User Manual

cMT-SVR Startup Guide

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Chapter 1 Overview

1.1 Specification

**Cloud Human Machine Interface**

Features

- Two Gigabit Ethernet Ports
- Supports E-mail
- Compact Design and DIN-rail Mountable
- Built-in 256MB Flash Memory
- SD Card Slot for Extension of Storage
- One USB Host Port
- Fan-less Cooling System
- Supports MPI 187.5K
- Power Isolator Inside

|		
Display	Project Screen Size	1024x748 or 768x1004 (Portrait mode)
Memory	Storage(MB)	256
	RAM (MB)	256
Processor		ARM Cortex A8 600Mhz
I/O Port	SD Card Slot	SD/SDHC
	USB Host	USB 2.0 x 1
	USB Client	N/A
	Ethernet	10/100/1000M x 2
	COM Port	COM1 RS232,COM2 RS485 2W/4W,COM3 RS-485 2W
	CAN Bus	N/A
	HDMI	N/A
RTC		Built-in (CR1225 3V lithium battery)
Power	Input Power	24±20%VDC
	Power Consumption	230 mA@24V
	Power Isolation	Built In
	Voltage Resistance	500VAC (1 min)
	Isolation Resistance	Exceed 50MΩ at 500VDC
	Vibration Endurance	10 to 25Hz(X,Y,Z direction 2G 30 minutes)
Specification	Enclosure	Plastic
	Dimensions WxHxD	130 x 115 x 27mm
	Weight (kg)	Approx. 0.18 kg
	Mount	35mm Din rail mounting
Environment	Storage Temperature	-20° ~ 70°C (-4° ~ 158°F)
	Operating Temperature	-20° ~ 55°C (-4° ~ 131°F)
	Relative Humidity	10% ~ 90% RH (non-condensing)
Certificate	CE	EN 55022: 2010 EN 55024: 2010 EN 61000-3-2: 2006+A2: 2009 EN 61000-3-3: 2008 AS/NZS CISPR 22: 2009+A1: 2010
Software		EasyBuilder Pro V4.00.01 or later versions

1.2 Dimensions
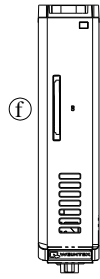
Top View
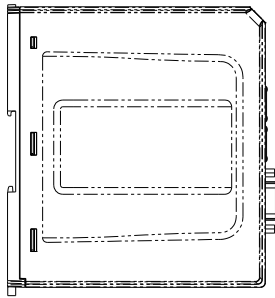
Side View *Front View* *Side View*

27.00
[1.063]

125.00
[4.921]

129.73
[5.107]

114.80
[4.520]
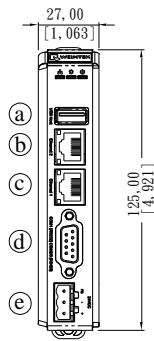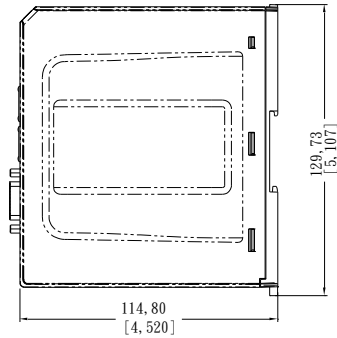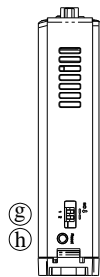
Bottom View

a	USB Host Port	e	Power Connector
b	Ethernet 2 Port	f	SD Card Slot
c	Ethernet 1 Port	g	DIP Switch
d	Com1 RS-232, Com2 RS-485 2W/4W, Com3 RS-485 2W	h	Reset Button

1.3 Connector pin designations

PIN#	Symbol	COM1 RS-232	COM2 RS-485 2W	COM2 RS-485 4W	COM3 RS-485
1	Data+				Data+
2	RxD	Received Data			
3	TxD	Transmitted Data			
4	Data-				Data-
5	GND	Signal Ground			
6	RX+		Data+	RX+	
7	RX-		Data-	RX-	
8	TX+			TX+	
9	TX-			TX-	

1.4 USB host port and SD card slot

USB 2.0 full speed host interface supports barcode scanners and USB drive. While using external hard drive, use external power supply. Do not use USB port to charge external device. You may use SD card as an extension of storage

1.5 Ethernet port

The unit has two 10/100/1000M Gigabit Ethernet ports.

The LED indicators on the Ethernet port indicate:

Orange LED: LAN link status
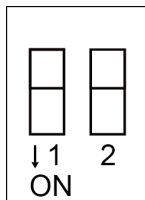
Green LED: Active communication status

1.6 DIP switch

Each HMI is equipped with a reset button and a set of DIP switches. When using the DIP switches to change modes, the corresponding functions will be triggered.

When SW1 is turned ON and power the unit again, the IP setting is restored to default:

Ethernet 1: DHCP

Ethernet 2: 192.168.100.1

SW1	SW2	Mode
OFF	OFF	Normal mode
ON	OFF	Restore Ethernet IP settings
OFF	**ON**	Boot loader mode
ON	**ON**	Restore factory default

Note: Reboot cMT-SVR after adjusting DIP switches to start the corresponding mode. When restore factory default, the project file and history data stored in the unit are all cleared.

1.7 LED indicator

LED indicators show the operation status of cMT-SVR.

| Power (Orange)	Indicates power status.
CPU (Green)	Indicates CPU status.
Communication (Blue)	Indicates communication status. It blinks during communication and may stay on when communication is good.

