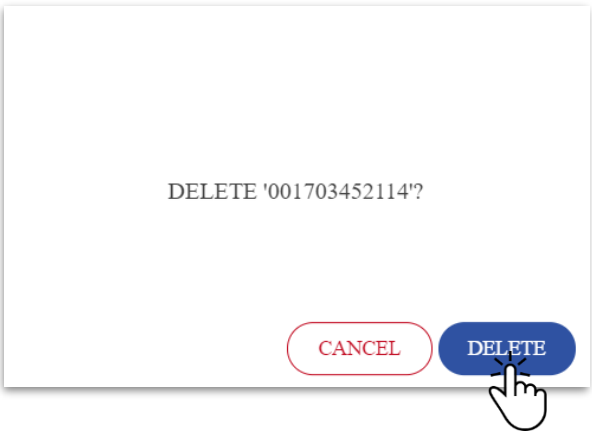
5 Device replacement has done successfully.
E.g., The MAC address of the original device is "001703452113".
After the replacement, the MAC address has been changed to "001703452193".

❑ Devices - Delete

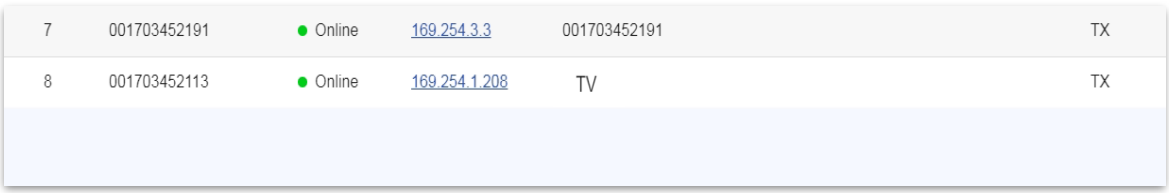
Delete the unnecessary TXs or RXs.



1 Click the **Delete** icon to delete the selected device.



2 A pop-up window appears to ask if you want to delete the device for sure.



3 The device has been deleted from VDM-4050 permanently. E.g., The device with the IP address 169.254.3.1 doesn't exist now.

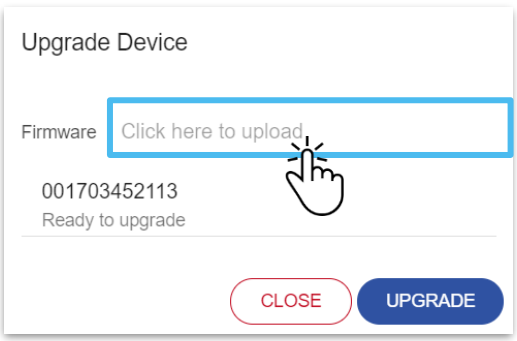
WebGUI Operation

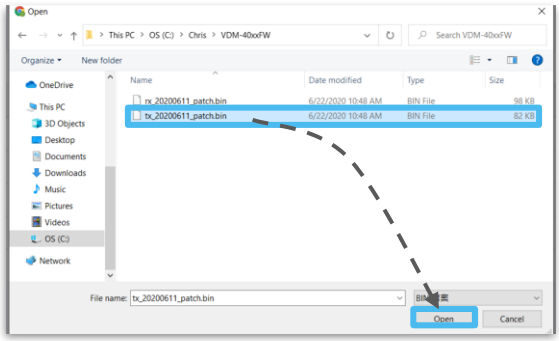
❑ Devices - Upgrade

The upgrade process can be done at the Dashboard when BXB uploads a new version of firmware.



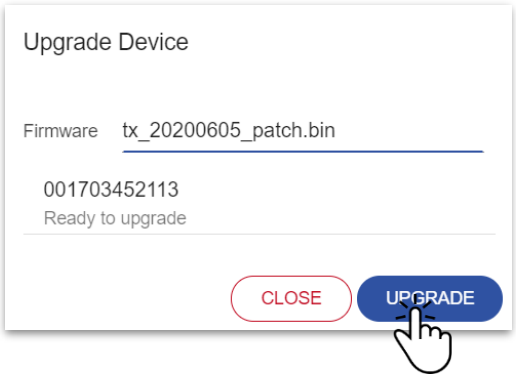
1 Select the device, and then click **UPGRADE**.

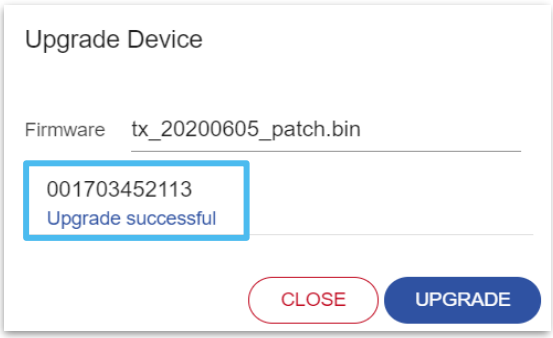




2 Click the **Firmware** area to choose the file.

3 Choose a file and then click the **Open** button.



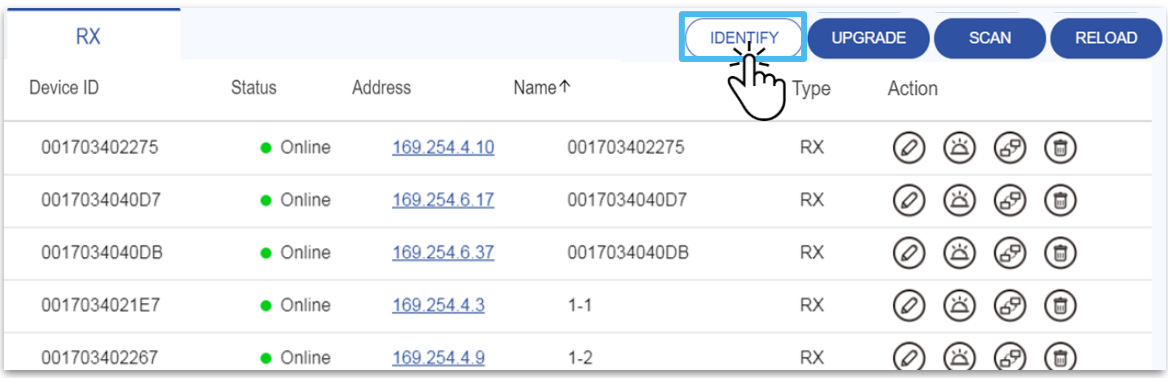


4 Click **UPGRADE**.

5 Once the process has completed, it will show the message.

❑ Devices - Identify

Quickly identify the screen corresponding with each RX. Once you click the **IDENTIFY** button, the ID number will be shown at the center of the screen.



1 Go to the RX page and then click the **IDENTIFY** button for checking the corresponding screen.

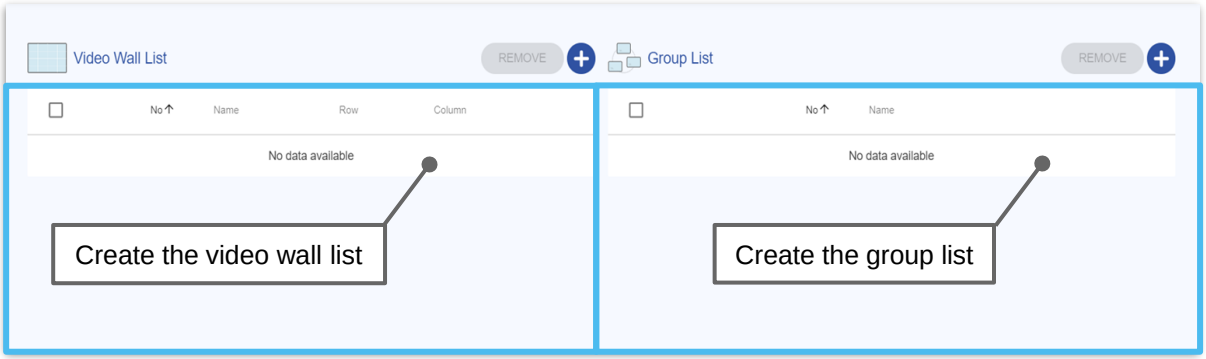


2 The ID number will be shown at the center of the screen.

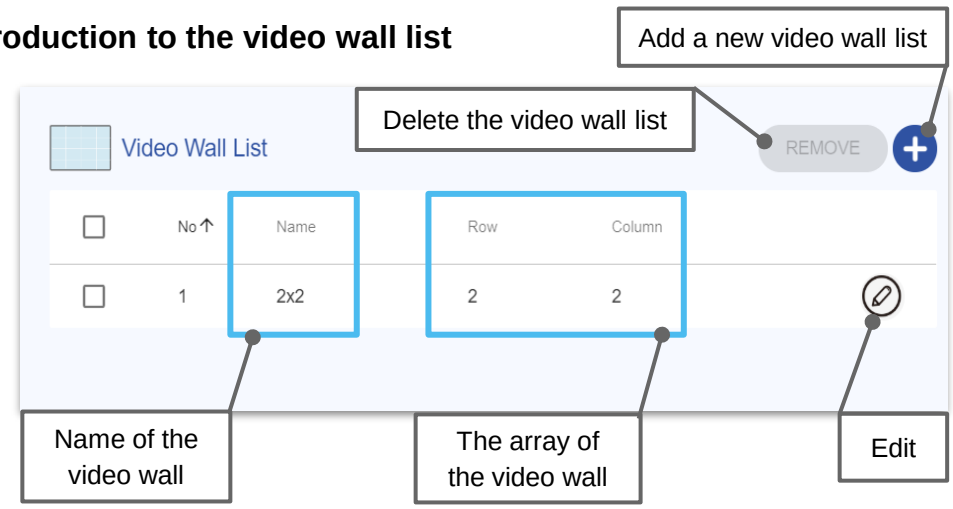
WebGUI Operation

Preset - Groups

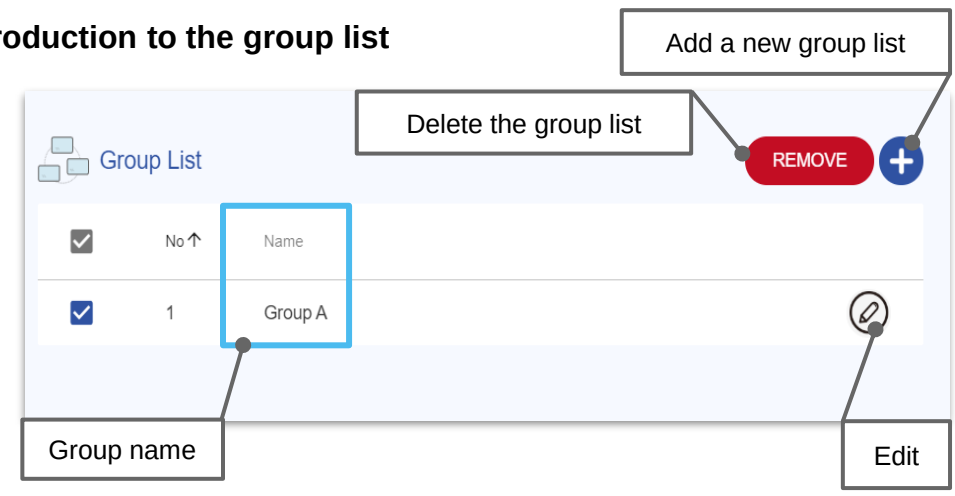
Group the devices for easily controlling and switching the video sources



