

NEXIOT

nexvic

VIC7000 Training



Garry Huang
Application Engineer

System Architecture

- VIC-7100
- VIC-7300

Software Installation

- VMWare
- VIC7000

Build Project

- Get IP
- Login
- New Project
- Get Data
- Font Learning
- Target
- Page & Recognition
- Play Project
- Database
- Protocols
- Control
- Script

Outline

System Architecture

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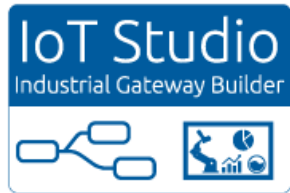
System Architecture – VIC7100

REST API
(Json)



REST API

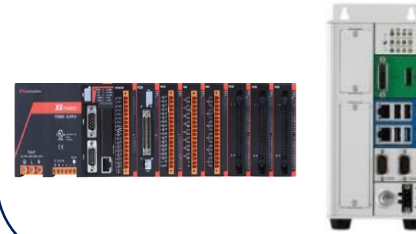
IoT Studio
(Modbus)



iSCADA
(Modbus)



PLC/SoftPLC
(Modbus)



Program interface
(HTML5)



Existing Equipment



Vision Signal Converter

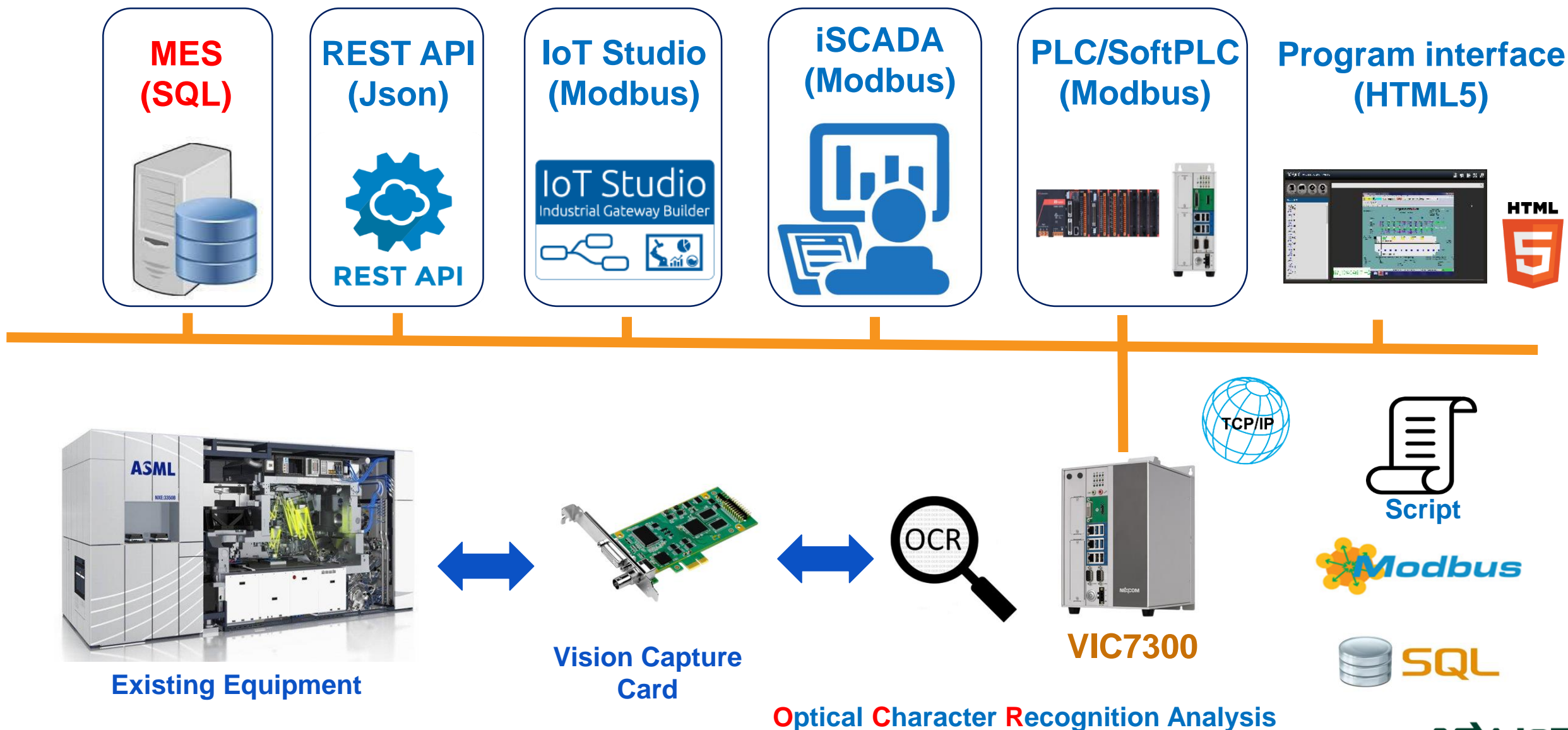


Optical Character Recognition Analysis



VIC7100

System Architecture – VIC7300



System Architecture

- VIC-7100
- VIC-7300

Software Installation

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Software Installation – VMware

- **Install VMware Workstation Player**

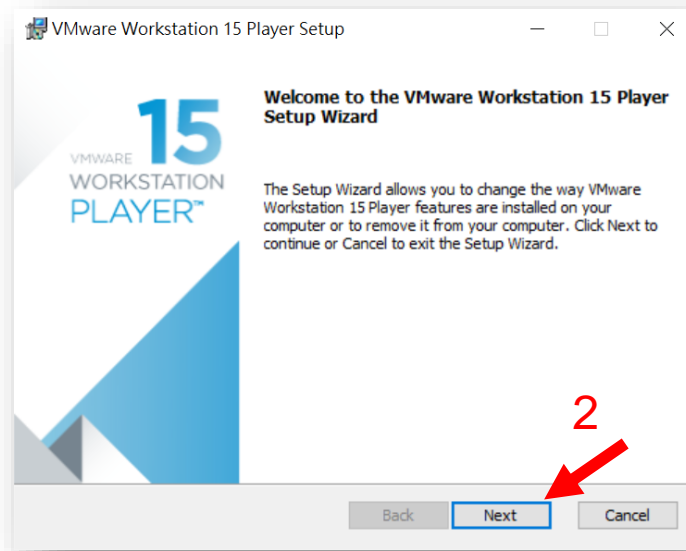
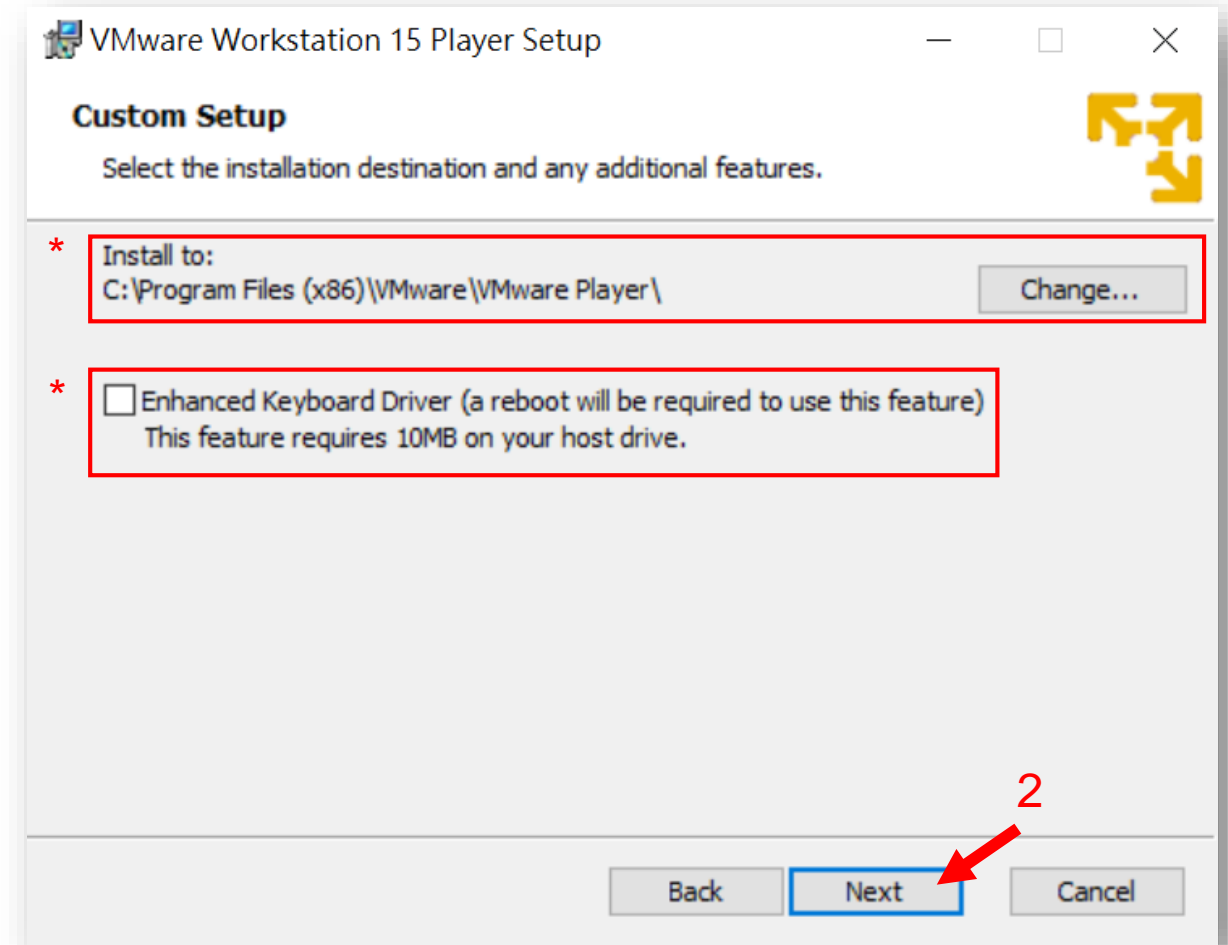
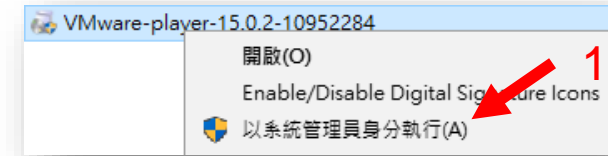
1. Execute **VMware-player-15.0.2-**

10952284 (Run as administrator)

2. Click **Next** until installation finished

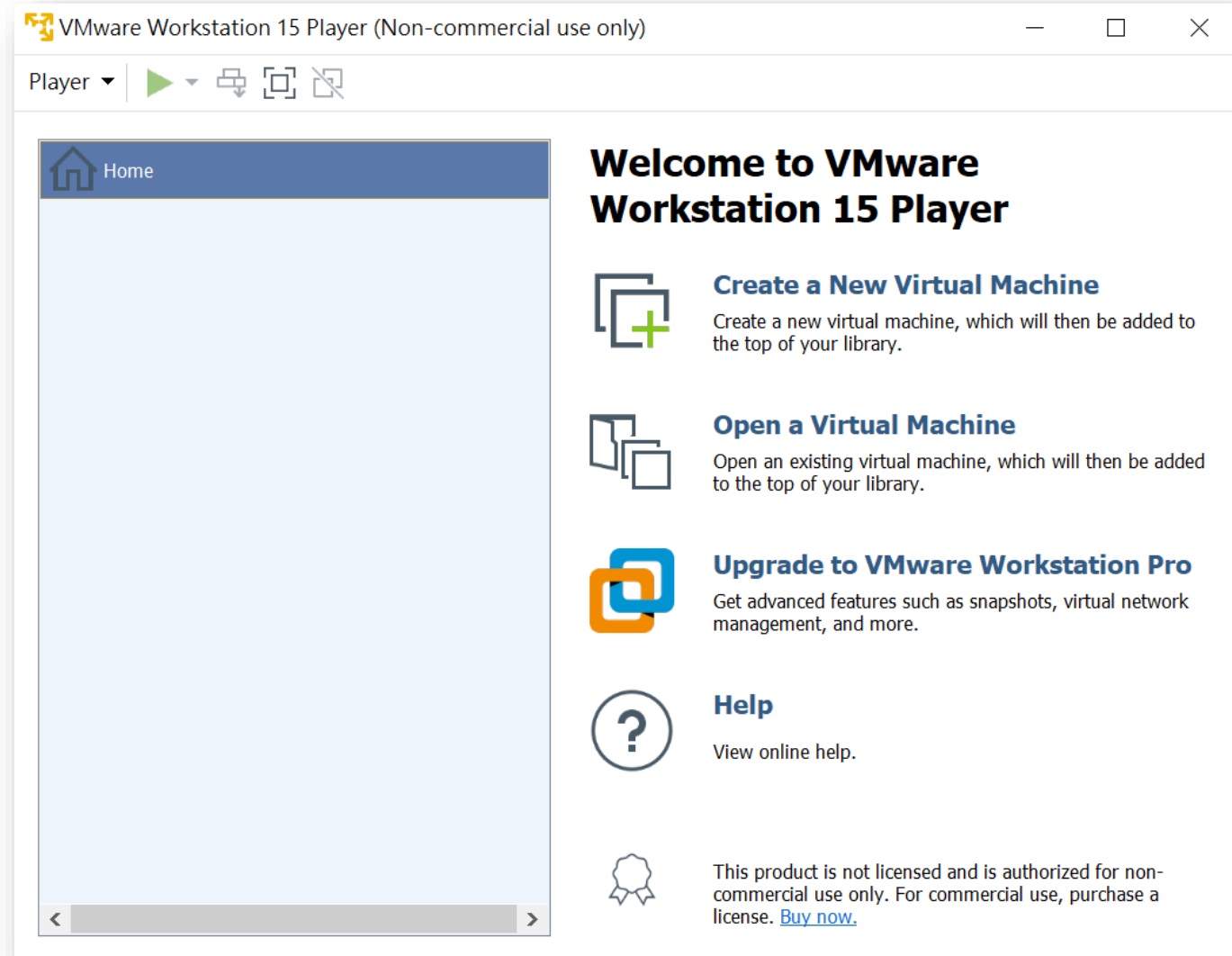
change the installation path (*) if needed

Enhanced Keyboard Driver (*) is not required



Software Installation – VMware

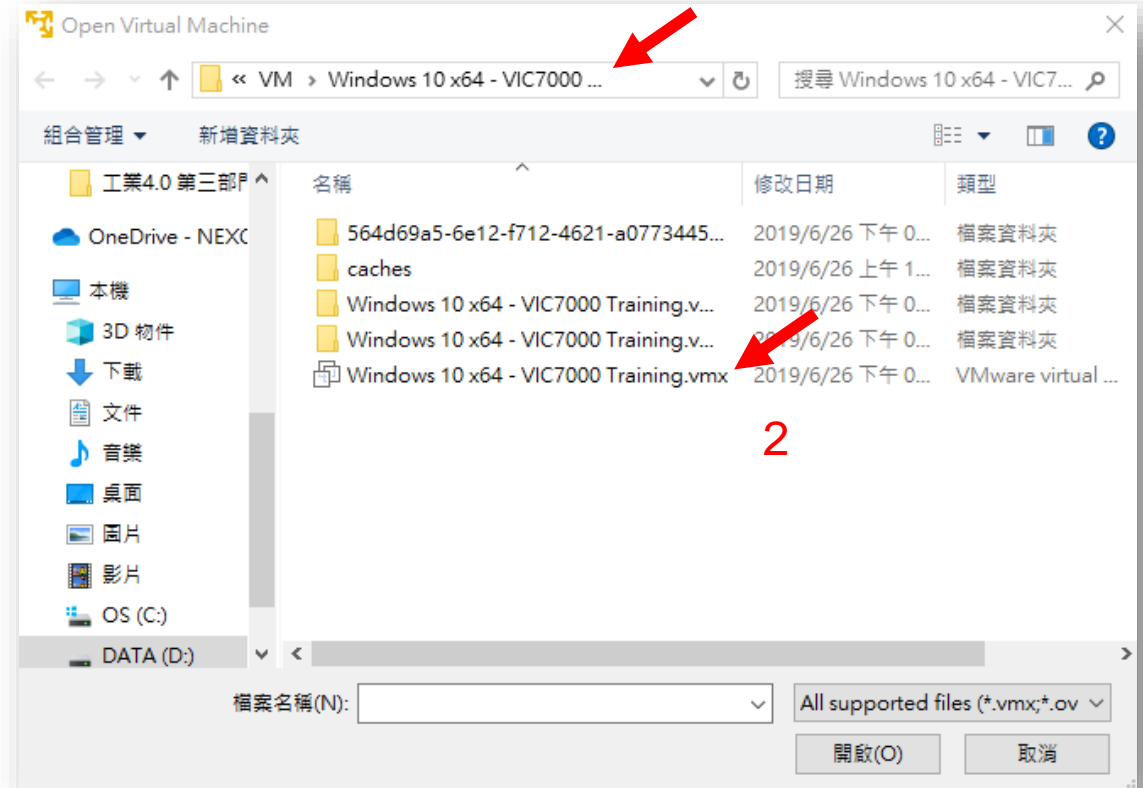
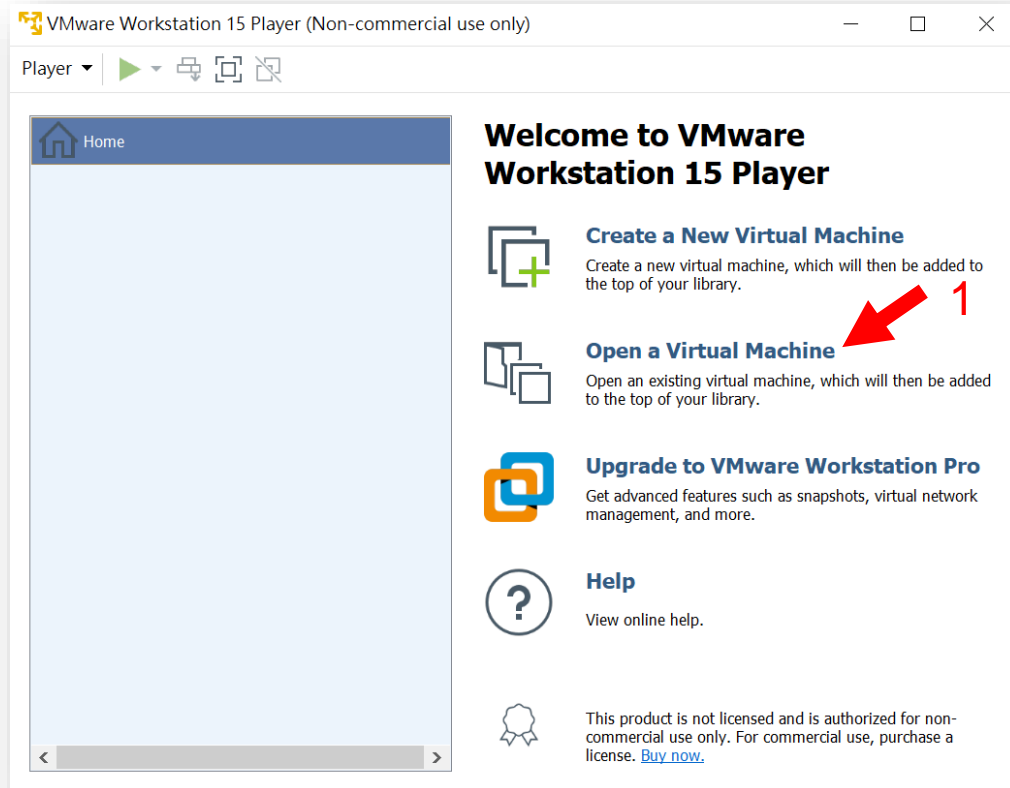
- Execute VMware Workstation Player



Software Installation – VMware

- **Play Virtual Machine**

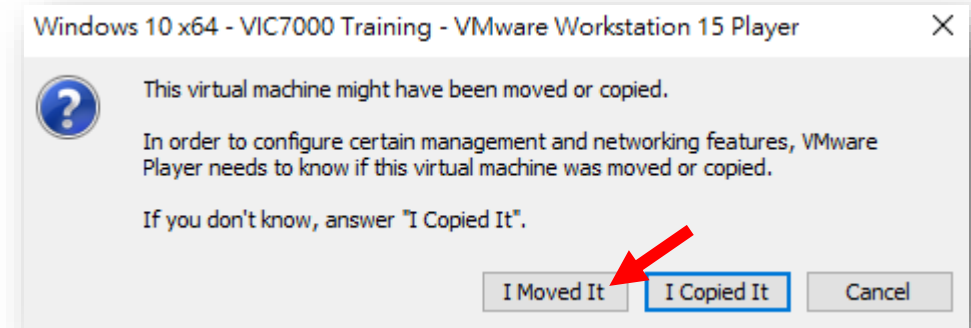
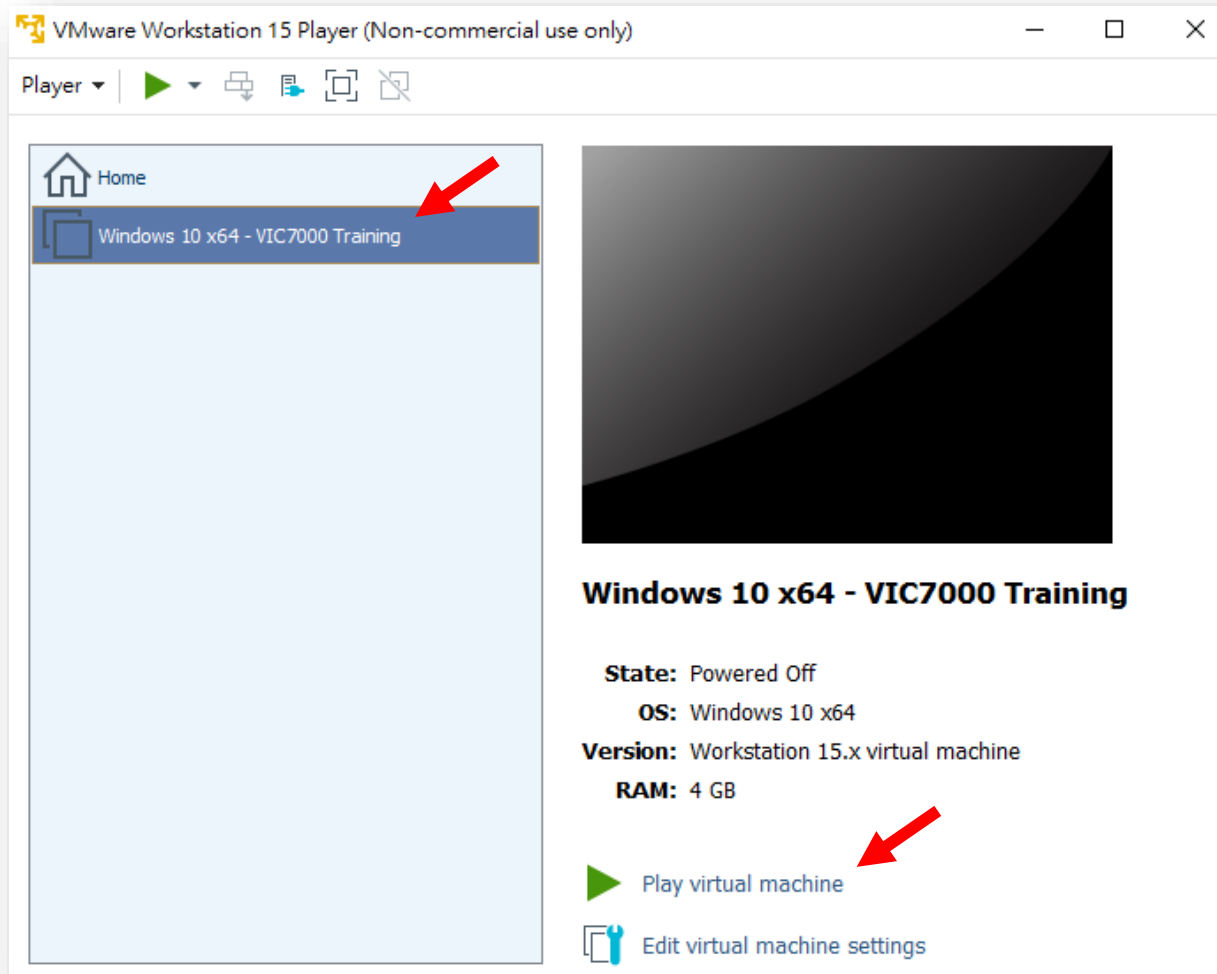
1. **Play VM** : Click on **Open a New Virtual Machine** → Choose **Windows 10 x64 – VIC7000 Training.vmx** in the folder named **Windows 10 x64 – VIC7000 Training**



Software Installation – VMware

- **Play Virtual Machine**

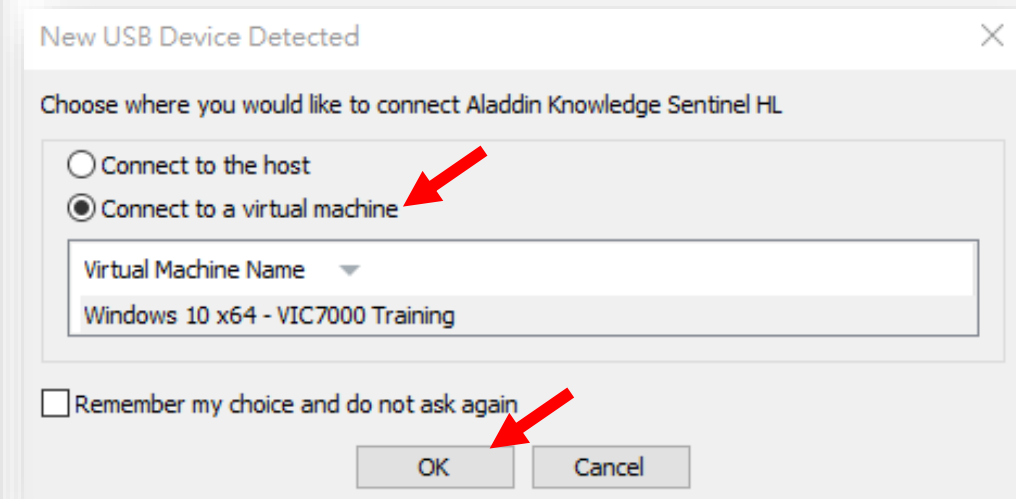
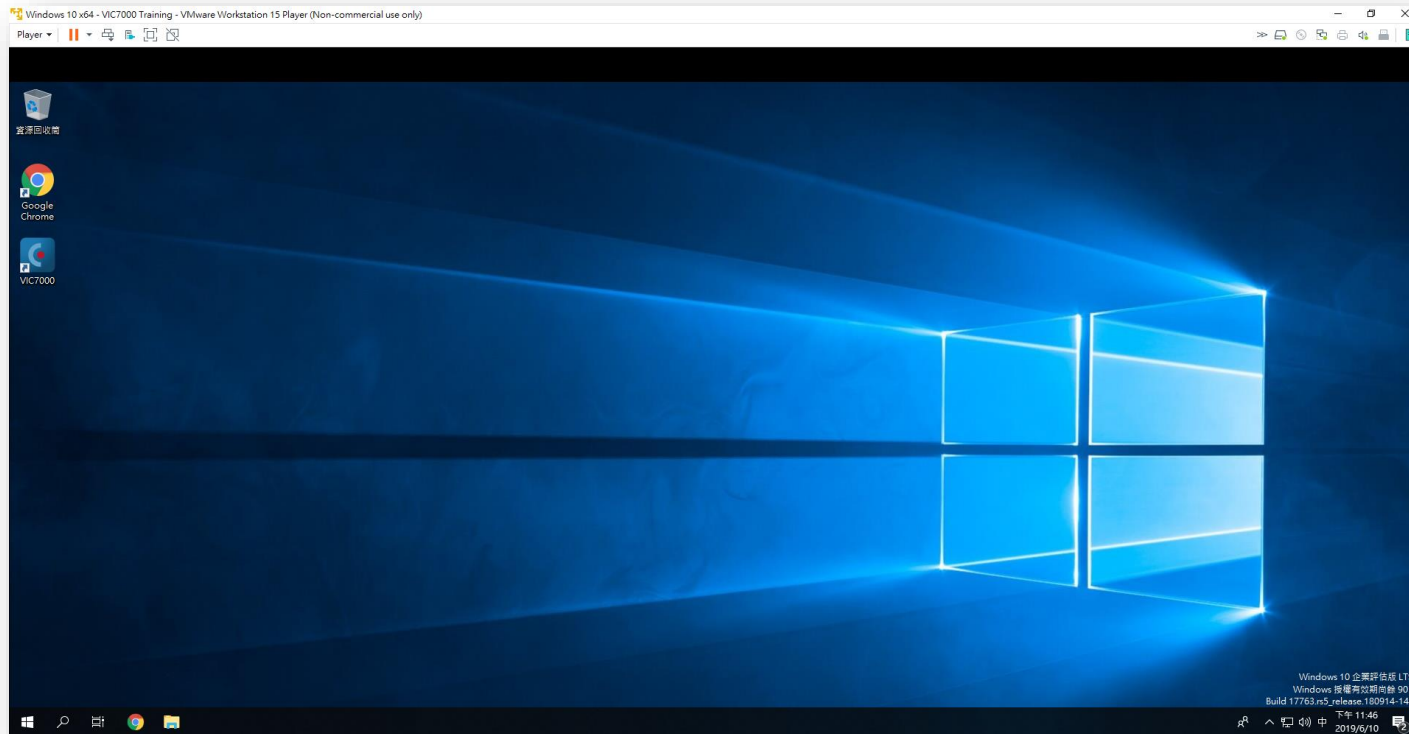
2. **Play VM** : Select the new VM → Click **Play virtual machine** → Click **I Moved It**



Software Installation – VIC7000

- **Execute VIC7000**

1. **Plug in Training Dongle** : Choose **Connect to a virtual machine**

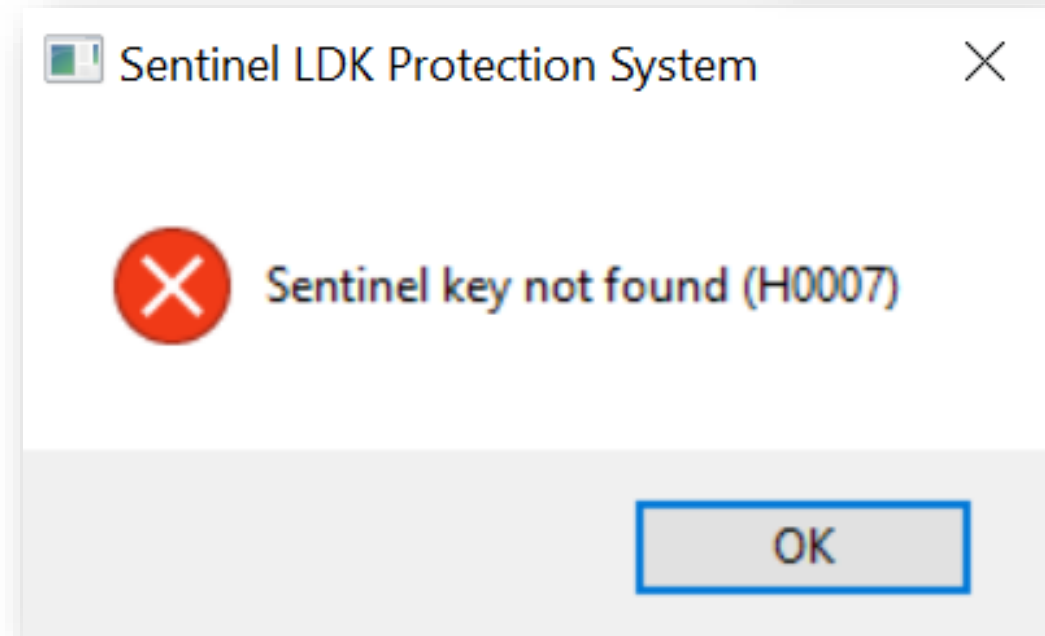
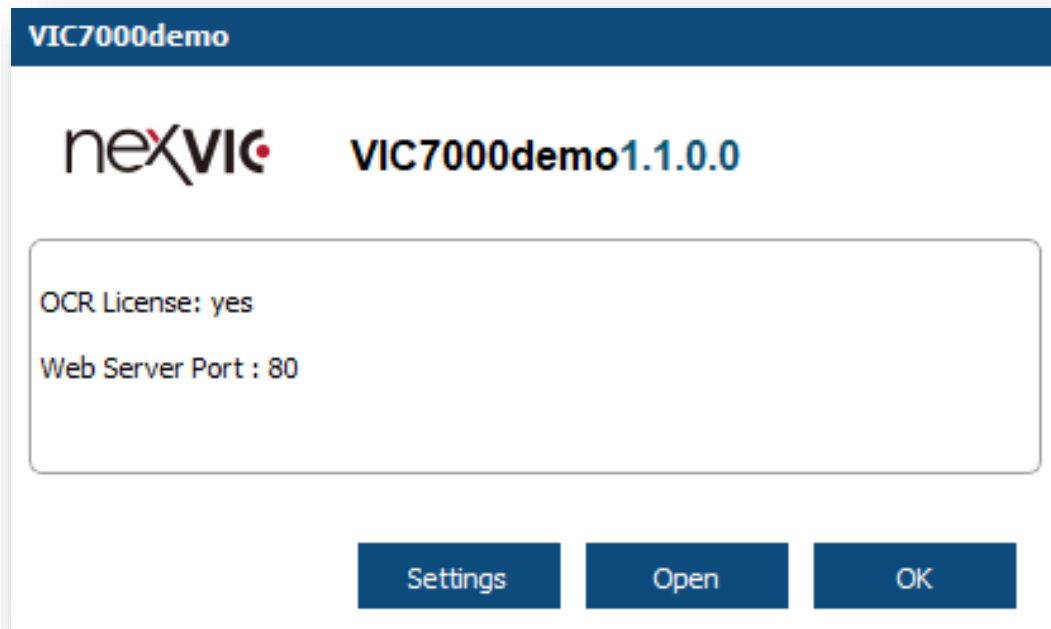
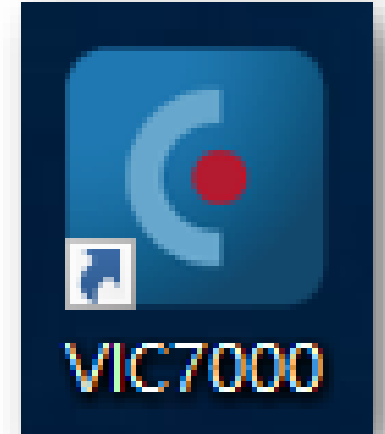


Software Installation – VIC7000

- **Execute VIC7000**

2. **Execute VIC7000** : Click the shortcut of VIC7000 on your desktop

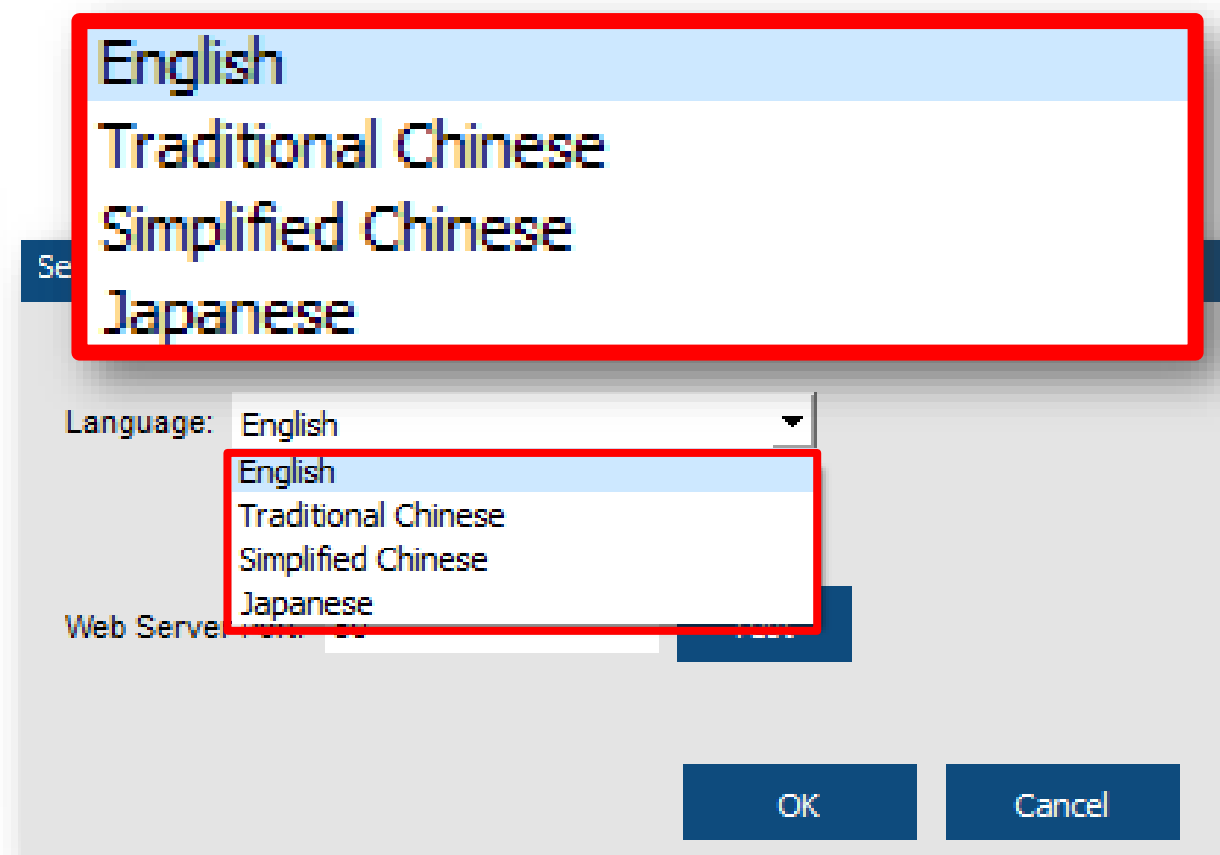
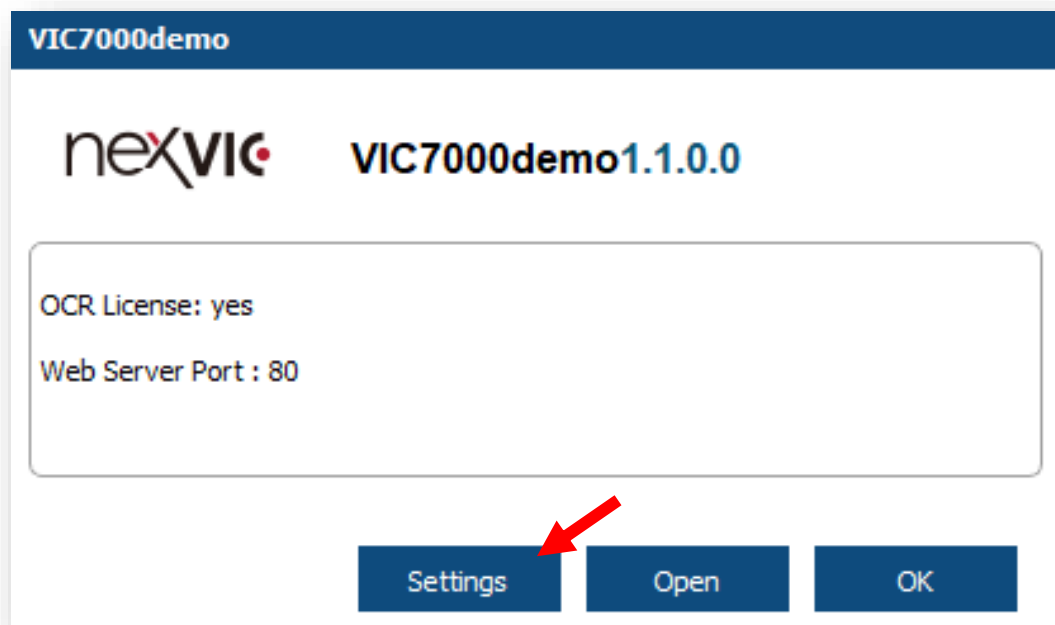
If an error window shows up, you need to check whether the USB dongle is actually plugged in, lit, linked to the VM or not.



Software Installation – VIC7000

- **Language**

Click **Settings**, and choose a suitable software language

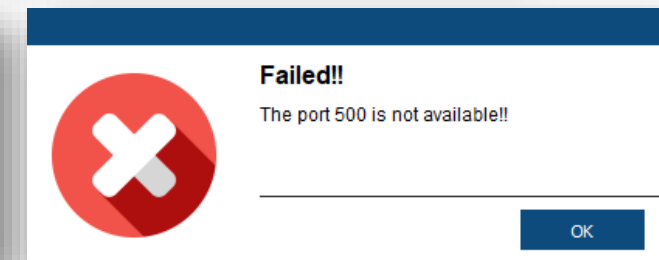
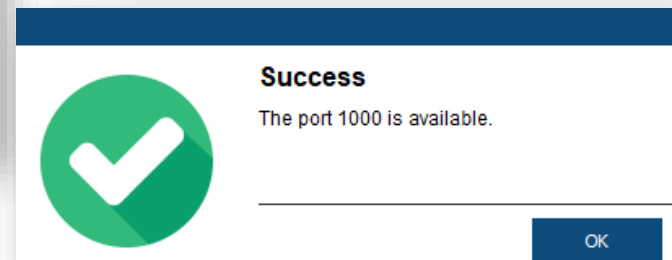
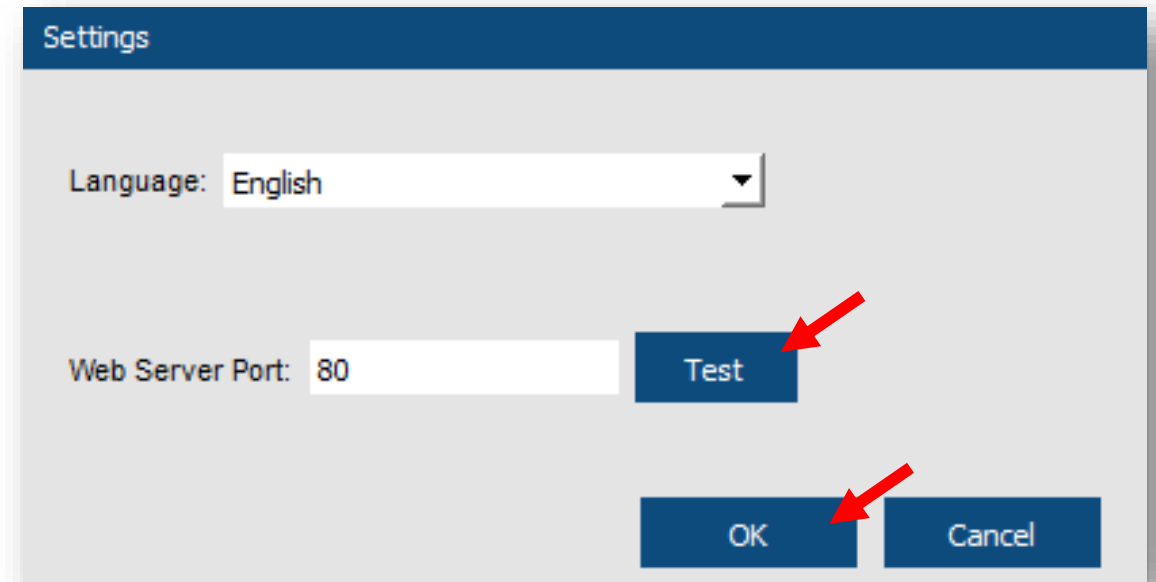
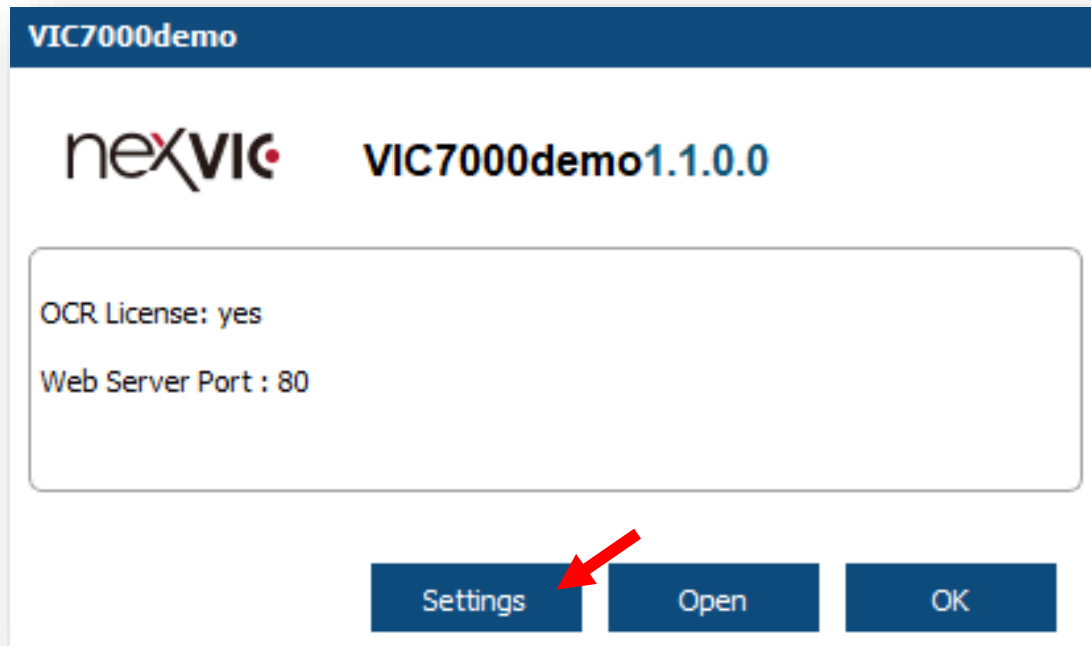


Software Installation – VIC7000

- **Port**

Click **Settings** → **Web Server Port**. Default port is **80**.

To set a new port, please make sure that it is available. Click on **Test** to check, hit **OK** to continue.



System Architecture

- VIC-7100
- VIC-7300

Software Installation

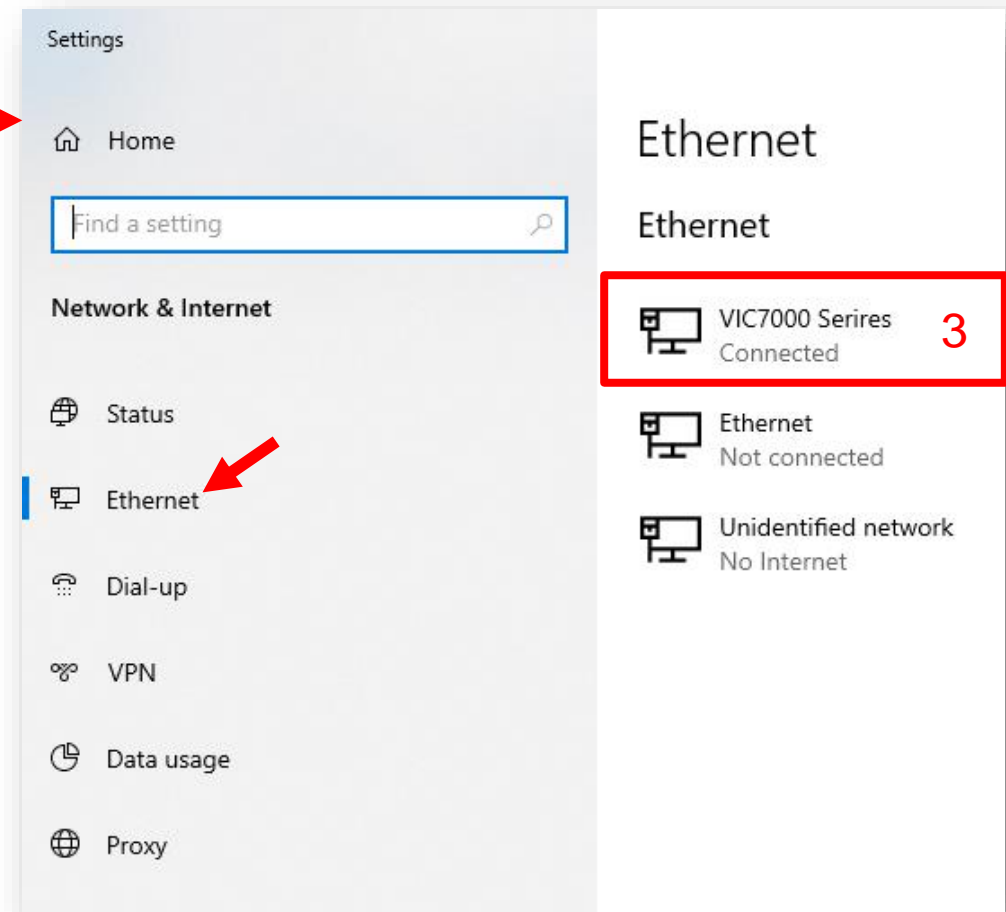
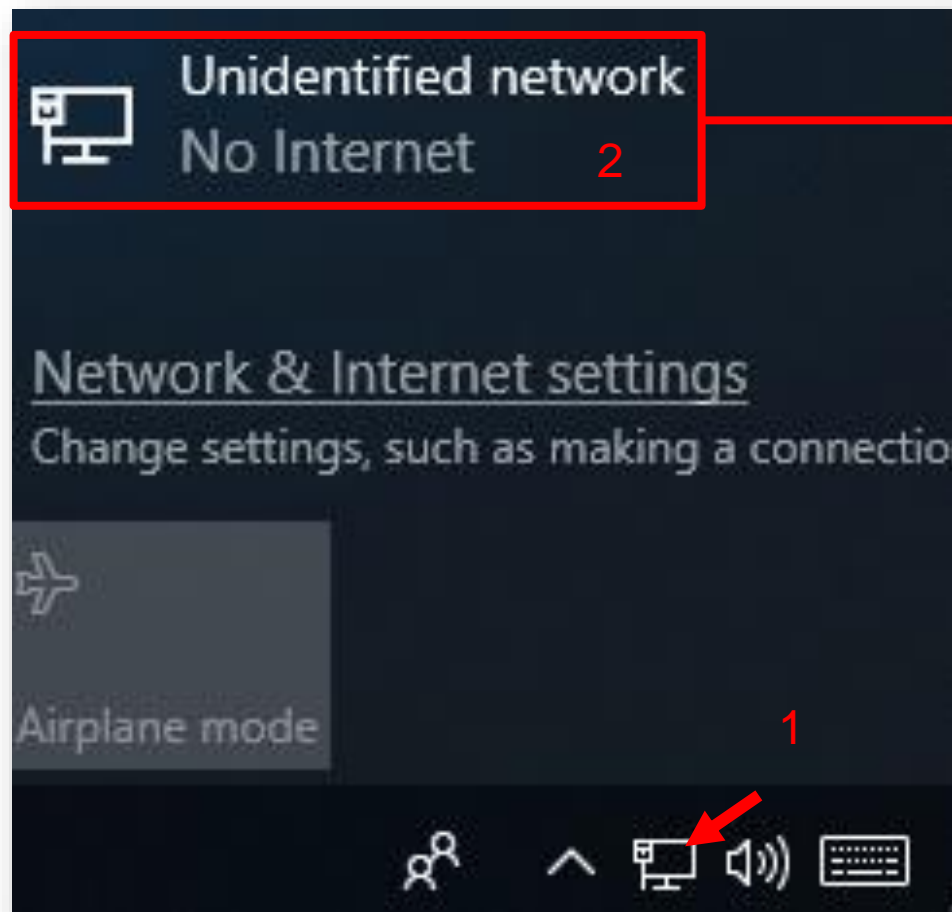
- VMWare
- VIC7000

Build Project

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Build Project – Get IP

- **Get IP – Virtual Machine**
 - **Get Remote IP:** Go to the **network status** page then select used connection in **Ethernet**



Build Project – Get IP

- **Get IP – Virtual Machine**

- **Get Remote IP : IPv4 address** is the IP address of VIC7000 server as shown below

Properties

Link-local IPv6 address: fe80::404a:b44f:57e8:7c71%6

IPv4 address: 4 10.12.1.153

IPv4 DNS servers: 10.1.1.2
10.1.1.6

Manufacturer: Intel Corporation

Description: Intel(R) I210 Gigabit Network Connection #2

Driver version: 12.15.22.6

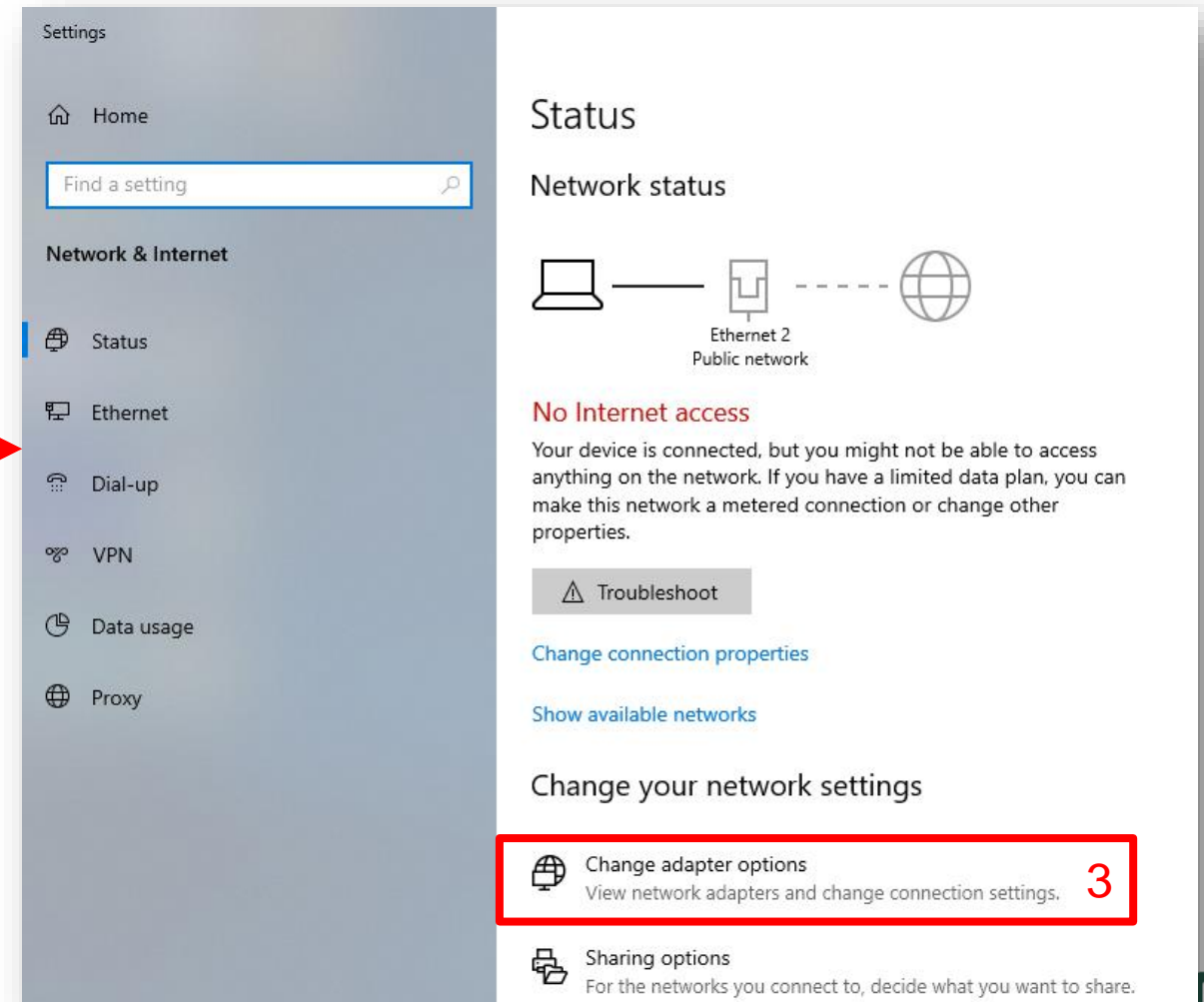
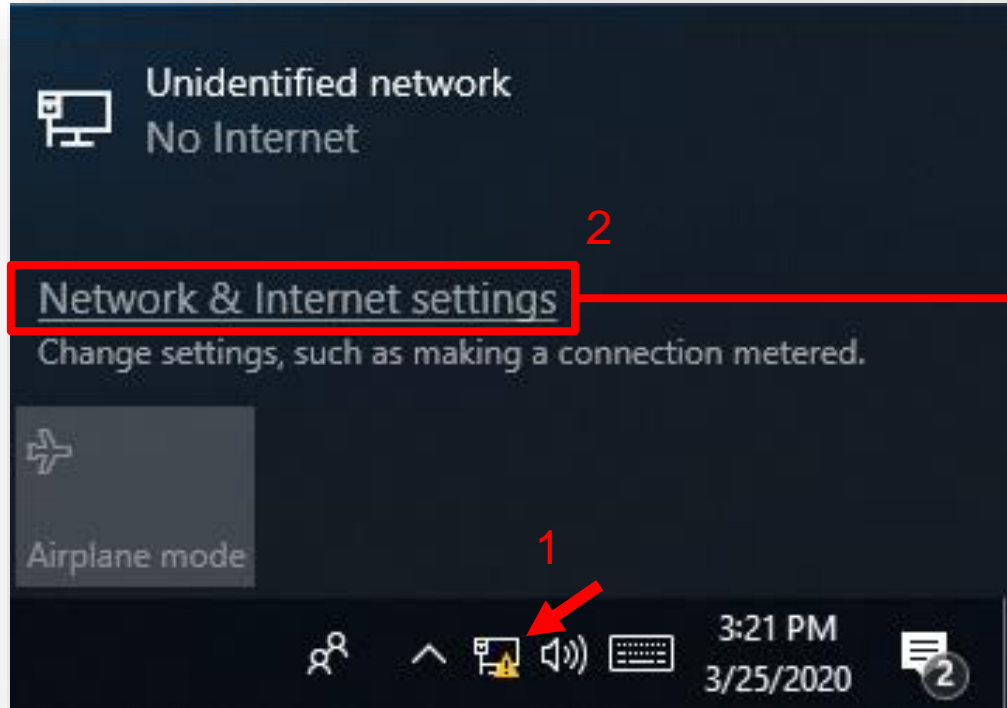
Physical address (MAC): 00-10-F3-87-3F-C4

Copy

Build Project – Get IP

- **Get IP – Real Machine**

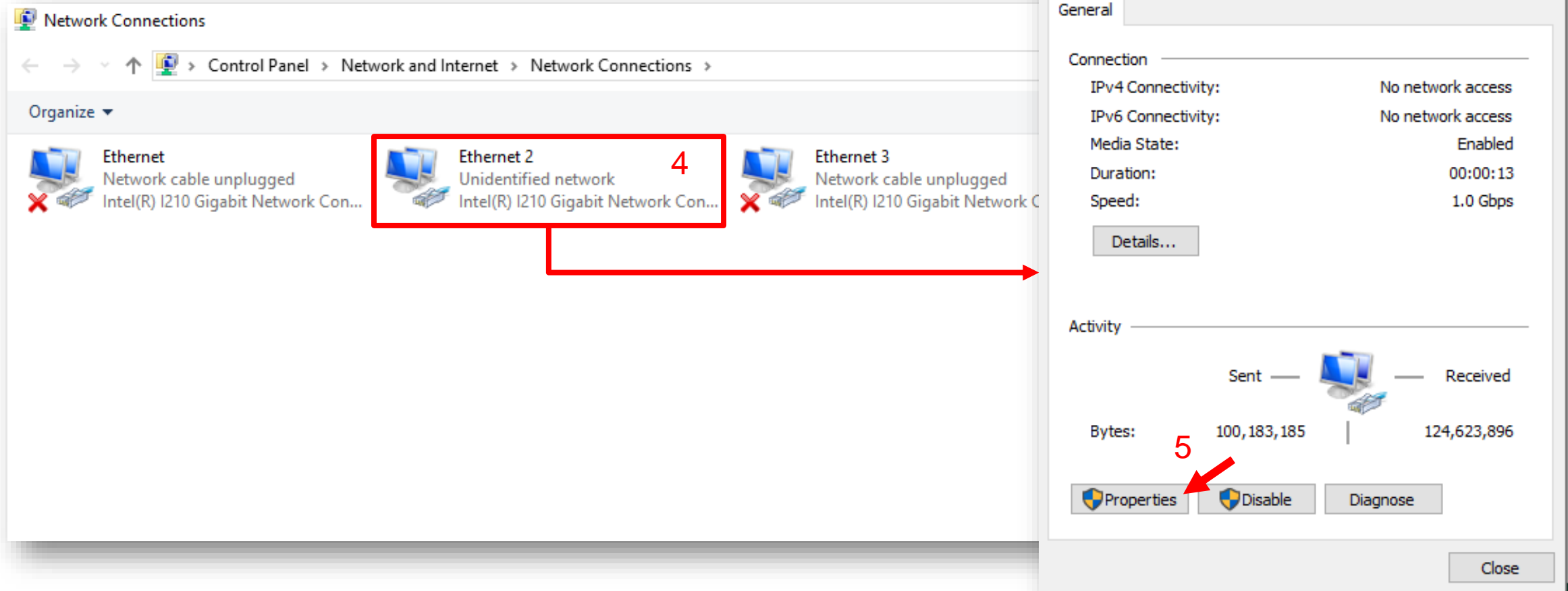
- **Set Static IP** : Click on **Network & Internet settings**, the Setting window will appear, then choose **Change adapter options**



Build Project – Get IP

- **Get IP – Real Machine**

- **Set Static IP** : Double-click on **desired adapter**, the **Status** of the adapter window will appear, then click on **Properties**



Build Project – Get IP

- **Get IP – Real Machine**

- **Set Static IP** : Double-click on **Internet Protocol Version 4 (TCP/IPv4)**, set **IP address** and

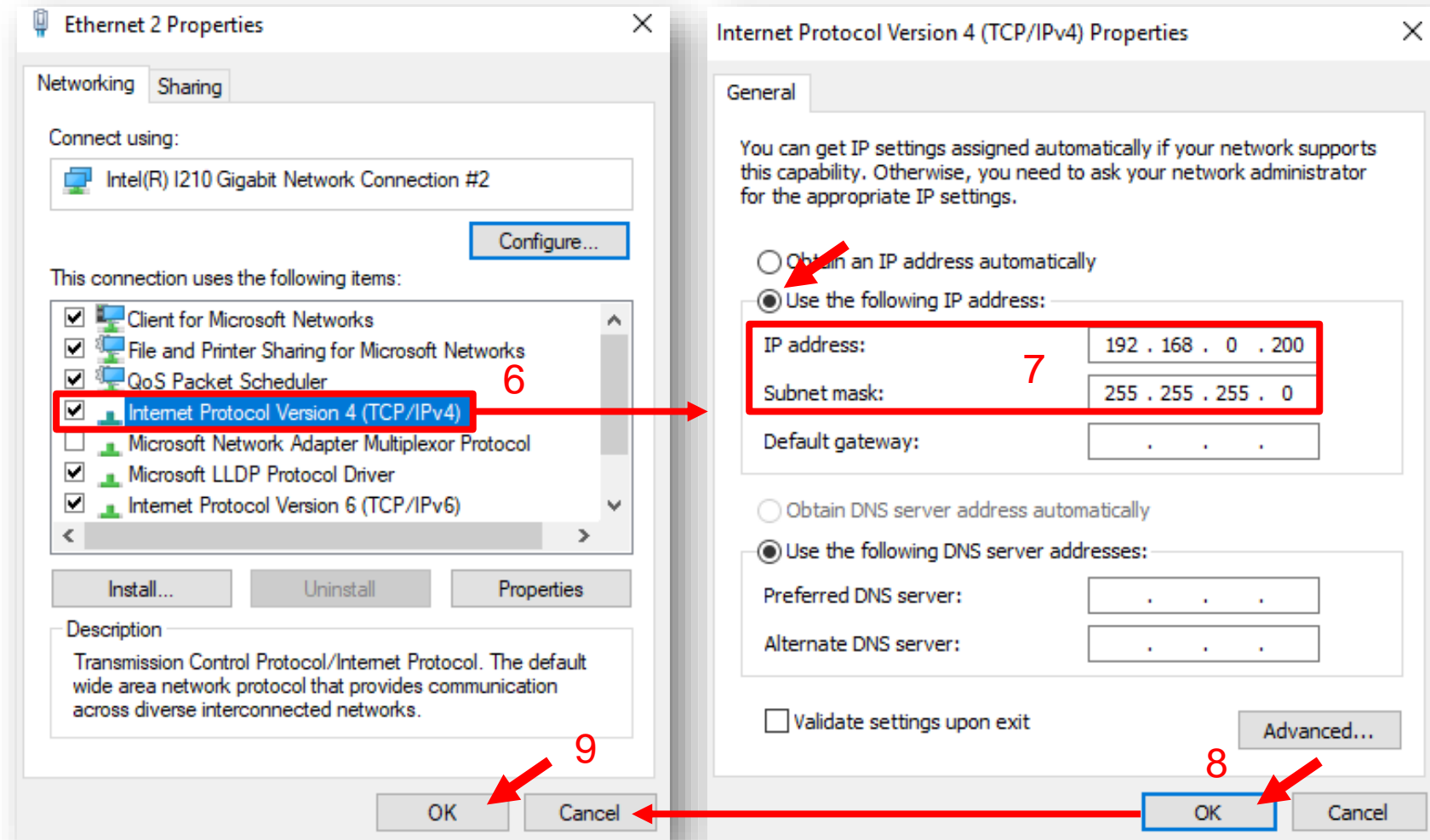
Subnet mask

Finally, click on **OK**

The set IP address must be in the domain same with the IP address of the connecting computer

In other words, the first three fields must be the same

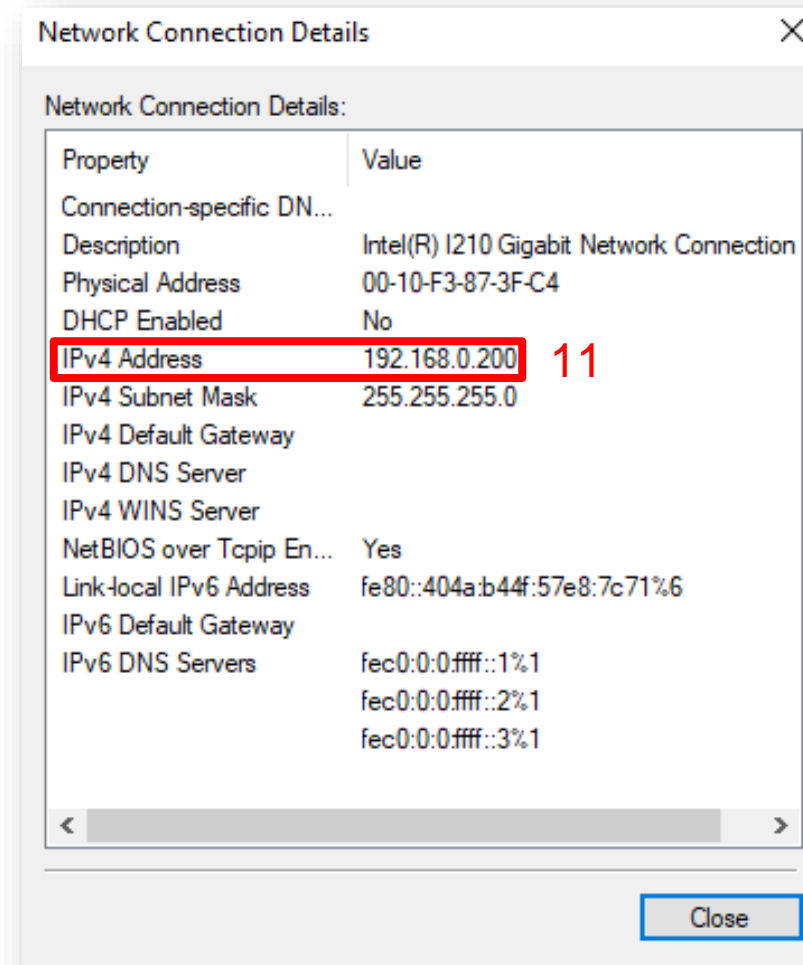
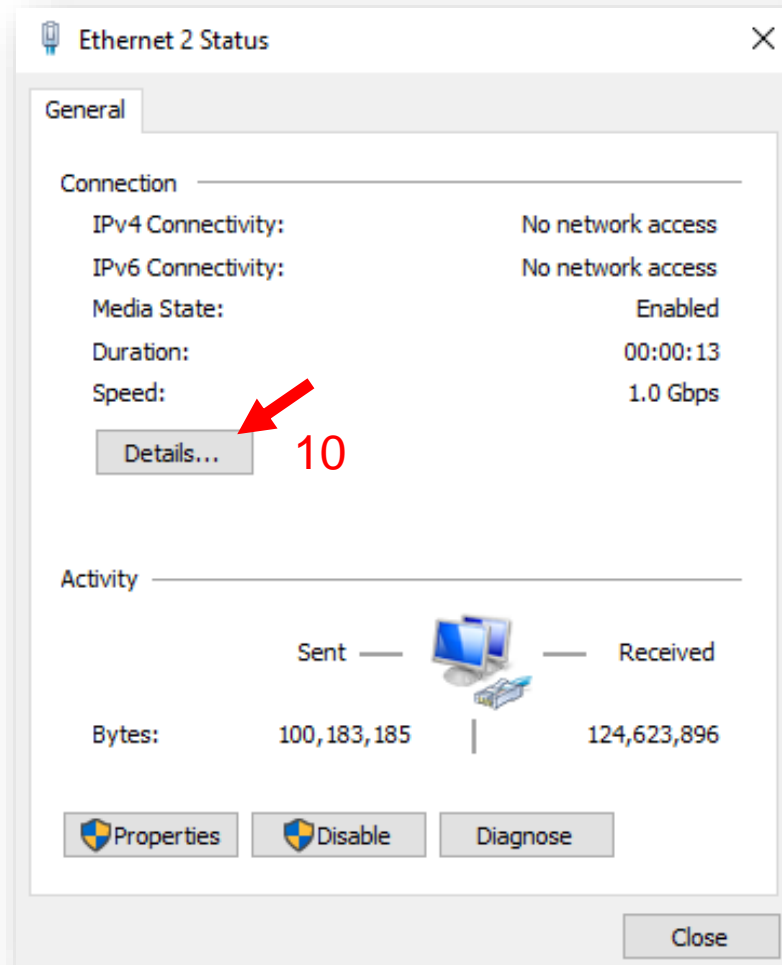
For this example, the IP address of a connecting computer must be 192.168.0.n, with n ranges from 1 to 255 and must not be repeated



Build Project – Get IP

- **Get IP – Real Machine**

- **Set Static IP** : Click on **Details...** in Status window, then set IP address will appear

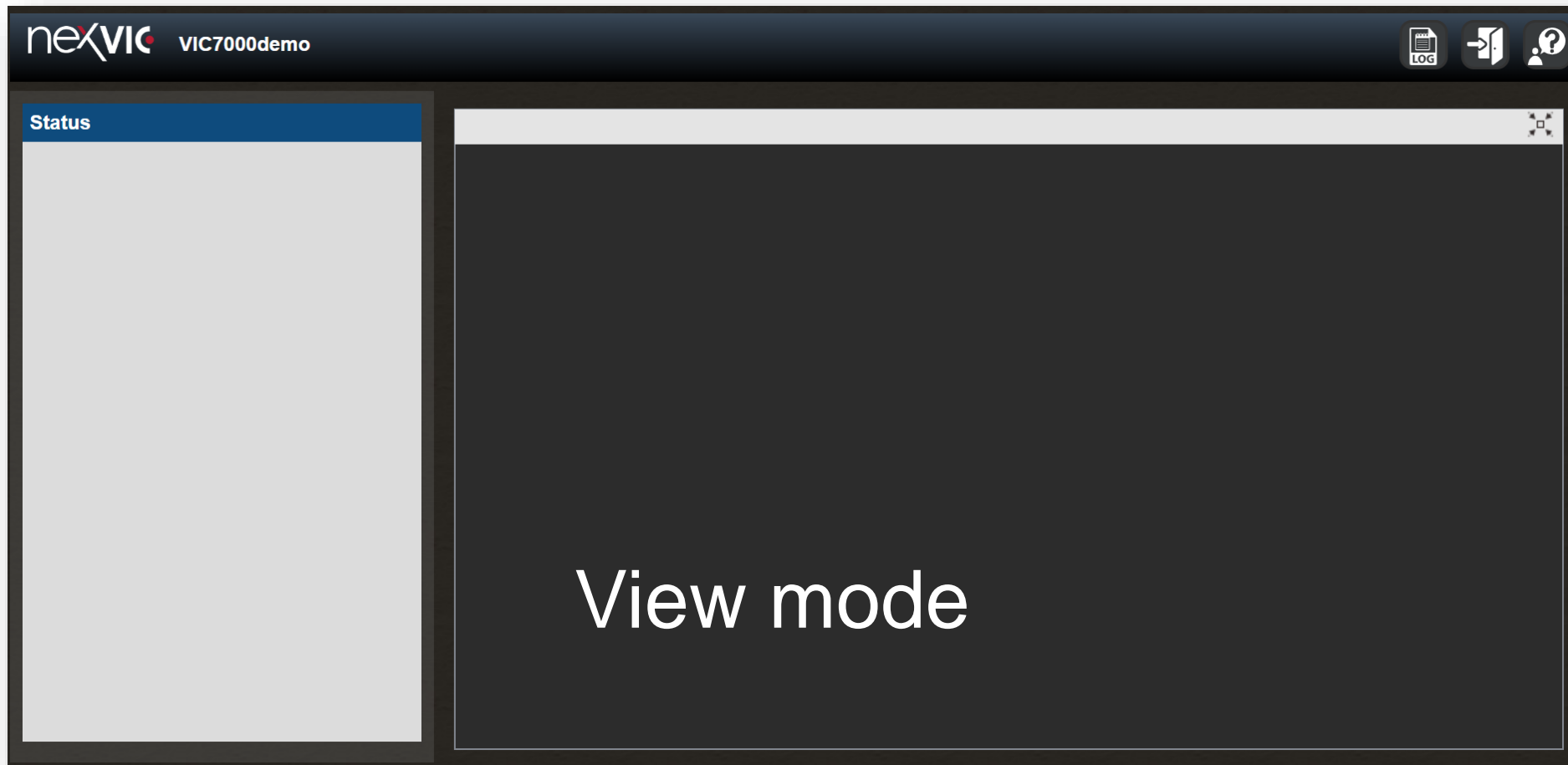


Build Project – Login

- **Entry to VIC7000**

1. **Open browser** : Google Chrome or Microsoft Edge
2. Enter **Server IP:port** in **URL field** : By default, port is not required

 192.168.133.136



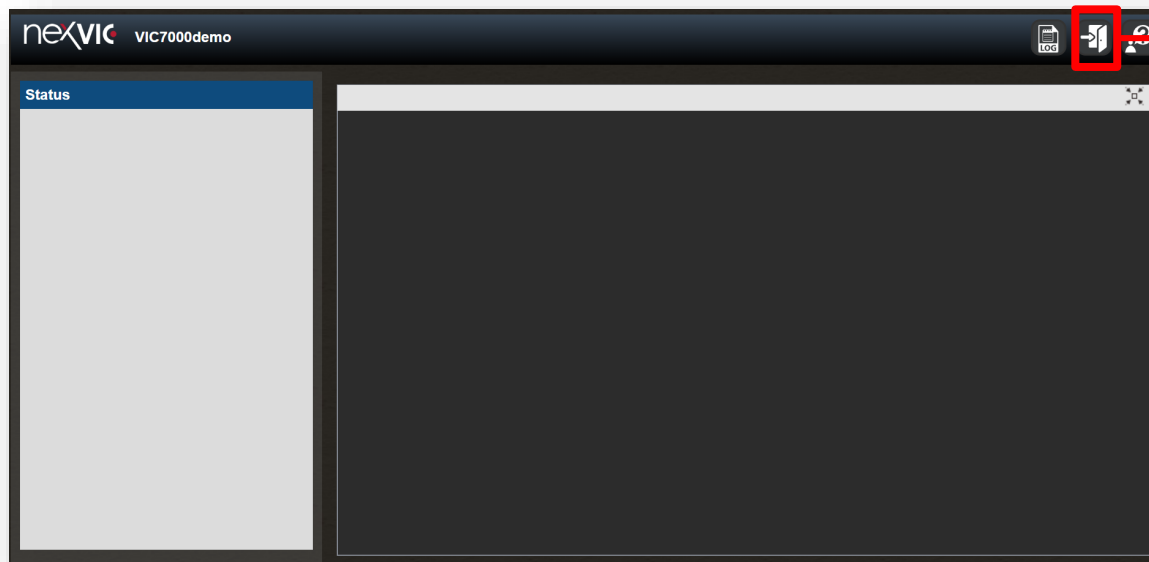
Build Project – Login

- **Login VIC7000**

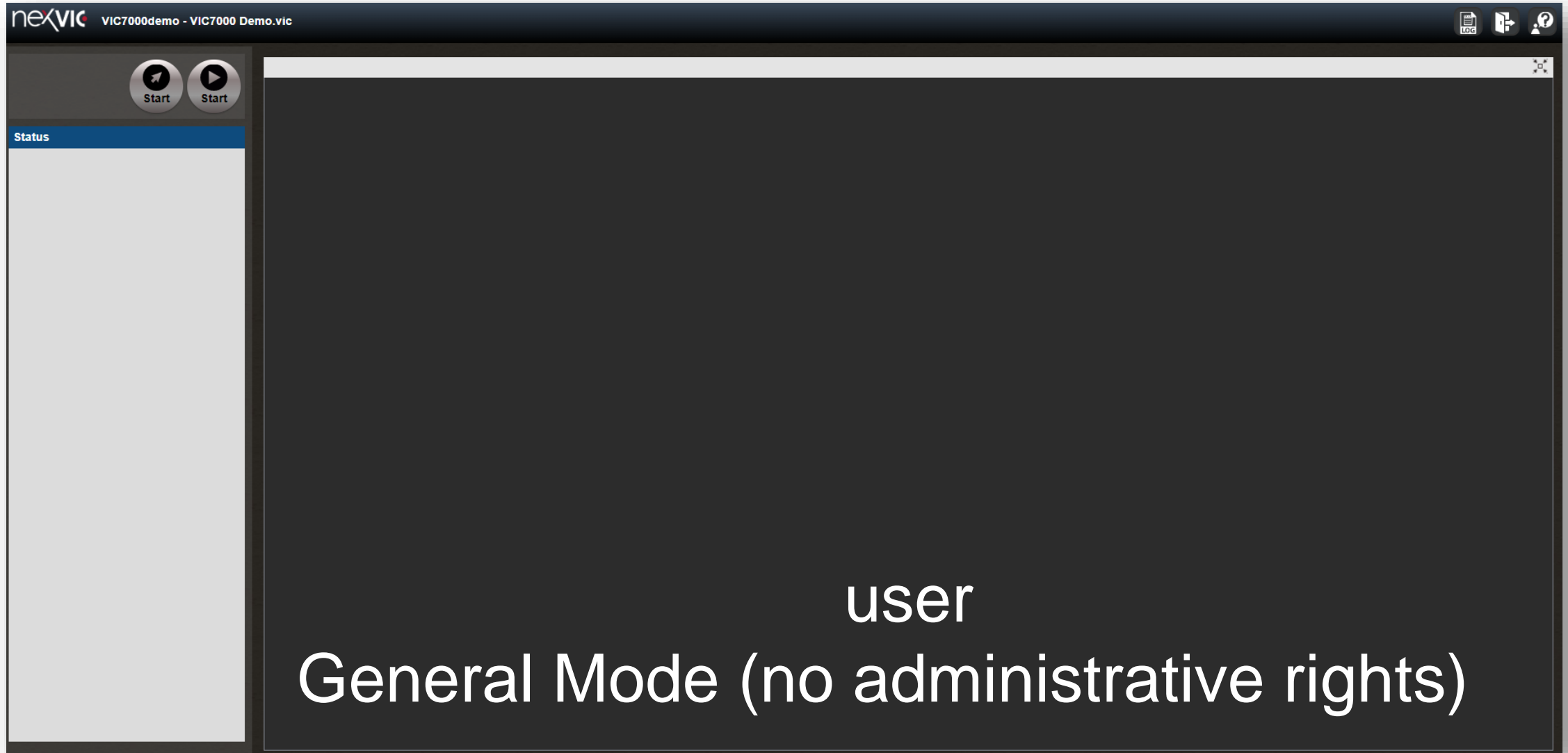
1. Click Login button in the top-right corner
2. Enter user or administrator name and password

User name is **user**, administrator name is **admin**, and their default password is **123456**

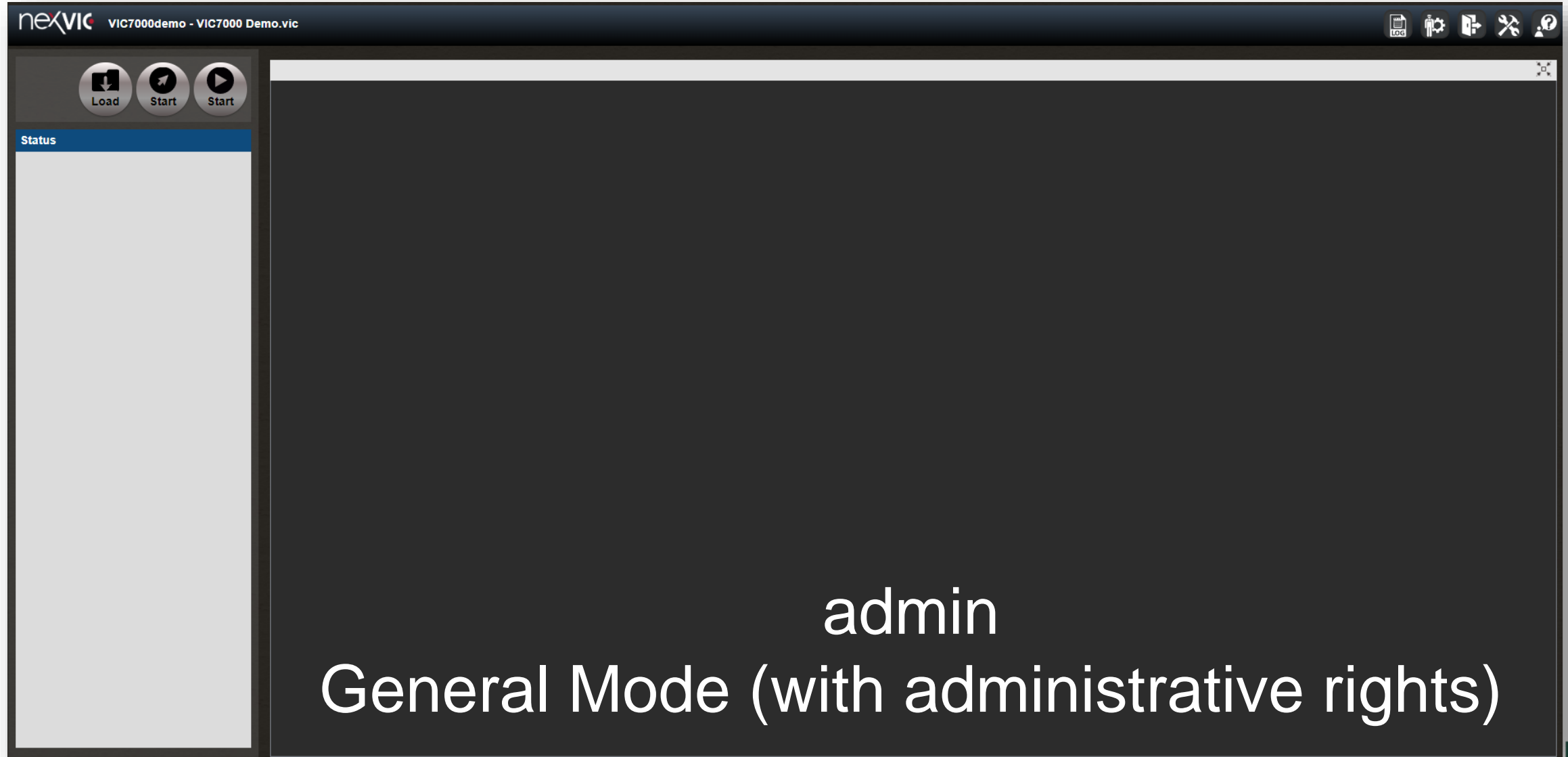
If an admin logs in and stays idle for more than 30 mins, he will be forced to logout

A login dialog box with a blue title bar containing a login icon and the text 'Login'. Below the title bar, there are two input fields. The first is labeled 'Name:' and contains the text 'admin'. The second is labeled 'Password:' and contains masked characters '.....'. At the bottom right of the dialog, there are two buttons: 'OK' and 'Cancel'.

Build Project – Login



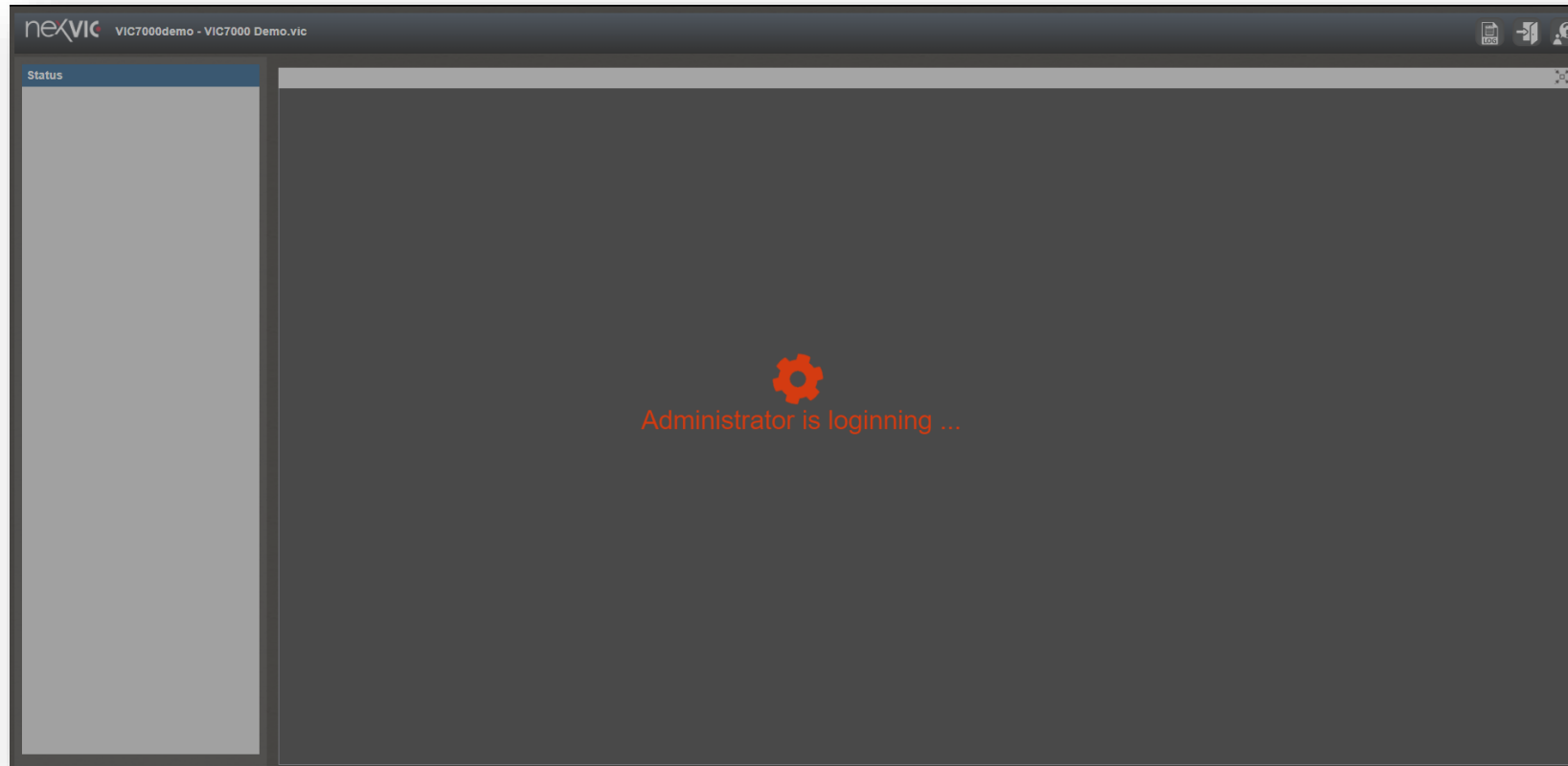
Build Project – Login



Build Project – Login

- **Login Limits**

- Allow up to **16 users** to monitor the operation of VIC7000 in General Mode without administrative rights and View Mode at the same time
- While **the administrator** logging in VIC7000, other users cannot login, monitor, or operate VIC7000

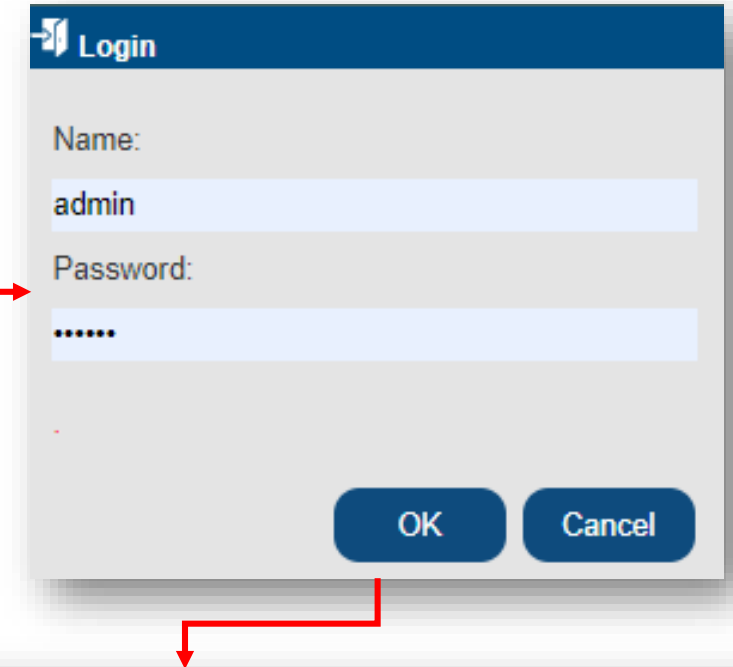


Build Project – Login

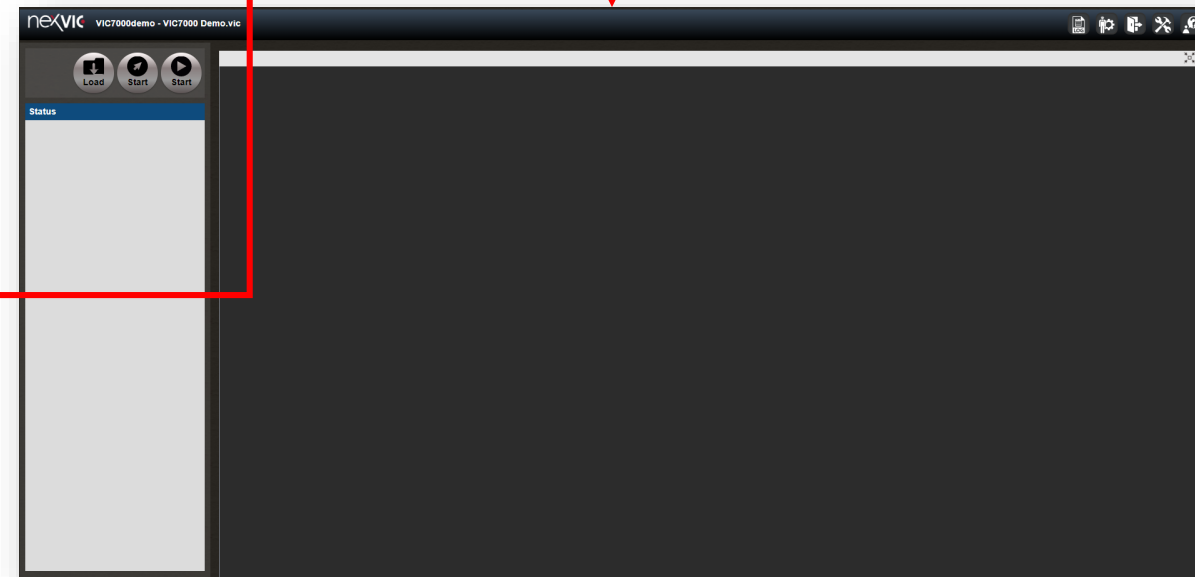
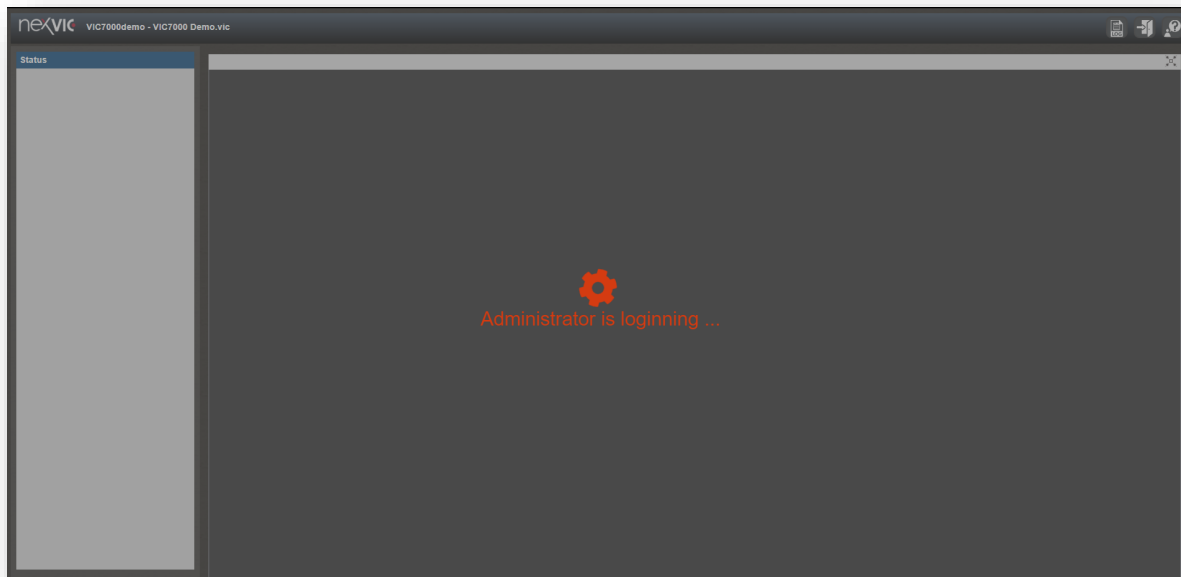
- **Replace Login**

1. Click anywhere on the interface : A login window will show up
2. Enter administrator name and password
3. Click OK

When an administrator successfully logs in, the current administrator will be forced to logout.



A screenshot of a 'Login' dialog box. It has a title bar with a blue header and the text 'Login'. Below the header, there are two input fields: 'Name:' with the text 'admin' and 'Password:' with masked characters '.....'. At the bottom right, there are two buttons: 'OK' and 'Cancel'. A red arrow points from the 'OK' button to the main interface window below.