1.8 CR1225 battery

The cMT-SVR Series HMI requires a CR1225 coin type lithium battery to keep the RTC running.
Battery type: CR1225 3V lithium battery

1.9 Power connection

Power: The unit can be powered by DC power only, voltage range: 24±20% Volts DC, compatible with most controller DC systems. The power conditioning circuitry inside the unit is accomplished by a switching power supply. The peak starting current can be as high as 500mA.

Connection: To make a connection, strip about 3/8" of insulation off the end of the wire, turn the connector screw counterclockwise until the gap is wide open, insert the wire all the way in, and turn the screw clockwise until it is tight.
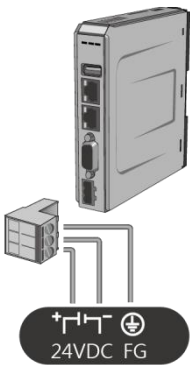
Note: Connect positive DC line to the '+' terminal and the DC ground to the '-' terminal.

1.10 How to update cMT-SVR OS image

Copy the MTfirmware.bin file to SD card, insert the SD card to cMT-SVR and flip DIP Switch 2 to ON. Restart cMT-SVR and wait about 2 minutes for the system to update OS image.

1.11 Requirements

1. HMI model: cMT-SVR
2. EasyBuilder Pro software version: V4.00.01 or later versions
3. Device: iPad Series
4. iOS version: iOS 6.0 or later versions

5. CloudHMI App: Download CloudHMI application from App Store.
6. Wireless router: The cMT-SVR connects with other devices through wires. To connect iPad with cMT-SVR, use a wireless router.
7. One iPad can operate three logged in cMT-SVRs simultaneously.
8. One cMT-SVR can connect with three iPads simultaneously.

Chapter 2 System Setting

Connect cMT-SVR via Ethernet cable, and configure system settings using the following two ways.

Set in internet browser

Open internet browser (IE, Chrome, or Firefox), and enter cMT-SVR IP address (for example: 192.168.1.44/web_ihmi) to configure cMT-SVR.

Set on iPad

Install and open CloudHMI App on iPad.

Tap Search icon, select the cMT-SVR and tap [icon] icon to configure cMT-SVR.

Note: The default IP address of Ethernet 1: DHCP, and Ethernet 2: 192.168.100.1

2.1   cMT-SVR System Setting

2.1.1   Information

The following part introduces cMT-SVR system information.
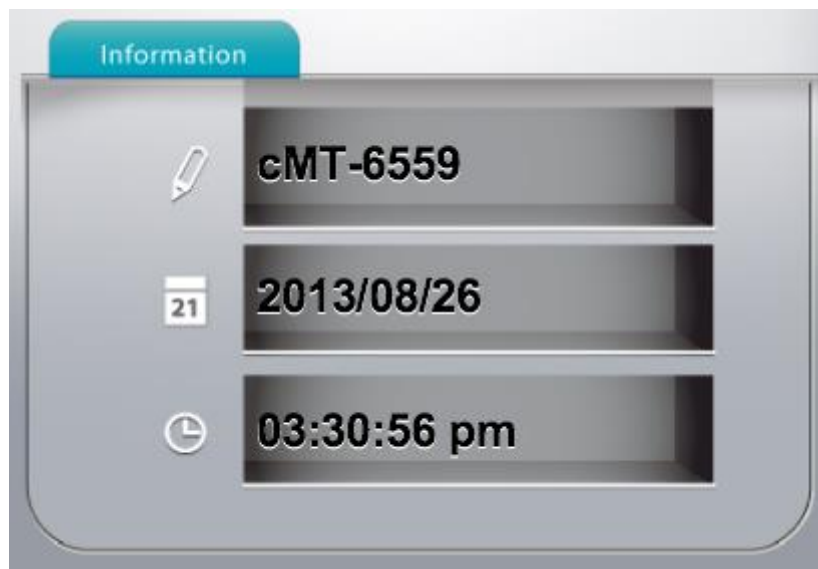
Icon	Description
	Displays HMI name.
	Displays RTC date.
	Displays RTC time.

2.1.2 System Setting

The following part introduces cMT-SVR system setting.

There are two modes, [System Setting] and [Update project to SVR]. [System Setting] controls all the settings while [Update project to SVR] controls limited items. For safety, confirm password before configuring. Also, before selecting [History], enter password. History data can be downloaded when password is confirmed.

IP Setting

Set the IP address of Ethernet 1 and Ethernet 2. The default IP address of Ethernet 1 is DHCP. The default IP address of Ethernet 2 is 192.168.100.1.