- **Introduction to the video wall list**



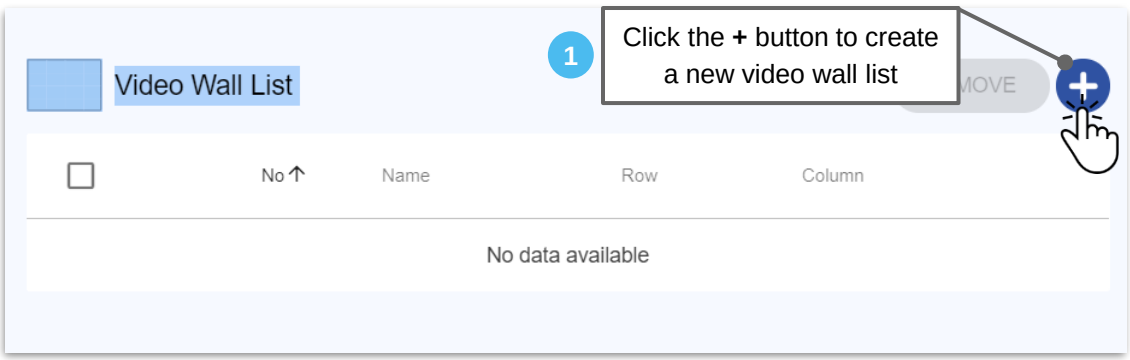
- **Introduction to the group list**

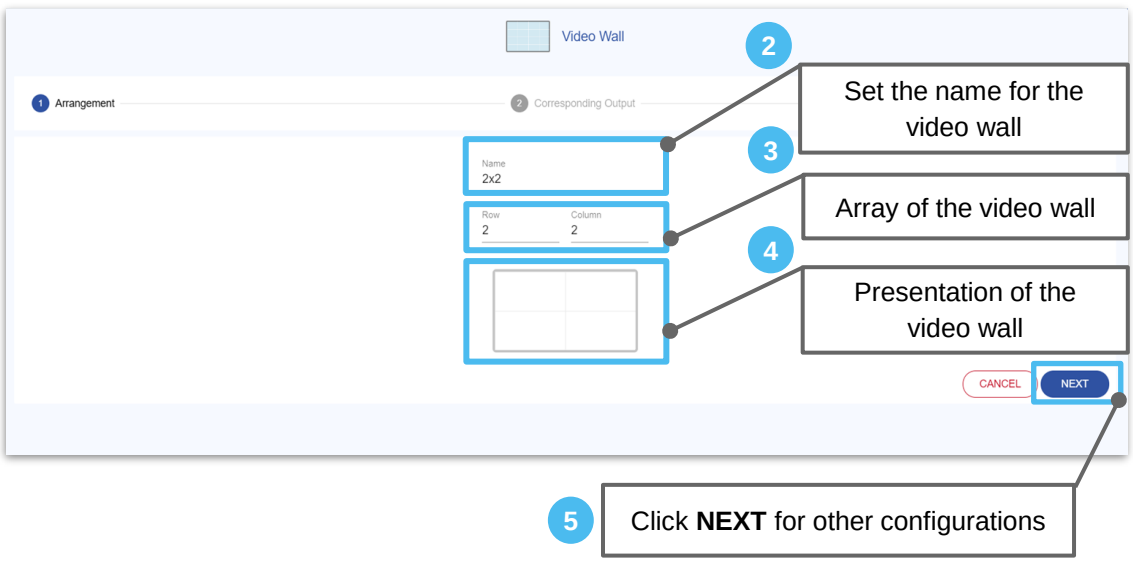


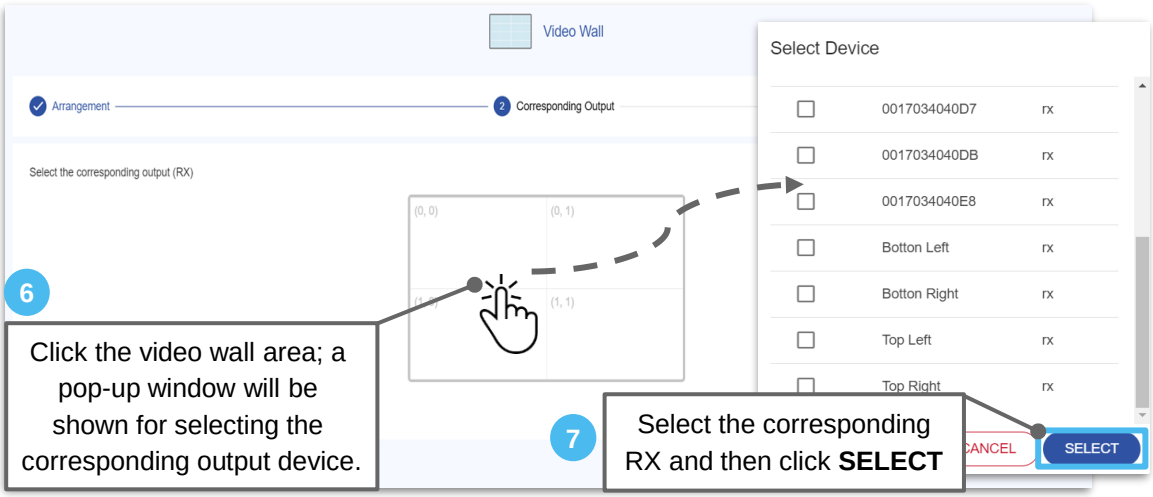
❑ Groups - Video Wall List

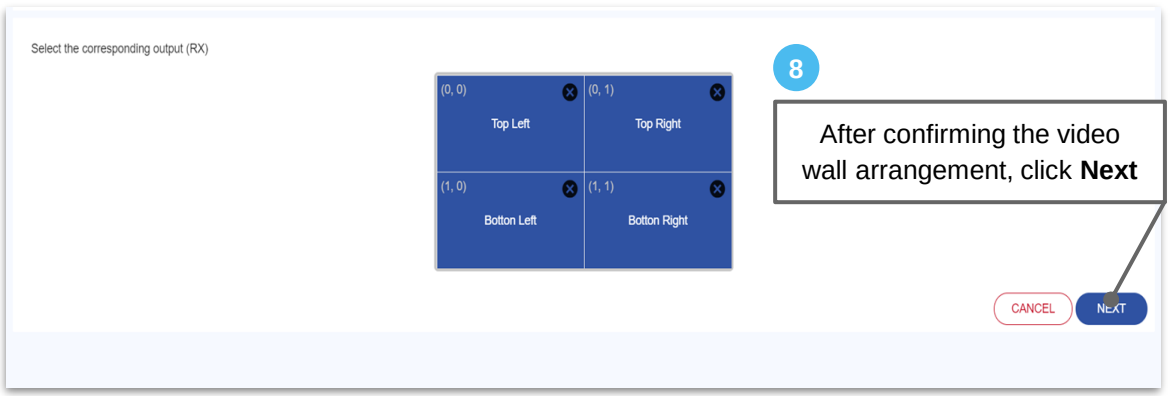
Easily create, manage, and edit video wall layouts.

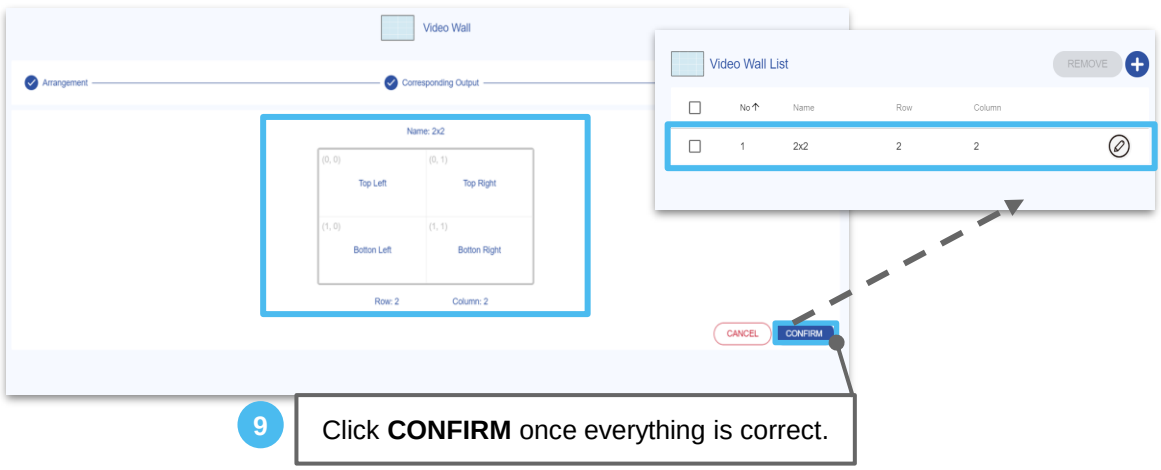
- **Steps for adding a video wall list**






Video Wall
Arrangement
2 Corresponding Output
Select the corresponding output (RX)
(0, 0)
(0, 1)
(1, 0)
(1, 1)
6
Click the video wall area; a pop-up window will be shown for selecting the corresponding output device.
Select Device
0017034040D7 rx
0017034040DB rx
0017034040E8 rx
Botton Left rx
Botton Right rx
Top Left rx
Top Right rx
7
Select the corresponding RX and then click SELECT
CANCEL
SELECT

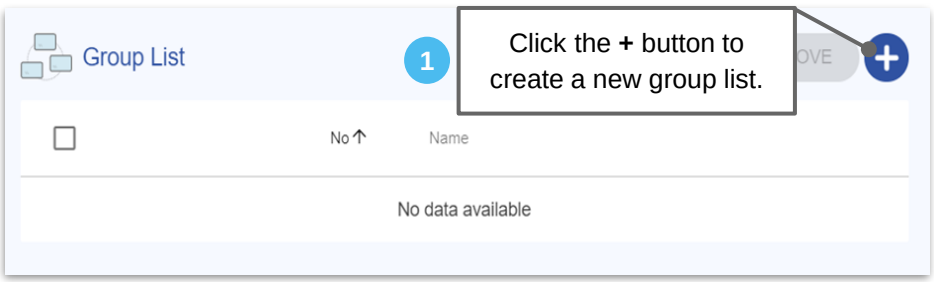

Select the corresponding output (RX)
(0, 0)
Top Left
(0, 1)
Top Right
(1, 0)
Botton Left
(1, 1)
Botton Right
8
After confirming the video wall arrangement, click Next
CANCEL
NEXT

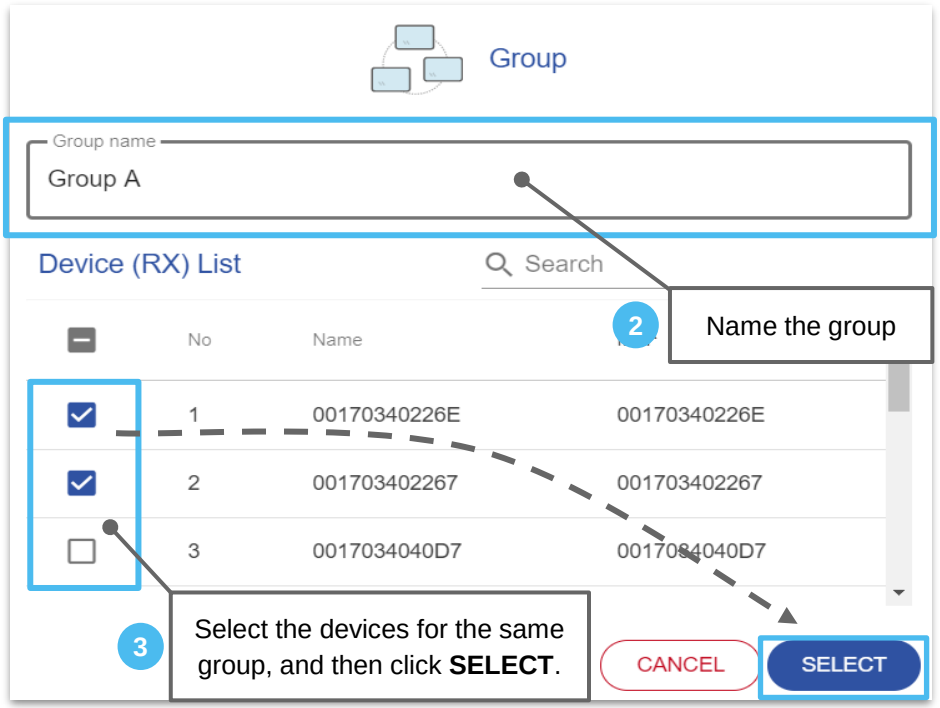

Video Wall
Arrangement
Corresponding Output
Name: 2x2
Top Left
Top Right
Botton Left
Botton Right
Row: 2
Column: 2
Video Wall List
REMOVE
No
Name
Row
Column
1
2x2
2
2
CANCEL
CONFIRM
9
Click CONFIRM once everything is correct.

❑ Groups - Group List

Quickly create group lists to easily deliver the signals to the specific group.