Build Project – Login

- **Buttons**

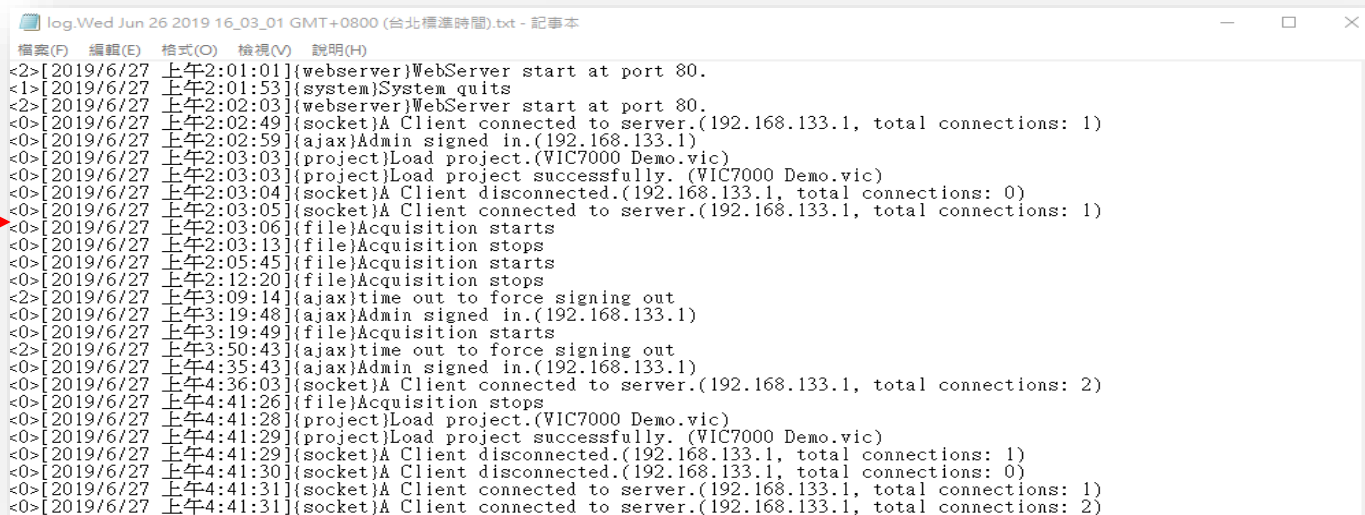
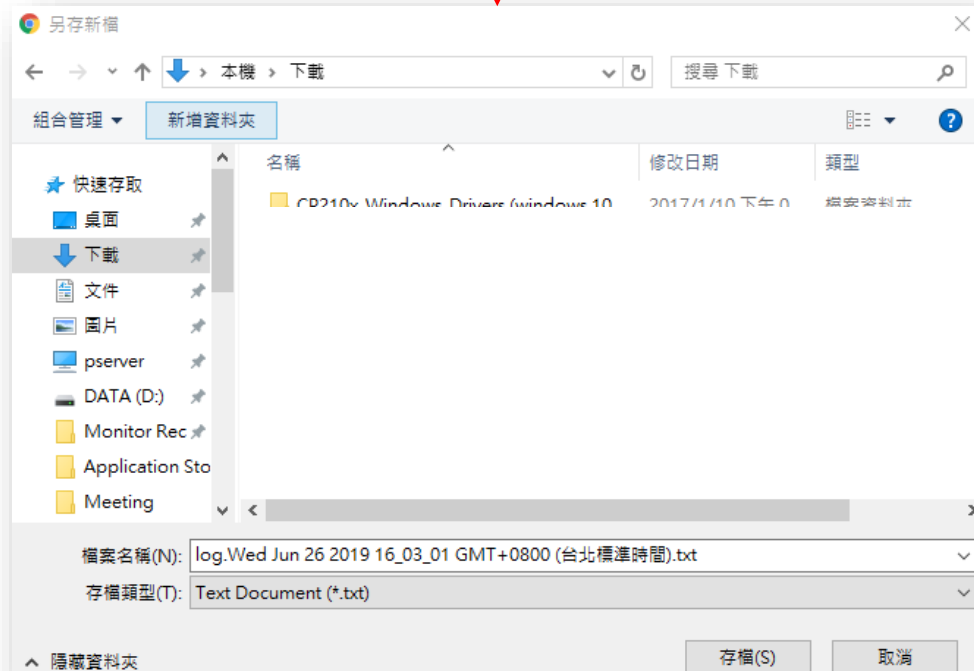
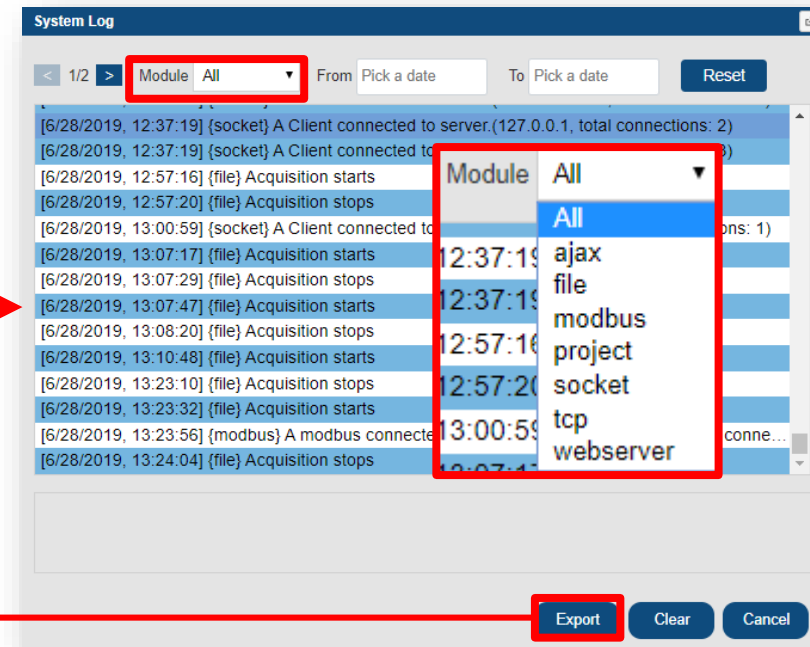
1. Database (only for 7300)
2. Load Project
3. Start/stop control
4. Start/stop project
5. Log
6. Administrator mode
7. Logout
8. System settings
9. About



Build Project – Login

- Log

- Record important software information
- Classified recording message
- Export as .txt
- Export path is the download path of the browser



Build Project – Login

- **System Settings**

- UI Language - English, Traditional Chinese, Simplified Chinese, Japanese
- Change Password
- Auto Load Project
- Reset Project
- Left Mouse Button To Move Canvas
- Auto Load Page Image
- System Load
- System Save
- Enable Control Scheduler
- OCR Name Conversion Table
- Serial Port Control

English ▼


English

Traditional Chinese

Simplified Chinese

Japanese



 **System Settings**

Name	Value
System Settings	
UI Language	English ▼
Change Password	Submit
Auto Load Project	<input checked="" type="checkbox"/>
Reset Project	Submit
Left Mouse Button To Move Canvas	<input type="checkbox"/>
Auto Load Page Image	<input type="checkbox"/>
System Load	Submit
System Save	Submit
Enable Control Scheduler	<input type="checkbox"/>
OCR Name Conversion Table	Submit
Serial Port Control	COM2 ▼

Build Project – Login

- **Database Settings**

- Whether Save Image when recognition failed
- Target Quantity
- Target_color Quantity
- Target_pattern Quantity
- OCR Quantity
- Color Quantity
- Pattern Quantity
- Calc Quantity
- Export Path & Select Export Path
- Backup Path & Select Backup Path
- Backup Time (hour)



System Settings

Database Settings	
Save Image	<input checked="" type="checkbox"/>
Target Quantity	5
Target_color Quantity	5
Target_pattern Quantity	5
OCR Quantity	17
Color Quantity	20
Pattern Quantity	17
Calc Quantity	0
Export Path	D:/VIC7000/temp/
Select Export Path	Submit
Backup Path	D:/VIC7000/backup/
Select Backup Path	Submit
Backup time(hour)	12

Cancel

Build Project – Login

- **About**

1. Version
2. Software license check
3. IP selection field of VIC7000
4. QR code of link VIC7000
5. Local user manual link
6. QR code of online user manual
7. VIC7000's PC Free Disk Space



About

nexVIC¹ VIC7000demo 1.1.0.2

² License: yes

³ Host IP: 192.168.133.144 ▼

⁵ User Manual

⁴ Host URL

⁶ User Manual

⁷ Free Disk Space:
C: 186,309 MB

OK

Build Project – Login



Build Project – Login

- **Buttons**

- | | | |
|-----------------|----------------------------|------------|
| 1. New project | 5. Recognition config page | 10. Wizard |
| 2. Load project | 6. Script | |
| 3. Save project | 7. Monitor | |
| 4. Save as | 8. Control | |
| | 9. Link | |

1



New

2



Load

3



Save

4



Save As

5



Page

6



Script

7



Monitor

8



Control

9



Link

10



Wizard

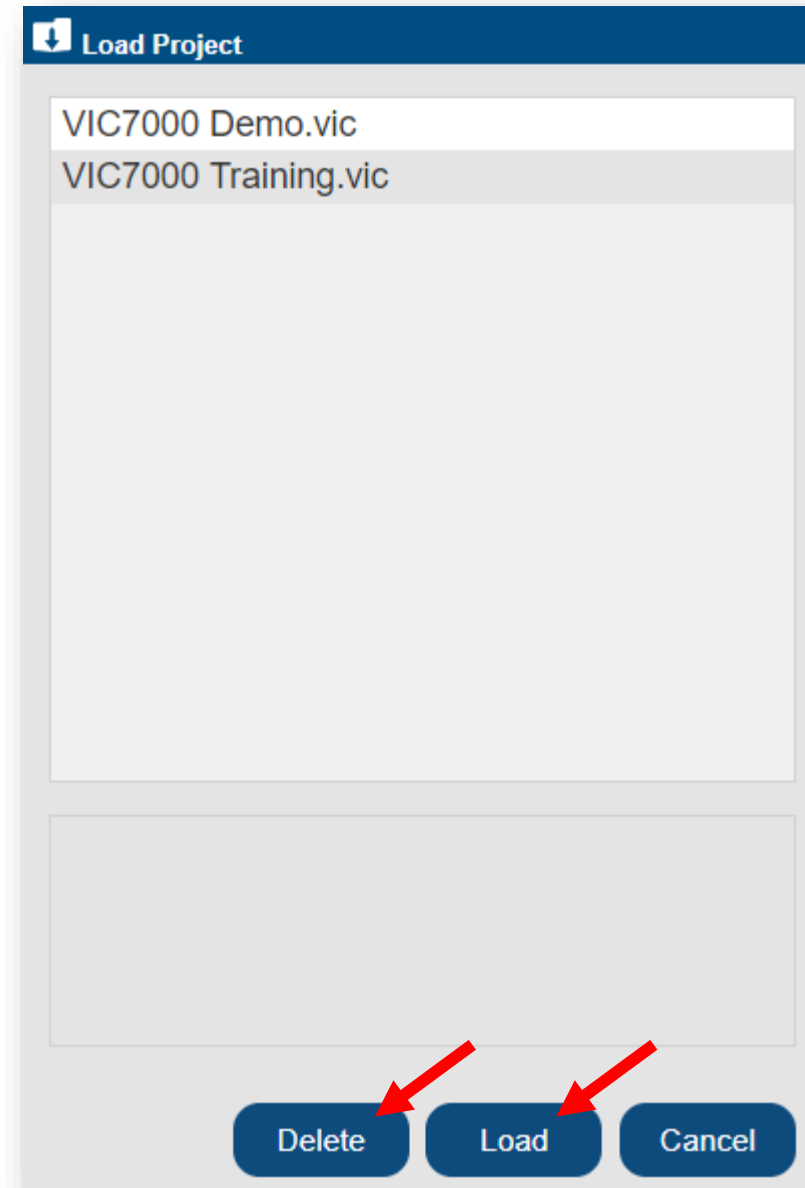
Build Project – New Project

- **New project**
 1. Enter Project Name (Required and Unique)
 2. Click OK
 - Author
 - Version
 - Comment

A screenshot of the 'New Project' dialog box. It has a title bar with a plus icon and the text 'New Project'. The form contains four input fields: 'Project Name:' (with a red arrow pointing to it), 'Author:', 'Version:', and 'Comment:'. At the bottom right, there are two buttons: 'OK' (with a red arrow pointing to it) and 'Cancel'.

Build Project – New Project

- **Load Project**
 - Load project
 - Delete project



Build Project – New Project

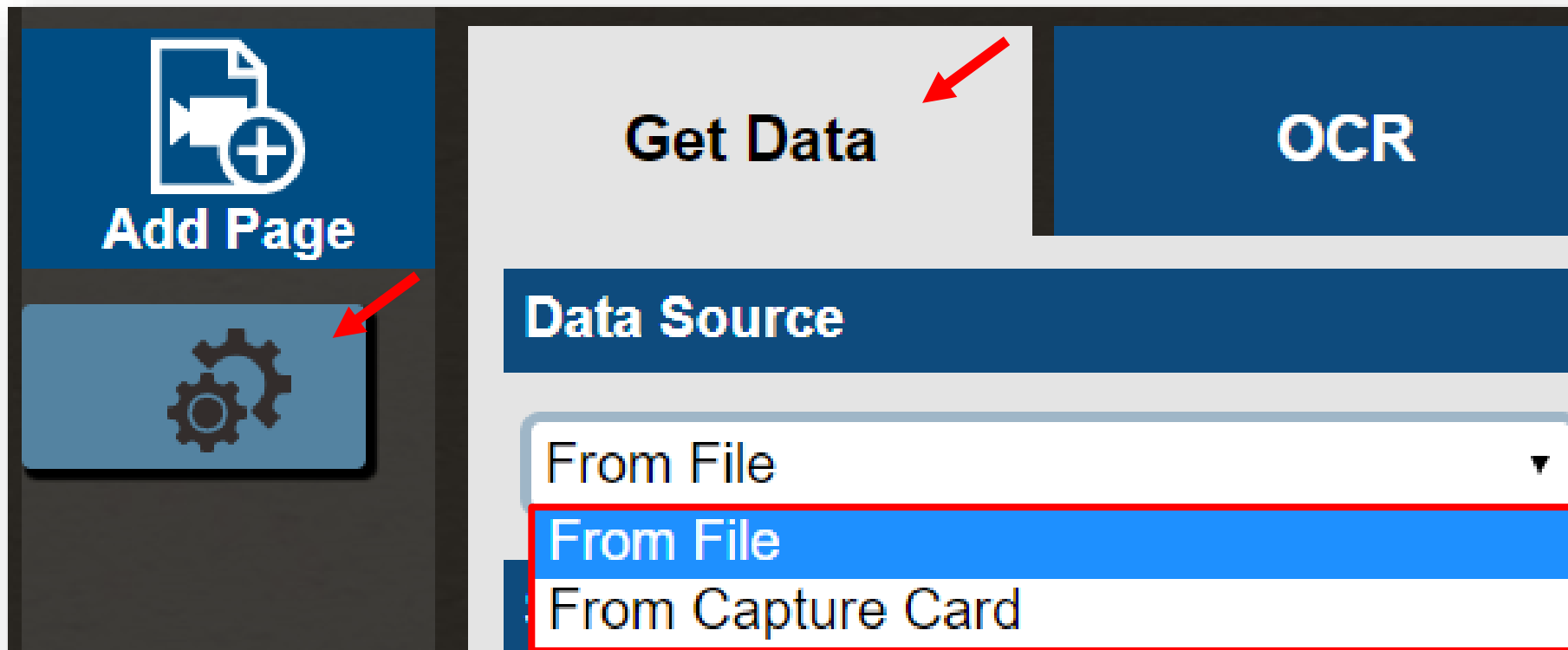
- Recognition Config Page



Build Project – Get Data

- **Image Source**

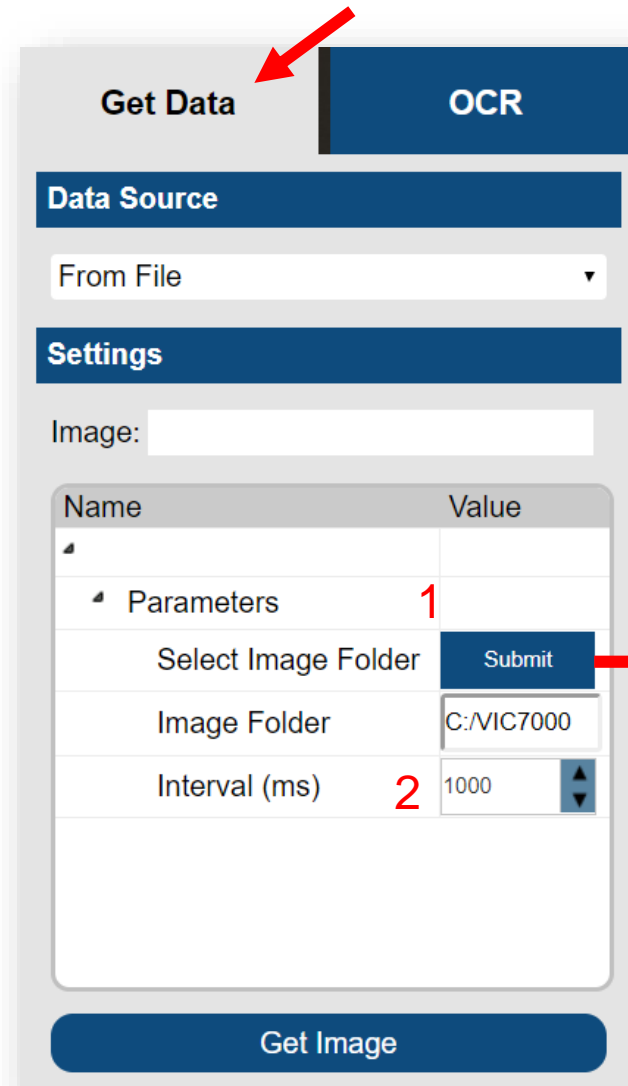
- **From File** : Read images from a folder (**.bmp** or **.tif**)
- **From Capture Card** : Read images captured by capture card



Build Project – Get Data

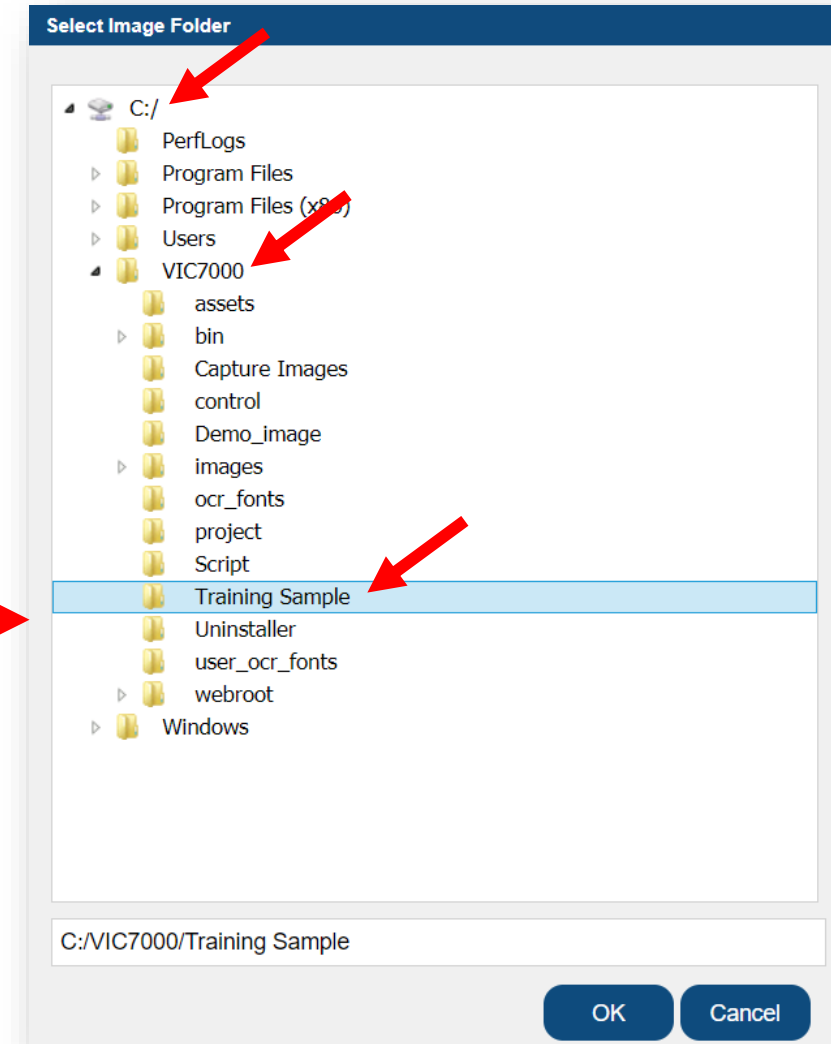
- **From File**
 1. Select the path of the folder where image is located
 2. Read interval

The folder path is an address inside VIC7000 computer hard drive



The 'Get Data' interface has two tabs: 'Get Data' and 'OCR'. The 'Get Data' tab is active. It contains a 'Data Source' dropdown menu set to 'From File'. Below it is a 'Settings' section with an 'Image:' label and a text input field. A table with two columns, 'Name' and 'Value', is present. The table has a 'Parameters' section with a 'Select Image Folder' button (labeled with a red '1') and a 'Submit' button. Below this, the 'Image Folder' is set to 'C:/VIC7000' and the 'Interval (ms)' is set to '1000' (labeled with a red '2'). A 'Get Image' button is at the bottom.

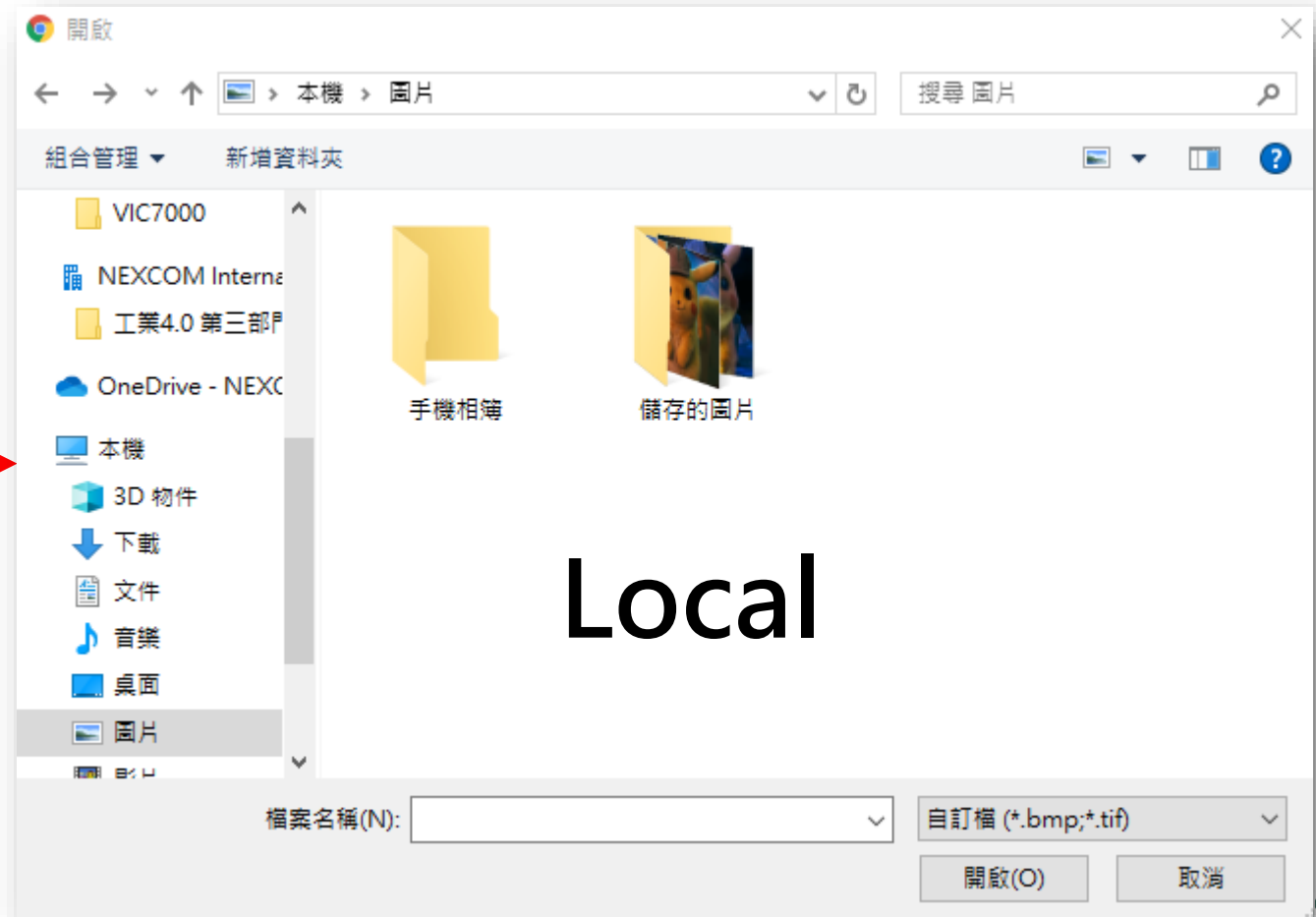
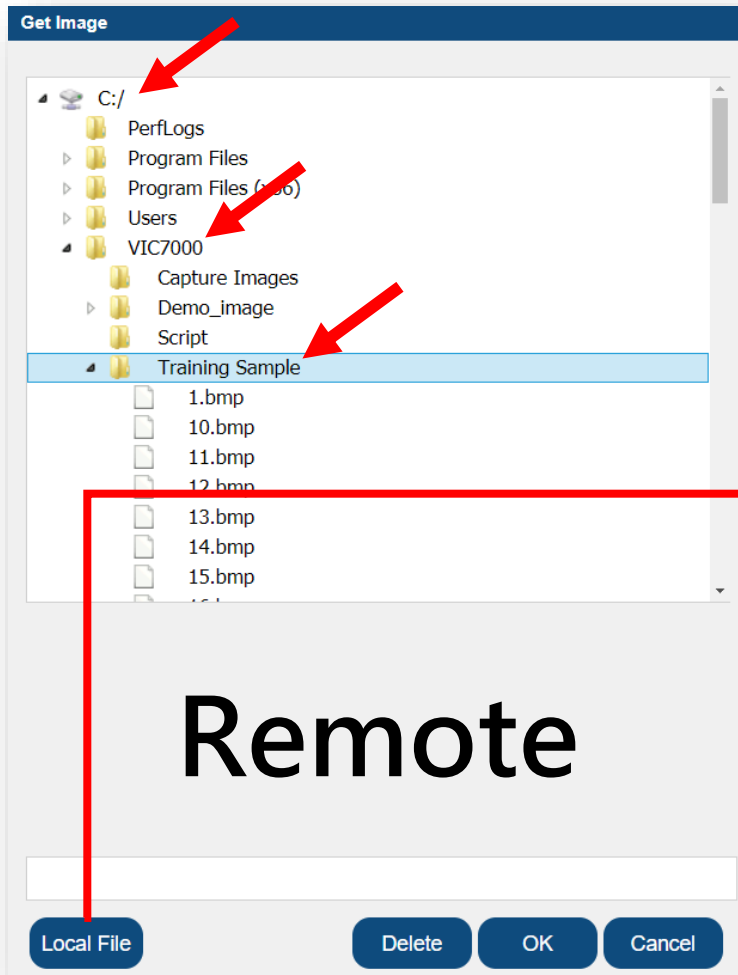
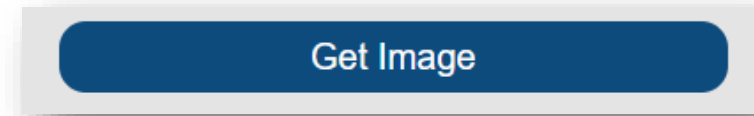
Name	Value
Parameters	
Select Image Folder	Submit
Image Folder	C:/VIC7000
Interval (ms)	1000



Build Project – Get Data

- From File

- Get Image : Read images from a local folder or a remote folder



Build Project – Get Data

- From File

3. **Start/Stop** : Read and recognize images from a folder

- Get Image : Read images from a local folder or a remote folder

The screenshot displays the neXVIC interface with the 'Get Data' tab selected. The 'OCR' sub-tab is active, showing a 'Recognition Method' dropdown set to 'Matching target' and a 'Settings' section. The 'Result' section shows a table with columns 'Name' and 'Value', containing the entry 'TARGET01' with a value represented by a barcode-like image. Below this, there are buttons for 'Stop', 'Start', 'Get Image', and 'Simulate'. A red box highlights the 'Stop' and 'Start' buttons, with a red arrow pointing to the 'Start' button. Another red arrow points to the 'Pyramax' system monitor window, which displays various system parameters and a process flow diagram. A third red arrow points to the 'OCR' tab label.

Name	Value
TARGET01	////==◆==/-+//==

Build Project – Get Data

- From Capture Card

1. Video Input : Generally, it is DVI_A (RGB/VGA)
2. Set Capture Frame Rate (fps)

- Video Quality

- Brightness
- Contrast
- Hue
- Saturation
- Sharpness
- Default : Restore quality parameters to default settings

The screenshot shows the 'Get Data' interface. At the top, there are two tabs: 'Get Data' (selected, indicated by a red arrow) and 'OCR'. Below the tabs is a 'Data Source' section with a dropdown menu set to 'From Capture Card'. Underneath is a 'Settings' section containing a table with parameters and their values.

Name	Value
Input Parameters	
Video Width	0
Video Height	0
Video Frame Rate	0
Video Signal	false
Video Input	DVI_A (RGB /
2 Capture Frame R2	

At the bottom of the settings table, there is a red '2' next to 'Capture Frame R2'. Below the table are three buttons: 'Stop', 'Start', and 'Get Image'.

The screenshot shows the 'Get Data' interface. At the top, there are two tabs: 'Get Data' (selected, indicated by a red arrow) and 'OCR'. Below the tabs is a 'Data Source' section with a dropdown menu set to 'From Capture Card'. Underneath is a 'Settings' section containing a table with parameters and their values.

Name	Value
Capture Frame R2	
Video Quality	
Brightness	128
Contrast	128
Hue	128
Saturation	128
Sharpness	136
Default	Submit
Save Images	

At the bottom of the settings table, there is a 'Submit' button. Below the table are three buttons: 'Stop', 'Start', and 'Get Image'.

Build Project – Get Data

- From Capture Card

2. **Start/Stop** : Continuously get images from capture card. It's able to get and save images simultaneously

Get Image : Get an image from capture card

The screenshot displays the neXVIC software interface. On the left, the 'Get Data' tab is selected, showing a 'Data Source' dropdown set to 'From Capture Card' and a 'Settings' section with sliders for Hue (128), Saturation (128), and Sharpness (123). Below these are 'Save Images' and 'Get Image' buttons. A red arrow points from the 'Get Image' button to the 'Get Data' tab. A red box highlights the 'Save Images' dialog box, which is also highlighted with a red box in the main interface. The dialog box contains a 'Save Images' checkbox, a 'Select Image Path' button, an 'Image Path' text field with the value 'C:/VIC7000/Captu', and a 'Maximum Number' spinner set to 30. A red arrow points from the 'Get Image' button to the 'Save Images' dialog box. The main interface shows a 'Pyra' system monitor with various data points and a 'Line 1' conveyor belt diagram.

Get Data

OCR

Data Source

From Capture Card

Settings

Hue 128

Saturation 128

Sharpness 123

Default Submit

Save Images

Save Images

Select Image Path Submit

Image Path C:/VIC7000/Captu

Maximum Number 30

Stop Start

Get Image

Save Images

Save Images

Select Image Path Submit

Image Path C:/VIC7000/Captu

Maximum Number 30

Pyra

Customer ID: NeVIC

System ID: V

Setpoint 55 75

Zone 1T 2T 3T 4T 5T

Actual 110 126 125 156 185

Setpoint 110 126 135 136 185

Power 13 2 19 36 7

Zone 10 20 21 22 23 24

Actual 110 125 125 155 155

Setpoint 110 125 125 145 155

Power 16 17 16 23 15

O2 Levels Sample port -> PPM

Source Zone 1 Zone 6 Zone 10 Cooler

Active Recipe =

Nitrogen Status: On

Scheduler Status: Event based recipe or sequence pending.

Start/Run Heat Conveyor Oiler RCS

Actual Setpoint

Estimated Power Consumption: 10W

Estimated Nitrogen Consumption:

Conveyor Actual Setpoint

Line 1

In Process Counts

For Help, press F3

Profile Load Time

Date/Time: 2023/06/01 10:00:00

Host: n/a

No Recipe loaded

2

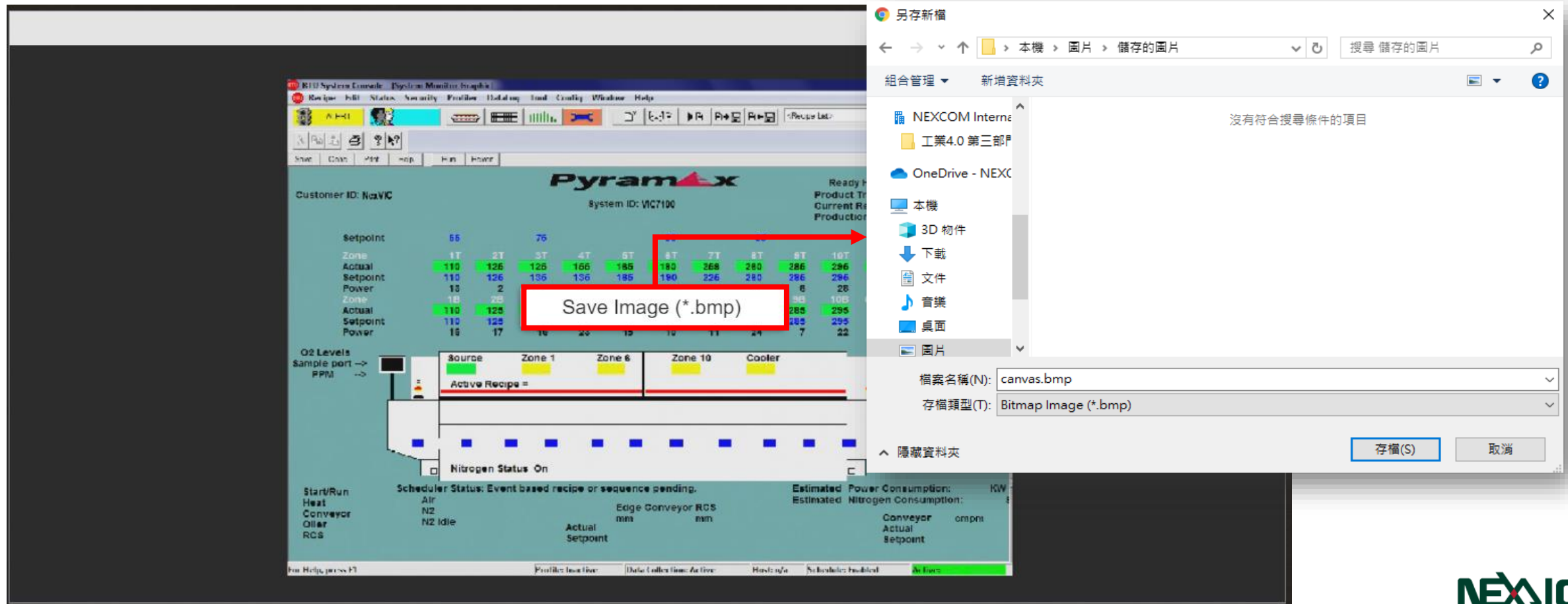
2

neXVIC

Build Project – Get Data

- From Capture Card

- Save Image : Right-click on the image, and follow instructions to save images to the local drive

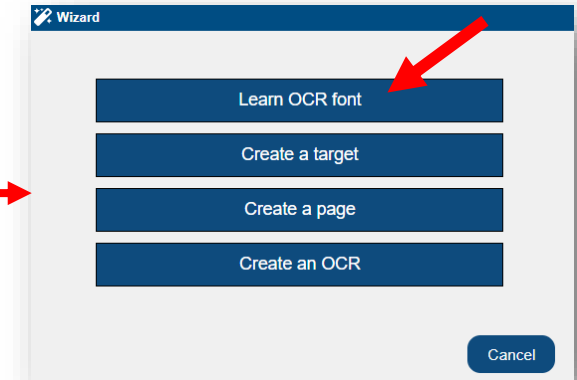


Build Project – Font Learning

- Wizard : Learn OCR Font

1. Data Source

From File or From Capture Card



Build Project – Font Learning

- **Wizard : Learn OCR Font**

- 2. Source Settings

From File : Image folder path, Read interval

From Capture Card : Video input signal type, Capture frame rate

The image displays two screenshots of the 'Learn OCR Font' wizard, specifically the '2. Source Settings' step. The top screenshot shows the 'Image Folder' field with the value 'C:/VIC7000' and the 'Interval (ms)' spinner set to '1000'. A red arrow points to the 'Submit' button. The bottom screenshot shows the 'Video Signal' field set to 'false', the 'Video Input' dropdown menu set to 'DVI_A (RGB / VGA)', and the 'Capture Frame Rate' spinner set to '2'. Red arrows point to the 'DVI_A (RGB / VGA)' dropdown, the 'Capture Frame Rate' spinner, and the 'Next' button. The wizard has five steps: 1. Data Source, 2. Source Settings, 3. Get Image, 4. Segmentation Parameters, and 5. Create New Font.

Learn OCR Font

1. Data Source 2. Source Settings 3. Get Image 4. Segmentation Parameters 5. Create New Font

Image Folder
C:/VIC7000

Interval (ms)
1000

Submit

Learn OCR Font

1. Data Source 2. Source Settings 3. Get Image 4. Segmentation Parameters 5. Create New Font

Video Signal
false

Video Input
DVI_A (RGB / VGA)

Capture Frame Rate
2

Previous Next Cancel

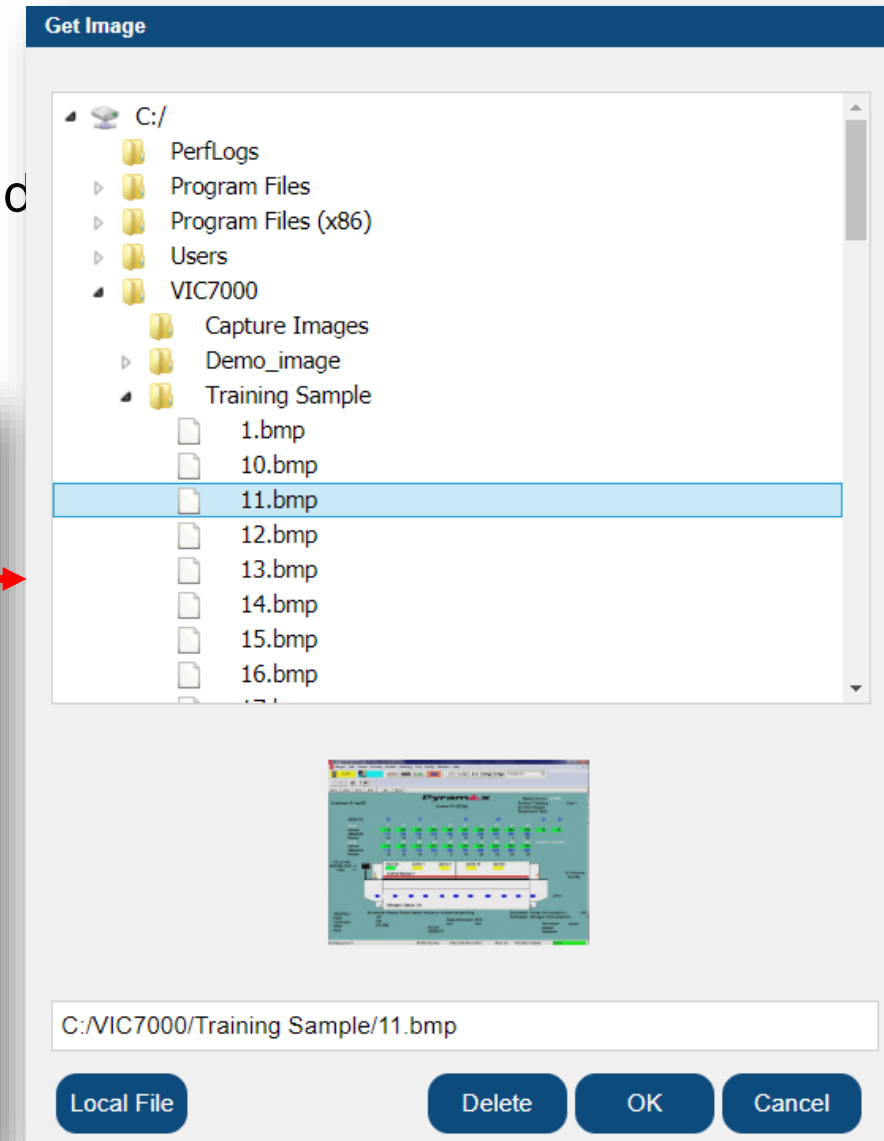
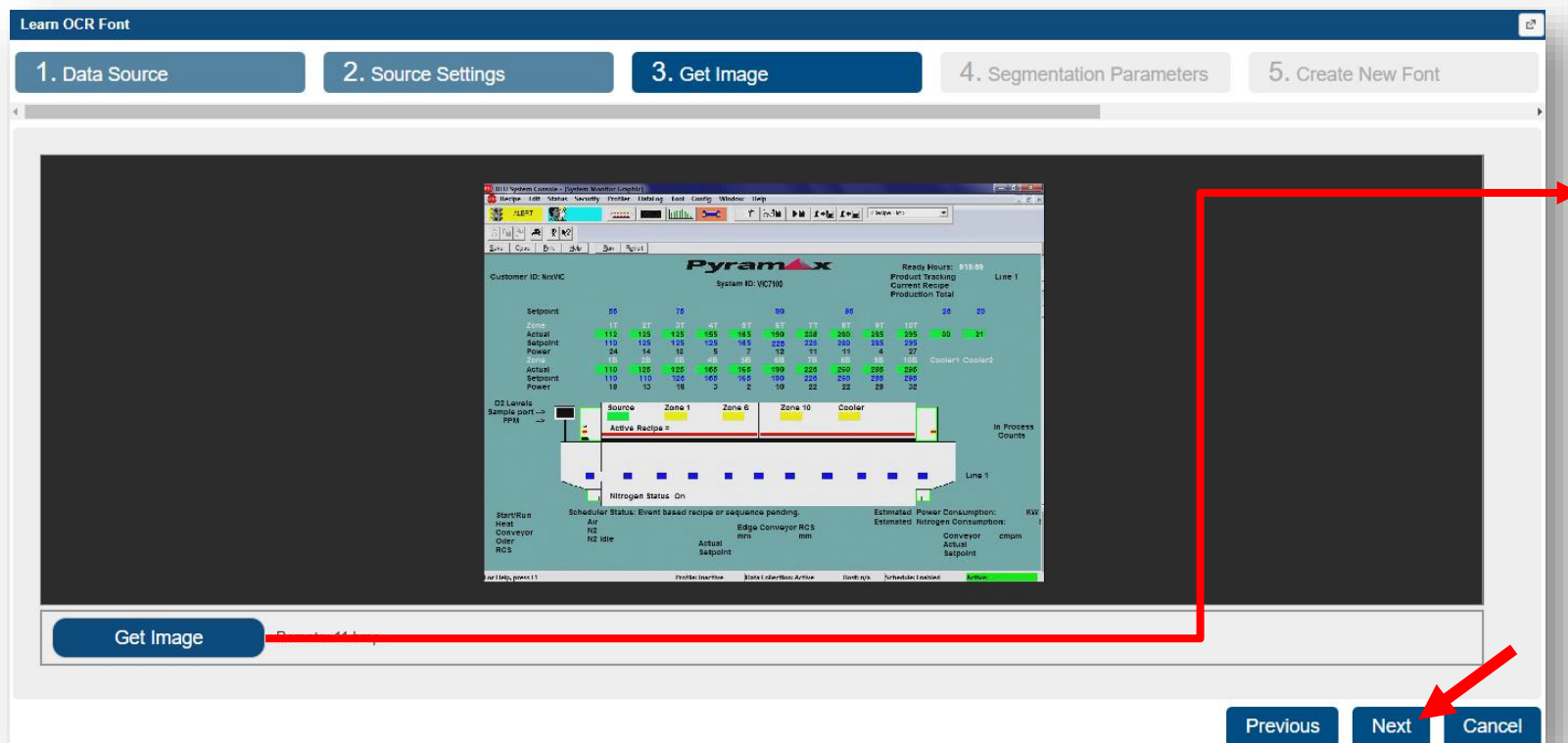
Build Project – Font Learning

- Wizard : Learn OCR Font

3. Get Image

From File : Read images from a local folder or a remote folder

From Capture Card : Get an image from capture card



Build Project – Font Learning

- Wizard : Learn OCR Font

4. Segmentation Parameter : Adjust segmentation parameters to make characters recognizable

Learn OCR Font

1. Data Source | 2. Source Settings | 3. Get Image | **4. Segmentation Parameters** | 5. Create New Font

Min Width: 16 | Max Width: 48 | Thresholding: 103 | Show Segmentation: ☐ | Cut Large Characters: ☐

Min Height: 16 | Max Height: 72 | Threshold Value: 103 | Remove Narrow Or Flat: ☒ | Relative Spacing (%): 0

Character Spacing: 8 | Noise Area: 20 | Chars Color: White on Black | Remove Border: ☒

Advance | Tip

Previous | Next | Cancel

- **Segmentation Parameters**

- **Minimum Width/Height** : The width/height of the smallest character. If the width/height of a character is smaller than this value, it will be discarded
- **Maximum Width/Height** : The width/height of the maximum character, if the width/height of a character is larger than this value, it will be discarded
- **Character Spacing** : The smallest space between adjacent characters. If the space between two characters is less than this value, they will be considered as two characters separately
- **Noise Area** : Spotted area smaller than this value will be discarded. Adjusting this value will preserve the small character feature, like the dot above the letter i
- **Chars Color** : Black on White, White on Black, Dark on Light, Light on Dark
- **Threshold** : Adjust the image binarizing threshold

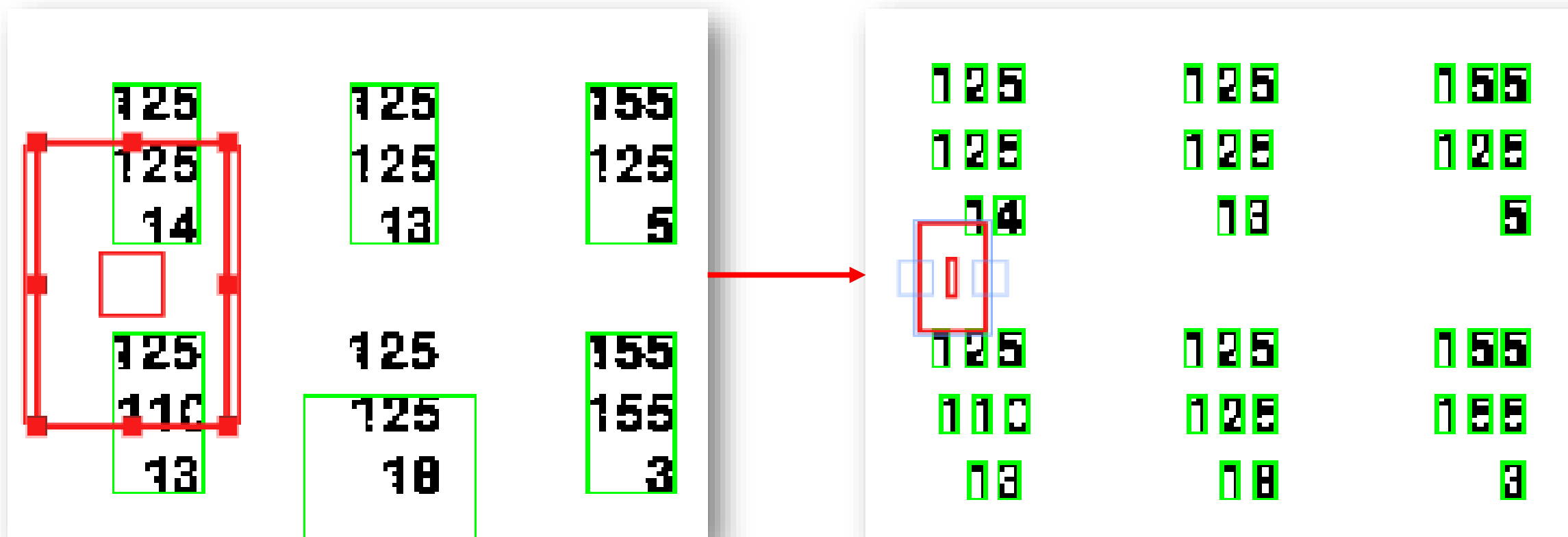
- **Segmentation Parameters**

- **Remove Narrow or Flat** : If a character has its size value less than the minimum width/height or greater than the maximum width/height, this character will be discarded. It's recommended to check this item again.
- **Remove Border** : Discard spots on edge of image/ROI
- **Cut Large Characters** : If enabled, characters are split as much part as possible. This item is designed for characters that cannot be separated by adjusting threshold
- **Relative Spacing(%)** : When Cut Large Characters is checked, the empty vector is inserted between those split parts

Build Project – Font Learning

- Wizard : Learn OCR font

4. [Segmentation parameter](#) : Adjust segmentation parameters to make characters recognizable



Build Project – Font Learning

- Wizard : Learn OCR Font

5. **Create New Font** : Patterns height/width must be less than or equal to the current minimum height/width

Learn OCR Font

1. Data Source 2. Source Settings 3. Get Image 4. Segmentation Parameters 5. Create New Font

The current minimum character size : Width = 2 , Height = 9

The current minimum character size : Width = 2 , Height = 9

Pattern Width 2 Pattern Height 9

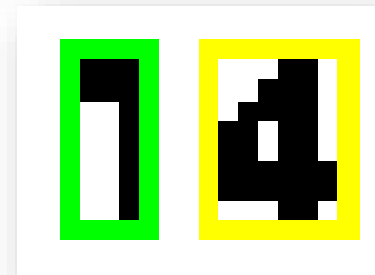
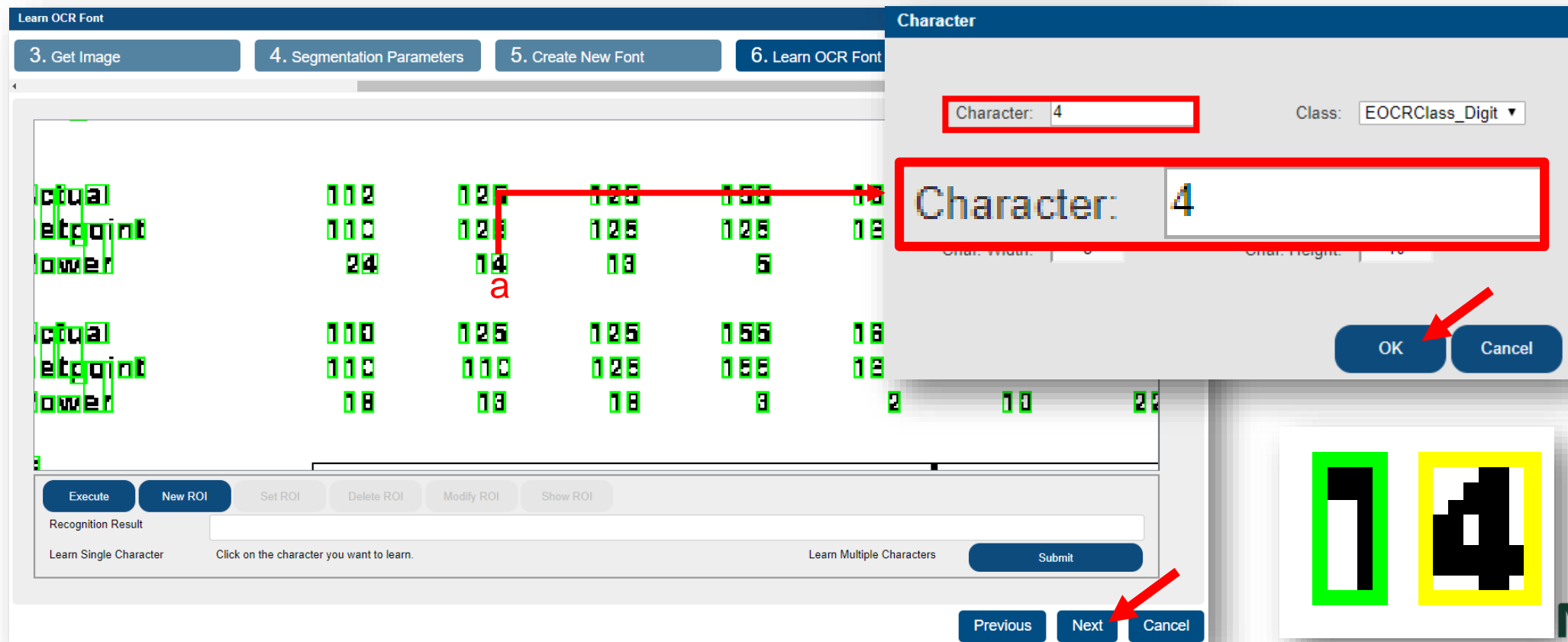
Previous Next Cancel

Build Project – Font Learning

- Wizard : Learn OCR Font

- 6. Learn OCR Font

- a. Learn **Single** Character : Click on the aimed character → Enter aimed **Character** into the field → Click **OK**

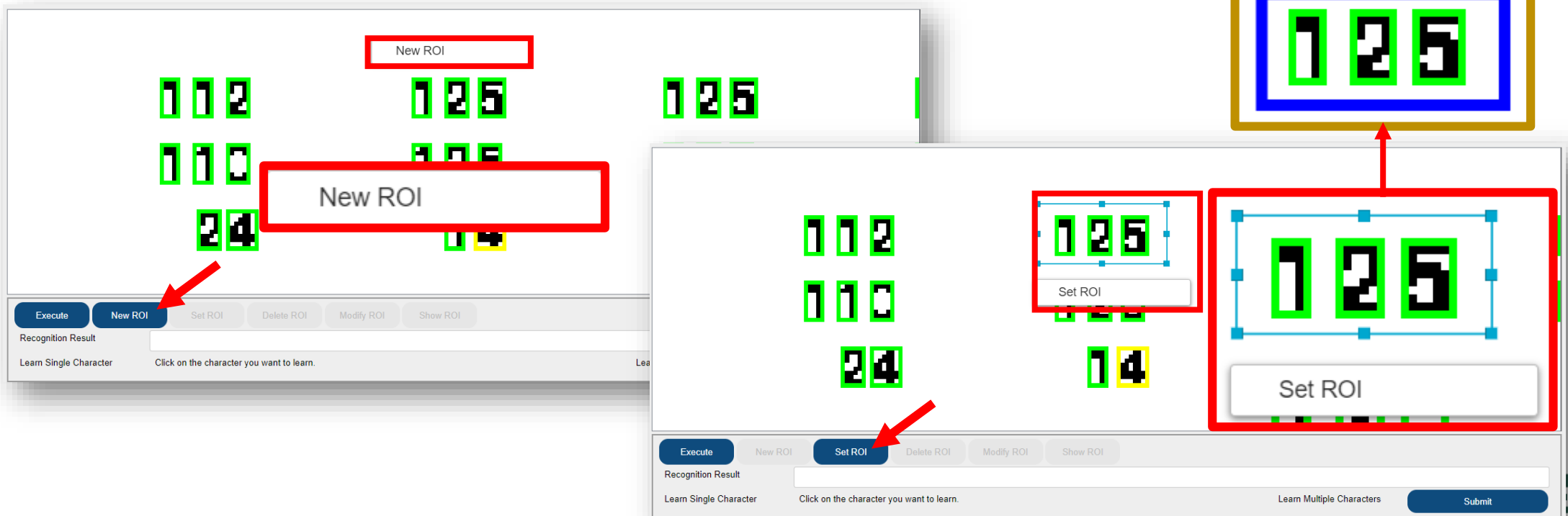


Build Project – Font Learning

- Wizard : Learn OCR Font

- 6. Learn OCR Font

- b. Learn **Multiple** Character : Right-click on the image then select **New ROI** (or Click on **New ROI** button) → adjust location and size of ROI → Right-click on the image and click **Set ROI** (or click **Set ROI** button)

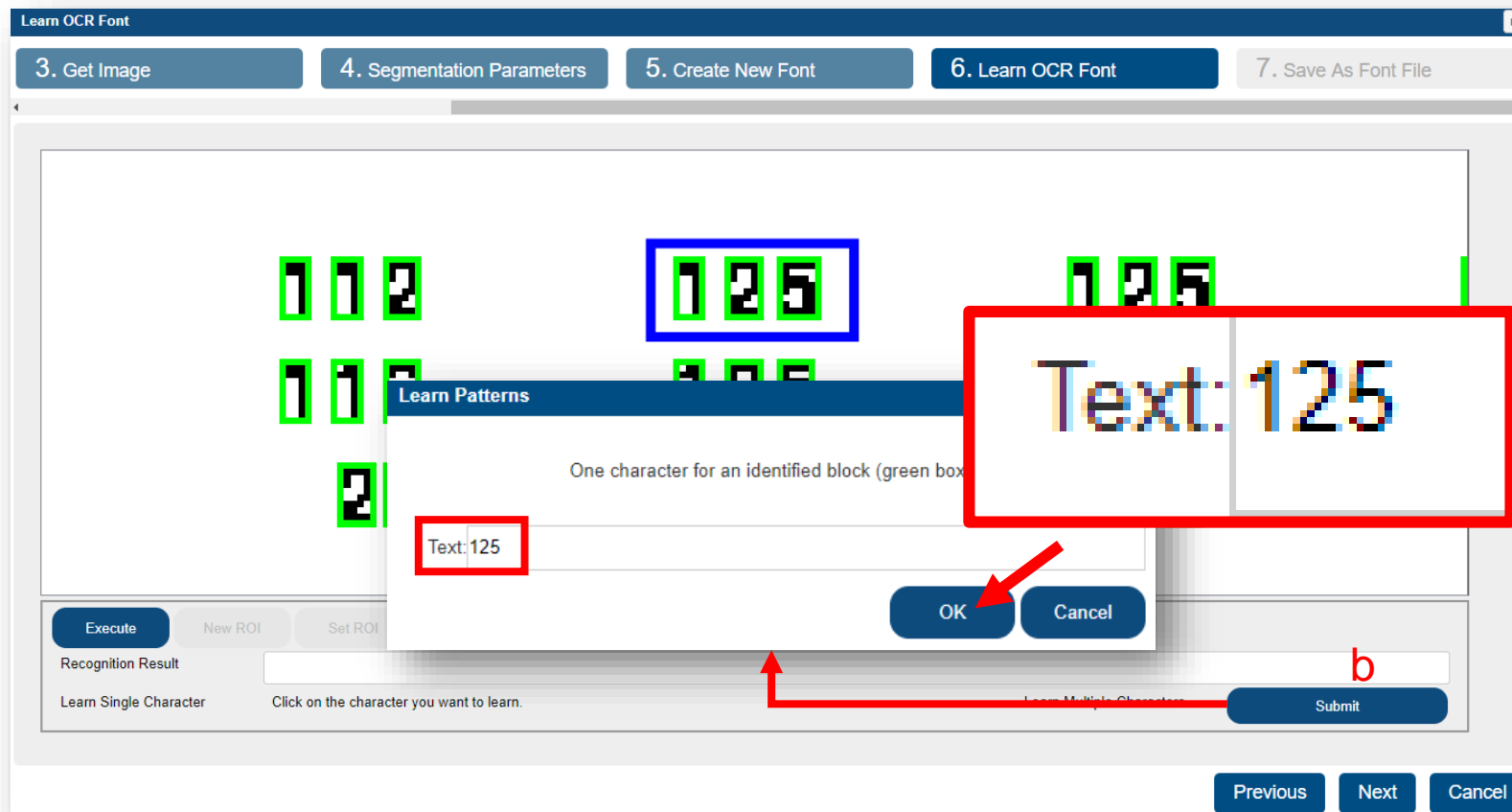


Build Project – Font Learning

- Wizard : Learn OCR Font

- 6. Learn OCR Font

- b. Learn **Multiple** Character : Click **Learn Multiple Characters** button → Enter **Text** → Click **OK**

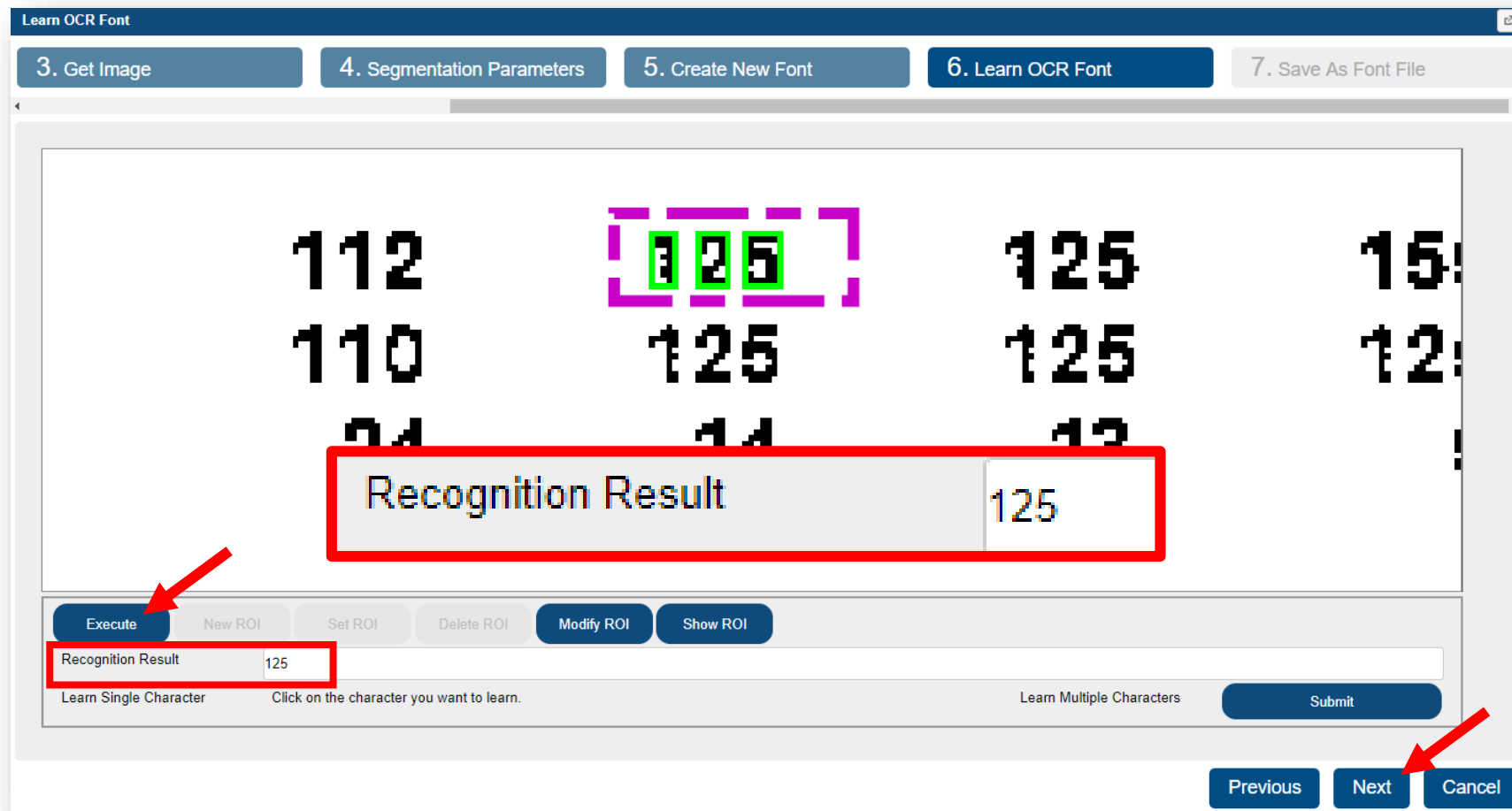


Build Project – Font Learning

- Wizard : Learn OCR Font

- 6. Learn OCR Font

Simulation : Click **Execute**, and confirm the result in **Recognition Result** field



Build Project – Font Learning

- Wizard : Learn OCR Font

7. **Save As Font File** : Enter a **Name** for the font file

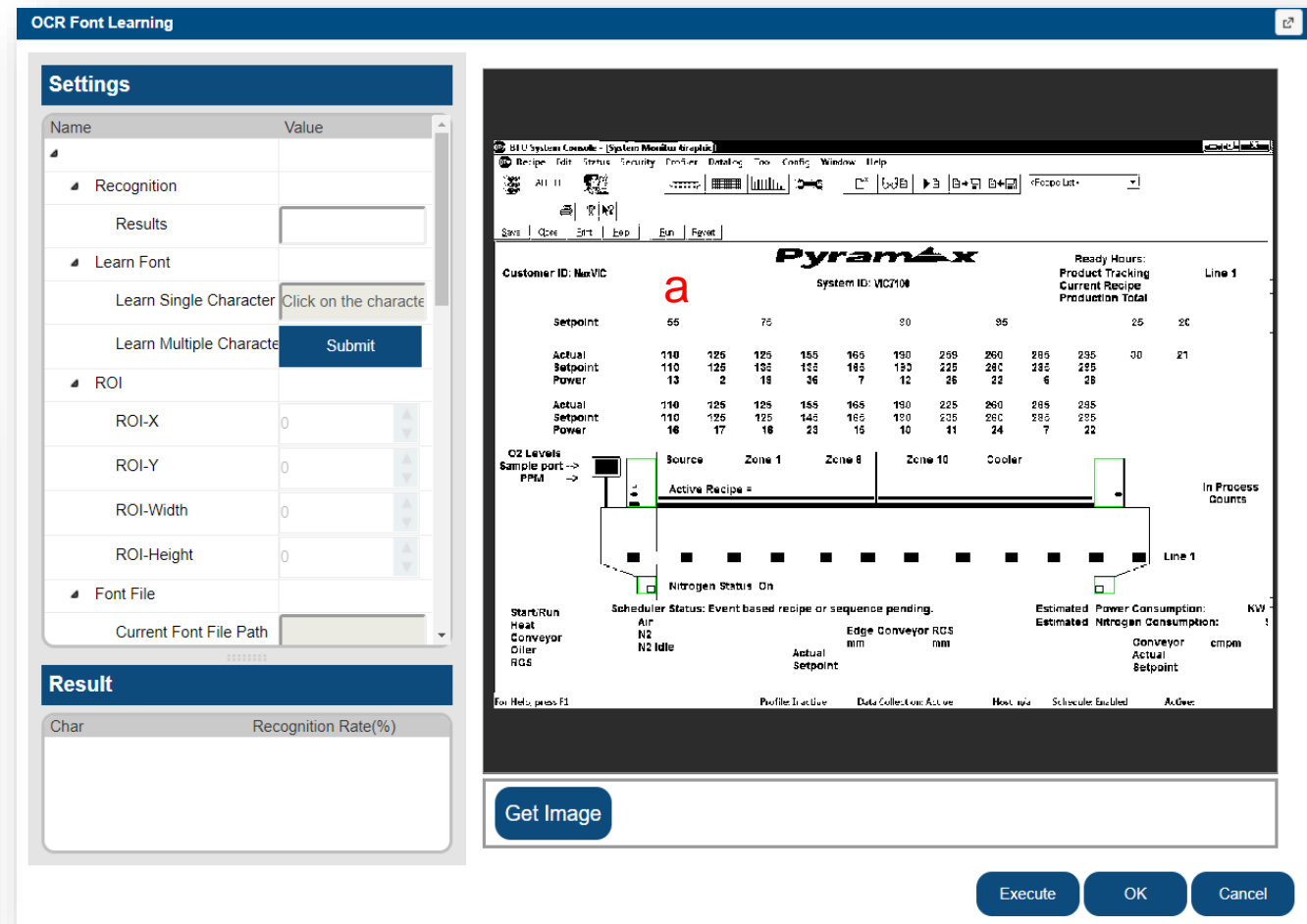
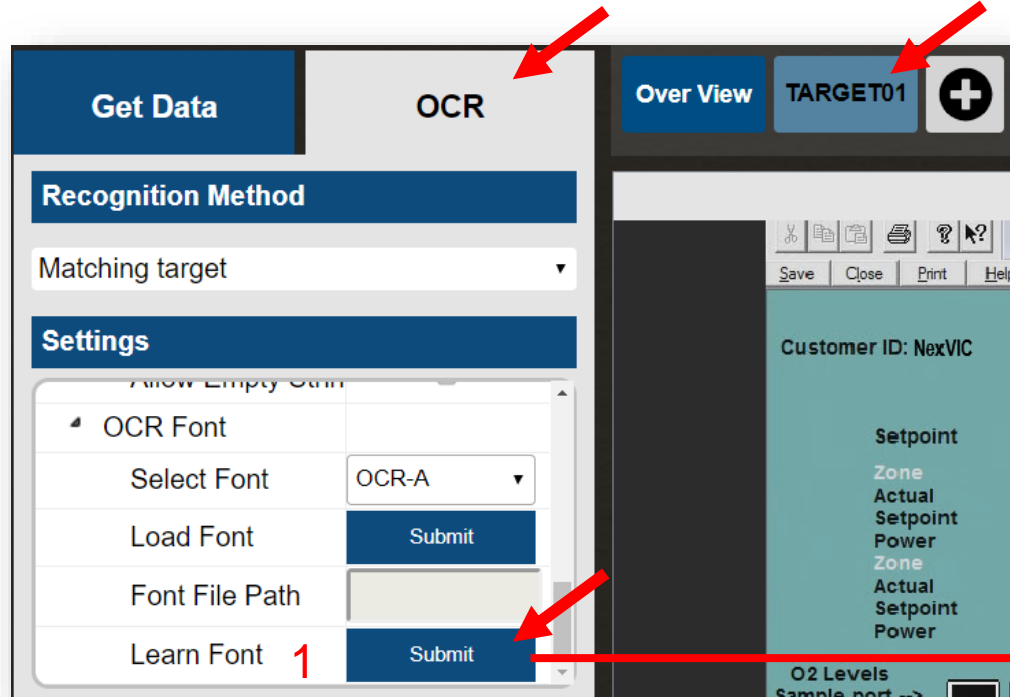
The image displays two screenshots of the 'Learn OCR Font' wizard interface, illustrating the 'Save As Font File' step.

Top Screenshot: The wizard is at step 7, 'Save As Font File'. The 'Current Font File Path' field is empty. A red arrow points from the 'Save as' button to the 'Save Font File' dialog box.

Bottom Screenshot: The 'Save Font File' dialog box is open, showing the 'Name:' field. A red arrow points from the 'Name:' label to the input field. Another red arrow points from the 'OK' button to the 'Current Font File Path' field, which now contains the path 'C:/VIC7000/user_ocr_fonts/Training.ocr'. A third red arrow points from the 'Finish' button in the wizard to the 'Finish' button in the dialog box.

Build Project – Font Learning

- General : Learn OCR Font
 1. Open OCR Font Learning Window
 2. Get Image
 - a. Direct Load : Directly load images from Get Data

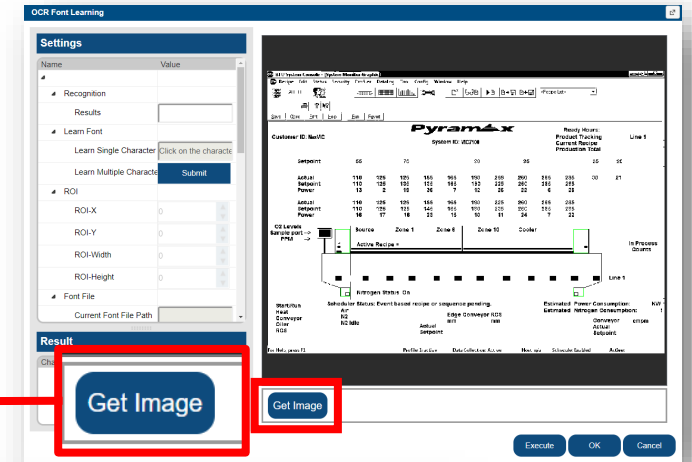
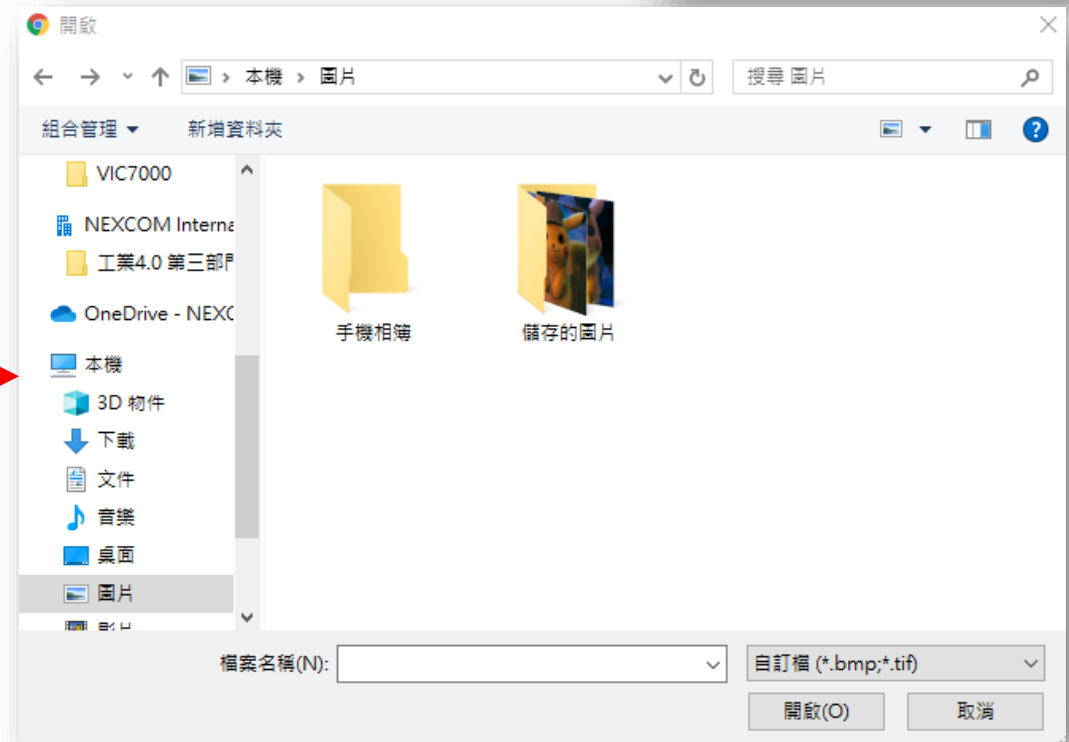
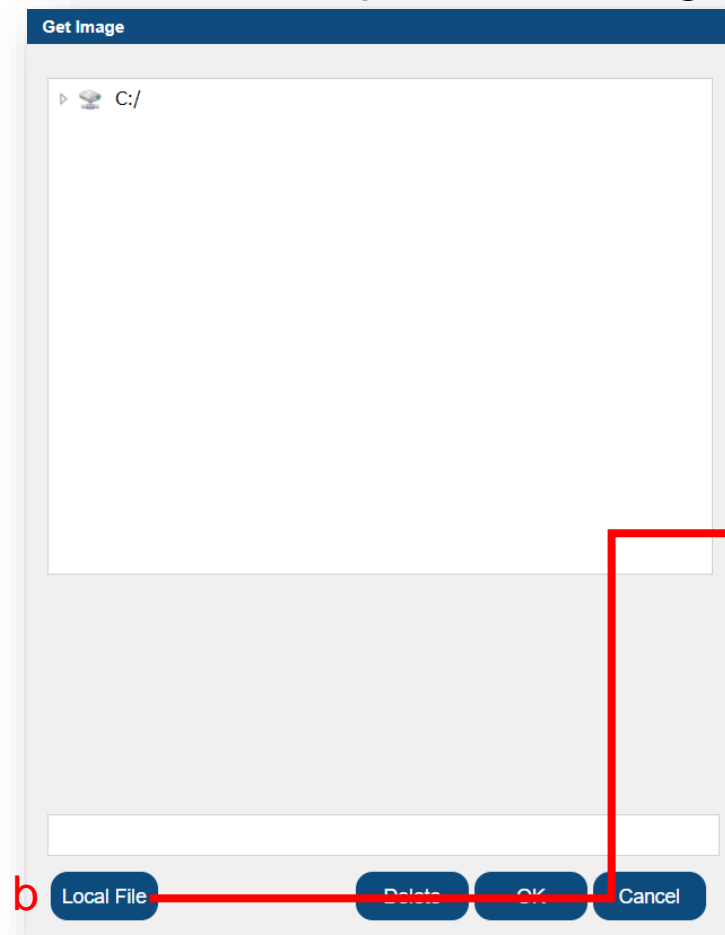


Build Project – Font Learning

- General : Learn OCR Font

- 2. Load Image

- b. Open local image : Load images from a local folder

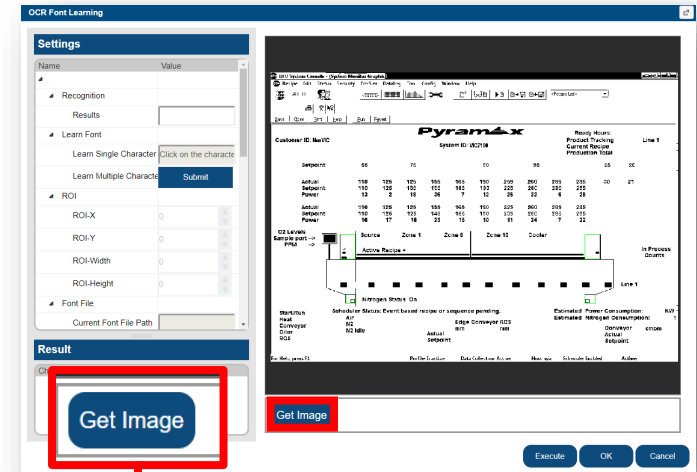
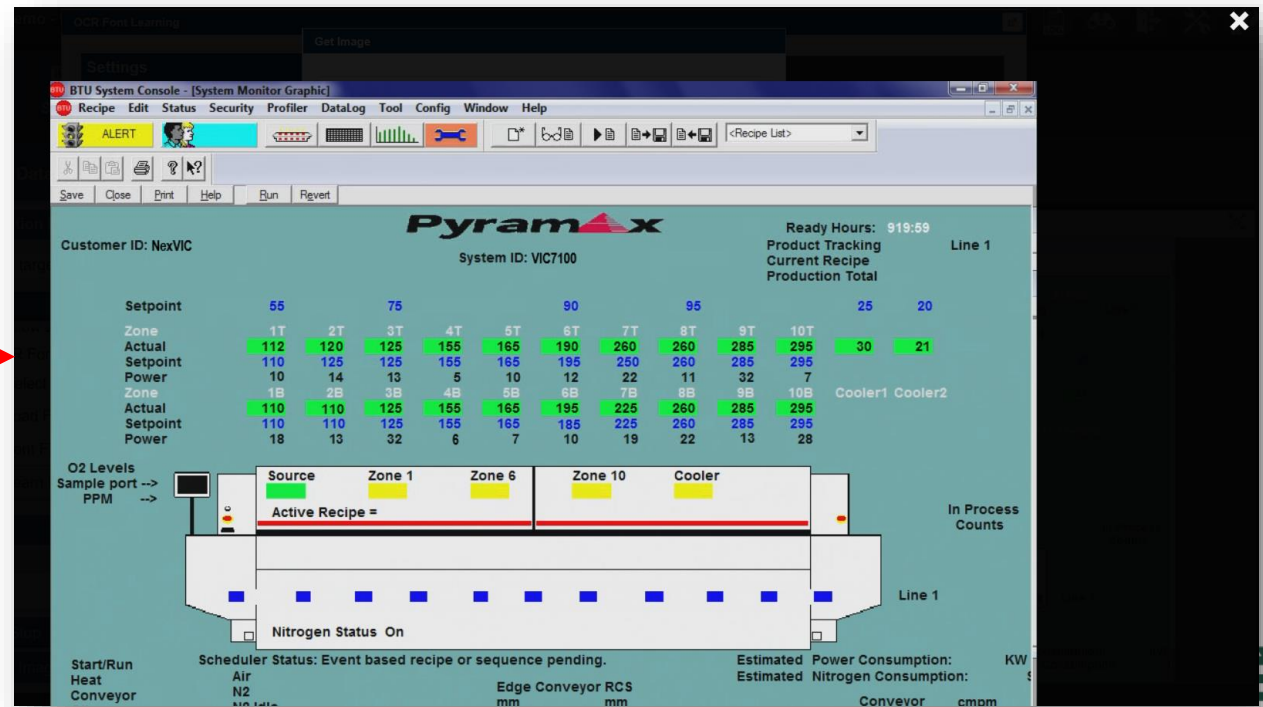
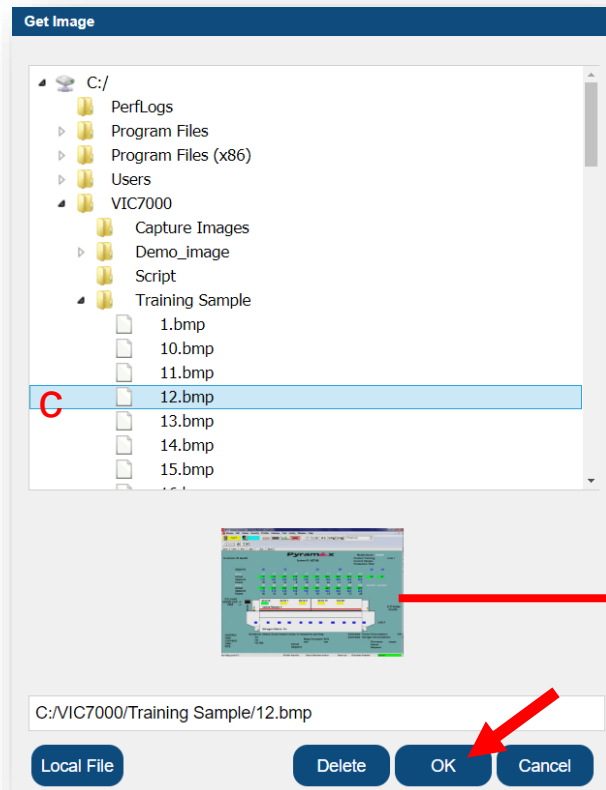


Build Project – Font Learning

- General : Learn OCR Font

- 2. Load Image

- c. Open remote image : Load the image on a remote VIC7000 computer. Click on the preview block to enlarge selected image



Build Project – Font Learning

- **General : Learn OCR Font**

3. **Segment Characters** : Adjust segmentation parameters to make characters recognizable.

The screenshot displays the NexIoT interface for font learning. On the left, a sample image shows a document with text segments highlighted in green boxes. The segments are labeled with numbers: 55, 75, 110, 125, 135, 155, 165, 13, 2, 19, 36, 7, 110, 125, 125, 155, 165, 16, 17, 16, 23, 15. Below the image, a table shows the 'Active Recipe' with columns for 'Source', 'Zone 1', and 'Zone 6'. The 'System ID' is 'VIC7'. On the right, the 'Size' settings are highlighted with a red box, showing parameters like 'Show Segmentation', 'Min Width', 'Max Width', 'Min Height', 'Max Height', 'Character Spacing', 'Noise Area', 'Relative Spacing (%)', 'Remove Narrow Or F', 'Remove Border', and 'Cut Large Character'. A red arrow points from the 'Show Segmentation' checkbox to a small red square icon. Below the 'Size' settings, the 'Chars Color and Thresh' settings are shown, including 'Chars Color' (Black on White), 'Thresholding' (checked), and 'Threshold Value' (134). A dropdown menu for 'Chars Color' is open, showing options: 'Black on White', 'Black on White' (highlighted), 'White on Black', 'Dark on Light', and 'Light on Dark'. The 'NEXIOT' logo is in the bottom right corner.