Date/Time Setting

Set RTC date and time.
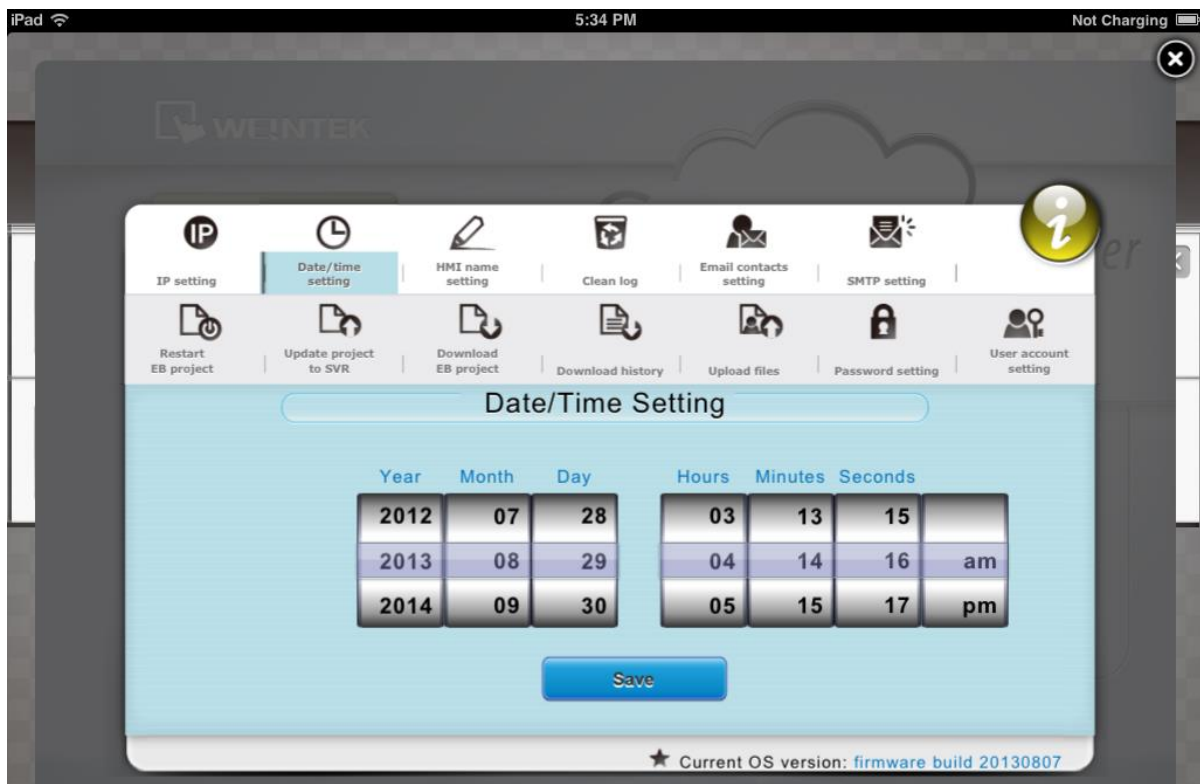
HMI Name Setting

Enter a cMT-SVR name to identify the unit when transferring data. This avoids remembering the IP address of each cMT-SVR.
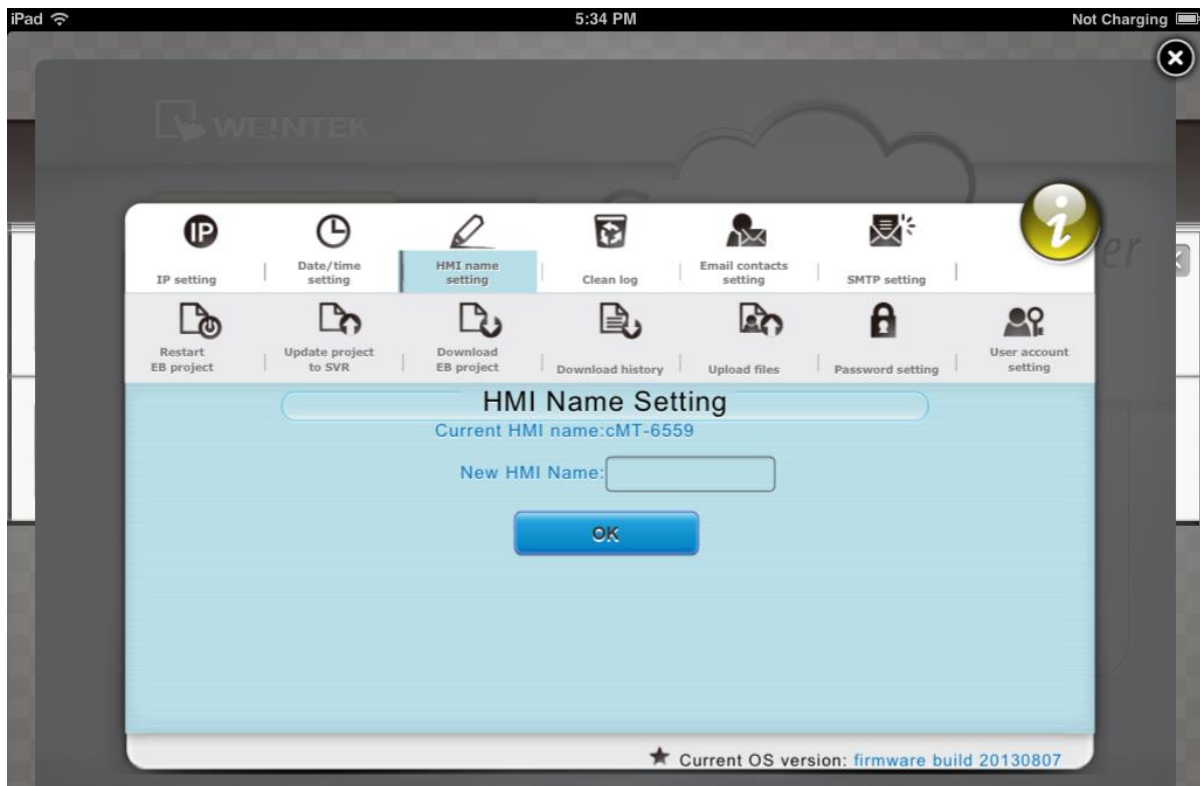
Clean log