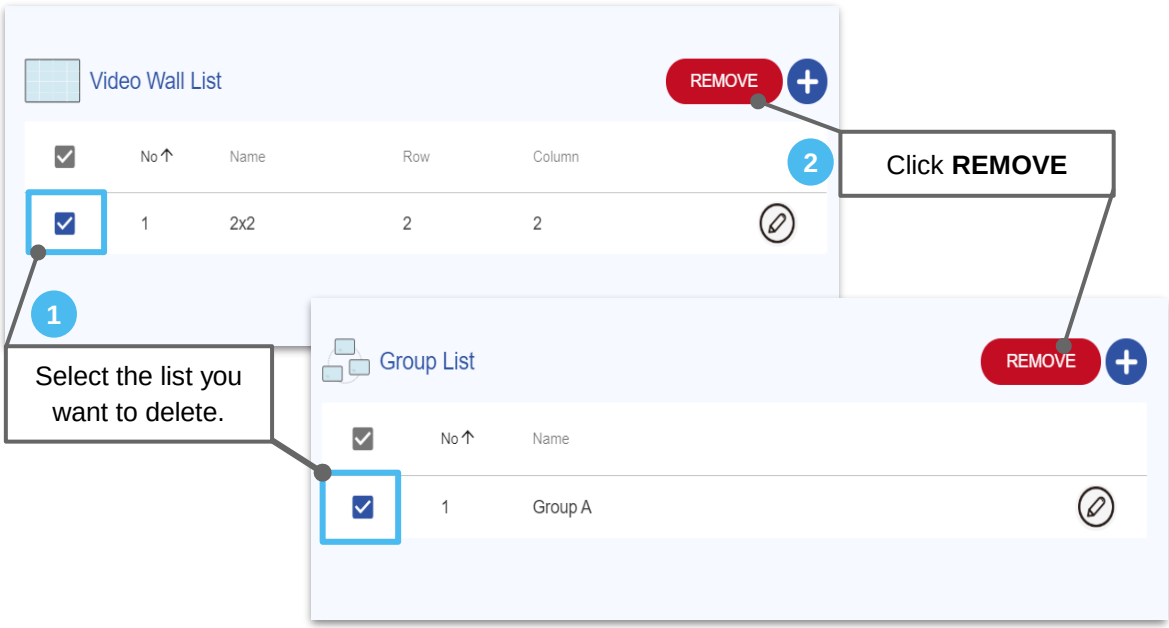
- **Steps for adding a group list**

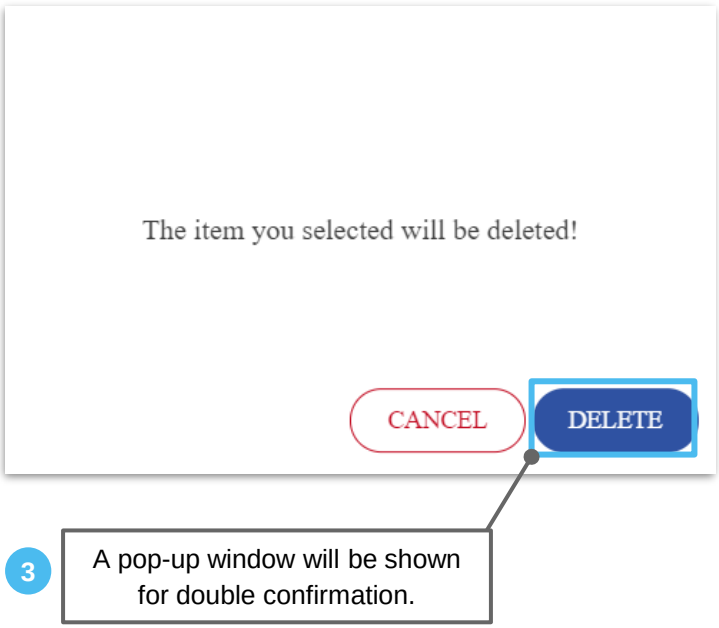






- **Steps for deleting the video wall list / group list**



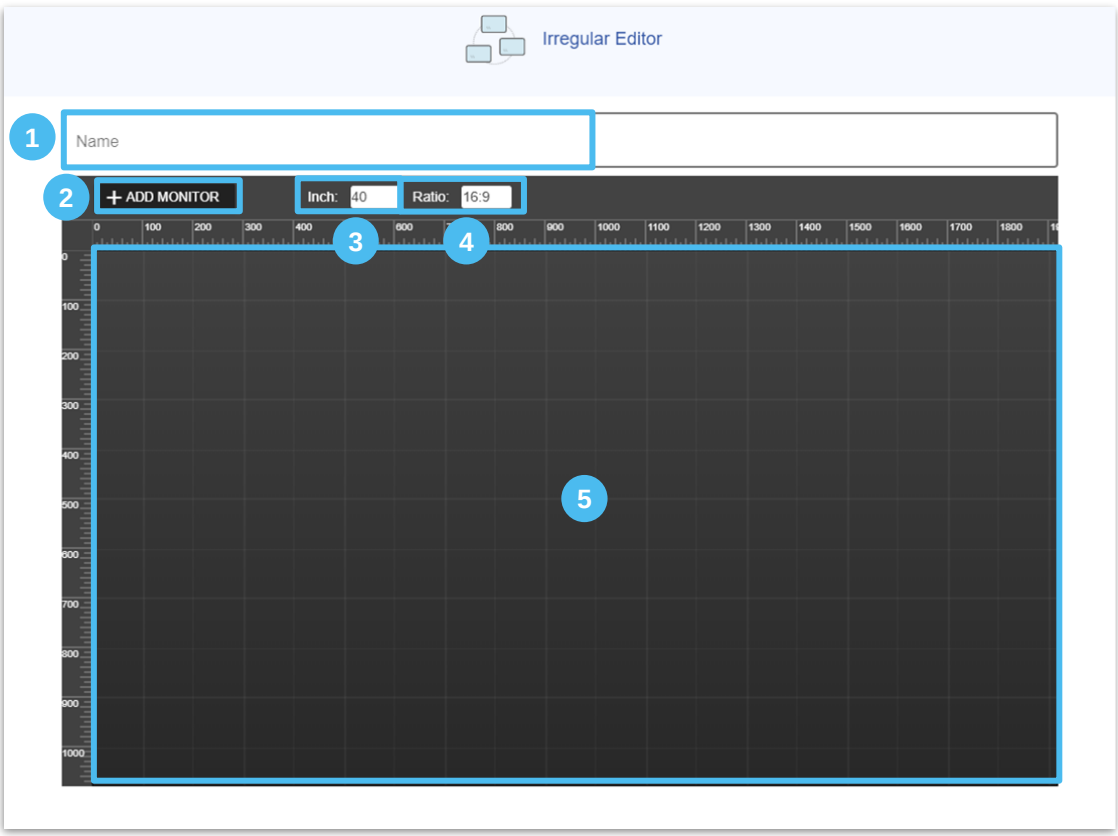


Preset - Irregular

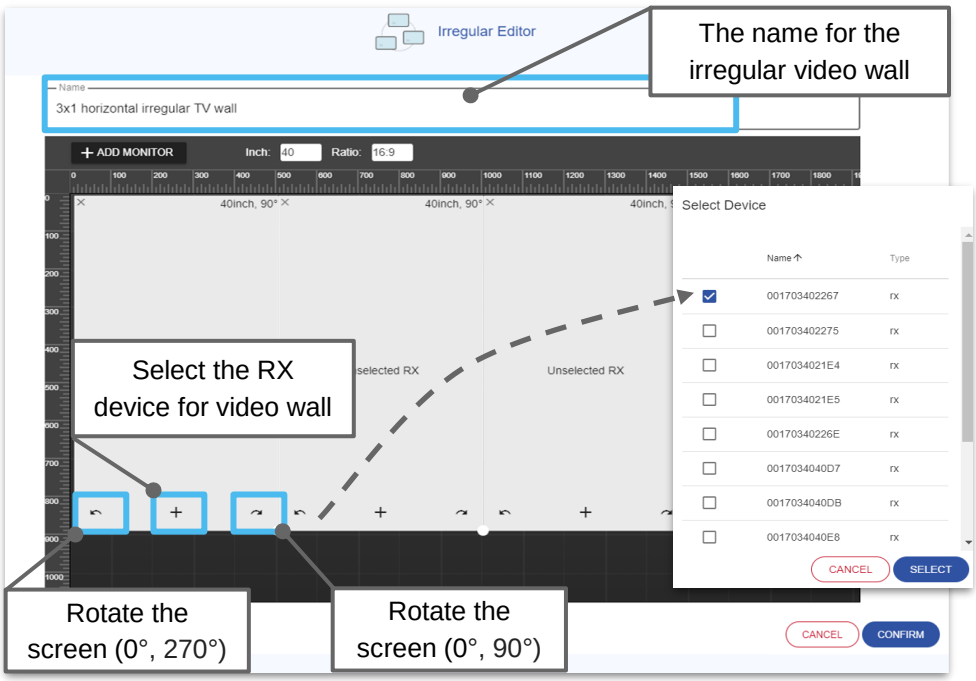
The irregular display can be turned to 0°, 90°, 180°, 270°. The intuitive interface facilitates the setting of irregular video wall.

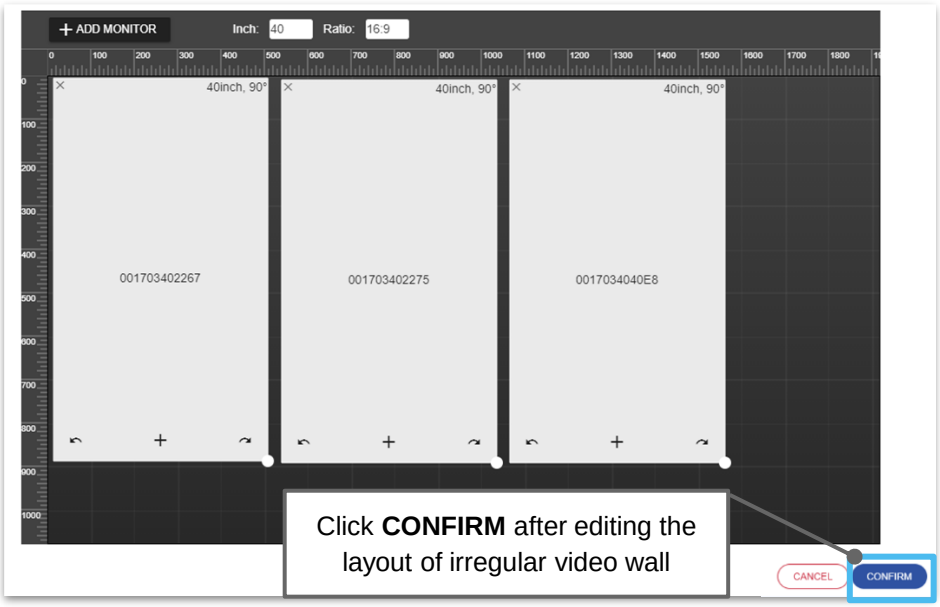
- **Steps for creating an irregular video wall**

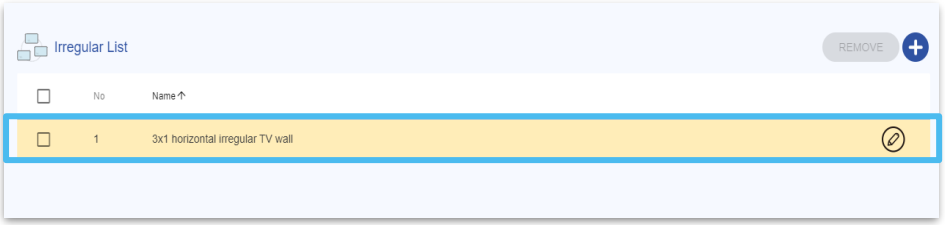




1. **Name:** the name for the irregular display.
2. **Add Monitor:** add the monitors for the display.
3. **Inch:** set the size of the screen.
4. **Ratio:** set the ratio of the screen.
5. **Editing area**: edit the irregular display.


Irregular Editor
The name for the irregular video wall
Name
3x1 horizontal irregular TV wall
ADD MONITOR
Inch: 40
Ratio: 16:9
Select Device
Name
Type
001703402267 rx
001703402275 rx
0017034021E4 rx
0017034021E5 rx
00170340226E rx
0017034040D7 rx
0017034040DB rx
0017034040E8 rx
CANCEL
SELECT
Select the RX device for video wall
selected RX
Unselected RX
Rotate the screen (0°, 270°)
Rotate the screen (0°, 90°)
CANCEL
CONFIRM


ADD MONITOR
Inch: 40
Ratio: 16:9
40inch, 90°
001703402267
001703402275
0017034040E8
Click **CONFIRM** after editing the layout of irregular video wall
CANCEL
CONFIRM


Irregular List
REMOVE
No
Name
1
3x1 horizontal irregular TV wall

Preset - Presets

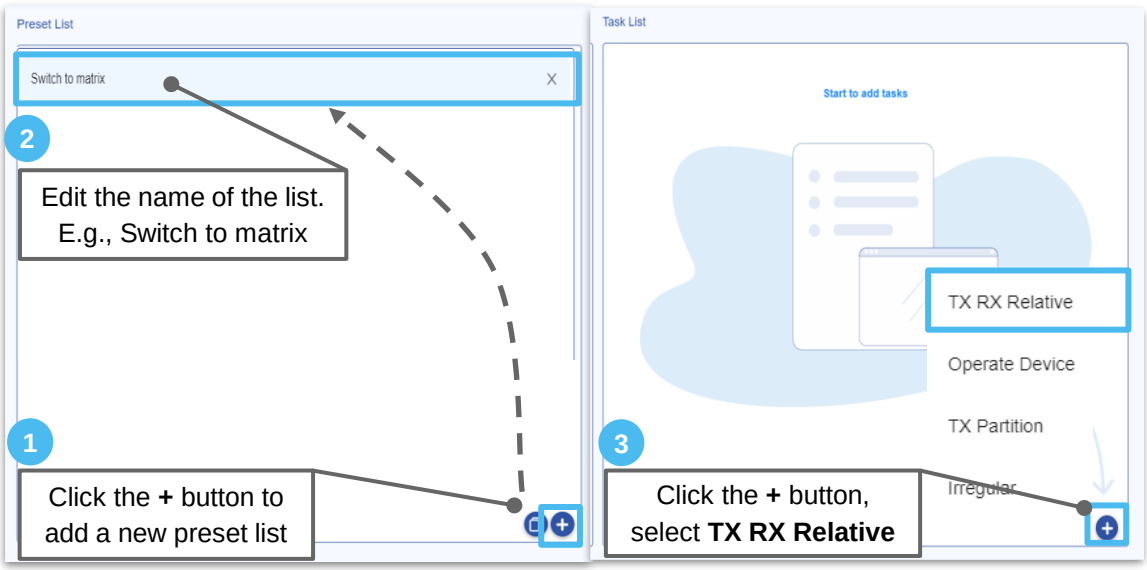
Preset multiple scenario modes for quick switch in the future. E.g., video wall, matrix switching, restarting the device, turning on / off the monitors, irregular video wall display, zooming in the partial area of the image, etc.

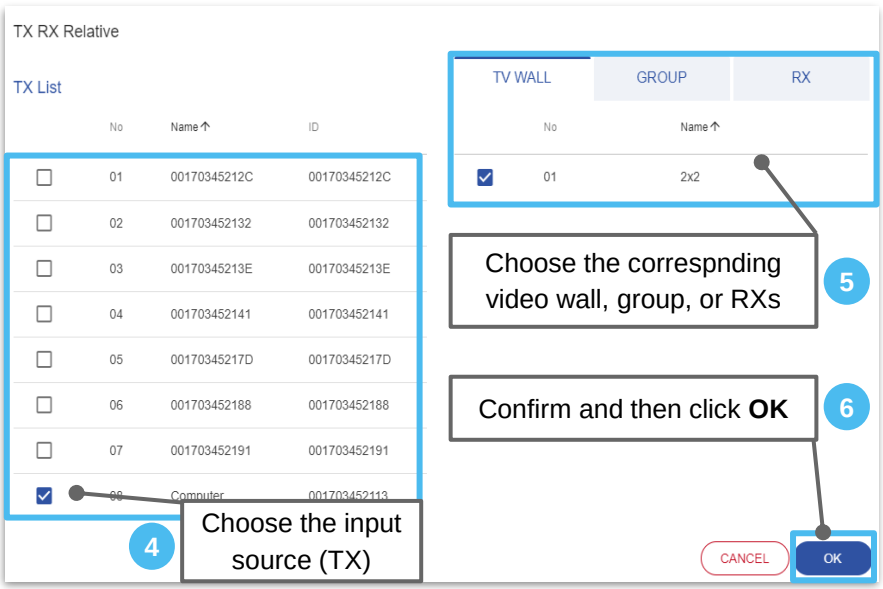


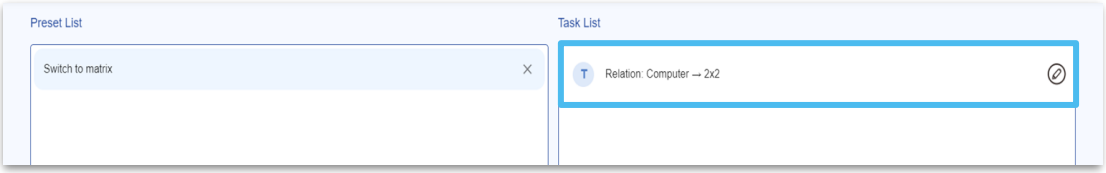
1. Preset List
2. Task List
3. Copy: copy the selecting preset list.
4. ⊕ : add new preset lists.
5. ⊕ : add new task lists, ex: TRX Relative, Operating Device, Irregular Video Wall Layout, TX Partition.