System ID: VIC7

Source Zone 1 Zone 6

Active Recipe =

Size	
Show Segmentation	<input type="checkbox"/>
Min Width	16
Max Width	48
Min Height	16
Max Height	72
Character Spacing	8
Noise Area	18
Relative Spacing (%)	0
Remove Narrow Or F	<input checked="" type="checkbox"/>
Remove Border	<input checked="" type="checkbox"/>
Cut Large Character	<input type="checkbox"/>

Chars Color and Thresh

Chars Color: Black on White

Thresholding: ☒

Threshold Value: 134

Chars Color dropdown options:

- Black on White
- Black on White
- White on Black
- Dark on Light
- Light on Dark

- **Segmentation Parameters**

- **Minimum Width/Height** : The width/height of the smallest character. If the width/height of a character is smaller than this value, it will be discarded
- **Maximum Width/Height** : The width/height of the maximum character, if the width/height of a character is larger than this value, it will be discarded
- **Character Spacing** : The smallest space between adjacent characters. If the space between two characters is less than this value, they will be considered as two characters separately
- **Noise Area** : Spotted area smaller than this value will be discarded. Adjusting this value will preserve the small character feature, like the dot above the letter i
- **Chars Color** : Black on White, White on Black, Dark on Light, Light on Dark
- **Threshold** : Adjust the image binarizing threshold

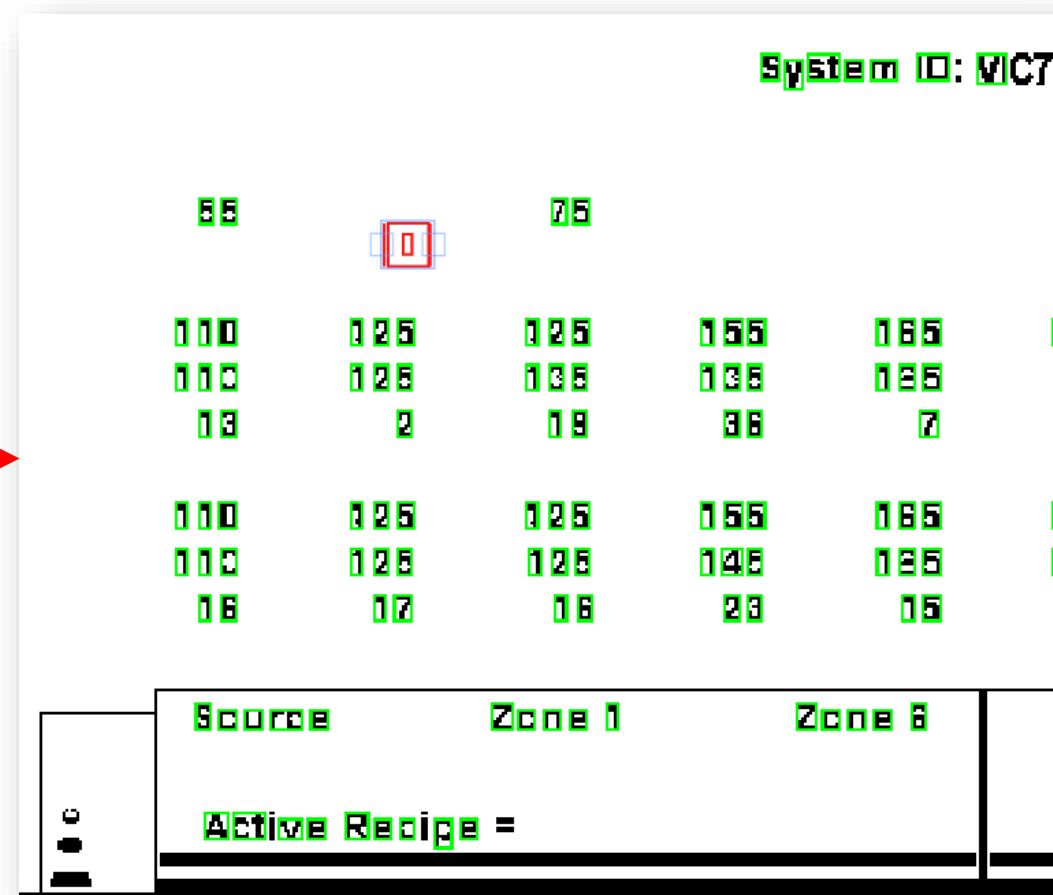
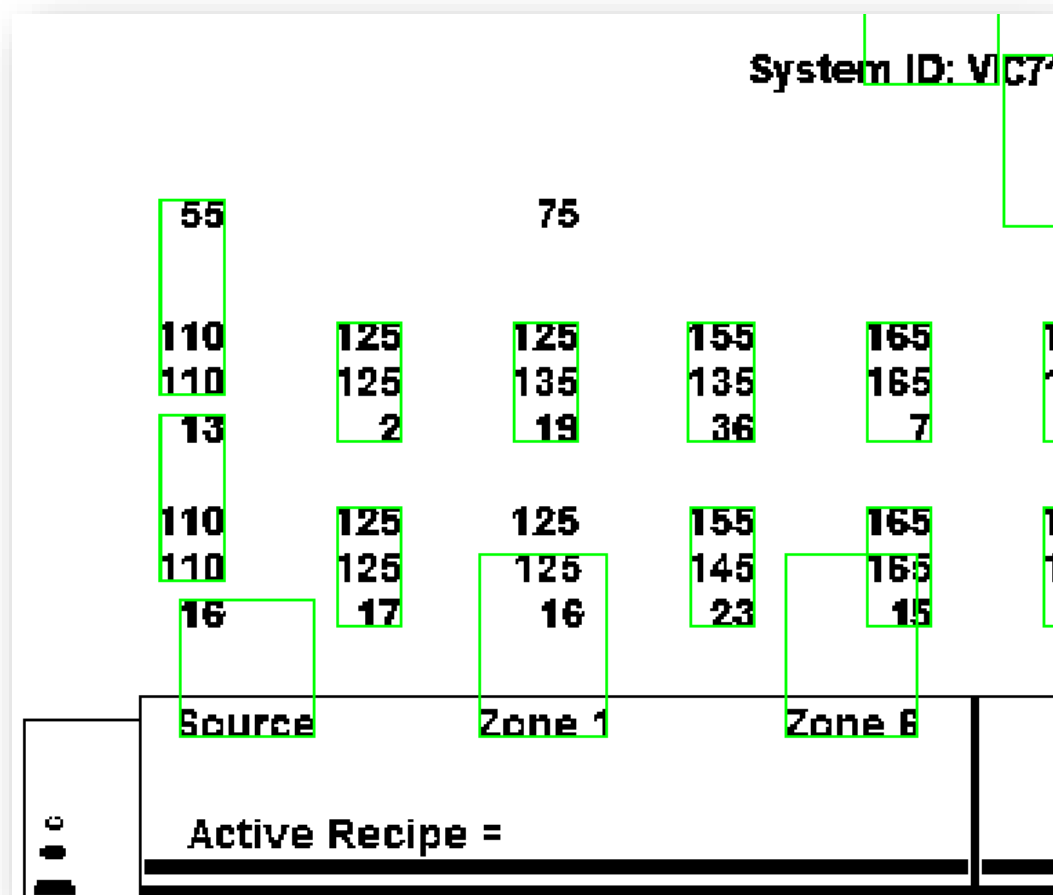
- **Segmentation Parameters**

- **Remove Narrow or Flat** : If a character has its size value less than the minimum width/height or greater than the maximum width/height, this character will be discarded. It's recommended to check this item again.
- **Remove Border** : Discard spots on edge of image/ROI
- **Cut Large Characters** : If enabled, characters are split as much part as possible. This item is designed for characters that cannot be separated by adjusting threshold
- **Relative Spacing(%)** : When Cut Large Characters is checked, the empty vector is inserted between those split parts

Build Project – Font Learning

- **General : Learn OCR Font**

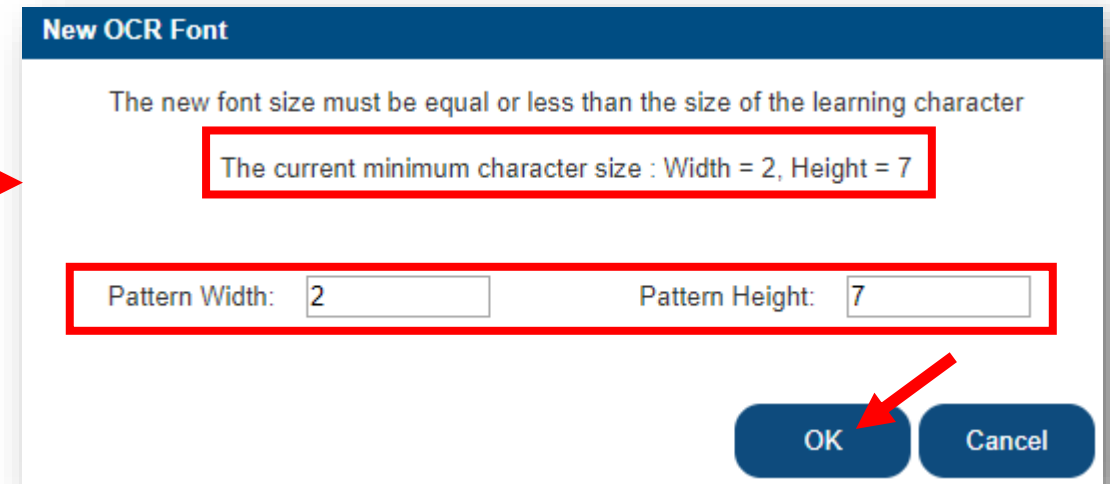
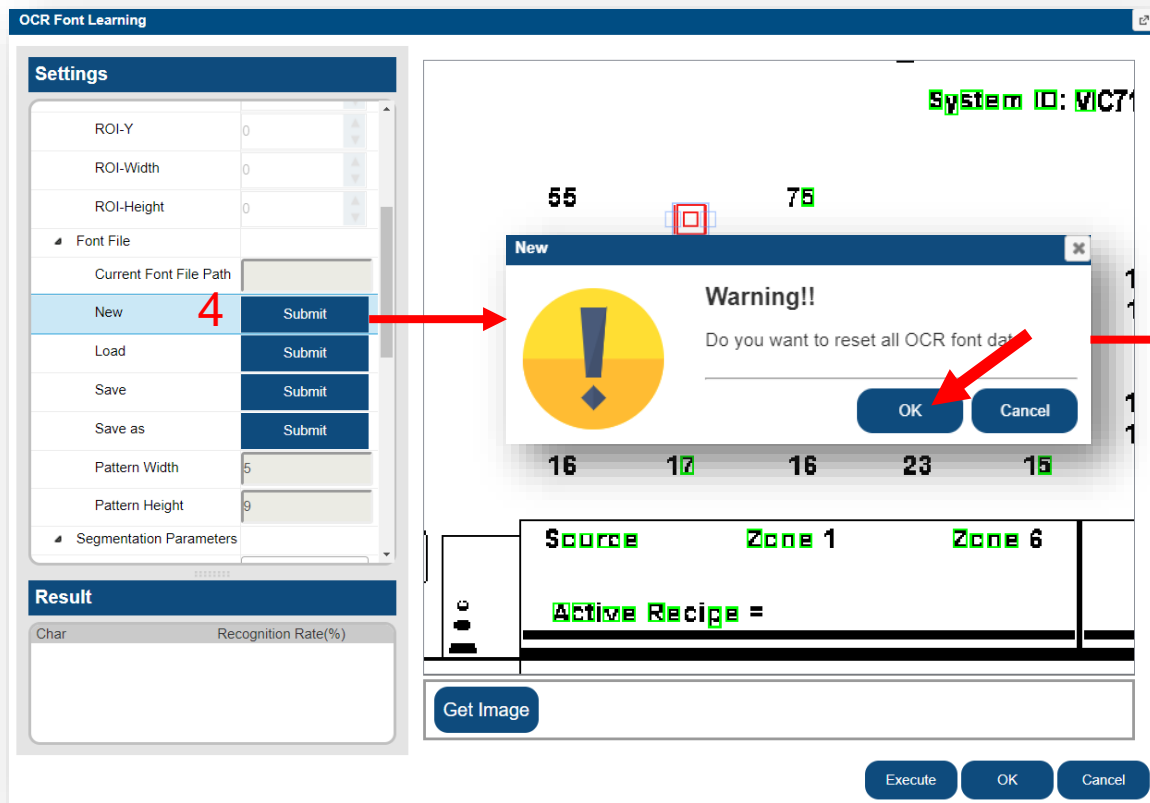
3. **Segment Characters** : Adjust segmentation parameters to make characters recognizable



Build Project – Font Learning

- **General : Learn OCR Font**

4. **Create New Font** : Patterns height/width must be less than or equal to characters minimum height/width

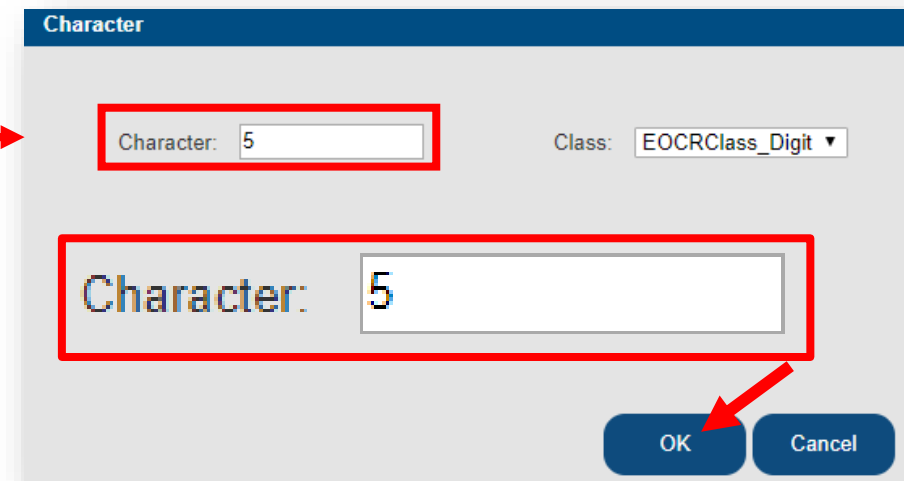
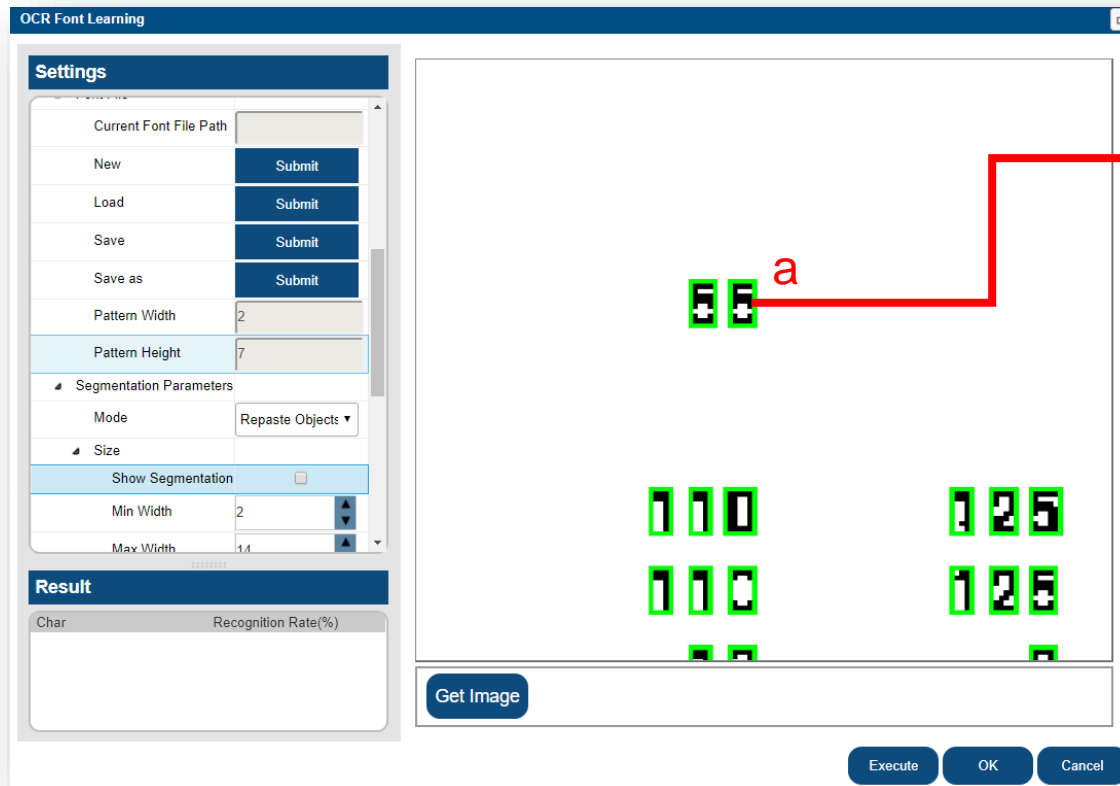


Build Project – Font Learning

- **General : Learn OCR Font**

- 5. Learn OCR Font

- a. Learn **Single** Character : Click on the targeted character → Enter **Character** → Click **OK**

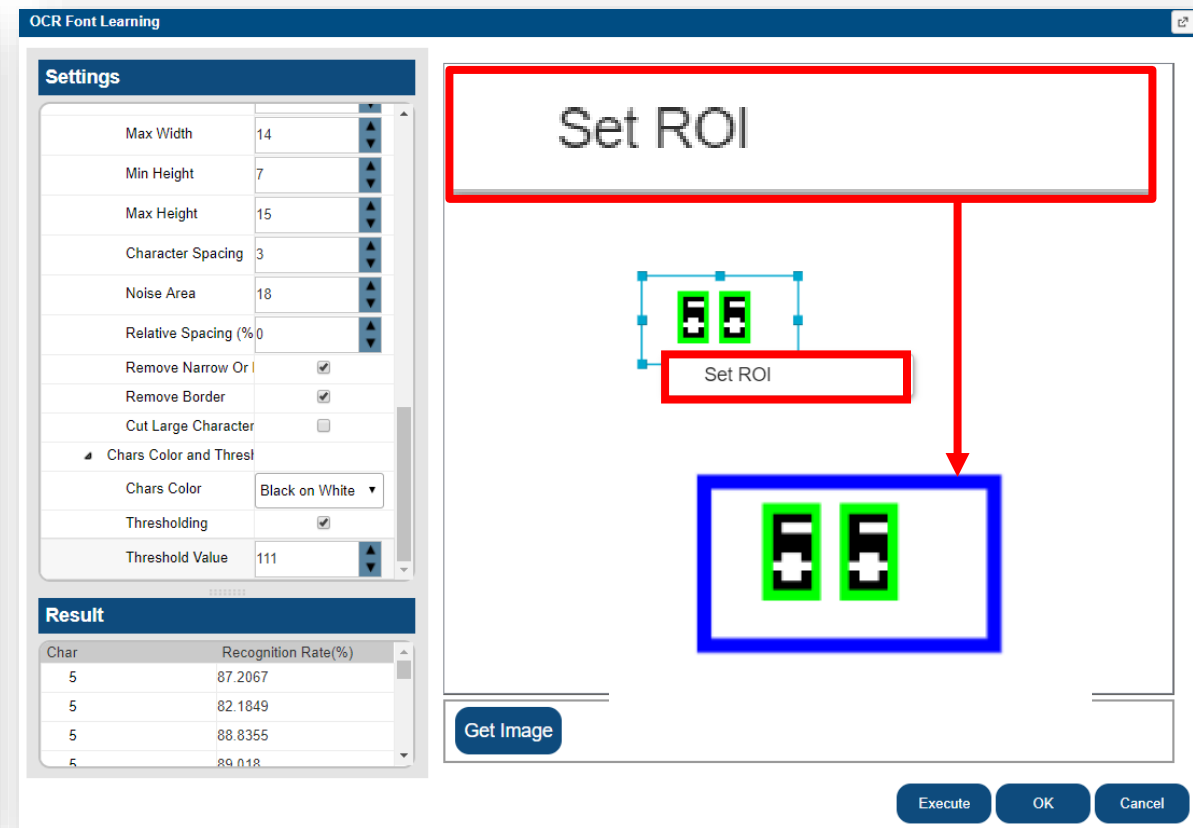
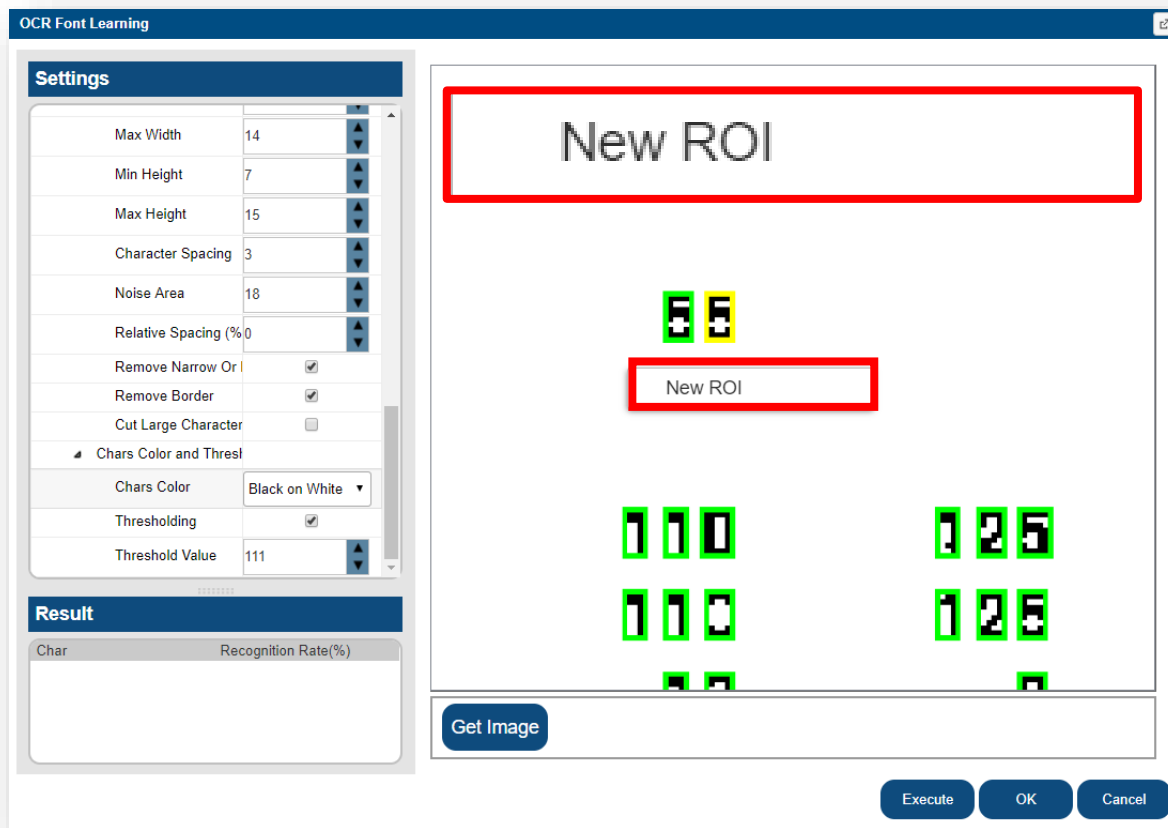


Build Project – Font Learning

- **General : Learn OCR Font**

- 5. Learn OCR Font

- b. Learn **Multiple** Character : Right-click on the image and select **New ROI** → adjust the location and size of ROI → Right-click on the image and select **Set ROI**

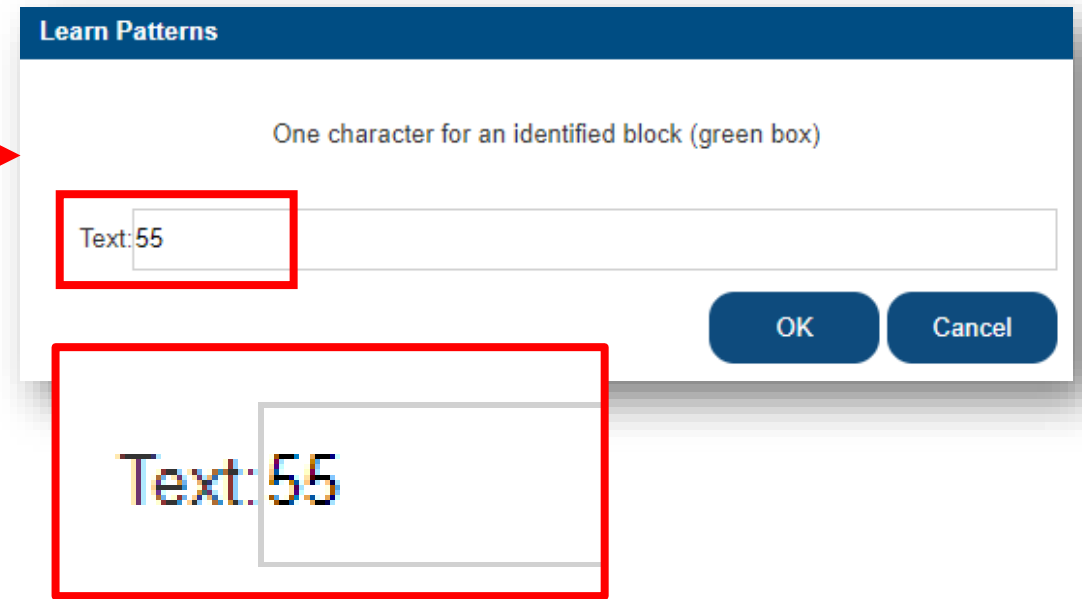
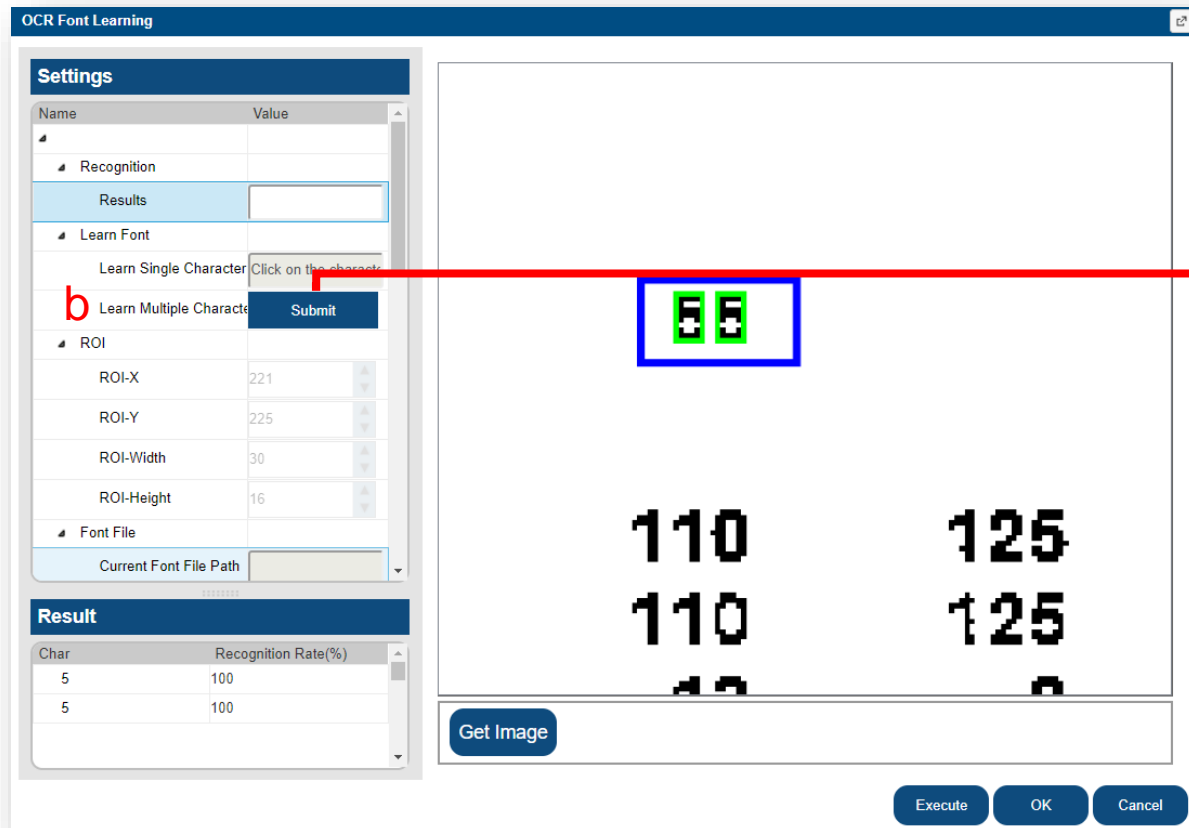


Build Project – Font Learning

- **General : Learn OCR Font**

- 5. Learn OCR Font

- b. Learn **Multiple** Character : Click **Learn Multiple Characters** → Enter **Text** → Click **OK**



Build Project – Font Learning

- **General : Learn OCR Font**

6. **Simulation** : Click **Execute**, and see the result in Recognition **Result** field



Result	
Char	Recognition Rate(%)
5	100
5	100

OCR Font Learning

Settings

Name	Value
Recognition	
Results	55
Learn Font	
Learn Single Character	Click on the character
Learn Multiple Characters	Submit
ROI	
ROI-X	221
ROI-Y	225
ROI-Width	30
ROI-Height	16
Font File	
Current Font File Path	

Result

Char	Recognition Rate(%)
5	100
5	100

6

Execute

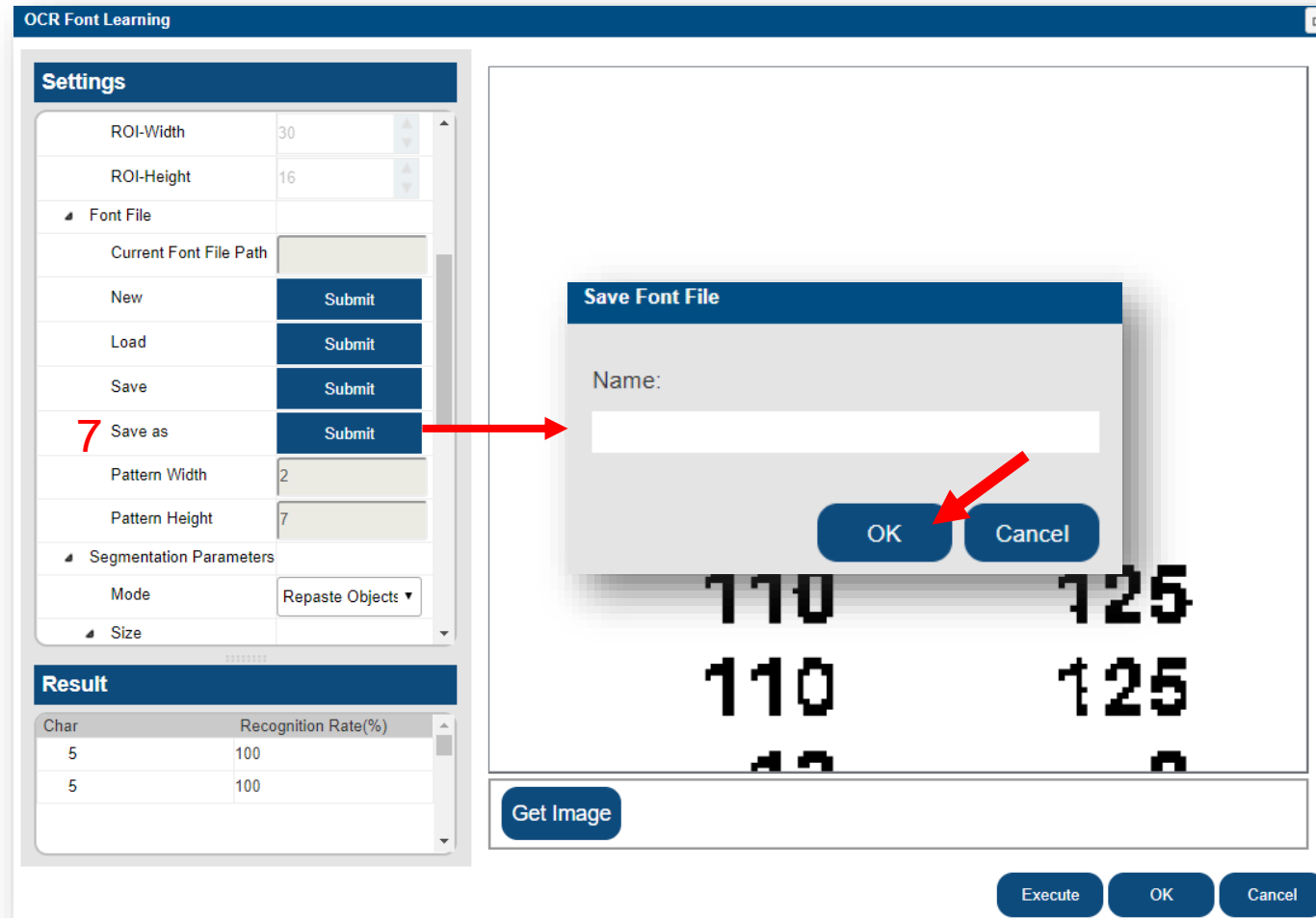
OK

Cancel

Build Project – Font Learning

- **General : Learn OCR Font**

7. **Save As Font File** : Click **Save As** → Enter a **Name** for the font file → Click **OK**



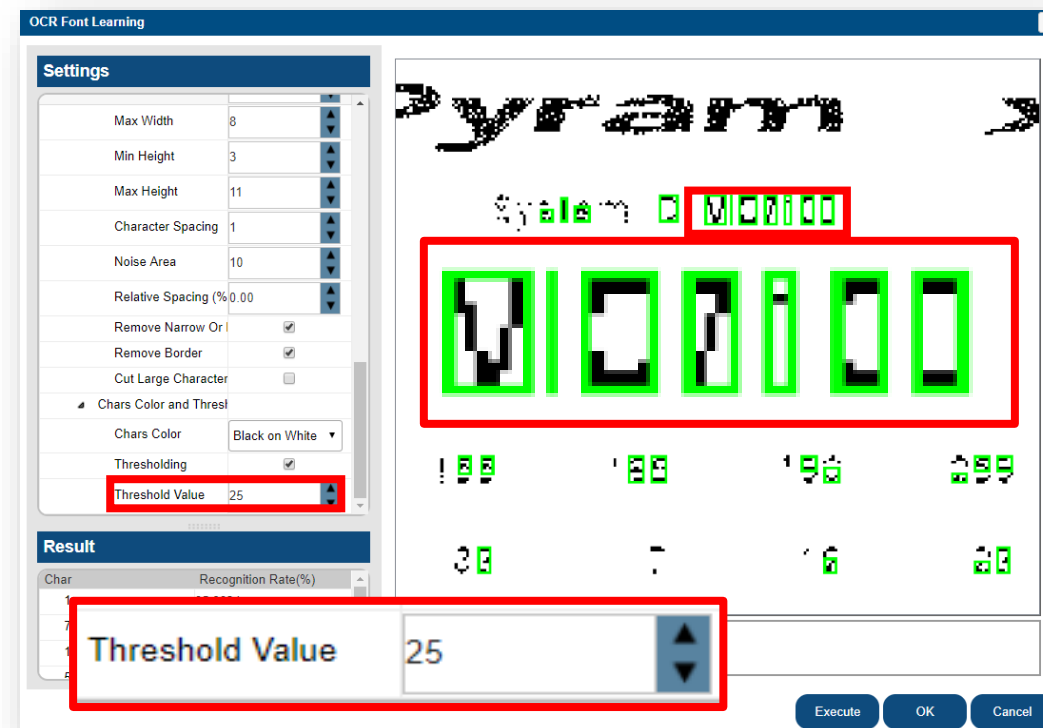
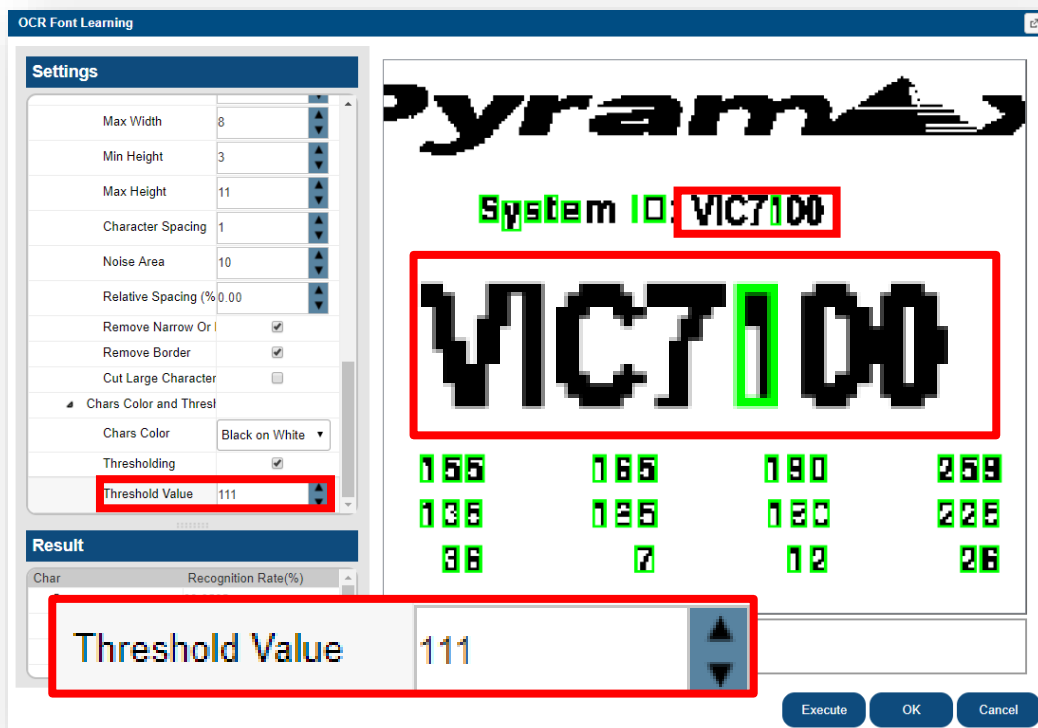
Build Project – Font Learning

- **General**

- **Segmentation Parameter** : Each font file contains its own segmentation parameters.

If those parameters are suffered any changes, recognition results will vary in consistent with them.

Some characters require special segmentation parameter adjustment. Keep in mind that **Create New Font File** will clear previously learnt data. Therefore, users need to save the original font file, before create a new font file or adjust it.

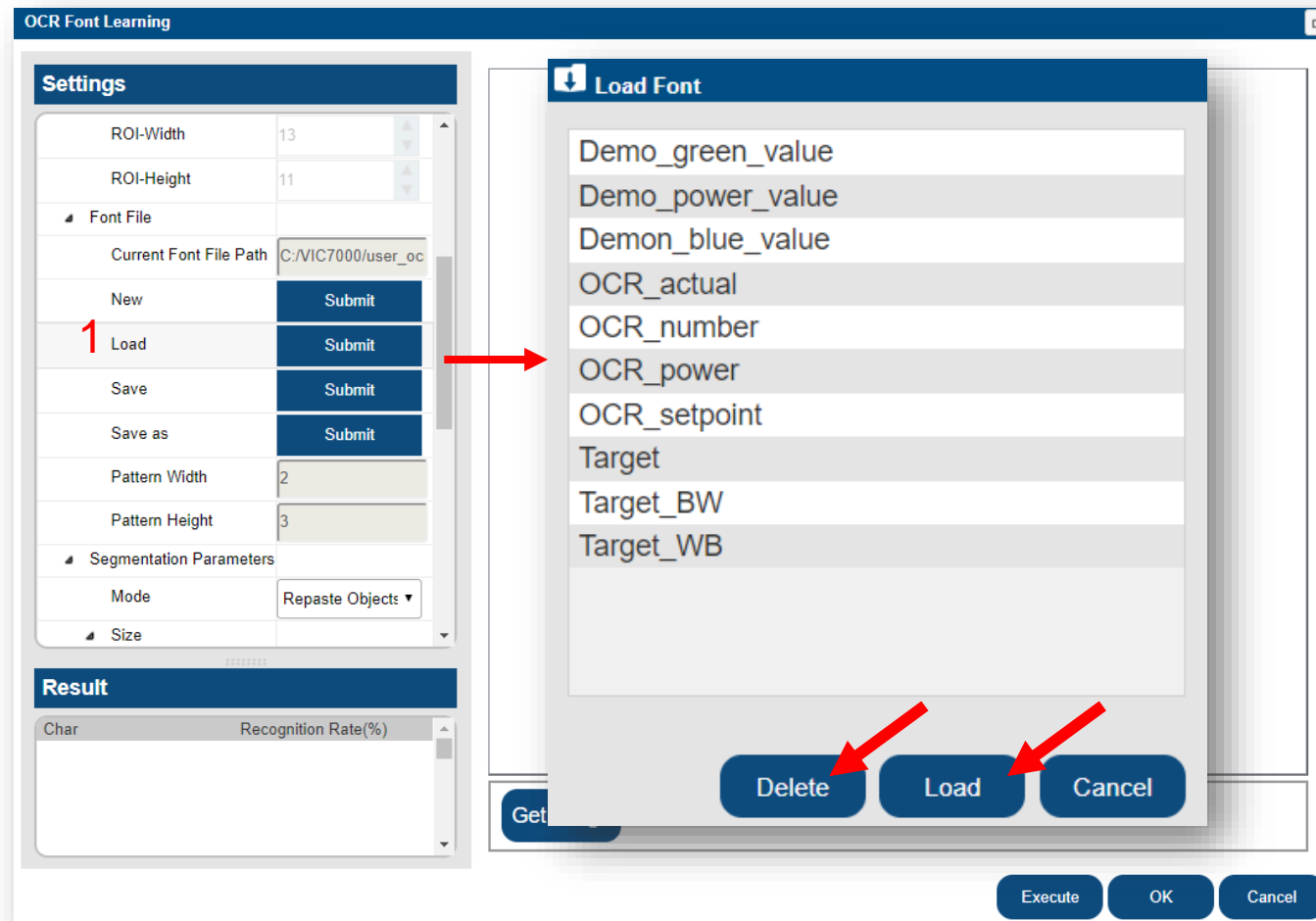


Build Project – Font Learning

- **General**

- **Keep training** : Load font file and train more characters

1. Load : Load font file with **Load** button in OCR Font Learning window



Build Project – Font Learning

- **General**

- **Keep training** : Load font file and train more characters
- 2. Direct Load : Directly load font file used in recognition config page

Get Data **OCR**

Recognition Method

Matching target

Settings

OCR Font

Select Font Font File

Load Font Submit

2 Font File Target_BW.ocr

Learn Font Submit

OCR Font Learning

Settings

ROI-Width 0

ROI-Height 0

Font File

Current Font File Target_BW.ocr

New Submit

Load Submit

Edit Submit

Save Submit

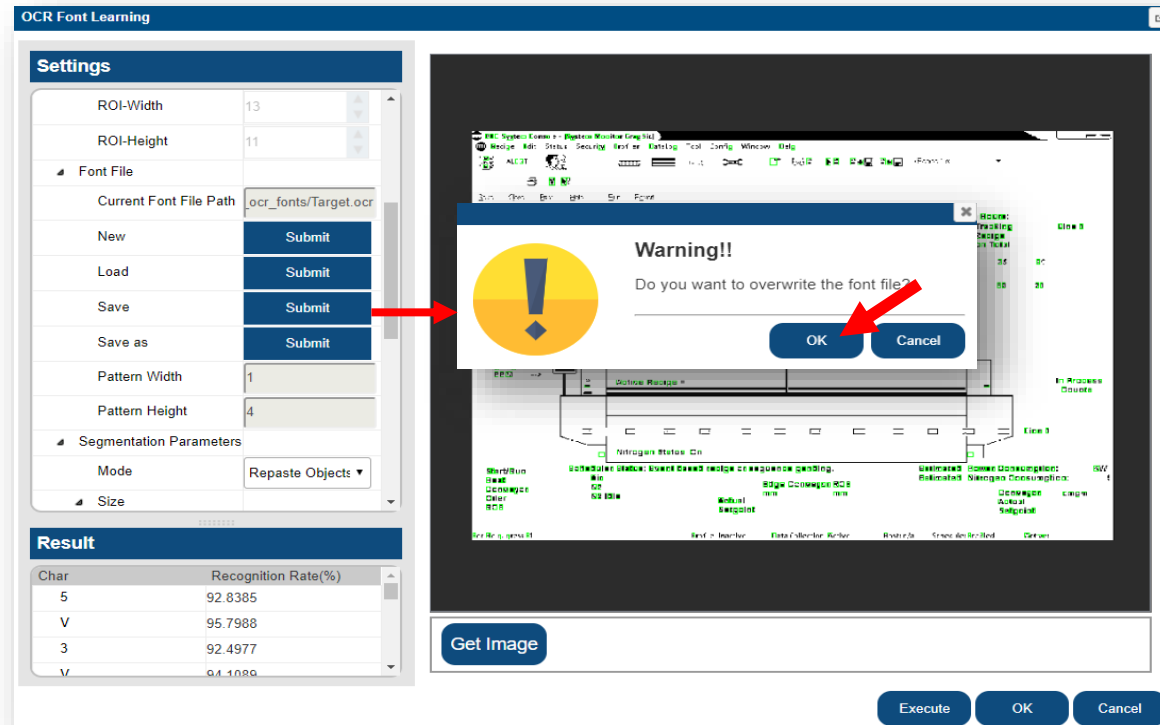
Save as Submit

Build Project – Font Learning

- **General**

- **Keep Learning** : Once segmentation parameters are re-adjusted, the recognition processes will apply new segmentation parameters.

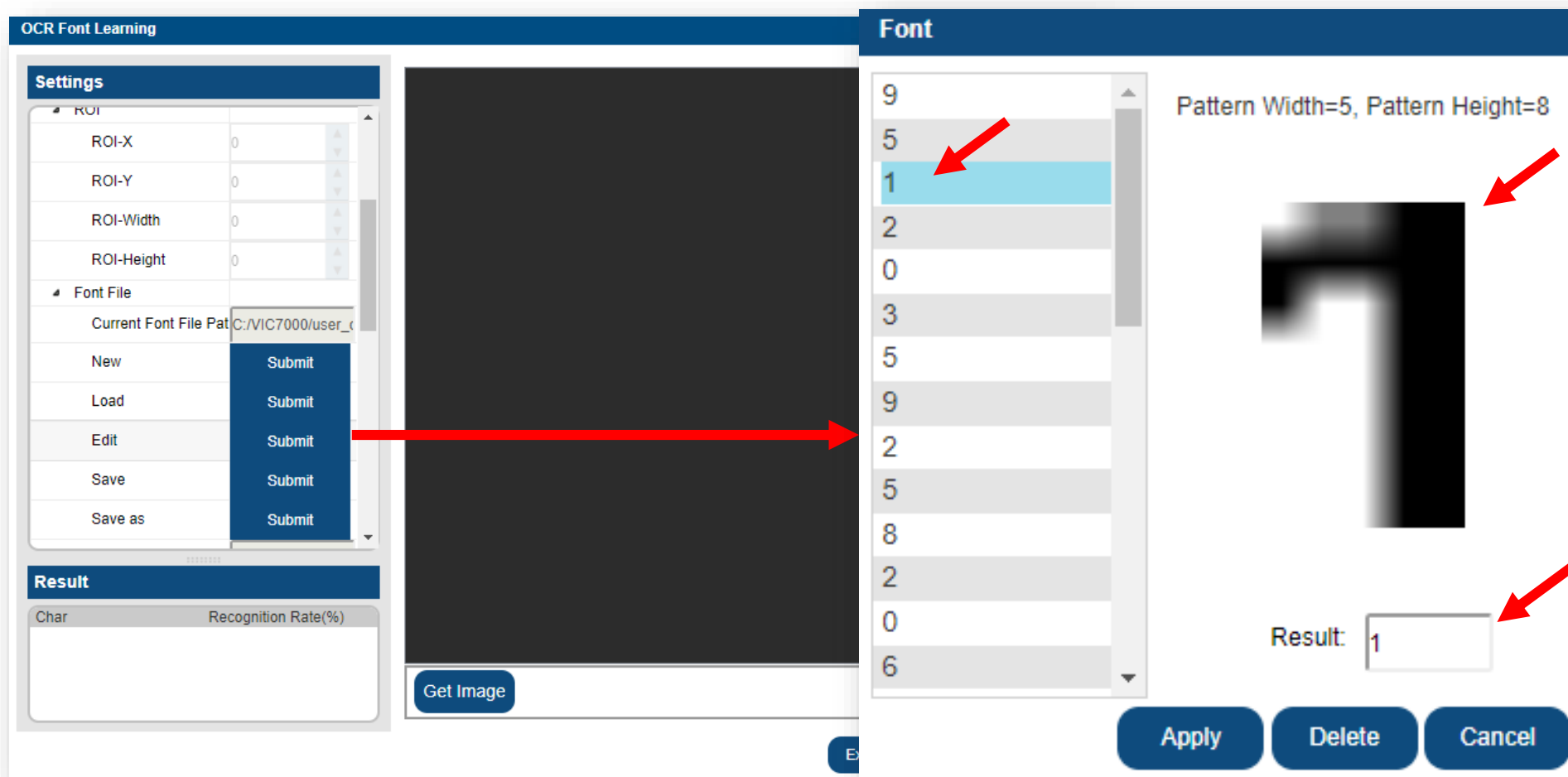
When learning process is finished → Click **Save** → Click **OK** to overwrite, repeating training process until all necessary characters are trained



Build Project – Font Learning

- **General**

- **Edit Font File** : Click **Edit** in OCR Font Learning window. **Learnt samples and contents** can be reviewed or deleted in **Font window**.



Build Project – Font Learning

- **General**

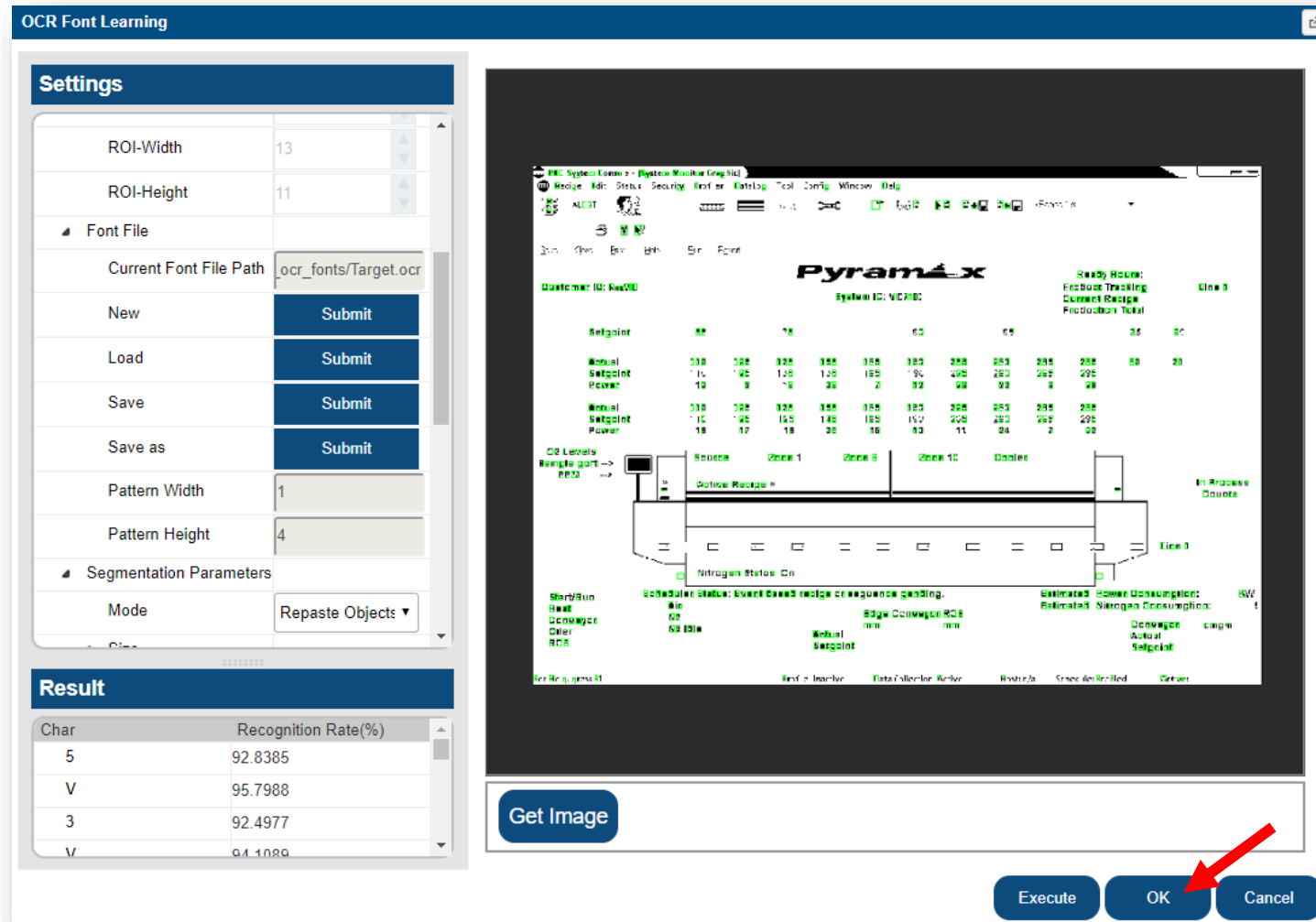
- **Edit Font File** : User can Edit learnt data in Font window. Enter changes in Result field, and click **Apply**.



Build Project – Font Learning

- General : Learn OCR Font

8. Finish Learning : Click **OK** to close OCR Font Learning window



Build Project – Font Learning

- General : Learn OCR Font

- 8. Finish Learning : Back to OCR config page

The screenshot displays the nexVIC system interface, divided into two main sections: the OCR configuration page on the left and the main system monitor graphic on the right.

OCR Configuration Page (Left):

- Get Data** and **OCR** tabs are visible at the top.
- Recognition Method** is set to 04.
- Settings** section includes:
 - Allow Recognition** set to 80.
 - OCR Font** section with a **Select Font** dropdown (Font File), a **Load Font** button, and a **Font File** input field (Target.ocr).
 - Learn Font** button.
 - Symbol OCR Font** section with **Allow Recognize** checkbox and **Load Symbol Font** button.
 - Symbol Font File** input field.
- Result** section with a table for Char and Recognition Rate(%).
- Buttons:** Stop, Start, Get Image, and Simulate.

Main System Monitor Graphic (Right):

- BTU System Console - [System Monitor Graphic]** window title.
- Customer ID:** NexVIC, **System ID:** VC7100.
- Ready Hours:** 919:59.
- Product Tracking:** Current Recipe, Production Total.
- Setpoint Table:**

Setpoint	65	75	90	95	25	20						
Zone	1T	2T	3T	4T	5T	6T	7T	8T	9T	10T		
Actual	112	125	125	155	165	190	238	260	285	285	30	21
Setpoint	110	125	125	155	165	190	225	260	285	285		
Power	15	14	13	5	7	12	11	22	4	27		
Zone	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	Cooler1	Cooler2
Actual	110	125	125	155	165	190	225	260	285	285		
Setpoint	110	125	125	155	165	190	225	260	285	285		
Power	18	9	8	3	2	10	11	24	7	52		

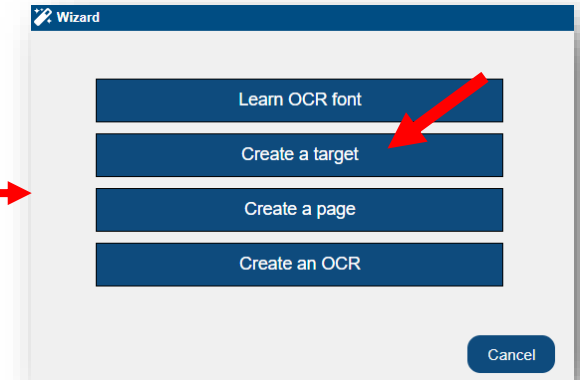
- O2 Levels** and **Sample port** section.
- Source** section with **Zone 1**, **Zone 6**, **Zone 10**, and **Cooler** buttons.
- Active Recipe** section.
- Nitrogen Status** section with **Nitrogen Status On** button.
- Scheduler Status:** Event based recipe or sequence pending.
- Estimated Power Consumption:** KW.
- Estimated Nitrogen Consumption:** cm3pm.
- Conveyor** section with **Actual** and **Setpoint** buttons.
- Edge Conveyor RCS** section with **mm** and **mm** buttons.
- Start/Run** section with **Heat**, **Conveyor**, **Oiler**, and **RCS** buttons.
- For Help, press F1** button.
- Profile:** Inactive, **Data Collection:** Active, **Host:** n/a, **Schedule:** Enabled, **Active:** Active.

Build Project – Target

- **Wizard : Create a target**

1. Data Source

From File or From Capture Card



Create a target

1. Data Source 2. Source Settings 3. Recognition 4. Get Image 5. Simulate

Data Source

From File

From File

From Capture Card

From File

From Capture Card

Previous Next Cancel

Build Project – Target

- **Wizard : Create a target**

- 2. Source Settings

From File : Image folder Path, Read interval

From Capture Card : Video input signal type, Capture frame rate

The screenshot shows the 'Create a target' wizard with five steps: 1. Data Source, 2. Source Settings, 3. Recognition, 4. Get Image, and 5. Simulate. Step 2 is active. It contains two input fields: 'Image Folder' with the value 'C:/VIC7000' and 'Interval (ms)' with the value '1000'. A blue 'Submit' button is located to the right of the 'Image Folder' field. Red arrows point to the 'Submit' button and the 'Interval (ms)' input field.

The screenshot shows the 'Create a target' wizard with five steps: 1. Data Source, 2. Source Settings, 3. Recognition, 4. Get Image, and 5. Simulate. Step 2 is active. It contains three input fields: 'Video Signal' with the value 'false', 'Video Input' with a dropdown menu showing 'DVI_A (RGB / VGA)', and 'Capture Frame Rate' with a value of '2'. A blue 'Next' button is located at the bottom right, next to 'Previous' and 'Cancel' buttons. Red arrows point to the 'Video Input' dropdown menu, the 'Capture Frame Rate' input field, and the 'Next' button.

Build Project – Target

- **Wizard : Create a target**

- 3. Recognition

1. **Matching target** : Automatically select recognition page based on target matching result
2. **Specify page** : Directly specify the page to use

Create a target

1. Data Source 2. Source Settings 3. Recognition 4. Get Image 5. Simulate

Recognition Method

Matching target ▼

Matching target

01

02

03

Matching target 1

01	2
02	
03	

Previous Next Cancel

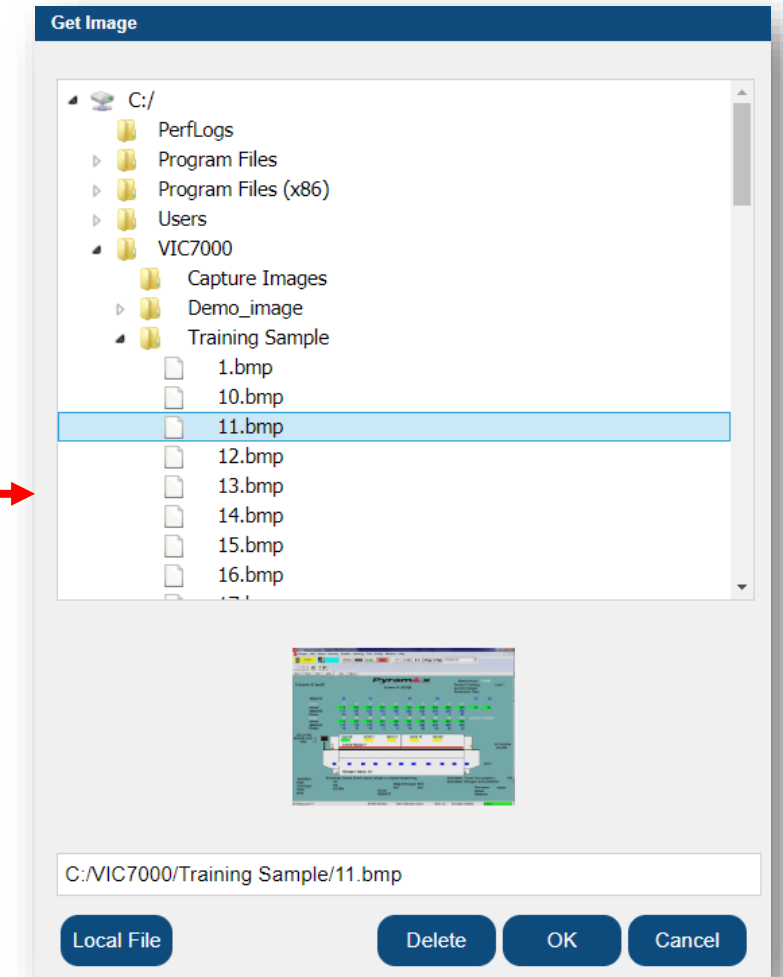
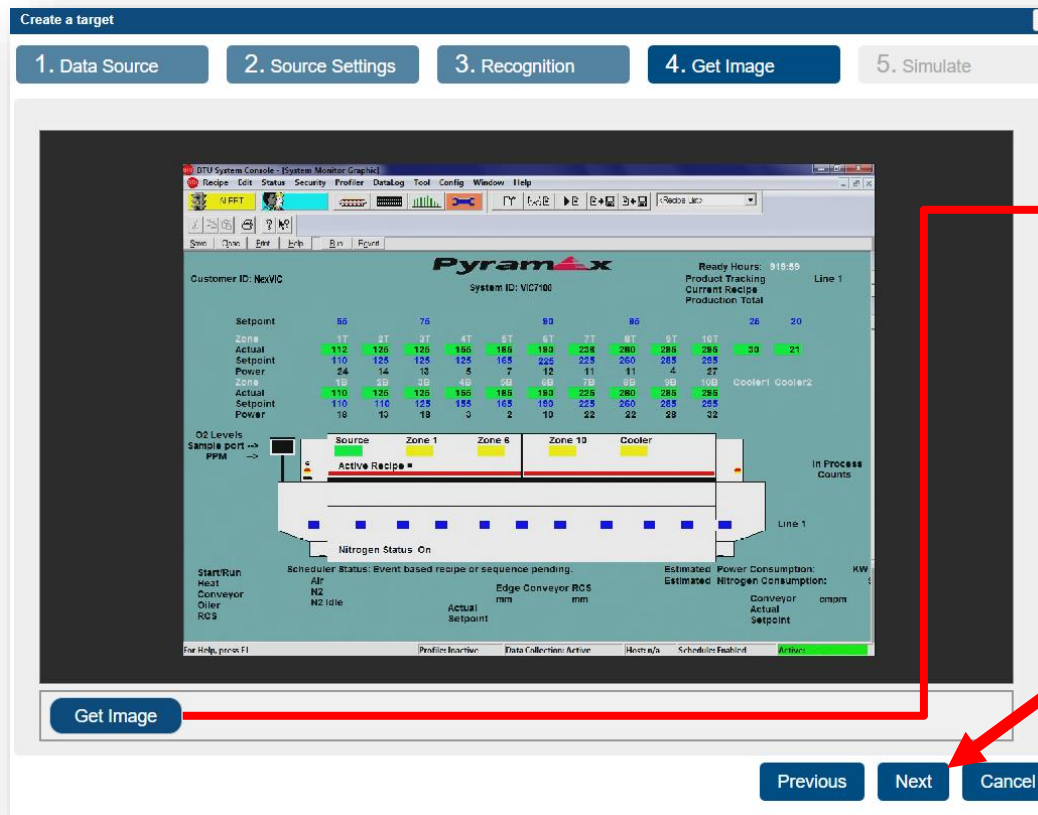
Build Project – Target

- Wizard : Create a target

4. Get Image

From File : Read images from local or remote folders

From Capture Card : Get an image from the capture card



Build Project – Target

- **Wizard : Create a target**

- 5. **Simulate**

Right-click on an image and click **New ROI** (or Click **New ROI**) → Resize location and size of ROI → Right-click on the image and click **Set ROI** (or Click **Set ROI**)



- ## 5. Simulate

After selecting the font file, user can click preview to preview the learnt content of the font file

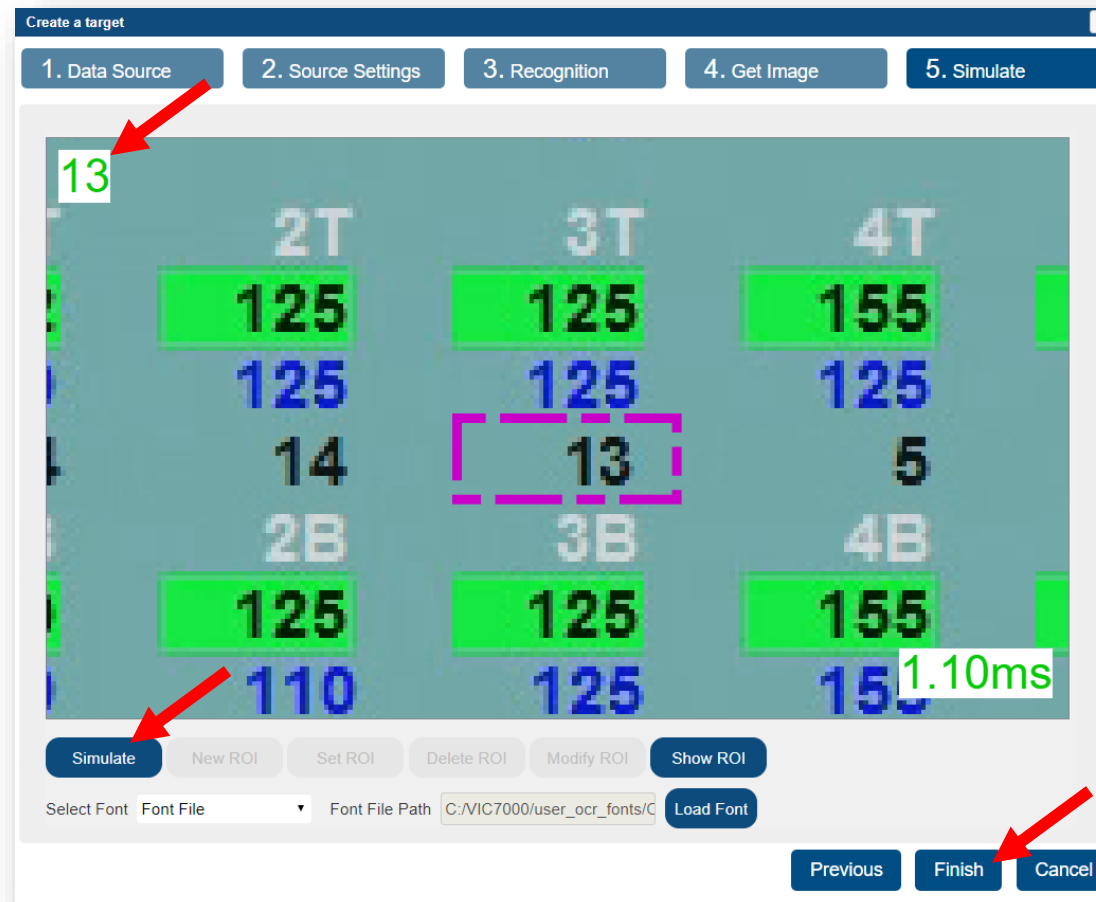


Build Project – Target

- Wizard : Create a target

- 5. Simulate

Click **Simulate** → Confirm the recognition result, which is used as **TARGETs**

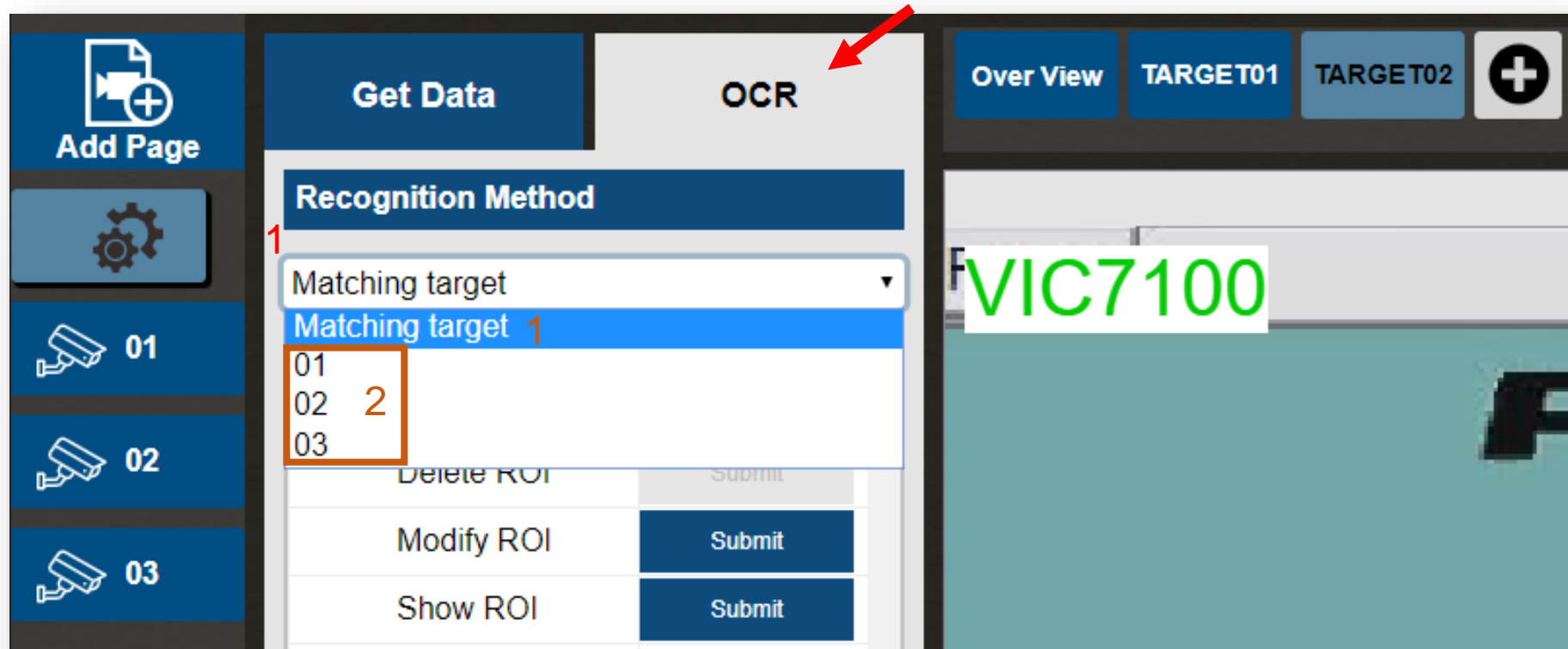


Build Project – Target

- **General : Create a Target**

- 1. Recognition Method

- 1. **Matching target** : Automatically select recognition page based on target matching result
 - 2. **Specify page** : Directly specify the page to use

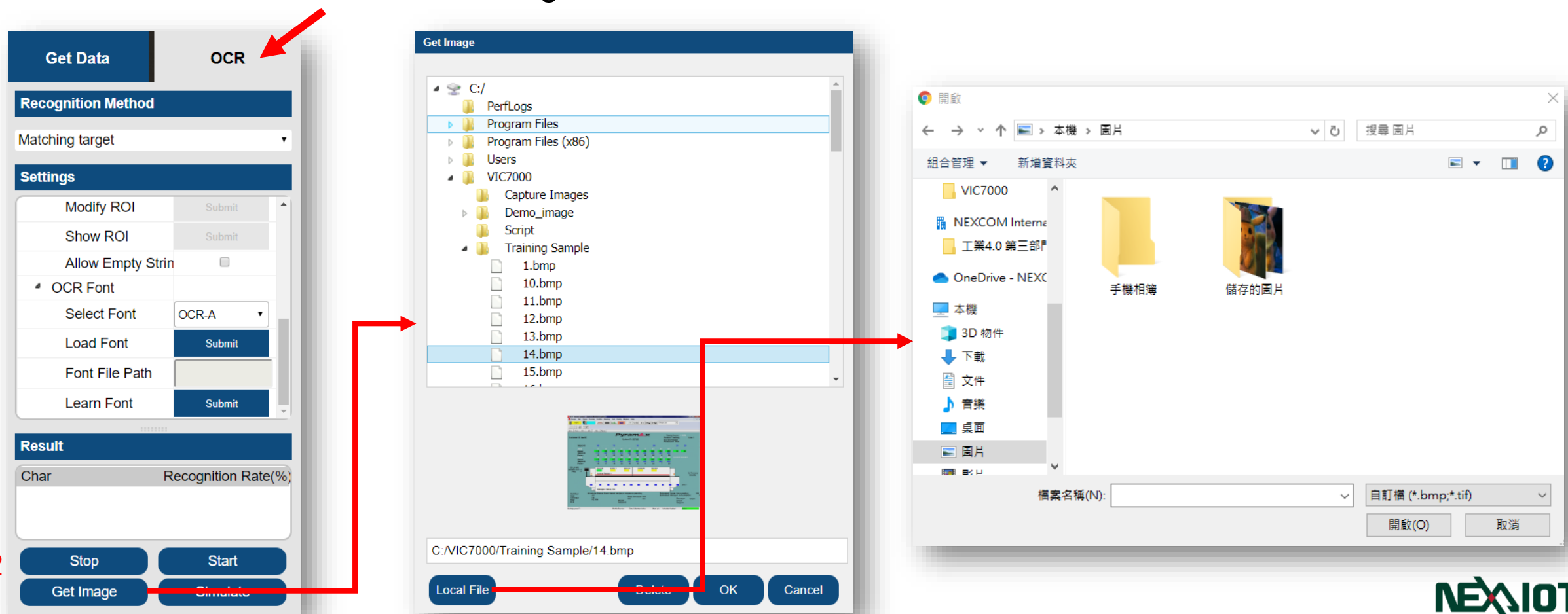


Build Project – Target

- **General : Create a Target**

- 2. **Get Image**

- a. **From File** : Read images from a local folder or a remote folder



Build Project – Target

- General : Create a Target

- 2. Get Image

- b. From Capture Card : Get an image from capture card

The screenshot displays the BTU System Console interface, which is divided into two main sections. On the left is the 'Get Data' panel, and on the right is the 'Over View' panel for 'TARGET01'.

Get Data Panel:

- Recognition Method:** A dropdown menu currently set to 'Matching target'.
- Settings:**
 - OCR Font:** A section with a 'Select Font' dropdown set to 'OCR-A', a 'Load Font' button, and a 'Font File Path' input field.
 - Learn Font:** A button to initiate font learning.
- Result:** A section with a 'Char' input field and a 'Recognition Rate(%)' output field.
- Buttons:** 'Stop', 'Start', 'Get Image', and 'Simulate' buttons are located at the bottom.

Over View Panel (TARGET01):

- Pyramax System Monitor:** A detailed view of the system's operational status, including a table of setpoints and actual values for various zones and coolers.
- System Information:** Displays 'Customer ID: NexVIC' and 'System ID: VIC7100'.
- Production Data:** Shows 'Ready Hours: 819:59', 'Product Tracking', 'Current Recipe', and 'Production Total'.
- Process Flow:** A diagram showing the material flow through the system, including 'Source', 'Zone 1', 'Zone 5', 'Zone 10', and 'Cooler'.
- Status Indicators:** Includes 'Nitrogen Status: On', 'Scheduler Status: Event based recipe or sequence pending', and 'Estimated Power Consumption: KWH'.

Annotations:

- A red arrow points from the 'OCR' label in the 'Get Data' panel to the 'OCR Font' settings.
- A red arrow points from the 'Get Image' button in the 'Get Data' panel to the 'Pyramax System Monitor'.

Build Project – Target

- **General : Create a Target**

3. **New ROI** : Right-click on the image and select **New ROI** (or Click **New ROI**)

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel includes a 'New ROI' button, which is highlighted with a red arrow and the number '3'. The main window shows a 'System Monitor Graphic' with a red box labeled '3 New ROI' and a context menu with 'New ROI' and 'Save Image (*.bmp)' options. The interface also features a 'Get Data' tab, an 'OCR' section, and a 'Result' section at the bottom.

Settings Panel:

Setting	Value	Action
ROI-X	0	
ROI-Y	0	
ROI-Width	640	
ROI-Height	480	
New ROI	3	Submit
Set ROI		Submit
Delete ROI		Submit
Modify ROI		Submit
Show ROI		Submit

System Monitor Graphic:

Customer ID: NoxVIC System ID: VIC7100

Product Tracking: Current Recipe, Production Total

Setpoint: 55, 75

Zone: 1T, 2T, 3T, 4T, 5T, 6T, 7T, 8T, 9T, 10T

Actual: 110, 125, 125, 155, 165, 190, 225, 260, 285, 295

Setpoint: 110, 125, 125, 155, 165, 190, 225, 260, 285, 295

Power: 13, 15, 10, 6, 7, 12, 10, 22, 6, 28

Zone: 1B, 2B, 3B, 4B, 5B, 6B, 7B, 8B, 9B, 10B

Actual: 110, 125, 125, 155, 165, 190, 225, 260, 285, 295

Setpoint: 110, 125, 125, 155, 165, 190, 225, 260, 285, 295

Power: 19, 8, 8, 3, 2, 10, 11, 24, 7, 32

O2 Levels: Sample port --> PPM -->

Source: Zone 1, Zone 6, Zone 10, Cooler

Active Recipe =

Nitrogen Status: On

Scheduler Status: Event based recipe or sequence pending.

Start/Run: Heat, Conveyor, Drier, RCS

Air: N2, N2 Idle

Edge Conveyor: RCS, mm

Estimated Power Consumption: KW

Estimated Nitrogen Consumption: cmppm

Conveyor Actual Setpoint

For Help, press F1

Profile: Inactive Data Collection: Active Host: n/a Schedule: Enabled Active: [Green Bar]

Build Project – Target

- **General : Create a Target**

4. **Set ROI** : Resize location and size of ROI → Right-click on image and click **Set ROI** (or Click **Set ROI**)

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel is visible, with the 'Set ROI' button highlighted by a red arrow and labeled '4'. The main window shows a 'Pyramax' system monitor with a 'NexVIC' target. A red box highlights the 'Set ROI' button in the context menu, and another red box highlights the 'Set ROI 4' label. An orange box highlights the 'NexVIC' target area, and a red arrow points to the 'Counts' label.

Build Project – Target

- **General : Create a Target**

5. **Load Font** : Click **Load Font** → Choose a font file used for recognition → Click **Load**

The screenshot displays the nexVIG software interface. On the left, the 'OCR' tab is active, showing the 'Settings' section. The 'Load Font' button is highlighted with a red number '5' and a red arrow pointing to the 'Load Font' dialog box. The dialog box lists various font files, including '20191016', '20191017', '201910172', '201910173', '20191021', 'Demo_green_value', 'Demo_power_value', 'Demo_tar1', 'Demon_blue_value', 'demo_tar', 'test', 'test_two', and 'test_two1'. At the bottom of the dialog, the 'Load' button is highlighted with a red arrow. The background shows the main interface with a 'Get Data' button, 'Recognition Method' dropdown, and a 'Result' section.

Recognition Method

Matching target

Settings

Delete ROI Submit

Modify ROI Submit

Show ROI Submit

Allow Empty Strin ☐

OCR Font

Select Font OCR-A

Load Font **5** Submit

Font File Path

Learn Font Submit

Result

Char Recognition Rate(%)

Stop Start

Get Image Simulate

Load Font

20191016

20191017

201910172

201910173

20191021

Demo_green_value

Demo_power_value

Demo_tar1

Demon_blue_value

demo_tar

test

test_two

test_two1

View Delete Load Cancel

Ready Hours: 918:59

Product Tracking

Current Recipe

Production Total

95 25 20

8T 9T 10T

250 285 295 30 21

22 6 28

8B 9B 10B

250 285 295

24 7 32

Cooler1 Cooler2

Cooler

In Process Counts

Line 1

Estimated Power Consumption: KW

Estimated Nitrogen Consumption:

Conveyor Actual Setpoint

cmppm

for Help, press F1

Profile: Inactive

Data Collection: Active

Host: n/a

Schedules Enabled

Active

Build Project – Target

- General : Create a Target

6. **Simulate** : Click **Simulate** → Confirm the recognition result, which is used as **TARGET**

The screenshot displays the nexVIC software interface. On the left, the 'Get Data' panel is active, showing the 'Recognition Method' as 'Matching target' and the 'Settings' section with various options like 'Delete ROI', 'Modify ROI', 'Show ROI', 'Allow Empty Strin', 'OCR Font', 'Select Font', 'Load Font', 'Font File Path', and 'Learn Font'. The 'Result' section shows a table with 'Char' and 'Recognition Rate(%)' for 'N', 'e', and 'x', all at 100%. The 'Simulate' button is highlighted with a red arrow. The main area shows the 'Pyramax' system monitor with a 'NexVIC' target image and a 'Pyramax' system monitor window. The 'Pyramax' window displays various data points, including 'Setpoint', 'Actual', 'Power', 'O2 Levels', 'Sample port', 'PPM', 'Active Recipe', 'Nitrogen Status', 'Scheduler Status', 'Edge Conveyor', 'RCS', 'Estimated Power Consumption', 'Estimated Nitrogen Consumption', 'Conveyor Actual', and 'Conveyor Setpoint'. A red arrow points to the 'NexVIC' target image, and another red arrow points to the 'Simulate' button. A green box with the text '1.44ms' is visible in the bottom right corner.

Char	Recognition Rate(%)
N	100
e	100
x	100

1.44ms

Build Project – Target

- **General : Create a Target**

- **Multiple Target** : Click **Add** icon → Repeat the aforementioned steps to create Targets

The screenshot displays the neXVIC interface with the following components and annotations:

- Top Bar:** Includes 'Get Data' and 'OCR' tabs. The 'TARGET01' tab is active, and a red arrow labeled '1' points to the '+' icon to add a new target.
- Left Panel:**
 - Recognition Method:** A dropdown menu set to 'Matching target'.
 - Settings:** A list of actions with 'Submit' buttons: 'New ROI', 'Set ROI', 'Delete ROI', 'Modify ROI', 'Show ROI', 'Allow Empty Strin', 'OCR Font' (with a dropdown set to 'OCR-A'), 'Load Font', and 'Learn Font'. Red arrows labeled '4' and '5' point to the 'Submit' buttons for 'New ROI' and 'Load Font' respectively.
 - Result:** A table with columns 'Char' and 'Recognition Rate(%)'. Red arrows labeled '6' point to the 'Simulate' button at the bottom of this panel.
- Main Display:** Shows a 'Pyramax' logo and 'System ID: VIC7100'. It features a grid of data points (e.g., 1T, 2T, 3T, 4T, 5T, 6T, 7T, 8T, 9T, 10T) with values in green and blue. A red arrow labeled '3' points to the 'Run' button above the grid.
- Bottom Bar:** Contains 'Stop', 'Start', 'Get Image', and 'Simulate' buttons. A red arrow labeled '2' points to the 'Stop' button.

Build Project – Target

- General : Create a Target_Color

3. Create a TARGET_COLOR : Move cursor to **Add** icon → Select **Color**

The screenshot displays the nexVIC software interface. On the left, the 'Get Data' tab is active, showing the 'OCR' section. A dropdown menu is open, with 'Color' selected, indicated by a red arrow. The main window shows a 'Pyramax' system monitor with various data points and a process flow diagram.

Recognition Method

Matching target

Settings

Name	Value
ROI X Offset	0
ROI Y Offset	0

Result

Name	Value

BTU System Console - (System Monitor Graphic)

Recipe Edit Status Security Profiler DataLog Tool Config Window Help

Save Close Print Help Run Revert

Customer ID: NexVIC System ID: VIC7300 Ready Hours: 919.59

Product Tracking Current Recipe Production Total Line 1

Setpoint	55	75	80	95	25	20						
Zone	1T	2T	3T	4T	5T	6T	7T	8T	9T	10T		
Actual	110	125	125	155	165	180	259	260	285	295	30	21
Setpoint	110	125	135	135	185	190	225	260	285	295		
Power	13	2	29	34	8	30	26	22	14	18		
Zone	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B		
Actual	110	125	125	155	165	180	225	260	285	295		
Setpoint	110	125	125	145	165	190	205	260	285	295		
Power	16	27	16	23	15	20	11	24	15	13		

O2 Levels Sample port --> PPM -->

Source Zone 1 Zone 6 Zone 10 Cooler

Active Recipe =

In Process Counts

Line 1

Nitrogen Status On

Scheduler Status: Event based recipe or sequence pending.

Start/Run Heat Conveyor Oiler RCS

Air N2 N2 Idle

Edge Conveyor RCS

Actual Setpoint

Estimated Power Consumption: KW

Estimated Nitrogen Consumption:

Conveyor Actual Setpoint

For Help, press F1 Profile: Inactive Data Collection: Active Host: n/a Schedule: Enabled Active

Build Project – Target

- **General : Create a Target_Color**

4. **New ROI** : Right-click on image and click **New ROI** (or Click **New ROI**)

The screenshot displays the neXVIC software interface. On the left, the 'Get Data' sidebar is visible, with the 'OCR' tab selected. Under the 'Settings' section, the 'Name' field is set to 'TARGET_COLOR1'. The 'New ROI' button is highlighted with a red box and a red arrow pointing to it. The main window shows a 'Pyramax' system monitor with various data tables and a 'New ROI' dialog box overlaid on the image. The dialog box has a red border and contains the text 'New ROI' and 'Save Image (*.bmp)'. The background image shows a conveyor belt system with various components labeled, including 'Zone 1', 'Zone 6', 'Zone 10', and 'Cooler'.

Get Data | **OCR**

Recognition Method
Matching target

Settings

Name	Value
Input Parameters	
Name	TARGET_COLOR1
ROI-X	0
ROI-Y	0
ROI-Width	1
ROI-Height	1
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit
Matching Parameter	
Color Picker	

Over View | **TARGET01** | **TARGET_COLOR01** | **+**

4 New ROI

New ROI
Save Image (*.bmp)

Pyramax

Customer ID: NexVIC | System ID: VIC7500 | Ready Hours: 919:59

Setpoint	Zone 1	Zone 6	Zone 10	Cooler
Actual	110	125	125	125
Setpoint	26	14	13	5
Power	18	28	38	48
Actual	110	125	125	125
Setpoint	110	110	125	155
Power	13	39	28	3

O2 Levels
Sample port --> PPM -->

Source | **Zone 1** | **Zone 6** | **Zone 10** | **Cooler**

Active Recipe

Nitrogen Status On

Scheduler Status: Event based recipe or sequence pending.

Start/Run
Heat
Conveyor
Oiler
RCS

Estimated Power Consumption: KW
Estimated Nitrogen Consumption: cmm

Conveyor
Actual
Setpoint

Line 1

For Help, press F1 | **Profile: Inactive** | **Data Collection: Active** | **Host: n/a** | **Scheduler: Enabled** | **Active:**

Build Project – Target

- **General : Create a Target_Color**

5. **Set ROI** : Resize and relocate the ROI → Right-click on the image and select **Set ROI** (or Click **Set ROI**) The average RGB value of the ROI will be automatically obtained and be set as matching color

Get Data | **OCR** | **Over View** | **TARGET01** | **TARGET_COLOR01** | **+**

Recognition Method
Matching target

Settings

Name	Value
Input Parameters	
Name	TARGET_COLOR01
ROI-X	168
ROI-Y	173
ROI-Width	99
ROI-Height	53
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit
Matching Paramete	
Color Picker	

Stop | Start
Get Image | Simulate

Pyramax System Monitor
Customer ID: NexVIC | System ID: VIC7500
Setpoint: 100 | Actual: 100 | Power: 100
Zone 1: 100 | Zone 6: 100 | Zone 10: 100 | Cooler: 100
Status: On
Edge Conveyor RGS: 100 mm
Actual Setpoint: 100 mm

Set ROI
Save Image (*.bmp)

Matching Paramete

Color Picker	Value
Red	105
Green	155
Blue	154

Build Project – Target

- **General : Create a Target_Color**

6. **Set Matching Tolerance and Result Output** : Set **Matching Tolerance** (RGB±) → Enter

Matching Result Output

The screenshot displays the neXVIO software interface. On the left, the 'Get Data' sidebar is visible, containing a 'Recognition Method' section with a 'Matching target' dropdown and a 'Settings' section with various parameters. The 'Matching Tolerance' is set to 5, 'Matching Output' is true, and 'No Matching Output' is false. The main area shows a 'System Monitor' window with a 'Recipe Lab' window overlaid. The 'Recipe Lab' window displays a 'Matching Tolerance' of 5, 'Matching Output' as true, and 'No Matching Output' as false. The background shows a 'System Monitor' window with various status indicators and a 'Recipe Lab' window with a 'Matching Tolerance' of 5, 'Matching Output' as true, and 'No Matching Output' as false.

Build Project – Target

- **General : Create a Target_Color**

7. **Simulate** : Click **Simulate** → Confirm matching result, which is used as **TARGET_COLOR**

The screenshot displays the neXVIO software interface. On the left, the 'Get Data' tab is active, showing the 'Recognition Method' as 'Matching target' and a 'Settings' panel with various input parameters. The 'Simulate' button is highlighted with a red arrow. In the center, a matching result overlay shows 'true' and a color value '(105,155,154)' in green, with a red arrow pointing to it. The background shows a detailed view of a Pyramax system with various data tables and a process flow diagram.

Recognition Method
Matching target

Settings

Name	Value
Input Parameters	
Name	TARGET_COLOR
ROI-X	168
ROI-Y	173
ROI-Width	99
ROI-Height	53
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit
Matching Parameter	
Color Picker	

Buttons: Stop, Start, Get Image, Simulate

Matching Result: true (105,155,154)

Pyramax System Monitor:

Customer ID: NoxVIC System ID: VIC7500 Ready Hours: 919:59

Setpoint	65	75	80	85	25	20
Zone 1T	195	125	125	155	165	190
Zone 2T	110	125	125	155	165	190
Zone 3T	110	125	125	155	165	190
Zone 4T	110	125	125	155	165	190
Zone 5T	110	125	125	155	165	190
Zone 6T	110	125	125	155	165	190
Zone 7T	110	125	125	155	165	190
Zone 8T	110	125	125	155	165	190
Zone 9T	110	125	125	155	165	190
Zone 10T	110	125	125	155	165	190
Zone 11T	110	125	125	155	165	190
Zone 12T	110	125	125	155	165	190
Zone 13T	110	125	125	155	165	190
Zone 14T	110	125	125	155	165	190
Zone 15T	110	125	125	155	165	190
Zone 16T	110	125	125	155	165	190
Zone 17T	110	125	125	155	165	190
Zone 18T	110	125	125	155	165	190
Zone 19T	110	125	125	155	165	190
Zone 20T	110	125	125	155	165	190
Zone 21T	110	125	125	155	165	190
Zone 22T	110	125	125	155	165	190
Zone 23T	110	125	125	155	165	190
Zone 24T	110	125	125	155	165	190
Zone 25T	110	125	125	155	165	190
Zone 26T	110	125	125	155	165	190
Zone 27T	110	125	125	155	165	190
Zone 28T	110	125	125	155	165	190
Zone 29T	110	125	125	155	165	190
Zone 30T	110	125	125	155	165	190
Zone 31T	110	125	125	155	165	190
Zone 32T	110	125	125	155	165	190
Zone 33T	110	125	125	155	165	190
Zone 34T	110	125	125	155	165	190
Zone 35T	110	125	125	155	165	190
Zone 36T	110	125	125	155	165	190
Zone 37T	110	125	125	155	165	190
Zone 38T	110	125	125	155	165	190
Zone 39T	110	125	125	155	165	190
Zone 40T	110	125	125	155	165	190
Zone 41T	110	125	125	155	165	190
Zone 42T	110	125	125	155	165	190
Zone 43T	110	125	125	155	165	190
Zone 44T	110	125	125	155	165	190
Zone 45T	110	125	125	155	165	190
Zone 46T	110	125	125	155	165	190
Zone 47T	110	125	125	155	165	190
Zone 48T	110	125	125	155	165	190
Zone 49T	110	125	125	155	165	190
Zone 50T	110	125	125	155	165	190
Zone 51T	110	125	125	155	165	190
Zone 52T	110	125	125	155	165	190
Zone 53T	110	125	125	155	165	190
Zone 54T	110	125	125	155	165	190
Zone 55T	110	125	125	155	165	190
Zone 56T	110	125	125	155	165	190
Zone 57T	110	125	125	155	165	190
Zone 58T	110	125	125	155	165	190
Zone 59T	110	125	125	155	165	190
Zone 60T	110	125	125	155	165	190
Zone 61T	110	125	125	155	165	190
Zone 62T	110	125	125	155	165	190
Zone 63T	110	125	125	155	165	190
Zone 64T	110	125	125	155	165	190
Zone 65T	110	125	125	155	165	190
Zone 66T	110	125	125	155	165	190
Zone 67T	110	125	125	155	165	190
Zone 68T	110	125	125	155	165	190
Zone 69T	110	125	125	155	165	190
Zone 70T	110	125	125	155	165	190
Zone 71T	110	125	125	155	165	190
Zone 72T	110	125	125	155	165	190
Zone 73T	110	125	125	155	165	190
Zone 74T	110	125	125	155	165	190
Zone 75T	110	125	125	155	165	190
Zone 76T	110	125	125	155	165	190
Zone 77T	110	125	125	155	165	190
Zone 78T	110	125	125	155	165	190
Zone 79T	110	125	125	155	165	190
Zone 80T	110	125	125	155	165	190
Zone 81T	110	125	125	155	165	190
Zone 82T	110	125	125	155	165	190
Zone 83T	110	125	125	155	165	190
Zone 84T	110	125	125	155	165	190
Zone 85T	110	125	125	155	165	190
Zone 86T	110	125	125	155	165	190
Zone 87T	110	125	125	155	165	190
Zone 88T	110	125	125	155	165	190
Zone 89T	110	125	125	155	165	190
Zone 90T	110	125	125	155	165	190
Zone 91T	110	125	125	155	165	190
Zone 92T	110	125	125	155	165	190
Zone 93T	110	125	125	155	165	190
Zone 94T	110	125	125	155	165	190
Zone 95T	110	125	125	155	165	190
Zone 96T	110	125	125	155	165	190
Zone 97T	110	125	125	155	165	190
Zone 98T	110	125	125	155	165	190
Zone 99T	110	125	125	155	165	190
Zone 100T	110	125	125	155	165	190
Zone 101T	110	125	125	155	165	190
Zone 102T	110	125	125	155	165	190
Zone 103T	110	125	125	155	165	190
Zone 104T	110	125	125	155	165	190
Zone 105T	110	125	125	155	165	190
Zone 106T	110	125	125	155	165	190
Zone 107T	110	125	125	155	165	190
Zone 108T	110	125	125	155	165	190
Zone 109T	110	125	125	155	165	190
Zone 110T	110	125	125	155	165	190
Zone 111T	110	125	125	155	165	190
Zone 112T	110	125	125	155	165	190
Zone 113T	110	125	125	155	165	190
Zone 114T	110	125	125	155	165	190
Zone 115T	110	125	125	155	165	190
Zone 116T	110	125	125	155	165	190
Zone 117T	110	125	125	155	165	190
Zone 118T	110	125	125	155	165	190
Zone 119T	110	125	125	155	165	190
Zone 120T	110	125	125	155	165	190
Zone 121T	110	125	125	155	165	190
Zone 122T	110	125	125	155	165	190
Zone 123T	110	125	125	155	165	190
Zone 124T	110	125	125	155	165	190
Zone 125T	110	125	125	155	165	190
Zone 126T	110	125	125	155	165	190
Zone 127T	110	125	125	155	165	190
Zone 128T	110	125	125	155	165	190
Zone 129T	110	125	125	155	165	190
Zone 130T	110	125	125	155	165	190
Zone 131T	110	125	125	155	165	190
Zone 132T	110	125	125	155	165	190
Zone 133T	110	125	125	155	165	190
Zone 134T	110	125	125	155	165	190
Zone 135T	110	125	125	155	165	190
Zone 136T	110	125	125	155	165	190
Zone 137T	110	125	125	155	165	190
Zone 138T	110	125	125	155	165	190
Zone 139T	110	125	125	155	165	190
Zone 140T	110	125	125	155	165	190
Zone 141T	110	125	125	155	165	190
Zone 142T	110	125	125	155	165	190
Zone 143T	110	125	125	155	165	190
Zone 144T	110	125	125	155	165	190
Zone 145T	110	125	125	155	165	190
Zone 146T	110	125	125	155	165	190
Zone 147T	110	125	125	155	165	190
Zone 148T	110	125	125	155	165	190
Zone 149T	110	125	125	155	165	190
Zone 150T	110	125	125	155	165	190
Zone 151T	110	125	125	155	165	190
Zone 152T	110	125	125	155	165	190
Zone 153T	110	125	125	155	165	190
Zone 154T	110	125	125	155	165	190
Zone 155T	110	125	125	155	165	190
Zone 156T	110	125	125	155	165	190
Zone 157T	110	125	125	155	165	190
Zone 158T	110	125	125	155	165	190
Zone 159T	110	125	125	155	165	190
Zone 160T	110	125	125	155	165	190
Zone 161T	110	125	125	155	165	190
Zone 162T	110	125	125	155	165	190
Zone 163T	110	125	125	155	165	190
Zone 164T	110	125	125	155	165	190
Zone 165T	110	125	125	155	165	190
Zone 166T	110	125	125	155	165	190
Zone 167T	110	125	125	155	165	190
Zone 168T	110	125	125	155	165	190
Zone 169T	110	125	125	155	165	190
Zone 170T	110	125	125	155	165	190
Zone 171T	110	125	125	155	165	190
Zone 172T	110	125	125	155	165	190
Zone 173T	110	125	125	155	165	190
Zone 174T	110	125	125	155	165	190
Zone 175T	110	125	125	155	165	190
Zone 176T	110	125	125	155	165	190
Zone 177T	110	125	125	155	165	190
Zone 178T	110	125	125	155	165	190
Zone 179T	110	125	125	155	165	190
Zone 180T	110	125	125	155	165	190
Zone 181T	110	125	125	155	165	190
Zone 182T	110	125	125	155	165	190
Zone 183T	110	125	125	155	165	190
Zone 184T	110	125	125	155	165	190
Zone 185T	110	125	125	155	165	190
Zone 186T	110	125	125	155		

Build Project – Target

- **General : Create a Target_Color**

- **Assign color matching** : Click Color Picker → Enable eyedropper tool → Select the desired matching color in the image → The matching color will be set up automatically and confirm if it is correct.

The screenshot displays the nexVIC interface with the 'Matching Parameter' dialog box open. The dialog box is titled 'Matching Parameter' and contains a 'Color Picker' section. The 'Color Picker' section has three rows: 'Red' with a value of 180, 'Green' with a value of 24, and 'Blue' with a value of 65. Each row has a corresponding color swatch and a set of up/down arrows for adjustment. The background shows the 'Pyramax' system monitor interface with various data tables and a red box highlighting the 'Color Picker' option in the 'Matching Parameter' section.

Matching Parameter	
Color Picker	
Red	180
Green	24
Blue	65

Build Project – Target

- **General : Create a Target_Color**
 - **Multiple Target_color** : Click **Add** icon → repeat the aforementioned steps to create Target_colors

The screenshot displays the 'Build Project - Target' configuration interface in the nexVIC software. The interface is divided into a left sidebar and a main configuration area. The sidebar contains a 'Get Data' tab and an 'OCR' tab. The main configuration area has a top bar with 'Over View', 'TARGET_COLOR01', 'TARGET01', 'TARGET_COLOR02', and a '+' icon. A dropdown menu is open, showing 'OCR', 'Color', and 'Pattern'. The 'Color' option is selected, and a color picker is visible. The 'Matching Parameters' section is highlighted with a red box, showing 'Matching Output' set to 'true' and 'Matching Tolerance' set to '211'. The 'Start' button is also highlighted. The background image shows a Pyramax machine with various data points and a '0.00ms' timer.

Setpoint	65	75	80	85	25	20
Zone	1T	2T	3T	4T	5T	6T
Actual	125	125	125	155	155	155
Setpoint	110	125	125	155	155	155
Power	21	14	10	5	7	12
Zone	1B	2B	3B	4B	5B	6B
Actual	110	125	125	155	155	155
Setpoint	110	125	125	155	155	155
Power	18	9	8	3	2	10

0.00ms

Build Project – Target

- **General : Create a Target_Pattern**

3. Create a **TARGET_PATTERN** : Move cursor to **Add** icon → select **Pattern**

The screenshot displays the nexVIC software interface. On the left, there is a sidebar with sections: 'Get Data', 'OCR', 'Recognition Method' (with a dropdown menu), 'Settings' (containing a table with 'Name' and 'Value' columns, and 'ROI X Offset' and 'ROI Y Offset' fields), and 'Result' (with a table for 'Name' and 'Value'). The main area shows 'Over View' and 'TARGET01' tabs. A red arrow points to the 'Add' icon (a plus sign) in the top bar, which has opened a dropdown menu with options: 'OCR', 'Color', and 'Pattern'. The 'Pattern' option is highlighted. In the background, a window titled 'VIC7000 Demo Sample' is visible, showing a table of data and a 'nexVIC' logo.

Product ID	Quantity	Temperature	Voltage	Time	Result
1	549	-11.67 °C	8.6 V	1103 ms	Pass
2	337	-11.20 °C	18.5 V	681 ms	NG
3	878	-14.43 °C	3.9 V	1756 ms	Pass
4	733	14.24 °C	-3.4 V	1469 ms	Pass
5	316	26.68 °C	14.5 V	640 ms	NG
6	460	5.06 °C	0.1 V	926 ms	NG
7	583	-2.14 °C	-0.1 V	1171 ms	Pass
8	536	-11.82 °C	8.7 V	1077 ms	Pass
9	614	0.27 °C	6.7 V	1232 ms	Pass
10	510	26.98 °C	1.1 V	1025 ms	NG
11	582	3.85 °C	7.0 V	1169 ms	Pass
12	732	-10.66 °C	-3.5 V	1466 ms	Pass

Build Project – Target

- **General : Create a Target_Pattern**

4. **New ROI** : Right-click on the image and select **New ROI** (or Click **New ROI**)

The screenshot displays the nexVIC software interface. On the left sidebar, under the 'Settings' section, the 'Input Parameters' list includes 'New ROI', which is highlighted with a red arrow and the number '4'. The main window shows a 'List' of data with a 'New ROI' dialog box open over it, also highlighted with a red box and the number '4'.