Clear history data in cMT-SVR.
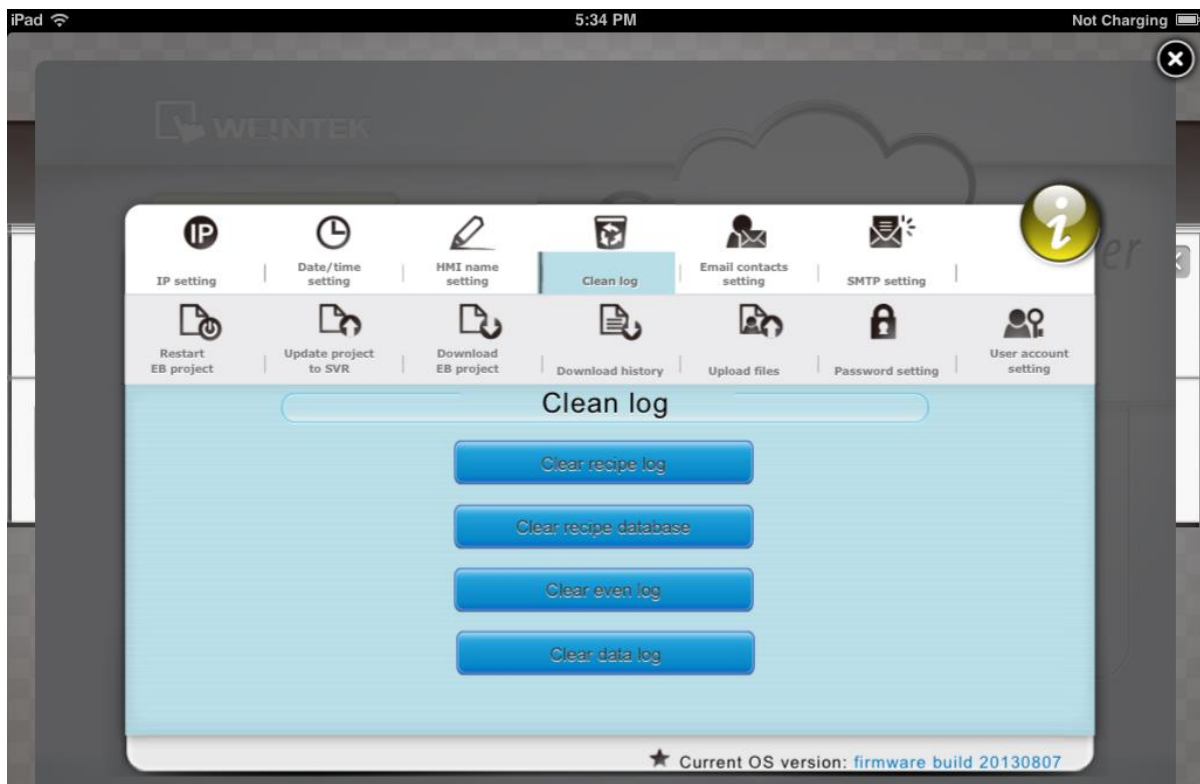
Email contacts setting

Set the E-mail contact addresses and group number.
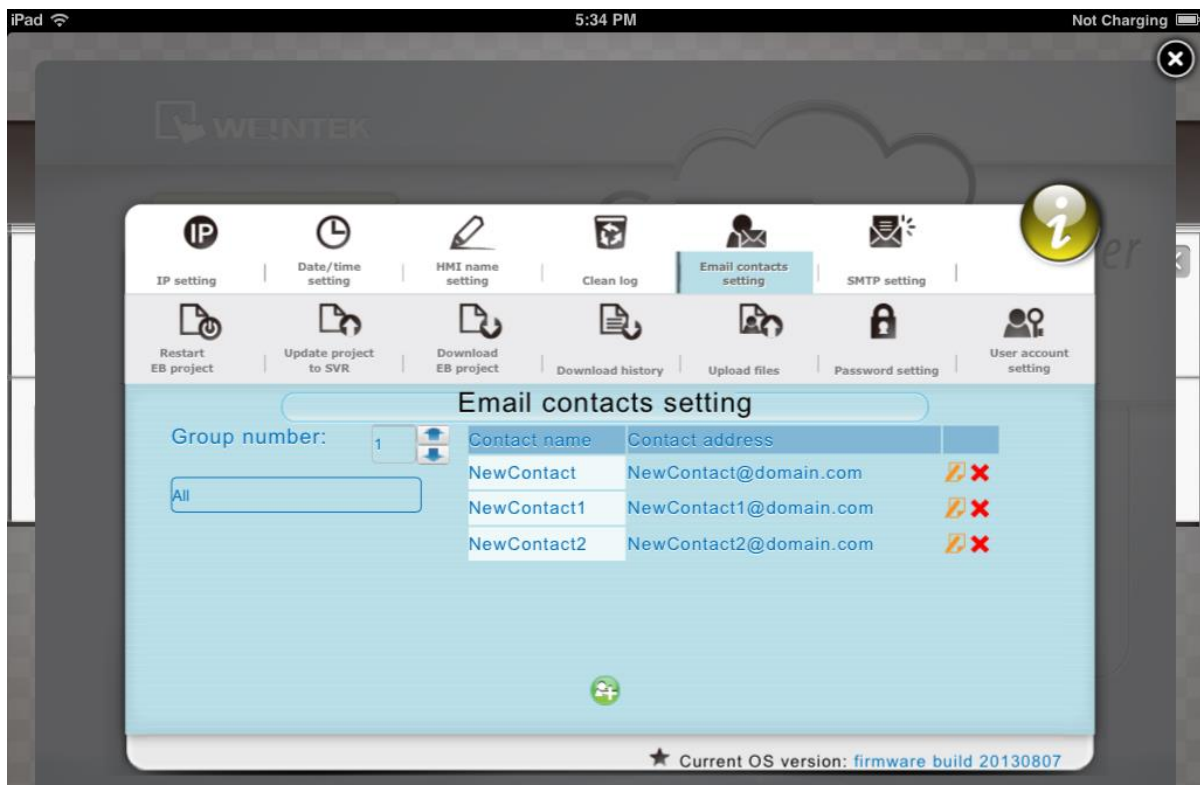
SMTP setting

Configure E-mail server and relevant settings.