❑ Presets- TX RX Relative

- **Steps for adding the task list for TX RX relative**

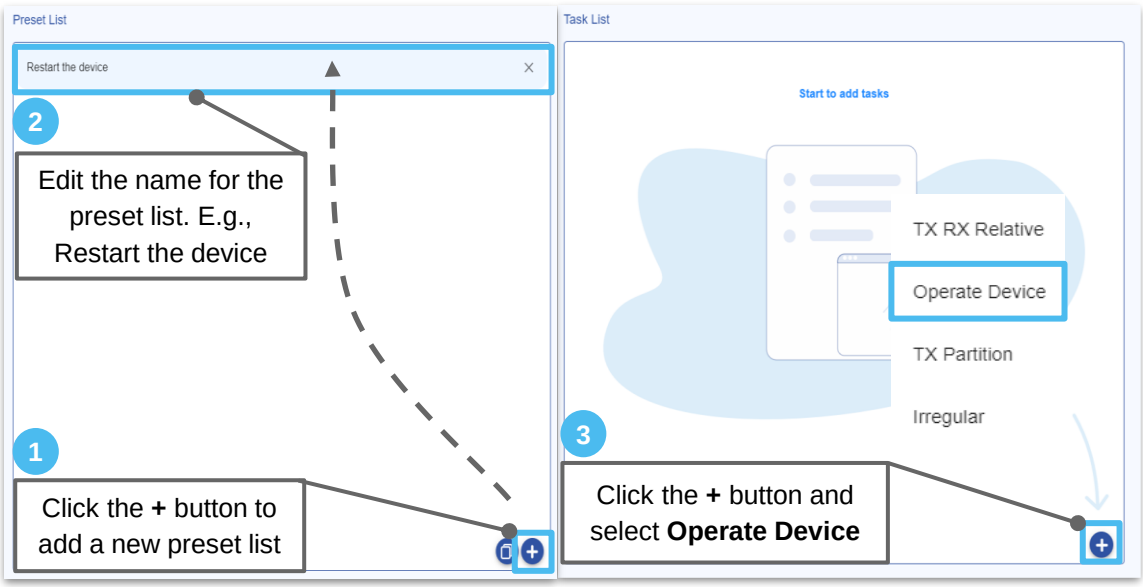


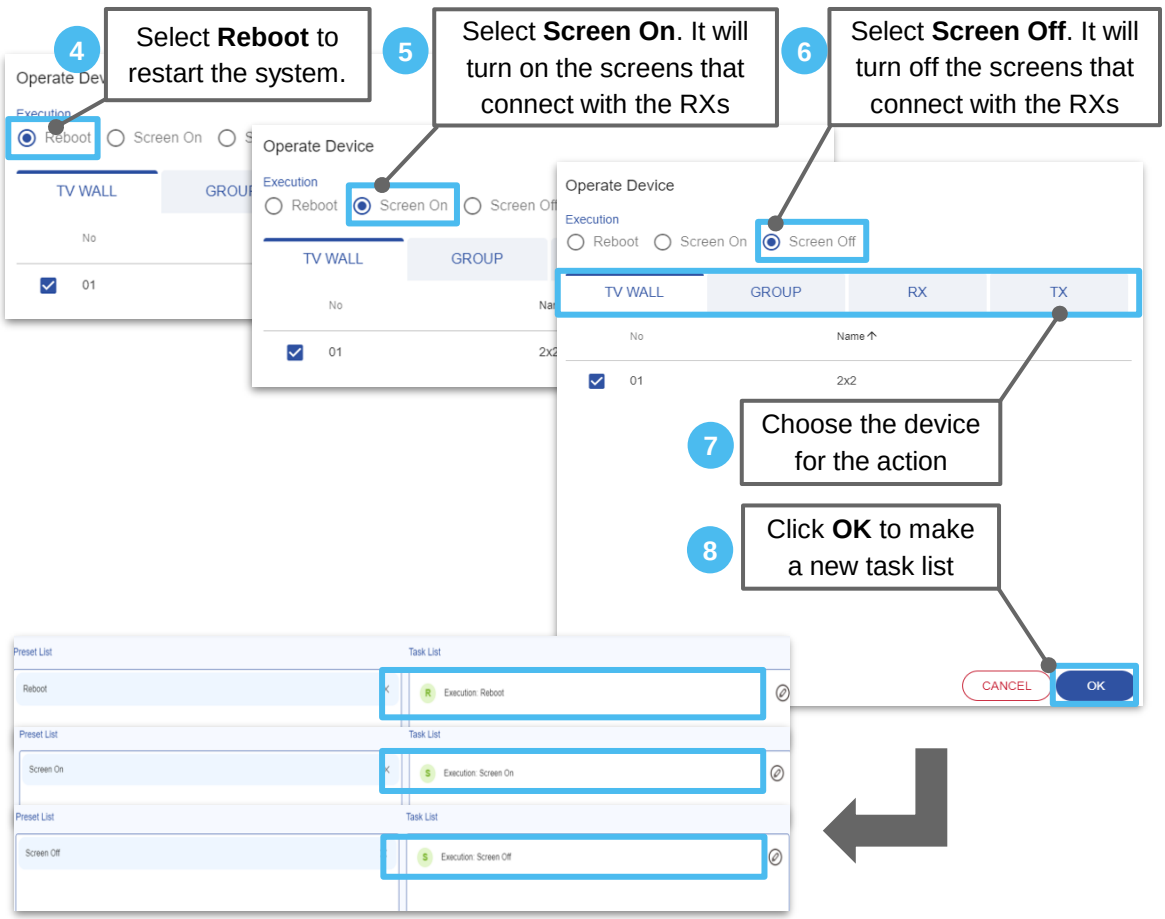




❑ Presets - Operate Device

- **Steps for adding the task list for device operation (restart the device, turn on / off the monitor)**

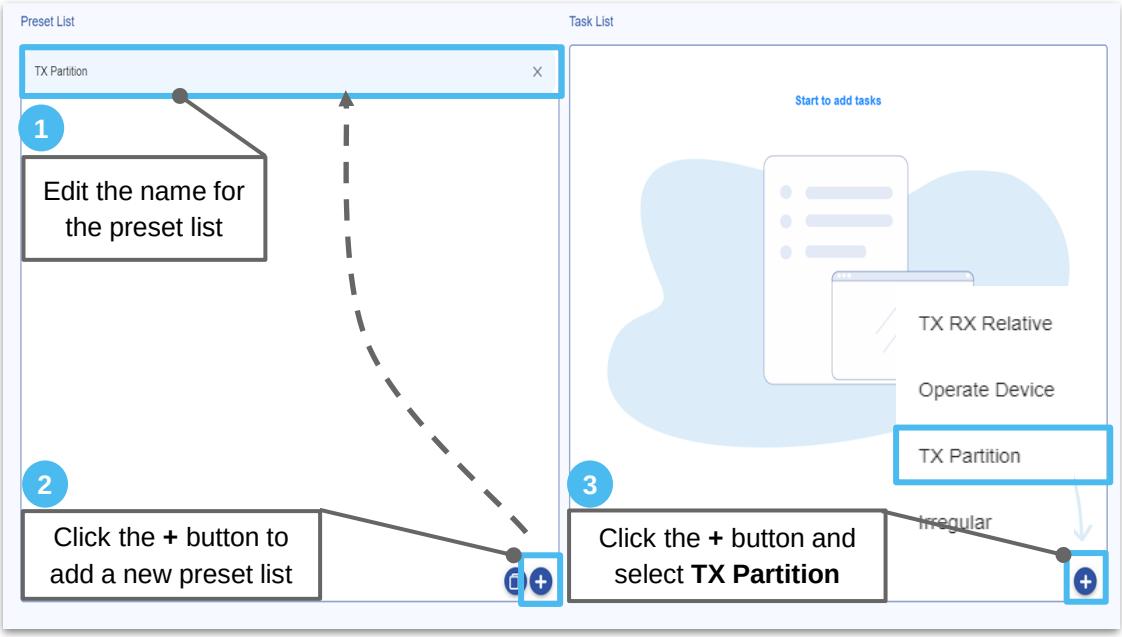


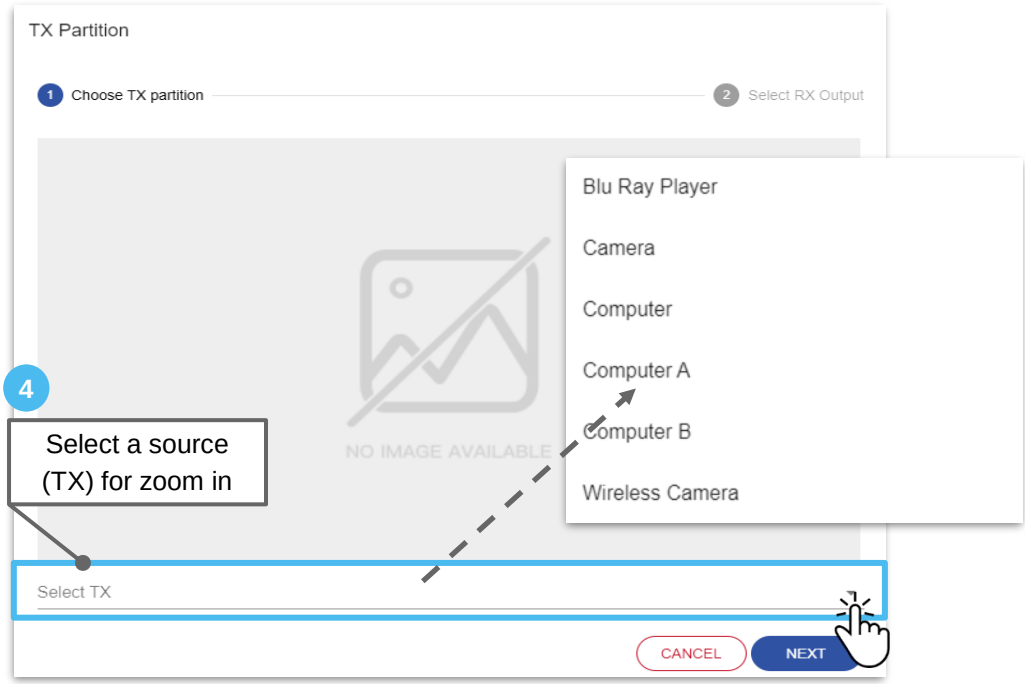


❑ Presets - TX Partition

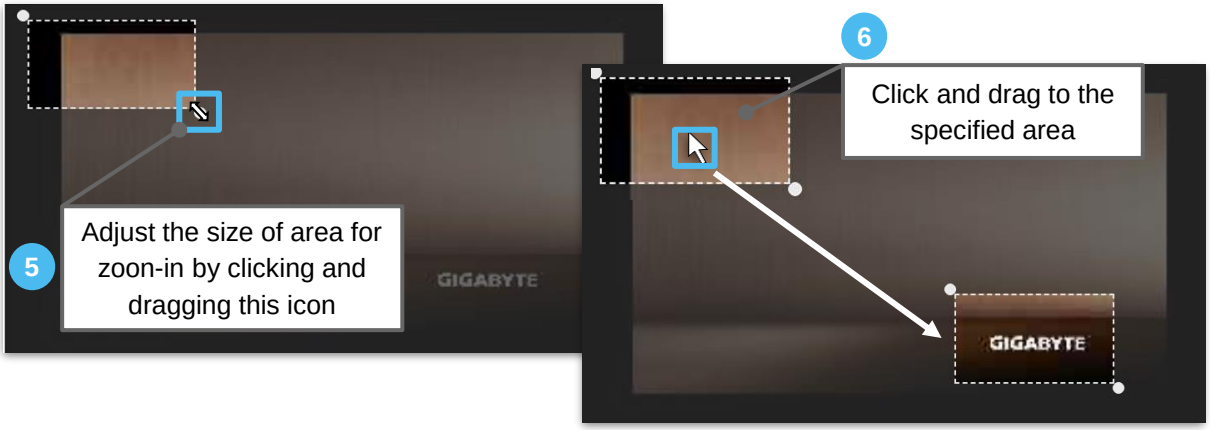
Zoom in the particular area in the screen.