Product ID	Quantity	Temperature	Voltage	Time	Result
1	549	-11.67 °C	8.6 V	1103 ms	Pass
2	337	-11.20 °C	18.5 V	681 ms	NG
3	878	-14.43 °C	3.9 V	1756 ms	Pass
4	733	14.24 °C	-3.4 V	1469 ms	Pass
5	316	26.68 °C	14.5 V	640 ms	NG
6	460	5.06 °C	0.1 V	926 ms	NG
7	583	-2.14 °C	-0.1 V	1171 ms	Pass
8	536	-11.82 °C	8.7 V	1077 ms	Pass
9	614	0.27 °C	6.7 V	1232 ms	Pass
10	510	26.98 °C	1.1 V	1025 ms	NG
11	582	3.85 °C	7.0 V	1169 ms	Pass
12	732	-10.66 °C	-3.5 V	1466 ms	Pass

Build Project – Target

- **General : Create a Target_Pattern**

5. **Set ROI** : adjust the location and size of the ROI → Right-click on image and select **Set ROI** (or Click **Set ROI**)

Get Data | **OCR**

Recognition Method

Matching target

Settings

Name	Value
Input Parameters	
Name	TARGET_PATTER
ROI-X	0
ROI-Y	0
ROI-Width	840
ROI-Height	528
New ROI	Submit
Set ROI	Submit

Result

Name	Value
------	-------

Stop Start
Get Image Simulate

Over View | **TARGET01** | TARGET_PATTERN01 | +

(255,438)

VIC7000 Demo Sample

List Image

Product ID	Quantity	Temp
1	549	-11
2	337	-11
3	878	-14
4	733	14
5	316	26

Set ROI
Save Image (*.bmp)

5 Set ROI

VIC7000 Demo Sample

List Image

Product ID	Quantity	Temp
1	549	-11
2	337	-11
3	878	-14
4	733	14
5	316	26

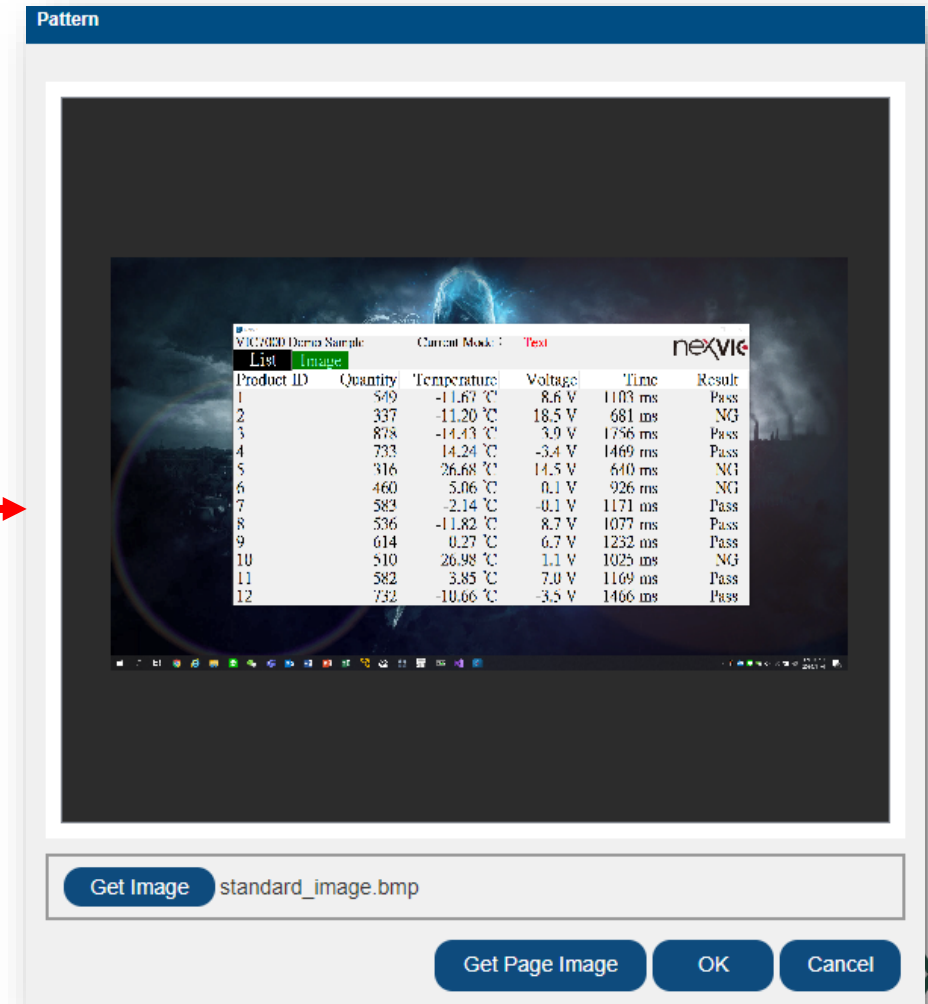
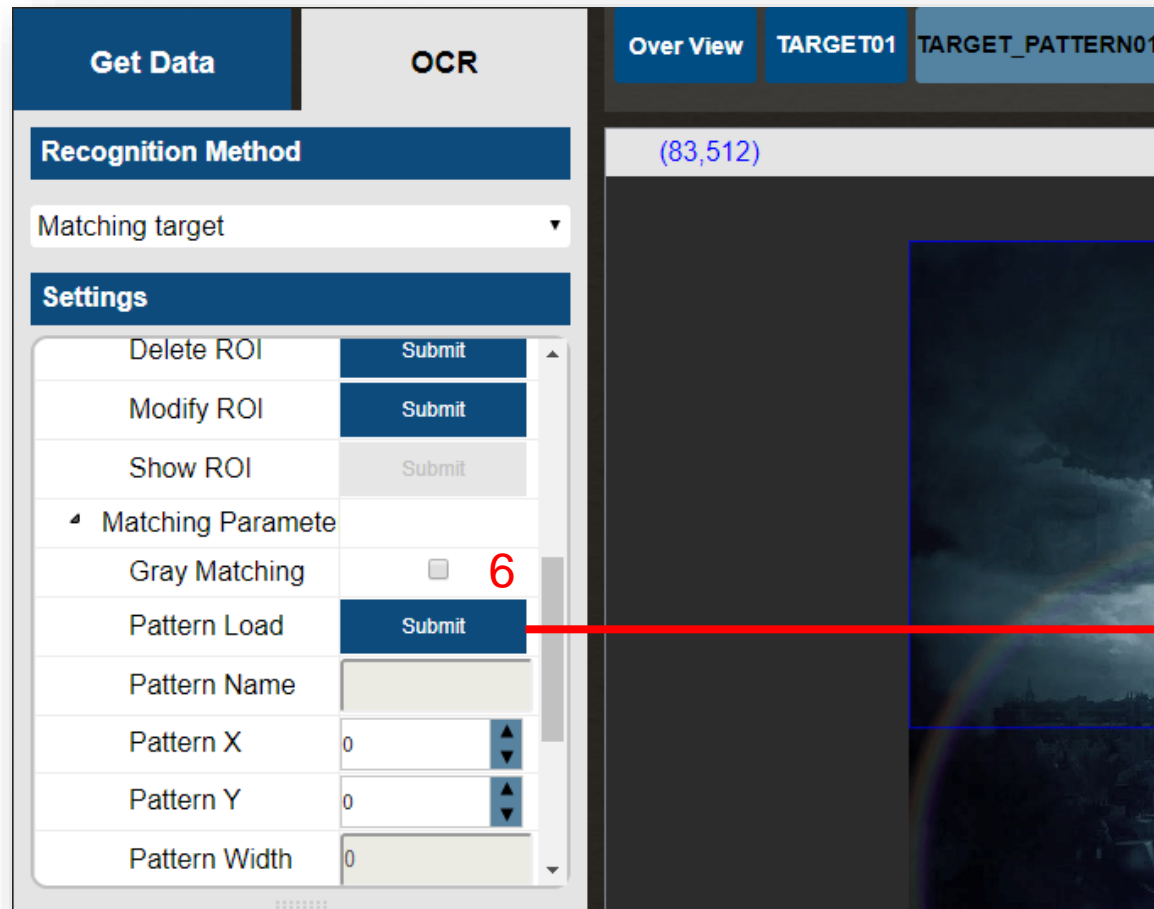
0.27 °C 0.7 V 1252 ms Pas
0.28 °C 1.1 V 1025 ms NC
5 °C 7.0 V 1169 ms Pas
6 °C -3.5 V 1466 ms Pass

EXIOT

Build Project – Target

- **General : Create a Target_Pattern**

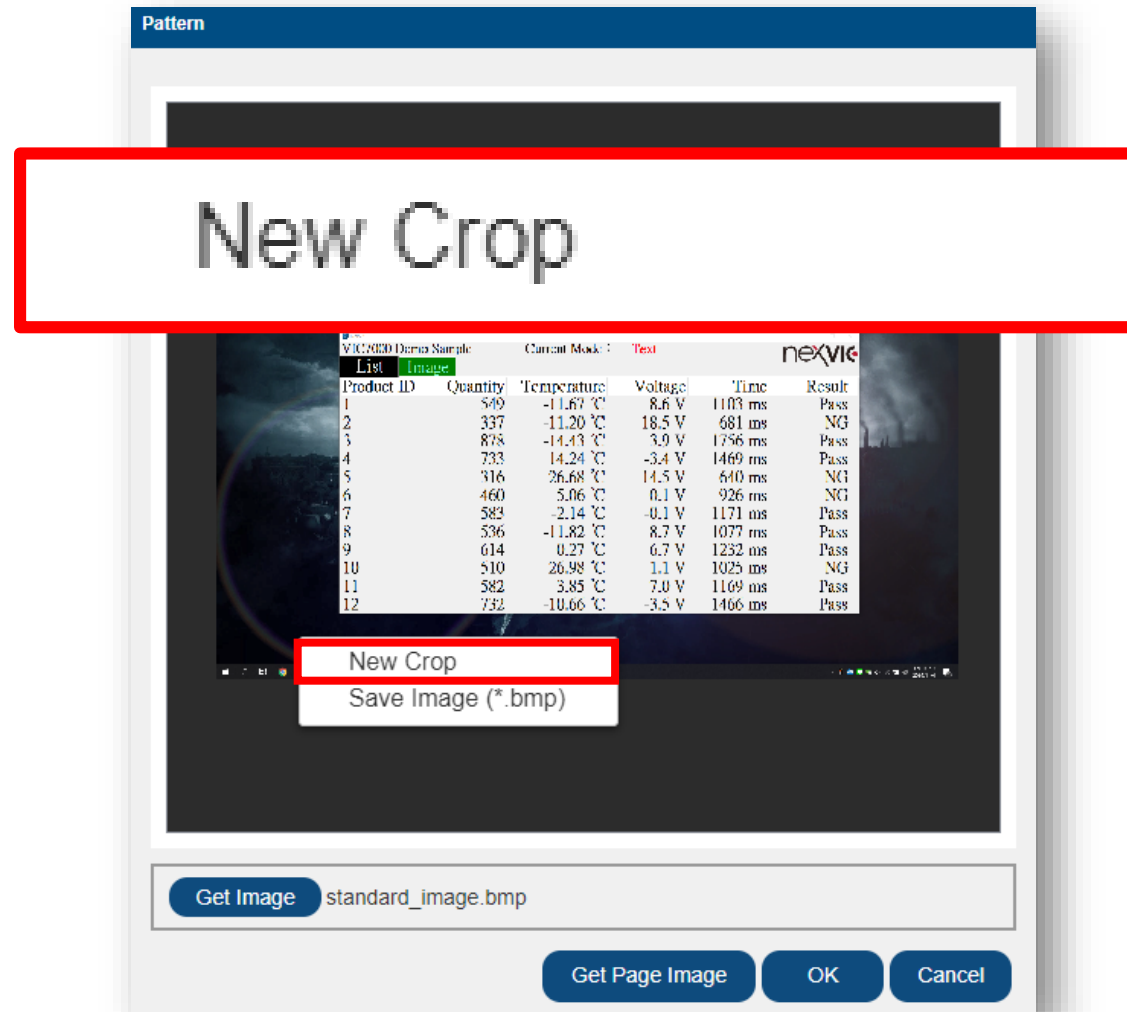
6. **Load Matching Pattern** : Click **Pattern Load** → User can enter **Pattern** window, and the image will be loaded automatically



Build Project – Target

- **General : Create a Target_Pattern**

6. **Load Matching Pattern** : Right-click on the image → Select **New Crop**

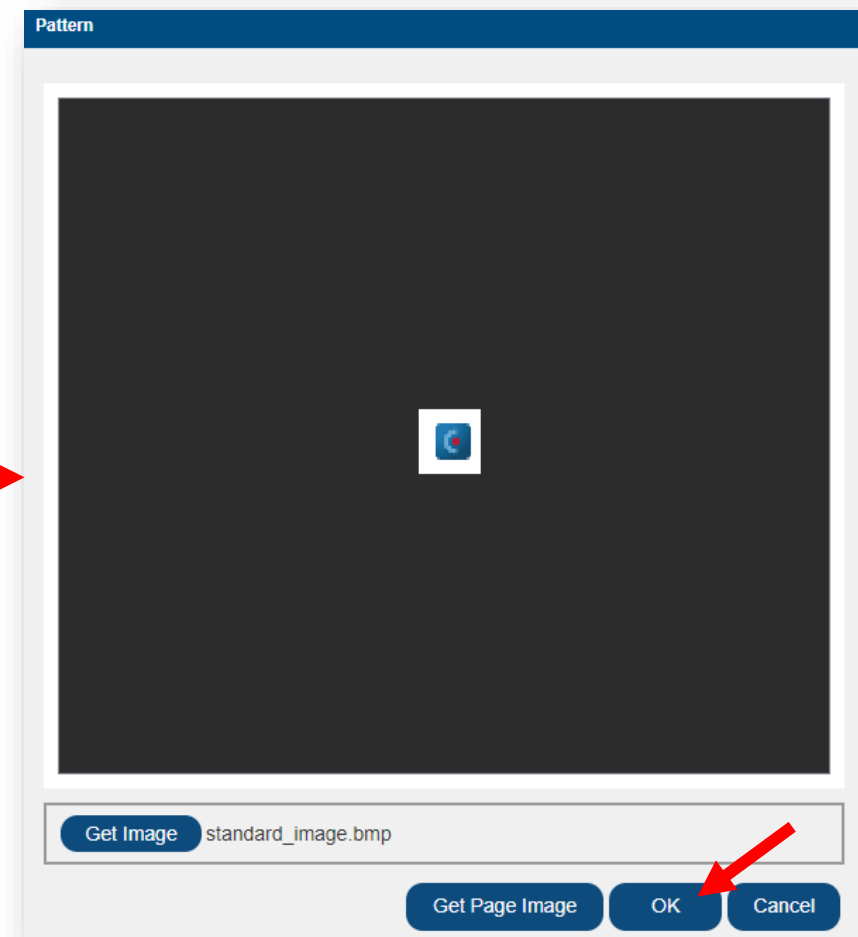
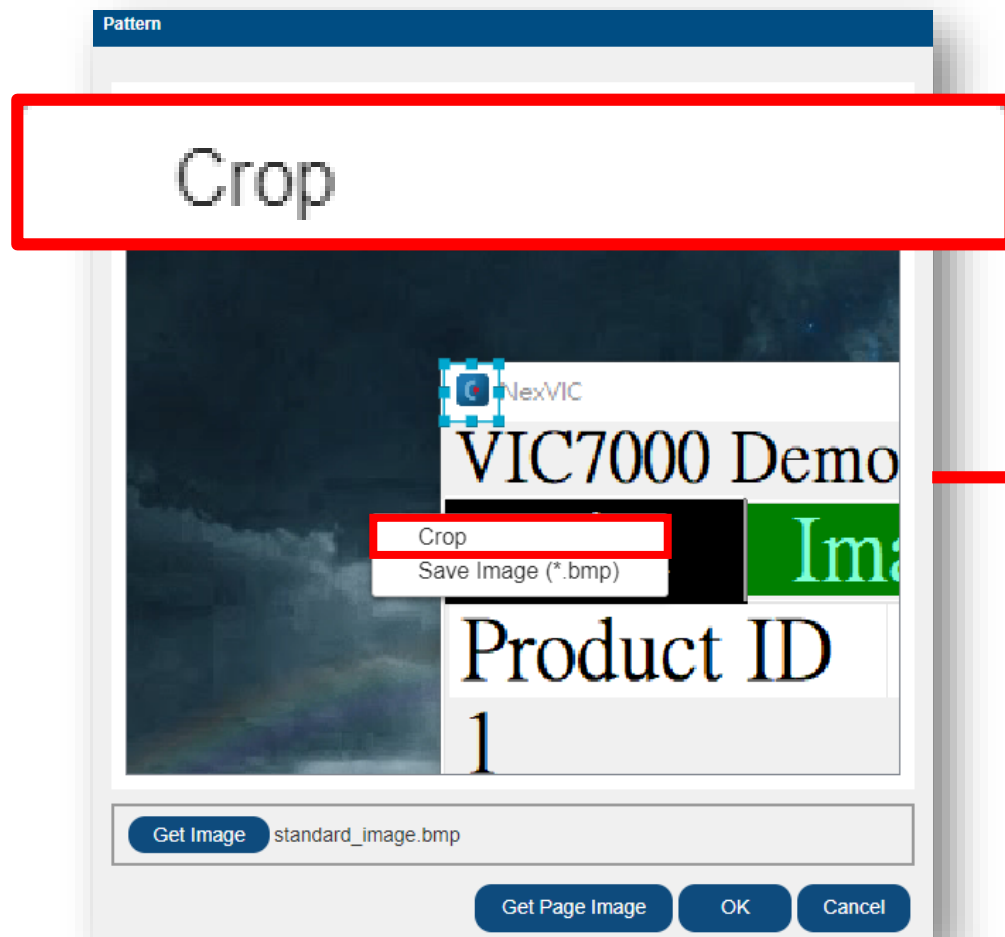


Build Project – Target

- **General : Create a Target_Pattern**

6. **Load Matching Pattern** : Mark the matching pattern → Right-click on the image → Select

Crop → OK



Build Project – Target

- **General : Create a Target_Pattern**

- 7. **Set Matching Result Output** : Enter **Matching Result Output**

The screenshot displays the 'TARGET_PATTERN01' configuration page in the nexVIO interface. The left sidebar contains the 'Settings' section, which is highlighted with a red box. Inside this box, the 'Matching Output' field is set to 'true' and the 'No Matching Output' field is set to 'false'. A red box with the number '7' is also present. The main area shows a video feed with a bounding box and coordinates (-96,792). A table on the right lists sample data.

No Sample	Cur
1	549
2	337
3	878
4	733
5	316
6	460
7	583
8	536

Build Project – Target

- **General : Create a Target_Pattern**

8. **Simulate** : It's recommended to use Gray Matching, it will speed up recognition speed.

Click **Simulate** → Confirm matching result, which is used as **TARGET_PATTERN**

The screenshot displays the NexVIC web interface with several key elements highlighted by red boxes and arrows:

- Settings Panel (Left):** The 'Recognition Method' is set to 'Matching target'. Under 'Settings', 'Gray Matching' is checked. The 'Pattern Name' is 'standard_image.bi'. The 'Pattern X' is 317, 'Pattern Y' is 175, 'Pattern Width' is 27, and 'Pattern Height' is 28. The 'Minimum Score' is 0.95. The 'Detect Page Disp' and 'Detect Displacement' checkboxes are unchecked. The 'Matching Output' is 'true' and 'No Matching Output' is 'false'. The 'Result' section shows a 'Match' with a 'Score' of 0.996686, 'X' of 318, and 'Y' of 175. The 'Simulate' button is highlighted with a red arrow and the number 8.
- Target Pattern Selection (Top):** The 'TARGET_PATTERN01' tab is selected. A red arrow points to the 'true' status indicator.
- Gray Matching Confirmation (Center):** A red box highlights the text '8 Gray Matching' and a checked checkbox.
- Image Recognition (Right):** A red box highlights a detected image of a 'NexVIC' logo. Below it, a table lists product details.

Product ID	Quantity	Temp
1	549	-1
2	337	-1
3	878	-1
4	733	1
5	316	2
6	460	-1
7	583	-2.14 °C
8	526	11.82 °C

Additional data shown in the bottom right: -0.1 V, 112.82ms, 8.7 V, 1077 ms.

Build Project – Target

- **General**

- **Displacement Detection** : Based on the position of TARGET_PATTERN on the image where Target_Pattern is set

Detect Page Displacement : Make ROI of Targets and Target_Colors move in consistent with the position of TARGET_PATTERN

Detect Displacement : Make ROI of the page that match TARGET_PATTERN move with the position of TARGET_PATTERN

Detect Page Displacement	<input type="checkbox"/>
Detect Displacement	<input type="checkbox"/>

Get Data	OCR
Recognition Method	
Matching target	
Settings	
Pattern Name	stand
Pattern X	317
Pattern Y	175
Pattern Width	27
Pattern Height	28
Minimum Score	0.95
Detect Page Displacement	<input type="checkbox"/>
Detect Displacement	<input type="checkbox"/>
Matching Output	true
No Matching Output	false

Build Project – Target

- **General : Create a Target_Pattern**

- **Multiple Target_pattern** : Click **Add** icon → repeat the aforementioned steps to create Target_patterns

The screenshot displays the nexVIC software interface with the 'Target_Pattern' configuration window open. The interface includes a 'Get Data' tab, an 'OCR' tab, and a 'Result' section. The 'Target_Pattern' window shows settings for 'Matching Parameters' and 'Input Parameters'. A table of results is displayed, showing product IDs, quantities, temperatures, voltages, times, and results.

Settings

Matching Parameters

- Gray Matching ☒
- Pattern Load
- Pattern Name standard_image.bi
- Pattern X 317
- Pattern Y 175
- Pattern Width 27
- Pattern Height 28
- Minimum Score 0.95
- Detect Page Disp ☐
- Detect Displacement ☐
- Matching Output true
- No Matching Output false

Input Parameters

Name	Value
ROI-X	0
ROI-Y	0
ROI-Width	840
ROI-Height	528
New ROI	<input type="button" value="Submit"/>
Set ROI	<input type="button" value="Submit"/>
Delete ROI	<input type="button" value="Submit"/>
Modify ROI	<input type="button" value="Submit"/>

Result

Name	Value

OCR

Color

Pattern

VIC7000 Demo Sample Current Mode : Text

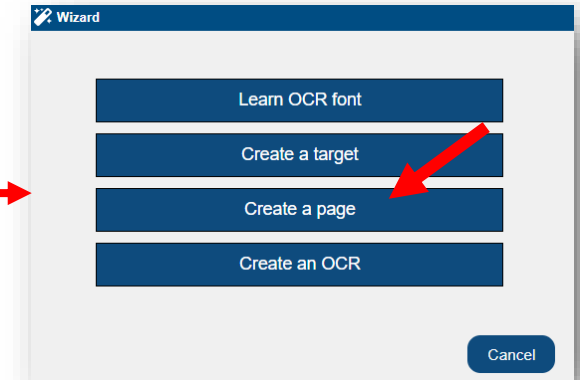
Product ID	Quantity	Temperature	Voltage	Time	Result
1	549	-11.67 °C	8.6 V	1103 ms	Pass
2	337	-11.20 °C	18.5 V	681 ms	NG
3	878	-14.43 °C	3.9 V	1756 ms	Pass
4	733	14.24 °C	-3.4 V	1469 ms	Pass
5	316	26.68 °C	14.5 V	640 ms	NG
6	460	5.06 °C	0.1 V	926 ms	NG
7	583	-2.14 °C	-0.1 V	1171 ms	Pass
8	536	-11.82 °C	8.7 V	1077 ms	Pass
9	614	0.27 °C	6.7 V	1232 ms	Pass
10	510	26.98 °C	1.1 V	1025 ms	NG
11	582	3.85 °C	7.0 V	1169 ms	Pass
12	732	-10.66 °C	-3.5 V	1466 ms	Pass

Build Project – Page & Recognition

- **Wizard : Create a page**

1. **Data Source**

From File or From Capture Card



Create a page

1. Data Source 2. Source Settings 3. Targets 4. Get Image 5. Simulate

Data Source

From File ▼

From File

From Capture Card

From File

From Capture Card

Previous Next Cancel

Build Project – Page & Recognition

- **Wizard : Create a page**

- 2. Source Settings

From File : Image folder Path, Read interval

From Capture Card : Video input signal type, Capture frame rate

The screenshot shows the 'Create a page' wizard with five steps: 1. Data Source, 2. Source Settings, 3. Targets, 4. Get Image, and 5. Simulate. Step 2 is active. It contains two input fields: 'Image Folder' with the value 'C:/VIC7000/Training Sample' and 'Interval (ms)' with the value '1000'. A blue 'Submit' button is located to the right of the 'Image Folder' field. Red arrows point to the 'Submit' button and the 'Interval (ms)' input field.

The screenshot shows the 'Create a page' wizard with five steps: 1. Data Source, 2. Source Settings, 3. Targets, 4. Get Image, and 5. Simulate. Step 2 is active. It contains three input fields: 'Video Signal' with the value 'false', 'Video Input' with a dropdown menu showing 'DVI_A (RGB / VGA)', and 'Capture Frame Rate' with the value '2'. At the bottom right, there are three buttons: 'Previous', 'Next', and 'Cancel'. Red arrows point to the 'Video Input' dropdown, the 'Capture Frame Rate' input field, and the 'Next' button.

Build Project – Page & Recognition

- **Wizard : Create a page**

3. **Targets** : Set TARGET matching logical operators and conditions

Create a page

1. Data Source 2. Source Settings 3. Targets 4. Get Image 5. Simulate

TARGET_01
- TARGET_02
&& TARGET_03
-

- : Skip matching
&& : AND
|| : OR

Previous Next Cancel

- **Wizard : Create a page**

3. **Targets** : Set Target matching logical operators and conditions for the matching logical operators:

- : Skip matching this TARGET

|| : Execute || first. If one of the TARGETs set with || is satisfied, the page is considered as matched successfully.

&& : When || is not satisfied then the && will be considered, the page will only be considered as successfully if all of the TARGETs set with && are satisfied

If more than one page matched successfully at the same time, the page with smaller index will be selected to be recognized.

Build Project – Page & Recognition

- Wizard : Create a page

	TARGET01		TARGET02		TARGET03		Used Page
Actual Result	125		125		155		
PAGE01		120	&&	130	&&	155	
PAGE02		125	&&	125	&&	150	Use this page

	TARGET01		TARGET02		TARGET03		Used Page
Actual Result	125		125		155		
PAGE01	&&	120	&&	125	&&	155	
PAGE02		110	&&	125	&&	155	Use this page

Build Project – Page & Recognition

- Wizard : Create a page

	TARGET01		TARGET02		TARGET03		Used Page
Actual Result	125		125		155		
PAGE01		120	&&	125	&&	155	Use this page
PAGE02		125	&&	125	&&	150	

	TARGET01		TARGET02		TARGET03		Used Page
Actual Result	125		125		155		
PAGE01		120	&&	125	&&	155	Use this page
PAGE02		110	&&	125	&&	155	

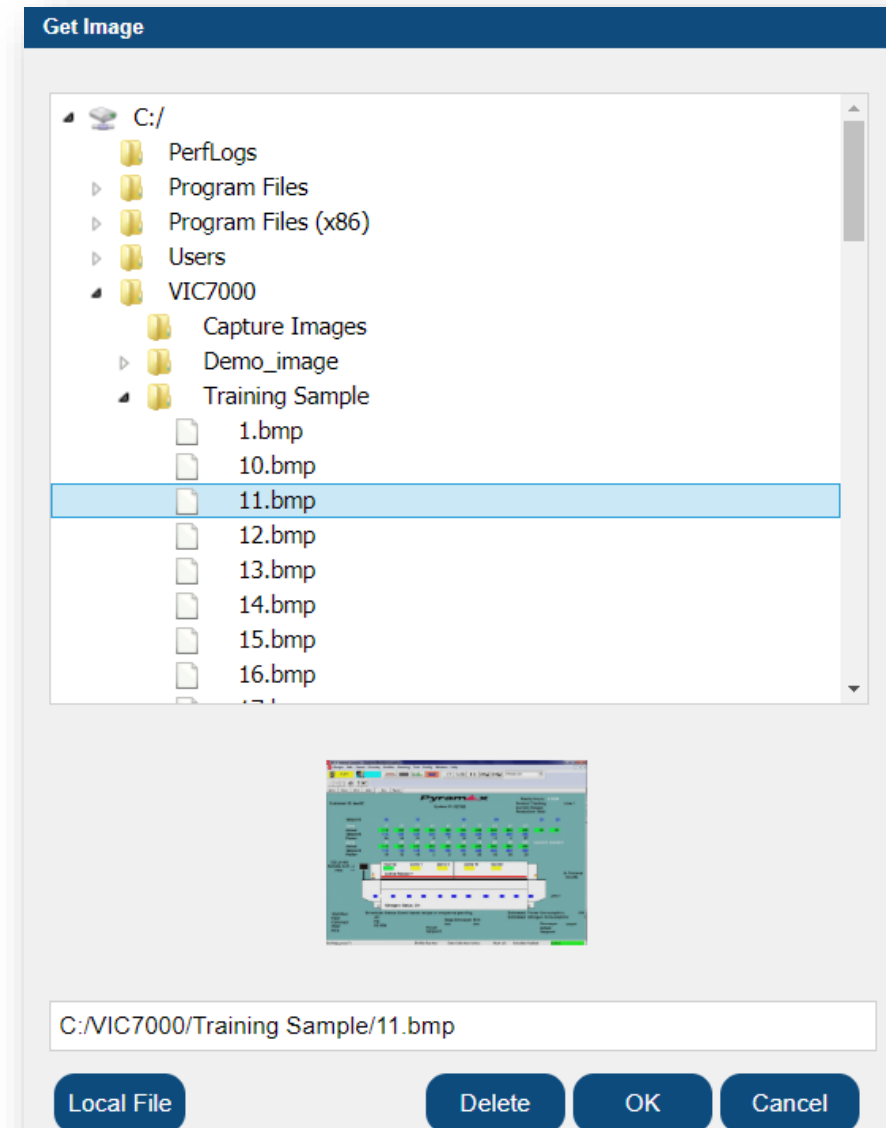
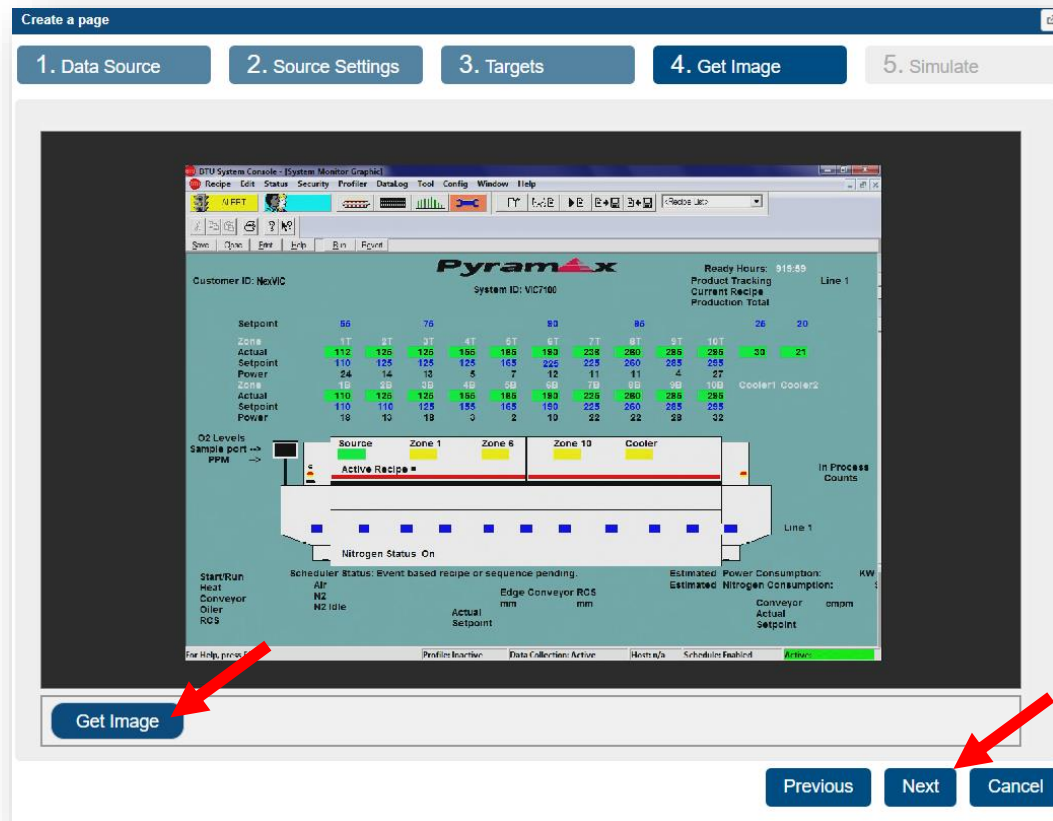
Build Project – Page & Recognition

- Wizard : Create a page

4. Get Image

From File : Read images from a local or remote folder

From Capture Card : Get an image from capture card

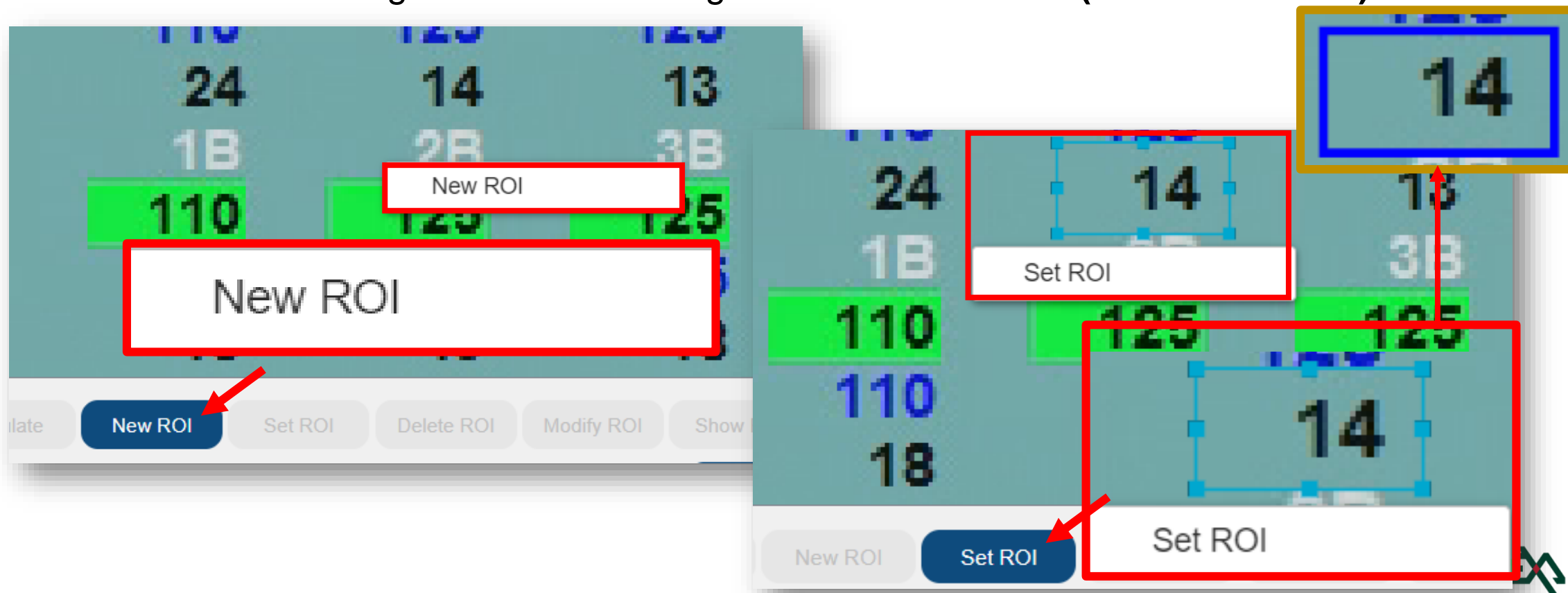


Build Project – Page & Recognition

- **Wizard : Create a page**

- 5. **Simulate**

Right-click on the image then select **New ROI** (or Click **New ROI**) → adjust the location and size of the ROI → Right-click on the image and select **Set ROI** (or Click **Set ROI**)

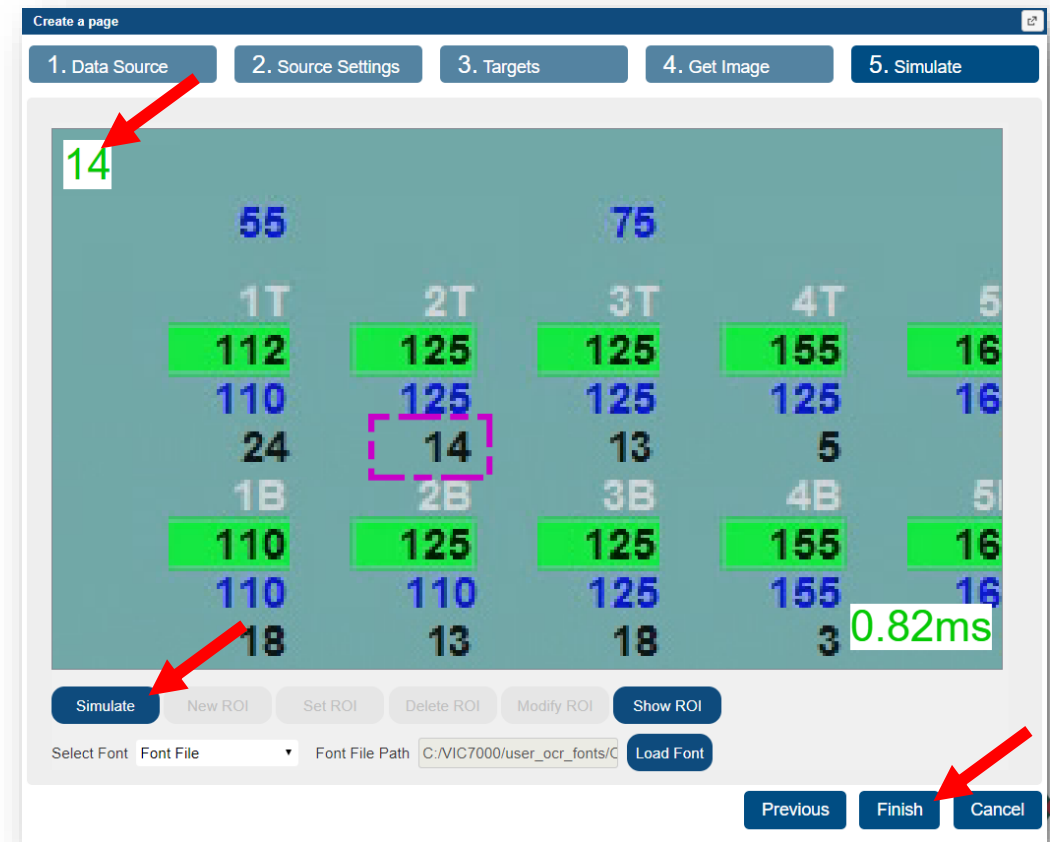


Build Project – Page & Recognition

- **Wizard : Create a page**

- 5. Simulate

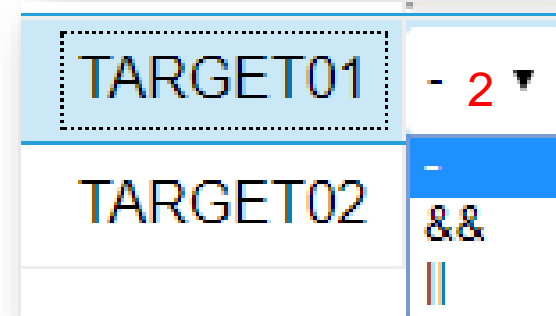
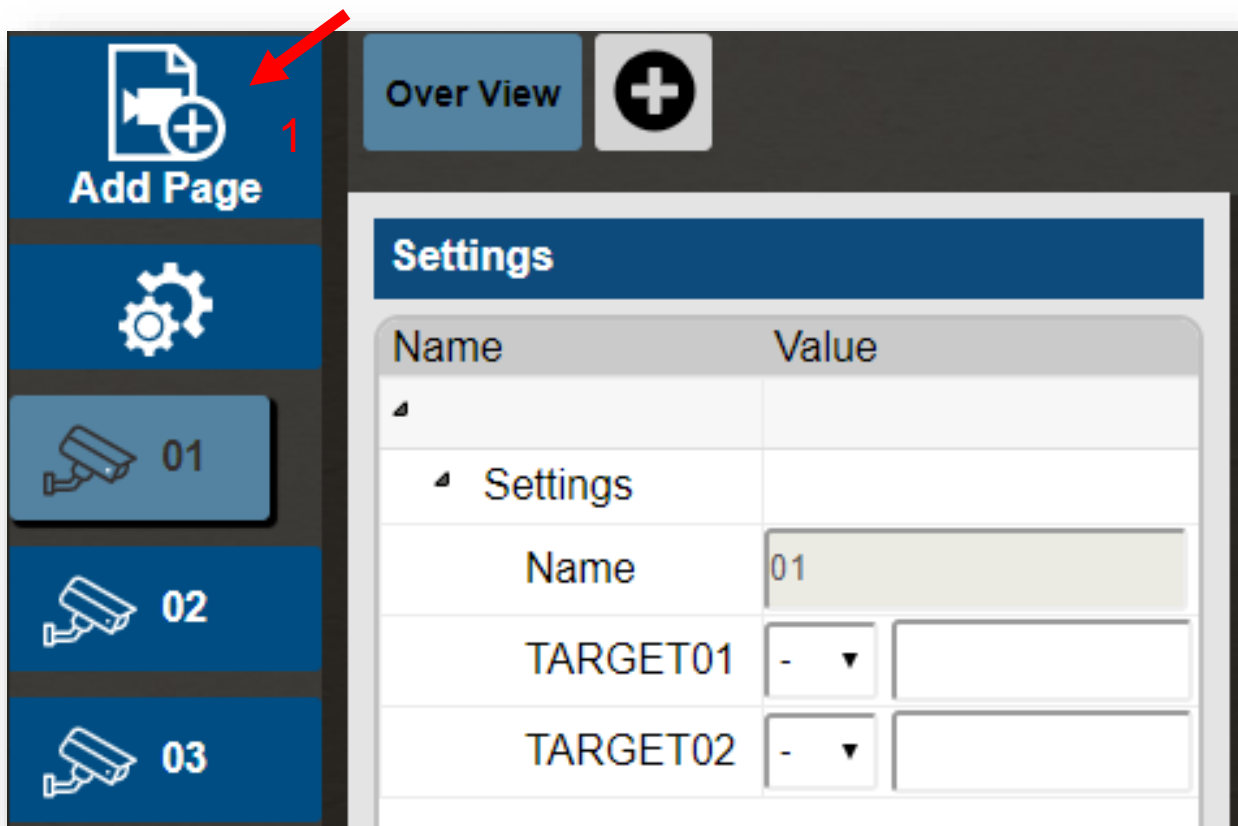
Click **Load Font** → Choose a font file for recognition → Click **Load** → Click **Simulate** → Confirm the recognition results



Build Project – Page & Recognition

- **General : Create a page**

1. **Create a Page** : Click **Add Page** icon
2. **Targets** : Set TARGET matching logical operators and conditions



- : Skip matching

&& : AND

|| : OR

- **General : Create a page**

- 2. **Targets** : Set TARGET matching logical operators and conditions for the matching logical operators:

- : Skip matching this TARGET

- || : Execute || first. If one of the TARGETs set with || is satisfied, the page is considered as matched successfully.

- && : When || is not satisfied then the && will be considered, the page will only be considered as successfully if all of the TARGETs set with && are satisfied

If more than one page matched successfully at the same time, the page with smaller index will be selected to be recognized.

Build Project – Page & Recognition

- **General : Create a page**

- 3. **Create an OCR** : Click **Add** icon → Get Image → Set ROI → Load a font file → Click **Simulate** to confirm the recognition result

The screenshot displays the nexVIC interface with the following components:

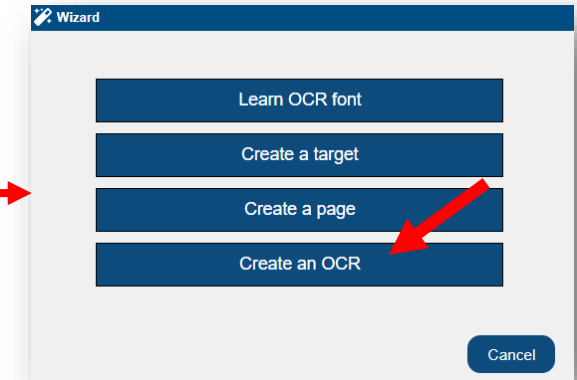
- Top Bar:** Tabs for 'Over View' and 'OCR01'. An 'Add' icon (+) is highlighted with a red arrow and the number 1.
- Settings Panel (Left):**
 - ROI-Height:** 21
 - New ROI:** Submit
 - Set ROI:** Submit
 - Delete ROI:** Submit
 - Modify ROI:** Submit
 - Show ROI:** Submit
 - Allow Empty Strin:** ☐
 - OCR Font:**
 - Select Font:** Font File
 - Load Font:** Submit (highlighted with a red arrow and the number 4)
 - Font File Path:** C:/VIC7000/user_c
 - Learn Font:** Submit
- Result Table:**

Char	Recognition Rate(%)
1	100
3	100
- Bottom Left:** Buttons for 'Stop', 'Start', 'Get Image' (highlighted with a red arrow and the number 2), and 'Simulate' (highlighted with a red arrow and the number 5).
- Main Area:** A simulated OCR result showing a table of characters and their recognition rates. A red arrow and the number 3 point to the ROI box (13) on the image.
- Bottom Right:** A status bar showing 'Source', 'Zone 1', 'Zone 2', and a timer '19.39ms'.

Build Project – Page & Recognition

- **Wizard : Create an OCR**

1. **Select a page** : Choose the aimed page to create an OCR



Create an OCR

1. Select a page

2. Data Source

3. Source Settings

4. Get Image

5. Simulate

Page

01

01

02

01

02

Previous

Next

Cancel

Build Project – Page & Recognition

- **Wizard : Create an OCR**

- 2. Data Source

From File or From Capture Card

Create an OCR

1. Select a page 2. Data Source 3. Source Settings 4. Get Image 5. Simulate

Data Source

From File ▼

From File

From Capture Card

From File

From Capture Card

Previous Next Cancel

Build Project – Page & Recognition

- **Wizard : Create an OCR**

- 3. Source Settings

From File : Image folder path, Read interval

From Capture Card : Video input signal type, Capture frame rate

The screenshot shows the 'Create an OCR' wizard at step 3, 'Source Settings'. The progress bar at the top indicates the current step. The 'Image Folder' field contains the path 'C:/VIC7000/Training Sample'. The 'Interval (ms)' field is set to '1000'. A 'Submit' button is located to the right of the input fields. Red arrows point to the 'Submit' button and the 'Interval (ms)' field.

The screenshot shows the 'Create an OCR' wizard at step 3, 'Source Settings'. The progress bar at the top indicates the current step. The 'Video Signal' field is set to 'false'. The 'Video Input' dropdown menu is set to 'DVI_A (RGB / VGA)'. The 'Capture Frame Rate' field is set to '2'. At the bottom right, there are 'Previous', 'Next', and 'Cancel' buttons. Red arrows point to the 'Next' button, the 'Video Input' dropdown, and the 'Capture Frame Rate' field.

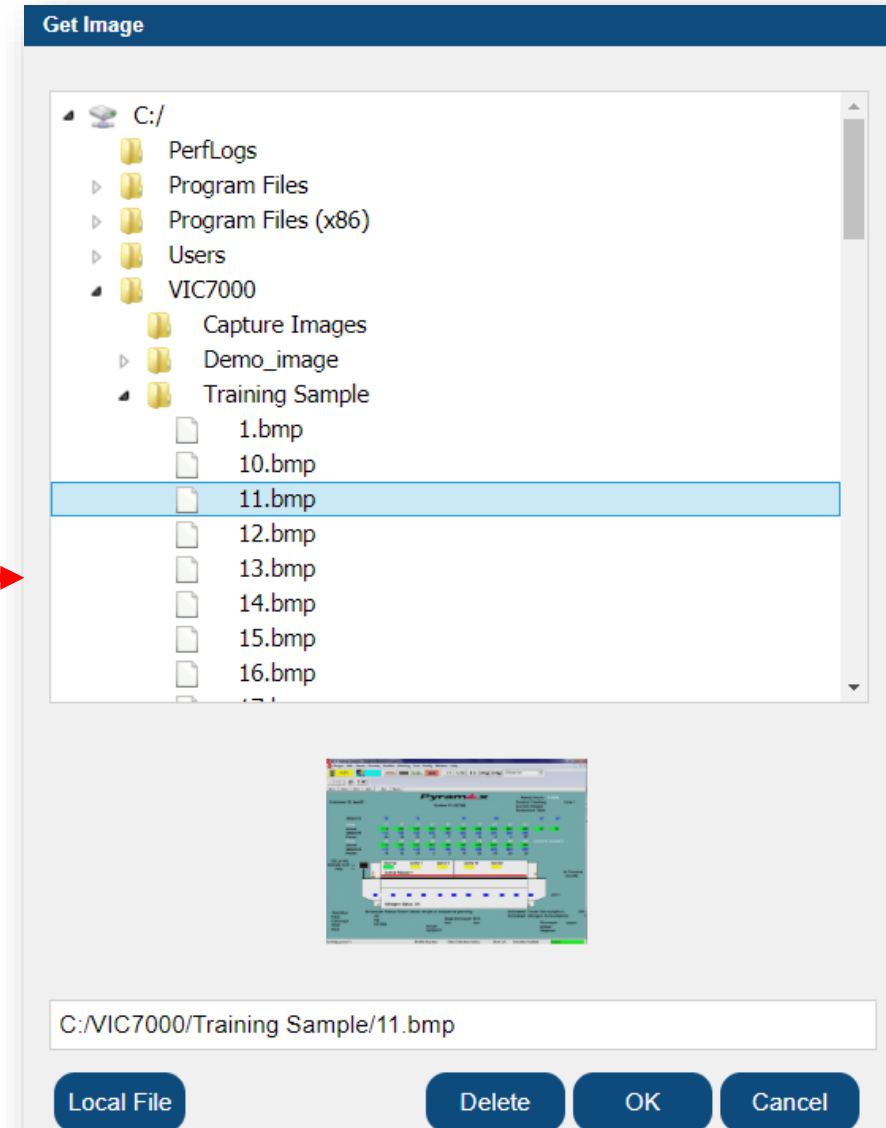
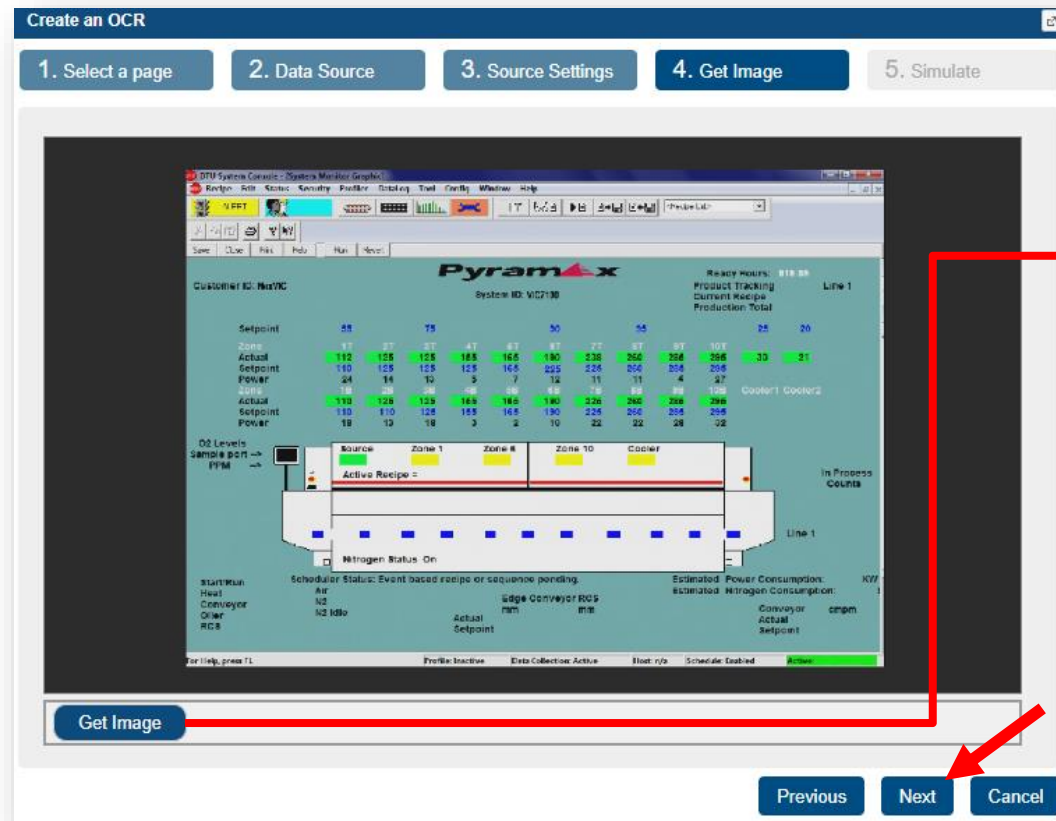
Build Project – Page & Recognition

- Wizard : Create an OCR

4. Get Image

From File : Read images from a local or remote folder

From Capture Card : Get an image from capture card



Build Project – Page & Recognition

- Wizard : Create an OCR

5. Simulate

Right-click on the image then select **New ROI** (or Click **New ROI**) → Adjust the location and size of ROI → Right-click on an image then select **Set ROI** (or Click **Set ROI**)

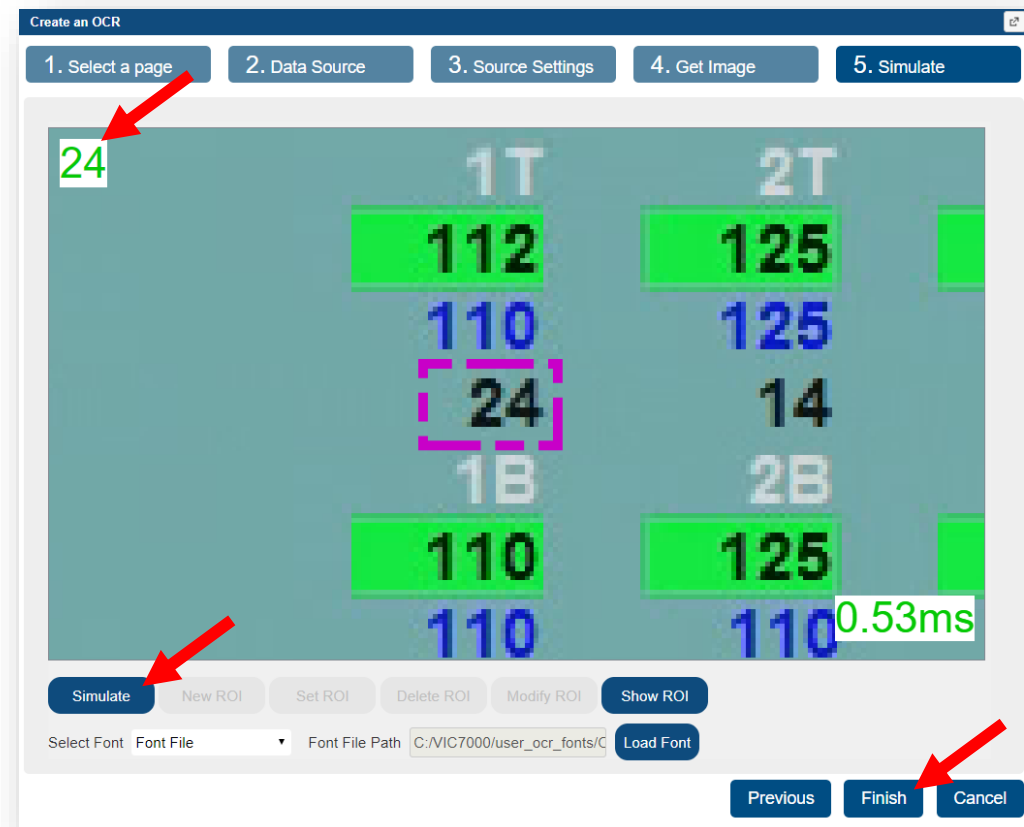


Build Project – Page & Recognition

- Wizard : Create an OCR

5. Simulate

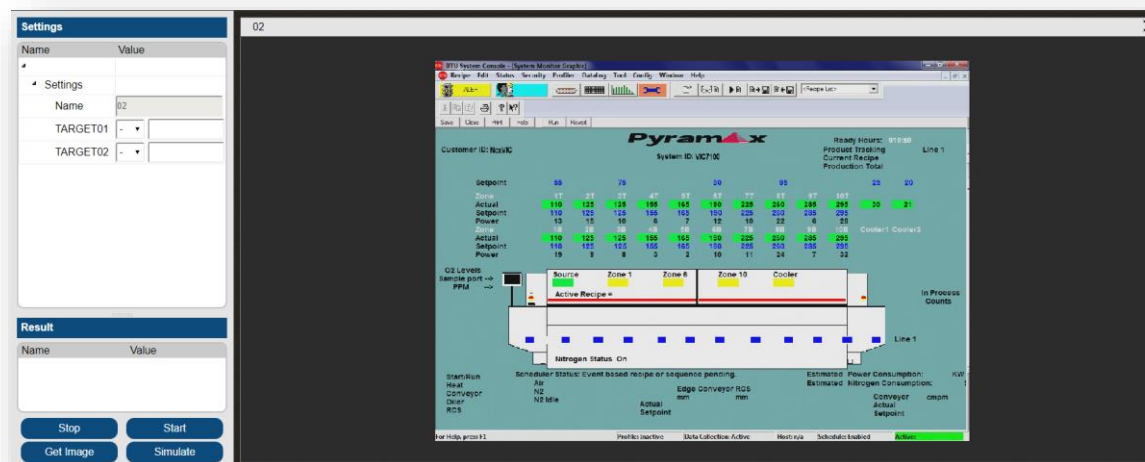
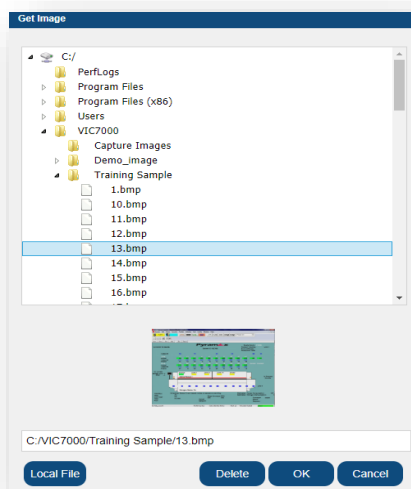
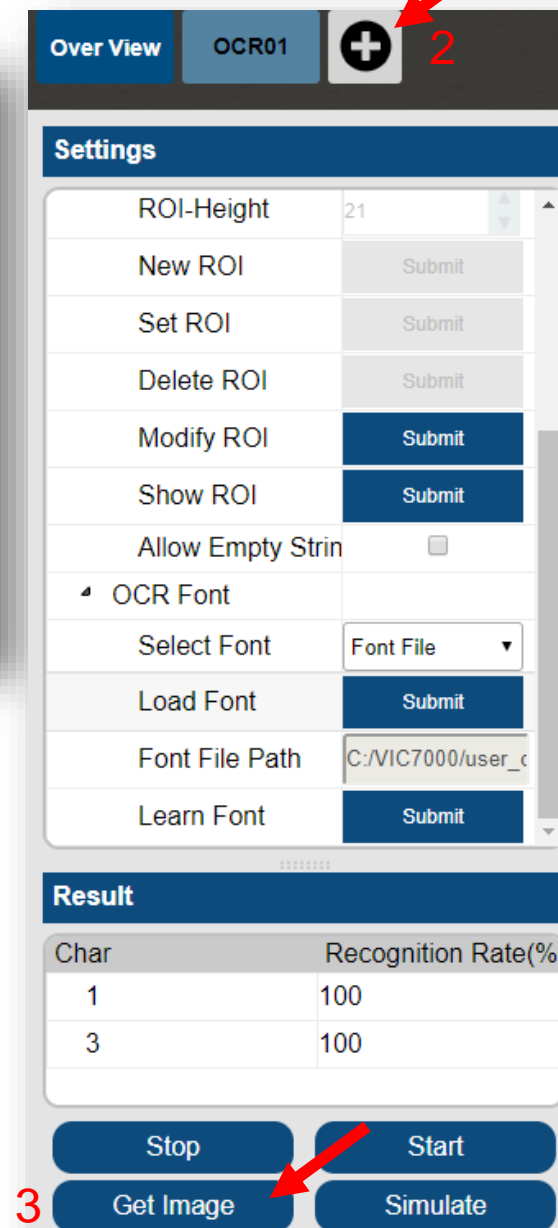
Click **Load Font** → Choose a font file used for recognition → Click **Load** → Click **Simulate** → Confirm the recognition result



Build Project – Page & Recognition

- **General : Create an OCR**

1. **Select a page** : Choose the aimed page to create an OCR
2. **Create an OCR** : Add icon
3. **Get Image**
 - a. **From File** : Read images from a local or remote folder
 - b. **From Capture Card** : Get an image from capture card



Build Project – Page & Recognition

- **General : Create an OCR**

4. **New ROI** : Right-click on an image then select **New ROI** (or Click **New ROI**)

The screenshot shows the nexVIC software interface. On the left is a 'Settings' panel with a table of parameters. The 'New ROI' button is highlighted with a red box and the number '4'. A red arrow points to the '+' icon in the top bar. Another red arrow points to the 'Submit' button next to 'New ROI'. The main display area shows a table of data with a 'New ROI' dialog box overlaid on it. A large red box with the number '4' and the text 'New ROI' is also present at the bottom of the main display area.

Name	Value
Input Parameters	
Name	PAGE01.OCR01
ROI-X	208
ROI-Y	279
ROI-Width	187
ROI-Height	86
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit

Setpoint	55	75	90				
Zone	1T	2T	3T	4T	5T	6T	7T
Actual	110	125	125	155	165	190	225
Setpoint	110	125	125	155	165	190	225
Power	13	15	10	6	7	12	10
Zone	1B	2B	3B	4B	5B	6B	7B
Actual	110	125	125	155	165	190	225
Setpoint	110	125	125	155	165	190	225
Power	19	9	8	3	2	10	11

4 New ROI

Build Project – Page & Recognition

- **General : Create an OCR**

5. **Set ROI** : Adjust the location and size of ROI → Right-click on an image and select **Set ROI** (or Click **Set ROI**)

The screenshot shows the nexVid software interface. On the left, the 'Settings' panel is visible, showing a table of parameters for 'PAGE01.OCR01'. The 'Set ROI' button is highlighted with a red box and a red arrow. The main display area shows a table of data with columns for 'Setpoint', 'Zone', 'Actual', 'Setpoint', 'Power', and 'Zone'. A red box highlights the 'Set ROI' button in the main display area, and a red arrow points to it. A blue box highlights a '13' in the main display area, and a red arrow points to it. A red box highlights a '13' in the main display area, and a red arrow points to it. A red box highlights a '13' in the main display area, and a red arrow points to it.

Setpoint	55	75	90				
Zone	1T	2T	3T	4T	5T	6T	7T
Actual	110	125	125	155	165	190	225
Setpoint	110	125	125	155	165	190	225
Power	13	15	1	3	2	10	1
Zone	1B	2B	3B	4B	5B	6B	7B
Actual	110	125	125	155	165	190	225
Setpoint	110	125	125	155	165	190	225
Power	13	15	1	3	2	10	1

Levels
le port -->
PM -->

Zone 1 Zone 6 Zone 10

Active Recipe =

Build Project – Page & Recognition

- **General : Create an OCR**

6. **Load Font** : Click **Load Font** → Choose a font file used for recognition → Click **Load**

The screenshot displays the neXVid software interface. On the left, the 'Settings' panel is visible, featuring a 'Load Font' button with a red arrow pointing to it. The 'Load Font' dialog box is open in the center, showing a list of font files. A red arrow points to the 'Load' button at the bottom of this dialog. The background shows a preview of the OCR results, including a table of data for various zones.

Zone	Actual	Setpoint	Power
4T	155	165	190
5T	155	165	190
6T	155	165	190
7T	155	165	190
4B	155	165	190
5B	155	165	190
6B	155	165	190
7B	155	165	190

Below the table, there are sections for 'Zone 6' and 'Zone 10' with yellow bars indicating levels. The bottom of the interface has buttons for 'Stop', 'Start', 'Get Image', and 'Simulate'.

Build Project – Page & Recognition

- **General : Create an OCR**

7. **Simulate** : Click **Simulate** → Confirm the recognition result

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel includes options for ROI-Height (18), New ROI, Set ROI, Delete ROI, Modify ROI, Show ROI, Allow Empty String, OCR Font, Select Font, Load Font, Font File Path (C:/VIC7000/user_c), and Learn Font. Below this is the 'Result' panel showing a table with 'Char' and 'Recognition Rate(%)' columns, and buttons for 'Stop', 'Start', 'Get Image', and 'Simulate'. The main display area shows a data table with columns for 'Zone', 'Actual', 'Setpoint', and 'Power'. The '13' value in the 'Power' column for 'Zone 1B' is highlighted with a red box and a red arrow. The 'Simulate' button is also highlighted with a red arrow. The bottom right of the interface shows a 'Levels' section with a 'Source' and 'Zone 1' indicator, and a '1.20ms' timer.

Zone	Actual	Setpoint	Power
1T	110	110	13
2T	125	125	15
3T	125	125	10
4T	155	155	6
5T	165	165	7
6T	190	190	12
7T	225	225	10
1B	110	110	19
2B	125	125	9
3B	125	125	8
4B	155	155	3
5B	165	165	2
6B	190	190	10
7B	225	225	1

- **OCR Config**

- Input Parameters

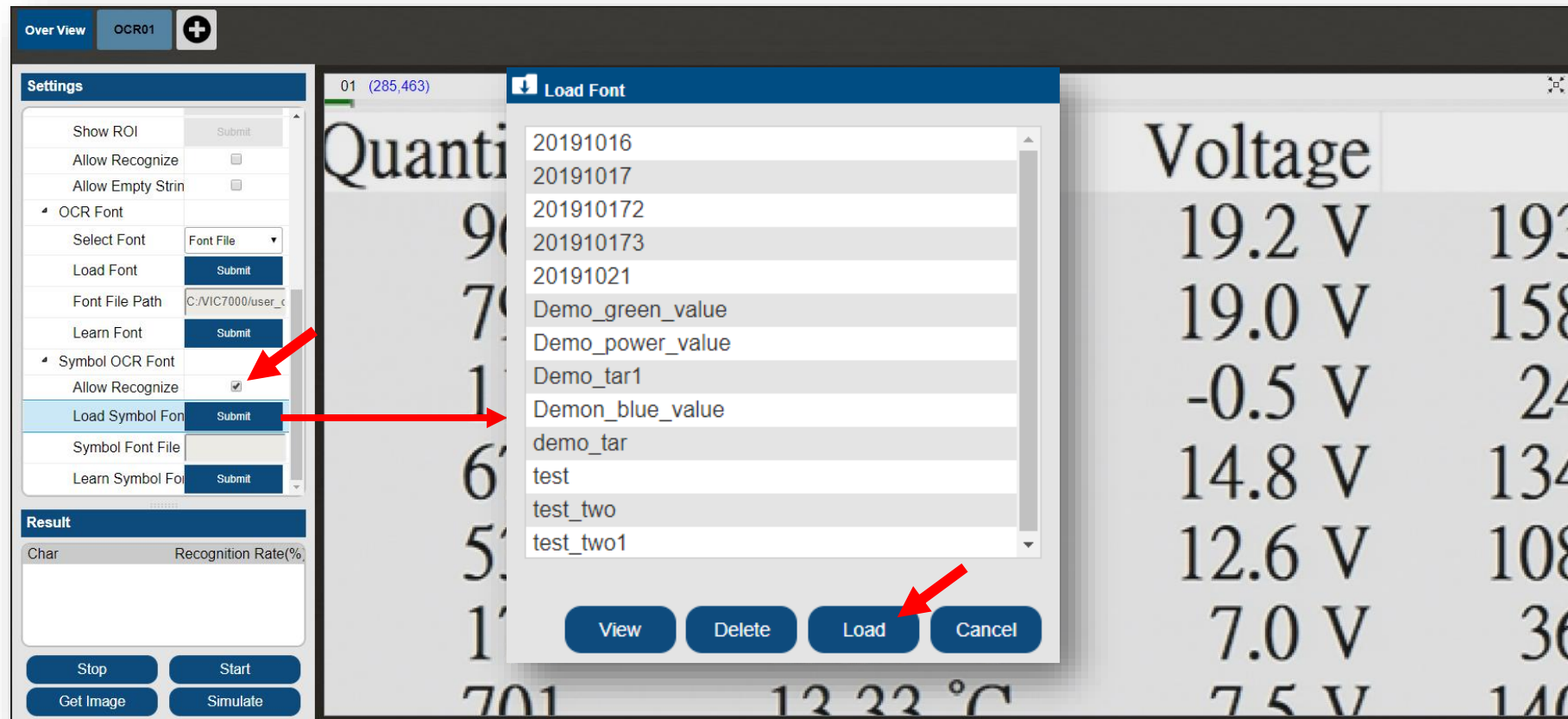
- ROI X : Set X coordinates of ROI
 - ROI Y : Set Y coordinates of ROI
 - ROI Width : Set width coordinates of ROI
 - ROI Height : Set Height coordinates of ROI
 - **Allow Empty Result** : If it is checked, NG won't show up when there is no character recognized in ROI
 - **Allow Recognition Rate** : If recognition rate is lower than this value, NG will show up

Build Project – Page & Recognition

- **General**

- **Symbol Recognition** : Check on **Allow Recognize Symbol** → Click **Load Symbol Font** → Choose a symbol font file used for recognition → Click **Load**

The Symbol font file that is used **only** for recognizing symbols.

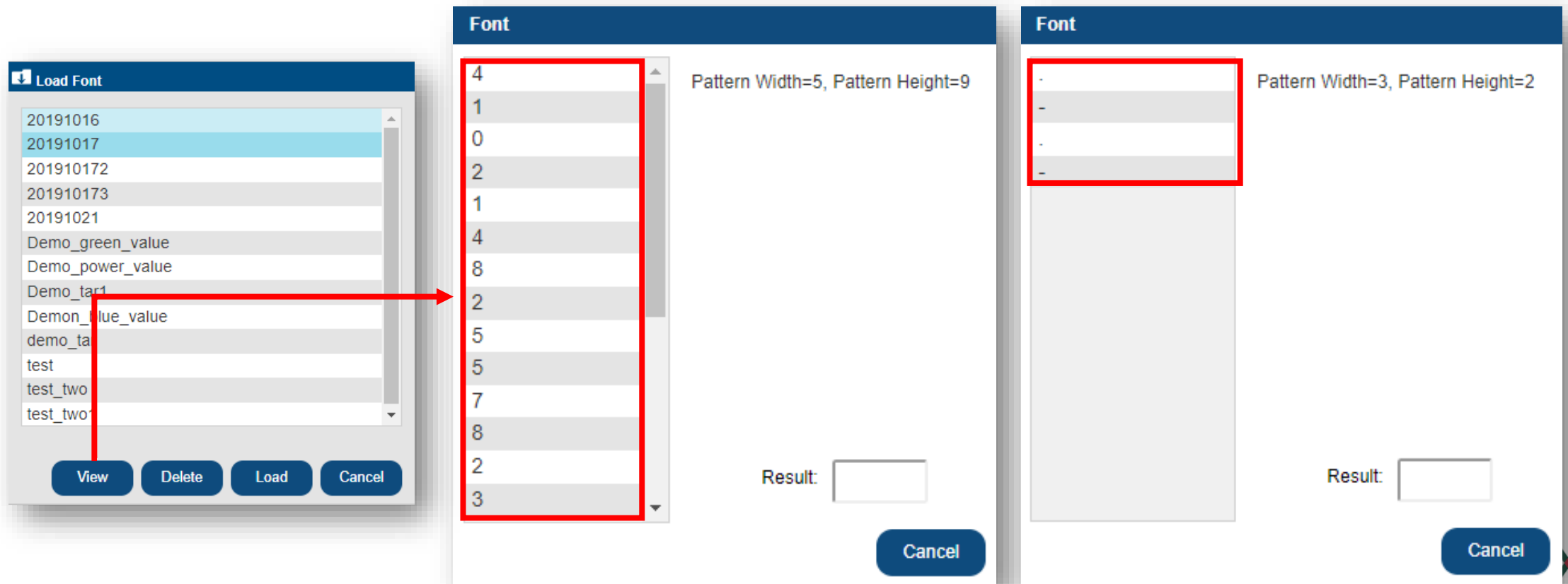


Build Project – Page & Recognition

- **General**

- **Symbol Recognition** : Click **View** to confirm the content of OCR font and symbol font

In this sample, the OCR font is used to recognize numbers, and the symbol font is used to recognize minus sign and decimal point.



Build Project – Page & Recognition

- **General**

- **Symbol Recognition** : Click **Simulate** → Confirm the recognition result

The screenshot displays the nexVIC interface for symbol recognition. On the left, the 'Settings' panel includes options for 'Show ROI', 'Allow Recognize', 'Allow Empty Strin', 'OCR Font', 'Select Font', 'Load Font', 'Font File Path', 'Learn Font', 'Symbol OCR Font', 'Allow Recognize', 'Load Symbol Font', 'Symbol Font File', and 'Learn Symbol Font'. Below this is the 'Result' panel showing a table of character recognition rates.

Char	Recognition Rate(%)
-	92.1433
1	98.7459
4	99.1673

At the bottom of the Settings panel are buttons for 'Stop', 'Start', 'Get Image', and 'Simulate'. A red arrow points to the 'Simulate' button.

The main display area shows a table of sensor data. A red arrow points to a small green box containing the value '-14.68' in the top left corner. Another red arrow points to the value '-14.68' in the 'Temperature' column of the table, which is also enclosed in a dashed purple box.

Quantity	Temperature	Voltage	Time
756	2.14 °C	6.2 V	1515 ms
707	-14.68 °C	-7.5 V	1418 ms
270	29.32 °C	-3.6 V	548 ms
802	-11.81 °C	7.3 V	1605 ms
276	6.05 °C	0.5 V	560 ms
909	23.52 °C	-1.2 V	1818 ms
927	-0.71 °C	15.8 V	1824 ms

A red arrow points to a small green box containing the value '1.89ms' in the bottom right corner of the table.

Build Project – Page & Recognition

- **General : Create an OCR**
 - **Multiple OCR** : Click **Add** icon → Repeat the aforementioned steps to create OCRs

Settings

ROI-Height: 0

New ROI: Submit

Set ROI: Submit

Delete ROI: Submit

Modify ROI: Submit

Show ROI: Submit

Allow Empty Strin: ☐

OCR Font

Select Font: OCR-A

Load Font: Submit

Font File Path:

Learn Font: Submit

Result

Char: Recognition Rate(%)

Stop Start

Get Image Simulate

01 (62,462)

System ID: VIC7100

Setpoint	55	75	90			
Zone	1T	2T	3T	4T	5T	6T
Actual	112	125	125	155	165	190
Setpoint	110	125	125	125	165	225
Power	24	14	13	5	7	12
Zone	1B	2B	3B	4B	5B	6B
Actual	110	125	125	155	165	190
Setpoint	110	110	125	155	165	190
Power	18	13	18	3	2	10

O2 Levels

Sample port -->

PPM -->

Source Zone 1 Zone 6 Zone

Active Recipe =

Build Project – Page & Recognition

- **General : Create a Color**

4. **Create a COLOR** : Click on **Add** icon → Click **Color**

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel is open, showing a dropdown menu with 'OCR', 'Color', and 'Pattern' options. A red arrow points to the 'Color' option, and a red number '4' is placed above it. The main dashboard shows a 'Pyramax' system monitoring screen with various data tables and a process flow diagram.

Settings Panel:

- Over View (+)
- Settings
- Name: 01
- ROI X Offset: 0
- ROI Y Offset: 0
- TARGET01: -

Main Dashboard:

- Customer ID: NexVIC
- System ID: VIC7100
- Ready Hours: 919.99
- Product Tracking
- Current Recipe
- Production Total
- Line 1
- Setpoint: 55, 75, 90, 95, 25, 20
- Zone: 1T, 2T, 3T, 4T, 6T, 7T, 8T, 9T, 10T
- Actual: 112, 125, 125, 155, 165, 190, 238, 260, 285, 295
- Setpoint: 110, 125, 125, 125, 165, 225, 225, 260, 285, 295
- Power: 24, 14, 13, 5, 7, 12, 11, 4, 27
- Zone: 1B, 2B, 3B, 4B, 5B, 6B, 7B, 8B, 9B, 10B
- Actual: 110, 125, 125, 155, 165, 190, 225, 260, 285, 295
- Setpoint: 110, 110, 125, 165, 190, 225, 260, 285, 286
- Power: 18, 13, 18, 3, 2, 10, 22, 22, 28, 32
- Active Recipe: =
- Nitrogen Status: On
- Scheduler Status: Event based recipe or sequence pending.
- Estimated Power Consumption: KW
- Estimated Nitrogen Consumption: cmpm
- Conveyor Actual Setpoint

Build Project – Page & Recognition

- **General : Create a Color**

5. **New ROI** : Right-click on the image and select **New ROI** (or Click **New ROI** button)

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel is visible, showing a table of input parameters. A red arrow points to the 'New ROI' button in the 'Input Parameters' section. The main monitoring screen shows a 'Pyramax' system interface with various data tables and a 'New ROI' button highlighted by a red box. A red box with the number '5' and the text 'New ROI' is overlaid on the main monitoring screen.

Name	Value
Input Parameters	
Name	PAGE01.COLOR0
ROI-X	0
ROI-Y	0
ROI-Width	1
ROI-Height	1
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit
Matching Parameter	
Color Picker	
Red	0
Green	0
Blue	0

01 (171,230)

RTU System Console - [System Monitor Graphic]
Recipe Edit Status Security Profiler DataLog Tool Config Window Help

Customer ID: NexVIC System ID: VIC7100 Ready Hours: 819.59
Product Tracking Current Recipe Production Total Line 1

Setpoint Zone Actual Setpoint Power Zone Actual Setpoint Power

O2 Levels Sample port --> PPM -->

Source Zone 1 Zone 6 Zone 10 Cooler

Active Recipe =

In Process Counts

Line 1

Start/Run Heat Conveyor Oiler RCS Scheduler Status: Event based recipe or sequence pending. Estimated Power Consumption: KW Estimated Nitrogen Consumption: cmpm Conveyor Actual Setpoint

For help, press F1 Profile: Inactive Data Collection: Active Host: n/a Schedule: Enabled Active:

Build Project – Page & Recognition

- **General : Create a Color**

6. **Set ROI** : Adjust the location and size of ROI → Right-click on the image and select **Set ROI** (or Click **Set ROI**) The average value of the RGB within the ROI is automatically obtained and be set as matching color

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel is visible, featuring a 'Set ROI' button highlighted with a red callout and the number '6'. The main image area shows a product with a red ROI box, also highlighted with a red callout and the number '6'. On the right, the 'Matching Parameters' panel shows the resulting color values: Red (105), Green (155), and Blue (154), highlighted with an orange callout.

Matching Parameters	
Color Picker	
Red	105
Green	155
Blue	154

Build Project – Page & Recognition

- **General : Create a Color**

7. **Set Matching Tolerance and Result Output** : Set **Matching Tolerance**(RGB±) → Enter
Matching Output Result

The screenshot displays the RTII System Console interface. On the left, the 'Settings' panel for 'COLOR01' is visible. It includes fields for ROI-X (187), ROI-Y (190), ROI-Width (62), and ROI-Height (36). Below these are buttons for 'New ROI', 'Set ROI', 'Delete ROI', 'Modify ROI', and 'Show ROI'. A 'Matching Parameters' section contains a 'Color Picker' and RGB values (Red: 105, Green: 155, Blue: 154). At the bottom of this section, 'Matching Tolerance' is set to 5, 'Matching Output' is set to 'true', and 'No Matching Output' is set to 'false'. These three items are highlighted with a red box. The main area shows a 'Pyramax' system monitor with various status indicators and a 'Matching Tolerance' dialog box overlaid in the center. The dialog box has three rows: 'Matching Tolerance' with a value of 5, 'Matching Output' set to 'true', and 'No Matching Output' set to 'false'. The dialog box is also highlighted with a red box.

Build Project – Page & Recognition

- **General : Create a Color**

8. **Simulate** : Click **Simulate** → Confirm matching result

The screenshot displays the neXVIC software interface. On the left is the 'Settings' panel, and on the right is the main system monitor window titled 'Pyramax'.

Settings Panel:

- ROI-X: 187
- ROI-Y: 190
- ROI-Width: 62
- ROI-Height: 36
- New ROI: Submit
- Set ROI: Submit
- Delete ROI: Submit
- Modify ROI: Submit
- Show ROI: Submit
- Matching Parameters:
 - Color Picker: [Green]
 - Red: 105
 - Green: 155
 - Blue: 154
 - Matching Tolerance: [Slider]
 - Matching Output: true
 - No Matching Output: false
- Buttons: Stop, Start, Get Image, Simulate

Main System Monitor (Pyramax):

- Customer ID: NexVIC
- System ID: VIC7100
- Ready Hours: 819.99
- Product Tracking: Line 1
- Current Recipe: [Dropdown]
- Production Total: [Value]
- Table of Setpoint, Actual, and Power values for various zones and coolers.
- Q2 Levels: Sample port, PPM
- Active Recipe = [Recipe Name]
- Nitrogen Status: On
- Scheduler Status: Event based recipe or sequence pending.
- Estimated Power Consumption: KW
- Estimated Nitrogen Consumption: [Value]
- Conveyor: cmppm
- Actual Setpoint: [Value]
- Status bar at the bottom: Profile: Inactive, Data Collection: Active, Host: n/a, Schedule: Enabled, Active: [Green]

A red arrow points to the 'Simulate' button in the bottom left of the settings panel. Another red arrow points to the 'true' status in the top left of the main window, which is highlighted with a green box and the coordinates (105,155,155).

0.01ms

Build Project – Page & Recognition

- **General : Create a Color**

- **Assign color matching** : Click Color Picker → Enable eyedropper tool → Select the desired matching color in the image → The matching color will be set up automatically and confirm if it is correct.

The screenshot displays the RTU System Console interface. On the left, the 'Settings' panel is visible, showing a list of parameters under 'Input Parameters' and 'Matching Parameter'. The 'Matching Parameter' section includes a 'Color Picker' button and a table of color values. A red arrow points to the 'Color Picker' button. Another red arrow points to a color selection area in the main interface. The 'Matching Parameter' dialog box is open, showing a color picker and a table of color values.

Matching Parameter	
Color Picker	
Red	180
Green	24
Blue	65

Build Project – Page & Recognition

- **General : Create a Color**
 - **Multiple COLOR** : Click **Add** icon → Repeat the aforementioned steps to create Colors

The screenshot shows the neXVIC software interface. On the left is the 'Settings' panel, and on the right is the main system monitor displaying a 'Pyramax' system.

Settings Panel:

- Buttons: Over View, COLOR01, COLOR02, + (Add icon)
- Section: Settings
- Fields: ROI-X (185), ROI-Y (551), ROI-Width (10), ROI-Height (6)
- Buttons: New ROI (Submit), Set ROI (Submit), Delete ROI (Submit), Modify ROI (Submit), Show ROI (Submit)
- Section: Matching Parameters
- Color Picker: Blue (212)
- Red: 23, Green: 22, Blue: 212
- Matching Tolerance: [dropdown]
- Matching Output: true
- No Matching Output: false
- Buttons: Stop, Start, Get Image, Simulate

Main System Monitor:

- Customer ID: NexVIC, System ID: VIC7100
- Ready Hours: 919:59
- Product Tracking, Current Recipe, Production Total
- Table with Setpoint, Actual, and Power values for various zones and coolers.
- Diagram of the system with labels like 'Source', 'Zone 1', 'Zone 5', 'Zone 10', 'Cooler', 'Nitrogen Status On', 'Edge Conveyor', 'RCS', 'Conveyor', 'Actual', 'Setpoint'.
- Status: Scheduler Status: Event based recipe or sequence pending.
- Estimated Power Consumption: KW, Estimated Nitrogen Consumption: cmpm
- Bottom bar: Profile: Inactive, Data Collection: Active, Lost: n/a, Schedule: Enabled, Active: [green bar]

Annotations:

- 4: Points to the '+' (Add) icon in the Settings panel.
- 5: Points to the 'Color' option in the dropdown menu.
- 6: Points to the 'Submit' button for the 'Set ROI' field.
- 7: Points to the 'Matching Parameters' section, which is highlighted with a red box.
- 8: Points to the 'Simulate' button.

Color Picker:

Color (23,22,212)

0.00ms

Build Project – Page & Recognition

- **General : Create a Pattern**

4. **Create a PATTERN** : Click **Add** icon on the page user wants to create a Pattern → Click **Pattern**

The screenshot shows the nexVIC software interface. On the left, the 'Settings' panel is open, and the 'Pattern' option is selected from a dropdown menu, indicated by a red arrow and the number '4'. The main window displays a background image of a city at night with a rainbow. Overlaid on this is a data table titled 'VIC7000 Demo Sample' with the following data:

Product ID	Quantity	Temperature	Voltage	Time	Result
1	549	-11.67 °C	8.6 V	1103 ms	Pass
2	337	-11.20 °C	18.5 V	681 ms	NG
3	878	-14.43 °C	3.9 V	1756 ms	Pass
4	733	14.24 °C	-3.4 V	1469 ms	Pass
5	316	26.68 °C	14.5 V	640 ms	NG
6	460	5.06 °C	0.1 V	926 ms	NG
7	583	-2.14 °C	-0.1 V	1171 ms	Pass
8	536	-11.82 °C	8.7 V	1077 ms	Pass
9	614	0.27 °C	6.7 V	1232 ms	Pass
10	510	26.98 °C	1.1 V	1025 ms	NG
11	582	3.85 °C	7.0 V	1169 ms	Pass
12	732	-10.66 °C	-3.5 V	1466 ms	Pass

Build Project – Page & Recognition

- **General : Create a Pattern**

5. **New ROI** : Right-click on the image and select **New ROI** (or Click **New ROI**)

The screenshot displays the nexVIC software interface. On the left, the 'Settings' panel is visible, featuring a table with 'Name' and 'Value' columns. Under 'Input Parameters', the 'New ROI' button is highlighted with a red arrow and the number '5'. Below the settings, there is a 'Result' section with a table for 'Name' and 'Value'. At the bottom of the settings panel are buttons for 'Stop', 'Start', 'Get Image', and 'Simulate'. The main image area on the right shows a thermal image of a person's head. A red box labeled '5 New ROI' is overlaid on the image, and a context menu is open with 'New ROI' selected. A table of test results is also visible in the background of the main image area.

				Time	Result
1	549	-11.67 °C	8.6 V	1103 ms	Pass
2	337	-11.20 °C	18.5 V	681 ms	NG
3	878	-14.43 °C	3.9 V	1756 ms	Pass
4	733	14.24 °C	-3.4 V	1469 ms	Pass
5	316	26.68 °C	14.5 V	640 ms	NG
6	460	5.06 °C	0.1 V	926 ms	NG
7	583	-2.14 °C	-0.1 V	1171 ms	Pass
	536	-11.82 °C	8.7 V	1077 ms	Pass
	614	0.27 °C	6.7 V	1232 ms	Pass
10	510	26.98 °C	1.1 V	1025 ms	NG
11	582	3.85 °C	7.0 V	1169 ms	Pass
12	732	-10.66 °C	-3.5 V	1466 ms	Pass

Build Project – Page & Recognition

- **General : Create a Pattern**

6. **Set ROI** : Adjust the location and size of ROI → Right-click on the image then select **Set ROI** (or Click **Set ROI**)

The screenshot shows the nexVIC software interface. On the left, there is a 'Settings' panel with a 'Set ROI' button highlighted by a red arrow and the number '6'. The main window displays a thermal image of a circuit board. A yellow box highlights a region of interest (ROI) on the image. A context menu is open over the ROI, showing options like 'Set ROI' and 'Save Image (*.bmp)'. A red box highlights the 'Set ROI' option in the context menu, and a red arrow points to it. Below the context menu, a red box contains the text '6 Set ROI'.

Settings Panel:

Name	Value
Input Parameters	
Name	PAGE01.PATTERN
ROI-X	961
ROI-Y	0
ROI-Width	958
ROI-Height	576
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit

Result Panel:

Name	Value

Context Menu:

- Set ROI
- Save Image (*.bmp)

ROI Data Table:

Temperature	Voltage	Time	Result
1.67 °C	8.6 V	1103 ms	Pass
1.20 °C	18.5 V	681 ms	NG
4.43 °C	3.9 V	1756 ms	Pass
4.24 °C	-3.4 V	1469 ms	Pass
6.68 °C	14.5 V	640 ms	NG
5.06 °C	0.1 V	926 ms	NG

Build Project – Page & Recognition

- **General : Create a Pattern**

7. **Load Matching Pattern** : Click **Pattern Load** → **Pattern** window will appear, and an image will be loaded automatically

Over View **PATTERN01**

Settings

Matching Paramete

Gray Matching

☐

Pattern Load

Submit

Pattern Name

Pattern X

0

▲▼

Pattern Y

0

▲▼

Pattern Width

0



Pattern

Get Image

standard_image.bmp

Get Page Image

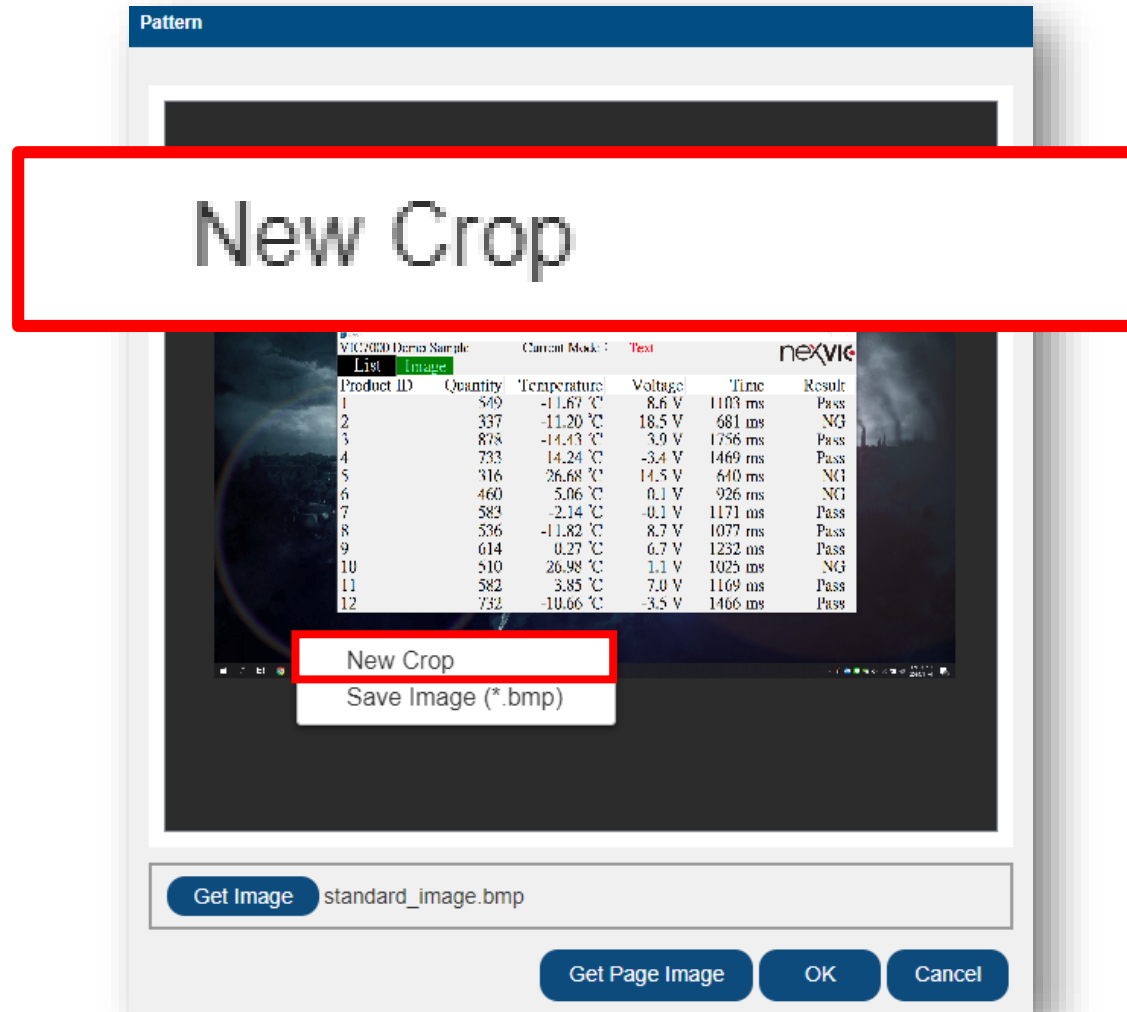
OK

Cancel

Build Project – Page & Recognition

- **General : Create a Pattern**

7. **Load Matching Pattern** : Right-click on the image → Select **New Crop**

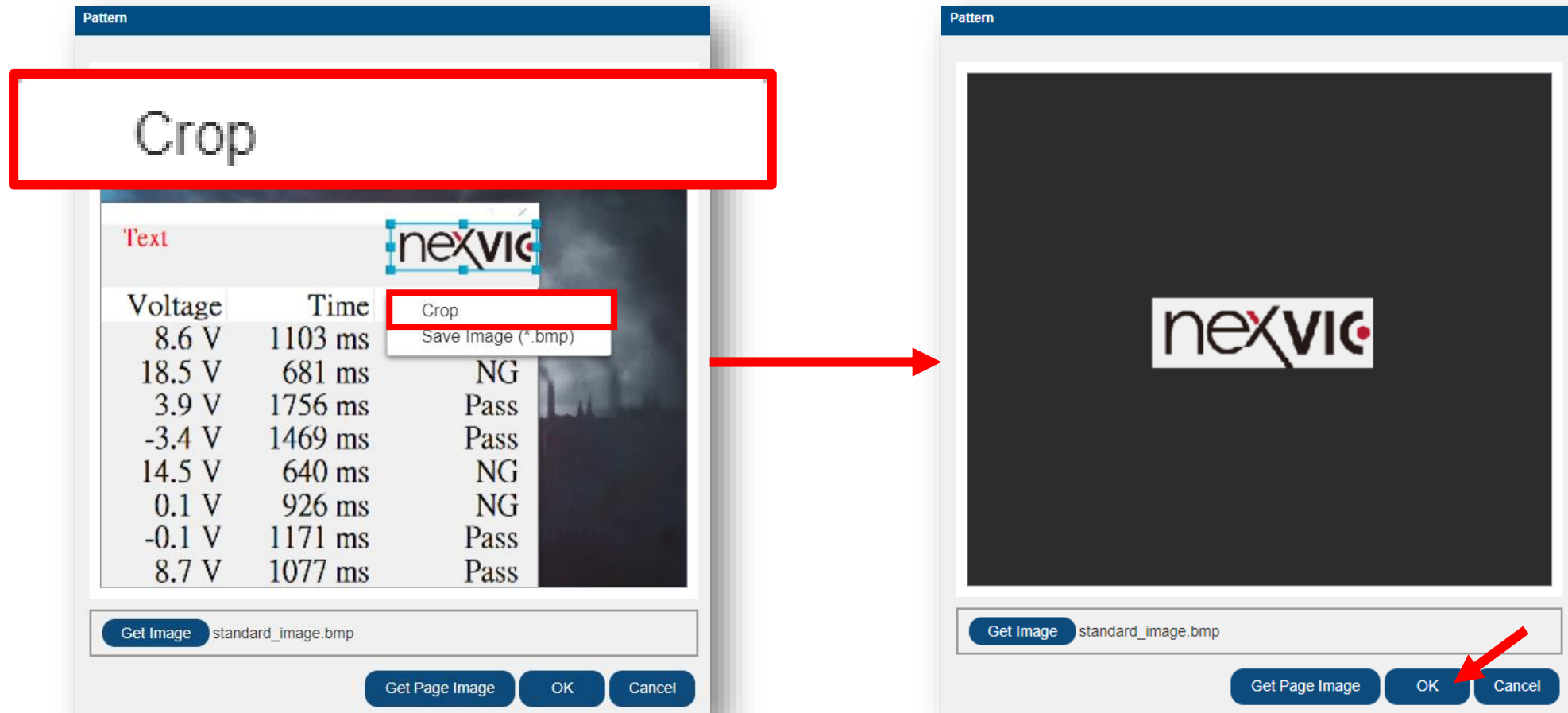


Build Project – Page & Recognition

- **General : Create a Pattern**

7. **Load Matching Pattern** : Mark the matching pattern → Right-click on the image

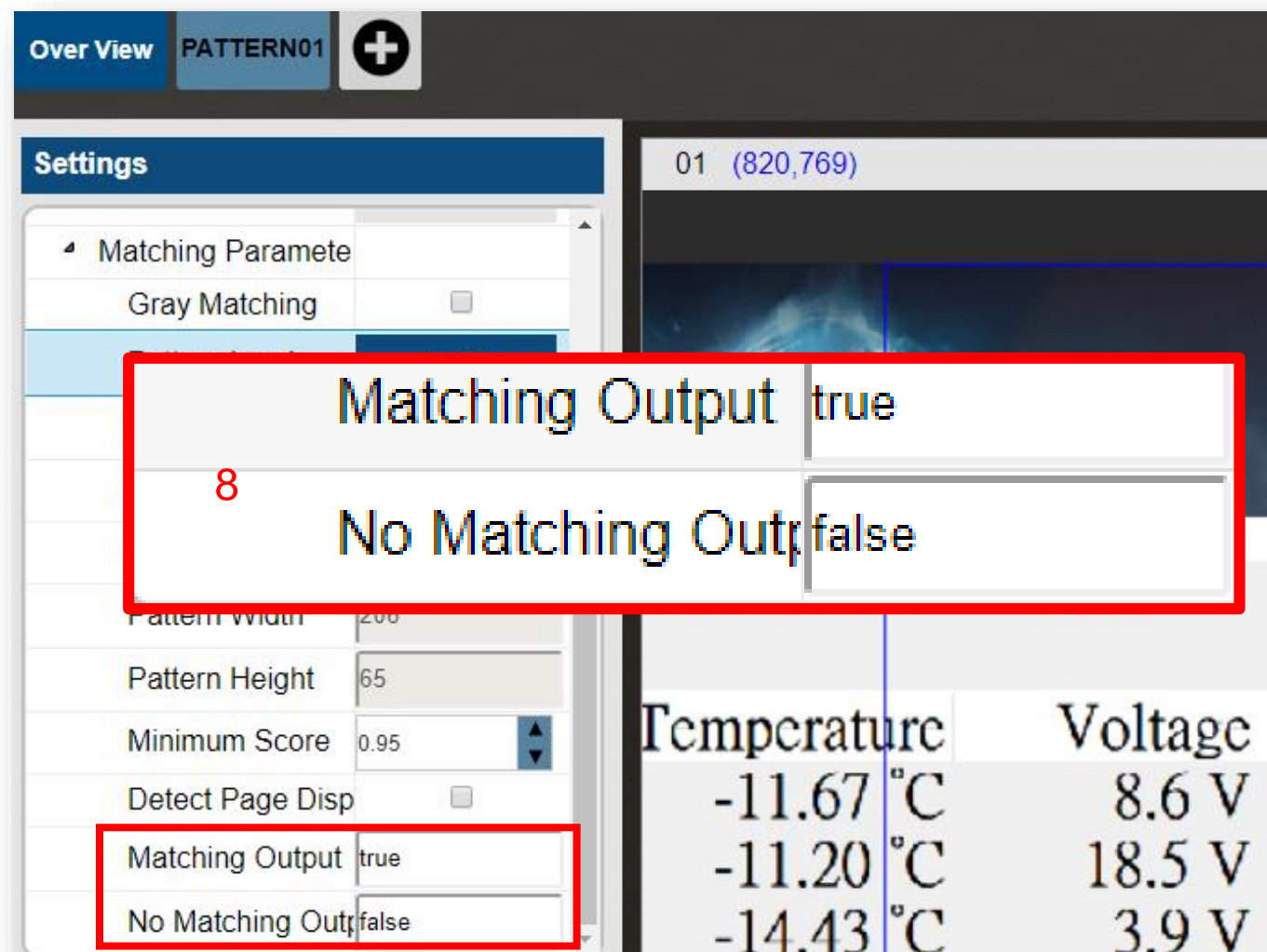
→ Select **Crop** → Click **OK**



Build Project – Page & Recognition

- **General : Create a Pattern**

8. **Set Matching Result Output** : Enter the **Output of the Matching Result**



Build Project – Page & Recognition

- **General : Create a Pattern**

9. **Simulate** : It's recommended to check Gray Matching to speed up recognition processes.

Click **Simulate** → Confirm matching result

Settings

- Matching Parameter
 - Gray Matching ☒
- Pattern Load
- Pattern Name standard_image.br
- Pattern X 1455
- Pattern Y 204
- Pattern Width 206
- Pattern Height 65
- Minimum Score 0.95
- Detect Page Disp ☐
- Matching Output true
- No Matching Out false

Result

Name	Value
Match	
Score	0.999549
X	1455

9 Gray Matching

Current Mode : Text

Quantity	Temperature	Voltage	Time	Result
549	-11.67 °C	8.6 V	1103 ms	Pass
337	-11.20 °C	18.5 V	681 ms	NG
878	-14.43 °C	3.9 V	1756 ms	Pass
733	14.24 °C	-3.4 V	1469 ms	Pass
316	26.68 °C	14.5 V	640 ms	NG
160	5.06 °C	0.1 V	926 ms	NG
583	-2.14 °C	-0.1 V	1171 ms	Pass
536	-11.82 °C	8.7 V	1077 ms	Pass

42.57ms

nexVIC

nexVIC

42.57ms

nexVIC

Build Project – Page & Recognition

- **General**

- **Displacement Detection** : Based on the positions of PATTERNS on the image where Patterns are set

Detect Page Displacement : Making ROI of OCRs and Colors move with the positions of PATTERNS

Detect Page Displacement



The screenshot shows the 'Settings' panel for 'PATTERN01' in the nexVid software. The panel includes a 'Settings' header and a list of configuration options. The 'Detect Page Displacement' option is highlighted with a red box. The 'Minimum Score' is set to 0.95, and the 'Matching Output' is set to 'true'.