Restart EB Project

Restart cMT-SVR project and restore to initial state.
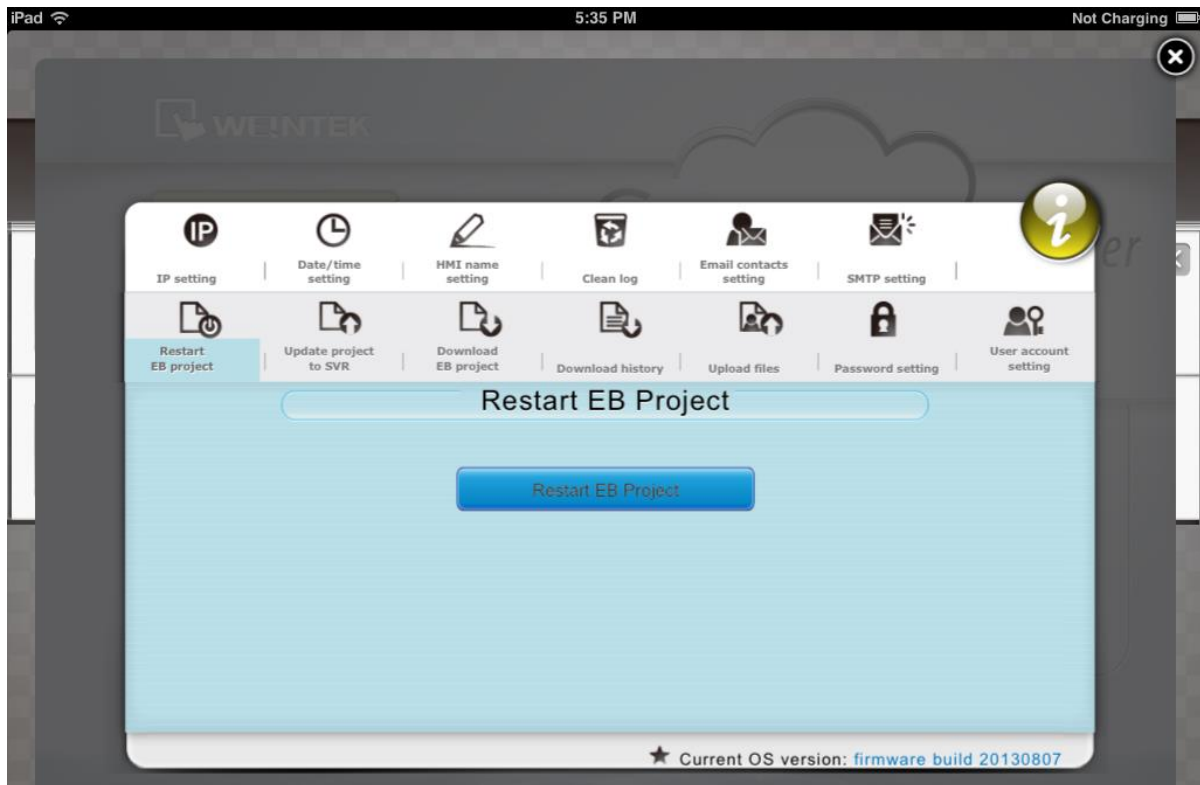
Update project to SVR

Upload the *.cxob project file to cMT-SVR.
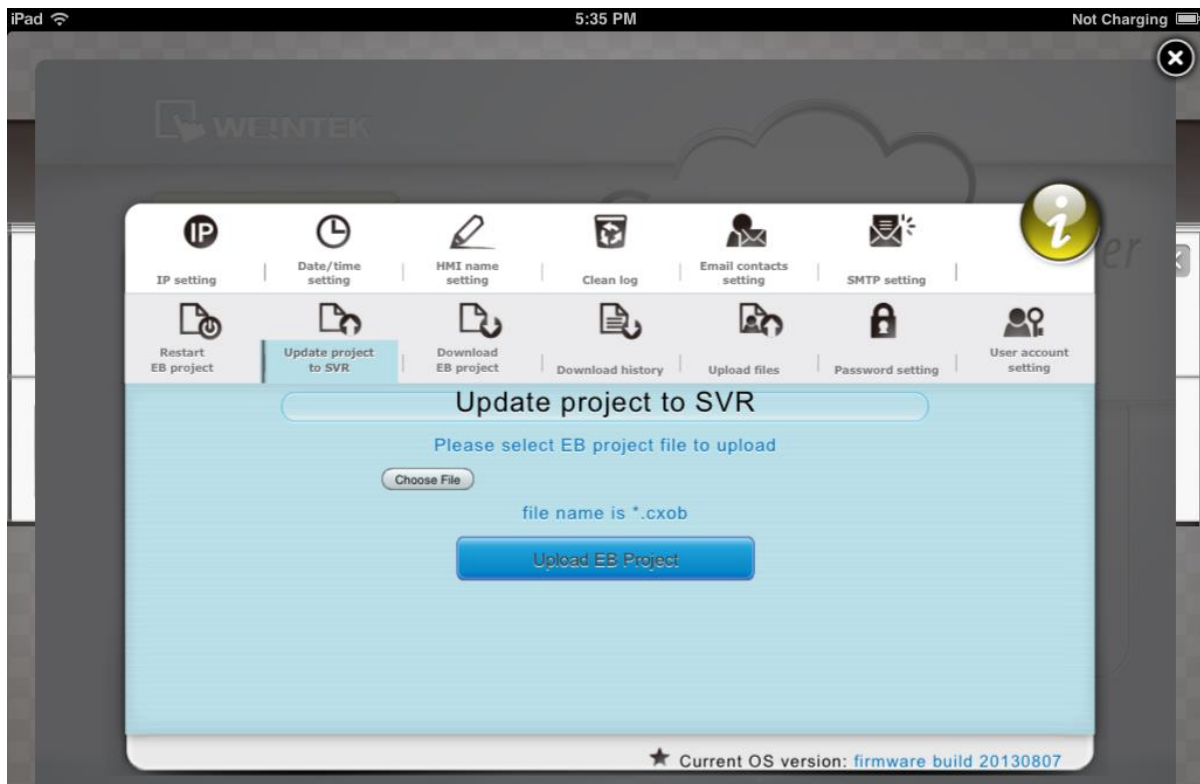
Download EB project