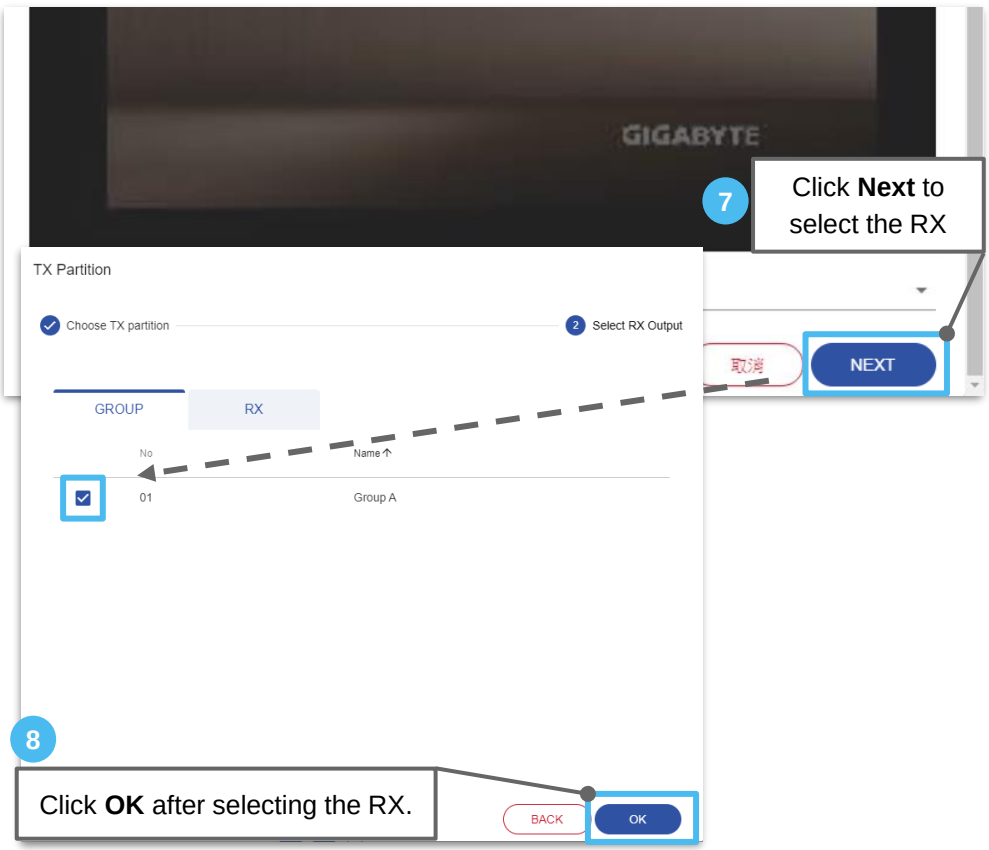
- **Steps for adding the task list for partial zoom-in**

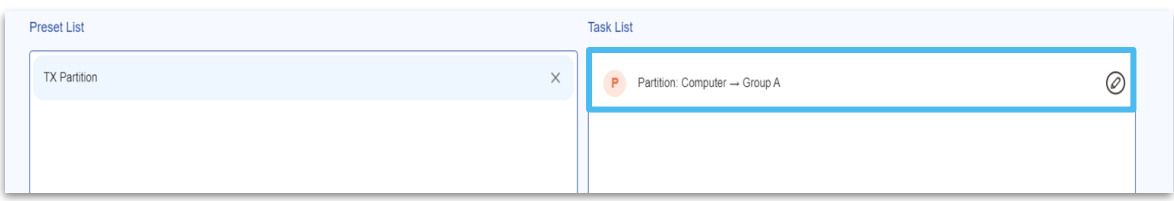




WebGUI Operation

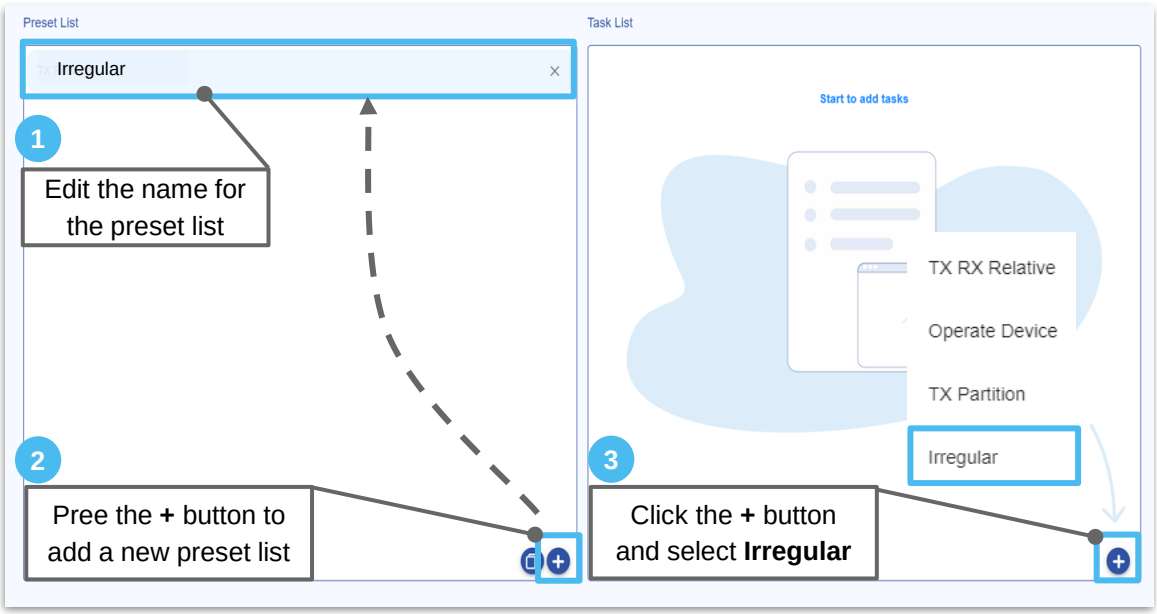


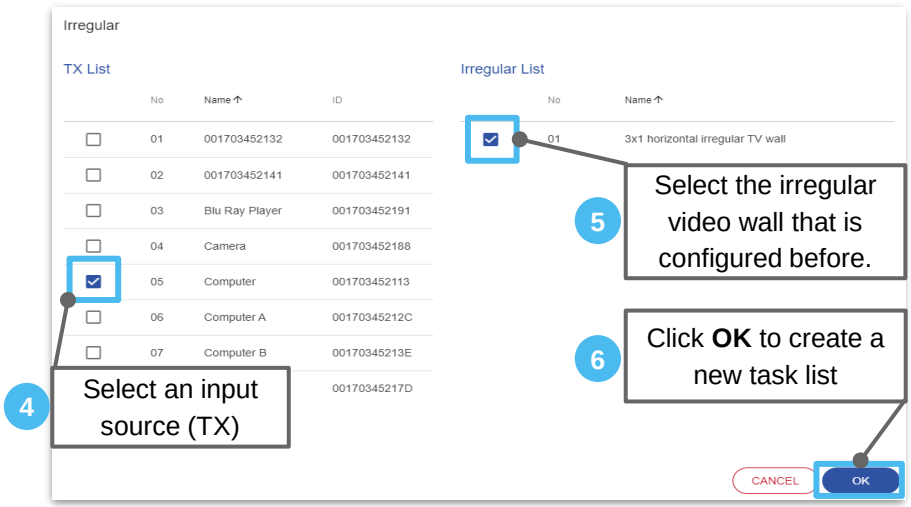


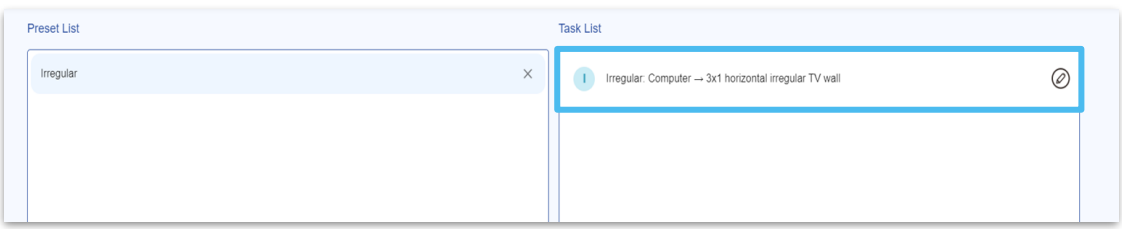


❑ Presets - Irregular

- **Steps for adding the task list for irregular video wall display**

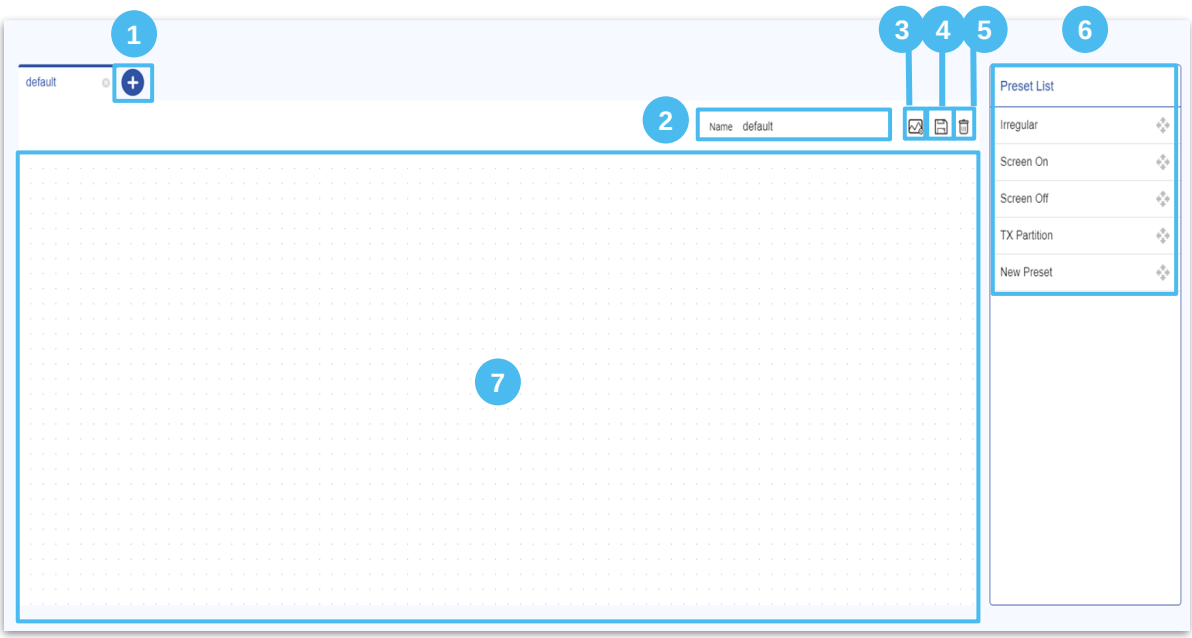






Presets - Screen

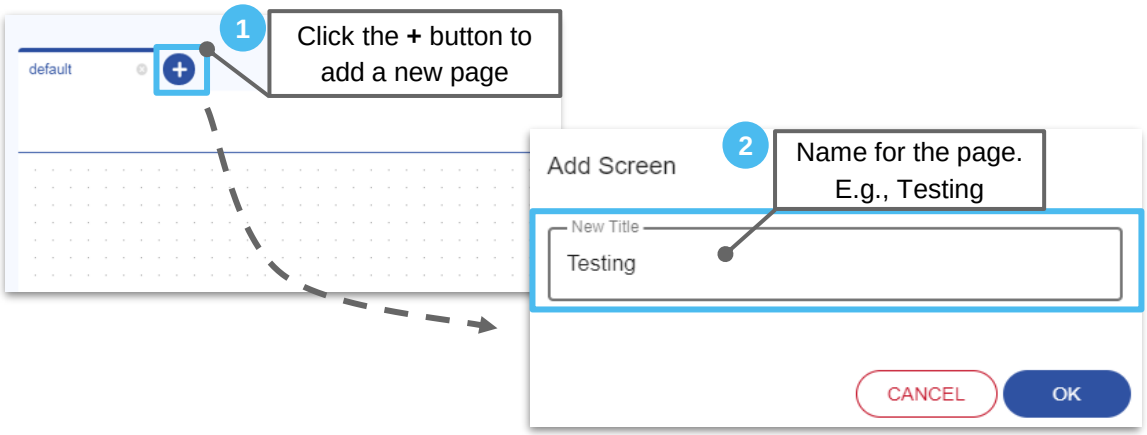
Move the preset task here to self-define the scenario and place the action buttons for quick operation.



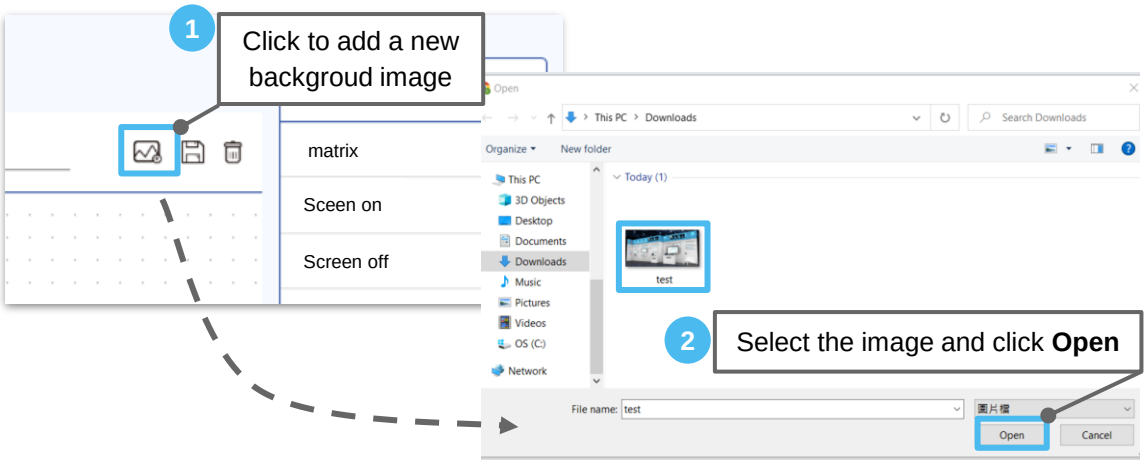
1. : add a new page.
2. Name: name for the page.
3. : add a picture for background.
4. : save the edited scenario.
5. : delete the preset list in the editing area.
6. Preset List: the task list that has been already set (e.g., Irregular, TX Partition, Screen On / OFF).
7. Edit area: self-define the scenario for quick operation.