Setting	Value
Matching Parameters	
Gray Matching	<input checked="" type="checkbox"/>
Pattern Load	Sub
Pattern Name	standi
Pattern X	145
Pattern Y	204
Pattern Width	206
Pattern Height	65
Minimum Score	0.95
Detect Page Displacement	<input type="checkbox"/>
Matching Output	true
No Matching Output	false

Build Project – Page & Recognition

- **General : Create a Pattern**

- **Multiple PATTERN** : Click **Add** icon → Repeat the aforementioned steps to create Patterns

Settings

Input Parameters

Name	Value
ROI-X	961
ROI-Y	0
ROI-Width	958
ROI-Height	576
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit

Matching Parameter

Parameter	Value
Gray Matching	<input checked="" type="checkbox"/>
Pattern Load	Submit
Pattern Name	standard_image.br
Pattern X	1455
Pattern Y	204
Pattern Width	206
Pattern Height	65
Minimum Score	0.95
Detect Page Disp	<input type="checkbox"/>
Matching Output	true
No Matching Out	false

Result

Name	Value

01 (-315,1127)

9

7

5

6

8

9

VIC7000 Demo Sample

Current Mode : Text

nexVIC

Product ID	Quantity	Temperature	Voltage	Time	Result
1	549	-11.67 °C	8.6 V	1103 ms	Pass
2	337	-11.20 °C	18.5 V	681 ms	NG
3	878	-14.43 °C	3.9 V	1756 ms	Pass
4	733	14.24 °C	-3.4 V	1469 ms	Pass
5	316	26.68 °C	14.5 V	640 ms	NG
6	460	5.06 °C	0.1 V	926 ms	NG
7	583	-2.14 °C	-0.1 V	1171 ms	Pass
8	536	-11.82 °C	8.7 V	1077 ms	Pass
9	614	0.27 °C	6.7 V	1232 ms	Pass
10	510	26.98 °C	1.1 V	1025 ms	NG
11	582	3.85 °C	7.0 V	1169 ms	Pass
12	732	-10.66 °C	-3.5 V	1466 ms	Pass

Stop Start

Get Image Simulate

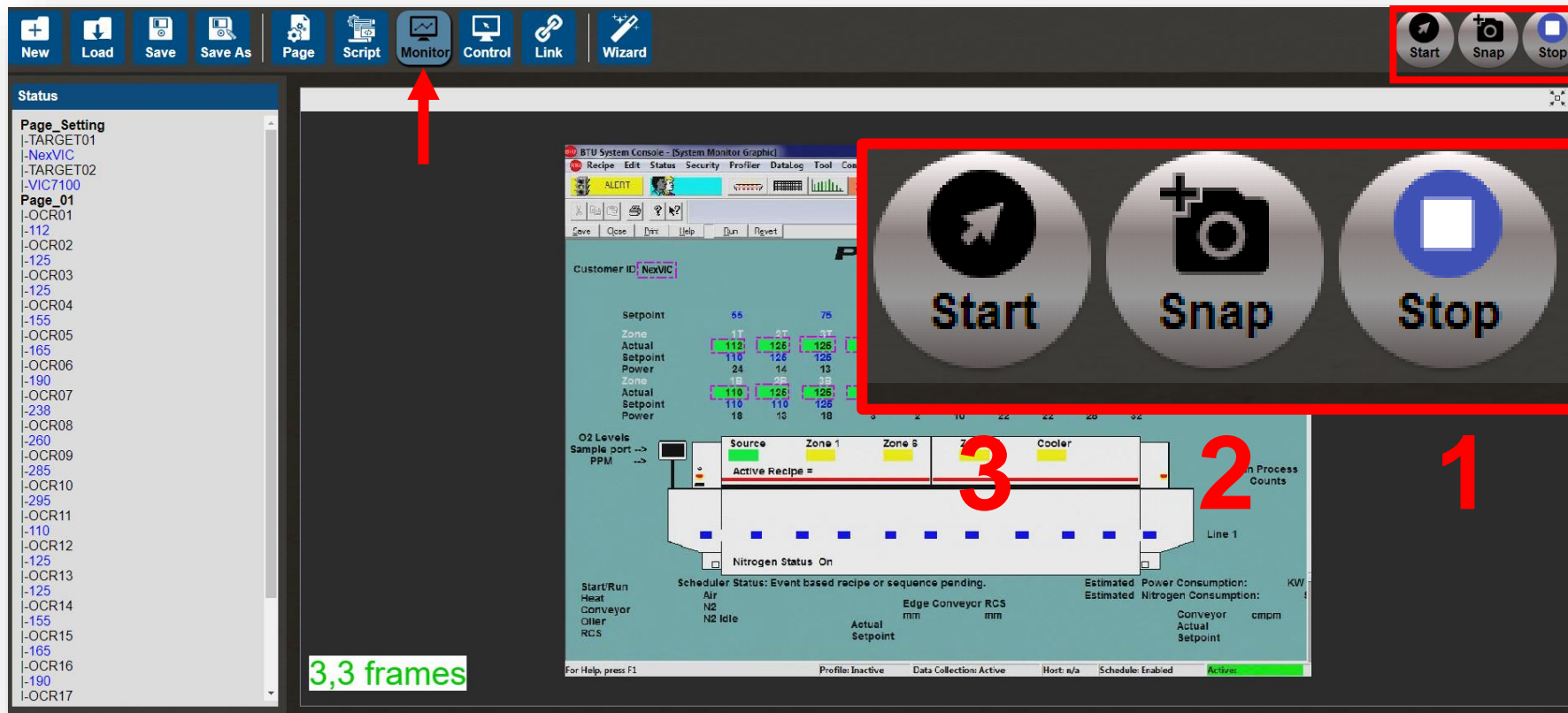
Build Project – Play Project

- **Monitor**

1. Start/Stop : Get images and push them into recognition continuously
2. Snap : Get an image and process recognition on it
3. Control Start/Stop : Play the control file

Recognition results **will not be stored in Database and transported through Protocols.**

While recognition process is running, **Scripts will be executed.**

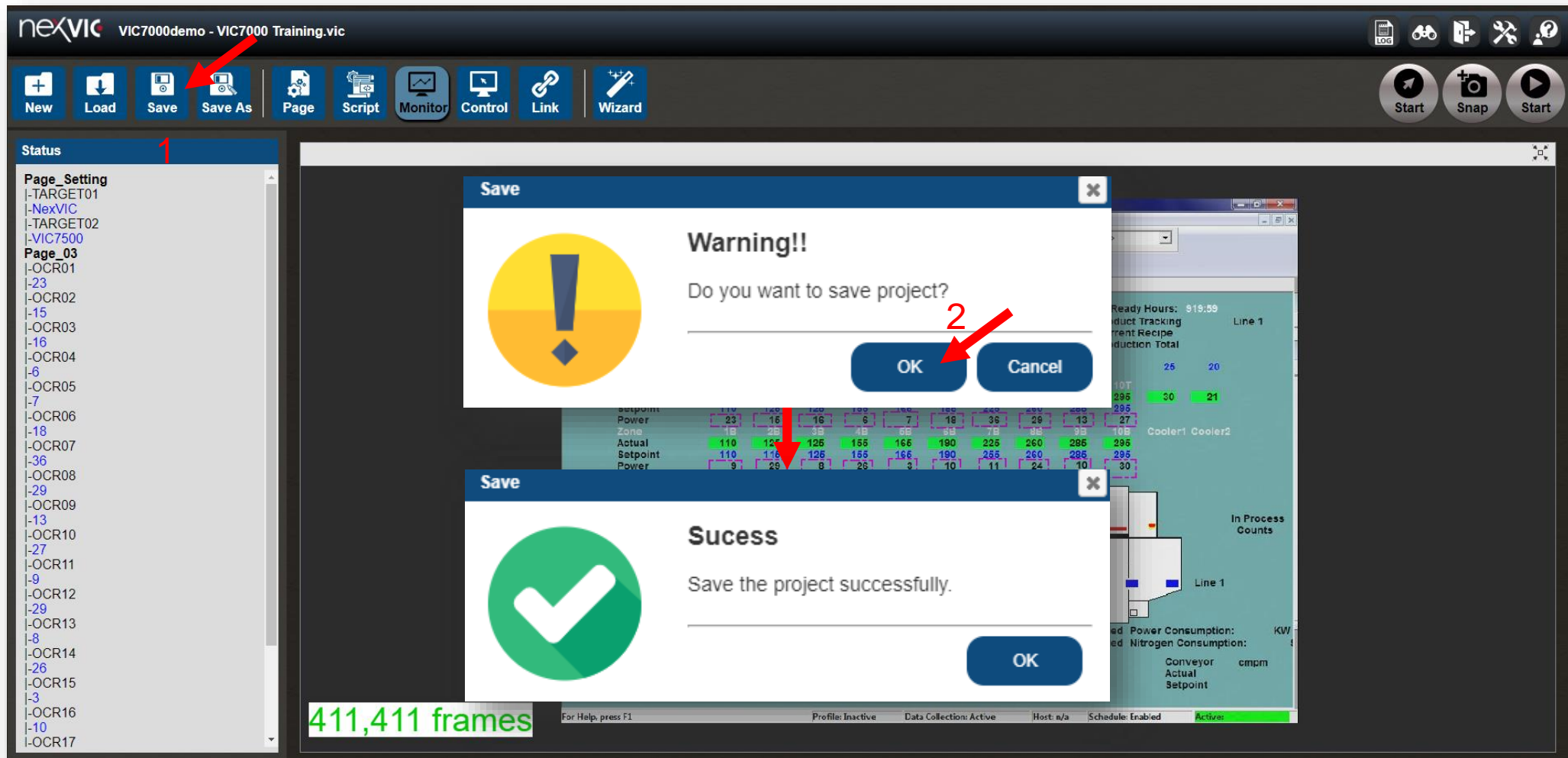


Build Project – Play Project

- **Save Project**

1. **Save Project** : Click **Save**

2. Click **OK**



Build Project – Play Project

- Play Project

1. Back to User Mode

The screenshot shows the nexVIC software interface for a VIC7000demo. The top menu bar includes options like New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The left sidebar lists various settings and recipes. The main display area shows a detailed view of the system's status, including a table of temperature setpoints and actual values for different zones (1T, 2T, 3T, 4T, 5T, 6T, 7T, 8T, 9T, 10T). The status bar at the bottom indicates '411,411 frames' and shows the system is active.

Setpoint	55	75	90	95	25	20						
Zone	1T	2T	3T	4T	5T	6T	7T	8T	9T	10T	Cooler1	Cooler2
Actual	155	125	125	155	165	190	295	260	295	295	30	21
Setpoint	110	125	125	155	165	185	225	260	295	295		
Power	23	16	16	6	7	18	35	29	13	27		
Zone	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B		
Actual	110	125	125	155	165	190	225	260	295	295		
Setpoint	110	115	125	155	165	190	255	260	295	295		
Power	9	20	8	25	3	10	11	24	10	30		

411,411 frames

Build Project – Play Project

- Play Project

2. Click Start Project

The screenshot displays the nexVIC software interface for a VIC7000 demo. The top bar shows the title 'nexVIC VIC7000demo - VIC7000 Training.vic' and a red arrow points to the 'Start' button in the top-left toolbar. The left sidebar lists various status items under 'Status', including 'Page_Setting', 'Page_01', and several OCR targets. The main window displays a 'Pyramax' system monitor graphic with a table of data for various zones and coolers. The '3,3 frames' text is overlaid in green at the bottom left of the main window.

Setpoint	55	75	90	95	25	20						
Zone	1T	2T	3T	4T	5T	6T	7T	8T	9T	10T		
Actual	112	125	125	155	165	190	238	260	285	295	30	21
Setpoint	110	125	125	125	165	225	225	260	285	295		
Power	24	14	13	5	7	12	11	11	4	27		
Zone	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	Cooler1	Cooler2
Actual	110	125	125	155	165	190	225	260	285	295		
Setpoint	110	110	125	155	165	190	225	260	285	295		
Power	18	13	18	3	2	10	22	22	28	32		

O2 Levels
Sample port -->
PPM -->

Source Zone 1 Zone 6 Zone 10 Cooler
Active Recipe =

Nitrogen Status On

Scheduler Status: Event based recipe or sequence pending.

Start/Run
Heat
Conveyor
Oiler
RCS

Air
N2
N2 Idle

Edge Conveyor RCS
mm mm

Actual
Setpoint

Estimated
Estimated

Power Consumption: KW
Nitrogen Consumption:

Conveyor
Actual
Setpoint

cmpm

For Help, press F1

Profile: Inactive Data Collection: Active Host: n/a Schedule: Enabled Active:

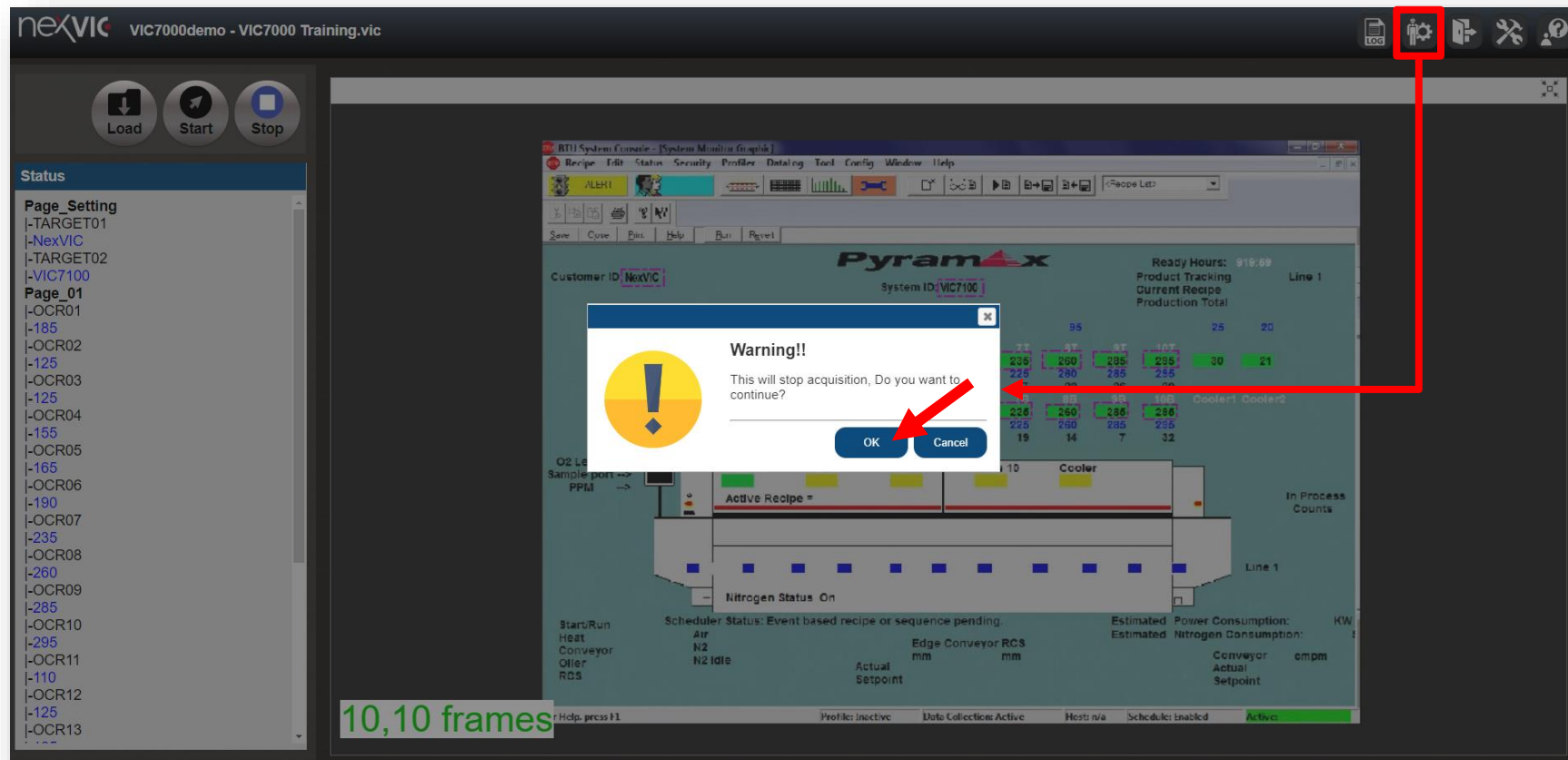
Build Project – Play Project

- **Stop Warning**

If user switch to administrator mode while the project is playing, the project will be interrupted.

Click on **Administrator Mode** → the Warning window will appear → Click **OK**

Then user can switch to administrator mode to go on



Build Project – Database

- Use Database

1. Enter Database Page : Click **DB** in User Mode



nexVIC VIC7300:Database

File export CSV export XLS export

Form

Target

Quantity 5

Target_Color

Quantity 5

Target_Pattern

Quantity 5

OCR

Quantity 20

Color

Quantity 20

Pattern

Quantity 20

Calculation

Quantity 0

Date

From Pick a date

search

Build Project – Database

- Use Database

2. **Set Searching Parameters** : Set the amount of **Targets**, **Target_Colors**, **Target_Patterns**, **OCRs**, **Colors**, **Patterns**, **CALC. Date**, **Keyword of Page**, **Result**

3. **Search** : Click **Search**

Page :

Result :

- 01
- 02
- 03
- 04
- 05

Result :

- Pass
- NG
- No Matching

Calculation

Quantity

Date


From

To

Keyword

Page

Result

 search

2

Form

Target

Quantity

Target_Color

Quantity

Target_Pattern

Quantity

OCR

Quantity

Color


Quantity

Pattern

Quantity

Calculation

Quantity

3  search

Build Project – Database

- Use Database

4. **Searching Result** : Seeking data following given parameters. A small page contains 20 records, and a large page contains 10 small pages

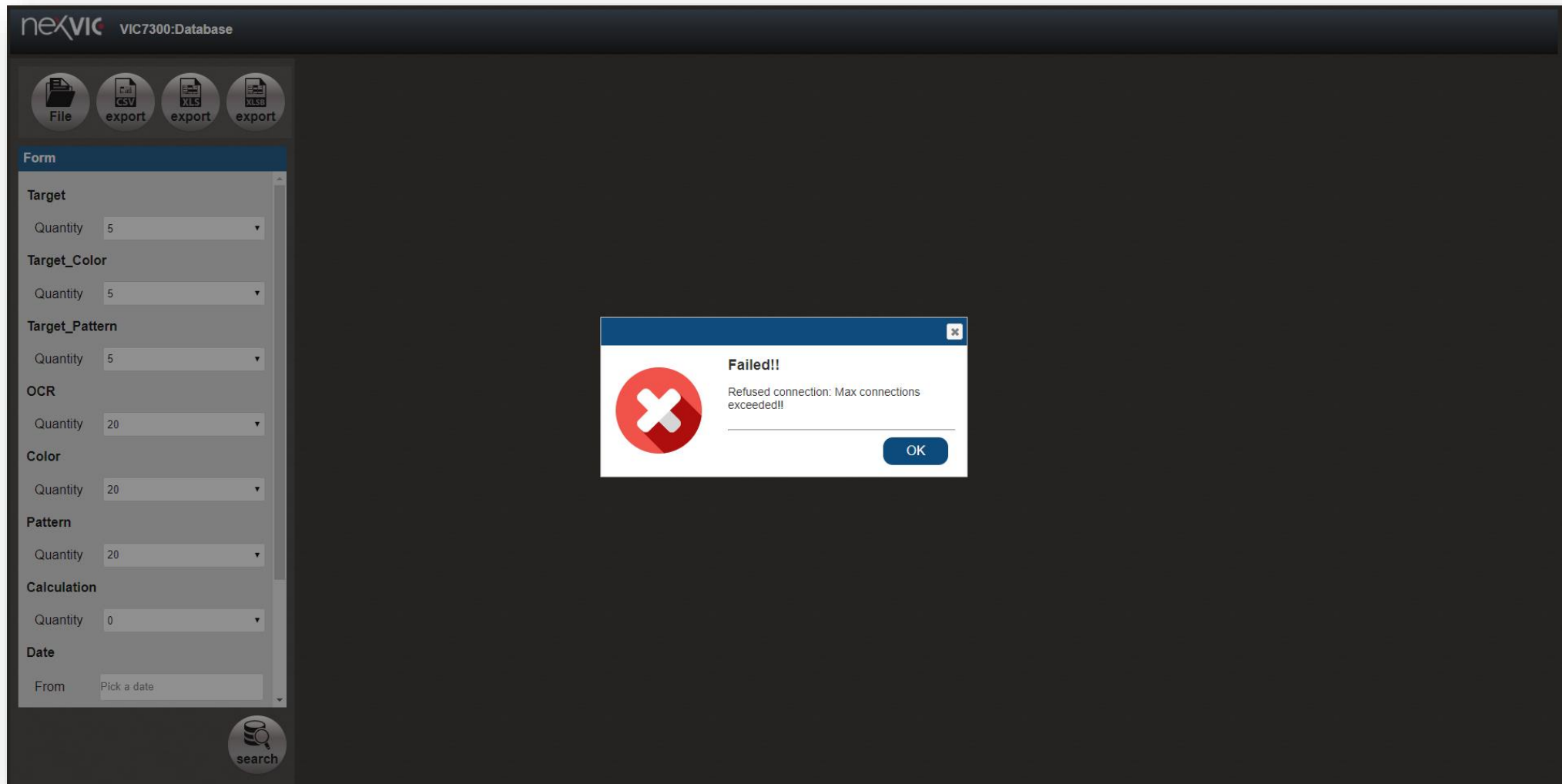
The screenshot displays the nexVIC VIC7300:Database interface. On the left is a sidebar with a 'Form' section containing filters for Target, Target_Color, Target_Pattern, OCR, Color, Pattern, Calculation, and Date. The main area shows a table of search results. The table has columns: id, page, result, timeStamp, image, TARGET_01, TARGET_02, TARGET_03, TARGET_04, TARGET_05, and TARGETCOLOR_01. The results show a list of IDs (521614 to 521633) on page 02, all with a 'Pass' result. A red box highlights the pagination controls at the bottom of the table, showing page numbers 1 through 10, with '1' selected, and buttons for 'first', 'prev', 'next', and 'last'.

id	page	result	timeStamp	image	TARGET_01	TARGET_02	TARGET_03	TARGET_04	TARGET_05	TARGETCOLOR_01
521614	02	Pass	2019-10-26 09:05:00.050			7100	90	125	125	
521615	02	Pass	2019-10-26 09:05:00.150			7100	90	125	125	
521616	02	Pass	2019-10-26 09:05:00.267			7100	90	125	125	
521617	02	Pass	2019-10-26 09:05:00.384			7100	90	125	125	
521618	02	Pass	2019-10-26 09:05:00.484			7100	90	125	125	
521619	02	Pass	2019-10-26 09:05:00.584			7100	90	125	125	
521620	02	Pass	2019-10-26 09:05:00.701			7100	90	125	125	
521621	02	Pass	2019-10-26 09:05:00.800			7100	90	125	125	
521622	02	Pass	2019-10-26 09:05:00.917			7100	90	125	125	
521623	02	Pass	2019-10-26 09:05:01.034			7100	99	125	125	
521624	02	Pass	2019-10-26 09:05:01.134			7100	99	125	125	
521625	02	Pass	2019-10-26 09:05:01.251			7100	99	125	125	
521626	02	Pass	2019-10-26 09:05:01.368			7100	99	125	125	
521627	02	Pass	2019-10-26 09:05:01.468			7100	99	125	125	
521628	02	Pass	2019-10-26 09:05:01.585			7100	99	125	125	
521629	02	Pass	2019-10-26 09:05:01.685			7100	99	125	125	
521630	02	Pass	2019-10-26 09:05:01.801			7100	99	125	125	
521631	02	Pass	2019-10-26 09:05:01.902			7100	99	125	125	
521632	02	Pass	2019-10-26 09:05:02.018			7100	110	125	125	
521633	02	Pass	2019-10-26 09:05:02.118			7100	110	125	125	

Build Project – Database

- **Login Limit**

Only allow **one** person logs in and operates



Build Project – Database

- Save Image

Save Image

VIC7000 will save images into Database when recognition failed (NG or No Matching) (Enabled in System Setting window). Those saved images could be used for later training

The screenshot displays the nexVIC VIC7000:Database interface. On the left, there is a 'Form' section with various settings: Target (Quantity: 5), Target_Color (Quantity: 5), Target_Pattern (Quantity: 5), OCR (Quantity: 20), Color (Quantity: 20), Pattern (Quantity: 20), Calculation (Quantity: 0), and Date (From: 2019-10-28 12:00). The main area features a table with columns: id, page, result, timeStamp, image, TARGET_01, TARGET_05, and TARGETCOLOR_01. The table contains 20 rows of data, all with 'result' values of 'NG'. A red arrow points to the 'image' column, which contains a placeholder image labeled 'image'. An inset window titled 'Pyramax' shows a system monitor for 'System ID: VIC7000', displaying various parameters like Setpoint, Actual, Power, and O2 Levels, along with a diagram of the system components.

id	page	result	timeStamp	image	TARGET_01	TARGET_05	TARGETCOLOR_01
2129125	03	NG	2019-10-28 12:05:19.977		7500		
2129126	03	NG	2019-10-28 12:05:20.130		7500		
2129334	03	NG	2019-10-28 12:05:42.723	image	7500		
2129335	03	NG	2019-10-28 12:05:43.664	image	7500	110	125
2129336	03	NG	2019-10-28 12:05:44.348	image	7500	110	125
2129337	03	NG	2019-10-28 12:05:45.080	image	7500	110	125
2129338	03	NG	2019-10-28 12:05:46.161	image	7500	110	125
2129339	03	NG	2019-10-28 12:05:47.256				
2129340	03	NG	2019-10-28 12:05:48.013				
2129341	03	NG	2019-10-28 12:05:48.653				
2129342	03	NG	2019-10-28 12:05:49.355				
2129343	03	NG	2019-10-28 12:05:50.065				
2129344	03	NG	2019-10-28 12:05:50.737				
2129345	03	NG	2019-10-28 12:05:52.071				
2129346	03	NG	2019-10-28 12:05:53.265				
2129347	03	NG	2019-10-28 12:05:53.931				
2129348	03	NG	2019-10-28 12:05:54.615				
2129349	03	NG	2019-10-28 12:05:55.305				
2129350	03	NG	2019-10-28 12:05:55.970				
2129351	03	NG	2019-10-28 12:05:57.030				

Build Project – Database

- **Skip Repeated Data**

Skip Repeated Data ☐

VIC7000 can skip repeated data while storing data in database(Enabled in System Setting window). It is recommended when capture frame rate is high and repeated data occurs.

id ▲	page ◆	result ◆	timeStamp ◆	image ◆	OCR_01 ◆	OCR_02 ◆	OCR_03 ◆	OCR_04 ◆
6378551	02	Pass	2020-03-06 15:42:14.651		0	0.078	-0.610	0.838
6378552	02	Pass	2020-03-06 15:42:15.667		0	0.953	-0.627	-0.994
6378553	02	Pass	2020-03-06 15:42:16.700		0	0.998	-0.444	-0.346
6378554	02	Pass	2020-03-06 15:42:17.701		0	0.160	0.629	-0.534
6378555	02	Pass	2020-03-06 15:42:18.717		0	-0.786	-0.969	-0.875
6378556	02	Pass	2020-03-06 15:42:19.734		0	0.697	-0.633	0.416
6378557	02	Pass	2020-03-06 15:42:20.751		0	-0.988	0.957	0.647
6378558	02	Pass	2020-03-06 15:42:21.767		0	-0.143	-0.422	-0.758
6378559	02	Pass	2020-03-06 15:42:22.784		0	0.844	-0.062	0.438
6378560	02	Pass	2020-03-06 15:42:23.800		0	0.006	0.302	-0.515
6378561	02	Pass	2020-03-06 15:42:24.818		0	0.081	-0.611	-0.305
6378562	02	Pass	2020-03-06 15:42:25.833		0	-0.278	0.880	-0.560
6378563	02	Pass	2020-03-06 15:42:26.650		0	0.350	-0.573	-0.502
6378564	02	Pass	2020-03-06 15:42:27.650		0	-0.071	0.824	0.046
6378565	02	Pass	2020-03-06 15:42:28.684		0	0.059	0.081	-0.616
6378566	02	Pass	2020-03-06 15:42:29.700		0	-0.701	0.173	0.057
6378567	02	Pass	2020-03-06 15:42:30.717		0	-0.773	0.112	-0.834
6378568	02	Pass	2020-03-06 15:42:31.717		0	0.899	0.889	-0.259
6378569	02	Pass	2020-03-06 15:42:32.733		0	-0.633	0.963	-0.386
6378570	02	Pass	2020-03-06 15:42:33.750		0	-0.469	0.845	0.829

- **Export and Backup**

VIC7000 allows users to export the searching results to **.csv**, **.xls**, **.xlsb**. Export Path is on VIC7000 PC and can be adjusted in System Settings window

Data within a period of 7-day will be continuously stored and extracted as **.xlsb** everyday (FIFO).

Backup Path is set in VIC7000 PC and can be adjusted in System Setting window.



2019-07-18 15:46:00 - Excel

2019-07-18 15:46:00 - Excel

可能發生錯誤! 如果單元格值儲存為浮點數 (csv) 格式, 會隱藏部分功能, 需要保留這些功能, 請將單元格儲存為 Excel 格式。 不要顯示 另存新檔

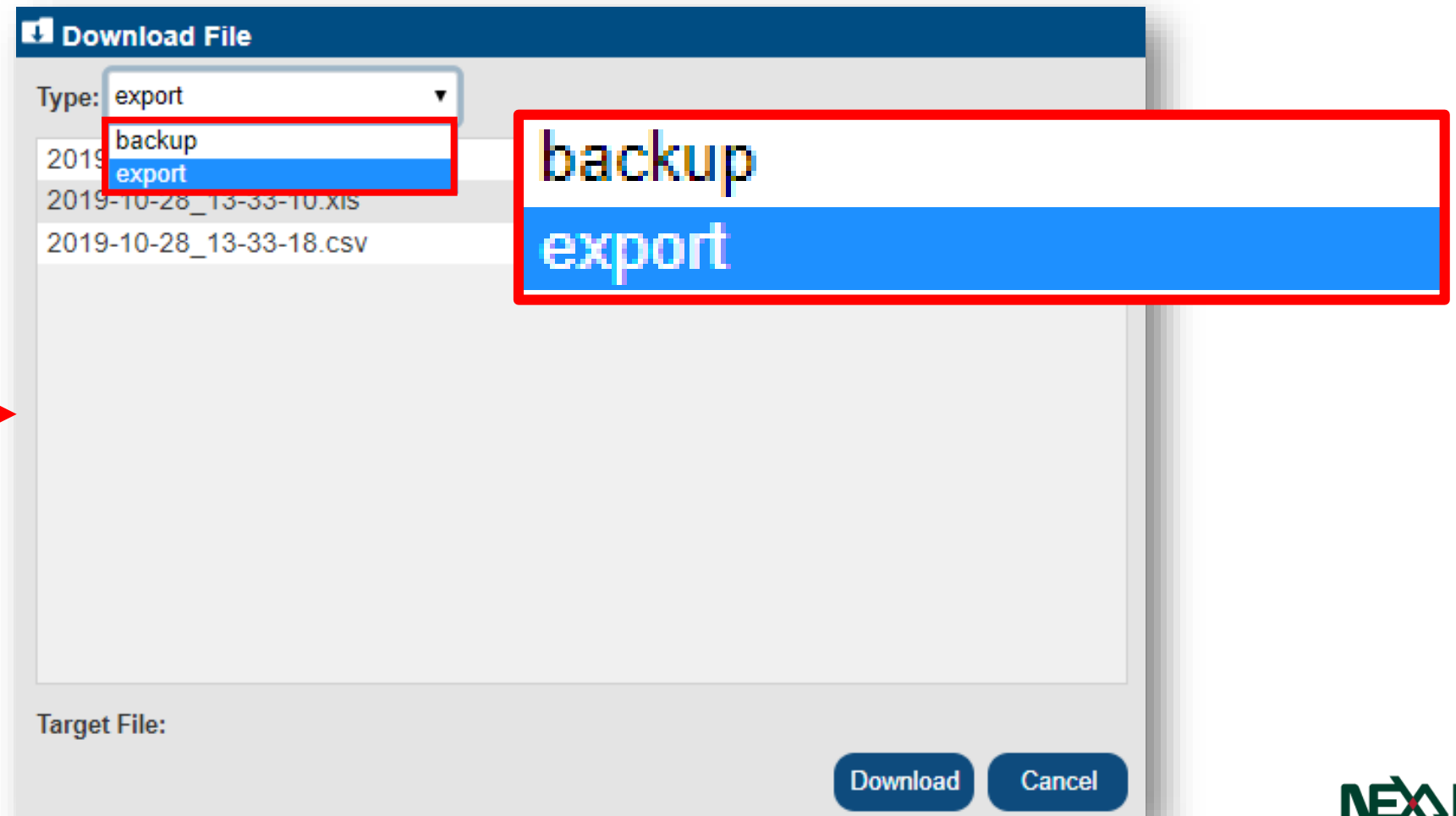
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
10390	12275	2	Pass	2906.2	Text	List	Image			97		1	70			5	5	204	NO	760		4	68		3	7	1
10391	12276	2	Pass	2906.4	Text	List	Image			97		1	70			5	5	204	NO	760		4	68		3	7	1
10392	12277	2	Pass	2906.6	Text	List	Image			97		1	70			5	5	204	NO	760		4	68		3	7	1
10393	12278	2	Pass	2906.8	Text	List	Image			565		13	99			15	9	1134	Pass	951		16	84		11	2	1
10394	12279	2	Pass	2907.0	Text	List	Image			565		13	99			15	9	1134	Pass	951		16	84		11	2	1
10395	12280	2	Pass	2907.2	Text	List	Image			565		13	99			15	9	1134	Pass	951		16	84		11	2	1
10396	12281	2	Pass	2907.4	Text	List	Image			565		13	99			15	9	1134	Pass	951		16	84		11	2	1
10397	12282	1	Pass	2907.6	Image	List	Image			13	15	10	6	7	12	14	12	16		38	39	19	8	3	24	30	
10398	12283	1	Pass	2907.8	Image	List	Image			35	14	13	26	7	16	11	10	14		22	32	9	3	28	2	15	
10399	12284	1	Pass	2908.0	Image	List	Image			35	14	13	26	7	16	11	10	14		22	32	9	3	28	2	15	
10400	12285	1	Pass	2908.2	Image	List	Image			35	14	13	26	7	16	11	10	14		22	32	9	3	28	2	15	
10401	12286	1	Pass	2908.4	Image	List	Image			35	14	13	26	7	16	11	10	14		22	32	9	3	28	2	15	
10402	12287	1	Pass	2908.6	Image	List	Image			15	16	13	5	7	12	11	24	4		27	8	9	18	30	2	20	
10403	12288	1	Pass	2908.8	Image	List	Image			15	16	13	5	7	12	11	24	4		27	8	9	18	30	2	20	
10404	12289	1	Pass	2909.0	Image	List	Image			15	16	13	5	7	12	11	24	4		27	8	9	18	30	2	20	
10405	12290	1	Pass	2909.2	Image	List	Image			15	16	13	5	7	12	11	24	4		27	8	9	18	30	2	20	
10406	12291	1	Pass	2909.4	Image	List	Image			15	16	13	5	7	12	11	24	4		27	8	9	18	30	2	20	
10407	12292	1	Pass	2909.6	Image	List	Image			24	14	13	5	7	12	11	11	4		27	18	13	18	3	2	10	
10408	12293	1	Pass	2909.8	Image	List	Image			24	14	13	5	7	12	11	11	4		27	18	13	18	3	2	10	
10409	12294	1	Pass	2910.0	Image	List	Image			24	14	13	5	7	12	11	11	4		27	18	13	18	3	2	10	
10410	12295	1	Pass	2910.2	Image	List	Image			24	14	13	5	7	12	11	11	4		27	18	13	18	3	2	10	
10411	12296	1	Pass	2910.4	Image	List	Image			24	14	13	5	7	12	11	11	4		27	18	13	18	3	2	10	
10412	12297	2	NO	2910.7	Text	List	Image			216		13	10			23	6	NO		968		15	0		0	2	1
10413	12298	2	Pass	2910.9	Text	List	Image			216		13	10			23	6	NO		968		15	0		0	2	1
10414	12299	2	Pass	2911.1	Text	List	Image			216		13	10			23	6	NO		968		15	0		0	2	1
10415	12300	2	Pass	2911.3	Text	List	Image			216		13	10			23	6	NO		968		15	0		0	2	1
10416	12301	2	Pass	2911.5	Text	List	Image			216		13	10			23	6	NO		968		15	0		0	2	1
10417	12302	2	Pass	2911.7	Text	List	Image			868		21	18			0	3	1737	Pass	966		3	92		23	3	1
10418	12303	2	Pass	2911.9	Text	List	Image			868		21	18			0	3	1737	Pass	966		3	92		23	3	1
10419	12304	2	Pass	2912.1	Text	List	Image			868		21	18			0	3	1737	Pass	966		3	92		23	3	1
10420	12305	2	Pass	2912.3	Text	List	Image			868		21	18			0	3	1737	Pass	966		3	92		23	3	1
10421	12306	2	Pass	2912.5	Text	List	Image			868		21	18			0	3	1737	Pass	966		3	92		23	3	1
10422	12307	2	Pass	2912.7	Text	List	Image			773		27	37			16	2	1547	Pass	438		0	93		21	4	

2019-07-18 15:46:00

Build Project – Database

- **Remotely Download File**

Click **File** icon to remotely download Export and Backup file in **Download File** window

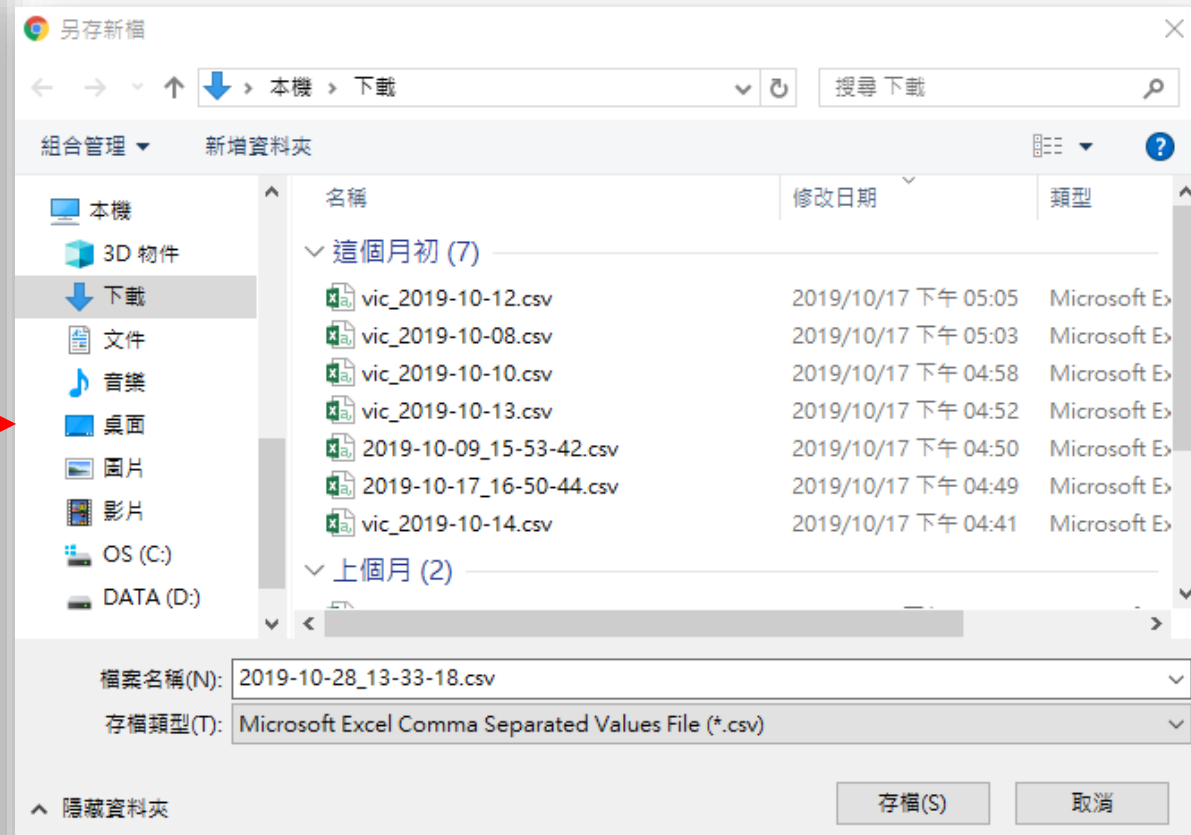
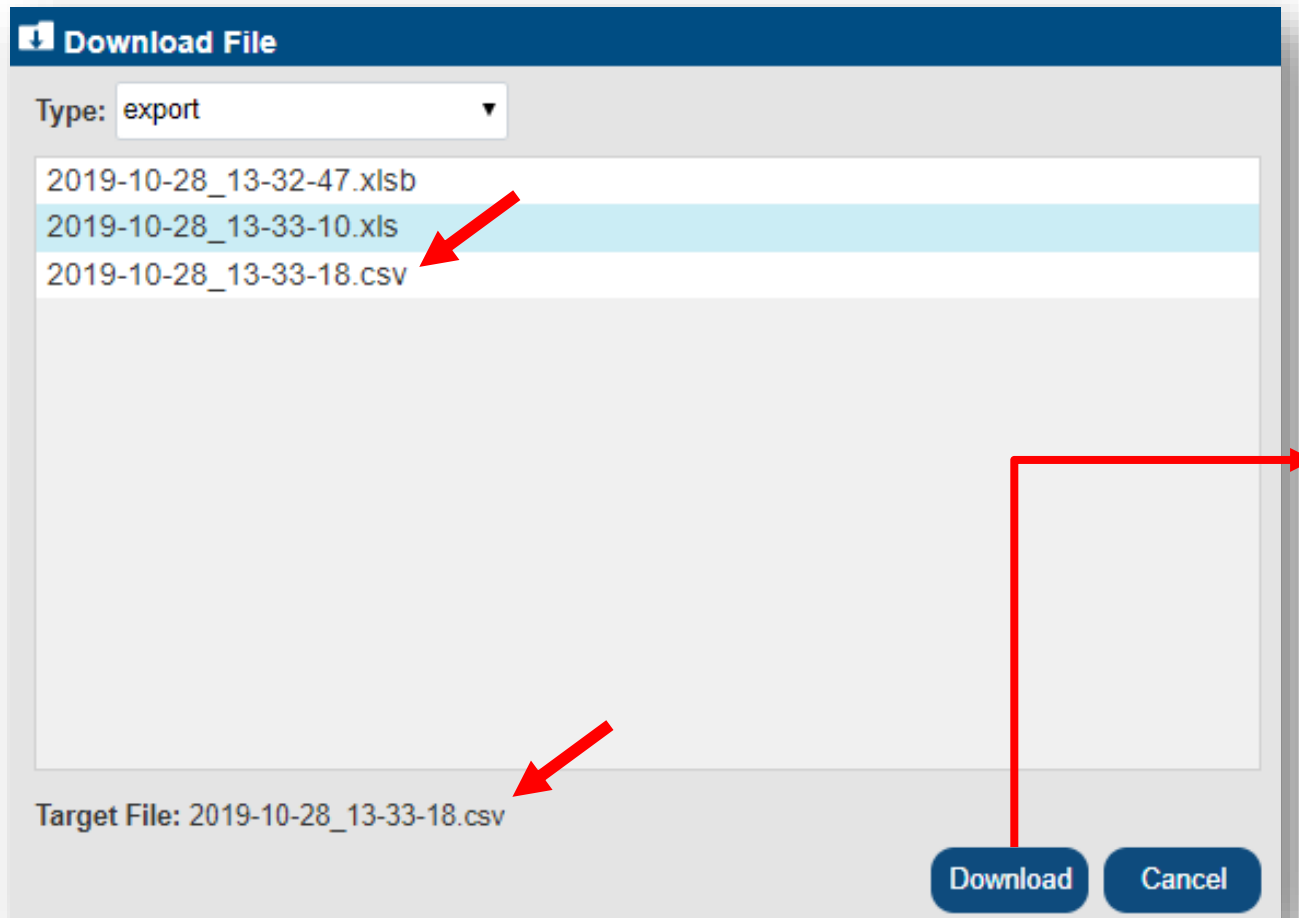


Build Project – Database

- **Remotely Download File**

Choose the file which user wants to download → Click **Download**

Download path is same as browser default



- **Database Notes**

1. VIC7000 has a **hardware remaining capacity detection** mechanism. If the available capacity is less than **100G**, the alert will show up and record in Log. Data will continue to be stored in Database at this state. If the available capacity is less than **50G**, the alert will show up and record in Log. New data will replace the older data at this state.
2. VIC7000 has an **automatic shutdown of saving image** mechanism, which is checked every minute to let users know that whether it is enabled or not. If it is enabled, it will be recorded in Log. When the number of saved images exceed a threshold in a minute, this mechanism will be enabled. At this moment, Data will continue to be stored and image will not be saved when recognition failed.

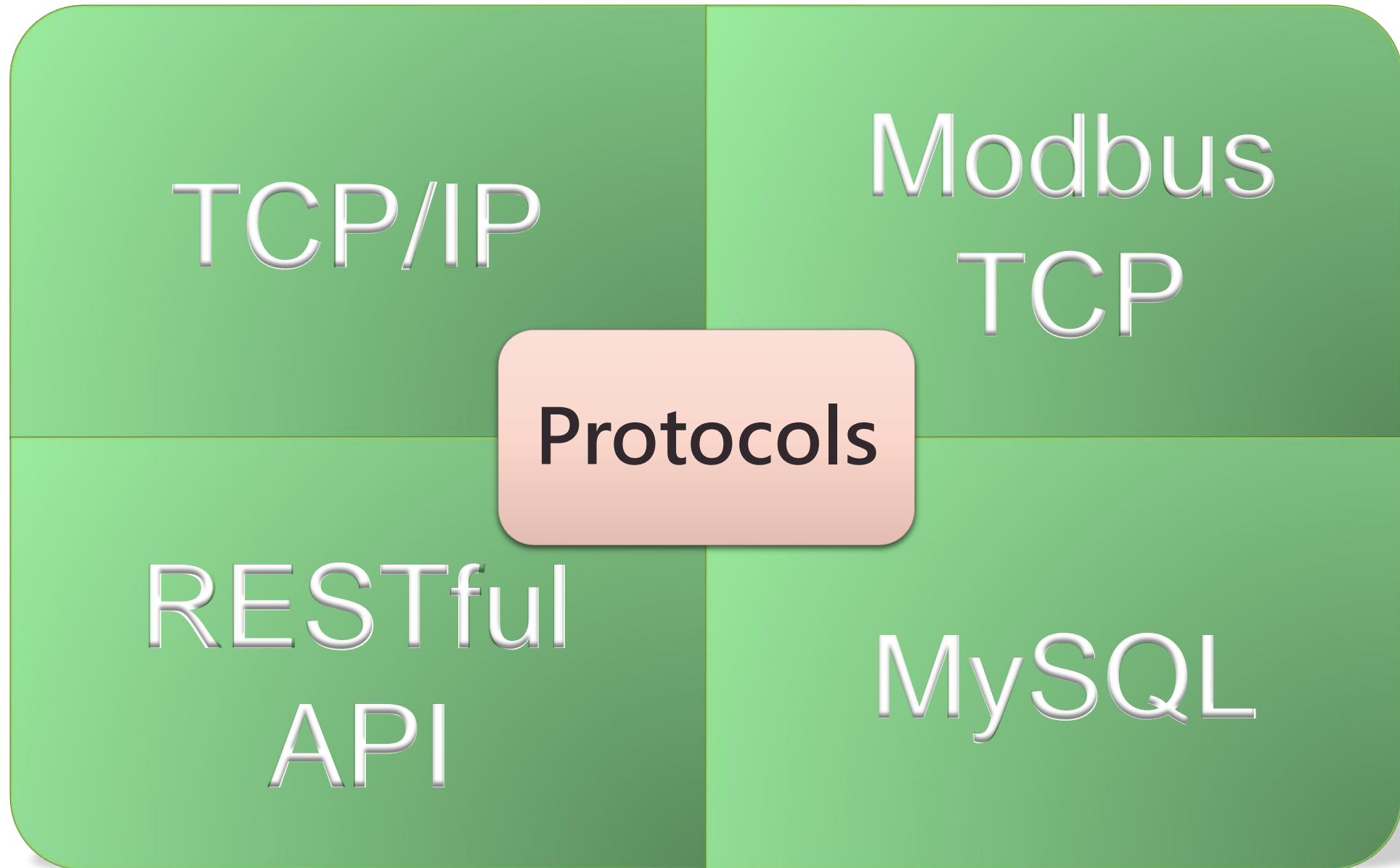
If the number of failure recognition occurring in a minute is less than the threshold, this mechanism will be turned off. Otherwise, this mechanism will still be enabled.

failure recognition means that recognition result is **NG** or **No Matching**.

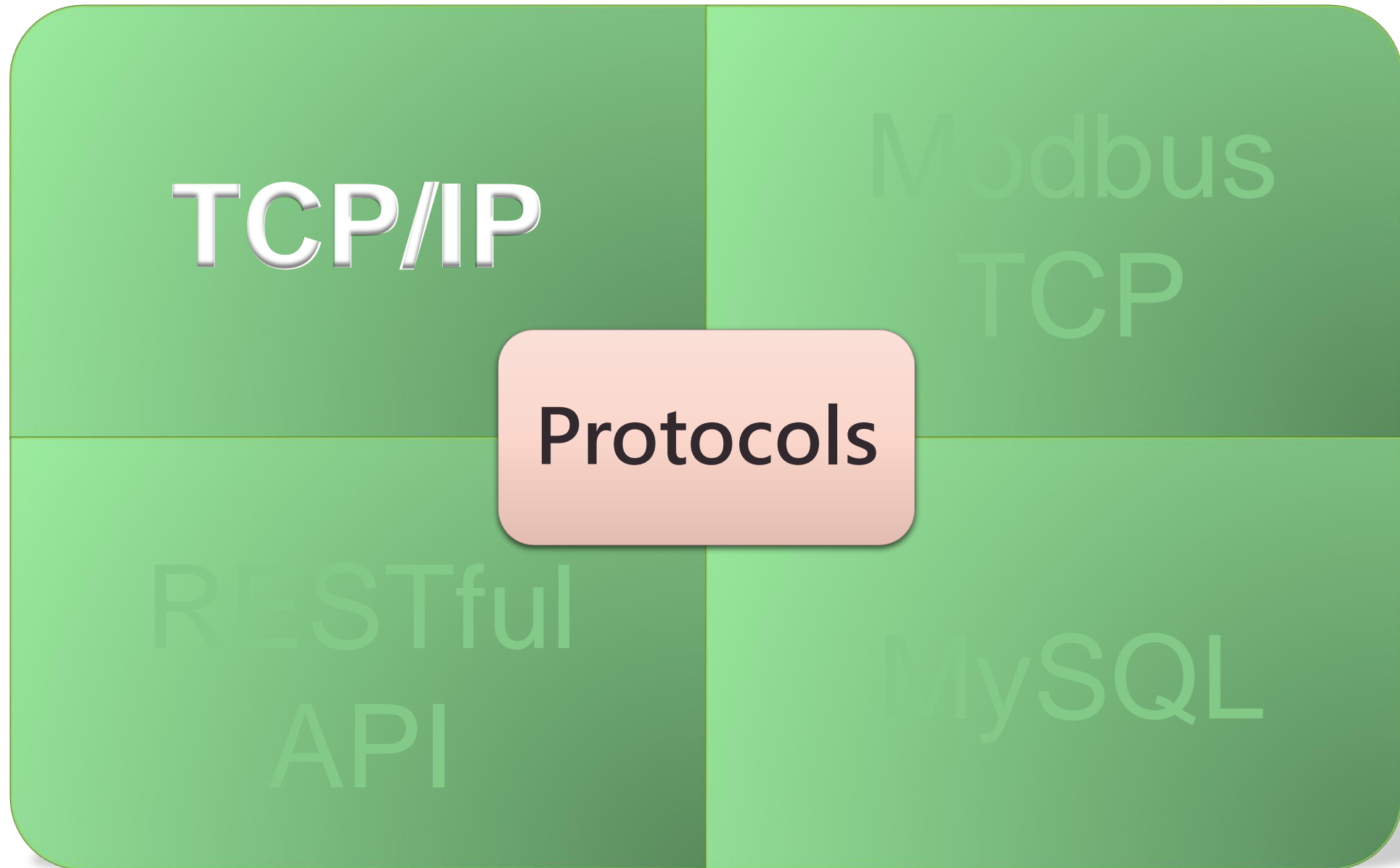
- **Database Notes**

3. The maximum number of data lines exported to a file is **one million**. If there more than one million lines of data exported at a moment, it will be divided to multiple files.
4. VIC7000 will backup data to a **.xlsb** file every day automatically. It takes more a half an hour, according the amount of data backed up. When backup process is running, it should avoid editing projects.

Build Project – Protocols



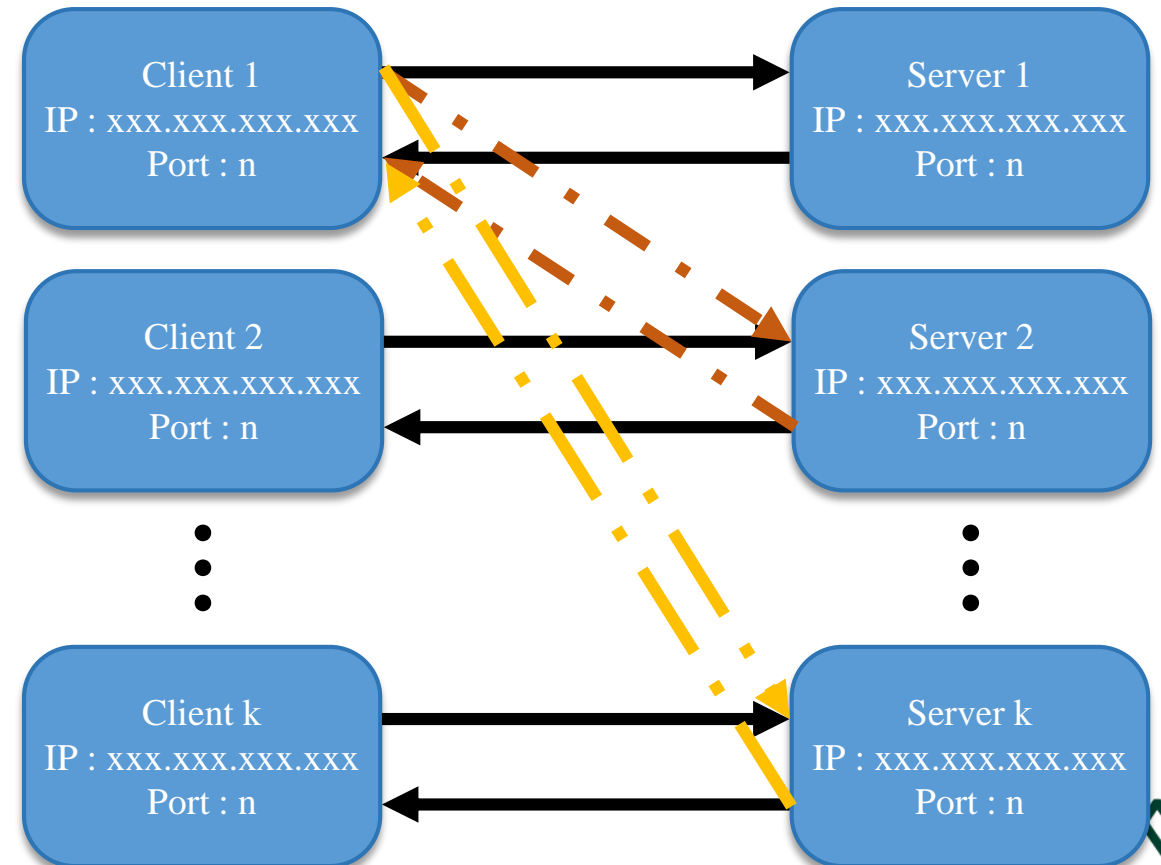
Build Project – Protocols



Build Project – Protocols

TCP/IP is referred to Internet protocol suite. Different computers or operating environments can communicate with each other through this protocol. It includes two core protocols : TCP (Transmission Control Protocol) and IP (Internet Protocol) .

TCP/IP provides **end-to-end data communication**. There are two roles : Server or Client. It allows multiple Servers and Clients, which are connected through IP address and TCP port. VIC7000 plays a role as **Server**.



Build Project – Protocols

- **Link Config**

1. Enter Link page : In administrator page
2. Choose TCP/IP
3. Enter Port
4. Click Add

The screenshot displays the nexVIC software interface for configuring links. The top toolbar includes buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The 'Link' button is highlighted with a red arrow labeled '1'. Below the toolbar, the 'Communication Mode' dropdown is set to 'TCP/IP', indicated by a red arrow labeled '2'. The 'TCP/IP Setting' panel shows a 'Port' field with a red arrow labeled '3' pointing to it, and an 'Add' button with a red arrow labeled '4' pointing to it. Below this, a list of connections is shown. The first connection is 'TCPS00PORT500', and a red arrow points to the 'Remove' button next to it, labeled 'Remove Link'.

nexVIC VIC7000demo - VIC7000 Training.vic

LOG

New Load Save Save As Page Script Monitor Control Link Wizard

Communication Mode TCP/IP

TCP/IP Setting

Port:

Var Name:

TCPC00PORT

Add

TCP/IP

Connection:

0

Var Name:

TCPS00PORT500

Remove Link

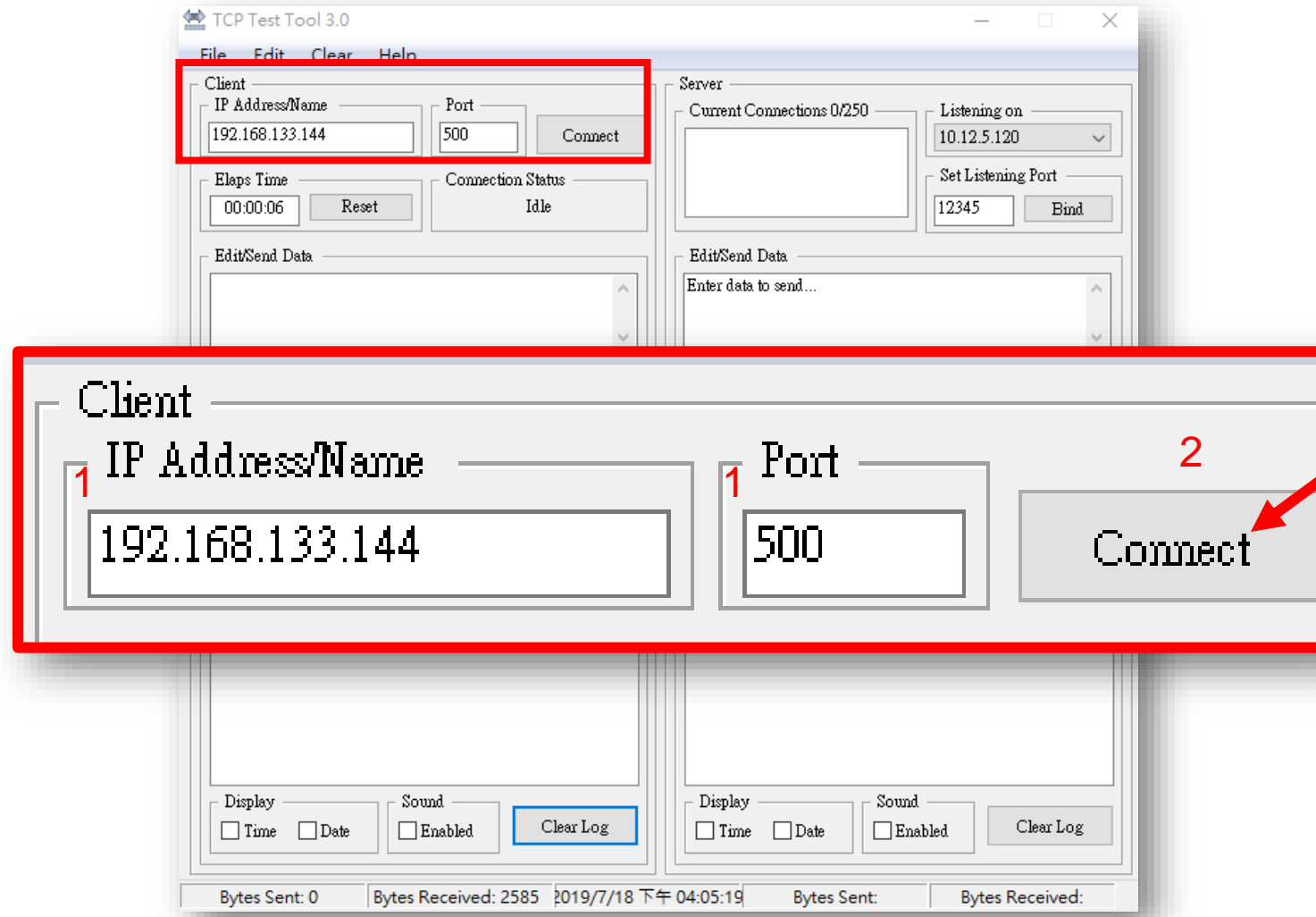
Remove

Build Project – Protocols

- **Link Testing** : Use the client function of TCP Test Tools

1. Enter IP and Port

2. Click Connect

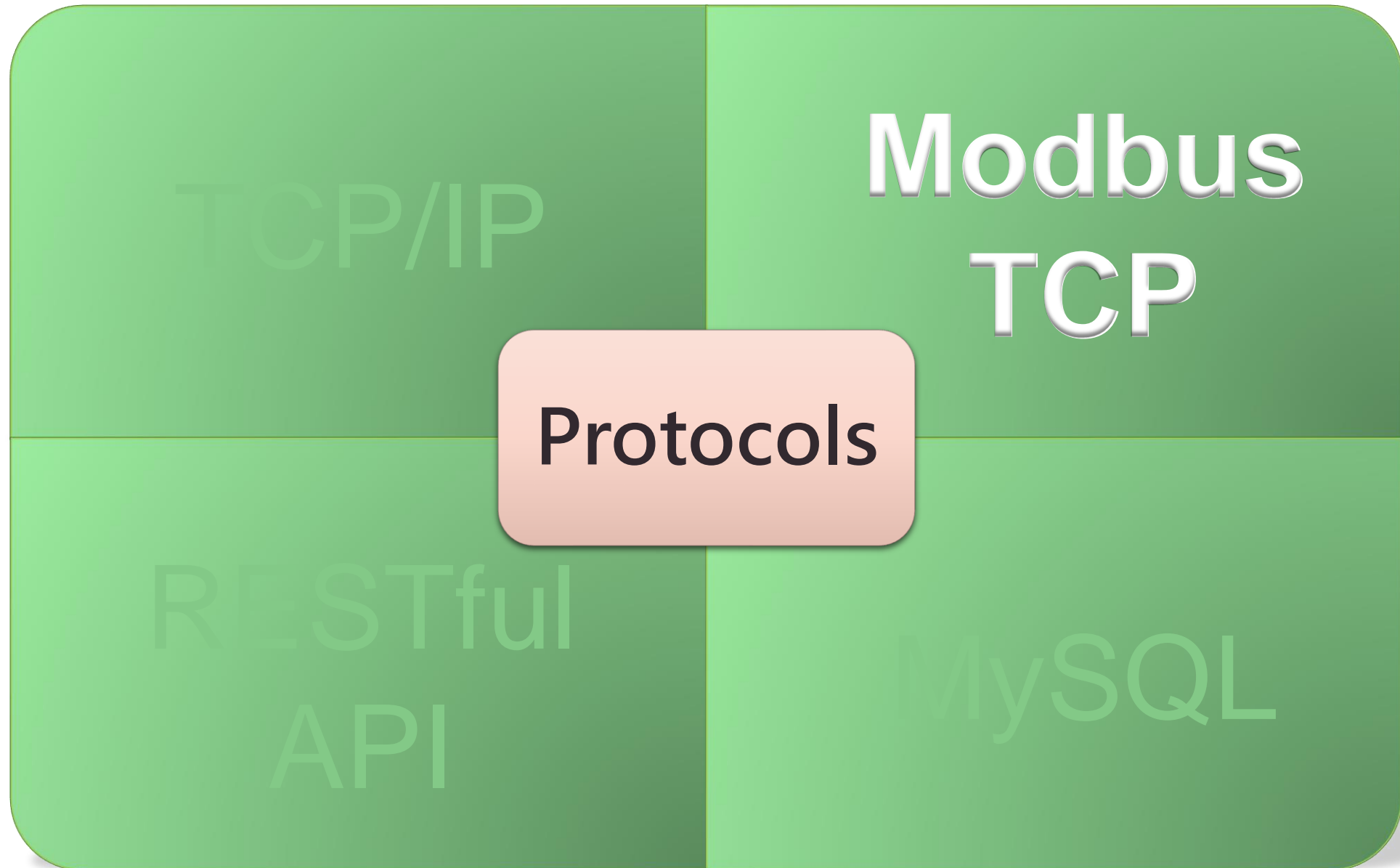


3. Check Data Log : Output data type is ASCII

Display data as: ☒ ASCII ☐ Binary ☐ Decimal ☐ Hex



Build Project – Protocols



Build Project – Protocols

Modbus is a serial communications protocol originally published by Modicon in 1979 for use PLCs.

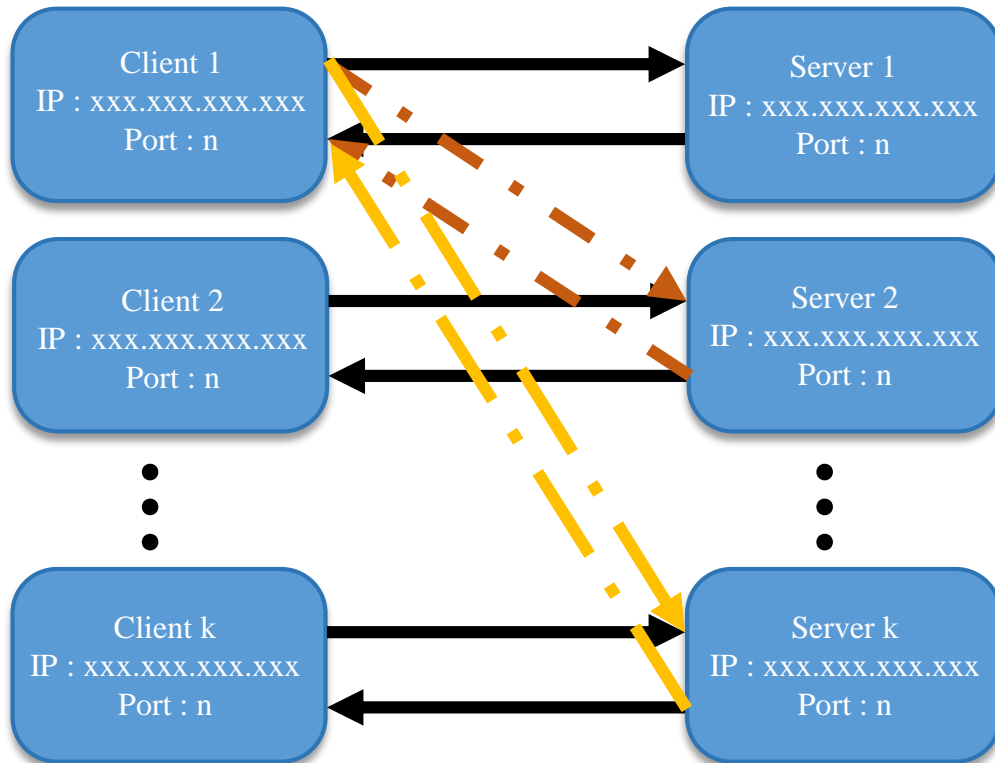
Modbus has become a standard communication protocol and is now a commonly available means of connecting industrial electronic devices. Modbus is commonly used to connect with PLC and SCADA software. Versions of the Modbus protocol exist for serial port and for Ethernet and other protocol that the Internet protocol suite.



Build Project – Protocols

- **Modbus**

- Use **Modbus TCP**, VIC7000 plays the role as **Server**
- Recognition data is stored in Input Status and Input Register
- Coil Status and Holding Register is for Script Editor output, external writing and controlling VIC



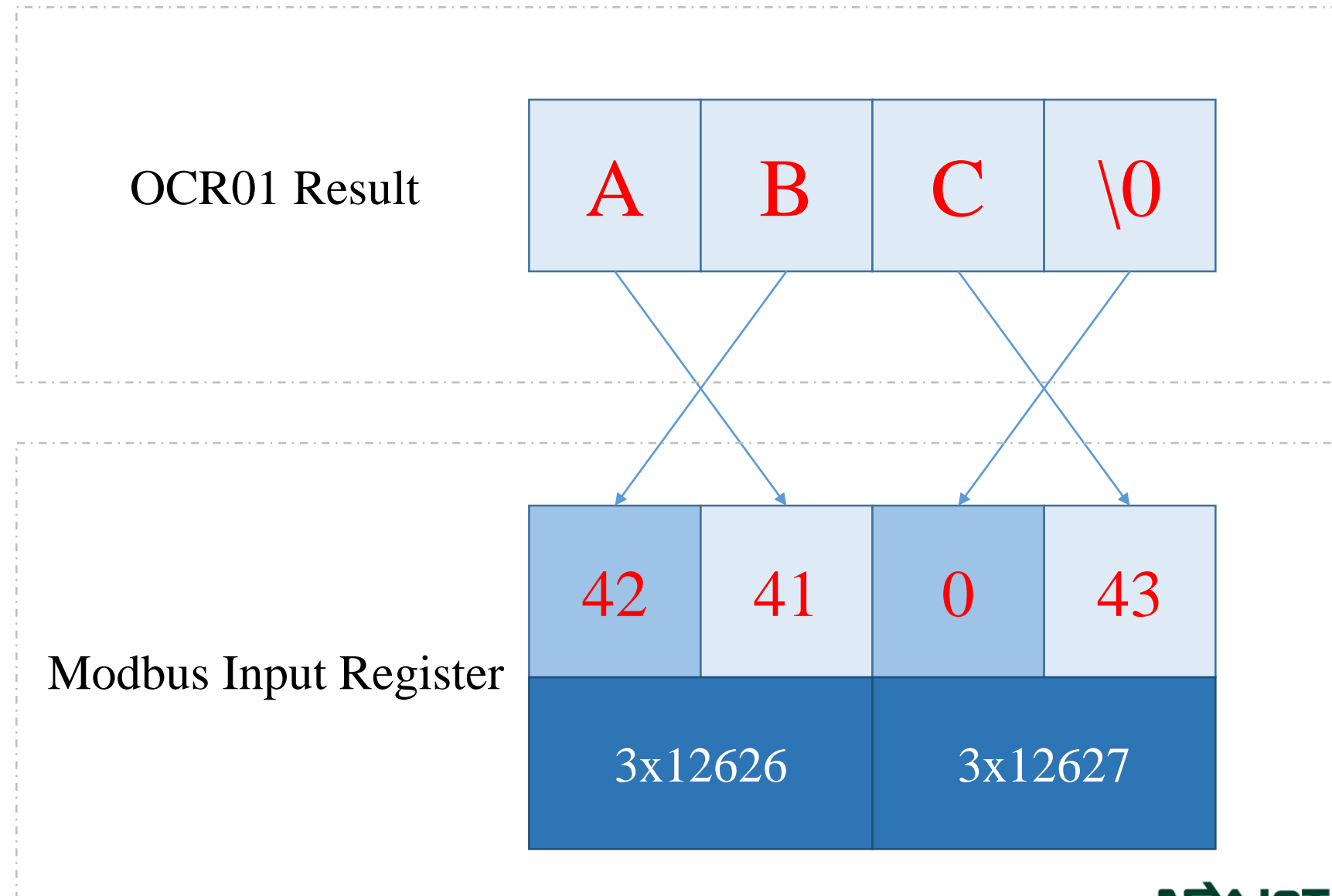
Address	Name	Data Type	Type
0X0001 ~ 0X9999	Coil Status	Bit	R/W
1X0001 ~ 1X9999	Input Status	Bit	R
3X0001 ~ 3X9999	Input Register	Word	R
4X0001 ~ 4X9999	Holding Register	Word	R/W

Build Project – Protocols

- **Modbus**

- Little – Endian

Fill in data from lower bits



Build Project – Protocols

- **Address Mapping – Input Status : System Bit**

Store system information. The Output data type is Boolean. Its length is 1 bit.

Input Status (1X)	
Address	Content
10001	Project playing Status 1 = Playing 0 = Stop
10002	Whether there is a user logging in . 1 = Yes 0 = No
10003	Whether the free storage is lower than 100G 1 = Yes 0 = No
10004	Whether the free storage is lower than 50G 1 = Yes 0 = No
10005	Whether storing images is stopped . 1 = Yes 0 = No
10006	Recognition result 0 = Pass 1 = NG 2 = No Matching
10007	

10008	Control playing status 1 = Playing 0 = Stop
10009	Whether serial port control is enabled . 1 = Yes 0 = No
10010	The status of serial port control 1 = Connecting 0 = Disconnecting

Bit 7	Bit 6	Sum	Result
0	0	0	Pass
0	1	1	NG
1	0	2	No Matching

Build Project – Protocols

- **Address Mapping – Input Status : MODBUSBIT**

Customizing Store Script output. The output data type is Boolean. Its length is 1 bit.

Input Status (1X)	
Address	Content
10101	MODBUSBIT00
10102	MODBUSBIT01
10103	MODBUSBIT02
10104	MODBUSBIT03
10105	MODBUSBIT04
10106	MODBUSBIT05

Input Status (1X)	
Address Range	Content
10101 ~ 10200	MODBUSBIT00 ~ MODBUSBIT99

- **Address Mapping** – Input Register (Int) : PAGE_NO, TARGET_COUNT, OCR_COUNT, TARGET_COLOR_COUNT, COLOR_COUNT, TARGET_PATTERN_COUNT, PATTERN_COUNT
Store the index of the current page and the number of target_color, target_pattern, OCR, color, pattern. The output data type is Int32. Its length is 2 words.

Input Register (3X)	
Address Range	Content
312501 ~ 312502	PAGE_NO
312503 ~ 312504	TARGET_COUNT
312505 ~ 312506	OCR_COUNT
312507 ~ 312508	TARGET_COLOR_COUNT
312509 ~ 312510	COLOR_COUNT
312511 ~ 312512	TARGET_PATTERN_COUNT
312513 ~ 312514	PATTERN_COUNT

Build Project – Protocols

- **Address Mapping** – Input Register (String) : TARGET, OCR, CALC, MODBUSSTR
Store recognition results of targets & OCRs, script calculated results and Modbus custom string outputs. The output data type is ASCII. Its length is 125 words.

Input Register (3X)	
Address Range	Content
30126 ~ 30250	Target01 (String)
30251 ~ 30375	Target02 (String)
30376 ~ 30500	Target03 (String)
30501 ~ 30625	Target04 (String)
30626 ~ 30750	Target05 (String)

Input Register (3X)	
Address Range	Content
312626 ~ 325000	OCR01 ~ 99 (String)
325001 ~ 337500	CALC00 ~ 99 (String)
337501 ~ 350000	MODBUSSTR00 ~ 99

Build Project – Protocols

- **Address Mapping** – Input Register (Int) : TARGET, OCR, MODBUSINT, MODBUSUINT
If recognition result contents of OCR and target is number, they will be converted to number. With the data type is Int32 and Its length is 2 words.

Input Register (3X)	
Address Range	Content
350003 ~ 350004	Target01 (Int)
350005 ~ 350006	Target02 (Int)
350007 ~ 350008	Target03 (Int)
350009 ~ 350010	Target04 (Int)

Input Register (3X)	
Address Range	Content
350203 ~ 350400	OCR01 ~ 99 (Int)
350401 ~ 350600	MODBUSINT00 ~ 99
350601 ~ 350800	MODBUSUINT00 ~ 99 (Uint32)

Build Project – Protocols

- **Address Mapping** – Holding Register (String) : MODBUSHSTR
Store Modbus custom output. The data type is ASCII. Its length is 51 words.

Holding Register (4X)	
Address Range	Content
40001 ~ 40051	MODBUSHSTR00
40052 ~ 40102	MODBUSHSTR01
40103 ~ 40153	MODBUSHSTR02
40154 ~ 40204	MODBUSHSTR03
40205 ~ 40255	MODBUSHSTR04

Holding Register (4X)	
Address Range	Content
40001 ~ 410200	MODBUSHSTR00 ~ 199

Build Project – Protocols

- **Address Mapping** – Holding Register (Int) : MODBUSHINT, MODBUSHUINT
Store Modbus custom output. The data type is Int32 and Uint32. Its length is 2 words.

Holding Register (4X)	
Address Range	Content
410201 ~ 410202	MODBUSHINT00
410203 ~ 410204	MODBUSHINT01
410205 ~ 410206	MODBUSHINT02
410207 ~ 410208	MODBUSHINT03
410209 ~ 410210	MODBUSHINT04

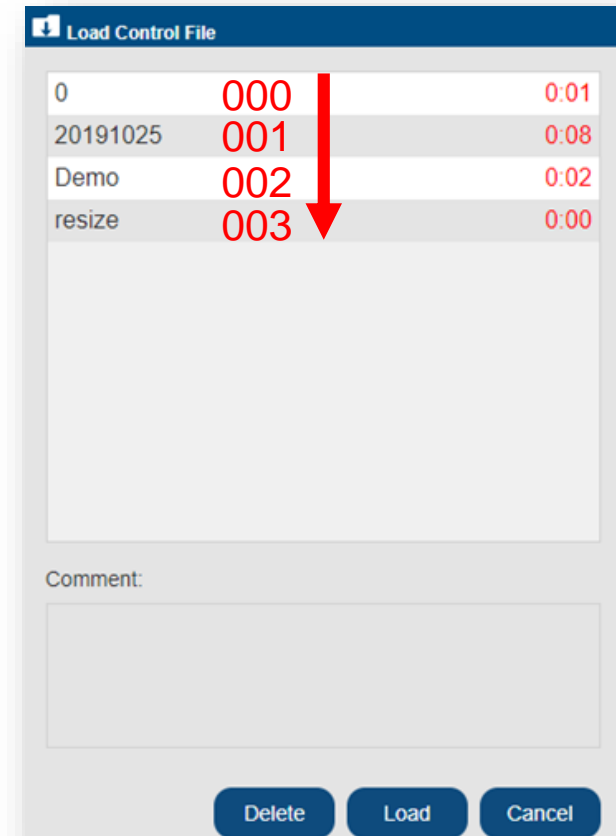
Holding Register (4X)	
Address Range	Content
410201 ~ 411200	MODBUSHINT00 ~ 499
411201 ~ 412200	MODBUSHUINT00 ~ 499

Build Project – Protocols

- **Address Mapping – Coil Status : System Control**

Control VIC7000. **Play project** can be used even there is **no admin logging in**. The index of control files is followed the order listed in the **Load Control File** window of **Control** page

Coil Status (0X)	
Address	Content
00001	Play project. 1 = Play 0 = Stop
00002	Play control. 1 = Play 0 = Stop
00101 ~ 00300	Play control file with index 000 ~ 199. 1 = Play 0 = Stop



The screenshot shows a window titled "Load Control File" with a table of control files. A red arrow points to the "resize" entry, which has index "003" and duration "0:00".

Index	Name	Duration
0	000	0:01
20191025	001	0:08
Demo	002	0:02
resize	003	0:00

Comment:

Buttons: Delete, Load, Cancel

Build Project – Protocols

- **Link Config**

1. Enter Link page : In administrator page
2. Choose Modbus

3. Enter Port : 502 (default)
4. Click Add

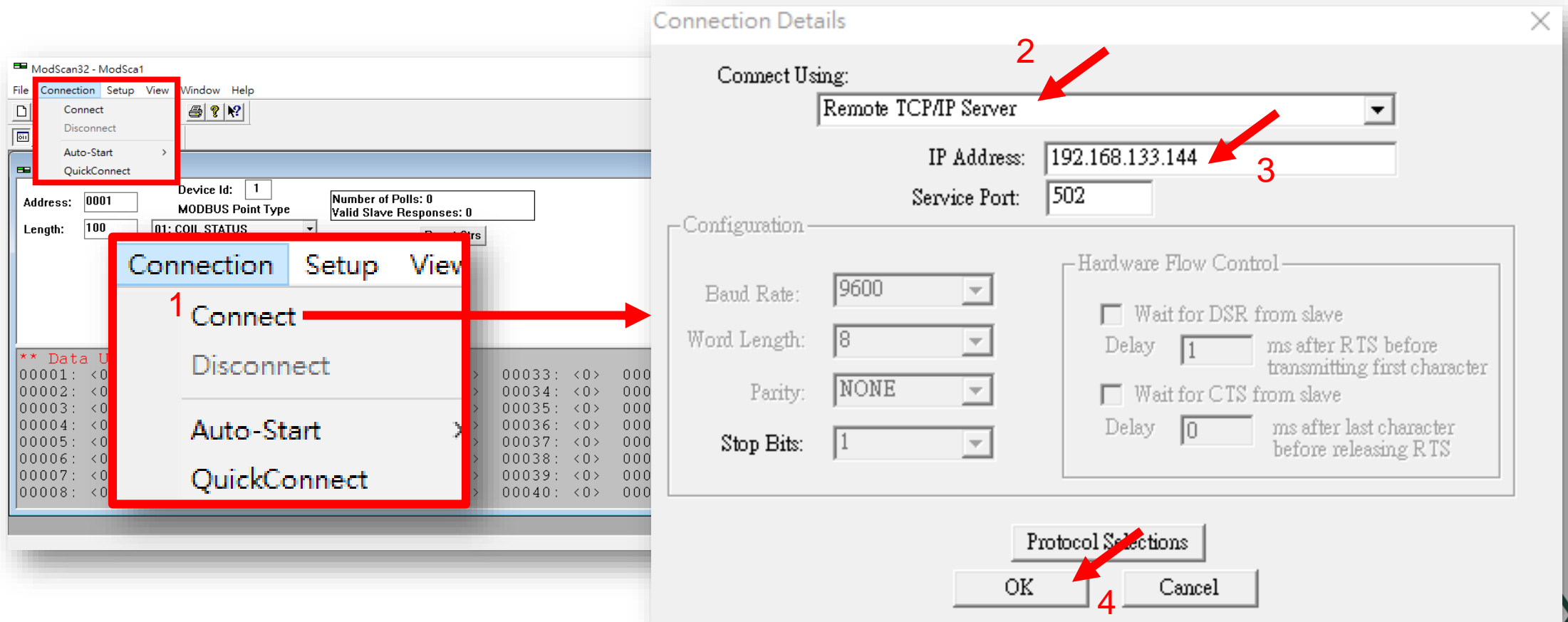
The screenshot displays the nexVIC software interface for configuring a link. The top toolbar includes icons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link (highlighted with a red arrow and number 1), and Wizard. The Communication Mode dropdown is set to Modbus (highlighted with a red arrow and number 2). The Modbus Setting panel shows the Port field set to 502 (highlighted with a red arrow and number 3) and the Var Name field set to MB00TSaveCSch. The Add button is highlighted with a red arrow and number 4. Below the Modbus Setting panel, the Modbus configuration panel shows the Connection field set to 0 and the Var Name field set to MB00TSaveCSch. The Remove button is highlighted with a red arrow and the text "Remove Link".

Build Project – Protocols

- **Link Testing : Use Modscan**

1. **Connect Settings** : Connection → Connect
2. **Choose Remote TCP/IP Server**

3. **Enter IP Address and Service Port**
4. **Click OK**



Build Project – Protocols

- Link Testing

5. **Check got data** : The data type of string is ASCII, and the data type of numeric data is Int32.

ModSca1

Address: 12626 Device Id: 1

Length: 100 MODBUS Point Type: 04: INPUT REGISTER

312626: <3031H>	312634: <0000H>
312627: <0000H>	312635: <0000H>

ModSca1

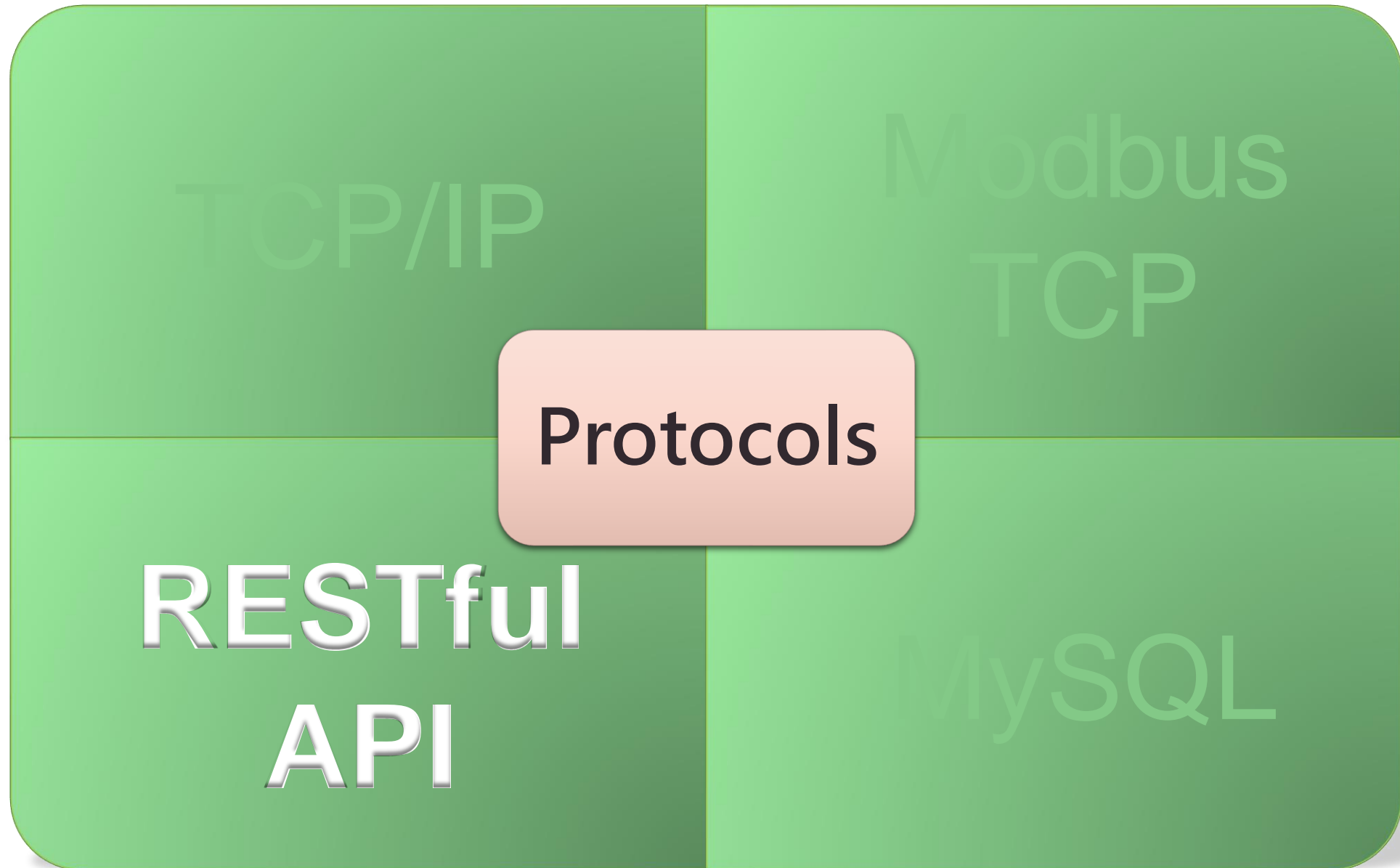
Address: 50203 Device Id: 1

Length: 100 MODBUS Point Type: 04: INPUT REGISTER

Number of Polls: 235
Valid Slave Responses: 230
Reset Ctrs

350203: <0000000001111101>	350211: <0000000010100101>
350204: <0000000000000000>	350212: <0000000000000000>
350205: <0000000001111101>	350213: <0000000010111110>
350206: <0000000000000000>	350214: <0000000000000000>
350207: <0000000001111101>	350215: <0000000011100110>
350208: <0000000000000000>	350216: <0000000000000000>
350209: <0000000010011011>	350217: <0000000100000100>
350210: <0000000000000000>	350218: <0000000000000000>

Build Project – Protocols



Build Project – Protocols

REST(Representation State Transfer) is a software architectural style, which is used to facilitate the transfer of information between different software/programs on the network.

REST allows users to send URLs to access and manipulate network resources. It is commonly used in the IT industry. Most of REST API returning resources is XML or JSON.

VIC7000 returning data is JSON.

RESTful API

GET PUT POST DELETE

Build Project – Protocols

- **Get Data**

1. **Call API** : Open browser → Enter **IP/restful** in URL field
2. Check returning data

1
192.168.133.144/restful

2

```
{ "TARGET01": "NexVIC", "TARGET02": "VIC7100", "TARGET03": "", "TARGET04": "", "TARGET05": "", "OCR01": "125", "OCR02": "125", "OCR03": "125", "OCR04": "155", "OCR05": "165", "OCR06": "190", "OCR07": "230", "OCR08": "260", "OCR09": "285", "OCR10": "295", "OCR11": "110", "OCR12": "125", "OCR13": "125", "OCR14": "155", "OCR15": "165", "OCR16": "190", "OCR17": "225", "OCR18": "260", "OCR19": "285", "OCR20": "295", "CALC00": "", "CALC01": "", "CALC02": "", "CALC03": "", "CALC04": "", "CALC05": "", "CALC06": "", "CALC07": "", "CALC08": "", "CALC09": "", "CALC10": "", "CALC11": "", "CALC12": "", "CALC13": "", "CALC14": "", "CALC15": "", "CALC16": "", "CALC17": "", "CALC18": "", "CALC19": "", "CALC20": "", "CALC21": "", "CALC22": "", "CALC23": "", "CALC24": "", "CALC25": "", "CALC26": "", "CALC27": "", "CALC28": "", "CALC29": "", "CALC30": "", "CALC31": "", "CALC32": "", "CALC33": "", "CALC34": "", "CALC35": "", "CALC36": "", "CALC37": "", "CALC38": "", "CALC39": "", "CALC40": "", "CALC41": "", "CALC42": "", "CALC43": "", "CALC44": "", "CALC45": "", "CALC46": "", "CALC47": "", "CALC48": "", "CALC49": "", "CALC50": "", "CALC51": "", "CALC52": "", "CALC53": "", "CALC54": "", "CALC55": "", "CALC56": "", "CALC57": "", "CALC58": "", "CALC59": "", "CALC60": "", "CALC61": "", "CALC62": "", "CALC63": "", "CALC64": "", "CALC65": "", "CALC66": "", "CALC67": "", "CALC68": "", "CALC69": "", "CALC70": "", "CALC71": "", "CALC72": "", "CALC73": "", "CALC74": "", "CALC75": "", "CALC76": "", "CALC77": "", "CALC78": "", "CALC79": "", "CALC80": "", "CALC81": "", "CALC82": "", "CALC83": "", "CALC84": "", "CALC85": "", "CALC86": "", "CALC87": "", "CALC88": "", "CALC89": "", "CALC90": "", "CALC91": "", "CALC92": "", "CALC93": "", "CALC94": "", "CALC95": "", "CALC96": "", "CALC97": "", "CALC98": "", "CALC99": "" }
```


Build Project – Protocols

- **Get Data**

3. **Call Separately** : Enter **IP/restful/ocr/index** in URL field, and returning data will be single data type. **Target, target_color, target_pattern, color, pattern, calc** can be called by this way.

192.168.133.144/restful/ocr/01

→ {"OCR01": "125"}

192.168.133.144/restful/target/01

→ {"TARGET01": "NexVIC"}

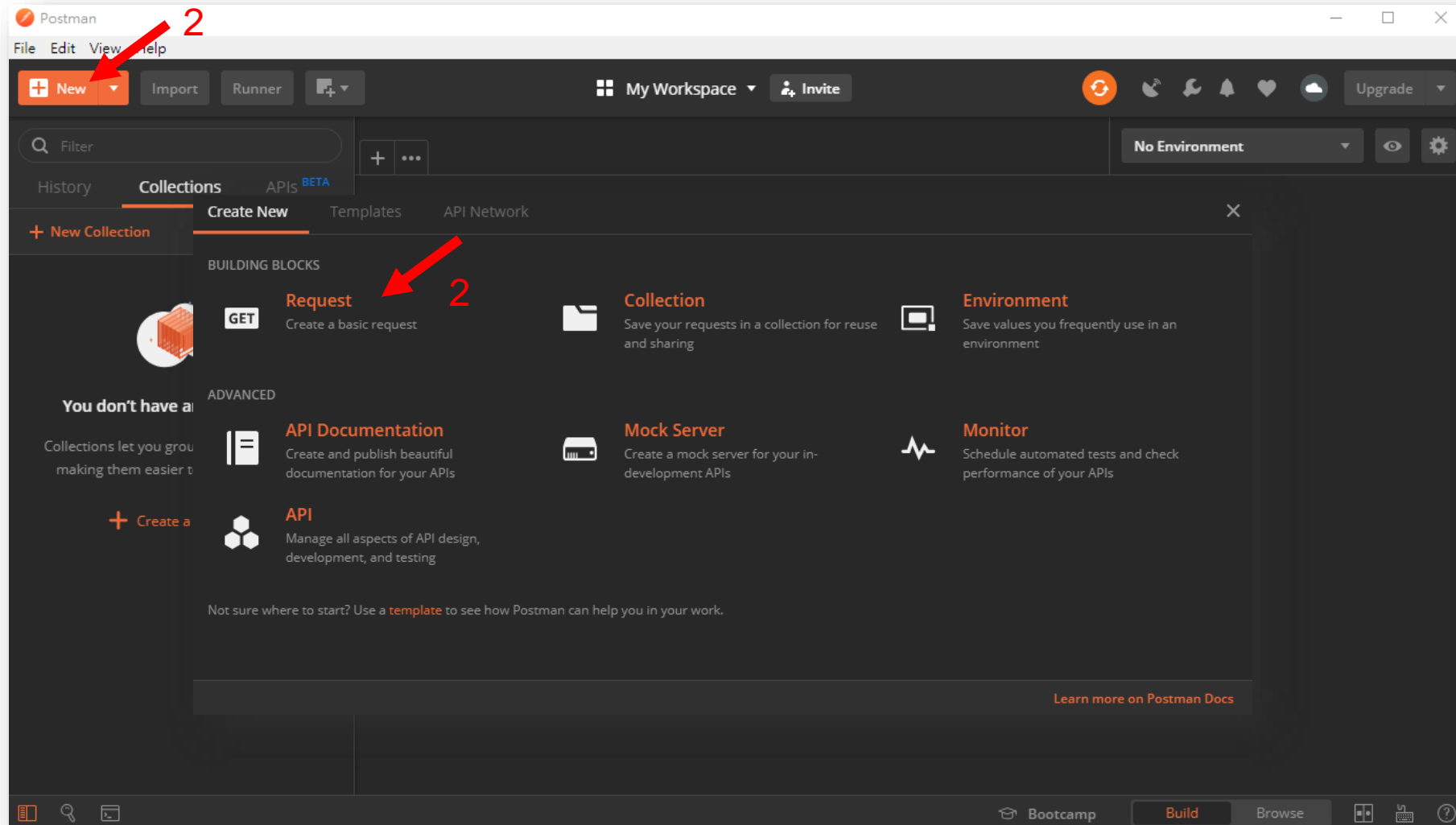
192.168.133.144/restful/calc/01

→ {"CALC01": ""}

Build Project – Protocols

- **Control VIC : Use Postman**

1. Execute Postman
2. Add new Request : Click **New** → Select **Request**



Build Project – Protocols

- **Control VIC : Use Postman**

3. Enter Request name

4. Choose used Collection : If there is no Collection, select **+ Create Collection**

5. Save

SAVE REQUEST

Requests in Postman are saved in collections (a group of requests).
[Learn more about creating collections](#)

Request name

VIC Test

Request description (Optional)

Make things easier for your teammates with a complete request description.

Descriptions support [Markdown](#)

Select a collection or folder to save to:

Search for a collection or folder

Cancel Save

SAVE REQUEST

Request description (Optional)

Make things easier for your teammates with a complete request description.