Download the *.cxob project file from cMT-SVR to PC.
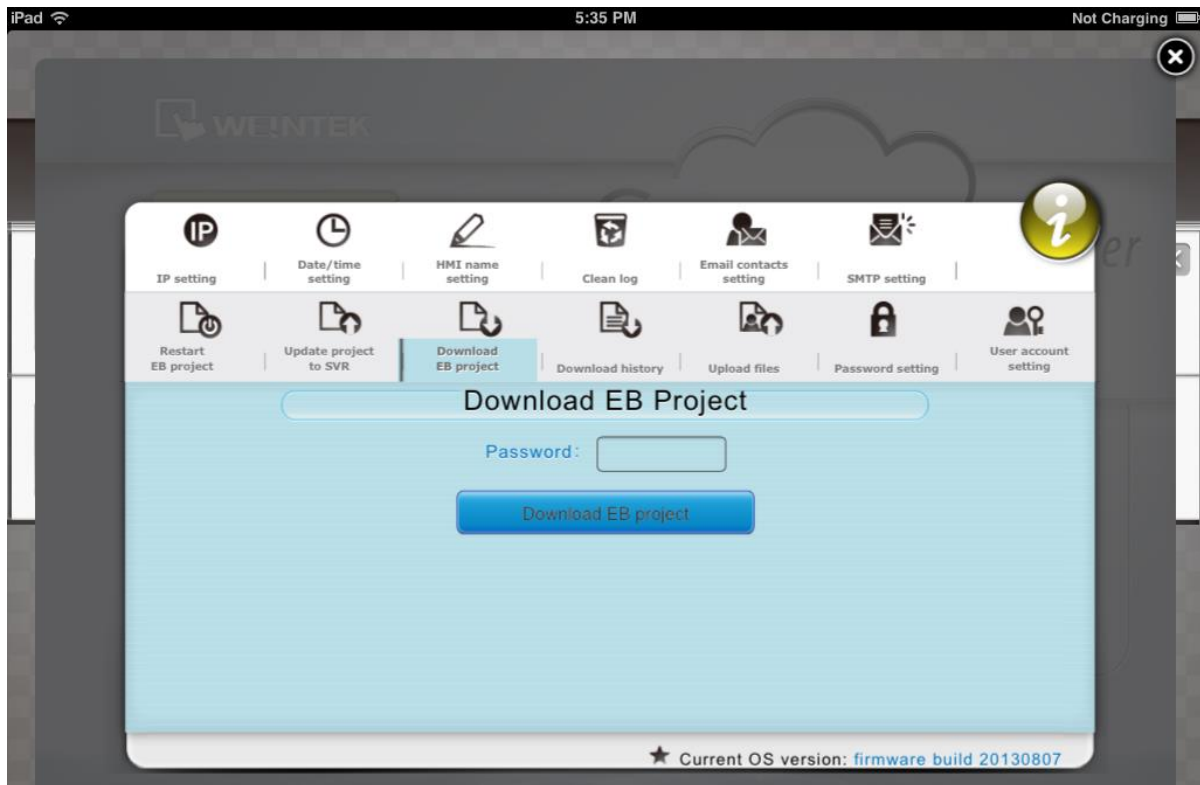
Download history