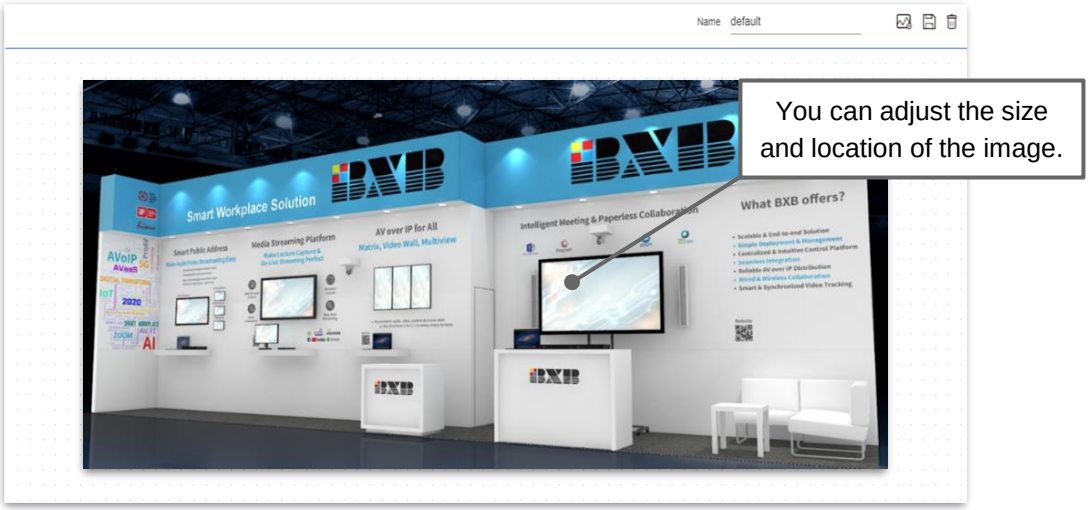
❑ New page, background image, arrange the action buttons, and finally save the page

- **Add a new page**

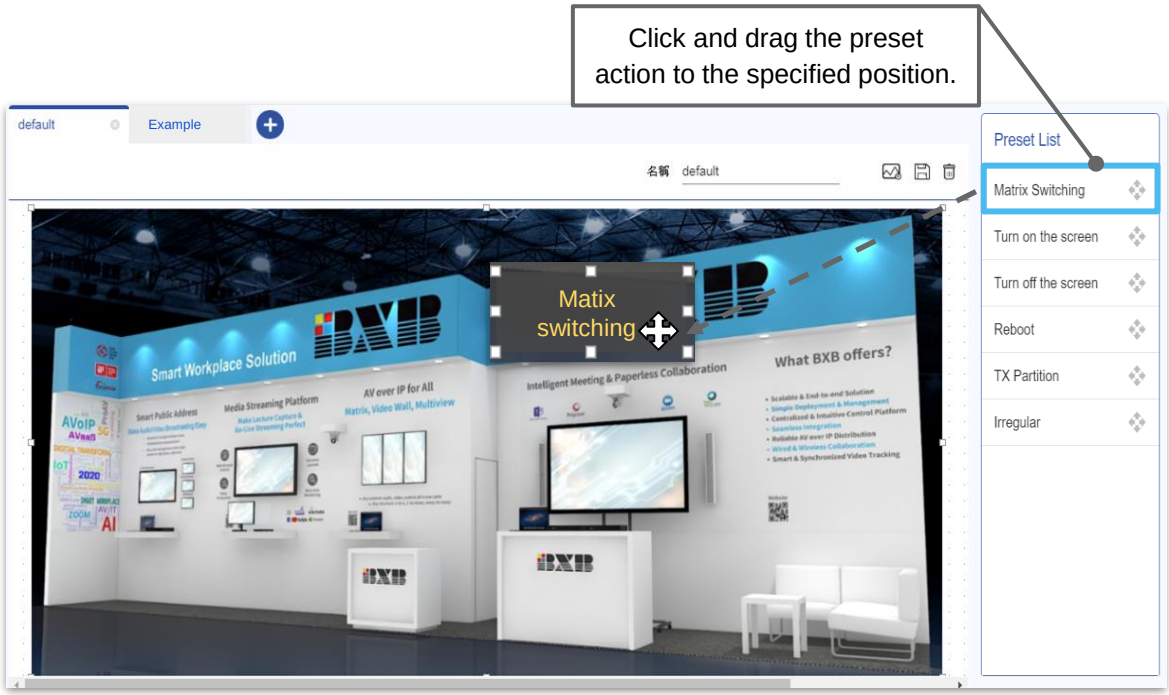


- **Add a background image**

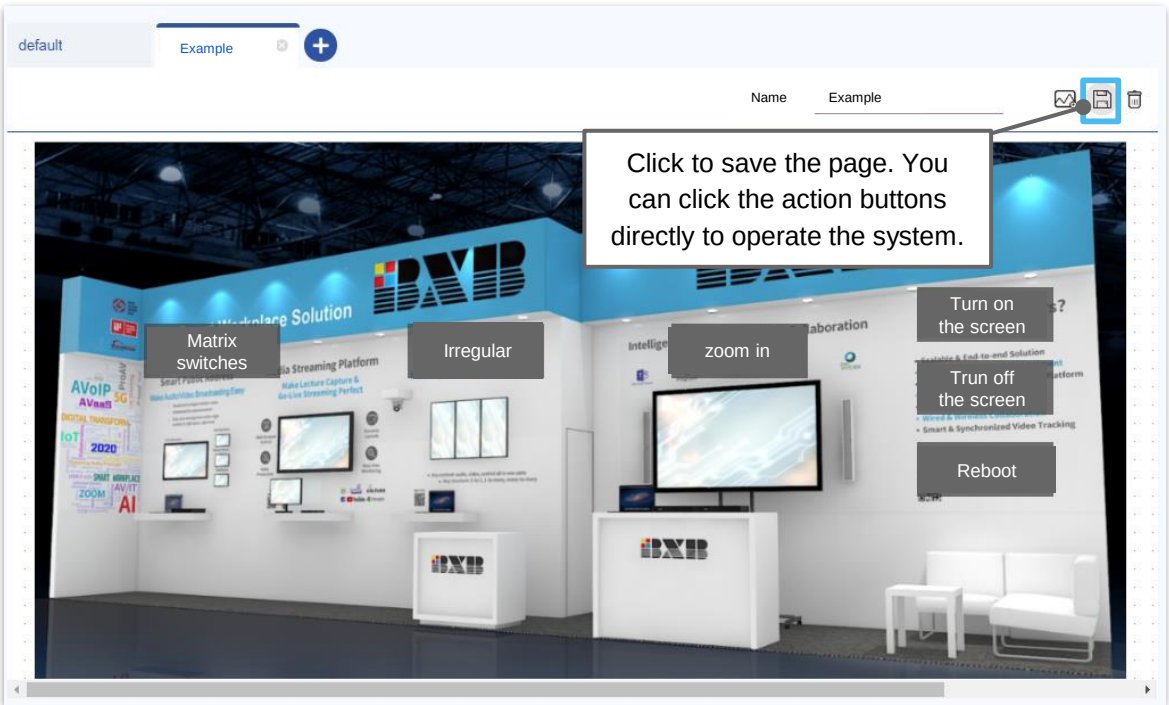




- **Arrange the action buttons**

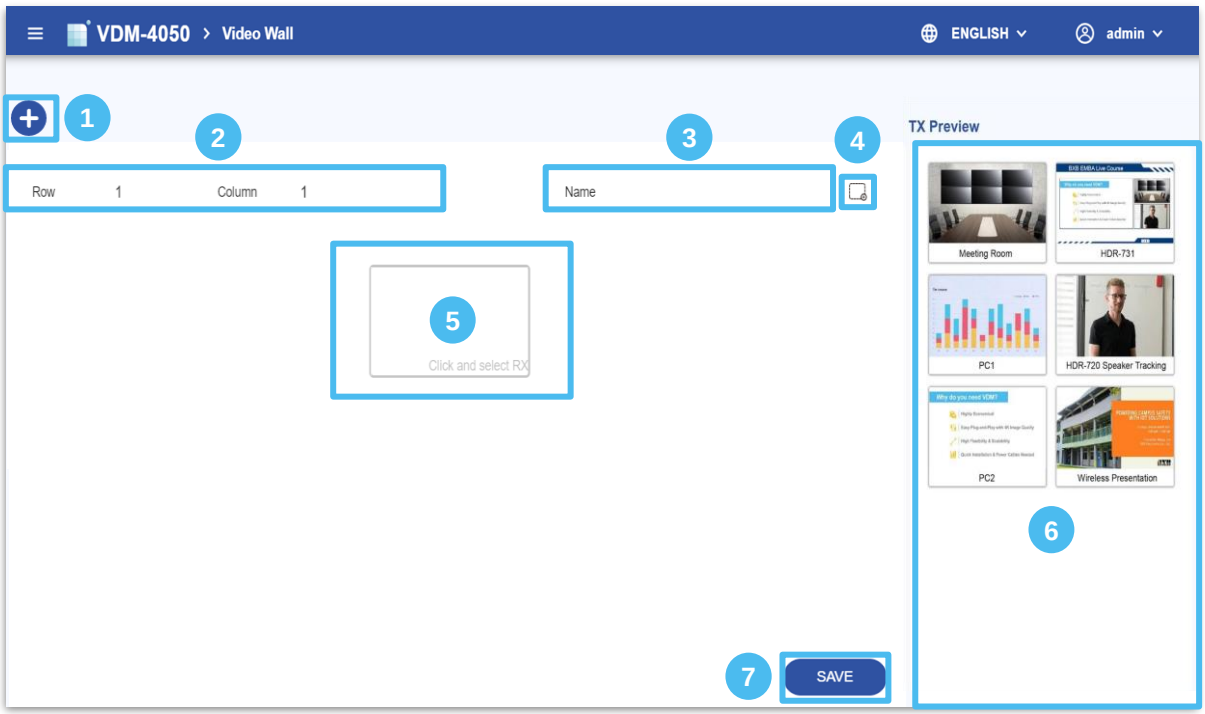


- **Save the page**



Manual - Video Wall

Easily create various video wall layouts and switch each layout quickly. It offers up to 10 sets of layouts. With just one click, drag, and move, you can easily switch the video source and change the layout.

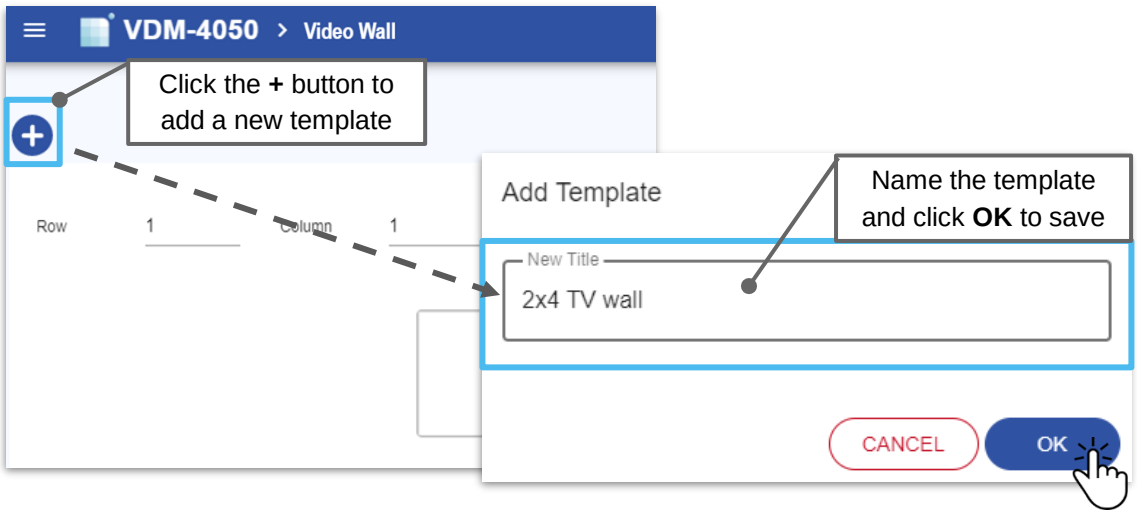


1. ⊕ : add a new template.
2. Row / Colunm: array of the video wall.
3. Name: the name of the video wall.
4. ▭ : add a new scenario of the video wall.
5. Editing area: for creating the video wall.
6. TX Preview: preview the images of all the TXs.
7. Save: save the settings of the video wall.