Descriptions support [Markdown](#)

Select a collection or folder to save to:

Search for a collection or folder

All Collections + Create Collection

VIC Demo

Cancel Save

SAVE REQUEST

Request description (Optional)

Make things easier for your teammates with a complete request description.

Descriptions support [Markdown](#)

Select a collection or folder to save to:

Search for a collection or folder

VIC Demo + Create Folder

Save to VIC Demo

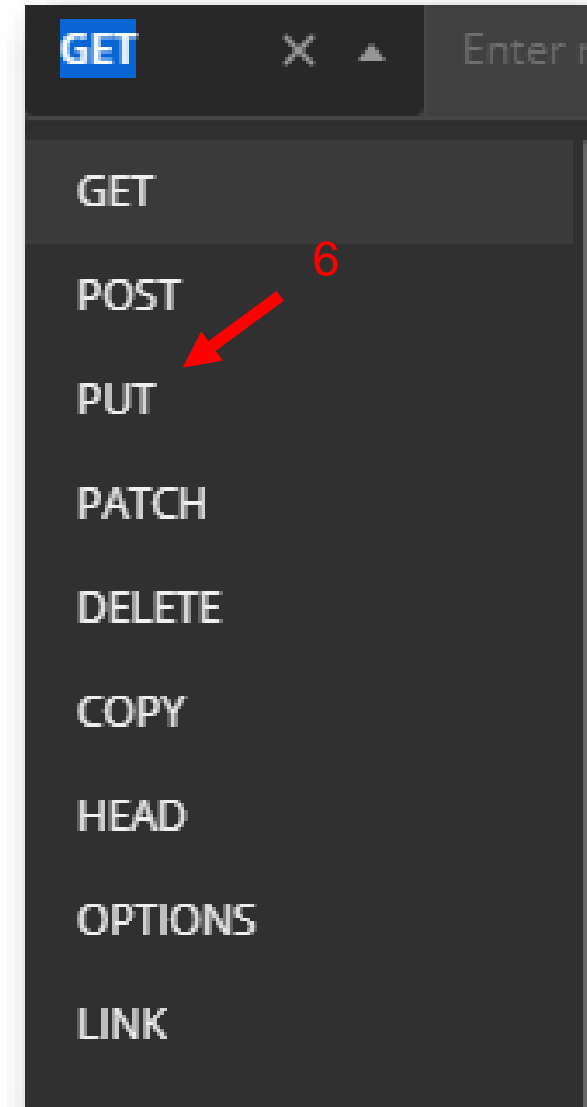
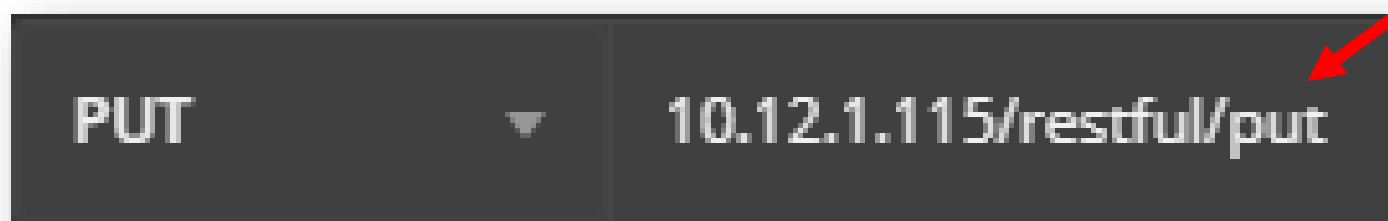
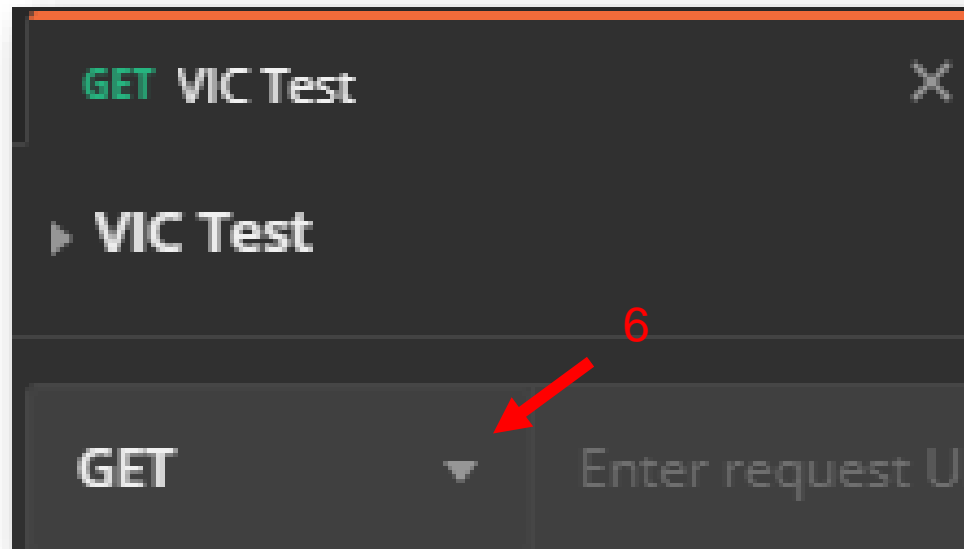
Cancel

Build Project – Protocols

- **Control VIC : Use Postman**

6. Choose PUT

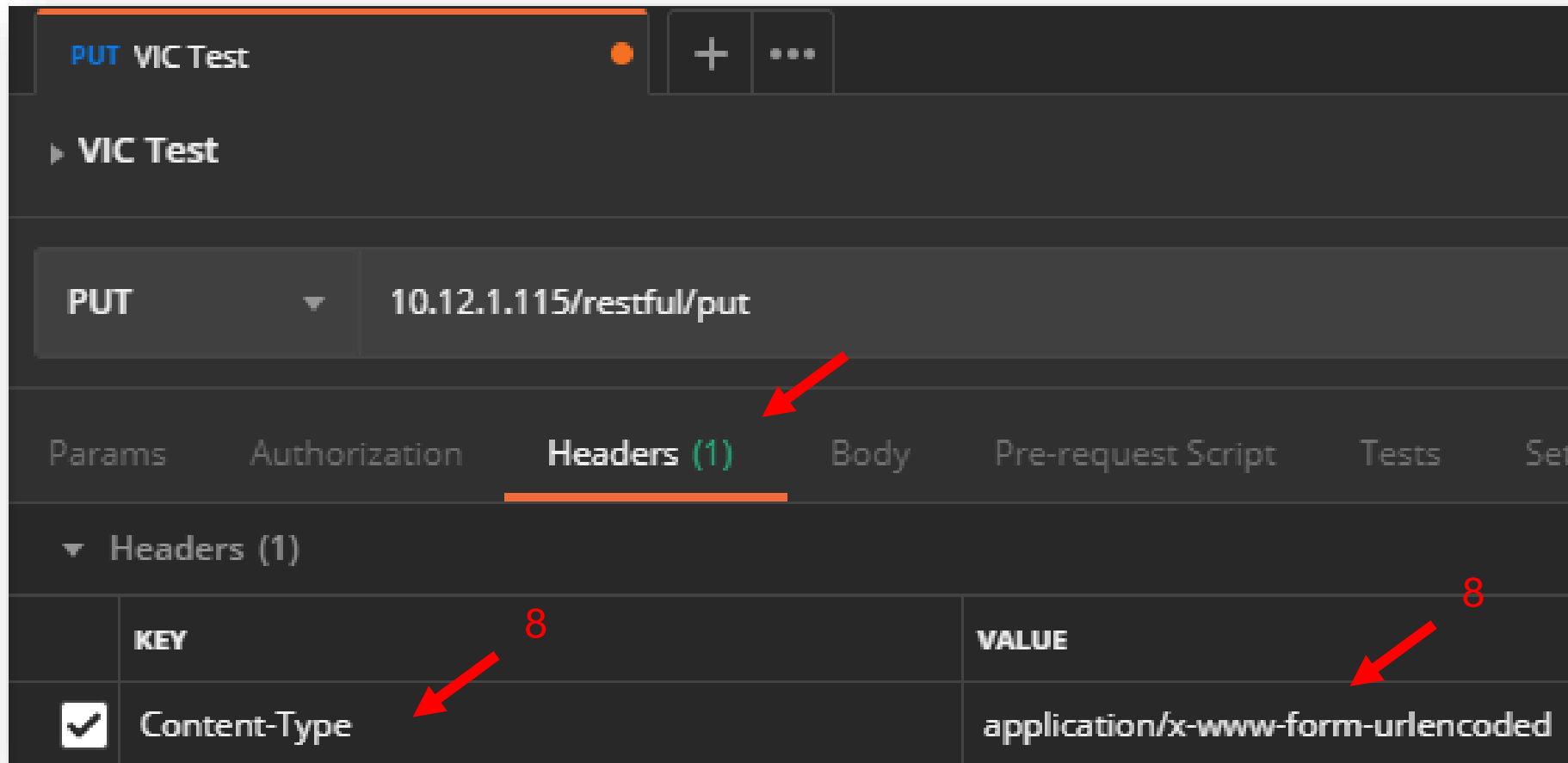
7. Enter URL : IP/restful/put



Build Project – Protocols

- **Control VIC : Use Postman**

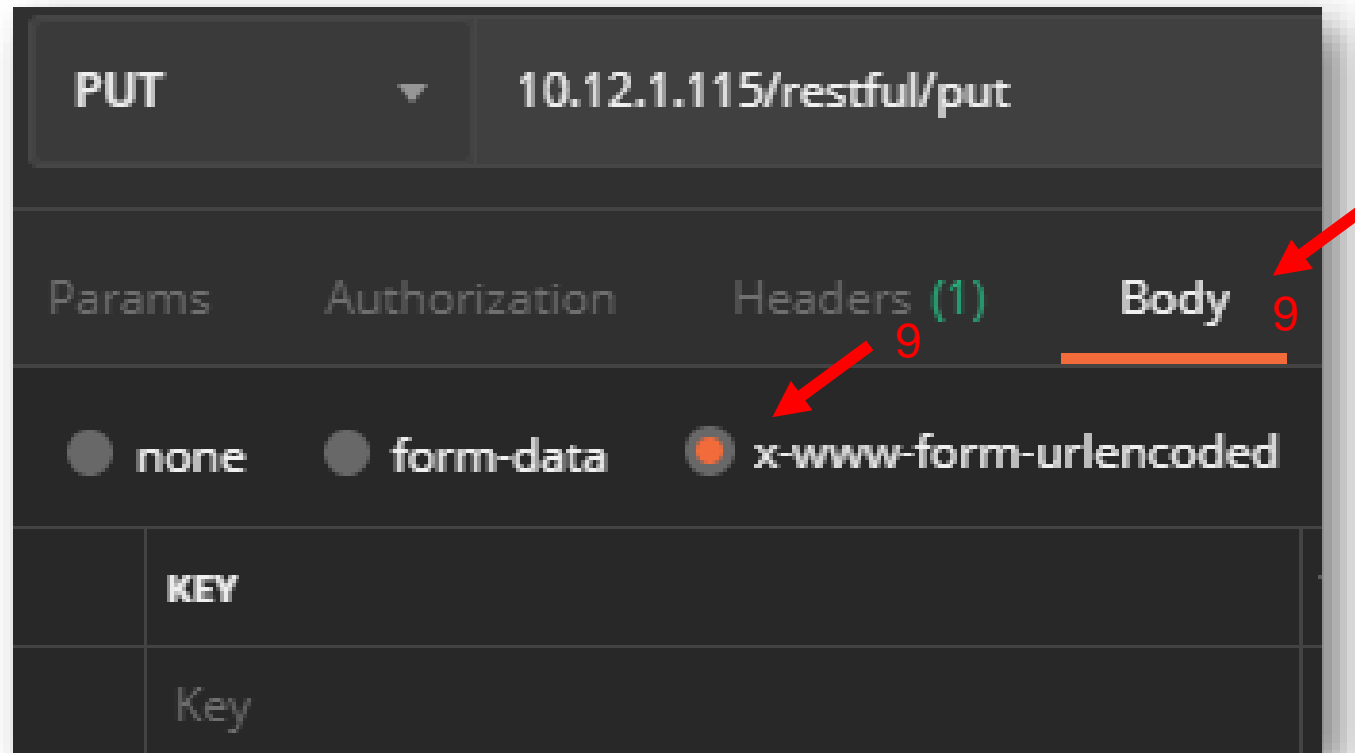
8. **Headers** : Content-Type : application/x-www-form-urlencoded



Build Project – Protocols

- **Control VIC : Use Postman**

9. **Body** : x-www-form-urlencoded



Build Project – Protocols

- **Control VIC : Use Postman**

9. **Body** : Even **play project** can be used only when there is **no admin logging in**.

	Play Project	Play Control	Play Control File with index i
username	admin or user	admin or user	admin or user
password	123456 (default)	123456 (default)	123456 (default)
channel_type	play	play_control	play_control_file
value	1 = Play 0 = Stop	1 = Play 0 = Stop	1 = Play 0 = Stop
index_value	-	-	0 ~ 199

Build Project – Protocols

- Control VIC : Use Postman

9. Body : Sample : Play Project

10. Send

PUT VIC Test

VIC Test

PUT 10.12.1.115/restful/put

Send

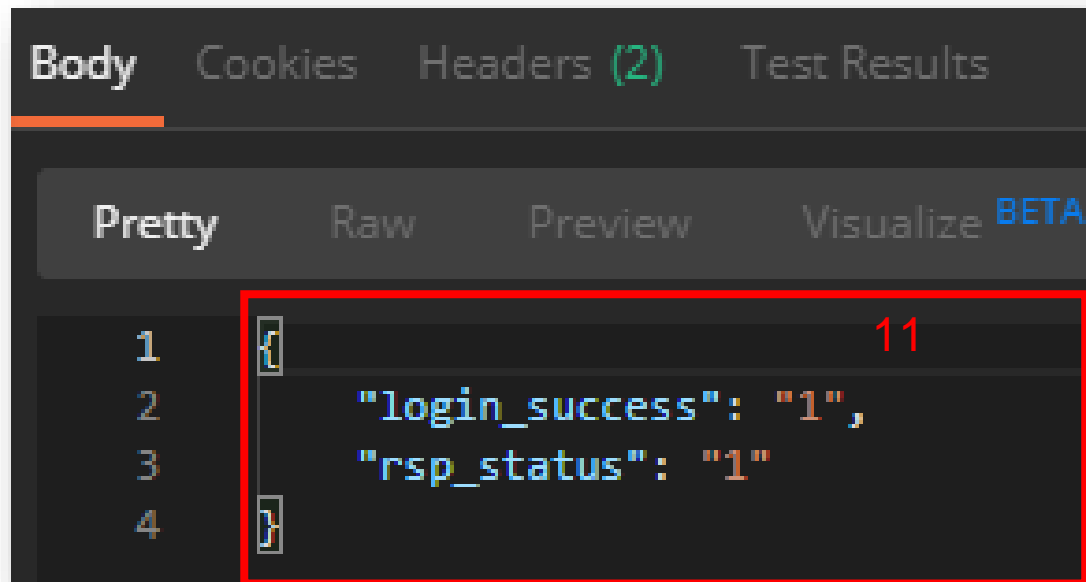
Params Authorization Headers (1) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL BETA

	KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/>	username	admin	
<input checked="" type="checkbox"/>	password	123456	
<input checked="" type="checkbox"/>	channel_type	play	
<input checked="" type="checkbox"/>	value	1	
	Key	Value	Description

Build Project – Protocols

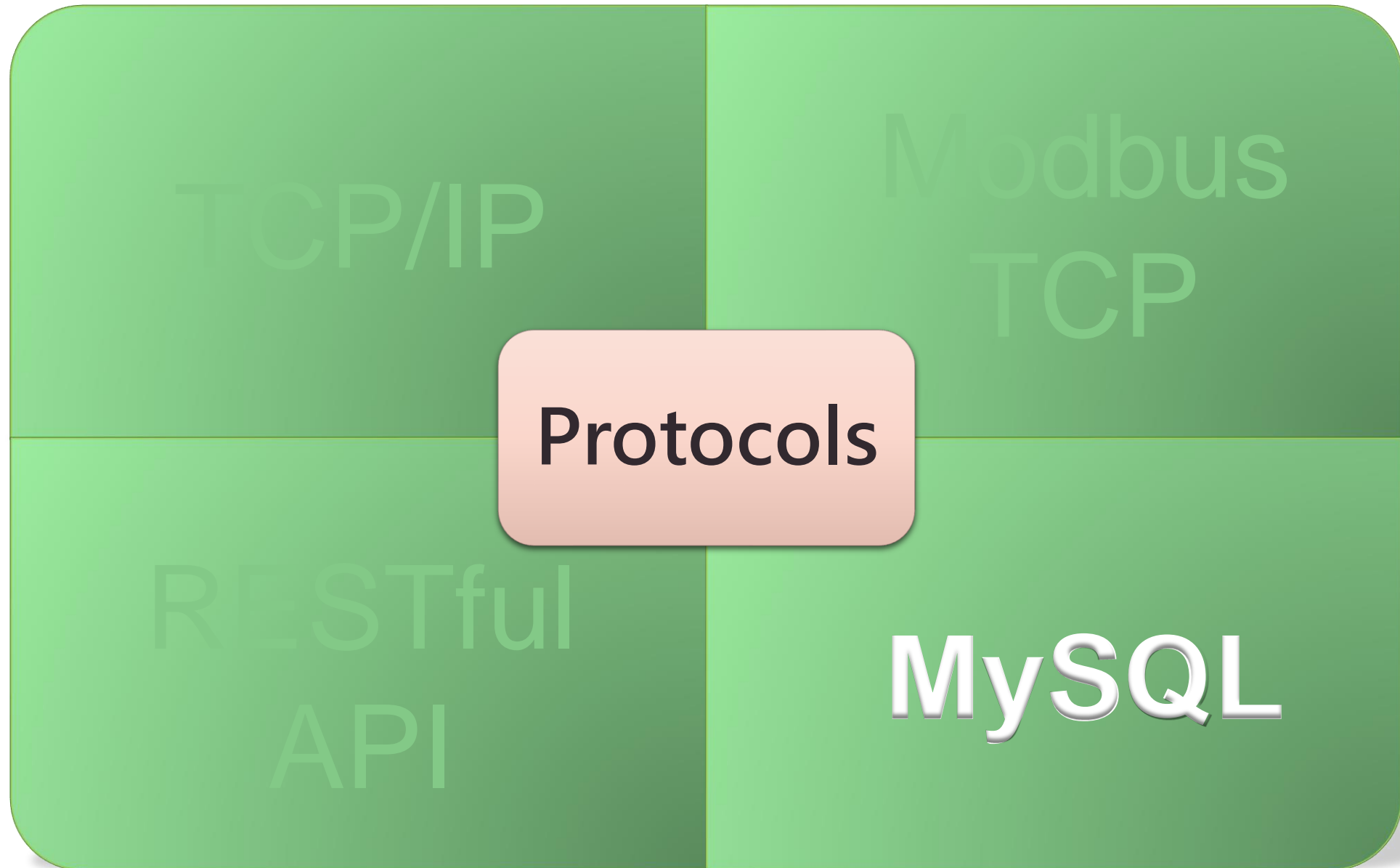
- **Control VIC : Use Postman**
 - 11. Check Response



```
Body Cookies Headers (2) Test Results
Pretty Raw Preview Visualize BETA
1 {
2   "login_success": "1",
3   "rsp_status": "1"
4 }
```

login_success	Whether logging in is successful. 1 = Successful 0 = Failed
rsp_status	Whether the command is executed successfully. 1 = Successful 0 = Failed

Build Project – Protocols



Build Project – Protocols

SQL, Structure Query Language, is used to manage database system.
The scope of SQL includes data query, data manipulation, data definition, and data access control.

Query

```
SELECT "column"  
FROM "table"  
WHERE "condition"  
GROUP BY "condition"  
ORDER BY "[ASC, DESC]"  
LIMIT "limitation"
```



Build Project – Protocols

MySQL is an open-source relational database management system. Because of its high efficacy, low cost, and high reliability, MySQL has become a popular open-source database.

VIC7000 utilizes MySQL to store data. Users can use another computer to connect to the database within VIC7000.



Build Project – Protocols

The database name within VIC7000 is named “**vic**”. There is a default account, username and password are **vic_7000**. This account can be used with VIC7000 computer.

If users want to get data remotely, they must add a new account with account **root** and its default password is 123456 (user can change it).

```
set password for 'root'@'localhost' = password('root');
```

```
C:\Users\eagle>mysql -u root -p
Enter password: ***
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.5.45 MySQL Community Server (GPL)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> set password for 'root'@'localhost' = password('root');
Query OK, 0 rows affected (0.00 sec)

mysql> _
```

Build Project – Protocols

After add a new user with account **root**, next step is to give this new user the authority to use “vic” database. Then this new account can access in “**vic**” database to query or get data.

CREATE USER '**test_user**'@'%' IDENTIFIED BY '**test_user**';

GRANT ALL PRIVILEGES ON vic.* TO '**test_user**'@'%' ;

```
命令提示字元 - mysql -uroot -p
Microsoft Windows [版本 10.0.17763.557]
(c) 2018 Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\jasontsai>mysql -uroot -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 181
Server version: 5.7.23-log MySQL Community Server (GPL)

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Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE USER 'test_user'@'%' IDENTIFIED BY 'test_user';
Query OK, 0 rows affected (0.00 sec)

mysql> GRANT ALL PRIVILEGES ON vic.* TO 'test_user'@'%';
Query OK, 0 rows affected (0.00 sec)

mysql>
```

```
命令提示字元 - mysql -utest_user -p
Microsoft Windows [版本 10.0.17763.557]
(c) 2018 Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\jasontsai>mysql -utest_user -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 185
Server version: 5.7.23-log MySQL Community Server (GPL)

Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved.

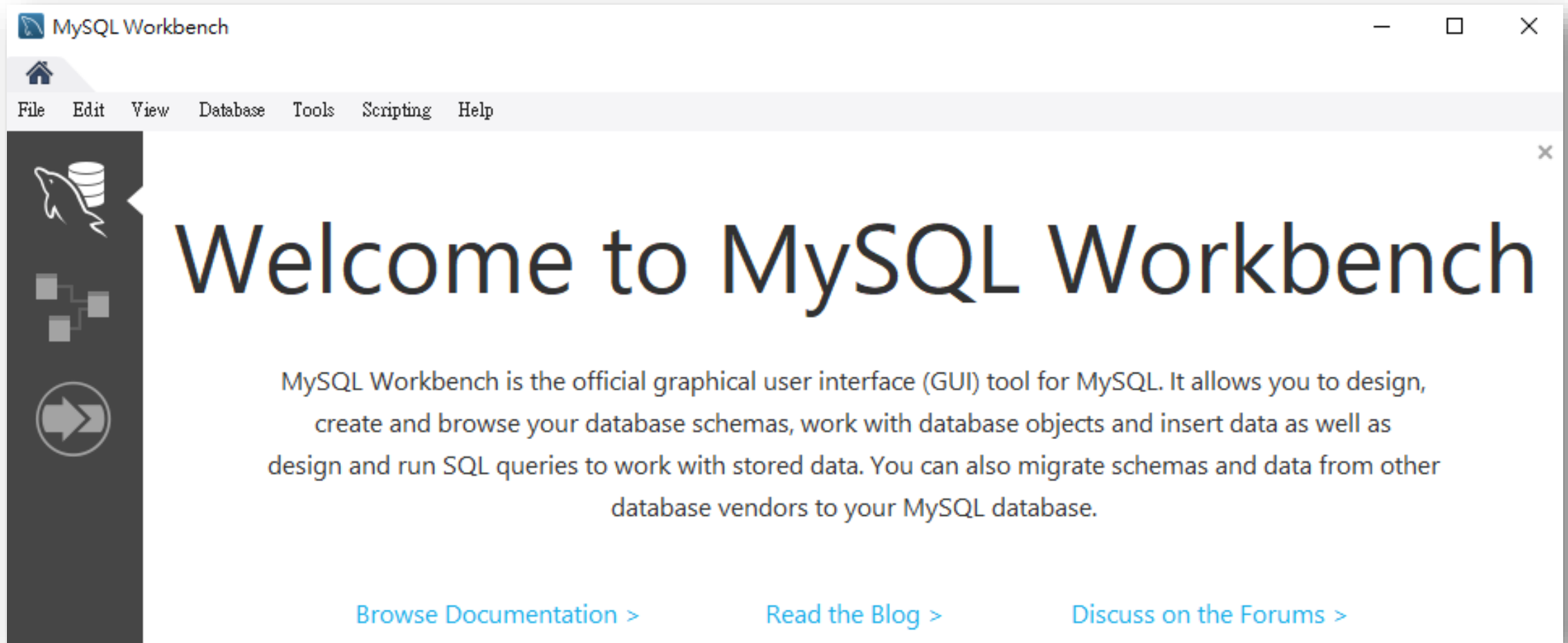
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```


Build Project – Protocols

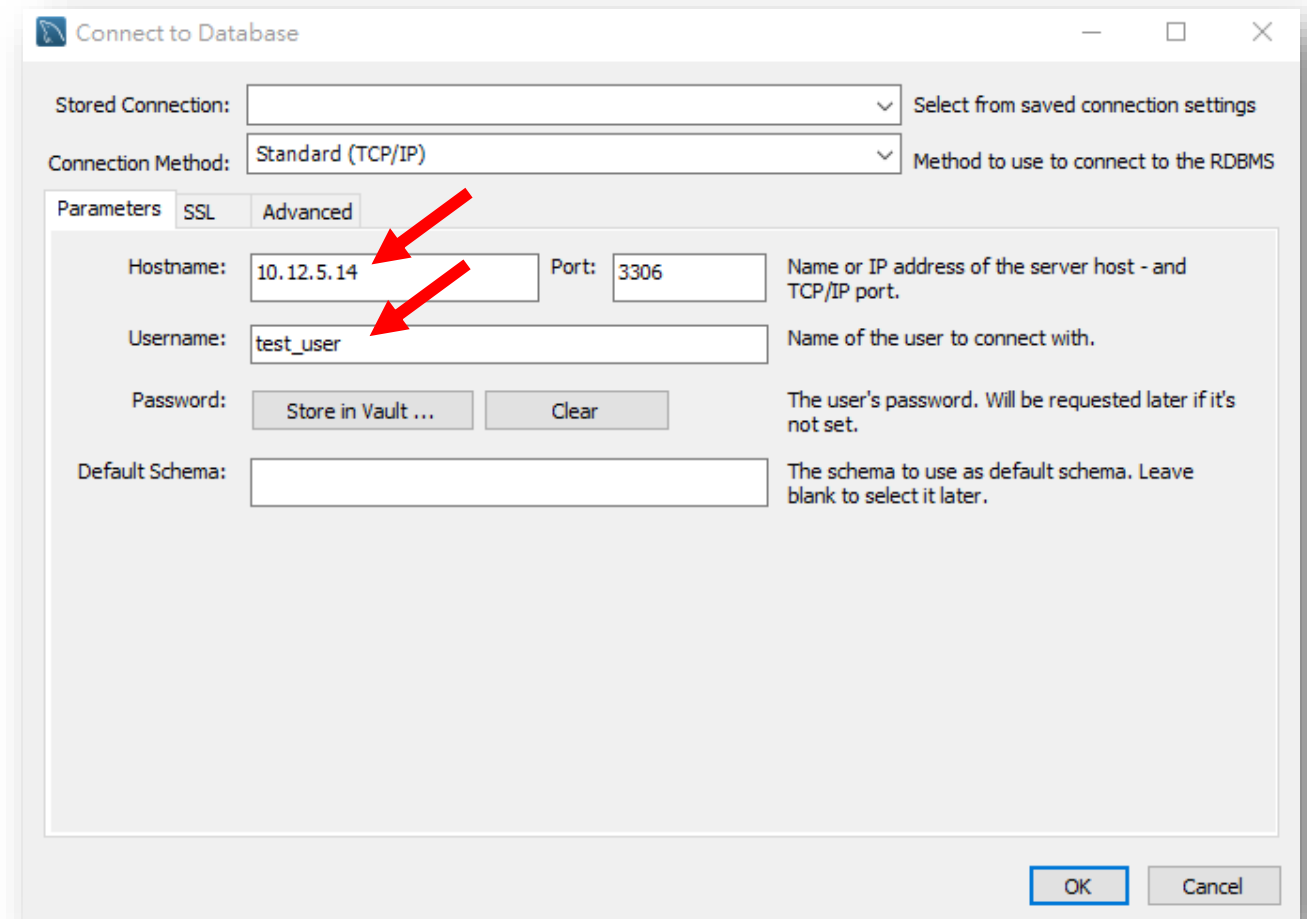
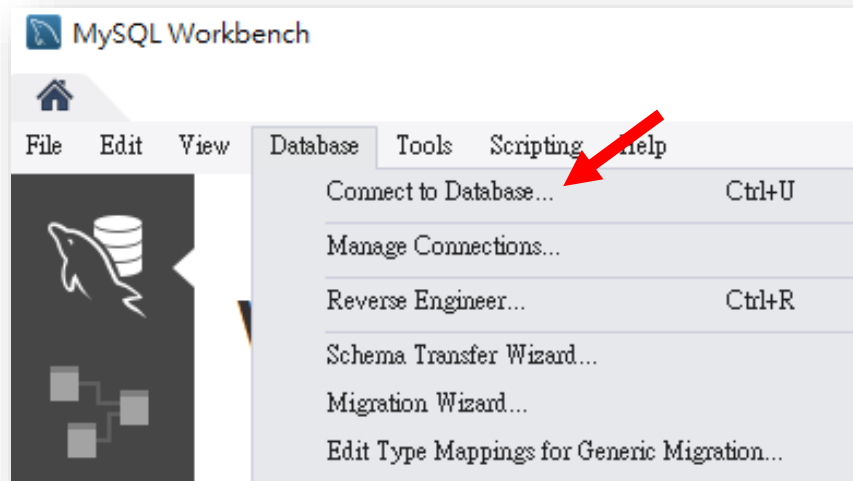
- **Link Testing : MySQL Workbench**



Build Project – Protocols

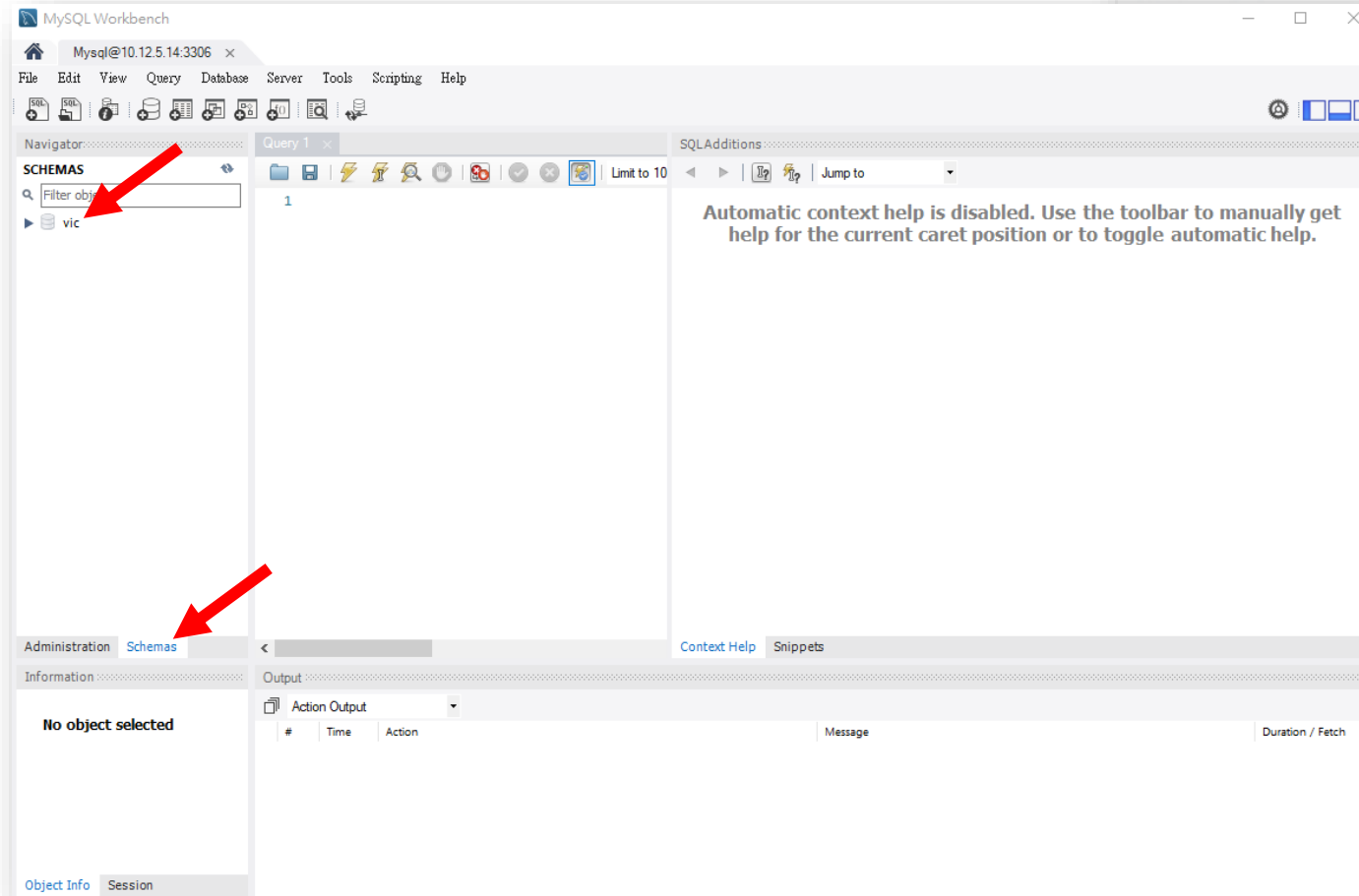
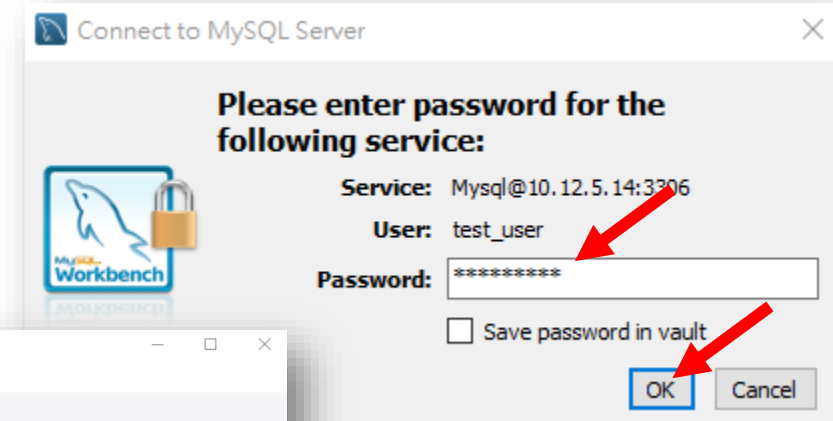
- **Link Testing : MySQL Workbench**

1. **Connection Settings** : Database → Connect to Database... → Hostname : IP →
Username : test_user



Build Project – Protocols

- **Link Testing : MySQL Workbench**
 3. Enter password and click OK
 4. Check database “vic”



Build Project – Protocols

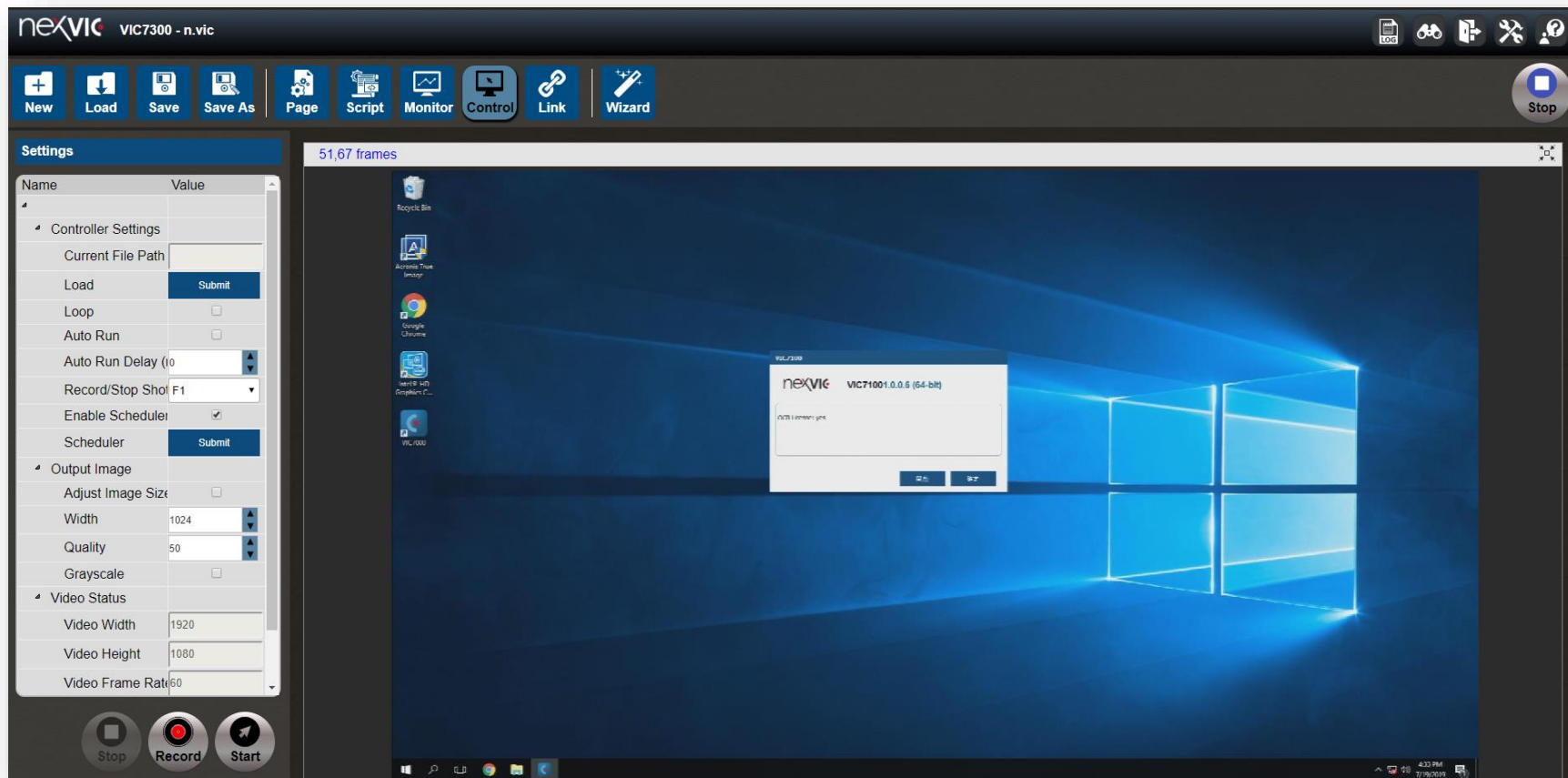
- **Link Testing : MySQL Workbench**

6. **Enter and execute commands** : Create a new SQL tab for executing queries → Enter SQL command (This sample counting data in “vic”) → Form Editor

The screenshot displays the MySQL Workbench interface. At the top, a toolbar contains various icons, including a red arrow pointing to the 'New Query' icon (a document with a plus sign). Below the toolbar, the 'Navigator' pane on the left shows a tree structure under 'SCHEMAS' with a search bar 'Filter objects'. Under the 'vic' schema, there are four items: 'Tables could not be fetched', 'Views could not be fetched', 'Stored Procedures could not be fetched', and 'Functions could not be fetched'. The main area is titled 'Query 1' and contains a SQL query: `1 select count(*) from vic.ocr_table;`. Above the query, there is a toolbar with icons for saving, running, and other actions, with a red arrow pointing to the 'Limit to 1000 rows' dropdown. Below the query, the 'Form Editor' tab is active, showing the result of the query: 'Count(*)' with the value '728708'. A red arrow points to this value. In the bottom right corner, there is a 'Result Grid' icon and a 'Form Editor' icon, with a red arrow pointing to the 'Form Editor' icon.

Build Project – Control

- **Control** : Record the action of mouse and keyboard
 1. **Entry to Control Page** : It must be used along with capture card input. When it's recording, the capture card should get data continuously.



Build Project – Control

- **Control**

- **Controller Settings**

Current File Path

Load : Load control file

Loop : Whether to play control
file cyclically

Auto Run : Whether to play
control file while project is playing

Auto Run Delay (ms)

Record/Stop Shortcut Key

Enable Scheduler

Scheduler Setting

Settings	
Name	Value
Controller Settings	
Current File Path	
Load	Submit
Loop	<input type="checkbox"/>
Auto Run	<input type="checkbox"/>
Auto Run Delay (ms)	
Record/Stop Shortcut Key	F1
Enable Scheduler	<input checked="" type="checkbox"/>
Scheduler	Submit

F1

F1

F2

F3

F4

F5

F6

F7

F8

F9

F10

F11

F12

Build Project – Control

- **Control**

- **Video Parameter**






Adjust Image Size : Modifying the width and quality of the image and using grayscale to improve smoothness **while recording control files**

Adjusting video width

Adjusting video Quality

Grayscale

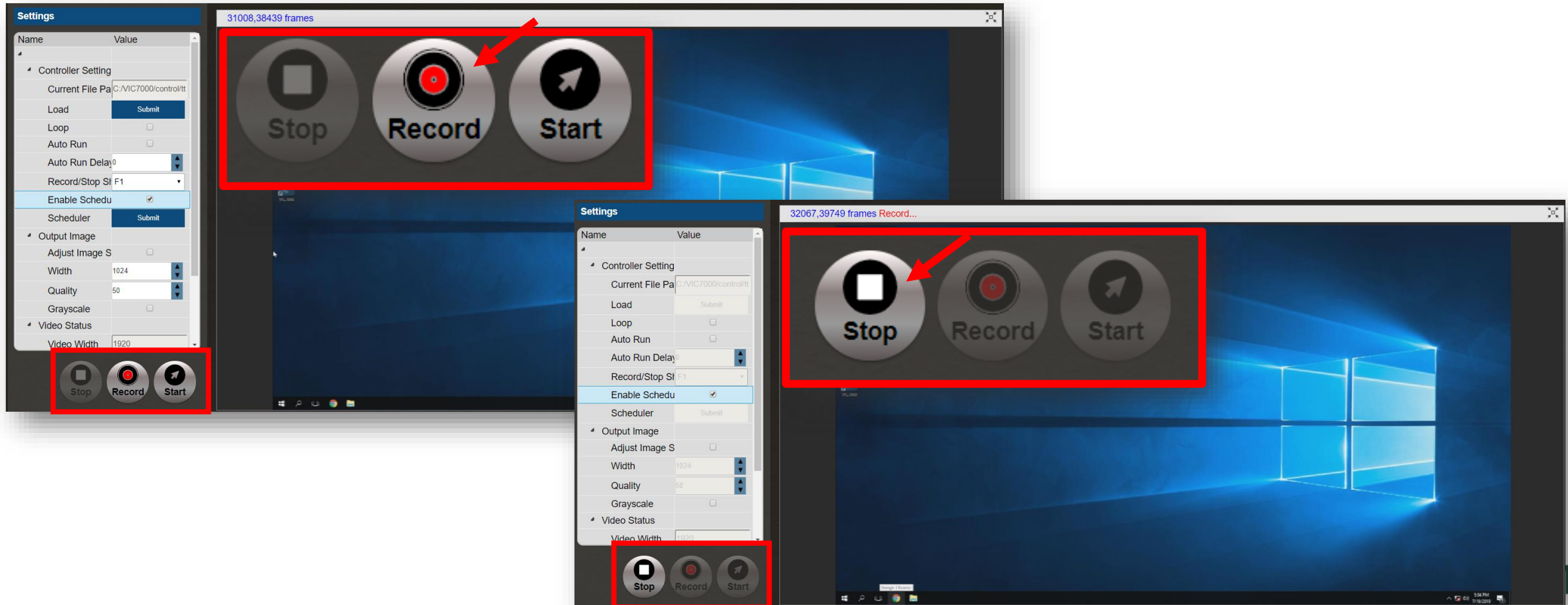
Video Signal

Output Image	
Adjust Image Size	<input type="checkbox"/>
Width	1024  
Quality	50  
Grayscale	<input type="checkbox"/>
Video Status	
Video Width	1920
Video Height	1080
Video Frame Rate	60
Video Signal	true
Video Input	DVI_A (RGB / \ 

Build Project – Control

- **Control**

2. **Record Action** : Click **Record** (press **Record Shortcut Key**) → The action of mouse and keyboard will be recorded → Click **Stop** (press **Stop Shortcut Key**)

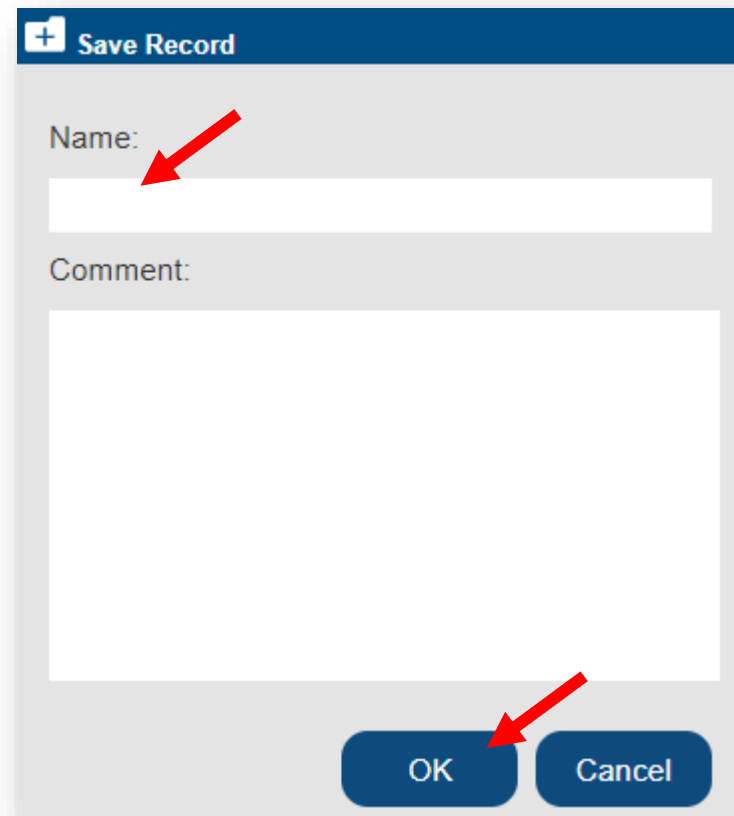


Build Project – Control

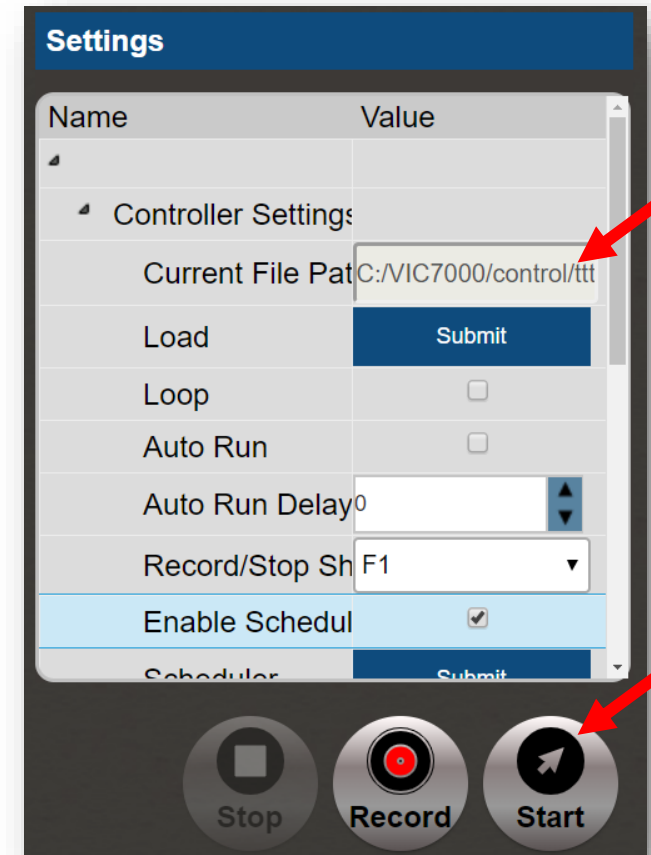
- **Control**

2. **Record Action** : Enter **Name** of control file → Click **OK**

The control file will be loaded automatically. Click **Start** to simulate playing the control file.



A dialog box titled "Save Record" with a blue header bar containing a plus icon. It has two input fields: "Name:" with a red arrow pointing to it, and "Comment:" below it. At the bottom, there are two buttons: "OK" and "Cancel", with a red arrow pointing to the "OK" button.



A settings screen titled "Settings" with a blue header bar. It contains a table with "Name" and "Value" columns. The table has a section for "Controller Settings" with rows for "Current File Path" (value: C:/VIC7000/control/ttt), "Load" (button: Submit), "Loop" (checkbox), "Auto Run" (checkbox), "Auto Run Delay" (value: 0), "Record/Stop Sh" (value: F1), "Enable Scheduler" (checkbox: checked), and "Scheduler" (button: Submit). A red arrow points to the "Submit" button next to "Load". At the bottom, there are three circular buttons: "Stop", "Record", and "Start", with a red arrow pointing to the "Start" button.

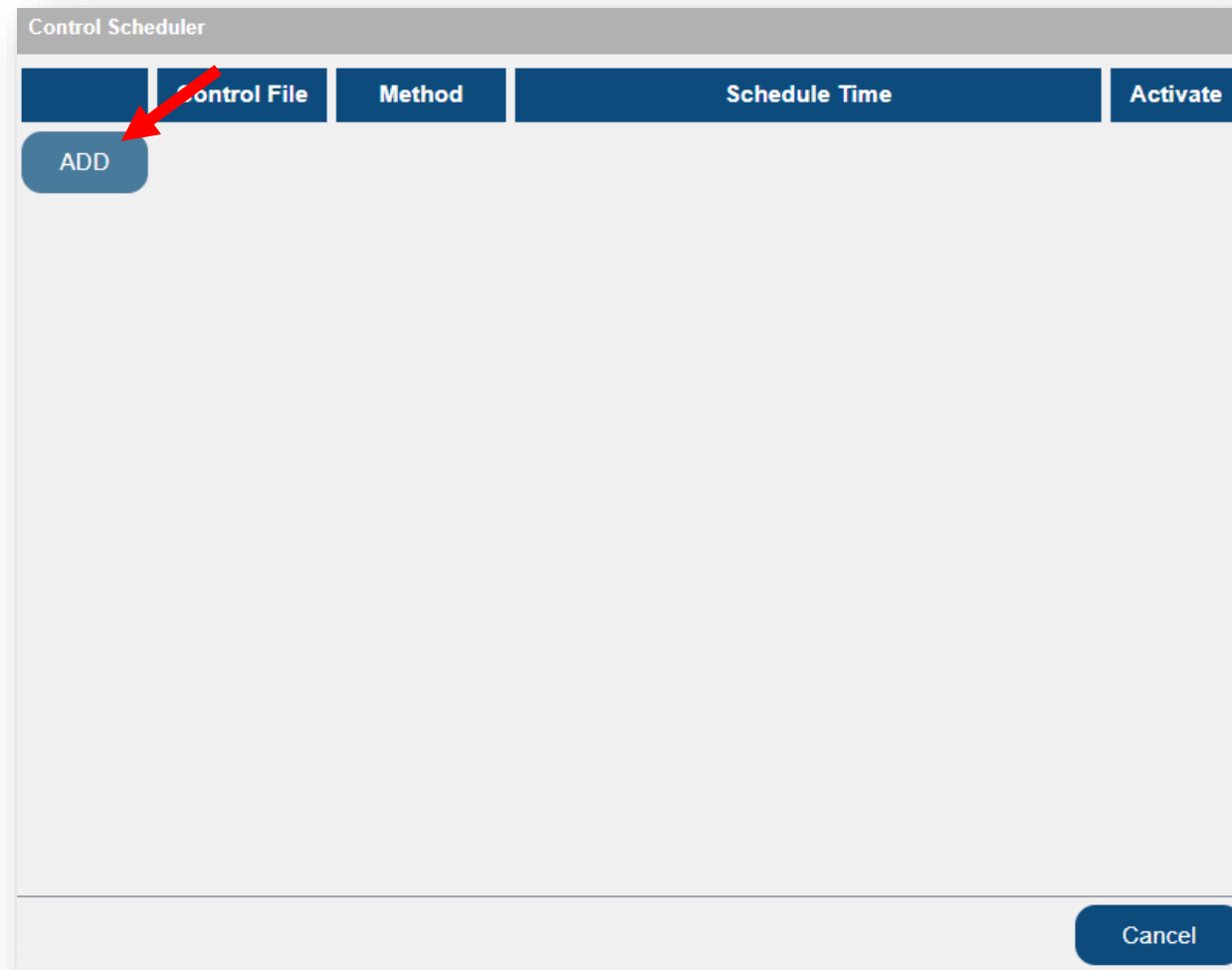
Name	Value
Controller Settings	
Current File Path	C:/VIC7000/control/ttt
Load	Submit
Loop	<input type="checkbox"/>
Auto Run	<input type="checkbox"/>
Auto Run Delay	0
Record/Stop Sh	F1
Enable Scheduler	<input checked="" type="checkbox"/>
Scheduler	Submit

Build Project – Control

- **Control**

- **Scheduler Settings** : Click **Scheduler** and **Control Scheduler** window will show up →

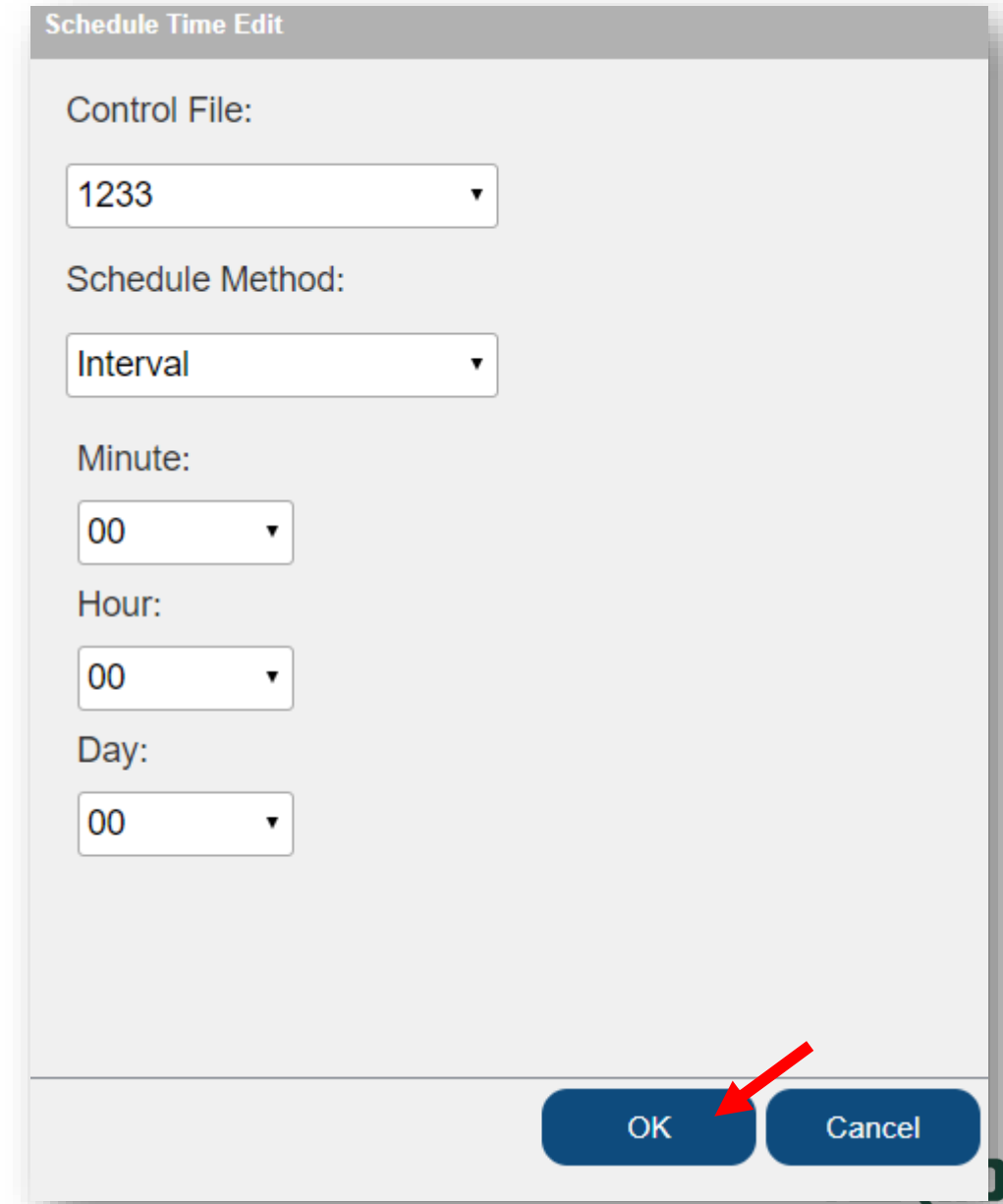
Click **Add**



The screenshot shows a window titled "Control Scheduler". It contains a table with four columns: "Control File", "Method", "Schedule Time", and "Activate". The table is currently empty. In the top-left corner of the table area, there is a blue button labeled "ADD". A red arrow points to this "ADD" button. In the bottom-right corner of the window, there is a blue button labeled "Cancel".

Build Project – Control

- **Control**
 - **Scheduler Settings – interval** : How often the control file should be played
- Control File
- Schedule method : Choose **interval**
- Minute
- Hour
- Day
- Clicking **OK** to finish



Schedule Time Edit

Control File:

1233

Schedule Method:

Interval

Minute:

00

Hour:

00

Day:

00

OK Cancel

Build Project – Control

- **Control**
 - **Scheduler Settings – At an exact time** : Play control file once at a specific time
- Control File
- Schedule Method : At an exact time
- | | |
|-------------|--|
| Minute | If there is a set Day and Day of Week, the control file will be played only when |
| Hour | two conditions are matched. |
| Day | Ex : if Day is set to 5, Day of Week is set to 1, then the control file will be played |
| Day of Week | on 5 th and Monday every month. |
- * : Represent each time point in the field
- Ex : If settings are minute-*, Hour-12, Day-25, Day of Week-*, then this control file will be repeated every minute at twelve o'clock on 25th every month.

Schedule Time Edit

Control File:

1233

Schedule Method:

At an exact time

Minute:

*

Hour:

*

Day:

*

Day Of Week:

*

Asterisk (*) means every instance of that time slot: Every minute, every hour, every day or every day of the week

Clicking OK after setting up

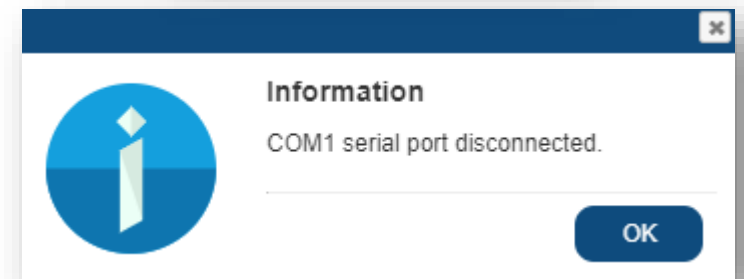
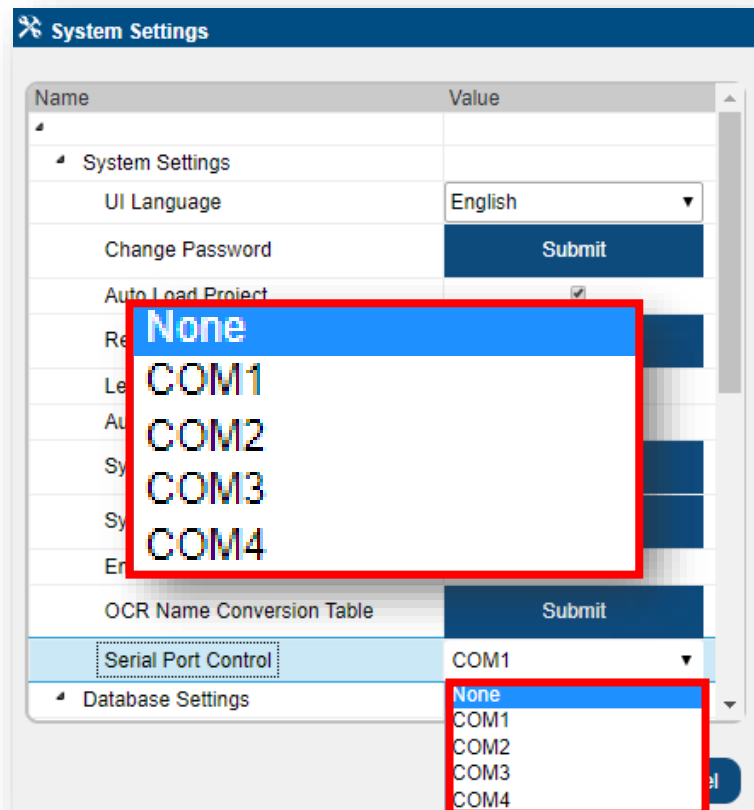
OK Cancel

Build Project – Control

- **Serial Port Control**

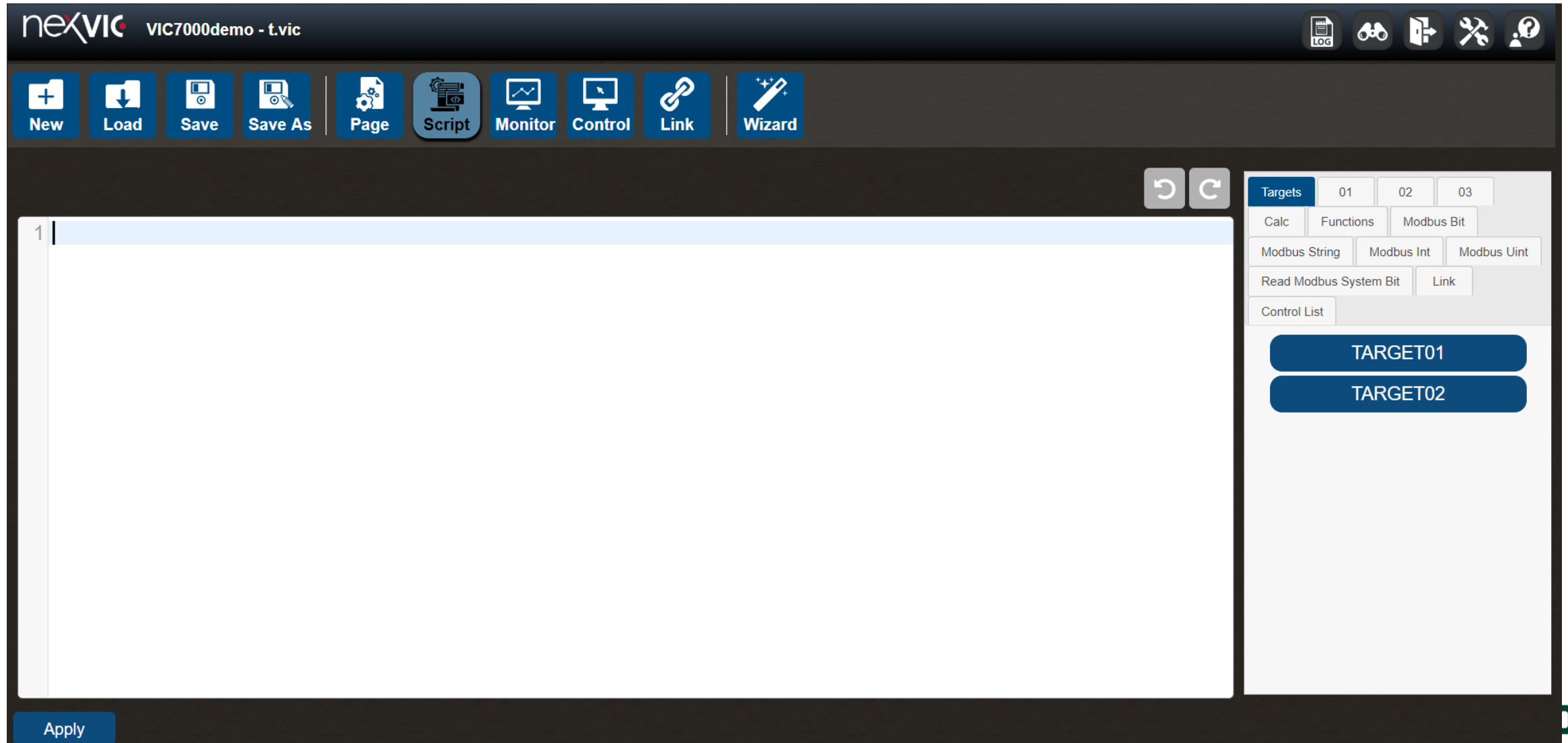
Set the serial port in System Settings. The status of serial port is based on connection of supplied COM cable, and it is displayed on the toolbar in the upper-right corner.

If it is connected, project and control playing will be played, otherwise it will be paused.



Build Project – Script

- **Script** : Entry to **Script** page



Build Project – Script

- Script

- Use Parameter : Right-click on the target field

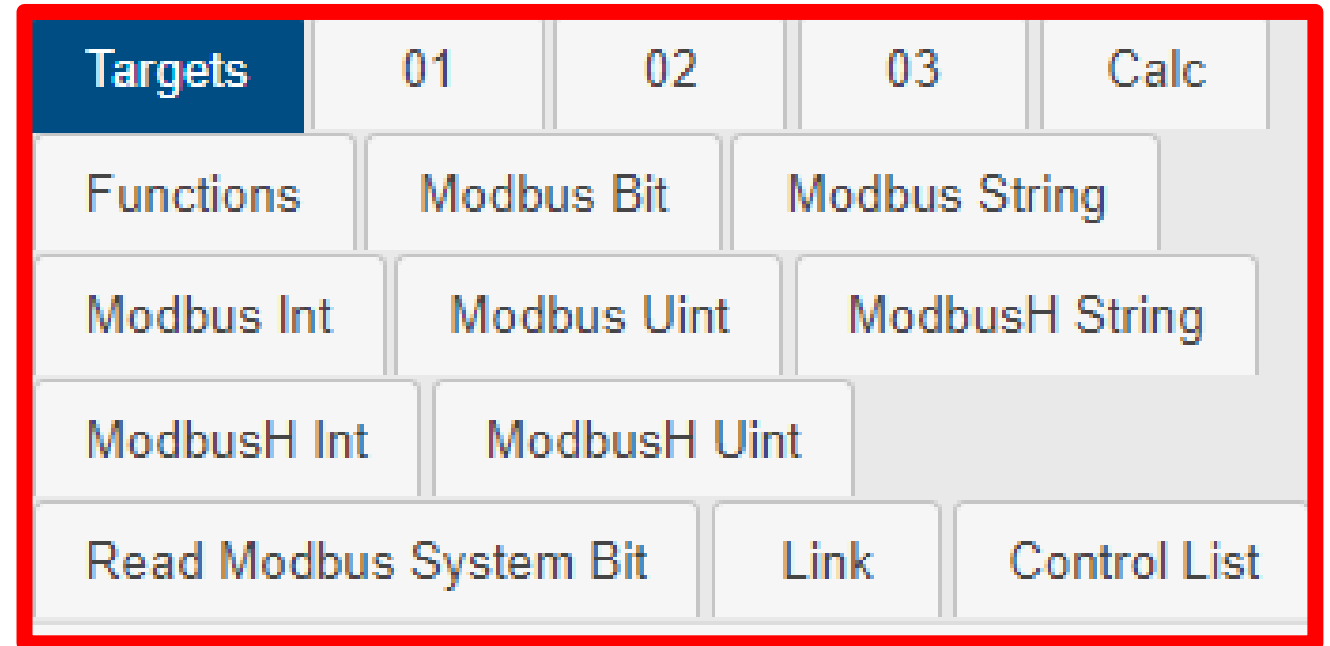
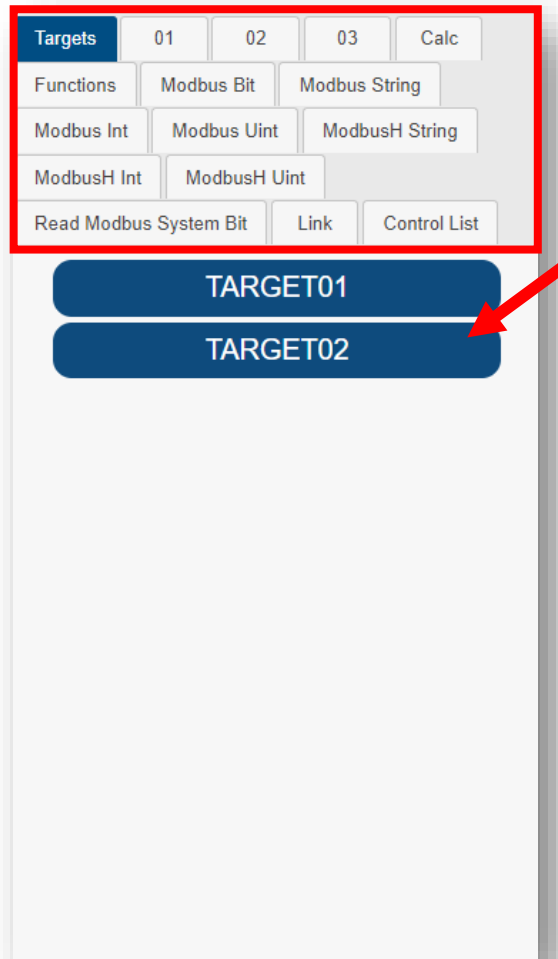
The screenshot shows the neXVIC interface with a right-click context menu open over the 'Targets' field. The menu lists various targets and functions. A red arrow points to the 'Targets' field in the menu. The menu items are:

- Targets
 - 01
 - 02
 - 03
- Calc
- Functions
- Modbus Bit
- Modbus String
- Modbus Int
- Modbus Uint
- ModbusH String
- ModbusH Int
- ModbusH Uint
- Read Modbus System Bit
- Link

Build Project – Script

- **Script**

- **Use Parameter** : Select a Targets button in the right-hand side field



Build Project – Script

- **Script**

Operator	Num & Num	Num & String	String & String
Addition (+)	+	convert number to string, then string add ups	+
Subtraction (-)	-	No action	No action
Multiplication (*)	*	No action	No action
Division (/)	/	No action	No action
Less than (<)	Comparison	convert character to ASCII code, then compare it in order	convert character to ASCII code, then compare it in order
Equal (==)			
Greater than (>)			
Less than or Equal (<=)			
Greater than or Equal (>=)			
Not equal (!=)			

Build Project – Script

- **Script**

- **Functions** : Click **Functions** button

SEND.EMAIL : Send email automatically, see Advanced

SEND.LINE : Send LINE notify automatically, see Advanced

SEND.WECHAT : Send WeChat message automatically, see
Advanced

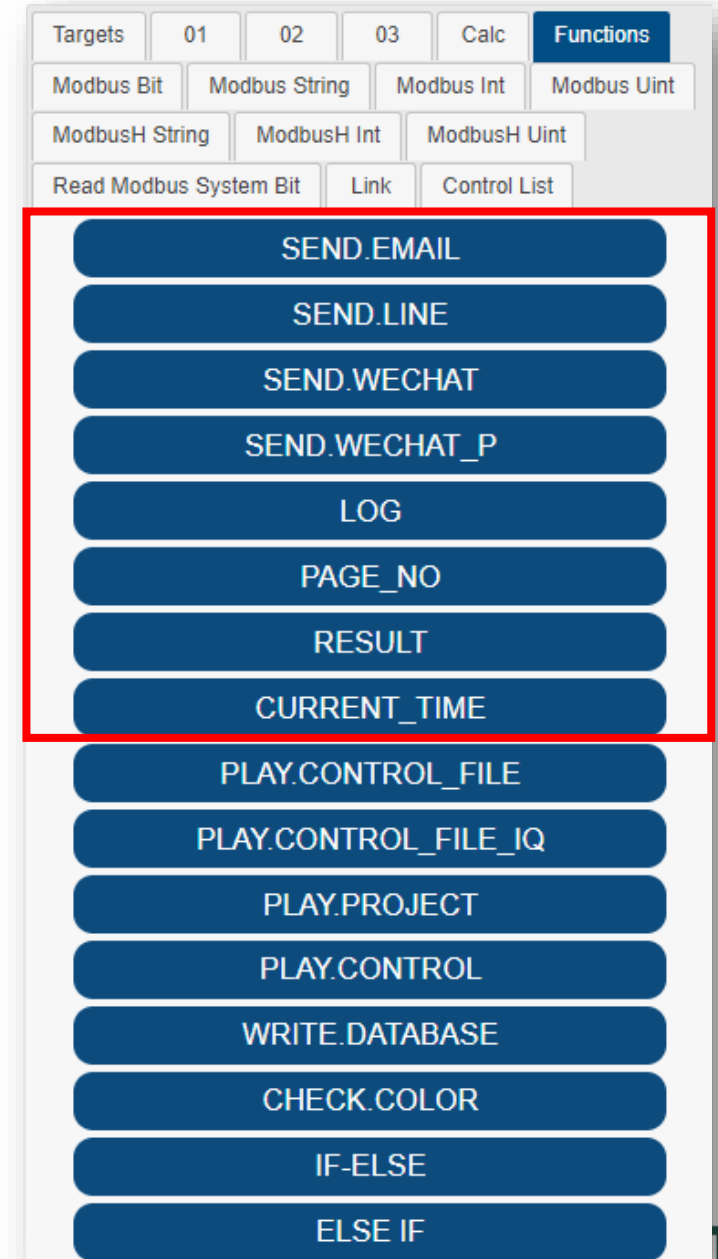
SEND.WECHAT_P : Send WeChat message automatically, see
Advanced

LOG : Record message in Log

PAGE_NO : A variable, the used page index currently

RESULT : Current recognition, 0 = Pass, 1 = NG, 2 = No Matching

CURRENT_TIME : A variable, current time to execute script



Build Project – Script

- **Script**

- **Functions** : Click **Functions** button

PLAY.CONTROL_FILE : Play specific control file

PLAY.CONTROL_FILE_IQ : Play specific control file with input and queue property, see Advanced

PLAY.PROJECT : Play/Stop project

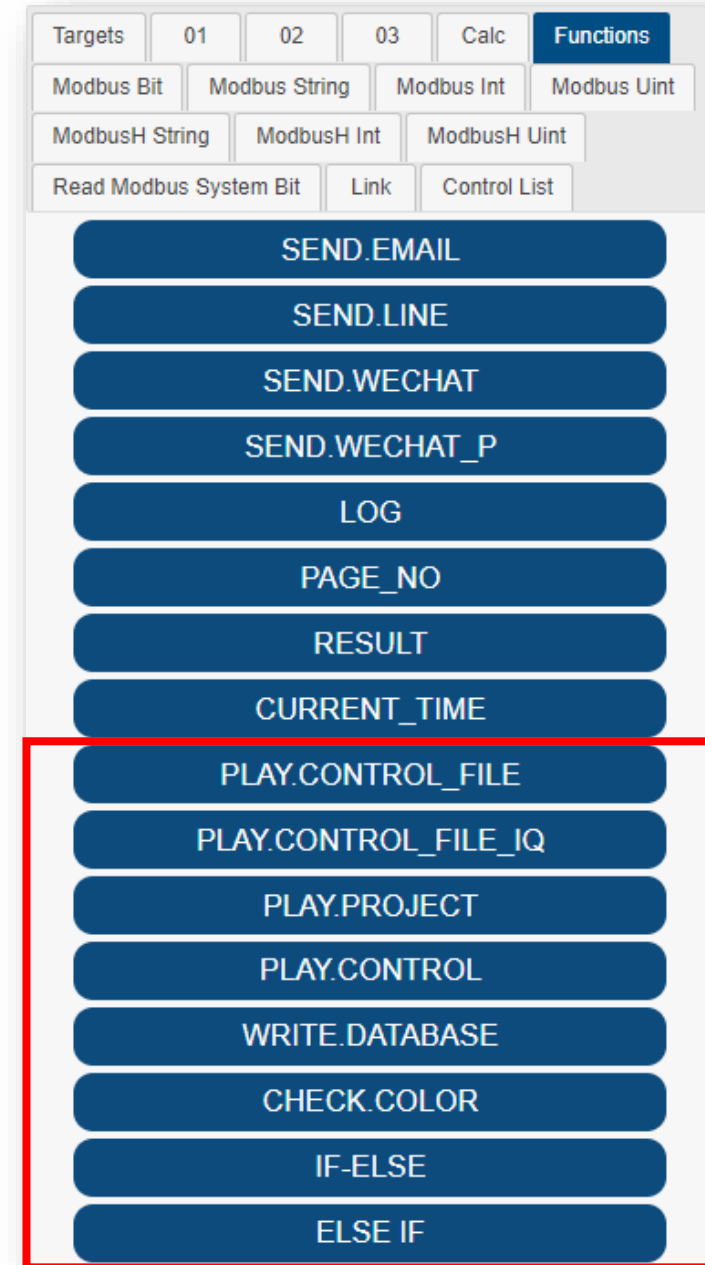
PLAY.CONTROL : Play/Stop control

WRITE.DATABASE : Whether recognition data is written into database

CHECK.COLOR : Check whether a color is twinkling

IF-ELSE : Conditional

ELSE IF : Conditional



Build Project – Script

- **Script**

- **LOG** : Record message in Log
 1. type : The color of the message recorded in Log, 0 : black, 1 : red, 2 : blue
 2. message : The message that is needed to be recorded (string)
 3. sec : Restrict execution again in a period of time (s)



```
LOG( , , );
```

Build Project – Script

- **Script**

- **PLAY.CONTROL_FILE** : Play specific control file

1. **control_file_name** : Name of the control file that is about to play.

The file can be picked from control file list

2. **sec** : Restrict execution again in a period of time (s)

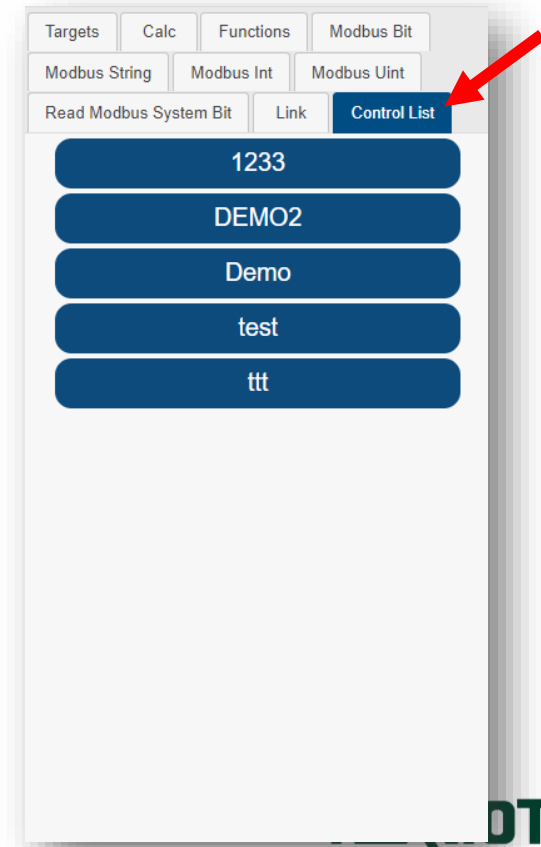
*While the current control file is being played, another control file is played, the current file will be stopped and the next file will start immediately.

PLAY.CONTROL_FILE

`PLAY.CONTROL_FILE(control_file_name, sec)`

PLAY.CONTROL_FILE(,);

Control file list



Build Project – Script

- **Script**

- **PLAY.PROJECT** : Play/Stop project

1. status : It could only be set to 0, means that it will only stop project

PLAY.PROJECT

PLAY.PROJECT(status)

```
PLAY.PROJECT( );
```


Build Project – Script

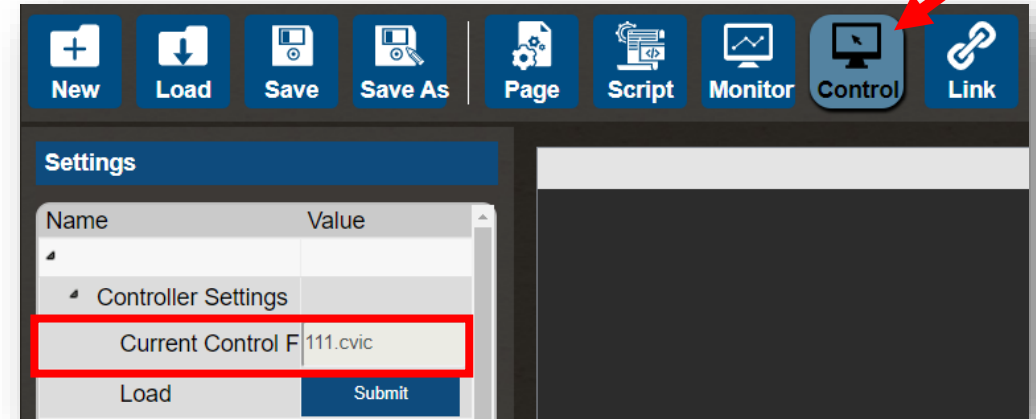
- **Script**

- **PLAY.CONTROL** : Play/Stop control

1. status : Set the status of control

0 = Stop current all current controls

1 = Play the control file set in Control page



PLAY.CONTROL

PLAY.CONTROL(status)

```
PLAY.CONTROL( );
```

Build Project – Script

- **Script**

- **WRITE.DATABASE** : Whether recognition data is written into database
 1. status : Set the status of writing data into database
 - 0 = Disable writing data into database
 - 1 = Enable writing data into database

WRITE.DATABASE

WRITE.DATABASE(status)

```
WRITE.DATABASE( );
```

Build Project – Script

- **Script**

- **CHECK.COLOR** : Detect whether a COLOR is twinkling
 1. page_color : The color needed to be detected
 2. calc : Store detection results
 3. sec : detection time interval (int)



CHECK.COLOR(, ,);

```
1 CHECK.COLOR(PAGE01.COLOR01,CALC00,10);|
```

Detect COLOR01 on PAGE01 that is twinkling in 10 seconds, and the result will be stored in CALC00.

Build Project – Script

- **Script**

- **Apply** : After edition is finished, click Apply(ctrl + s) and the script will take effect.

The screenshot shows a script editor with a dark background and light-colored text. The code is as follows:

```
3  if(PAGE01.OCR02>=0)
4    CALC00=1;
5  else
6    CALC00=0;
7
8  if(PAGE01.OCR03>=0)
9    CALC01=1;
10 else
11    CALC01=0;
12
13 if(PAGE01.OCR07>=0)
14
15 else
16
17
18 if(PAGE01.OCR08>=0)
19    CALC03=1;
20 else
21    CALC03=0;
22
23 if(PAGE01.OCR012>=0)
24
```

Below the code, there are three instances of an 'Apply' button and its corresponding status message, all highlighted with red boxes:

- 1. A blue 'Apply' button followed by the text 'Apply successfully.' in green.
- 2. A blue 'Apply' button followed by the text 'Syntax error at line 15: syntax error, unexpected ELSE' in red.
- 3. A blue 'Apply' button followed by the text 'Apply successfully.' in green.

Build Project – Script

- **Script**

- **Sample** : Use Script to determine the CALC value. If the recognition result on PAGE01 is greater than 0, set CALC as 1, otherwise set CALC as 0.