Download history data from cMT-SVR to PC.
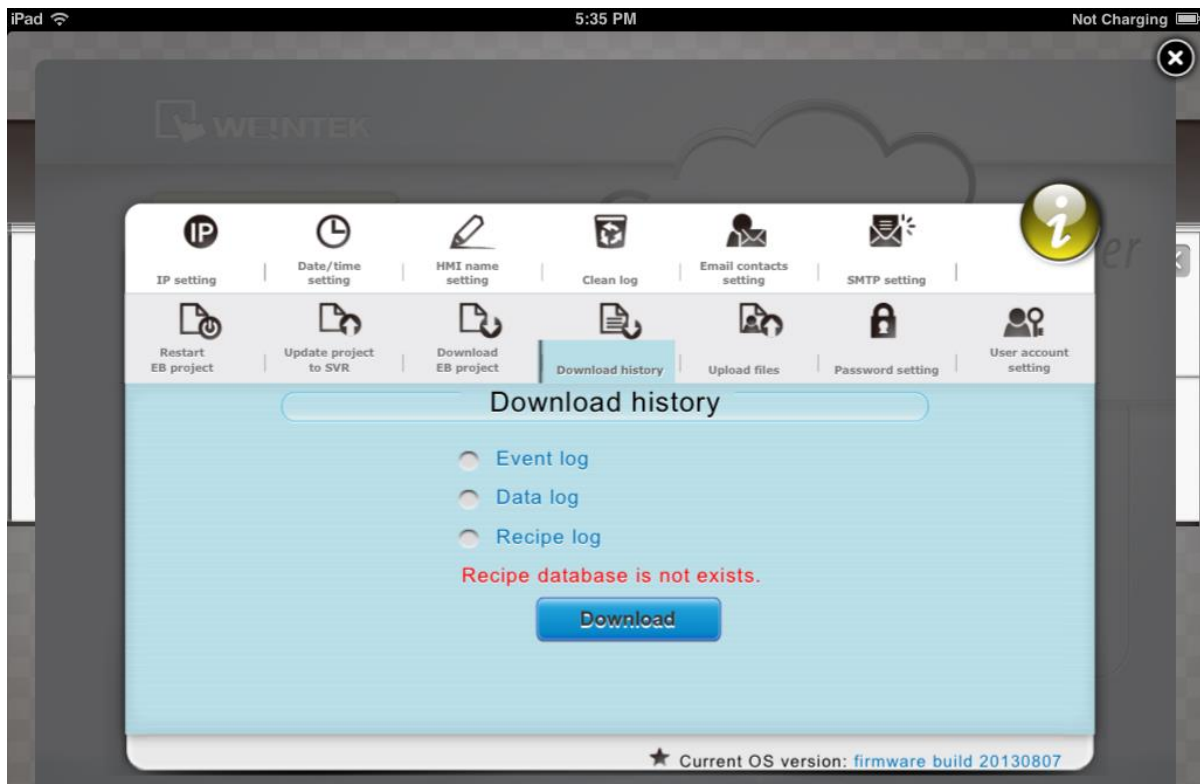
Upload files

Select E-mail account setting or User account setting and upload the file to cMT-SVR.
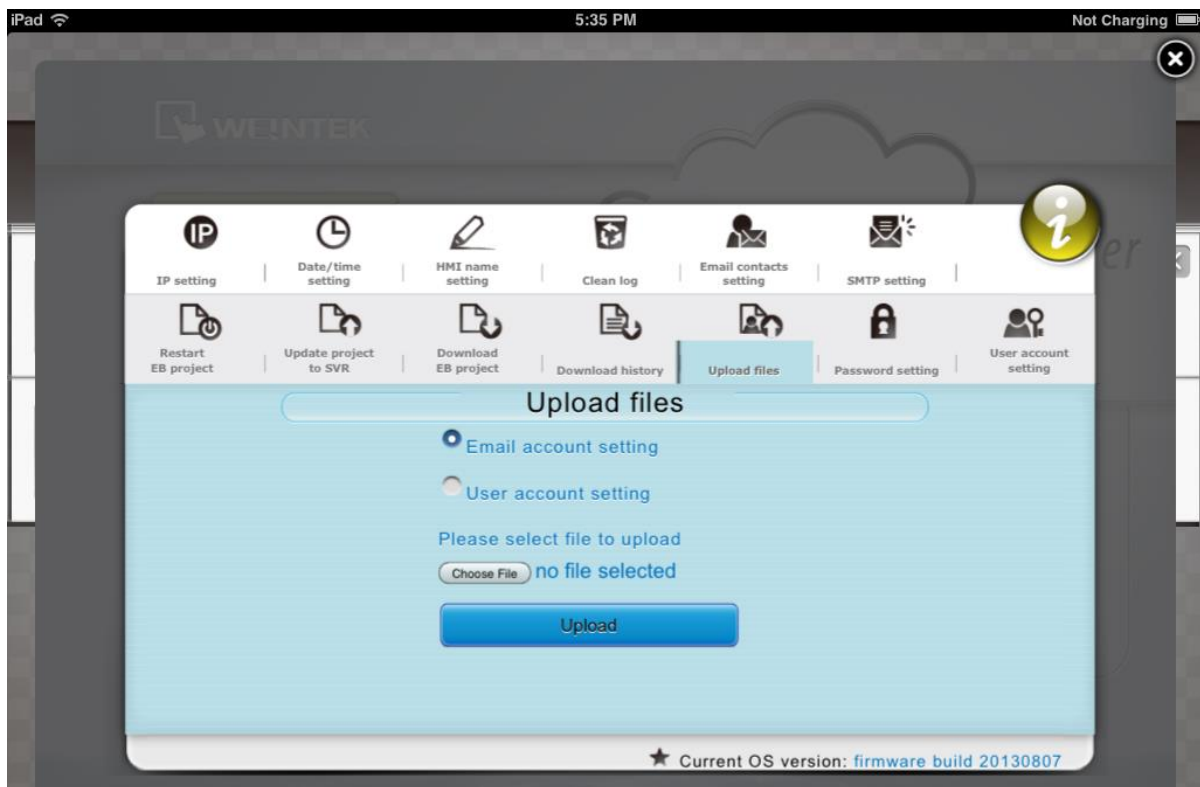
Password Setting