❑ Steps for creating a new video wall

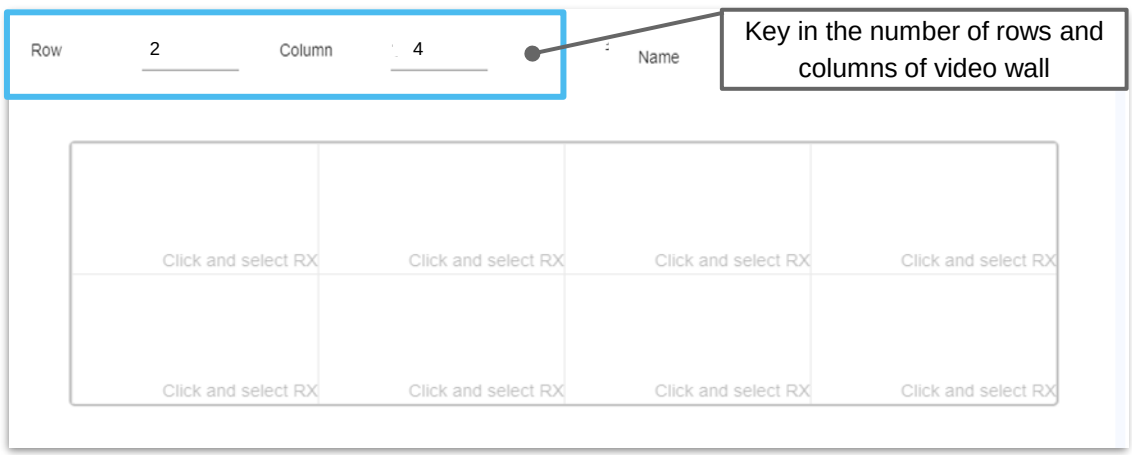
The following is an example for 2 x 4 video wall.

1 Add and name the new template

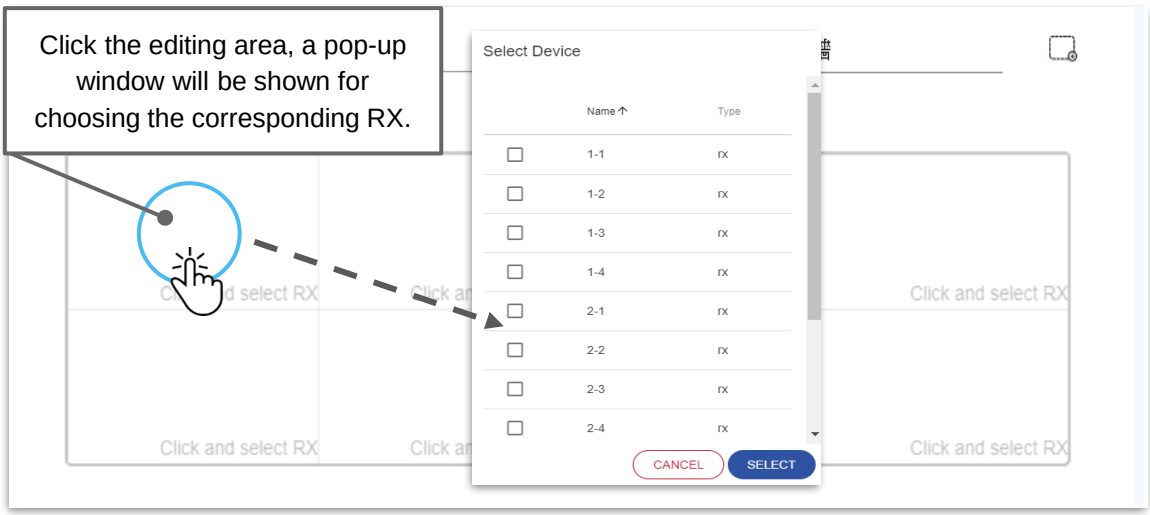




2 Set the array of the video wall

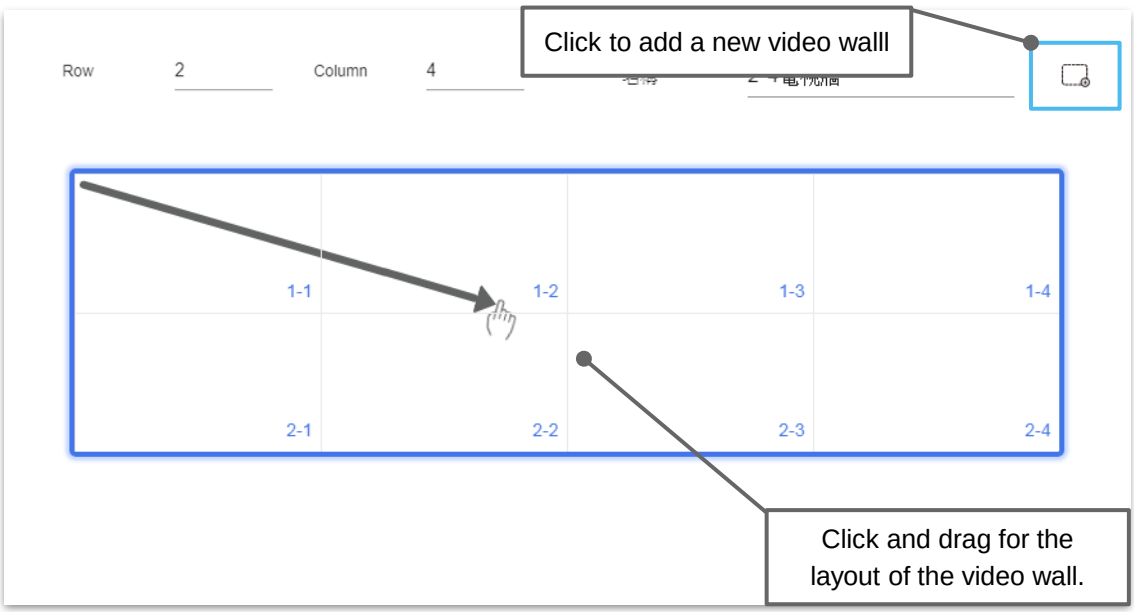


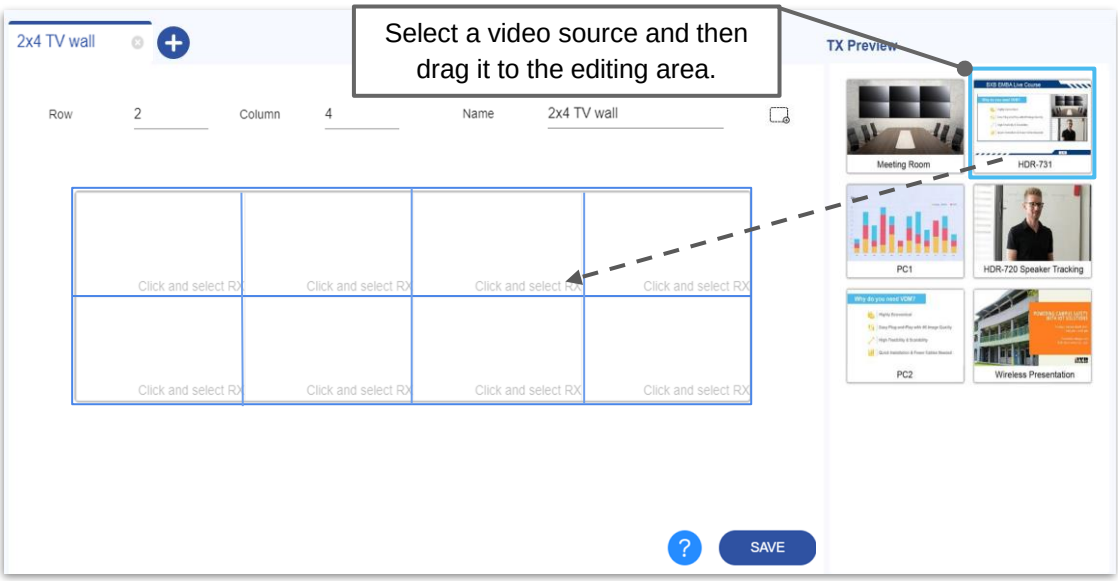
3 Set the RXs to the correspnding position of the video wall

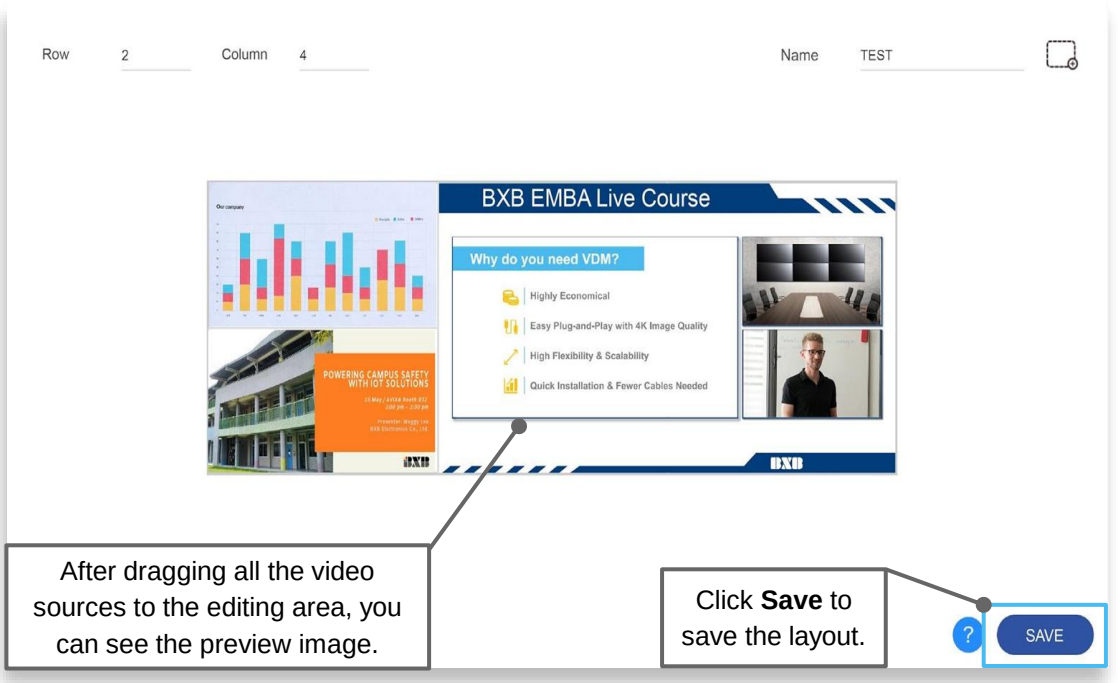


4 Add and edit the size range of the video wall

Example: 2 x 4 video wall

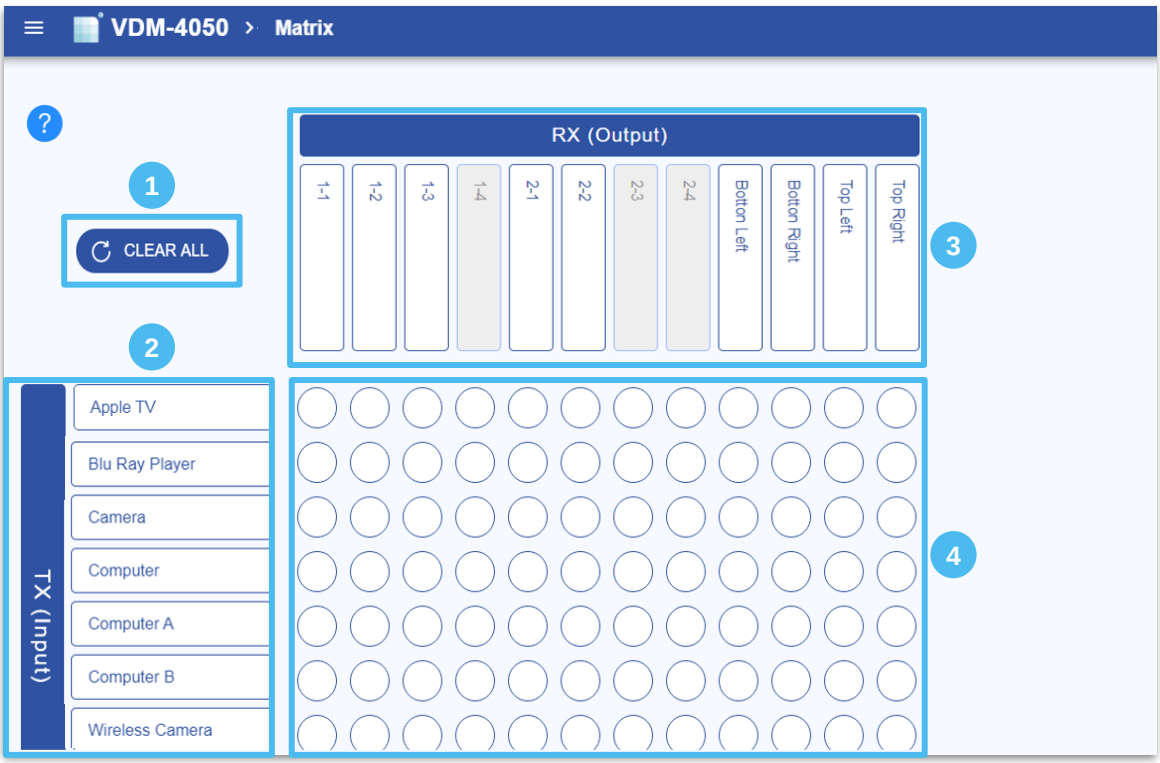



2x4 TV wall
Select a video source and then drag it to the editing area.
TX Preview
Row 2
Column 4
Name 2x4 TV wall
Click and select RX
Meeting Room
HDR-731
PC1
HDR-720 Speaker Tracking
PC2
Wireless Presentation
SAVE


Row 2
Column 4
Name TEST
BXB EMBA Live Course
Why do you need VDM?
Highly Economical
Easy Plug-and-Play with 4K Image Quality
High Flexibility & Scalability
Quick Installation & Fewer Cables Needed
POWERING CAMPUS SAFETY WITH IOT SOLUTIONS
After dragging all the video sources to the editing area, you can see the preview image.
Click **Save** to save the layout.
SAVE

Manaul - Matrix

Check the connection between TXs and RXs. Each white circle is corresponding with a TX and a RX.