```
3  if(PAGE01.OCR02>=0)
4      CALC00=1;
5  else
6      CALC00=0;
7
8  if(PAGE01.OCR03>=0)
9      CALC01=1;
10 else
11     CALC01=0;
12
13 if(PAGE01.OCR07>=0)
14     CALC02=1;
15 else
16     CALC02=0;
17
18 if(PAGE01.OCR08>=0)
19     CALC03=1;
20 else
21     CALC03=0;
22
23 if(PAGE01.OCR012>=0)
```

Apply Apply successfully.

Build Project – Script

- **Script**

- **Simulate** : Enter **Monitor** page → Click **Snap** → Check Script execution result

Status					
Page_Setting					
-TARGET01					
-Text					
-TARGET02					
Calculation					
-CALC00					
-0					
-CALC01					
-1					
-CALC02					
-1					
-CALC03					
-1					
-CALC04					
-1					
-CALC05					
-1					
-CALC06					
-0					
-CALC07					
-1					
-CALC08					
-1					
-CALC09					
-1					
-CALC10					
-1					
-CALC11					
-1					

Quantity	Temperature	Voltage	Time
566	CALC00 -14.04 °C	CALC01 17.9 V	1137 ms
974	CALC02 20.79 °C	CALC03 23.3 V	1948 ms
669	CALC04 3.74 °C	CALC05 22.1 V	1342 ms
157	CALC06 -5.38 °C	CALC07 15.9 V	324 ms
261	CALC08 27.35 °C	CALC09 6.8 V	529 ms
46	CALC10 26.09 °C	CALC11 14.0 V	101 ms
764	13.75 °C	20.1 V	1530 ms
563	7.74 °C	17.7 V	1130 ms

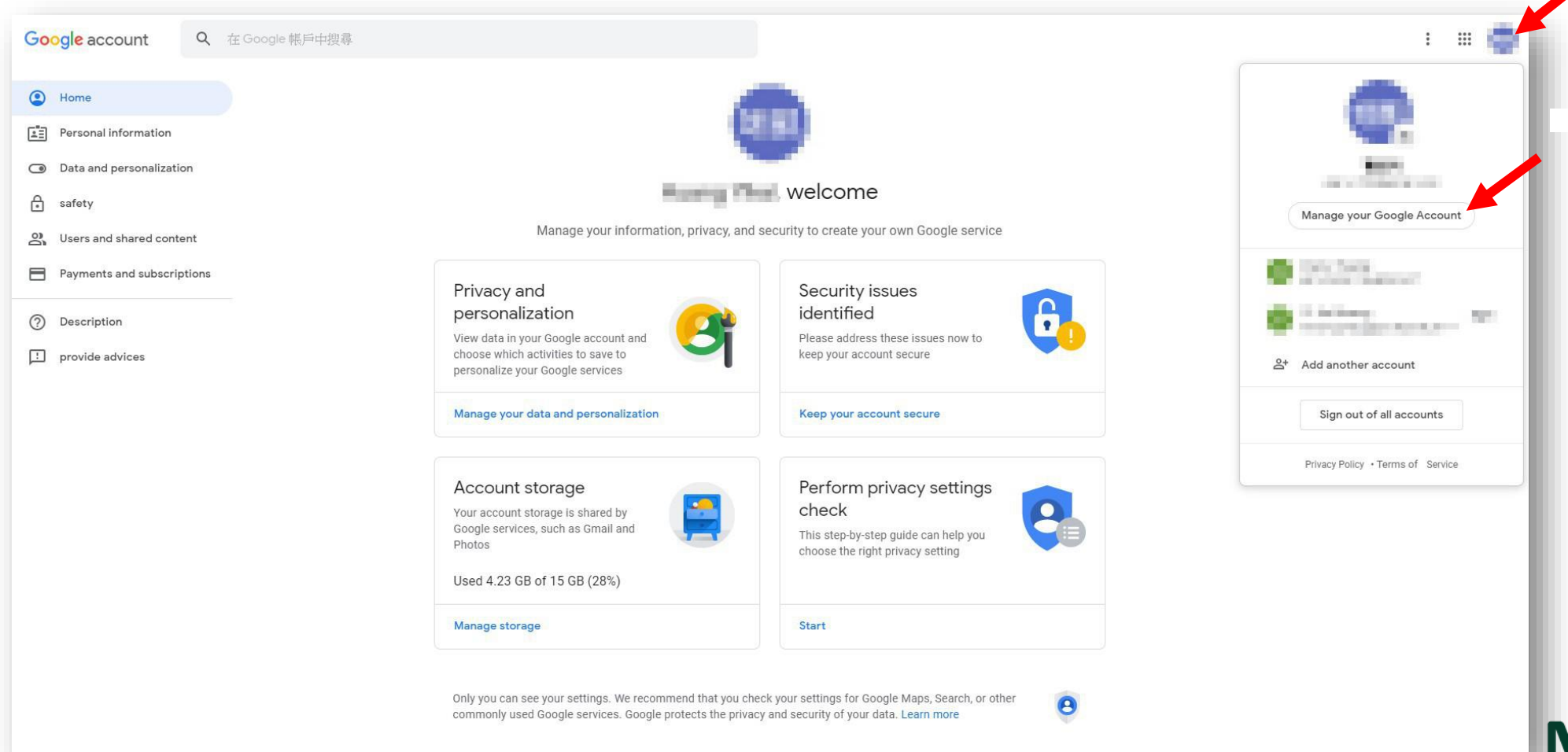
1,1 frames

16ms

Advanced

- SMTP

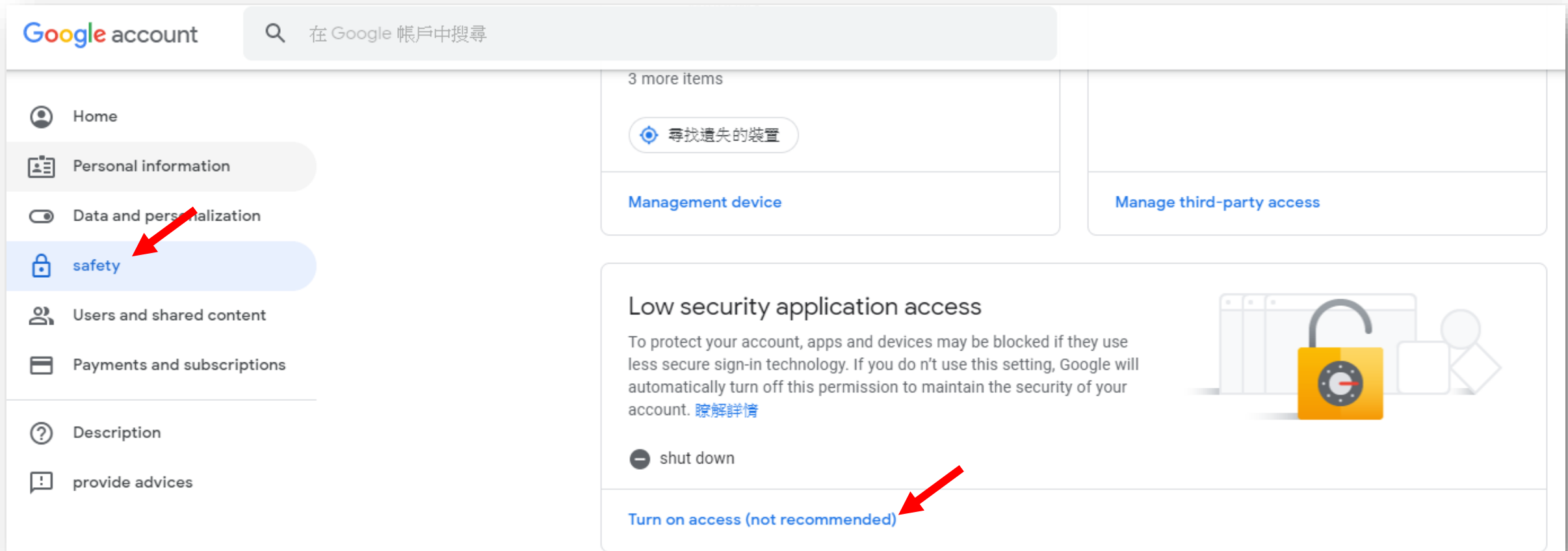
- **Get Authority** : If using Gmail, user needs to **get access authority of email**. First, enter Google account page



Advanced

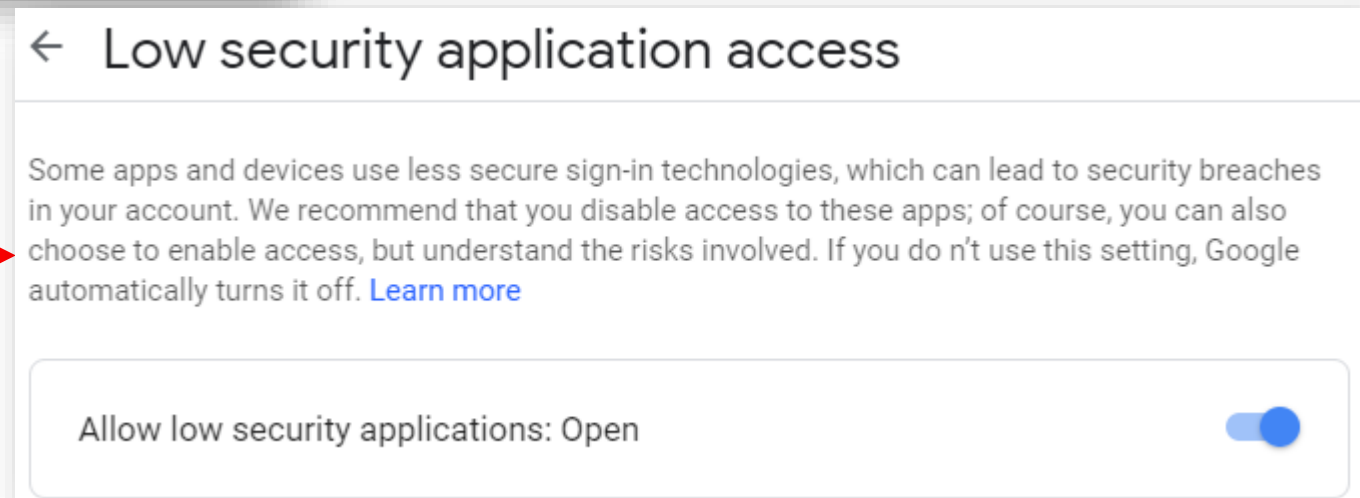
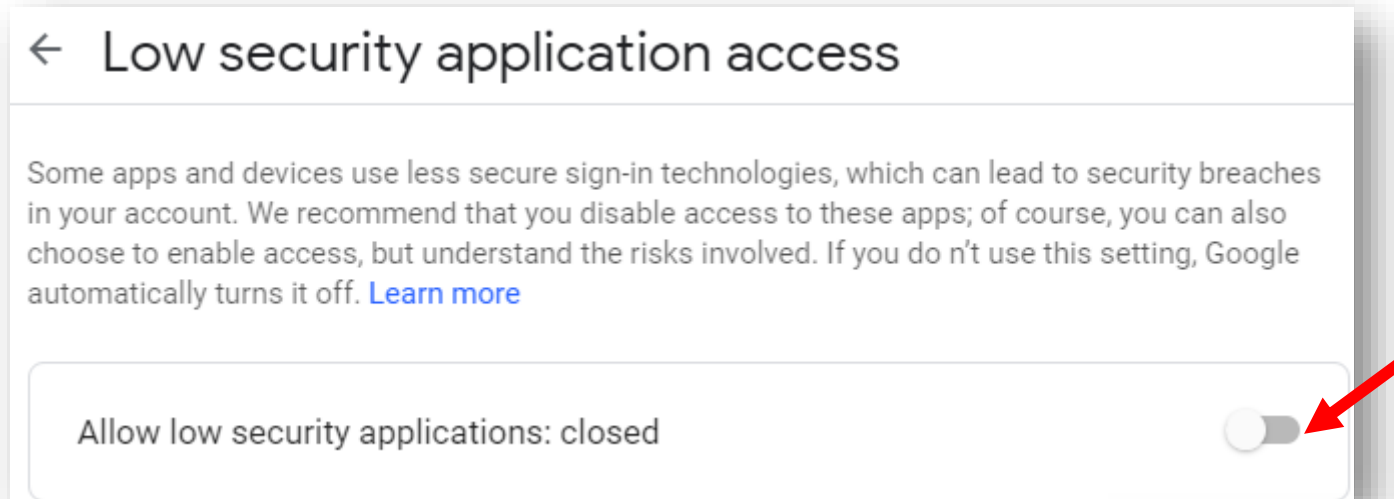
- SMTP

- **Get Authority** : Enter **safety** page → Find **Low security application access** → Click **Turn on access**



Advanced

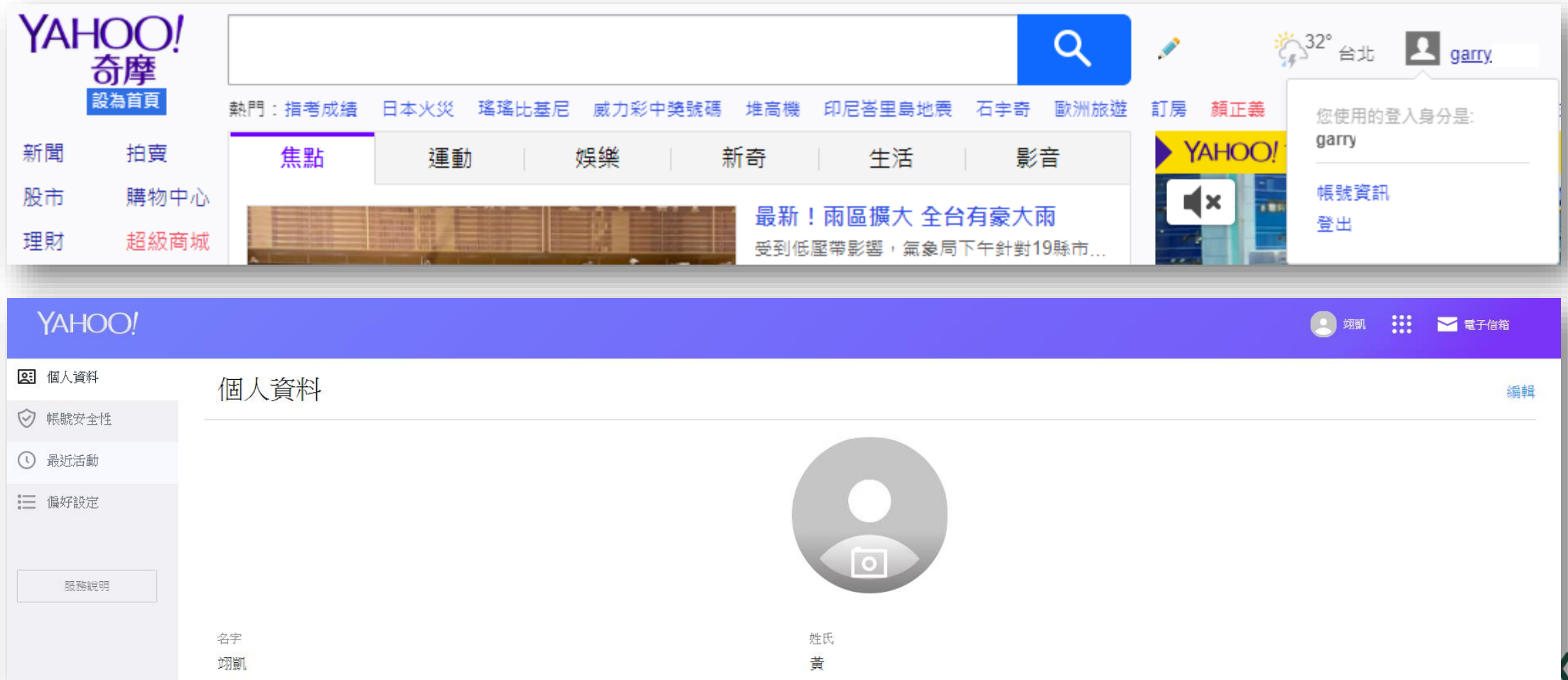
- SMTP
 - **Get Authority : Allow low security applications**



Advanced

- SMTP

- **Get Authority** : If using Yahoo mail, user needs to **get access authority of email**. Enter account page for Yahoo homepage.



- SMTP

- **Get Authority** : Enter **Security** page → **Find Allow the use of applications with less secure login methods** → Click to Allow access



允許使用登入方式較不安全的應用程式

部分非 Yahoo 應用程式和裝置使用的登入技術較不安全，因此會讓您的帳號更容易遭受攻擊。您可關閉存取權限 (建議作法) 或選擇承擔風險繼續使用這類應用程式。

[了解更多](#)



- **SMTP : Send Email Automatically**

1. **Link Settings** : Enter **Link** page → Communication Mode : **SMTP** → Enter **Server Address**, **Port**, **User Name**, **Password**, **Email** → Click **Add**

The screenshot shows the 'Link' settings interface in the nexVIG application. At the top, a navigation bar contains icons for 'Save As', 'Page', 'Script', 'Monitor', 'Control', 'Link' (highlighted with a red arrow), and 'Wizard'. Below this, a 'Communication Mode' dropdown menu is set to 'SMTP' (also highlighted with a red arrow). The main content area is titled 'SMTP Setting' and contains several input fields: 'Server Address' (smtp.gmail.com), 'Port' (465), 'User Name' (garry), 'Password' (empty), 'Email' (garry @gmail.com), and 'Var Name' (SMTP00PORT465). A red box highlights the 'Server Address', 'Port', 'User Name', 'Password', and 'Email' fields. An 'Add' button is located at the bottom right, highlighted with a red arrow.

Save As | Page | Script | Monitor | Control | **Link** | Wizard

Communication Mode: SMTP

SMTP Setting

Server Address: smtp.gmail.com Port: 465

User Name: garry Password:

Email: garry @gmail.com

Var Name: SMTP00PORT465

Add

- **SMTP : Send Email Automatically**

1. [Link Settings](#) : Confirm SMTP link which has been added. Or remove it.

SMTP

Var Name:

SMTP00PORT465

Remove

Advanced

- **SMTP : Send Email Automatically**

2. **Edit Script** : Enter **Script** page → Choose **SEND.EMAIL** in Functions field

The screenshot displays the nexVIC software interface for VIC7300 - VIC7000 Training 2.vic. The top toolbar includes buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The 'Script' button is highlighted with a red arrow. The main script editor area shows the text '1 SEND.EMAIL(, , , ,);' with a red box around it. Below this, another red box contains the text 'SEND.EMAIL', with a red arrow pointing from it to the function call in the script. On the right side, the 'Functions' panel is open, showing a list of functions. The 'SEND.EMAIL' function is highlighted with a red box and a red arrow. Other functions listed include SEND.LINE, SEND.WECHAT, SEND.WECHAT_P, LOG, PAGE_NO, RESULT, CURRENT_TIME, PLAY.CONTROL, CHECK.COLOR, IF-ELSE, and ELSE-IF. The bottom of the interface has an 'Apply' button.

Advanced

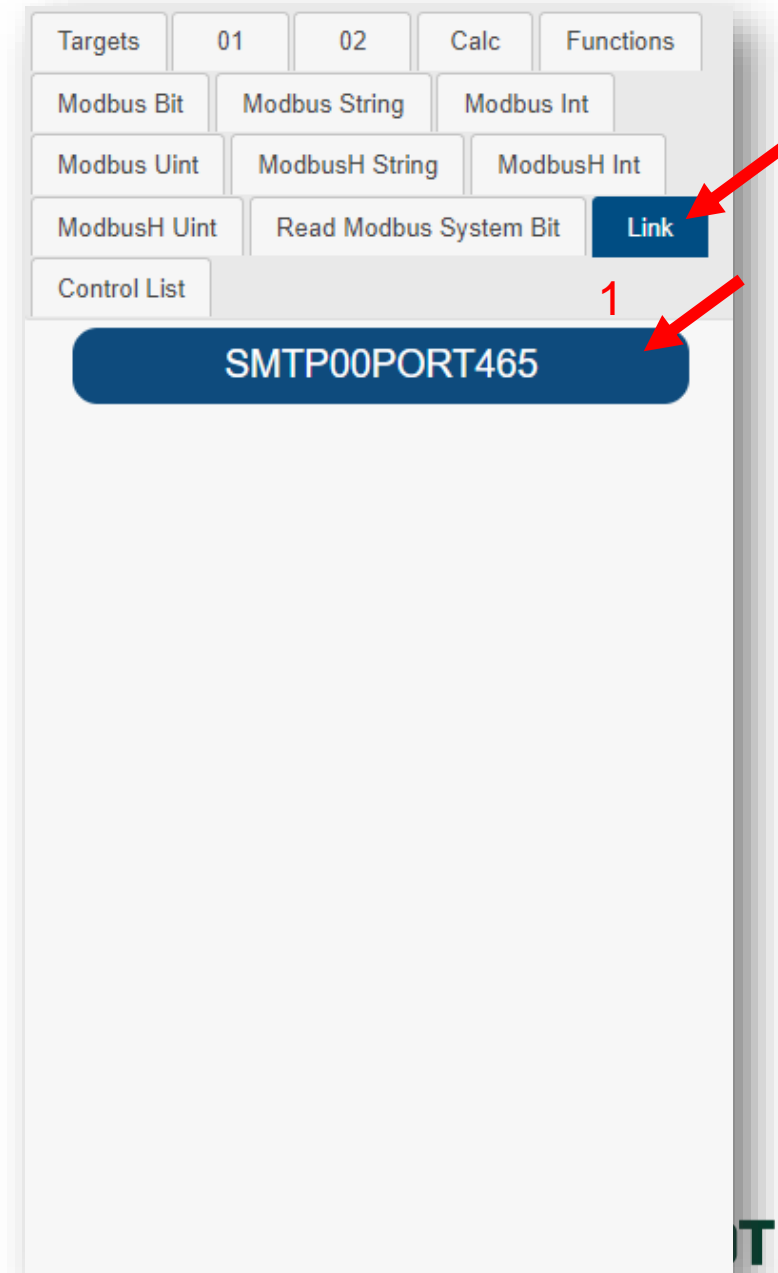
- **SMTP : Send Email Automatically**

- 2. **Edit Script** : Six parameters

1. id : Used SMTP link (string)
2. to : Recipient (string)
3. subject : mail subject (string)
4. body : mail body (string)
5. send image : Whether to transfer image when execute this command (1 : transfer, 0 : not transfer)
6. sec : Restrict execution again in a period of time (s)

SEND.EMAIL

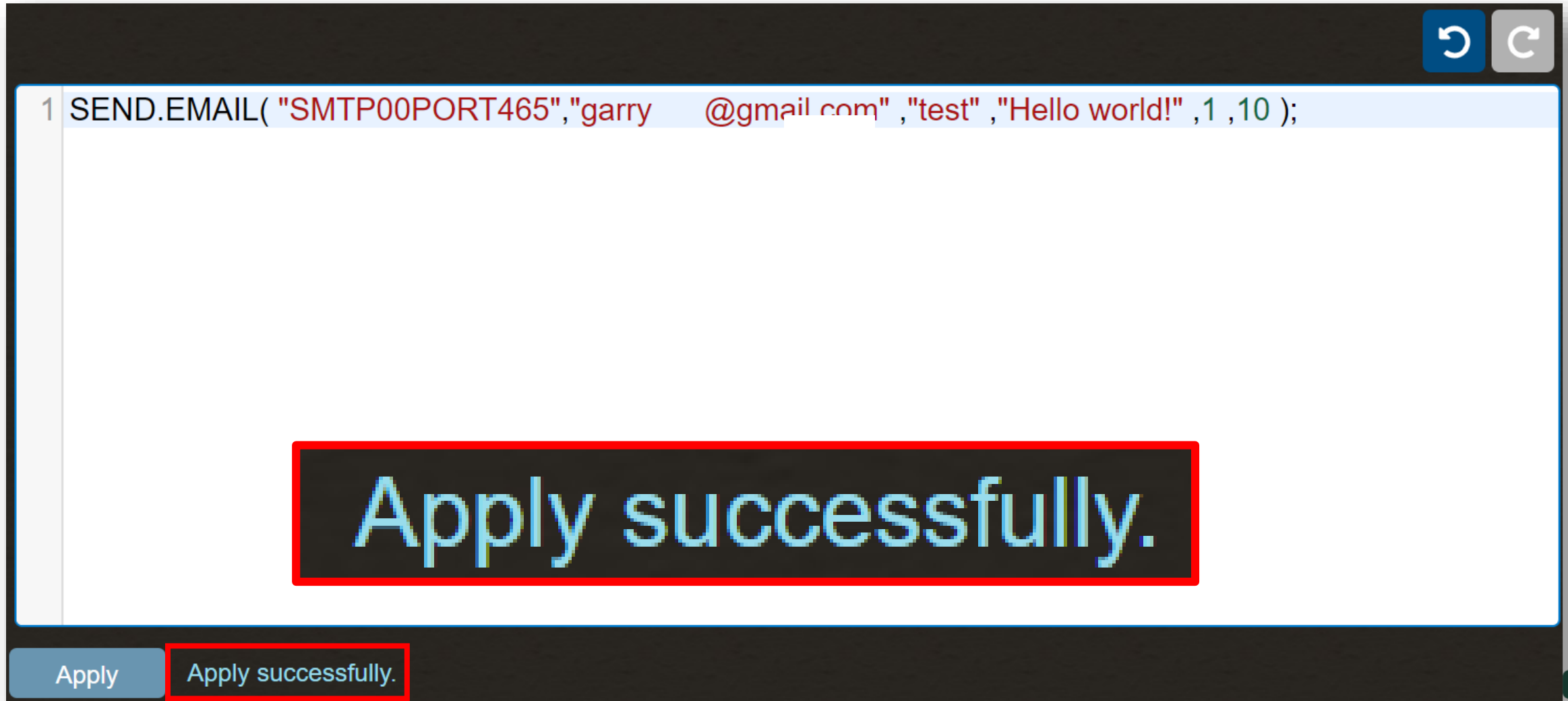
`SEND.EMAIL(id, to, subject, body, send image, sec)`



Advanced

- **SMTP : Send Email Automatically**

2. **Edit Script** : Edition is finished → Click **Apply** (ctrl +s)



Advanced

- **SMTP : Send Email Automatically**

3. **Simulate** : Enter **Monitor** page → Click **Snap** → Check whether there is a mail

The screenshot shows the nexVIC software interface with the title bar 'nexVIC VIC7000demo - t.vic'. The top menu bar includes 'New', 'Load', 'Save', 'Save As', 'Page', 'Script', 'Monitor', 'Control', 'Link', and 'Wizard'. The 'Monitor' button is highlighted with a red arrow. On the right side, there are 'Start', 'Snap', and 'Start' buttons, with the 'Snap' button also highlighted by a red arrow. The left sidebar shows 'Status' and 'Page_Setting' with a list of targets: '-TARGET01', '-NexVIC', '-TARGET02', '-VIC7100', '-TARGET03', and '-10'. The main display area shows a 'Pyramax' system monitor with a table of data. A red box labeled 'No Matching' is overlaid on the top left of the main display. A simulated email notification is shown in the bottom right corner, with the text '現在' (Now) in the top right corner of the notification area.

No Matching

1,1 frames

GMAIL

現在

garry [redacted]@gmail.com

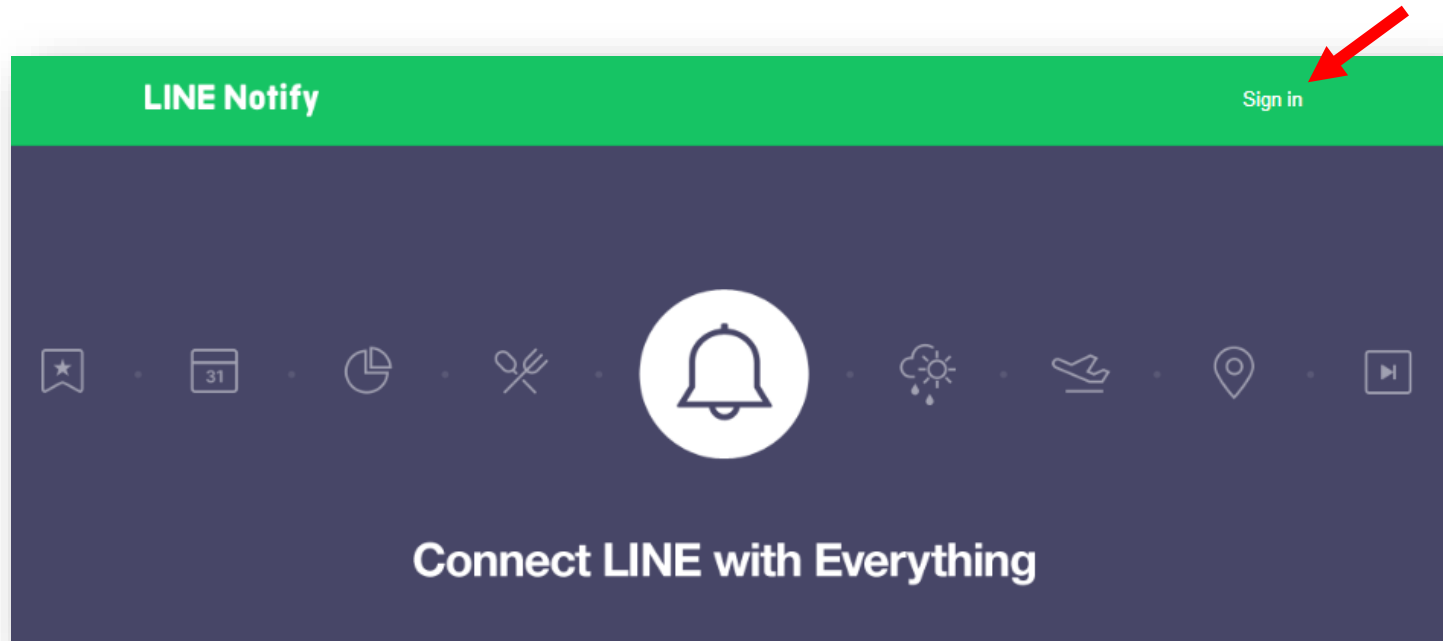
test

Hello world!

Advanced

- **Line Notify**

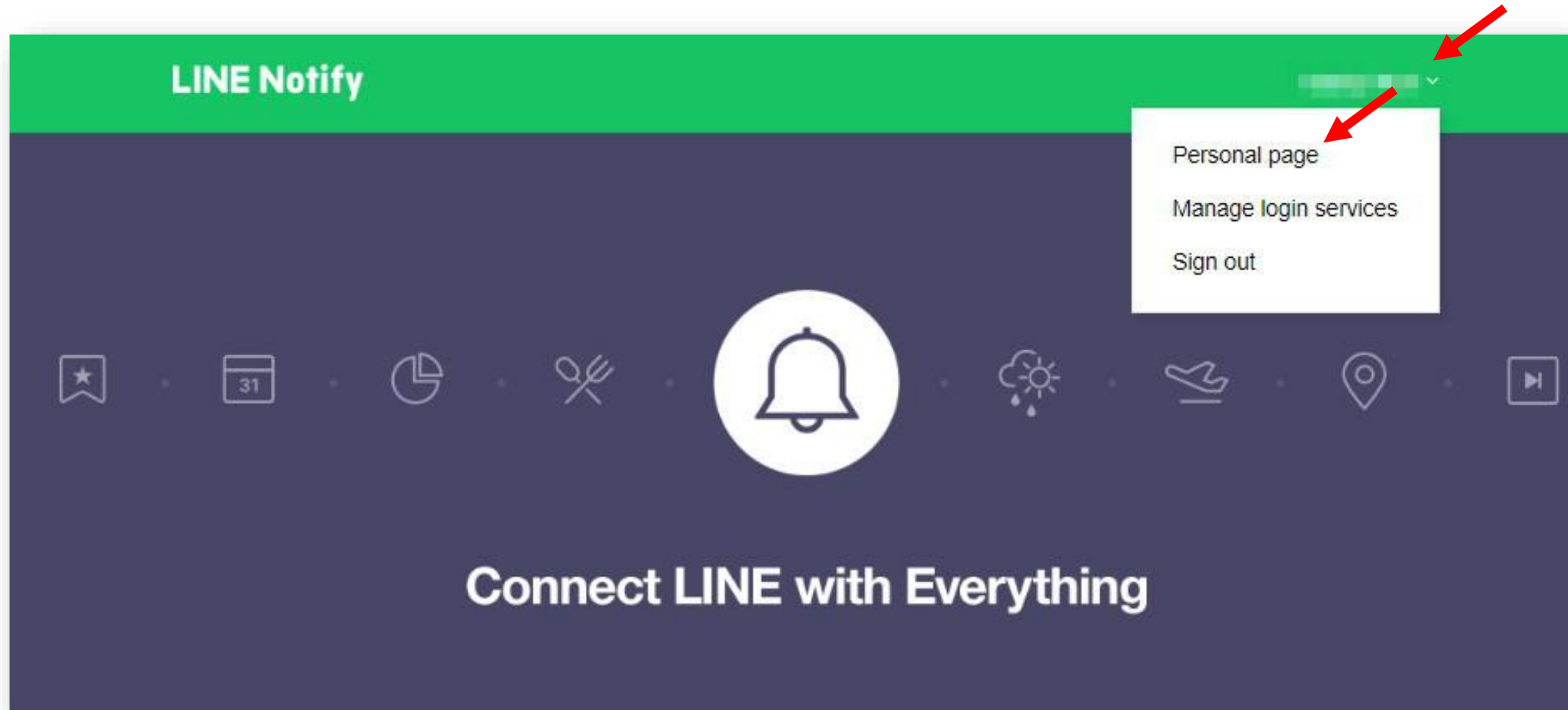
1. **Get token** : Go to the website of Line Notify (https://notify-bot.line.me/zh_TW/) → Click **Sign In**
→ Enter email account name and password



Advanced

- **Line Notify**

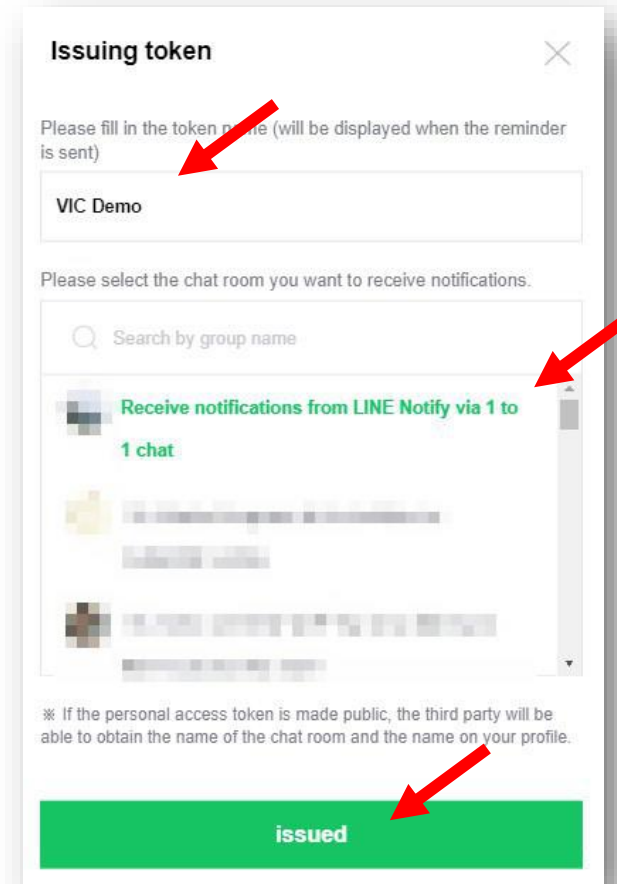
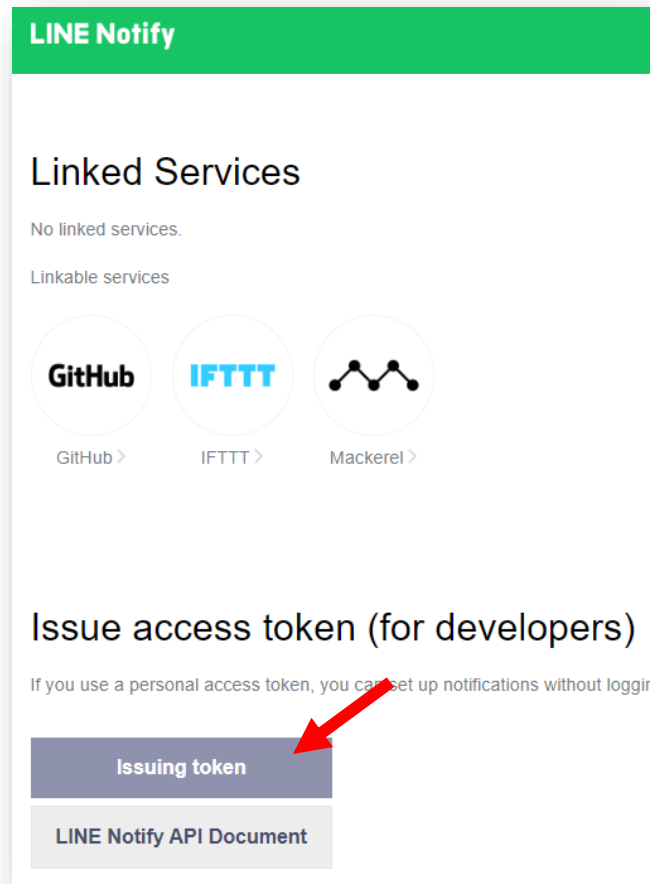
1. **Get token** : Click **account name** → Click **Personal page**



Advanced

- **Line Notify**

1. **Get token** : Click **Issuing token** → Enter Name of token → Choose the chatroom which will receive message → Click **Issued**



Advanced

- **Line Notify**

1. **Get token** : Please copy the issued token

The issued tokens are as follows.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Leaving this page will no longer show newly issued tokens. Before leaving the page, please copy the token.

copy

shut down

Advanced

- **Line Notify**

2. [Link Settings](#) : Enter **Link** page → Communication Mode : **LINE Notify** → Enter **Token** and custom **GroupName** → Click **Add**

The screenshot shows the 'Link' settings page in the nexVIC application. The top toolbar contains buttons for 'New', 'Load', 'Save', 'Save As', 'Page', 'Script', 'Monitor', 'Control', 'Link', and 'Wizard'. The 'Link' button is highlighted with a red arrow. Below the toolbar, the 'Communication Mode' is set to 'LINE Notify' in a dropdown menu, also indicated by a red arrow. The main content area is titled 'Line Notify Setting' and contains three input fields: 'Token:', 'GroupName:', and 'Var Name:'. The 'Token:' and 'GroupName:' fields are highlighted with a red rectangle. An 'Add' button is located at the bottom right of the form, with a red arrow pointing to it.

Advanced

- **Line Notify**

2. [Link Settings](#) : Confirm the LINE Notify link which has been added. Or remove it.

LINE

Var Name:

LINE00GROUPEVIC Demo

Remove

Advanced

- Line Notify

3. **Edit Script** : Enter **Script** page → Choose **SEND.LINE** in Functions field

The screenshot displays the nexVIC software interface for the 'VIC7300 - VIC7000 Training 2.vic' project. The top toolbar includes buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The 'Script' button is highlighted with a red arrow. The main script editor area shows the code '1 SEND.LINE(, , ,);' with a red arrow pointing to it. A large red box highlights the text 'SEND.LINE(, , ,);' in the editor. Below this, another red box highlights a blue button labeled 'SEND.LINE'. The right sidebar contains a 'Functions' tab, which is also highlighted with a red arrow. Under the 'Functions' tab, a list of functions is shown, including 'SEND.EMAIL', 'SEND.LINE', 'SEND.WECHAT', 'SEND.WECHAT_P', 'LOG', 'PAGE_NO', 'RESULT', 'CURRENT_TIME', 'PLAY.CONTROL', 'CHECK.COLOR', 'IF-ELSE', and 'ELSE-IF'. The 'SEND.LINE' function is highlighted with a red arrow.

nexVIC VIC7300 - VIC7000 Training 2.vic

LOG

New Load Save Save As Page Script Monitor Control Link Wizard

1 SEND.LINE(, , ,);

SEND.LINE(, , ,);

SEND.LINE

Targets 01 02 Calc Functions

Modbus Bit Modbus String Modbus Int

Modbus Uint ModbusH String ModbusH Int

ModbusH Uint Read Modbus System Bit Link

Control List

SEND.EMAIL

SEND.LINE

SEND.WECHAT

SEND.WECHAT_P

LOG

PAGE_NO

RESULT

CURRENT_TIME

PLAY.CONTROL

CHECK.COLOR

IF-ELSE

ELSE-IF

Apply

EXIOT

Advanced

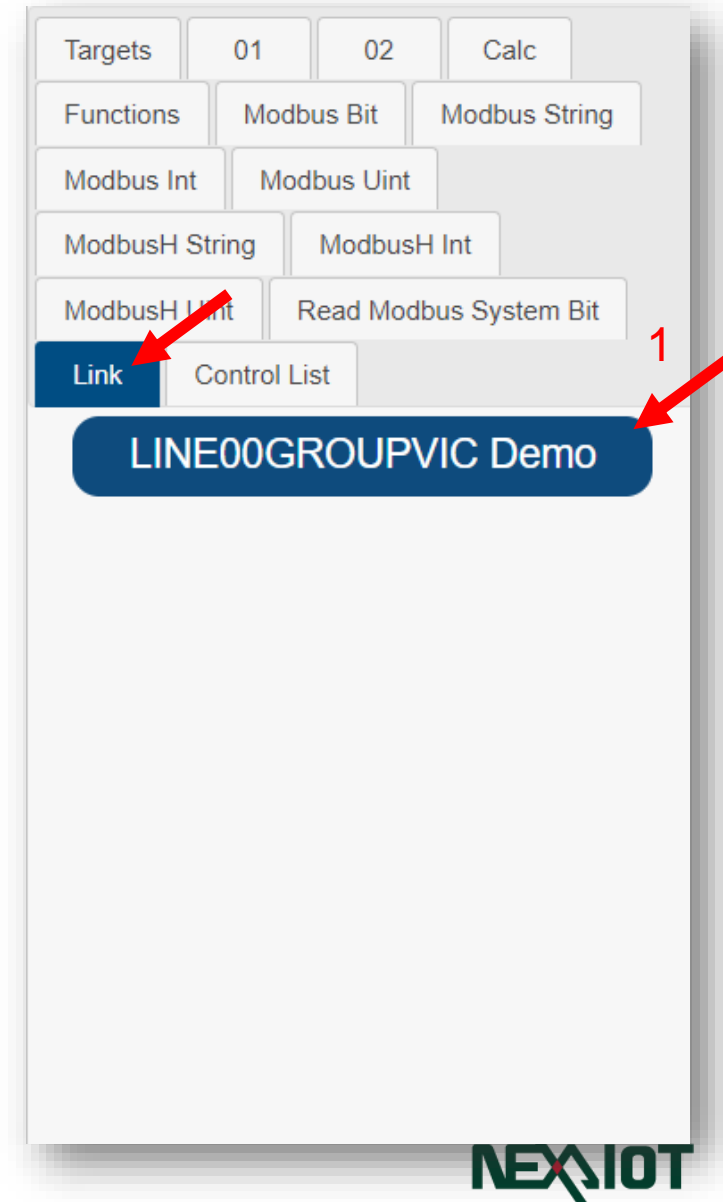
- **Line Notify**

- 3. **Edit Script** : Four parameters

1. id : LINE Notify link (string)
2. message : The message that is needed to be sent (string)
3. send image : Whether to transfer image when execute this command (1 : transfer, 0 : not transfer)
4. sec : Restrict execution again in a period of time (s)

SEND.LINE

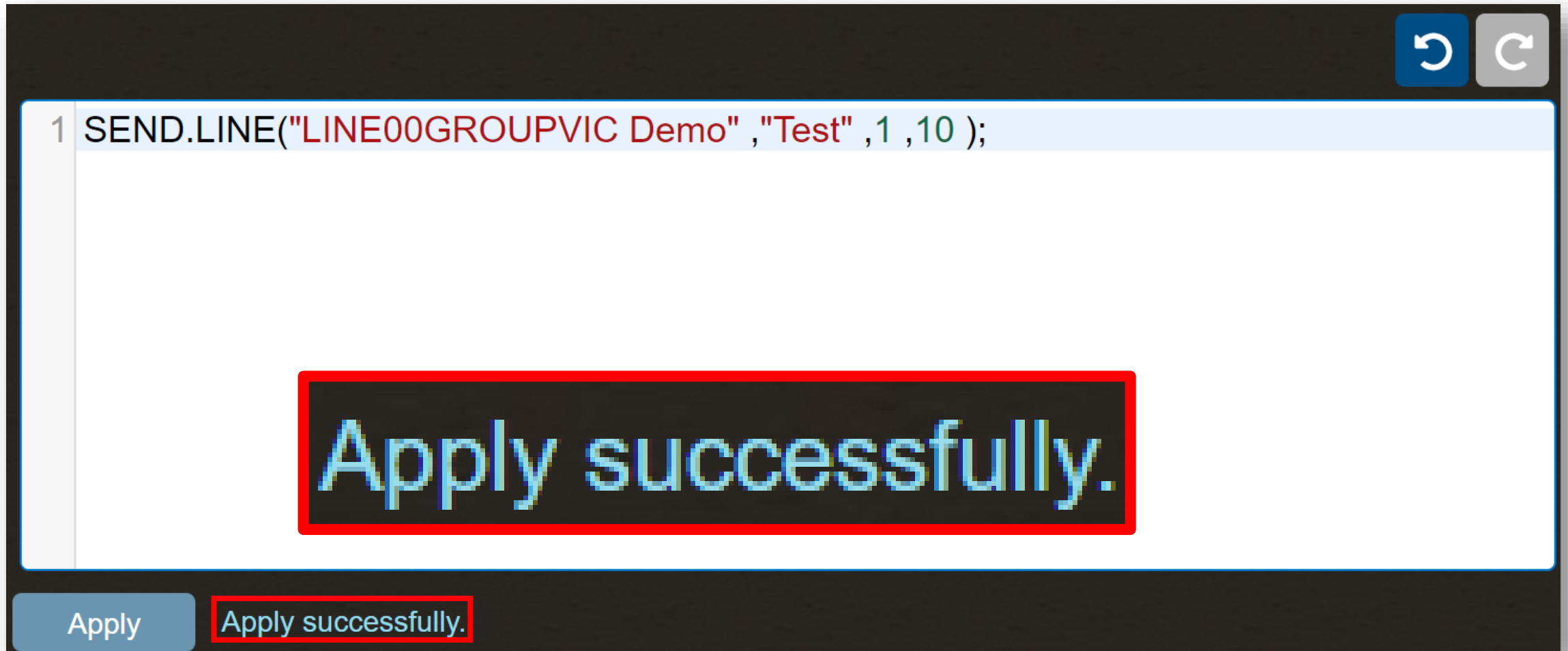
`SEND.LINE(id, message, send image, sec)`



Advanced

- **Line Notify**

3. **Edit Script** : Edition is finished → Click **Apply** (ctrl +s)



Advanced

- Line Notify

4. **Simulate** : Enter **Monitor** page → Click **Snap** → Check if there is a message in LINE

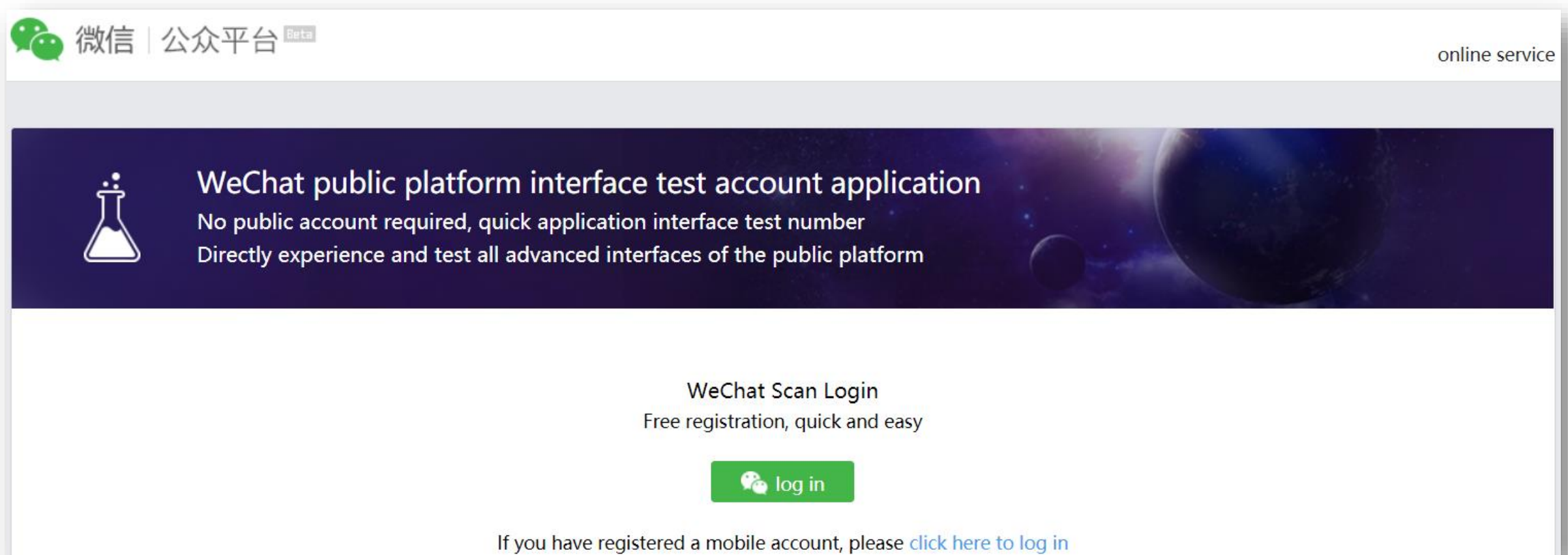
1,1 frames

16ms

Product ID	Quantity	Temperature	Voltage	Time	Result
1	916	22.59 °C	21.9 V	1833 ms	Pass
2	437	-11.39 °C	19.5 V	880 ms	NG
3	109	21.82 °C	5.9 V	227 ms	NG
4	826	26.68 °C	7.7 V	1653 ms	Pass
5	211	9.59 °C	2.5 V	430 ms	NG
6	219	9.05 °C	21.3 V	446 ms	NG
7	35	14.75 °C	-10.4 V	81 ms	NG
8	875	6.02 °C	-1.7 V	1751 ms	Pass
9	88	24.65 °C	-12.0 V	185 ms	NG
10	322	-9.59 °C	4.0 V	651 ms	NG
11	83	25.21 °C	16.7 V	175 ms	NG
12	510	8.65 °C	19.4 V	1025 ms	Pass

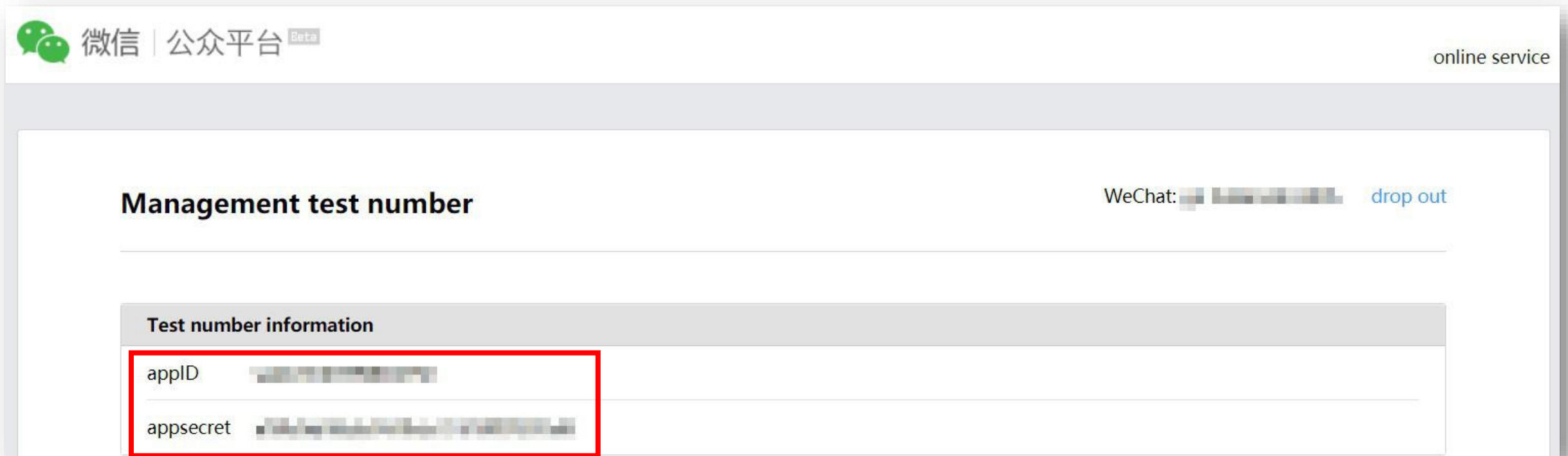
- WeChat

1. **Get Information** : Go to WeChat public platform website(<https://mp.weixin.qq.com/debug/cgi-bin/sandbox?t=sandbox/login>) → Click **log in** → Use cell phone to scan QR code and login



- WeChat

1. [Get Information](#) : After logging in, user needs to copy **appId** and **appsecret**



Advanced

- WeChat

2. Set `templateID` : Click **New test patterns** → Enter **Template title** and **Template content**

Template message interface

New test patterns

up to 10 Ge accept the need to focus

New test template

caution:
1. The template ID of the test template is only used for testing and cannot be used to send template messages to the official account.
2. For the convenience of testing, the test template can be arbitrarily specified, but in fact the template message of the official account can only be obtained from the template library.
3. You need to apply for the official account to add a new template that meets the requirements. You need to use the official number to log in to the public platform and follow the guidelines
4, the template content can be set parameters (template title is not available) for the interface call, the parameter must start with {{ and end with .DATA }}

Template title

Template content

submit

cancel

Advanced

- WeChat

2. **templateID** : Edition is finished, click **submit**.

Script Parameters	Template corresponding content
keyword1	{{keyword1.DATA}}
keyword2	{{keyword2.DATA}}
keyword3	{{keyword3.DATA}}
Not Script Parameter	Template corresponding content
Current Time	{{currentTime.DATA}}

New test template

caution:

1. The template ID of the test template is only used for testing and cannot be used to send template messages to the official account.

2. For the convenience of testing, the test template can be arbitrarily specified, but in fact the template message of the official account can only be obtained from the template library.

3. You need to apply for the official account to add a new template that meets the requirements. You need to use the official number to log in to the public platform and follow the guidelines

4, the template content can be set parameters (template title is not available) for the interface call, the parameters must start with {{ and end with .DATA }}

Template title

VIC7000

Template content

Current time {{currentTime.DATA}}

keyword1 test value is {{keyword1.DATA}}

keyword2 test value is {{keyword2.DATA}}

keyword3 test value is {{keyword3.DATA}}

submit

cancel

- WeChat

2. Set **templateID** : Generated **templateID** will be used in **SEND.WECHAT** and **SEND.WECHAT_P**

Template message interface				
<div>New test patterns</div> up to 10 Ge accept the need to focus on the message template test No.				
Serial number	Template ID (for interface calls)	Template title	Template content	operating
1	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXX	VIC7000	Current time {{currentTime.DATA}} keyword1 test value is {{keyword1.DATA}} keyword2 test value is {{keyword2.DATA}} keyword3 test value is {{keyword3.DATA}}	delete

- WeChat

3. **Set openID** : Use WeChat APP to scan the **Test number QR code** and **follow the test public account**. To receive message, user must follow the test public account.

Test number QR code



Please use WeChat to scan and follow the test public account


User list (up to 100)

Serial number	nickname	We chat number	operating
---------------	----------	----------------	-----------

- **WeChat**


3. **Set openID** : After an account followed, the WeChat ID of this account, is called **openID**, will show up and will be used in **SEND.WECHAT_P**

Test number QR code



Please use WeChat to scan and follow the test public account

User list (up to 100)

Serial number	nickname	We chat number	operating
1		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Remove

Advanced

- WeChat

4. [Link Settings](#) : Enter **Link** page → Communication Mode : **WeChat** → Enter **appID** and **appsecret** → Click **Add**

The screenshot shows the nexVIC interface for VIC7300 - VIC7000 Training 2.vic. The top toolbar contains buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The Link button is highlighted with a red arrow. Below the toolbar, the Communication Mode is set to Wechat, also indicated by a red arrow. The WechatSetting panel on the left shows input fields for appID, appsecret, and Var Name. The appID and appsecret fields are highlighted with a red box. The Add button at the bottom right is also indicated by a red arrow.

nexVIC VIC7300 - VIC7000 Training 2.vic

New Load Save Save As Page Script Monitor Control Link Wizard

Communication Mode Wechat

WechatSetting

appID:
[Input Field]

appsecret:
[Input Field]

Var Name:
[Input Field]

Add

- **WeChat**

4. [Link Settings](#) : Confirm the WeChat link which has been added. Or remove it.

To check if there is a new account following the test public account, click **Update Group** to refresh **Number of groups**.

Wechat

Var Name:

Wechat00APPIDwxfe4

Number of groups:1

Update Group

Remove

Advanced

- WeChat

5. **Edit Script** : Enter **Script** page → Choose **SEND.WECHAT** and **SEND.WECHAT_P** in

The screenshot shows the nexVIC software interface for VIC7300 - VIC7000 Training 2.vic. The top toolbar includes buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The Script button is highlighted with a red arrow. Below the toolbar, the Script editor shows two lines of code: 1 SEND.WECHAT(, , , , ,); and 2 SEND.WECHAT_P(, , , , ,);. Red arrows point to these lines. Below the script editor, two red boxes highlight the function names: SEND.WECHAT(, , , , ,); and SEND.WECHAT_P(, , , , ,);. To the right, the Functions panel is open, showing a list of functions. The Functions tab is selected, and the list includes SEND.EMAIL, SEND.LINE, SEND.WECHAT, SEND.WECHAT_P, LOG, PAGE_NO, RESULT, and CURRENT_TIME. Red arrows point to the SEND.WECHAT and SEND.WECHAT_P buttons in the list. Below the Functions panel, there is a red box highlighting the text SEND.WECHAT and another red box highlighting the text SEND.WECHAT_P. At the bottom left, there is an Apply button.

SEND.WECHAT(, , , , ,);

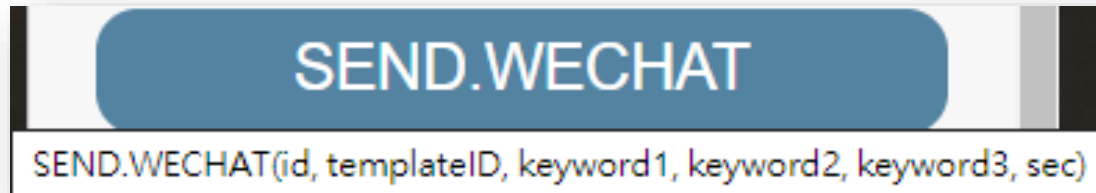
SEND.WECHAT_P(, , , , ,);

SEND.WECHAT

SEND.WECHAT_P

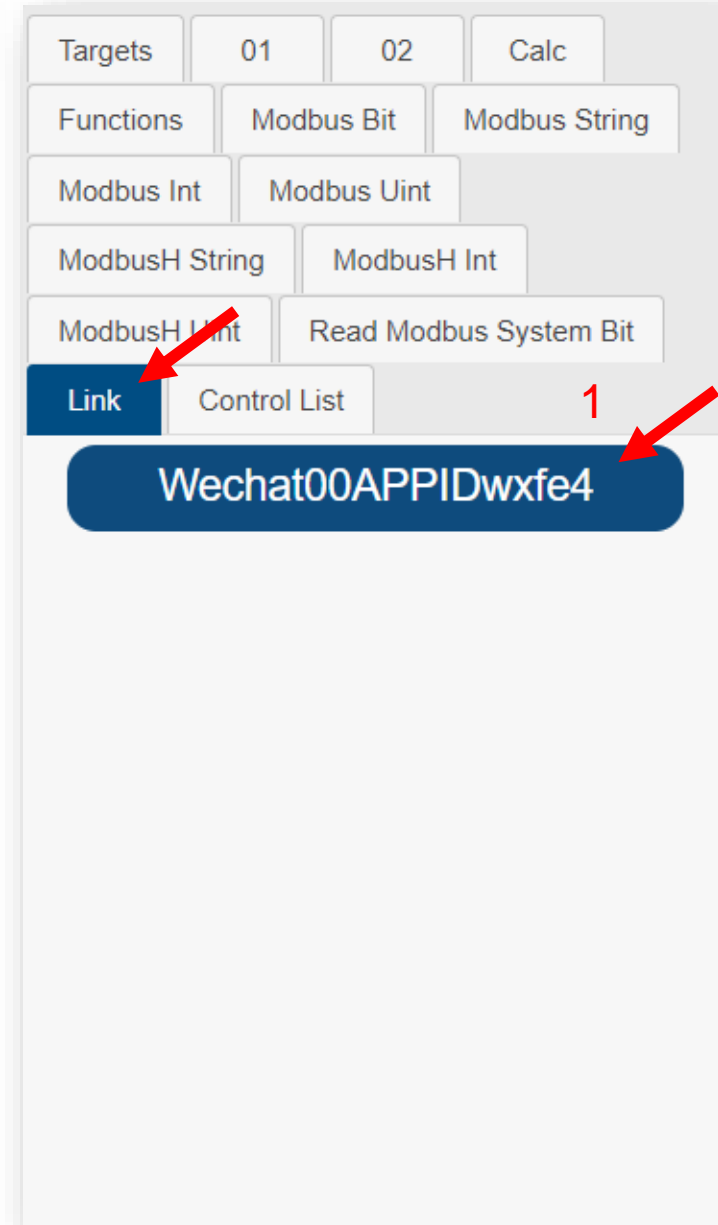
Advanced

- **WeChat**



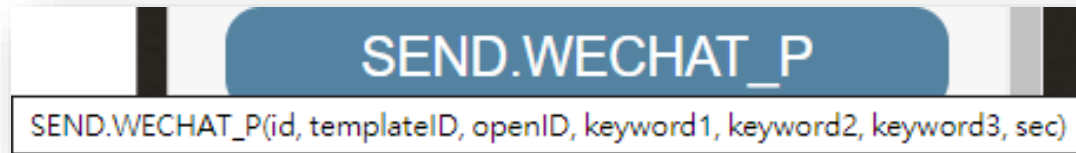
5. **Edit Script** : Six parameters. Send message to each user following the test public account.

1. id : WeChat link (string)
2. templateID : templateID (string)
3. keyword1 : The message will be sent as keyword1, which is same as {{keyword1.DATA}} in template (string)
4. keyword2 : The message will be sent as keyword2, which is same as {{keyword2.DATA}} in template (string)
5. keyword3 : The message will be sent as keyword3, which is same as {{keyword3.DATA}} in template (string)
6. sec : Restrict execution again in a period (s)



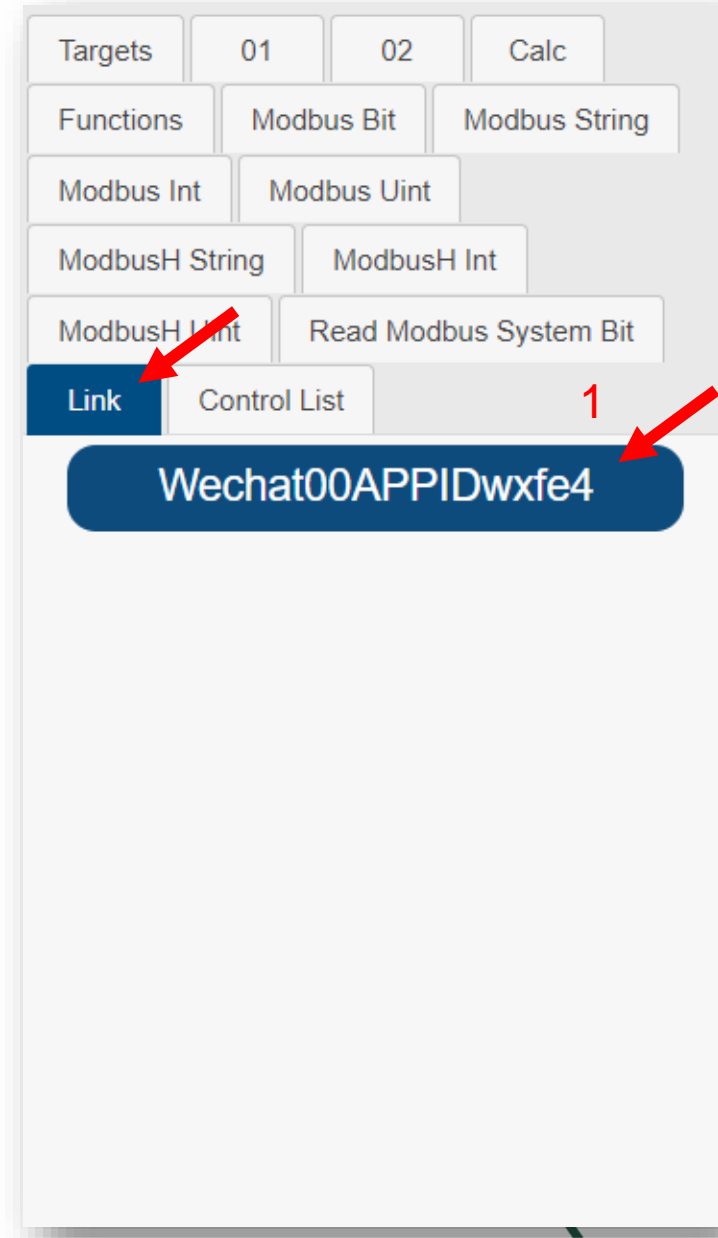
Advanced

- WeChat



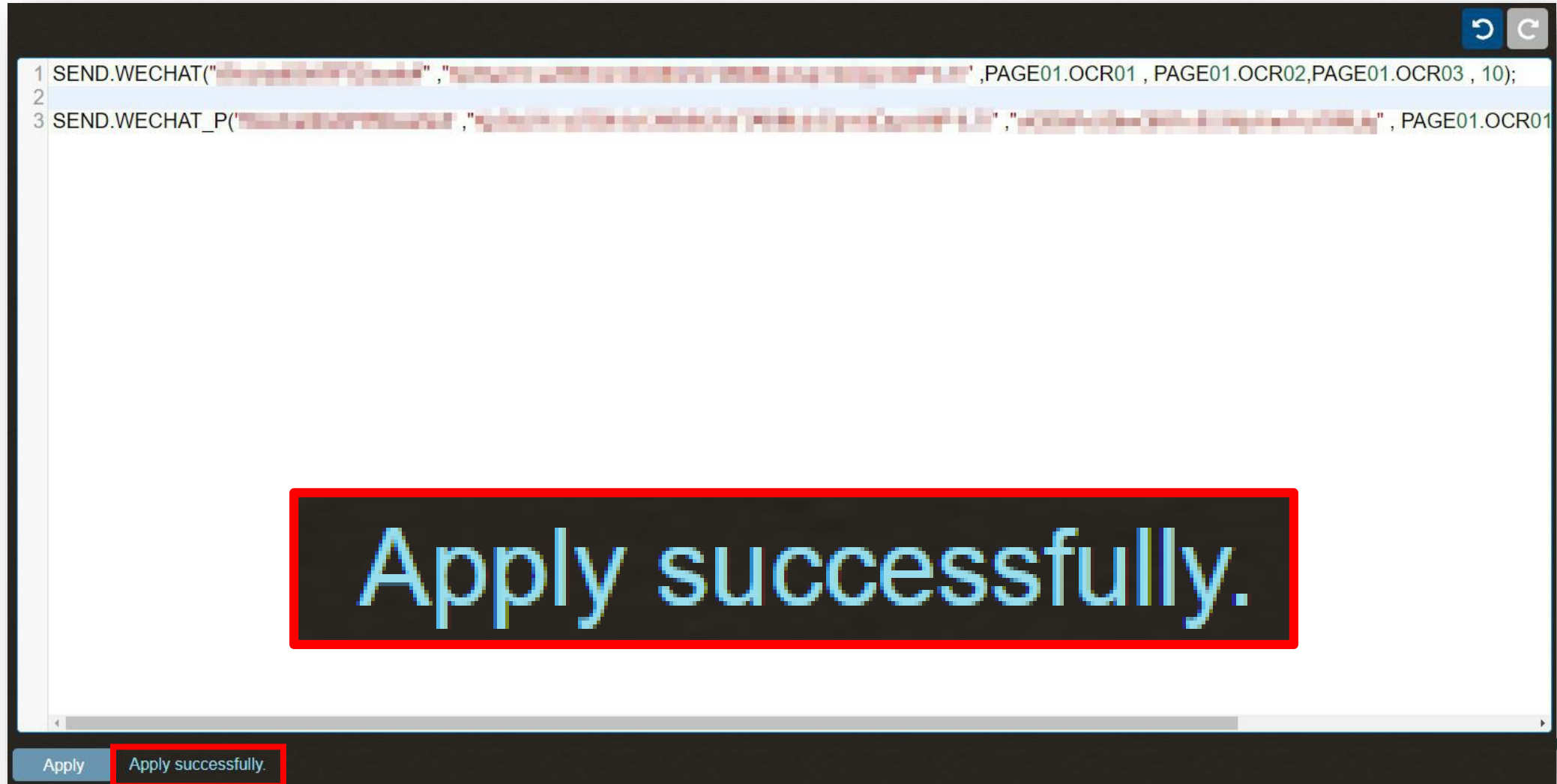
5. **Edit Script** : Seven parameters. Send message to one user following the test public account.

1. id : WeChat link (string)
2. templateID : templateID (string)
3. openID : OpenID of recipient account (string)
4. keyword1 : The message will be sent as keyword1, which is same as {{keyword1.DATA}} in template (string)
5. keyword2 : The message will be sent as keyword2, which is same as {{keyword2.DATA}} in template (string)
6. keyword3 : The message will be sent as keyword3, which is same as {{keyword3.DATA}} in template (string)
7. sec : Restrict execution again in a period (s)



- WeChat

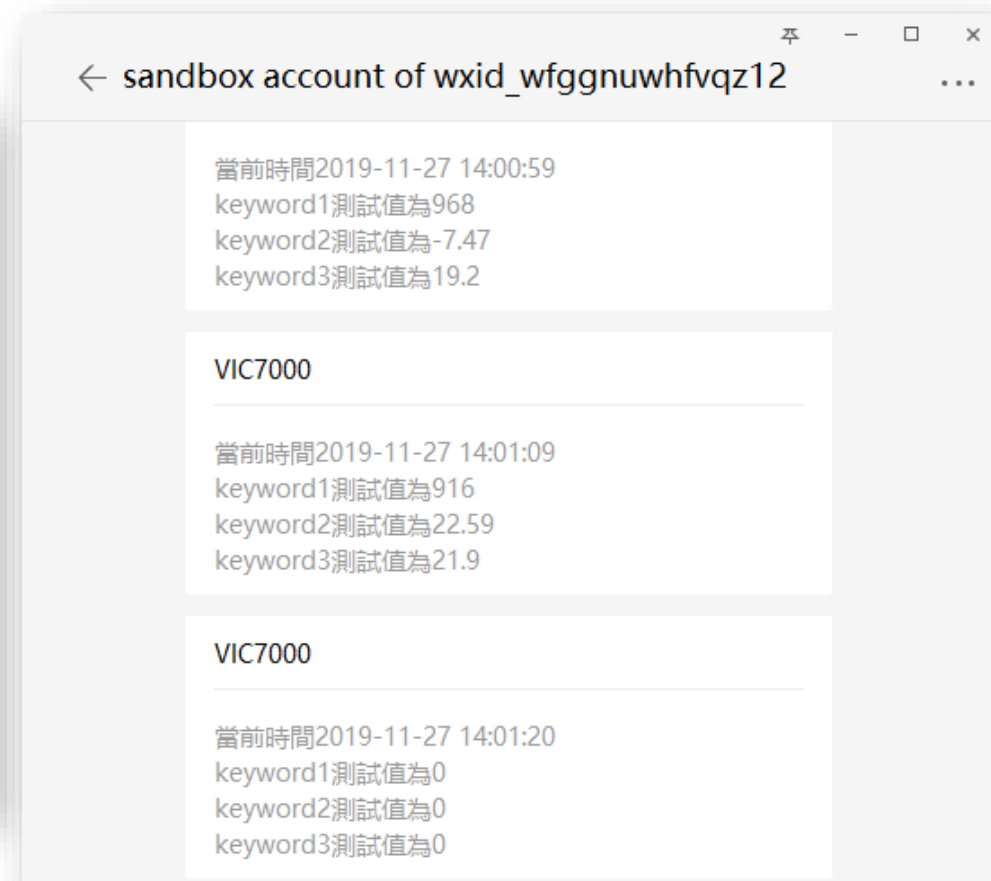
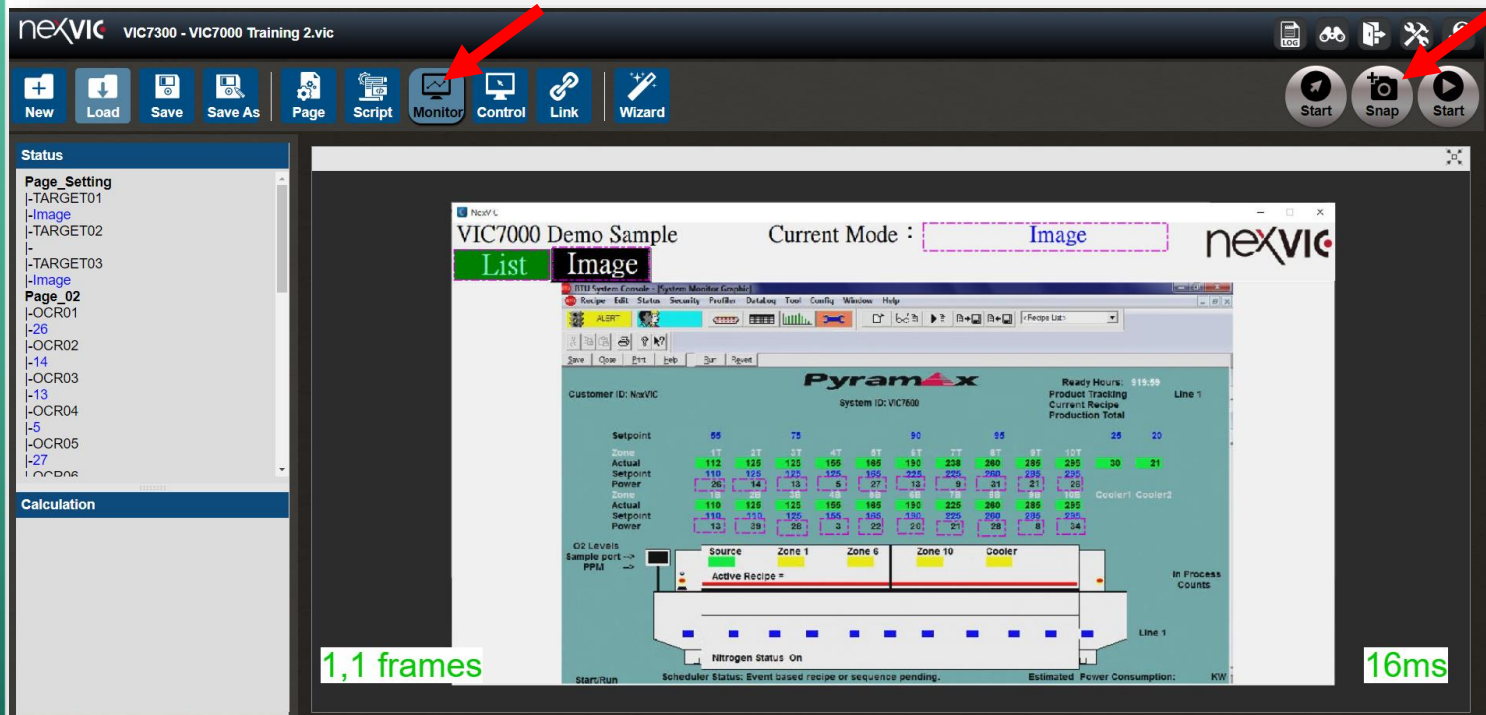
5. **Edit Script** : Edition is finished → Click **Apply** (ctrl +s)



Advanced

- WeChat

6. **Simulate** : Entry to **Monitor** page → Click **Snap** → Check if there is a message in WeChat



- **Event Trigger**

1. **Link Settings – email** : Enter **Link** page → Communication Mode : **SMTP** → Enter **Server Address, Port, User Name, Password, Email** → Click **Add**

The screenshot displays the 'Link Settings – email' configuration page in the nexVIG application. The top navigation bar includes icons for 'Save As', 'Page', 'Script', 'Monitor', 'Control', 'Link', and 'Wizard'. The 'Link' icon is highlighted with a red arrow. Below the navigation bar, the 'Communication Mode' is set to 'SMTP', also highlighted with a red arrow. The main form area is titled 'SMTP Setting' and contains the following fields:

- Server Address:** smtp.gmail.com
- Port:** 465
- User Name:** garry
- Password:** (empty field)
- Email:** garry@gmail.com
- Var Name:** SMTP00PORT465

The entire form area is enclosed in a red rectangular box. An 'Add' button is located at the bottom right of the form, highlighted with a red arrow.

- **Event Trigger**

1. **Link Settings – email** : Confirm SMTP link which has been added. Or remove it.

SMTP

Var Name:

SMTP00PORT465

Remove

- **Event Trigger**

1. **Link Settings – LINE Notify** : Enter **Link** page → Communication Mode : **LINE Notify** → Enter **Token**, **GroupName** → Click **Add**

The screenshot shows the 'Link' settings page in the nexVIC application. The top toolbar contains icons for 'New', 'Load', 'Save', 'Save As', 'Page', 'Script', 'Monitor', 'Control', 'Link', and 'Wizard'. The 'Link' icon is highlighted with a red arrow. Below the toolbar, the 'Communication Mode' is set to 'LINE Notify', also indicated by a red arrow. The main content area is titled 'Line Notify Setting' and contains three input fields: 'Token:', 'GroupName:', and 'Var Name:'. The 'Token:' and 'GroupName:' fields are highlighted with a red rectangle. An 'Add' button is located at the bottom right, with a red arrow pointing to it.

- **Event Trigger**

1. [Link Settings – LINE Notify](#) : Confirm the LINE Notify link which has been added.

Or remove it.

LINE

Var Name:

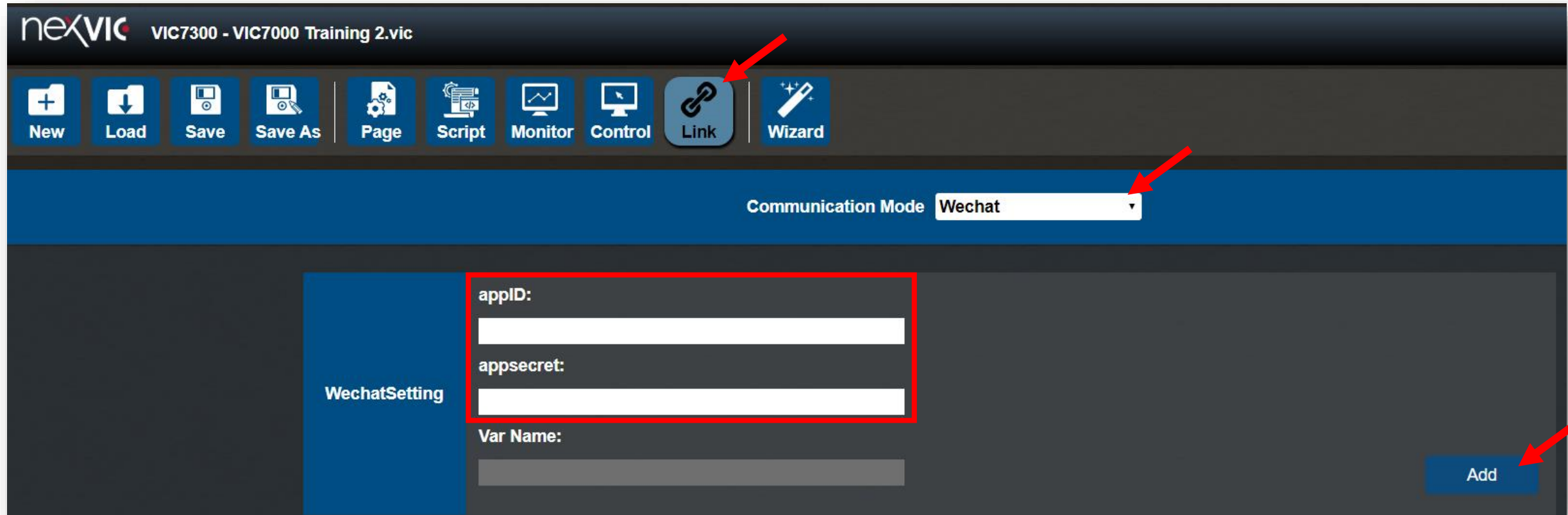
LINE00GROUPEVIC Demo

Remove

Advanced

- **Event Trigger**

1. **Link Settings – WeChat** : Enter **Link** page → Communication Mode : **WeChat** → Enter **appId**, **appsecret** → Click **Add**



- **Event Trigger**

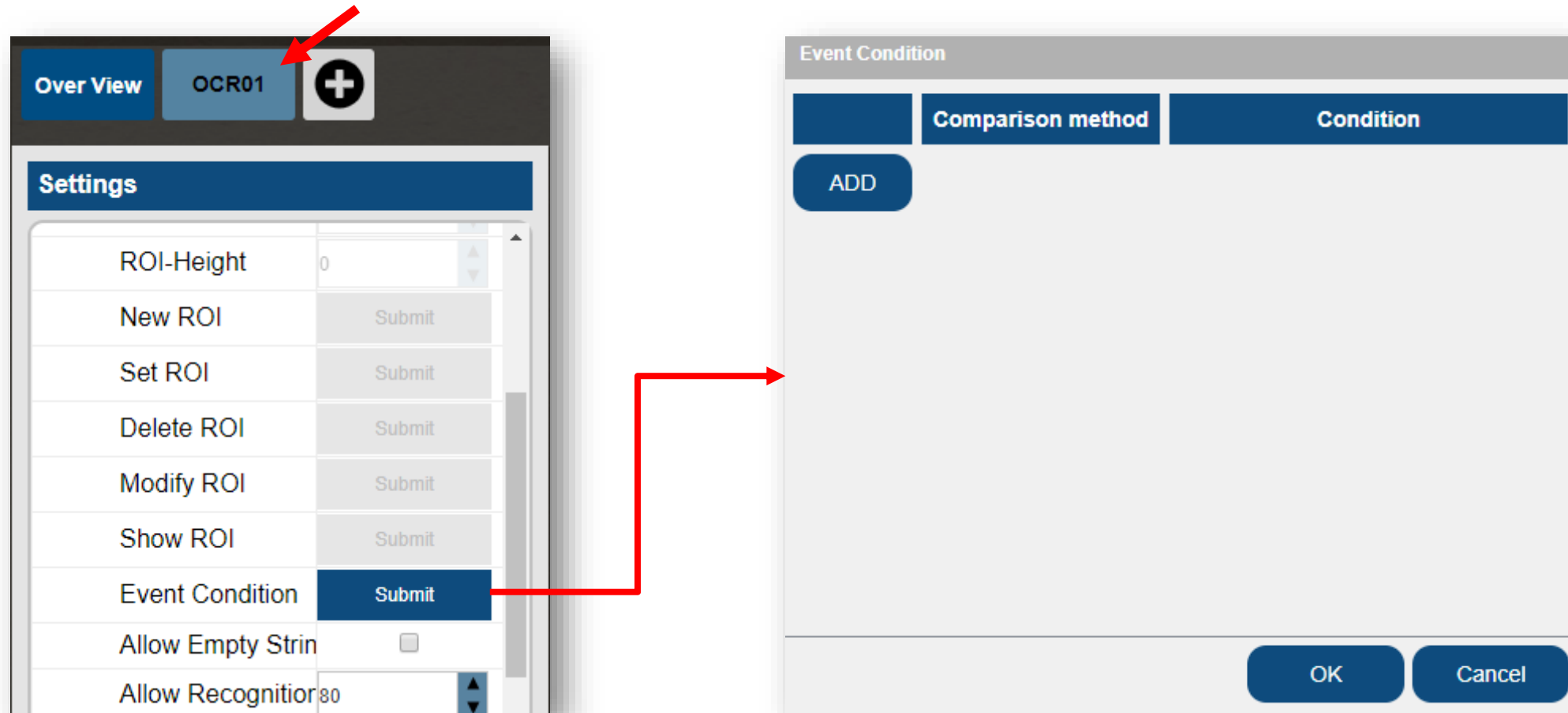
1. **Link Settings – WeChat** : Confirm the WeChat link which has been added. Or remove it.

To check if there is a new account following the test public account, click **Update Group** to refresh **Number of groups**.

The screenshot shows a configuration interface for a Wechat event trigger. On the left, a blue vertical bar contains the text 'Wechat'. To the right of this bar, the 'Var Name:' is displayed as 'Wechat00APPIDwxfe4' in a white text box. Below this, the text 'Number of groups:1' is shown. On the right side of the interface, there are two blue buttons: 'Update Group' and 'Remove'. A yellow arrow points to the 'Var Name' text box, and a red arrow points to the 'Remove' button.

- **Event Trigger**

2. **Set Event Condition – OCR** : Click **Event Condition** → The window of **Event Condition** will show up



- **Event Trigger**

2. **Set Event Condition – OCR** : Click **Add** → Set **Comparison** → Set **Condition** → Click **OK**

Event Condition

	Comparison method	Condition
X	-	
ADD	> = < != =~	

OK Cancel

- : Non compare

> : Greater than

= : Equal

< : Less than

!= : Not equal

=~ : Including (for String only)

-
>
=
<
!=
=~

Advanced

- **Event Trigger**

2. **Set Event Condition – COLOR, PATTERN** : Click **Event Condition** → The window of **Event Condition** will show up

The image shows a screenshot of the nexVIC software interface. On the left, there is a 'Settings' panel with a table of actions and their corresponding 'Submit' buttons. A red arrow points from the 'Event Condition' row to the 'Event Condition' window on the right. Another red arrow points from the 'PATTERN01' tab in the top navigation bar to the 'Event Condition' window. The 'Event Condition' window has a title bar 'Event Condition' and a table with two columns: 'Comparison method' and 'Condition'. An 'ADD' button is located below the table. At the bottom of the window are 'OK' and 'Cancel' buttons.

Comparison method	Condition
-------------------	-----------

ADD

OK Cancel

Settings	
New ROI	Submit
Set ROI	Submit
Delete ROI	Submit
Modify ROI	Submit
Show ROI	Submit
Event Condition	Submit
Matching Paramete	

- **Event Trigger**

2. **Set Event Condition – COLOR, PATTERN** : Click **Add** → Set **Comparison** → Set **Condition** → Click **OK**

Event Condition

	Comparison method	Condition
X	-	
ADD	=	
	!=	
	=~	

OK Cancel

- : Non compare

= : Equal

!= : Not equal

=~ : Including (for String only)

-
=
!=
=~

Advanced

- **Event Trigger**

Example – Set Event Condition – OCR : Set the condition of OCR01 greater than 200

The screenshot shows a dialog box titled "Event Condition". It contains a table with two columns: "Comparison method" and "Condition". The "Comparison method" column has a dropdown menu showing ">". The "Condition" column has a text input field containing "200". A red rectangle highlights the comparison method dropdown and the condition input field. To the left of the table are two buttons: "X" and "ADD". At the bottom right of the dialog are "OK" and "Cancel" buttons.

	Comparison method	Condition
X	>	200

ADD

OK Cancel

- **Event Trigger**

3. **Set Event Trigger** : Click **Event Trigger** → The window of **Event Trigger** will show up

The screenshot shows the NexIoT interface with the 'Event Trigger' window open. The 'Event Trigger' window has a header with 'Event Trigger', 'Parameter', 'Interval Time', and 'Activate'. Below the header is an 'ADD' button. The window is currently empty, showing only the 'Event Trigger' button in the 'Settings' table. A red arrow points from the 'Event Trigger' button in the 'Settings' table to the 'Event Trigger' window. Another red arrow points from the 'Event Trigger' button in the 'Settings' table to the 'Event Trigger' window.

Name	Value
Settings	
Name	04
ROI X Offset	-1
ROI Y Offset	-1
Event Trigg	Submit

Event Trigger

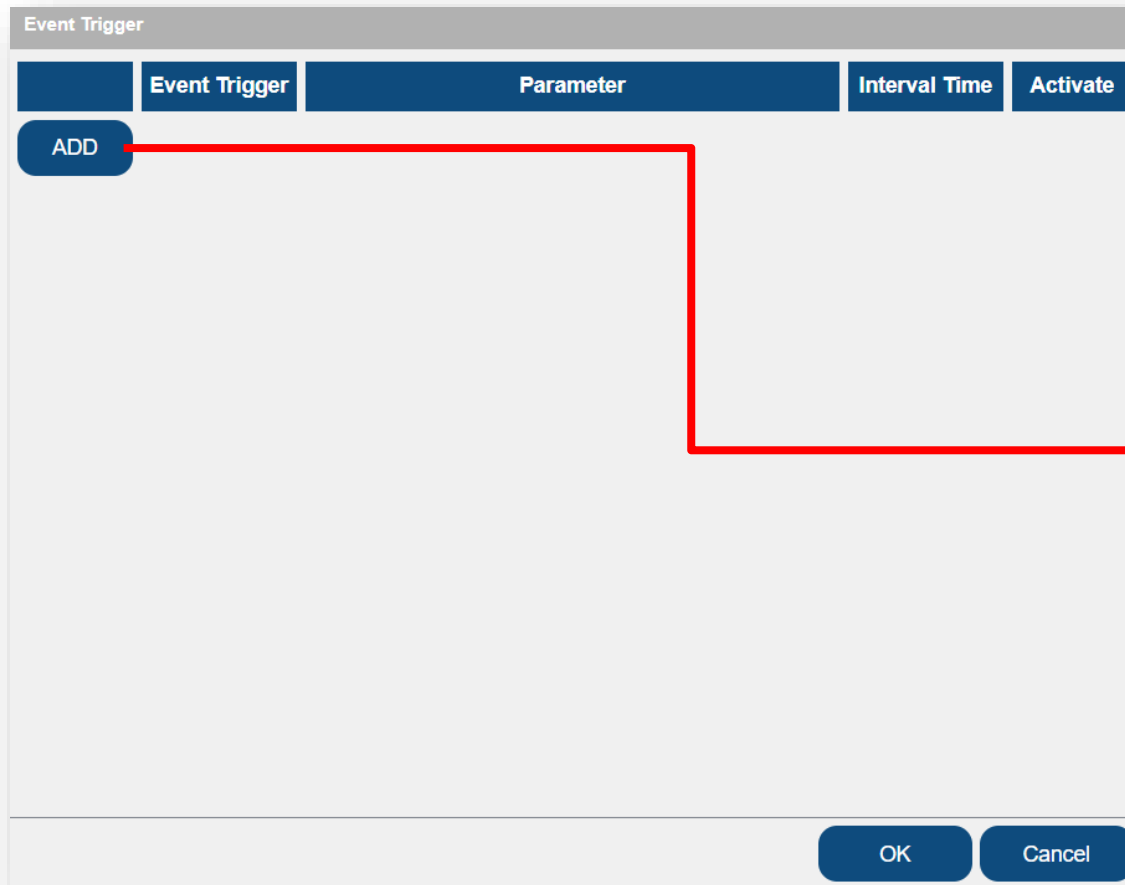
Event Trigger	Parameter	Interval Time	Activate
ADD			

OK Cancel

Advanced

- **Event Trigger**

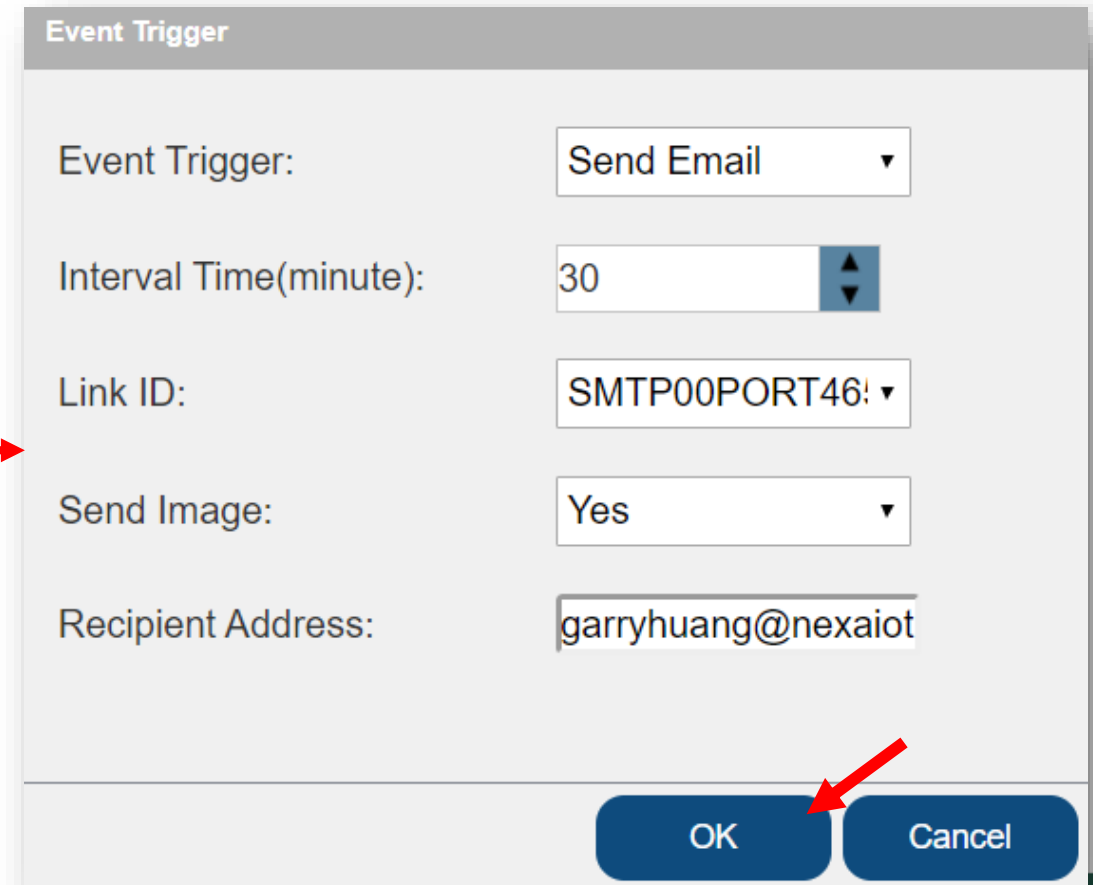
3. **Set Event Trigger – email** : Click **Add** → Event Trigger : **Send Email**, Set **Interval Time**, Link ID : **SMTP link**, whether to **Send Image**, Enter **Recipient Address** → Click **OK**



The screenshot shows the 'Event Trigger' dialog box with a tabbed interface. The 'Event Trigger' tab is selected. A red arrow points from the 'ADD' button to the configuration screen on the right.

Event Trigger	Parameter	Interval Time	Activate
ADD			

OK Cancel



The screenshot shows the configuration screen for the 'Event Trigger' dialog box. The fields are as follows:

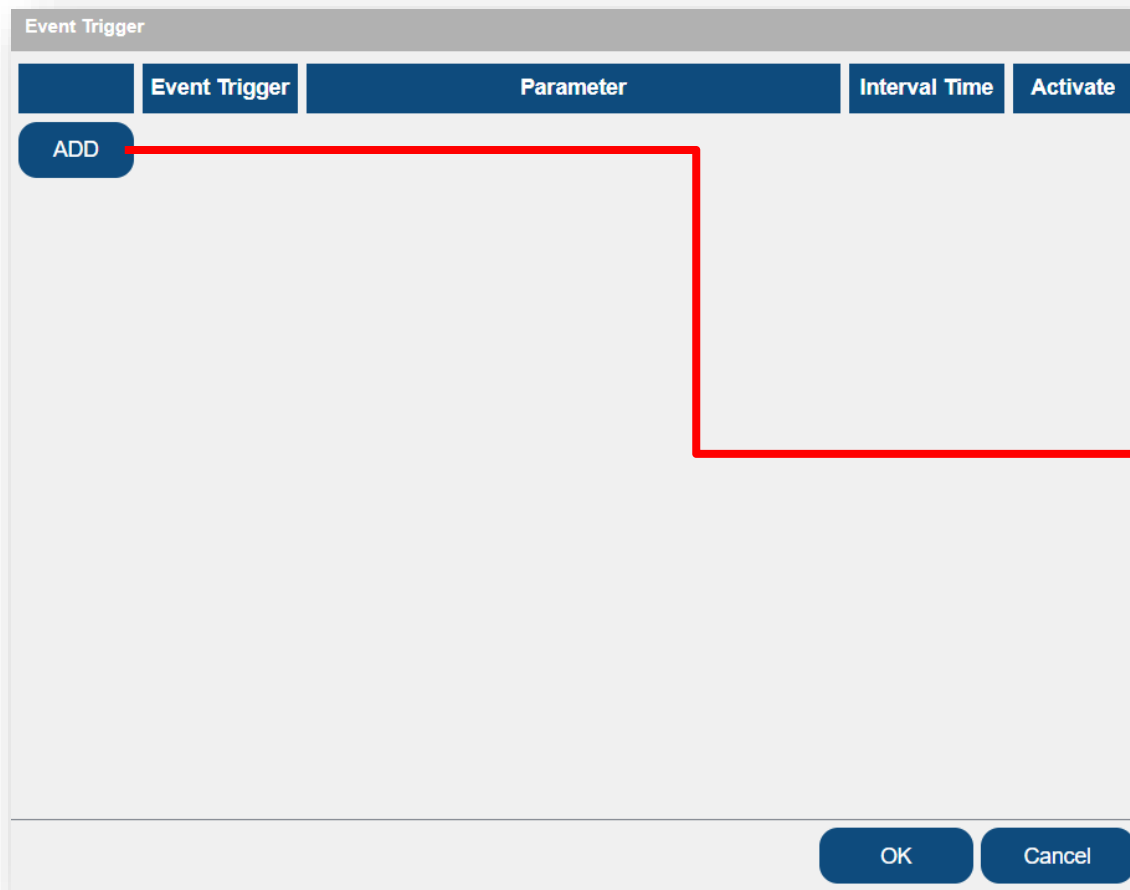
- Event Trigger: Send Email
- Interval Time(minute): 30
- Link ID: SMTP00PORT46!
- Send Image: Yes
- Recipient Address: garryhuang@nexaiot

OK Cancel

Advanced

- **Event Trigger**

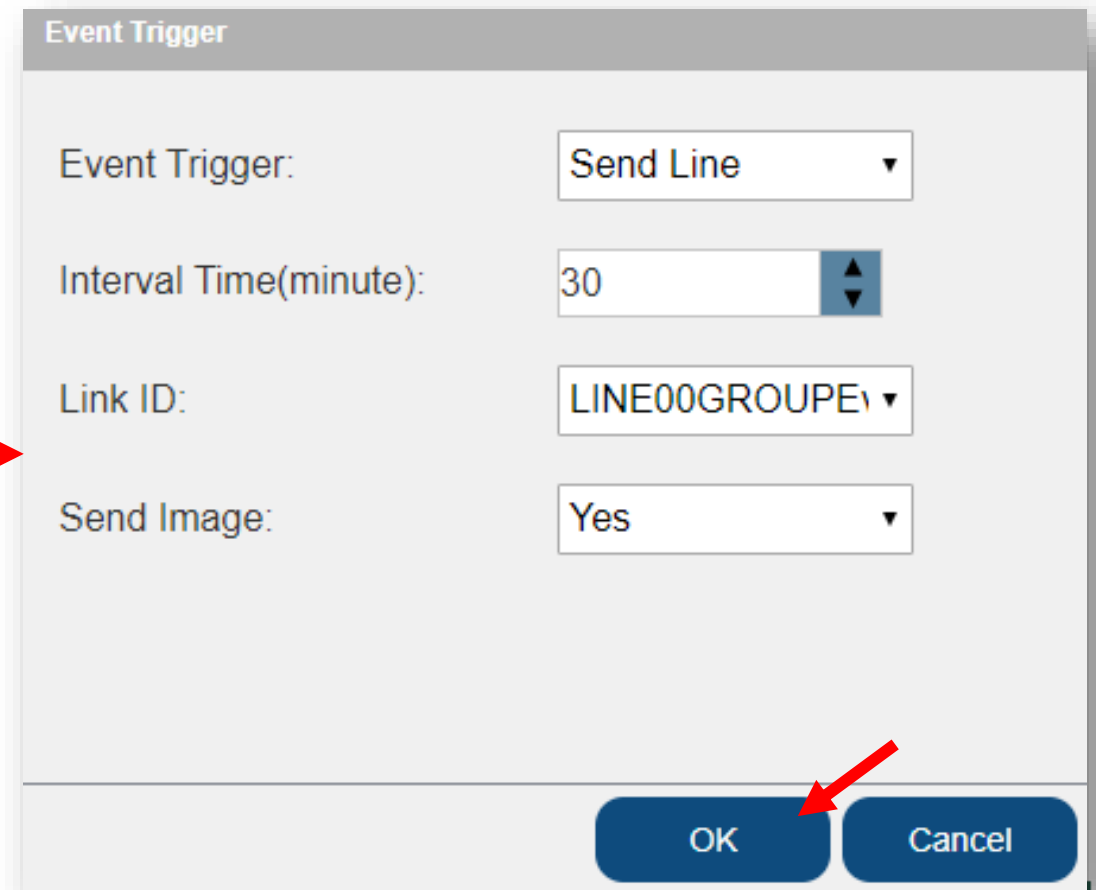
3. **Set Event Trigger – LINE Notify** : Click **Add** → Event Trigger : **Send Line**, Set **Interval Time**,
Link ID : **LINE Notify link**, whether to **Send Image** → Click **OK**



The screenshot shows the 'Event Trigger' dialog box with a tabbed interface. The 'Event Trigger' tab is selected. There is an 'ADD' button in the top left corner. A red arrow originates from the 'ADD' button and points to the configuration screen on the right.

Event Trigger	Parameter	Interval Time	Activate
---------------	-----------	---------------	----------

OK Cancel



The screenshot shows the configuration screen for the 'Event Trigger' dialog box. It contains four fields with dropdown menus or input boxes:

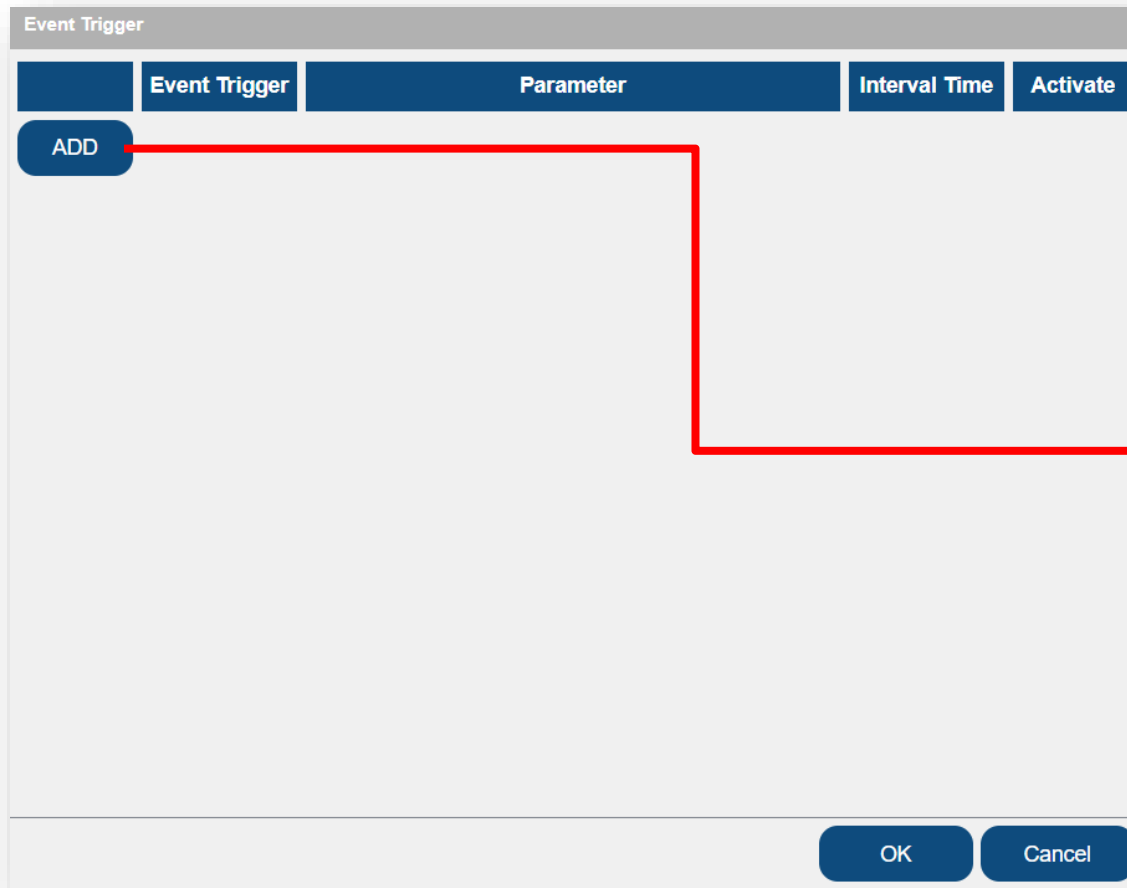
- Event Trigger: Send Line
- Interval Time(minute): 30
- Link ID: LINE00GROUPE
- Send Image: Yes

OK Cancel

Advanced

- **Event Trigger**

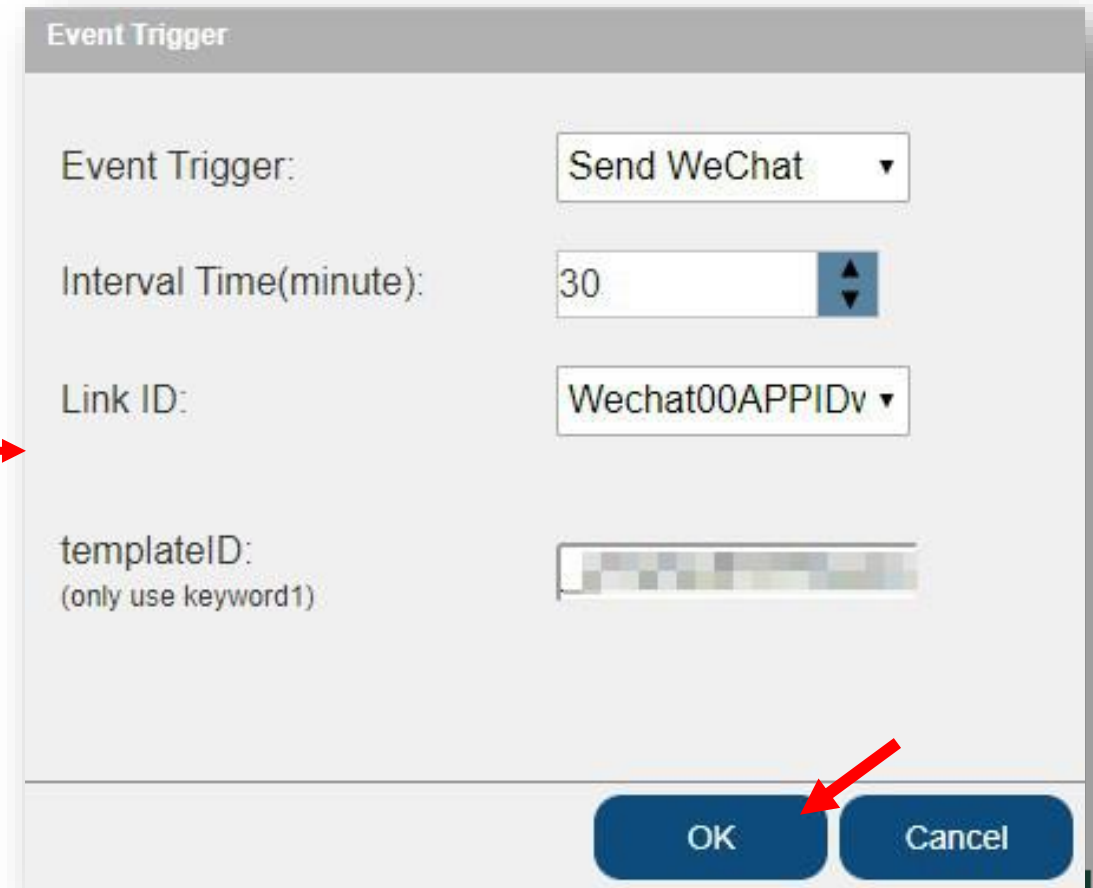
3. **Set Event Trigger – WeChat** : Click **Add** → Event Trigger : **Send WeChat**, Set **Interval Time**,
Link ID : **WeChat link**, Enter **templateID** → Click **OK**



The screenshot shows the 'Event Trigger' dialog box with a tabbed interface. The 'Event Trigger' tab is selected. There is an 'ADD' button in the top left corner. A red arrow originates from the 'ADD' button and points towards the 'Send WeChat' option in the next screenshot.

Event Trigger	Parameter	Interval Time	Activate
---------------	-----------	---------------	----------

OK Cancel



The screenshot shows the 'Event Trigger' dialog box with the 'Send WeChat' option selected. The configuration fields are as follows:

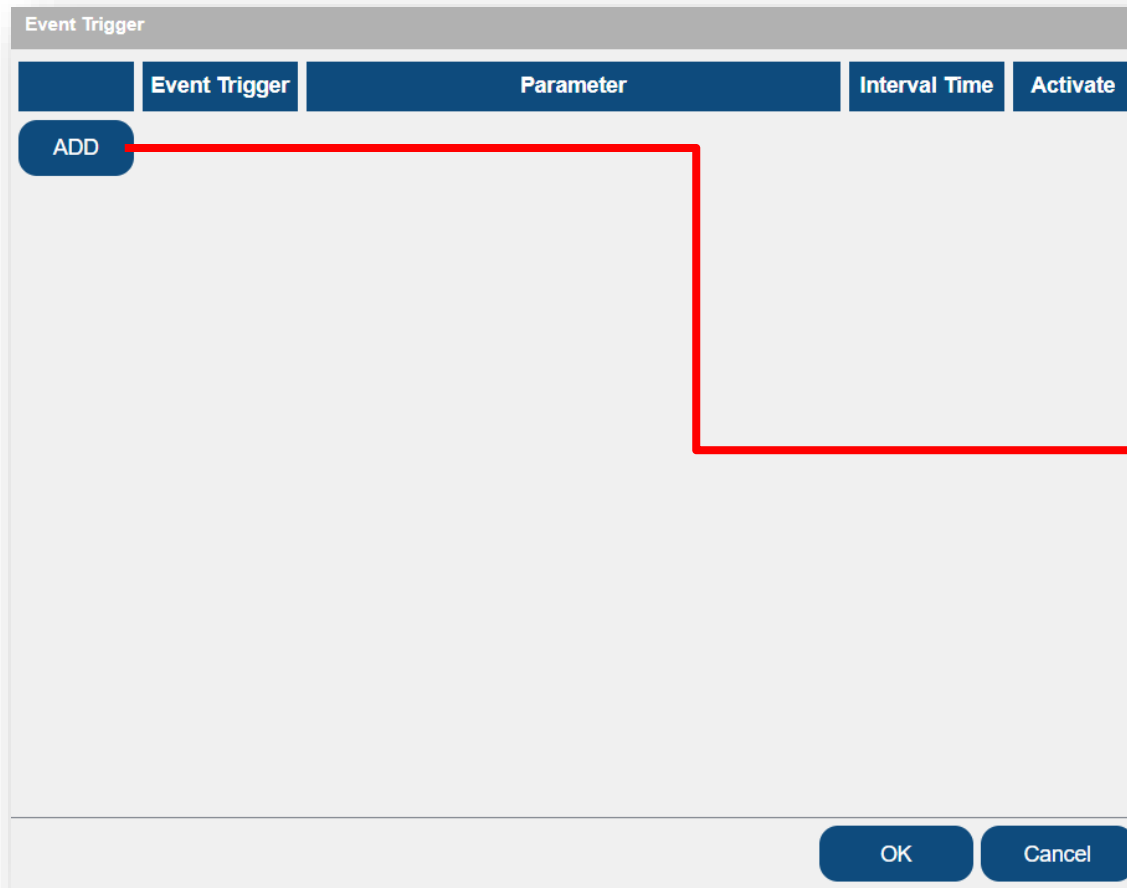
- Event Trigger: Send WeChat
- Interval Time(minute): 30
- Link ID: Wechat00APPIDv
- templateID: (only use keyword1)

OK Cancel

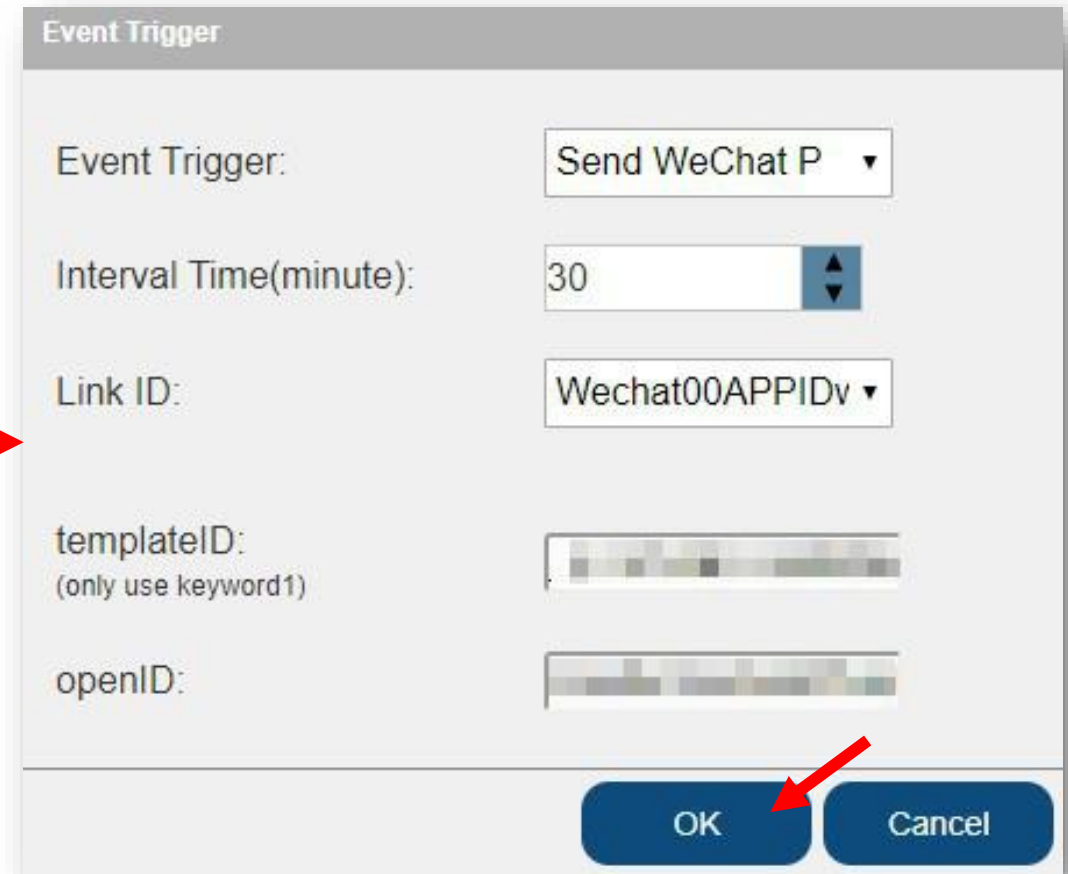
Advanced

- **Event Trigger**

3. **Set Event Trigger – WeChat_P** : Click **Add** → Event Trigger : **Send WeChat P**, Set **Interval Time**, Link ID : **WeChat link**, Enter **templateID**, Enter **openID** → Click **OK**



The screenshot shows the 'Event Trigger' configuration window. It has a header bar with tabs: 'Event Trigger', 'Parameter', 'Interval Time', and 'Activate'. Below the tabs is a large 'ADD' button. A red arrow originates from the 'ADD' button and points towards the 'Send WeChat P' option in the adjacent window.



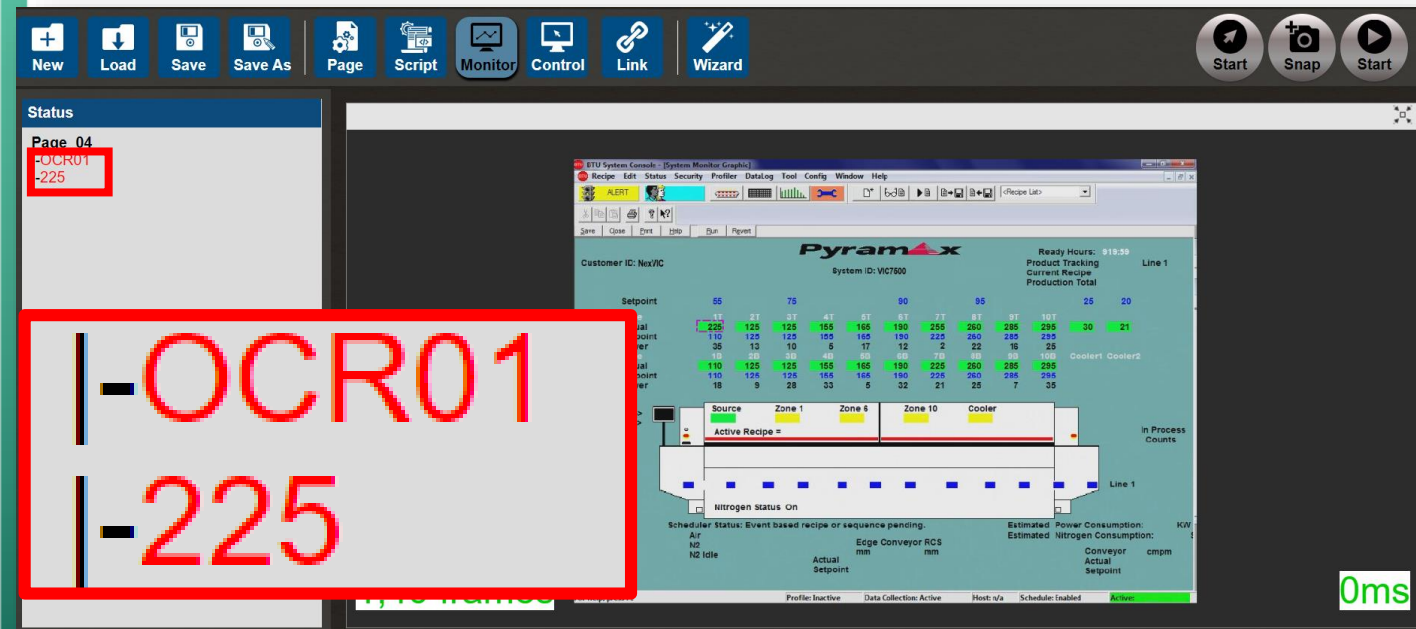
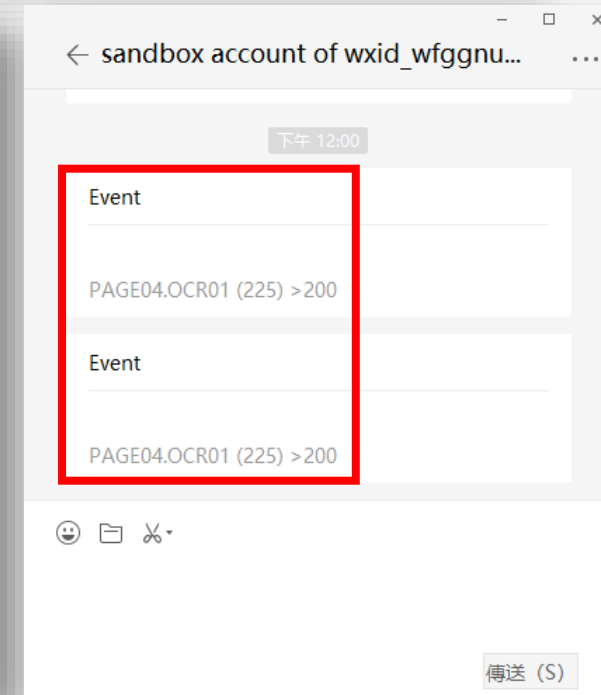
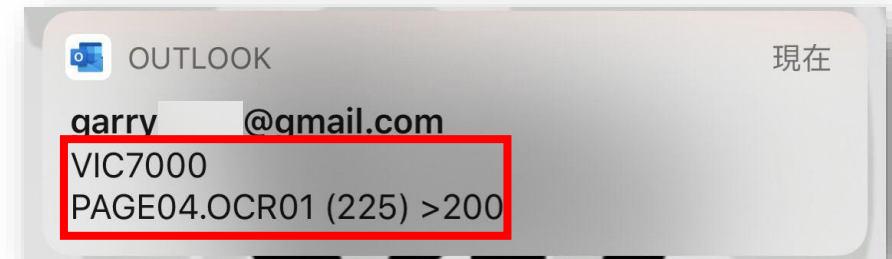
The screenshot shows the 'Event Trigger' configuration window with the 'Event Trigger' tab selected. The 'Event Trigger' dropdown is set to 'Send WeChat P'. The 'Interval Time(minute)' is set to 30. The 'Link ID' dropdown is set to 'Wechat00APPIDv'. The 'templateID' and 'openID' fields are empty. A red arrow points to the 'OK' button at the bottom right.

Advanced

- Event Trigger

4. **Simulation** : Entry to **Monitor** page → Click **Snap** → Check if there is a new message

When the condition is met, the item will be displayed in red text

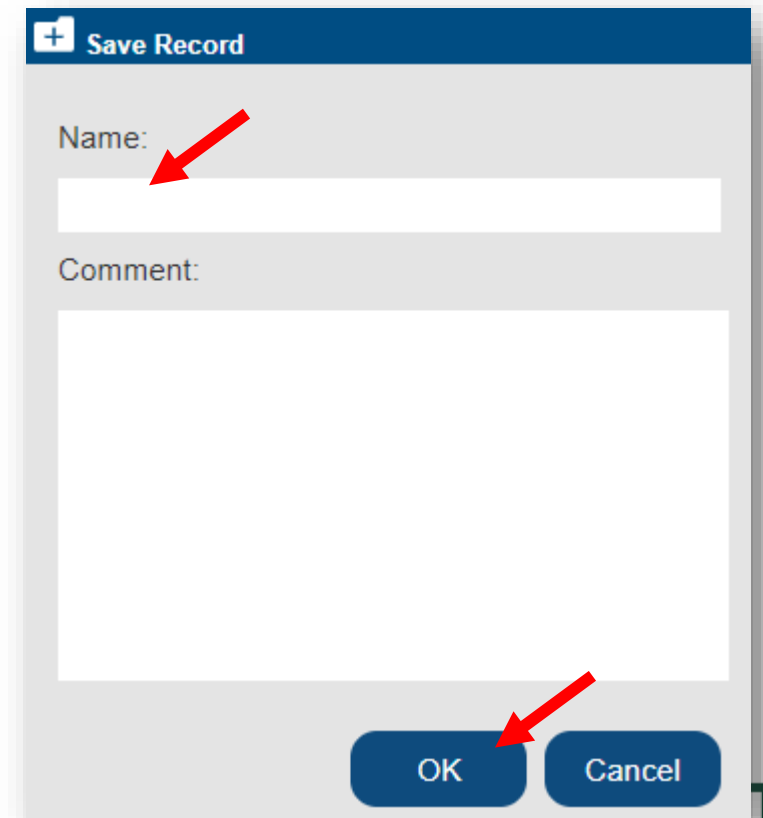
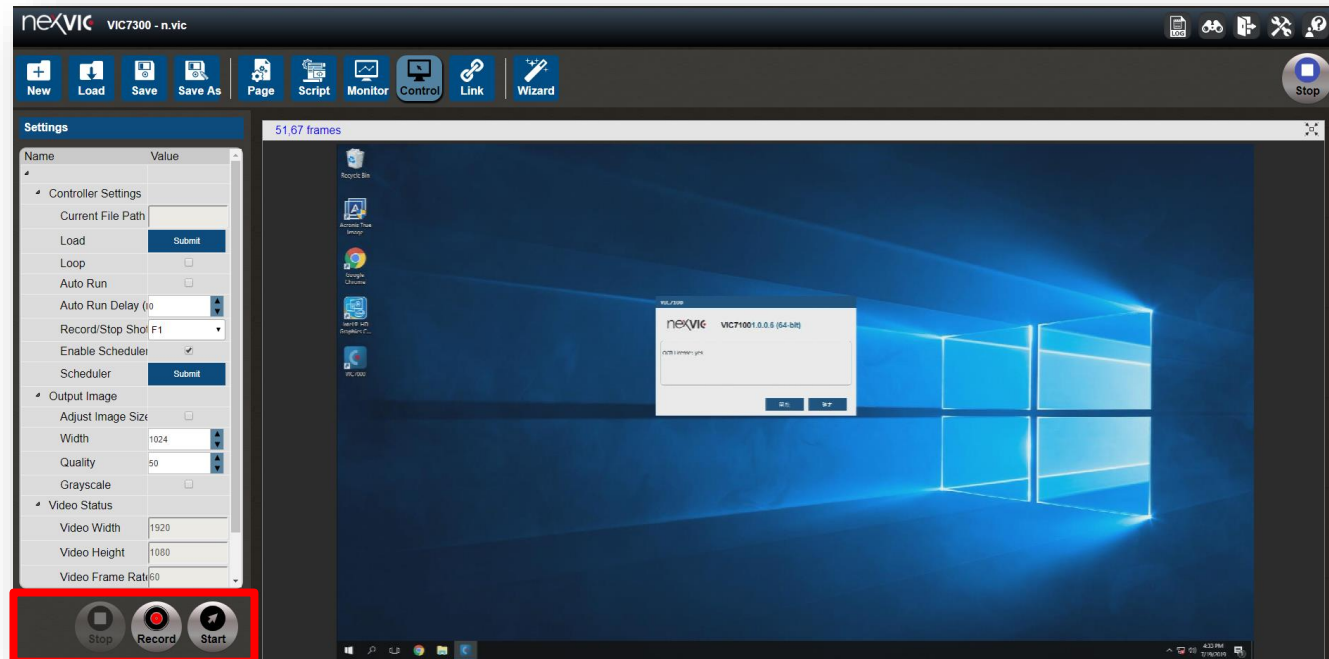


Advanced

- **Control – Input**

1. **Record Control File** : Entry to **Control** page → Click **Record** (press **Record Shortcut Key**) → The action of mouse and keyboard will be recorded → Click **Stop** (press **Stop Shortcut Key**) → Enter **Name** of control file → Click **OK**

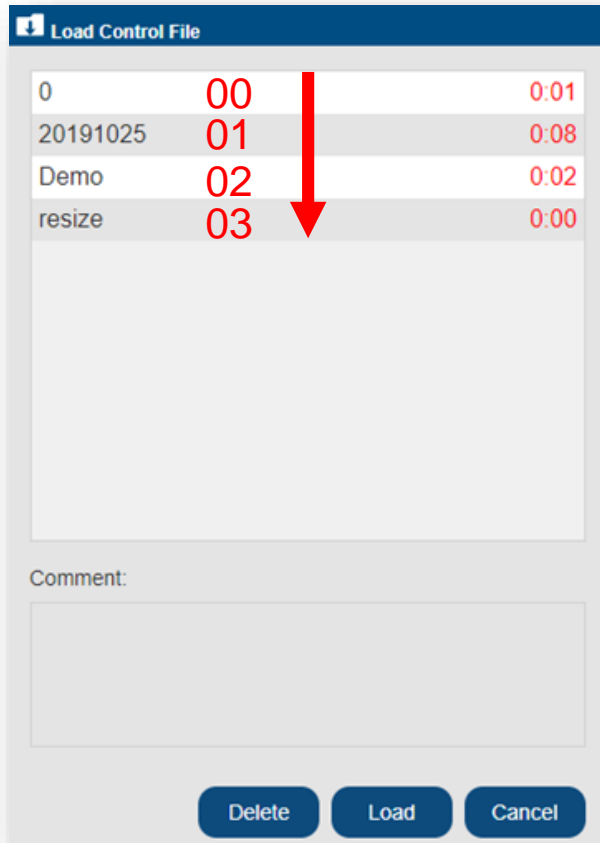
When control play completed, the input data field should be enterable



- **Control – Input**

1. **Record Control File** : Entry the window of **Load Control File**

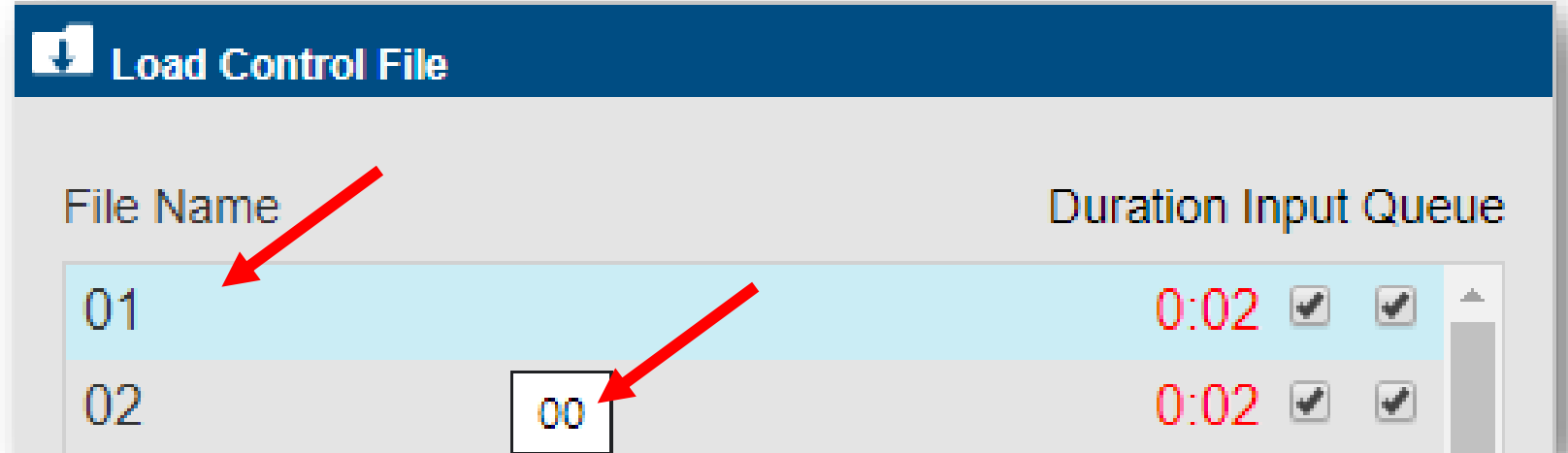
The index of control files is followed the order listed in the **Load Control File** window of **Control** page. Another way is to put cursor on a file name, the index of the control file will show up.



Index	File Name	Duration
0		0:01
20191025		0:08
Demo		0:02
resize		0:00

Comment:

Delete Load Cancel



File Name	Duration	Input	Queue
01	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Advanced

- **Control – Input**

2. **Control File Setting – Input** : Entry to the window of **Load Control File** → Check **Input**

If **Input** is checked, VIC7000 will enter the characters stored in corresponding field after the control file playing is finished.



File Name	Duration	Input	Queue
01	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03	0:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
04	0:03	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1	0:12	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	0:22	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	0:20	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	0:17	<input type="checkbox"/>	<input type="checkbox"/>
5	0:42	<input type="checkbox"/>	<input type="checkbox"/>
6	0:08	<input type="checkbox"/>	<input type="checkbox"/>
a	0:02	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comment:

Delete Load Cancel

File Name	Duration	Input	Queue
01	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03	0:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
04	0:03	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- **Control – Input**

- 2. **Control File Setting – Queue** : Entry to the window of **Load Control File** → Check **Queue**

In normal, while the current control file is being played, another control file is start to play, the current file will be stopped and the new ones will start immediately.

If **Queue** is check, the control file will be played after the current file completely played.

File Name	Duration Input	Queue
01	0:02	<input checked="" type="checkbox"/>
02	0:02	<input checked="" type="checkbox"/>
03	0:00	<input checked="" type="checkbox"/>
04	0:03	<input checked="" type="checkbox"/>
1	0:12	<input type="checkbox"/>
2	0:22	<input type="checkbox"/>
3	0:20	<input type="checkbox"/>
4	0:17	<input type="checkbox"/>
5	0:42	<input type="checkbox"/>
6	0:08	<input type="checkbox"/>
a	0:02	<input type="checkbox"/>

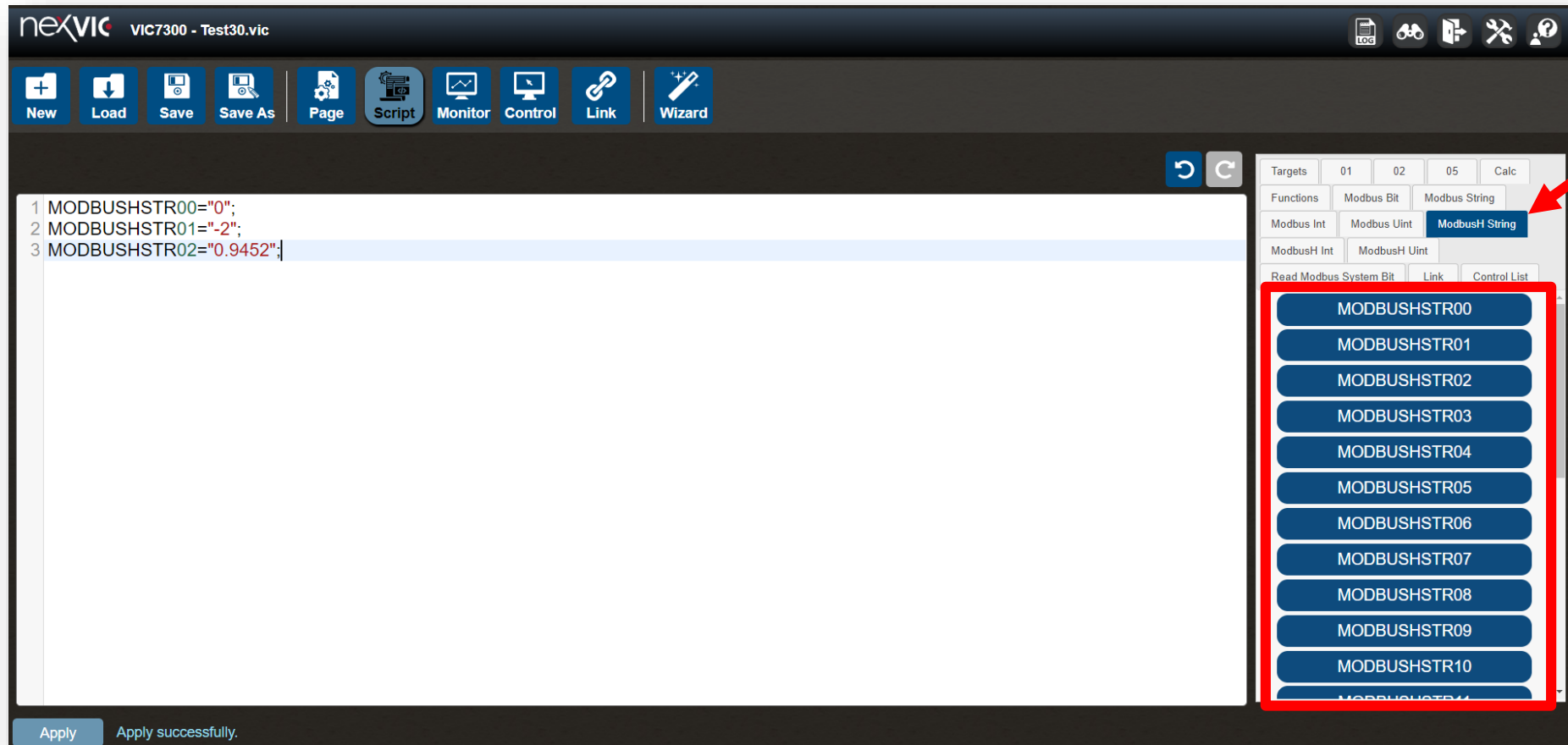
Comment:

Delete Load Cancel

File Name	Duration Input	Queue
01	0:02	<input checked="" type="checkbox"/>
02	0:02	<input checked="" type="checkbox"/>
03	0:00	<input checked="" type="checkbox"/>
04	0:03	<input checked="" type="checkbox"/>

- **Control – Input**

3. **Set Input Content – Script** : Entry to the **Script** page→ Set value of **MODBUSHSTR_n**
n is the index of MODBUSHSTR, and MODBUSHSTR_n is the content that will be entered after the control file with same index playing completely played. For example, MODBUSHSTR00 is the content that will be entered after the control file with index 00 playing is finished.



Advanced

- Control – Input

Example – Set Input Content – Script : Use Script set the value of MODBUSHSTR00 to -12.

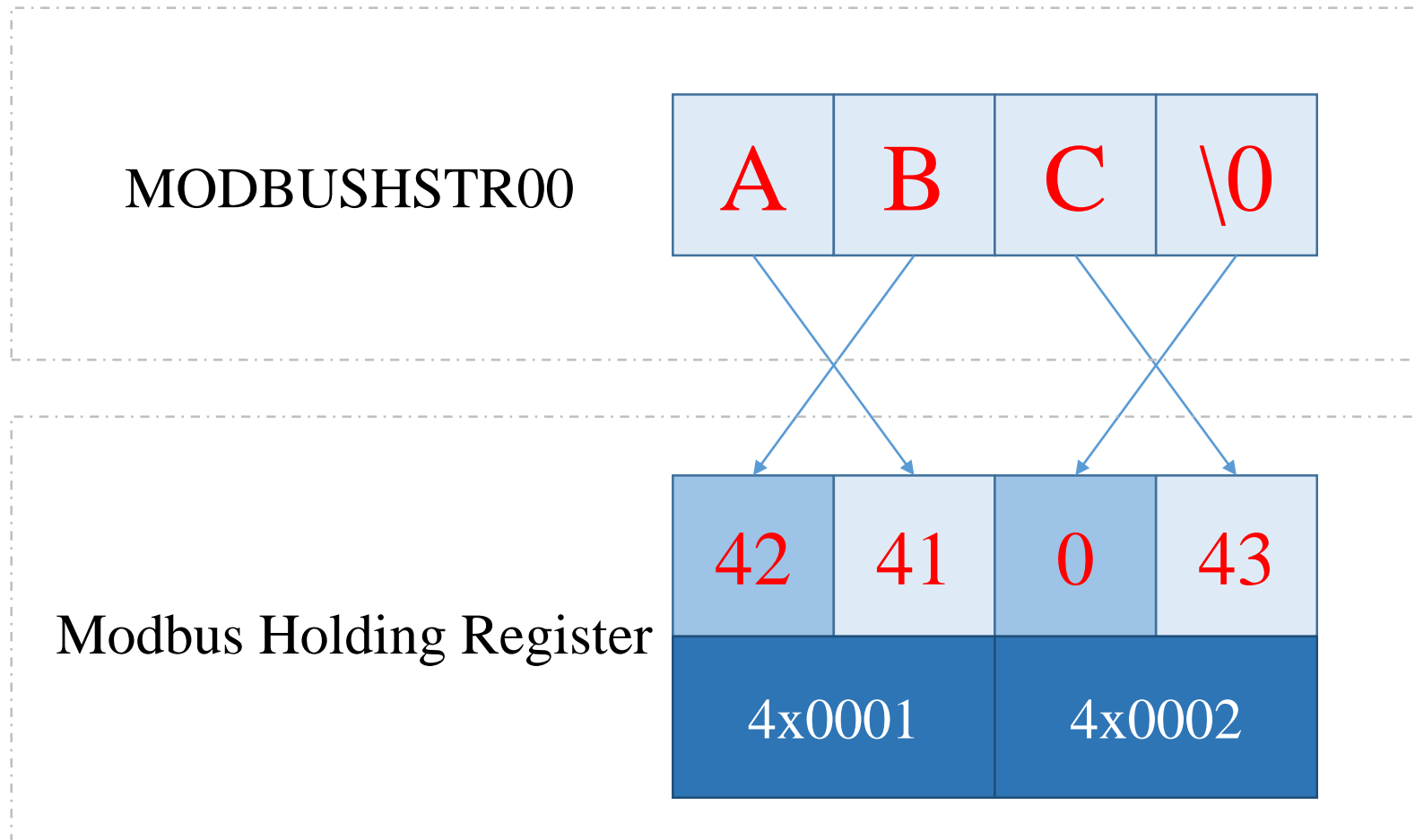
Then clicking Snap in Monitor Mode, which execute Script.

The screenshot displays the nexVIC software interface. The top toolbar includes buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The Script editor on the left contains the text `MODBUSHSTR00="-12";`, which is highlighted with a red box. Below the editor, a status bar shows "Apply successfully." The Monitor mode window on the right shows a table of test results for "VIC7000 Demo Sample". The table has columns for Product ID, Quantity, Temperature, Voltage, Time, and Result. The "Snap" button in the Monitor mode toolbar is highlighted with a red arrow. The bottom status bar of the Monitor mode window shows "0,0 frames" and "23ms".

Product ID	Quantity	Temperature	Voltage	Time	Result
1	969	-4.71 °C	10.7 V	1938 ms	Pass
2	684	15.97 °C	9.6 V	1371 ms	Pass
3	495	25.67 °C	2.5 V	995 ms	NG
4	750	20.03 °C	-2.4 V	1503 ms	Pass
5	607	23.74 °C	2.5 V	1219 ms	Pass
6	219	13.62 °C	1.4 V	445 ms	NG
7	127	10.08 °C	-3.4 V	264 ms	NG
8	272	2.29 °C	8.7 V	551 ms	NG
9	514	-12.49 °C	12.1 V	1034 ms	Pass
10	152	-13.39 °C	3.6 V	314 ms	NG
11	663	-9.61 °C	13.2 V	1328 ms	Pass
12	54	13.02 °C	1.1 V	119 ms	NG

- **Control – Input**

3. **Set Input Content – Modbus TCP** : VIC7000 is little-endian system. Data should be read from lower bits. Data should also be written from lower bits.



- **Control – Input**

3. **Set Input Content – Modbus TCP** : Set the value of MODBUSHSTR_n, and the data type is ASCII code (8bits). A register (16bits) can store 2 ASCII code, and the ASCII code will be transfered to character. n is the index of MODBUSHSTR, and MODBUSHSTR_n is the content that will be entered after the control file with same index playing is completed. For example, MODBUSHSTR00 is the content that will be entered after the control file with index 00 is finished playing.

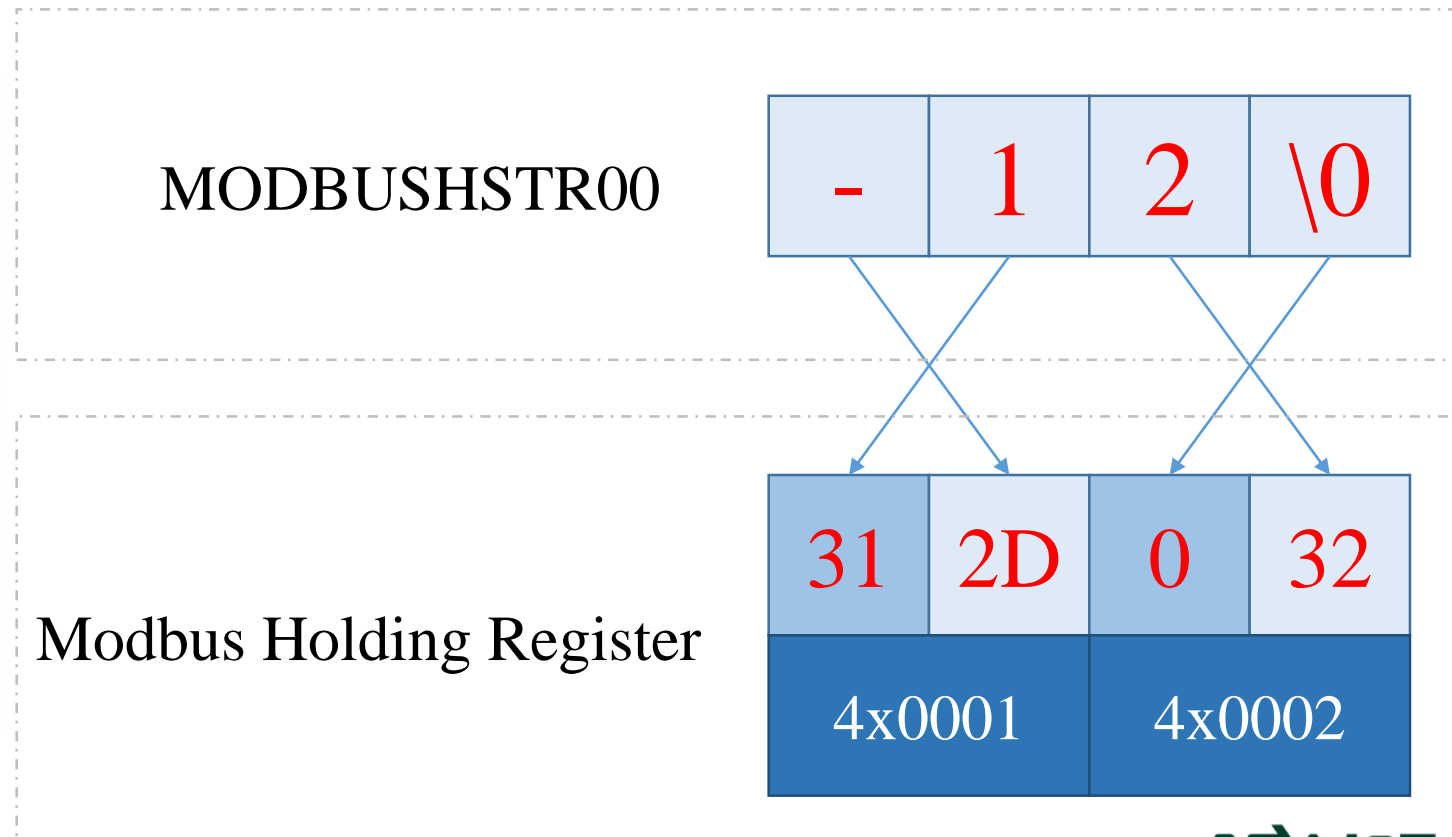
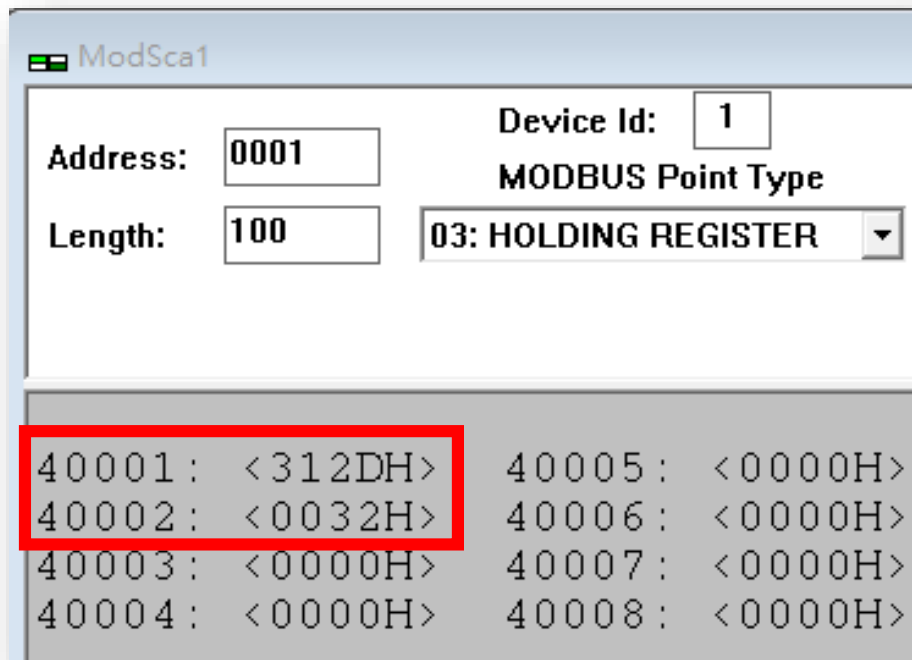
Holding Register (4X)	
Address Range	Content
40001 ~ 40051	MODBUSHSTR00
40052 ~ 40102	MODBUSHSTR01
40103 ~ 40153	MODBUSHSTR02
40154 ~ 40204	MODBUSHSTR03
40205 ~ 40255	MODBUSHSTR04

Holding Register (4X)	
Address Range	Content
40001 ~ 410200	MODBUSHSTR00 ~ 199

A MODBUSHSTR can store 101 ASCII code.
Another word, it can store 101 characters.

- Control – Input

Example – Set Input Content – Modbus TCP : Use Modscan(Hex mode) to set the value of MODBUSHSTR00 to -12

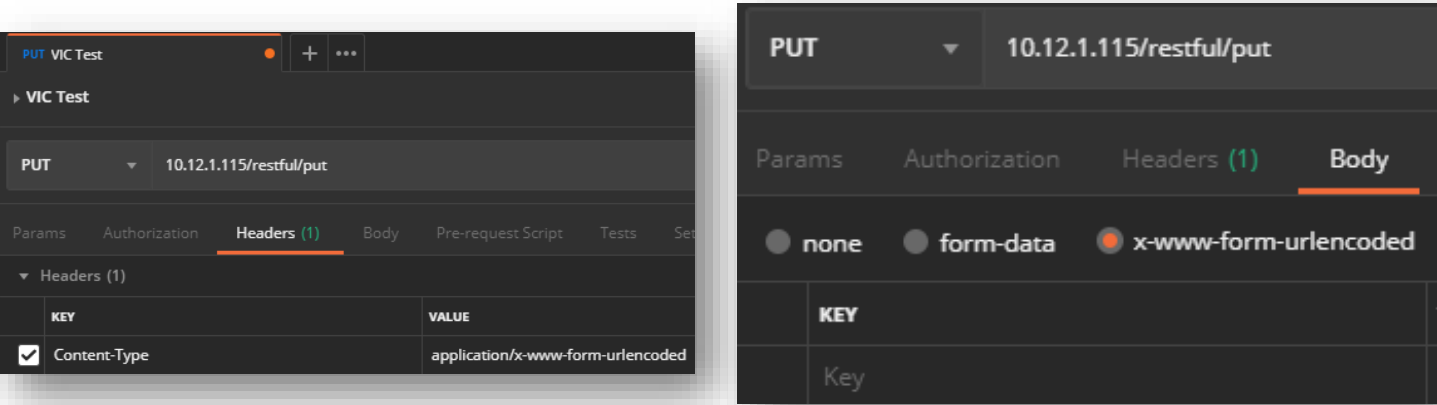


- Control – Input

3. **Set Input Content – RESTful API** : Use PUT to set the content that will be entered.
index_value is corresponding to the index of control file, and the set content will be entered after the corresponding control file completely played. For example, MODBUSHSTR00 is the content that will be entered after the control file with index 00 playing is finished.
Here use Postman for testing

Headers : Content-Type: application/x-www-form-urlencoded

Body : x-www-form-urlencoded



	Set the content that will be entered
username	admin or user
password	123456 (default)
channel_type	write_modbush_string
index_value	0 ~ 199
content	The content that will be entered

- Control – Input

Example – Set Input Content – RESTful API : Use Postman to set the content of index_value 00 to -12. Check response after sending request

PUT

10.12.1.181/restful/put

Params

Authorization

Headers (9)

Body

Pre-request Script

Tests

Settings

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL BETA

	KEY	VALUE
<input checked="" type="checkbox"/>	username	admin
<input checked="" type="checkbox"/>	password	123456
<input checked="" type="checkbox"/>	channel_type	write_modbush_string
<input checked="" type="checkbox"/>	index_value	0
<input checked="" type="checkbox"/>	content	-12

BodyCookiesHeaders (2)Test Results

PrettyRawPreviewVisualize BETA

1

2

3

4

{

"login_success": "1",

"rsp_status": "1"

}

login_success	Whether logging in is successful. 1 = Successful 0 = Failed
rsp_status	Whether the command is executed 1 = Successful 0 = Failed

- **Control – Input**

3. **Set Input Content – SQL** : Use controller_table in database “vic” to set the content that will be entered. id is corresponding to the index of control file, and value in same row will be entered after the corresponding control file completely played. **When VIC7000 entering data, the content set by Script, Modbus TCP, RESTful API is prior to be used.** For example, the value in same row id 0 is the content that will be entered after the control file with index 00 is finished playing.

The screenshot shows a database management interface with a 'Navigator' pane on the left and a main editor pane on the right. The 'Navigator' pane shows a tree structure for the 'vic' database, with tables 'controller_table', 'key_table', and 'ocr_table'. The main editor pane shows the SQL query 'SELECT * FROM vic.controller_table;' and the resulting 'Result Grid'.

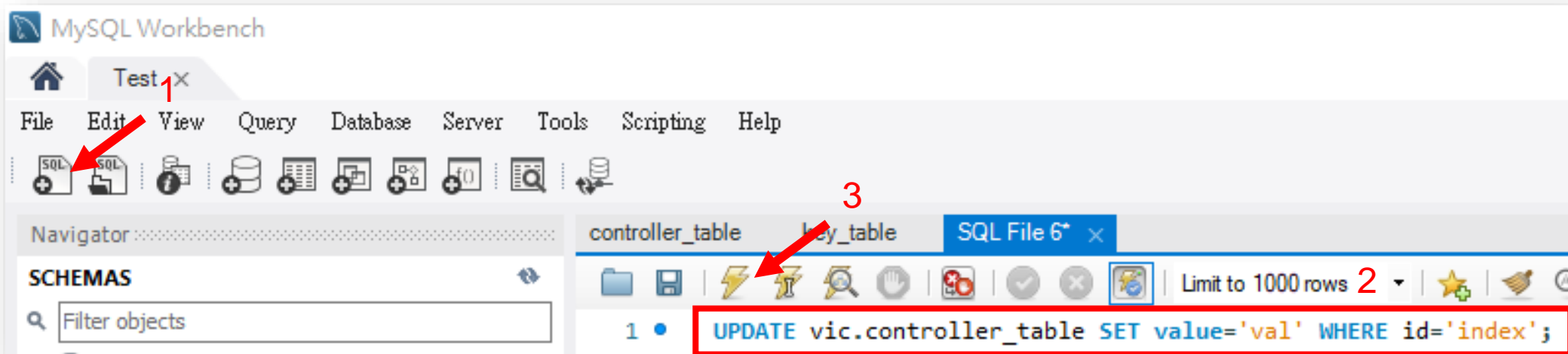
id	value	extra
0		NULL
1	12	NULL
2	-4	NULL

- **Control – Input**

3. **Set Input Content – SQL** : Use UPDATE to set the content that will be entered. index is the index of control file, and val is the content.

Add a SQL file → edit the command → Click Execute

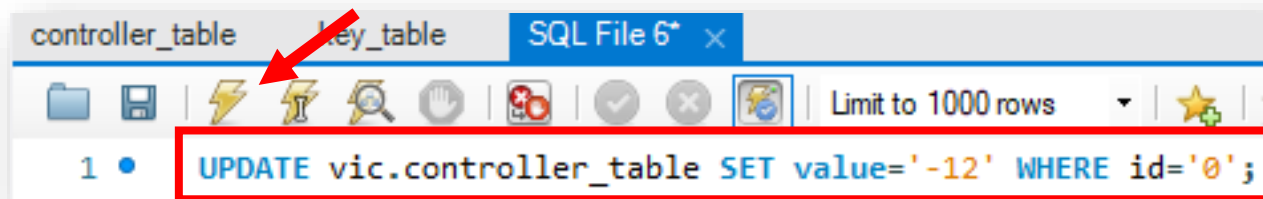
```
UPDATE vic.controller_input SET value='val' WHERE id='index';
```



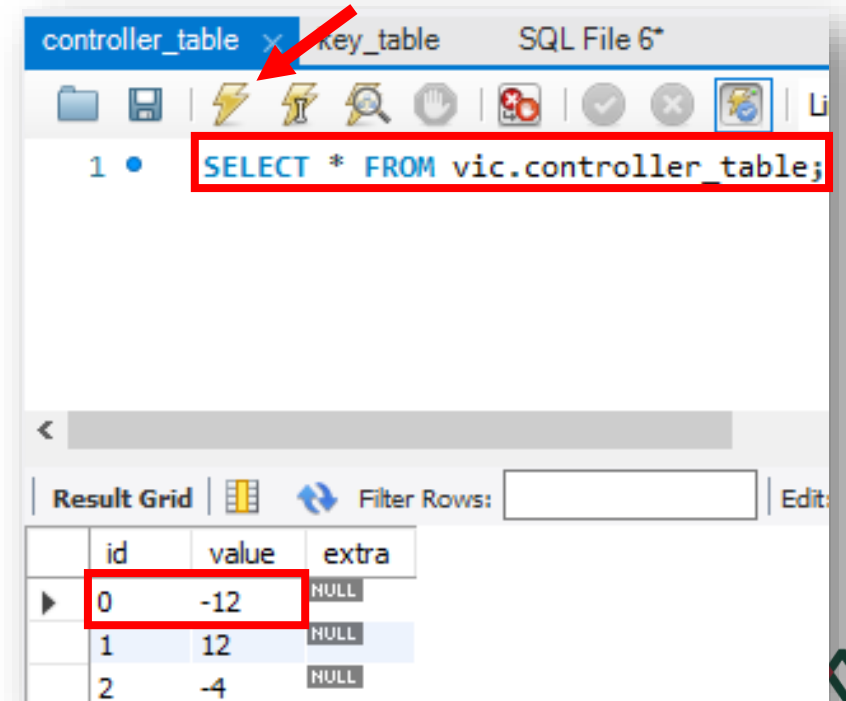
- Control – Input

Example – Set Input Content – SQL : Use Postman to set the value of index_value 0 to -1 User can use SELECT to check whether the set value is correct after executing the command

```
UPDATE vic.controller_table SET value='-12' WHERE id='0';
```



```
SELECT * FROM vic.controller_table;
```



- Control – Input

4. Trigger Control File – Script : Enter **Script** page → Choose **PLAY.CONTROL_FILE_IQ** in Functions field

The screenshot displays the nexVIC software interface for VIC7300 - VIC7000 Training.vic. The top toolbar contains buttons for New, Load, Save, Save As, Page, Script, Monitor, Control, Link, and Wizard. The Script page is active, showing a text area with the code '1 PLAY.CONTROL_FILE_IQ(,);'. A red box highlights the function name 'PLAY.CONTROL_FILE_IQ' in the code, and another red box highlights the same function name in a dropdown menu on the right. A red arrow points from the 'Script' button to the text area, and another red arrow points from the dropdown menu to the function name in the code.

1 PLAY.CONTROL_FILE_IQ(,);

PLAY.CONTROL_FILE_IQ

PLAY.CONTROL_FILE_IQ

Apply

Targets 01 02 03 04

Calc Functions Modbus Bit Modbus String

Modbus Int Modbus Uint ModbusH String

ModbusH Int ModbusH Uint

Read Modbus System Bit Link Control List

RESULT

CURRENT_TIME

PLAY.CONTROL_FILE

PLAY.CONTROL_FILE_IQ

PLAY.PROJECT

PLAY.CONTROL

WRITE.DATABASE

CHECK.COLOR

IF-ELSE

Advanced

- **Control – Input**

- **PLAY.CONTROL_FILE_IQ** : Play specific control file with input and queue property

1. control_file_name : Name of the control file that is about to play.

The file can be picked from control file list

2. sec : Restrict execution again in a period of time (s)

*If it needs to use input or queue property, user must check them in Load Control File window

PLAY.CONTROL_FILE_IQ

PLAY.CONTROL_FILE_IQ(control_file_name, sec)

PLAY.CONTROL_FILE_IQ(,);

File Name	Duration	Input	Queue
01	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	0:02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03	0:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
04	0:03	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1	0:02	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	0:22	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	0:20	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	0:17	<input type="checkbox"/>	<input type="checkbox"/>
5	0:42	<input type="checkbox"/>	<input type="checkbox"/>
6	0:08	<input type="checkbox"/>	<input type="checkbox"/>

Control file list

Targets Calc Functions Modbus Bit

Modbus String Modbus Int Modbus Uint

Read Modbus System Bit Link **Control List**

1233

DEMO2

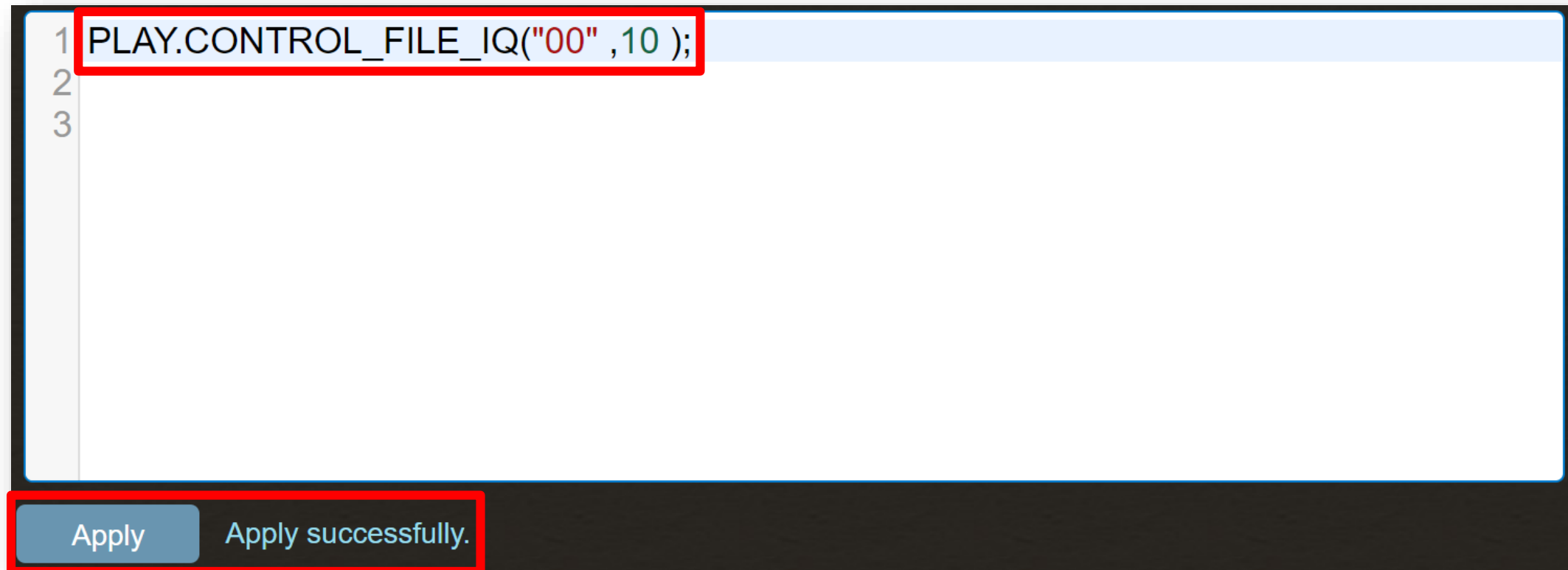
Demo

test

ttt

- **Control – Input**

Example – Trigger Control File – Script : Use PLAY.CONTROL_FILE_IQ to trigger the control file named 00. After edition is finished, click Apply(ctrl + s) and the script will take effect.



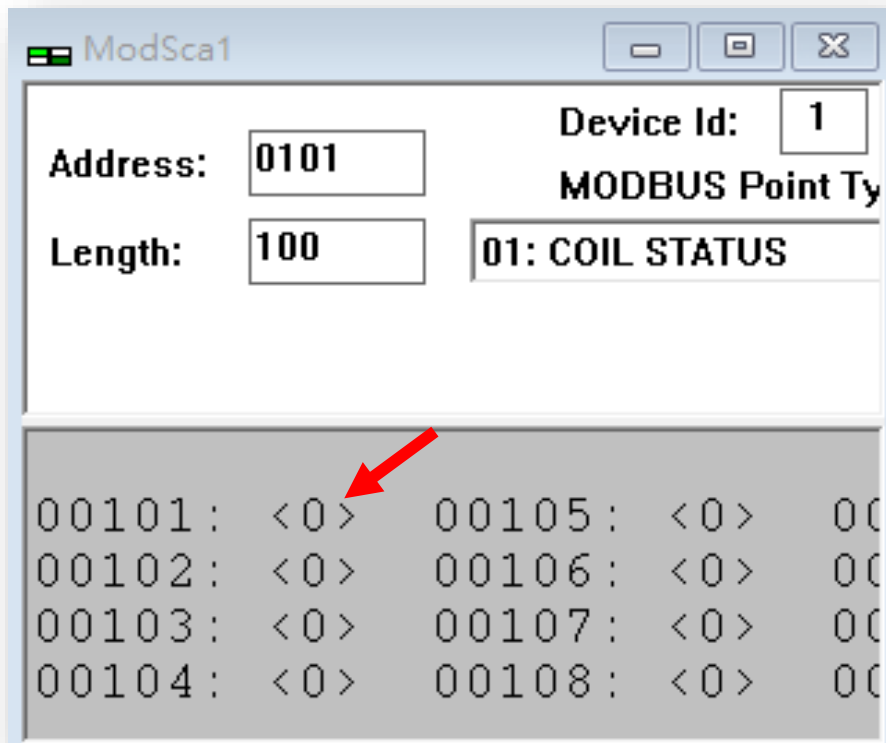
- **Control – Input**

4. **Trigger Control File – Modbus TCP** : Set the value of specific Modbus address, and it can trigger the corresponding control file

Coil Status (0X)	
Address	Content
00101 ~ 00300	Play control file with index 00~199 1 = Play 0 = Stop

- Control – Input

Example – Trigger Control File – Modbus TCP : Double click on the value field of address 00101 and update the value to 1(On), then it will trigger the control file with index 00



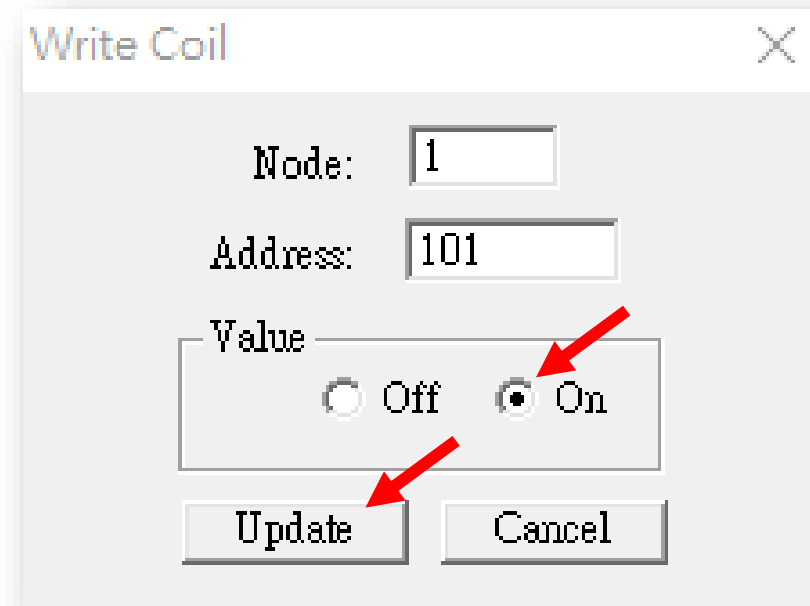
ModSca1

Address: 0101 Device Id: 1

Length: 100 MODBUS Point Ty: 01: COIL STATUS

00101:	<0>	00105:	<0>	00
00102:	<0>	00106:	<0>	00
00103:	<0>	00107:	<0>	00
00104:	<0>	00108:	<0>	00

A red arrow points to the value field of address 00101, which contains '<0>'.



Write Coil

Node: 1

Address: 101

Value

☐ Off ☒ On

Update Cancel

A red arrow points to the 'On' radio button, and another red arrow points to the 'Update' button.

- Control – Input

- 4. Trigger Control File – RESTful API : Use PUT to trigger the control file

	Play control file with index i
username	admin or user
password	123456 (default)
channel_type	play_control_file
value	1 = Play 0 = Stop
index_value	0 ~ 199

PUT VIC Test

PUT 10.12.1.181/restful/put

VIC Test

PUT 10.12.1.181/restful/put

Params Authorization Headers (1) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL BETA

	KEY	VALUE	DESC
<input checked="" type="checkbox"/>	username	admin	
<input checked="" type="checkbox"/>	password	123456	
<input checked="" type="checkbox"/>	channel_type	play_control_file	
<input checked="" type="checkbox"/>	value	1	
<input checked="" type="checkbox"/>	index_value	1	

- **Control – Input**

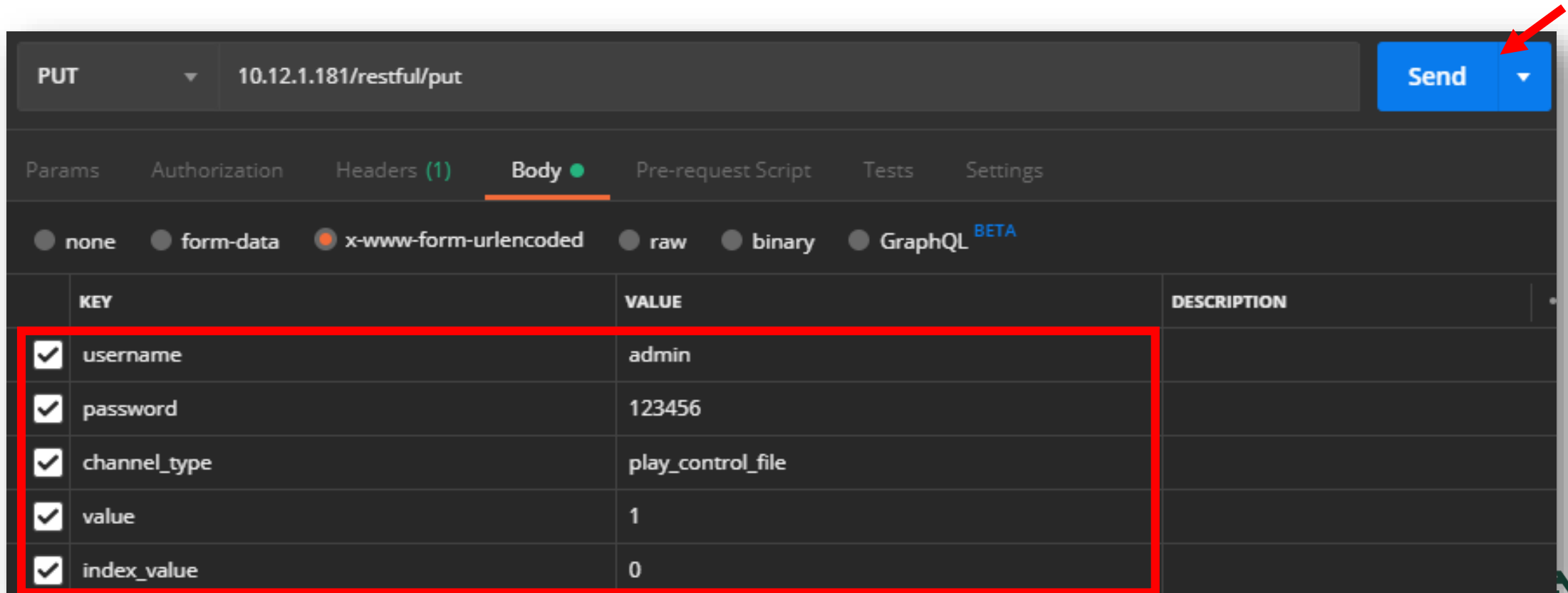
- 4. Trigger Control File – RESTful API : Check response

```
Body Cookies Headers (2) Test Results
Pretty Raw Preview Visualize BETA
1 {
2   "login_success": "1",
3   "rsp_status": "1"
4 }
```

login_success	Whether logging in is successful. 1 = Successful 0 = Failed
rsp_status	Whether the command is executed successfully. 1 = Successful 0 = Failed

- Control – Input

Example – Trigger Control File – RESTful API : Trigger the control file with index 00. Send the request after setting up the parameters



PUT 10.12.1.181/restful/put Send

Params Authorization Headers (1) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☒ x-www-form-urlencoded ☐ raw ☐ binary ☐ GraphQL BETA

	KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/>	username	admin	
<input checked="" type="checkbox"/>	password	123456	
<input checked="" type="checkbox"/>	channel_type	play_control_file	
<input checked="" type="checkbox"/>	value	1	
<input checked="" type="checkbox"/>	index_value	0	

- **Control – Input**

Example – Trigger Control File – RESTful API : Check response after sending the request

```
Body  Cookies  Headers (2)  Test Results
Pretty  Raw  Preview  Visualize BETA
1  {
2    "login_success": "1",
3    "rsp_status": "1"
4  }
```

login_success	Whether logging in is successful. 1 = Successful 0 = Failed
rsp_status	Whether the command is executed successfully. 1 = Successful 0 = Failed

- Control – Input

4. **Trigger Control File – SQL** : Use key_table in database “vic” to trigger control file. Use UPDATE to trigger the specific control file. index is the index of control file.

User can use SELECT to get the status of Control, 0 = Stop, 1 = Playing

UPDATE vic.key_table SET value='index' WHERE id='1'; SELECT value FROM vic.key_table WHERE id='2';

The screenshot shows a database management interface. On the left, the 'Navigator' pane displays the 'vic' database schema. Under 'Tables', 'key_table' is selected, and a red arrow points to its icon. The main pane shows the 'key_table' selected in the top bar, with the SQL query 'SELECT * FROM vic.key_table;' entered. Below the query, the 'Result Grid' shows the following data:

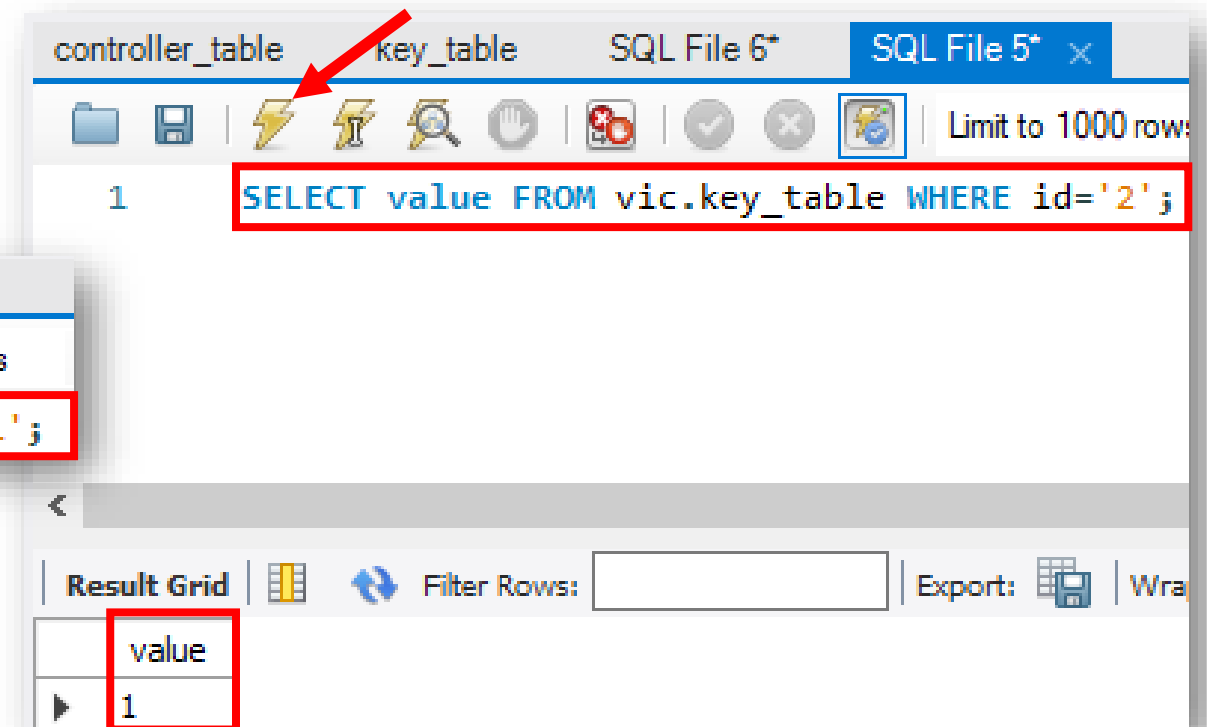
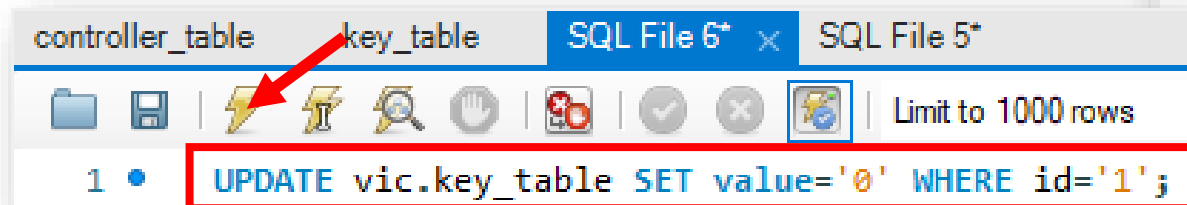
	id	name	value	extra
▶	1	control_index	-1	NULL
	2	control_play_status	0	NULL
•	NULL	NULL	NULL	NULL

- Control – Input

Example – Trigger Control File – SQL : Use UPDATE to trigger the control file with index 00, use SELECT to get the status of Control

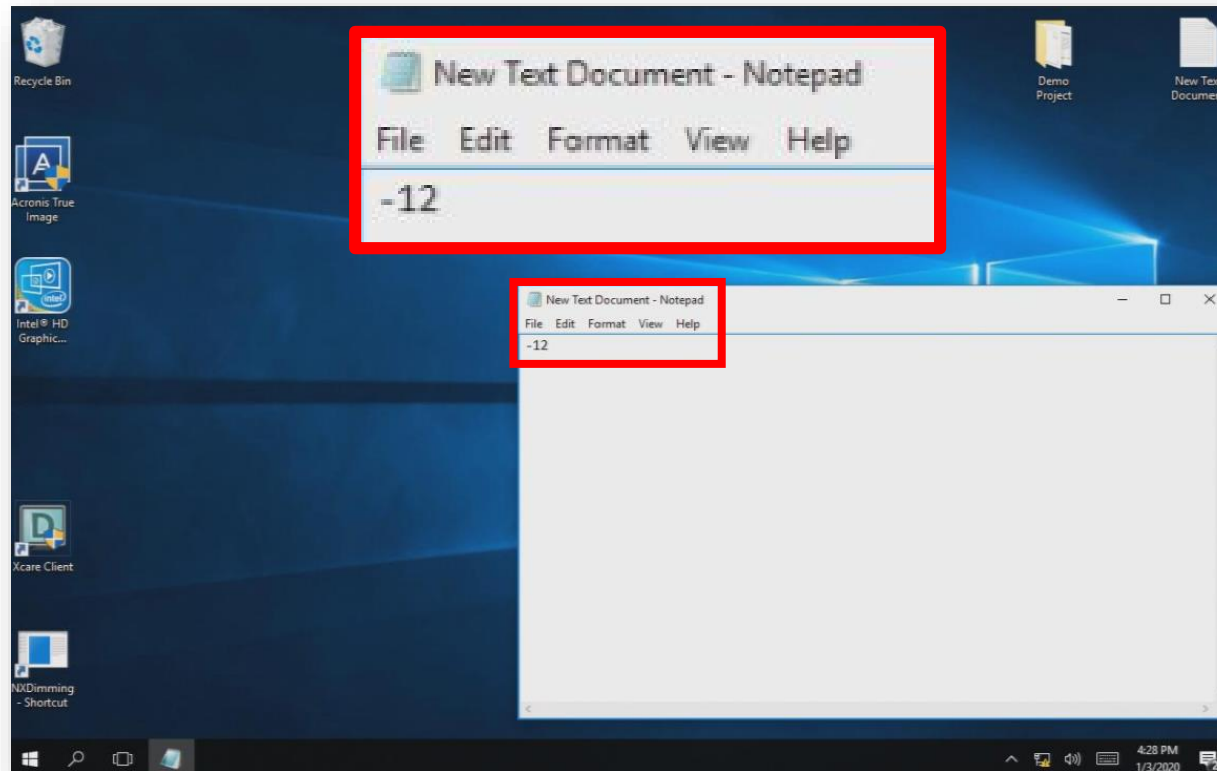
```
UPDATE vic.key_table SET value='0' WHERE id='1';
```

```
SELECT value FROM vic.key_table WHERE id='2';
```



- **Control – Input**

5. **Simulate** : This example illustrates how to use control file to make the notepad enterable and enter -12 after the control file playing is finished playing. When simulating, user can check :
- ✓ **Whether playing control file is correct**
 - ✓ **Whether entered content is correct**

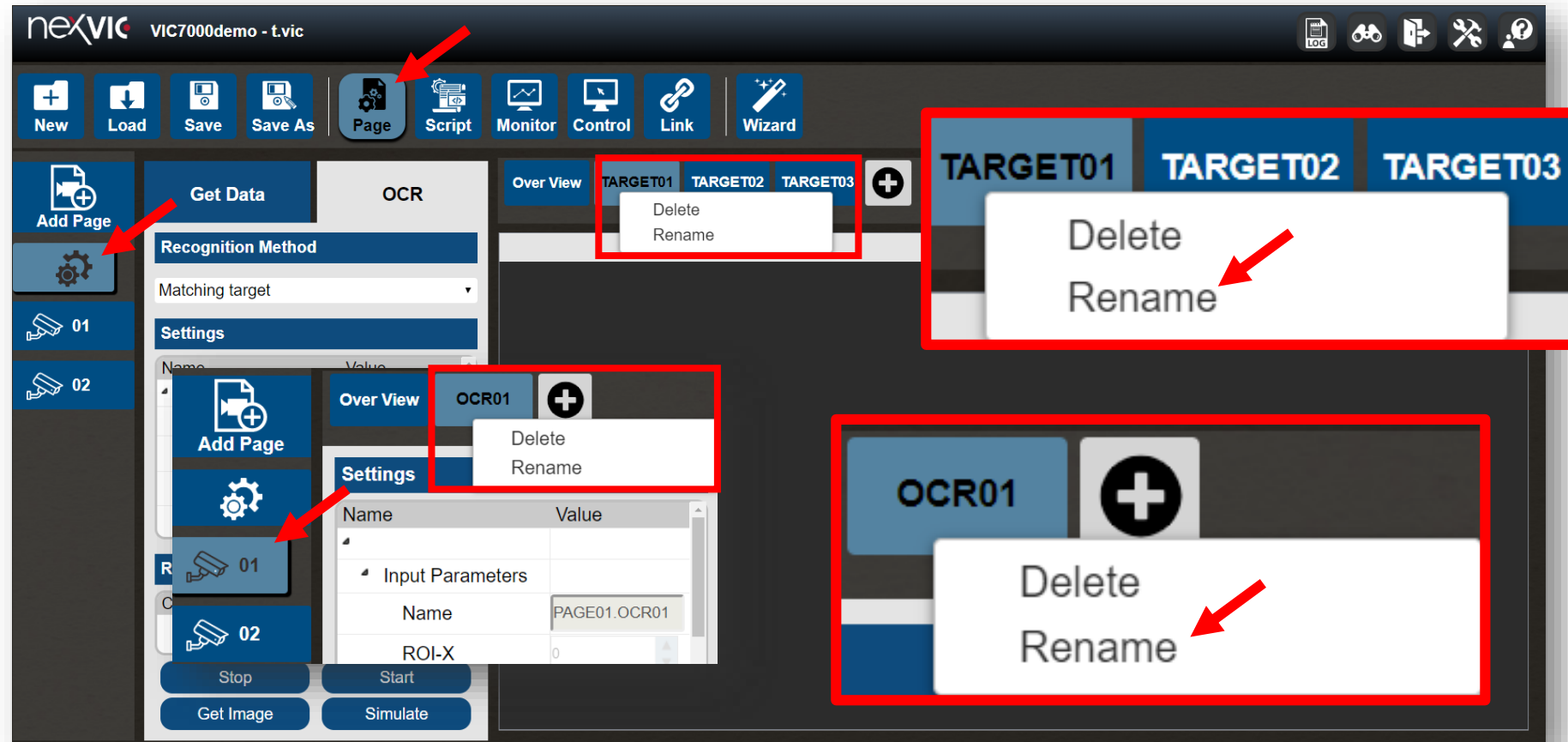


Appendix

- Rename

1. **Rename** : Enter Recognition Config Page → Right-click **TARGET** 、 **TARGET_COLOR** 、 **TARGET_PATTERN** 、 **OCR** 、 **COLOR** 、 **PATTERN** → Choose **Rename**

Here use TARGET and OCR to demonstrate this function



Appendix

- **Rename**

1. **Rename** : Enter the **new Name** (not repeated) → Click **OK**, then TARGET and OCR will be renamed.

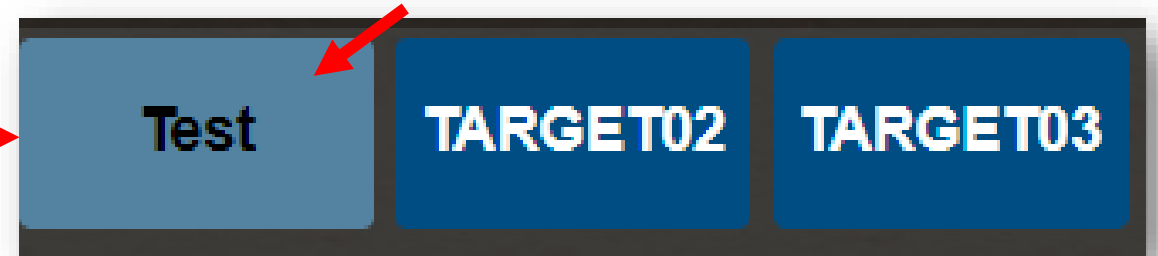


Rename

Name:

Test

OK Cancel

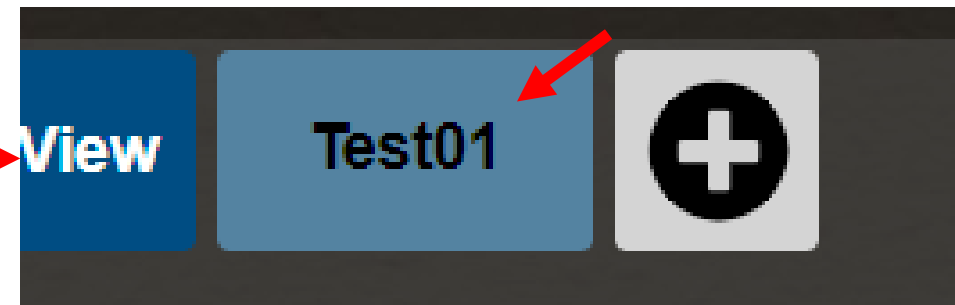


Rename

Name:

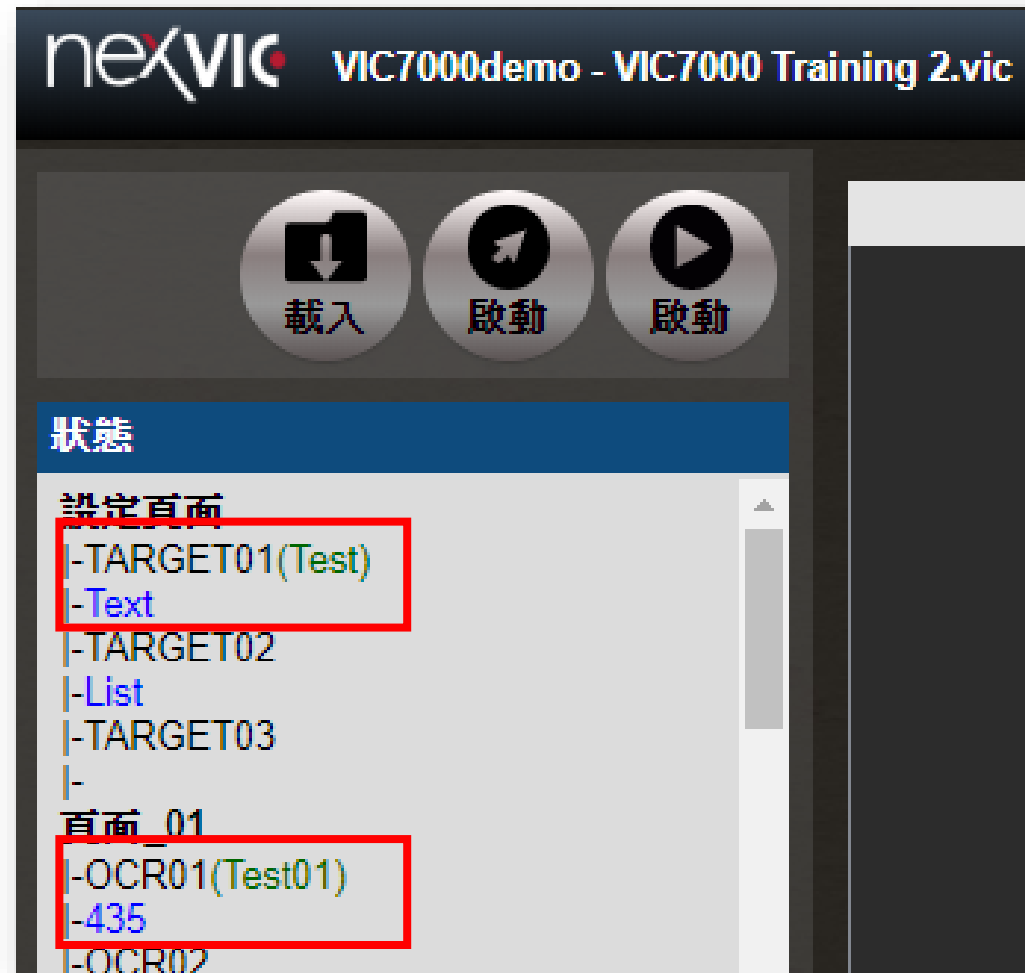
Test01

OK Cancel



Appendix

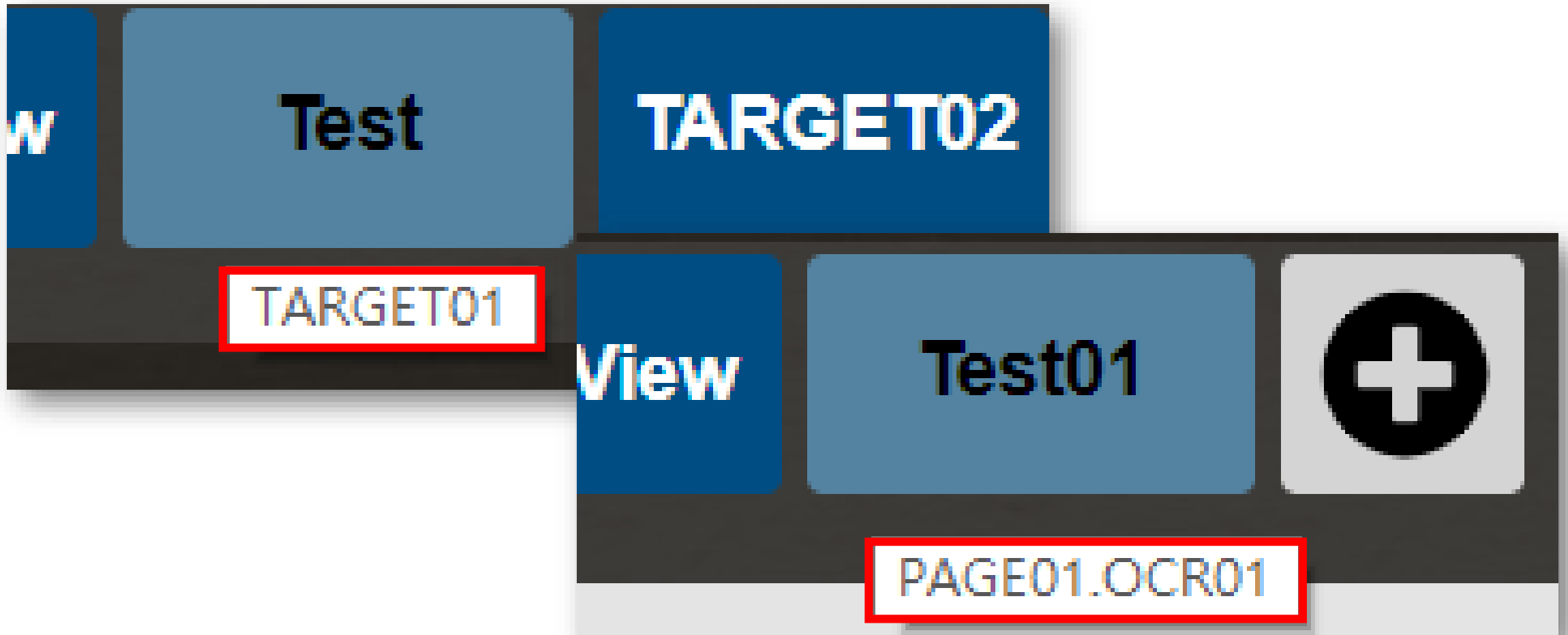
- Rename
 - **Check Rename** : Rename content will be denoted beside the **TARGET** and **OCR**



Appendix

- **Rename**

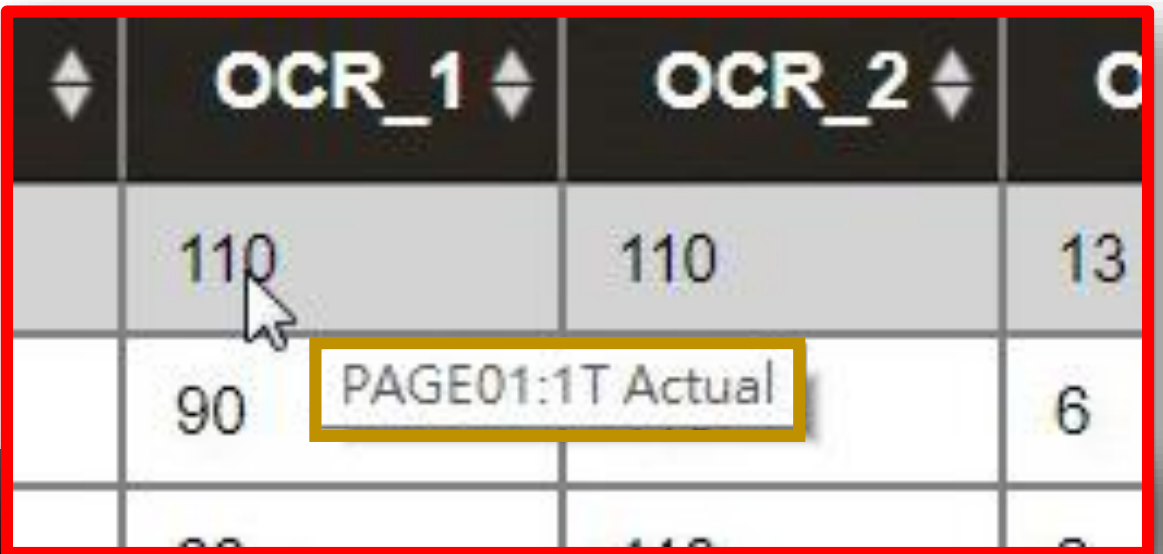
- **Check Rename** : Click the renamed TARGET and OCR, and the original name will show up



Appendix

- **Rename**

- **Check Rename** : In Database page, select renamed TARGET & OCR, and the new name will show up



				OCR_1	OCR_2					
				110	110				13	
				90	PAGE01:1T Actual				6	
				66	110				2	
				110	110				13	
				155	110				22	

page	result	timeStamp	image	OCR_1	OCR_2	OCR_3	OCR_4	OCR_5	OCR_6	OCR_7
	Pass	2019-07-19 15:32:59.798		110	110	13	125	125	15	125
	Pass	2019-07-19 15:33:00.734		90	PAGE01:1T Actual	6	125	125	16	125
	Pass	2019-07-19 15:33:01.728		66	110	2	125	125	12	125
	Pass	2019-07-19 15:33:02.723		110	110	13	125	125	12	125
	Pass	2019-07-19 15:33:03.723		155	110	22	125	125	15	125

Appendix

- **Rename**

- **Check Rename** : In System Settings, Click **OCR Name Conversion Table**, and the table listing renamed content will show up, the **JSON file** and can be export to **.txt**

System Settings

Name	Value
System Settings	
UI Language	English
Change Password	Submit
Auto Load Project	<input checked="" type="checkbox"/>
Reset Project	Submit
Left Mouse Button To Move Canvas	<input type="checkbox"/>
System Load	Submit
System Save	Submit
Enable Control Scheduler	<input checked="" type="checkbox"/>
OCR Name Conversion Table	Submit

OCR Name Conversion Table

PAGE01.OCR01	Test01
TARGET01	Test

t.vic_ocr_map (1).txt - 記事本

檔案(F) 編輯(E) 格式(O) 檢視(V) 說明(H)

```
{  "PAGE01.OCR01": "Test01",  "TARGET01": "Test"}
```

Export Cancel


Appendix

- **Rename**

- **Check Rename** : Use with RESTful API, and Enter **IP/restful/ocr_map** in URL field.

The **OCR Name Conversion** Table will show as below.

192.168.133.144/restful/ocr_map

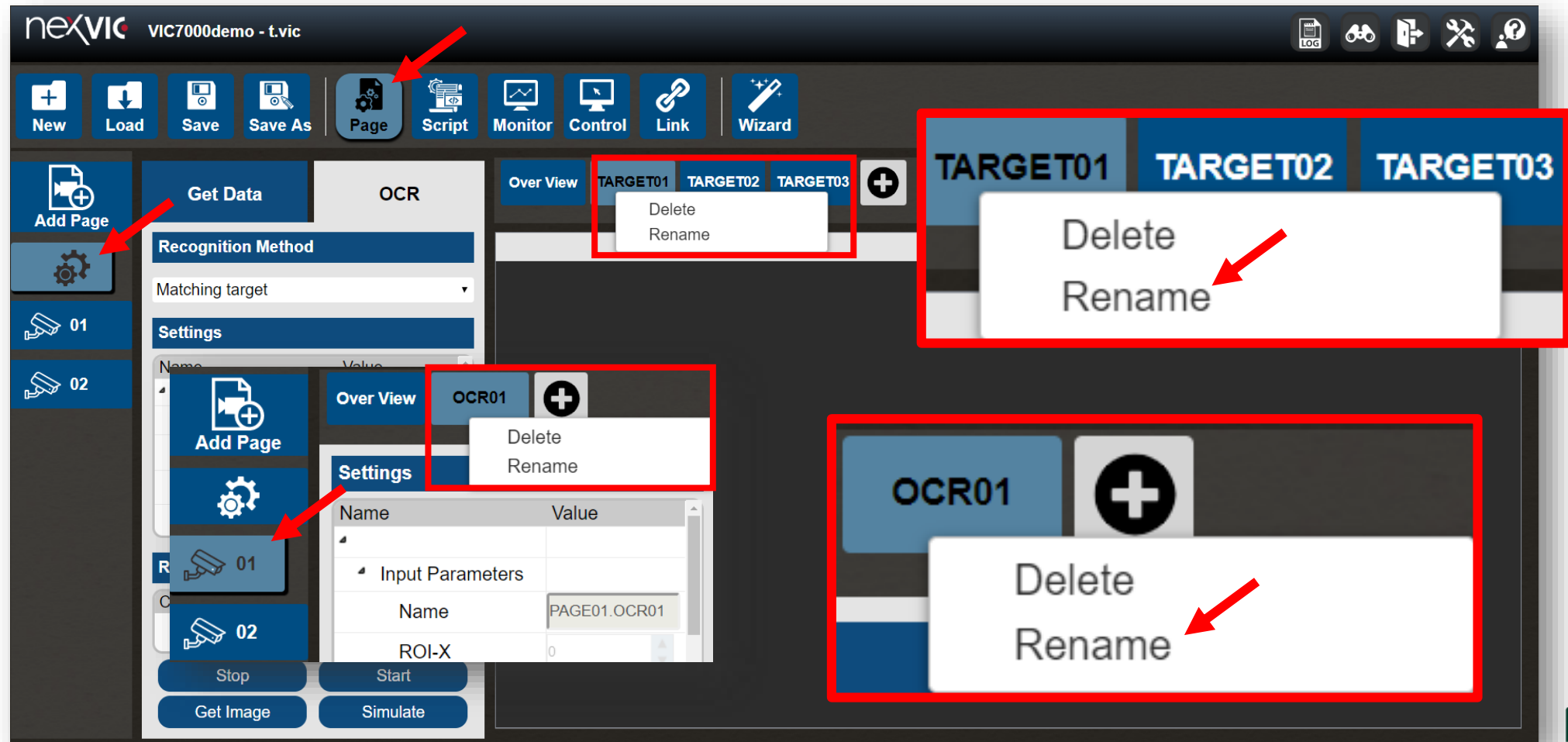


```
{"TARGET01": "Test", "PAGE01.OCR01": "Test01"}
```

Appendix

- **Rename**

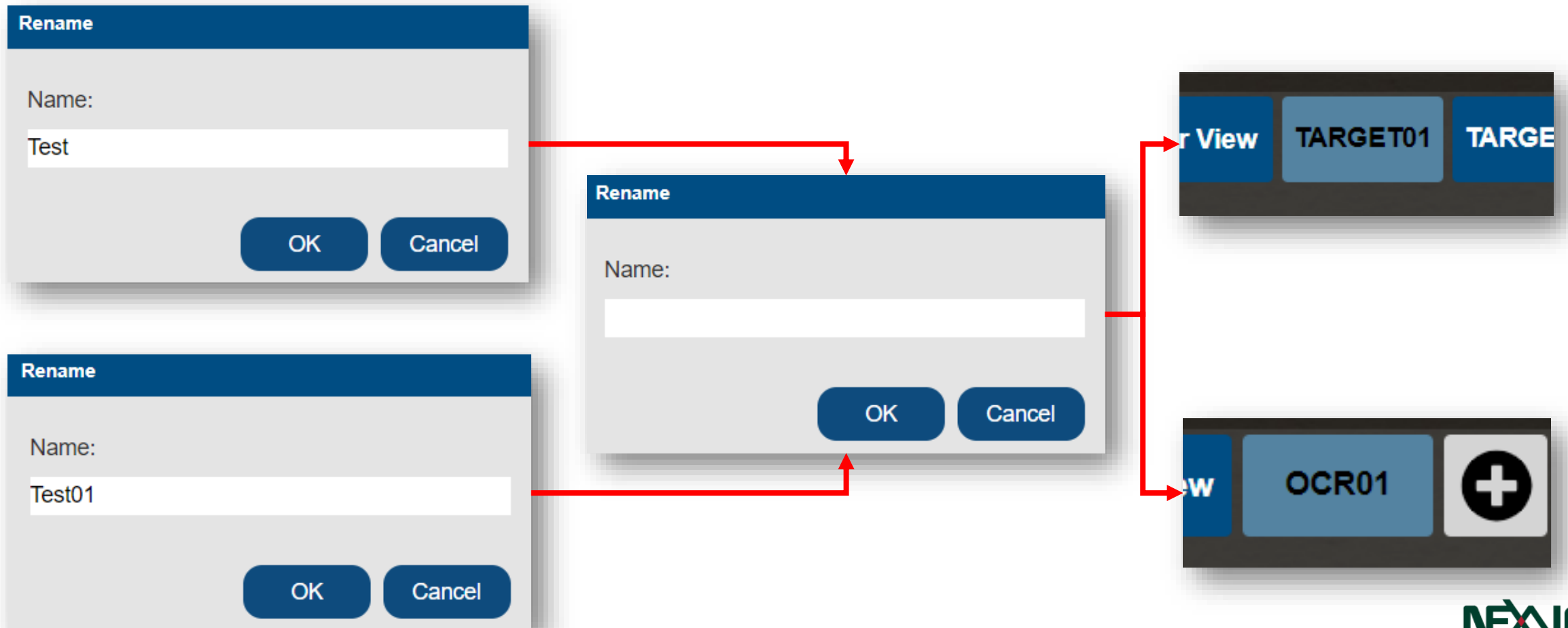
- **Recover** : Enter Recognition Config Page → Right-click renamed **TARGET** and **OCR** → Choose **Rename**



Appendix

- **Rename**

- **Recover** : **Empty** new Name → Click **OK**, and TARGET & OCR will be recovered to default name.



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