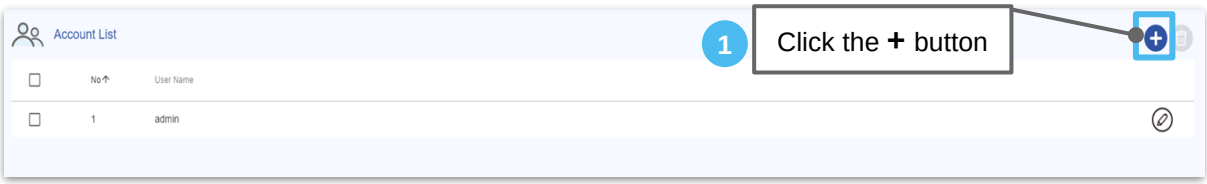


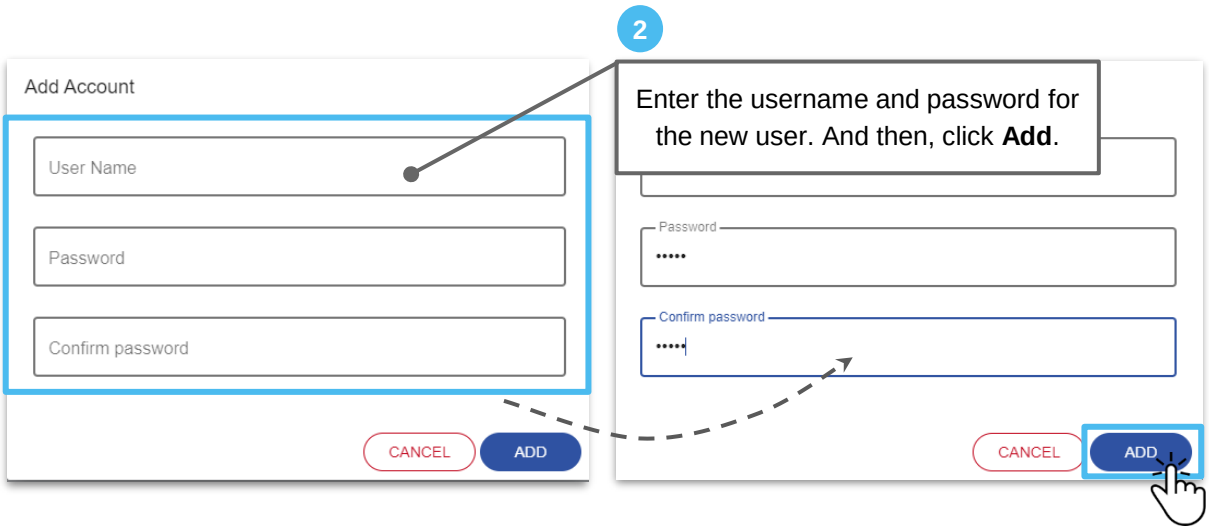
1. **Clear All:** delete the current corresponding settings of all TXs and RXs.
2. **TX (Input):** the lists of TX devices.
3. **RX (Ouput):** the lists of RX devices.
4. **Corresponding area:** you can set the connection between TX and RX by clicking the white circles.

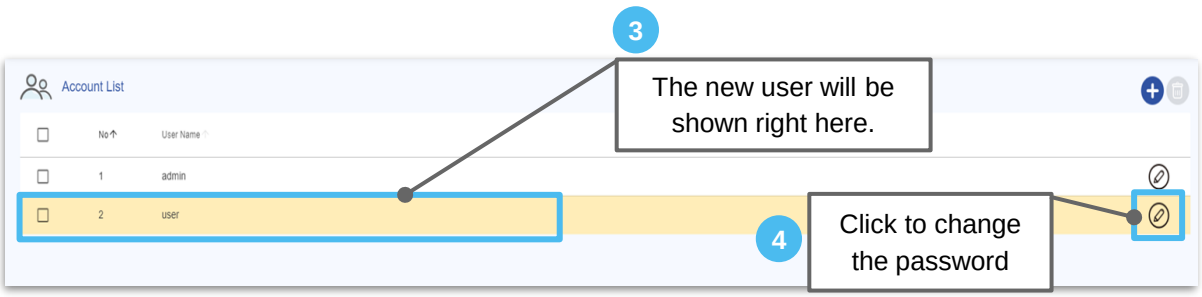
Account

The person who possesses the highest authority logging in as the “admin”. It is the only one who can manage all the accounts, users, and password. Other users are not able to see this page.

❑ Add a new user (admin only)



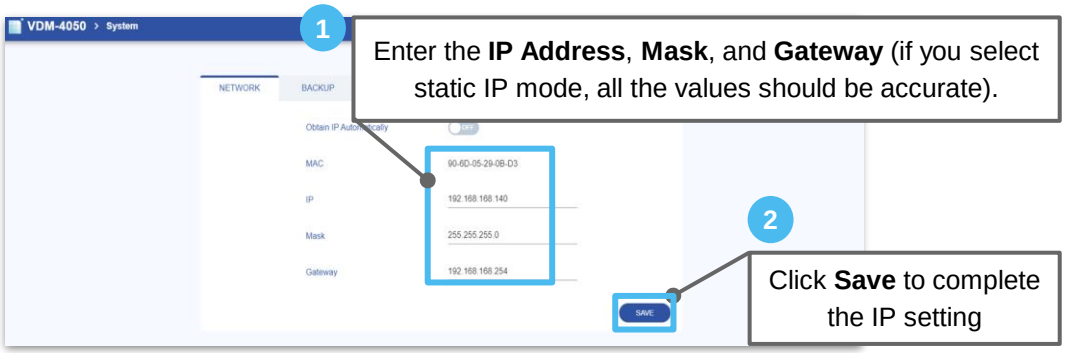


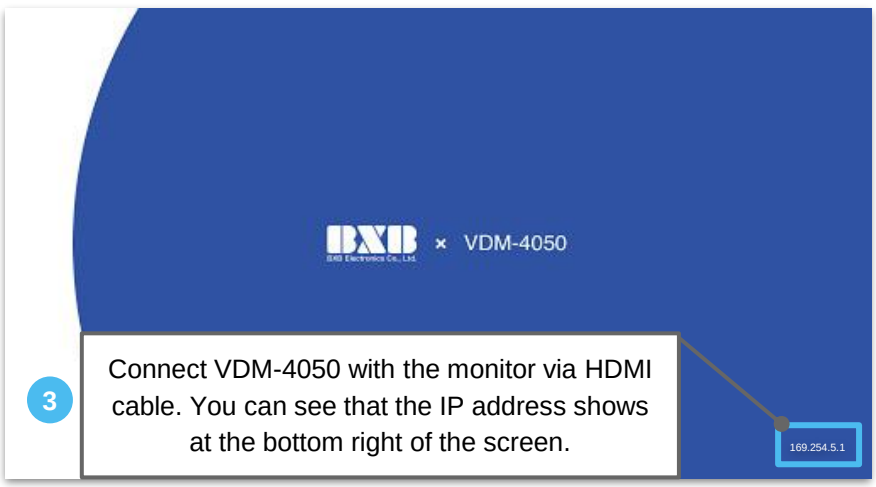


WebGUI Operation

System- Network

Default IP: 192.168.168.140; username: admin / password: 00000

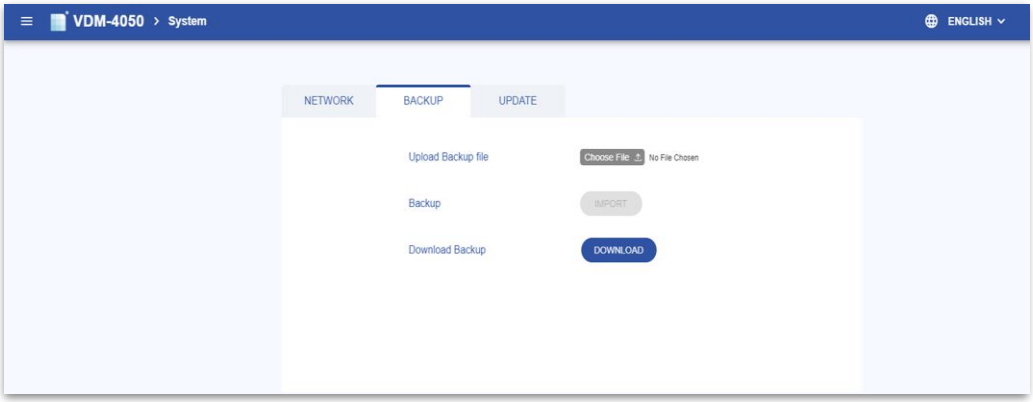




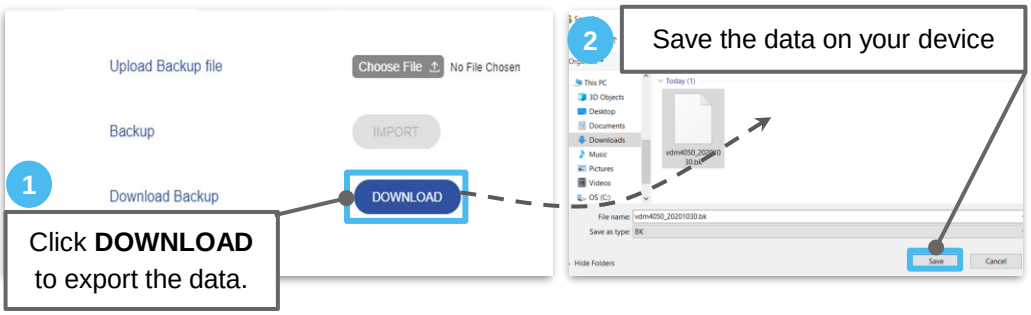


System - Backup

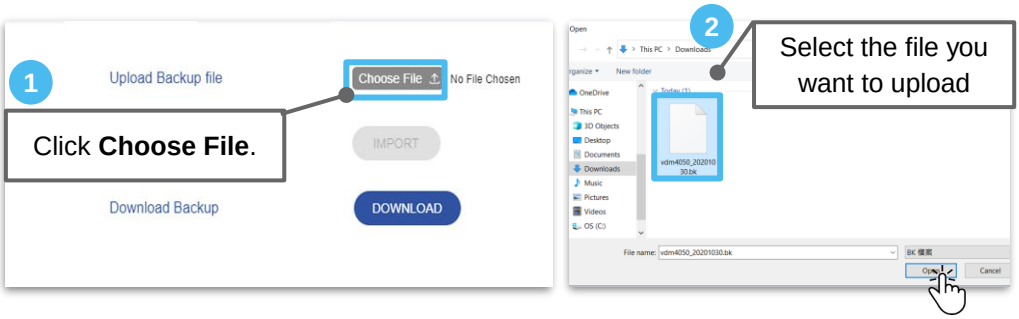
Backup the current settings. The backup information can be imported to another VDM-4050, saving lots of setting time.

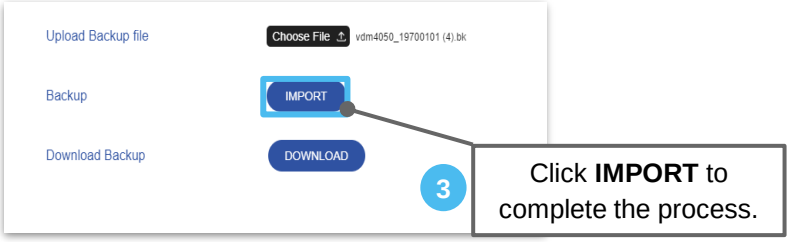


❑ Steps for backup



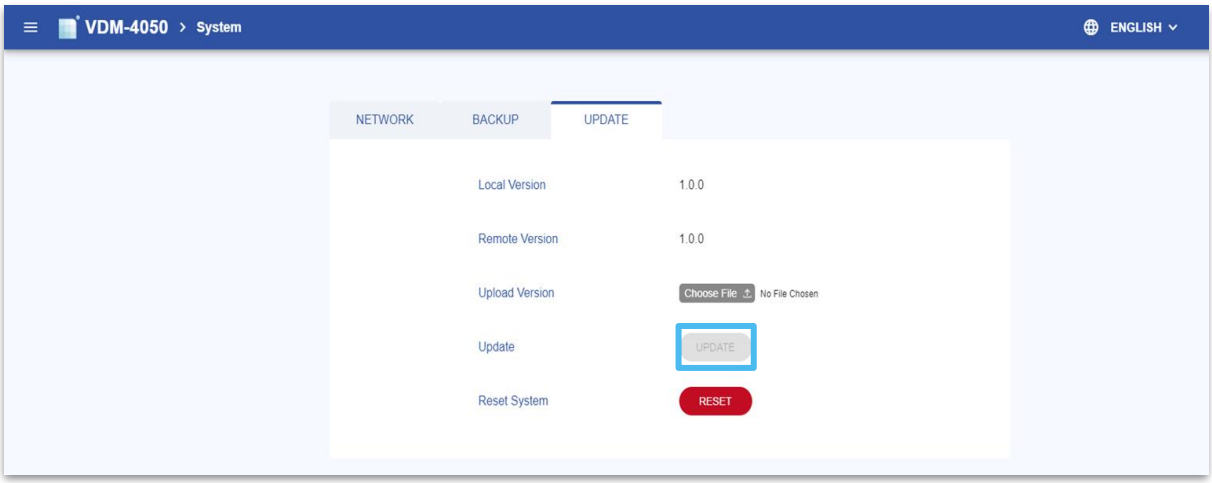
❑ Upload the backup





System - Update

Click **UPDATE** to get the recent version of firmware. Please note that VDM-4050 must connect with the ethernet.





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