Set the password of identities for login, and the password for transferring project file or history data.
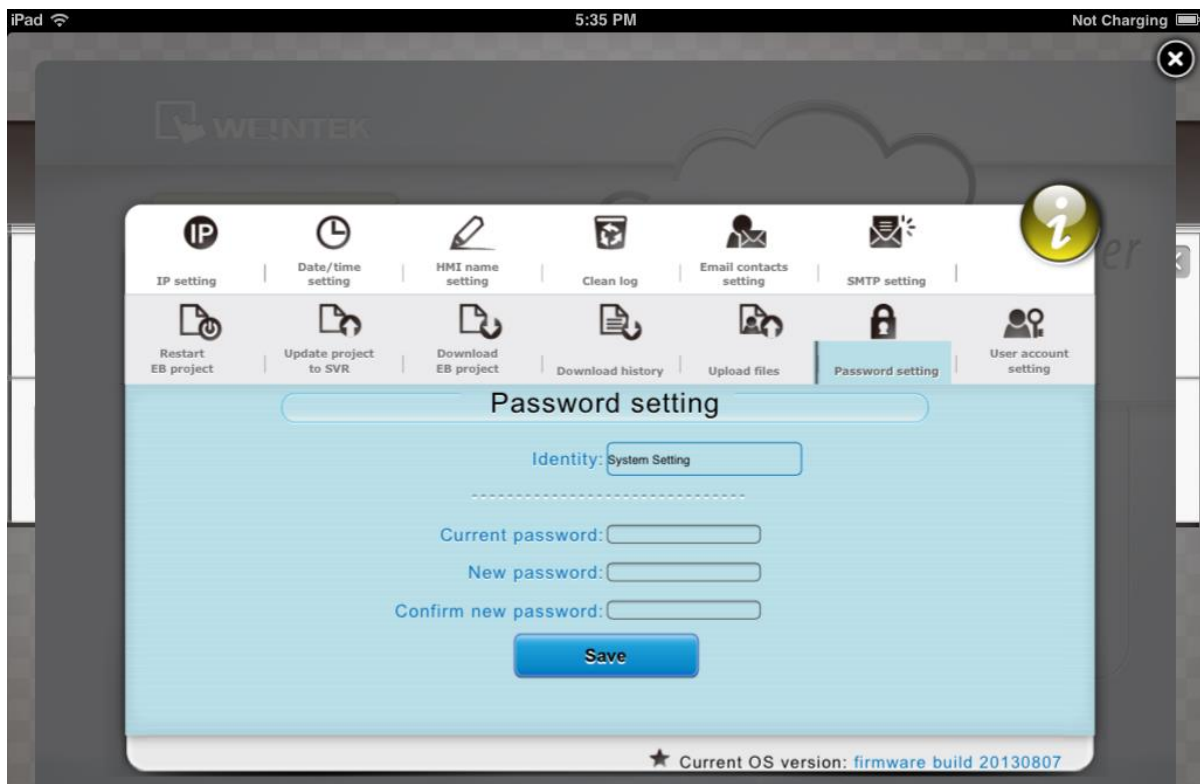
User account setting

Set user password and operable classes.
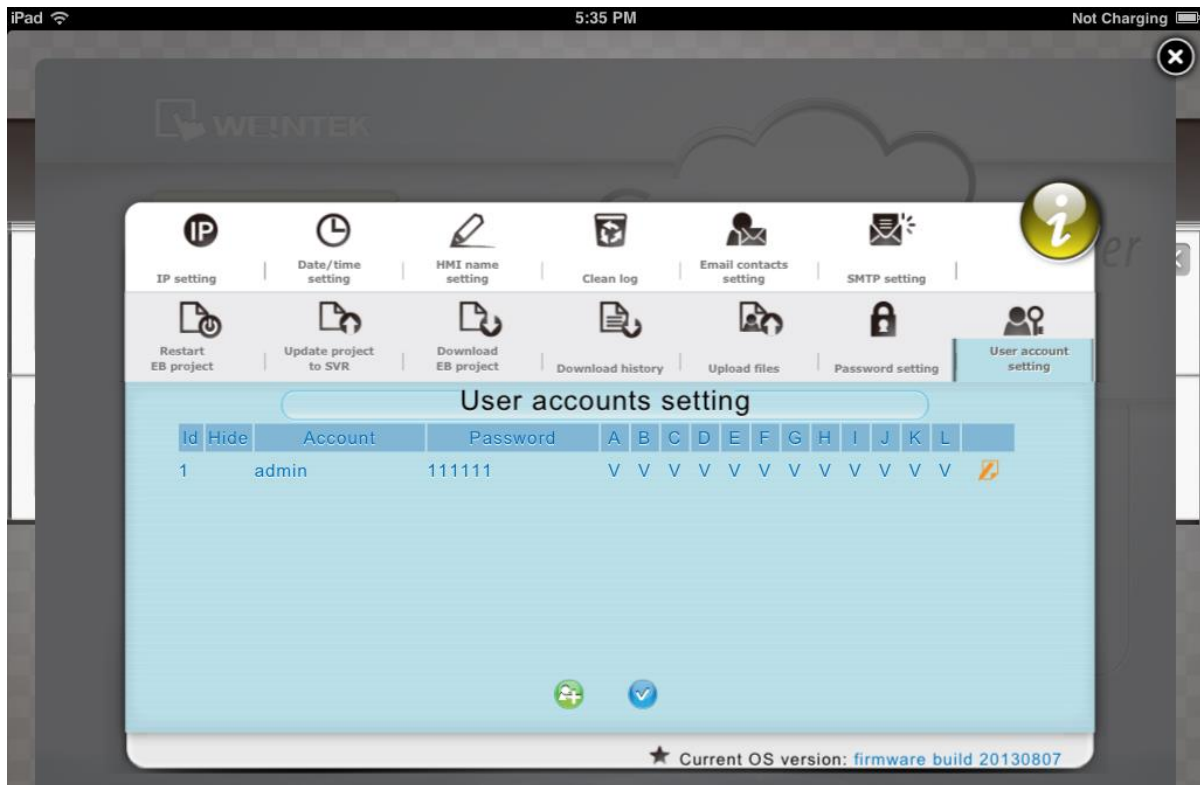
Chapter 3 How to create a cMT-SVR project

3.1 Create a new project

Step 1.   Launch EasyBuilder Pro and select cMT-SVR model.
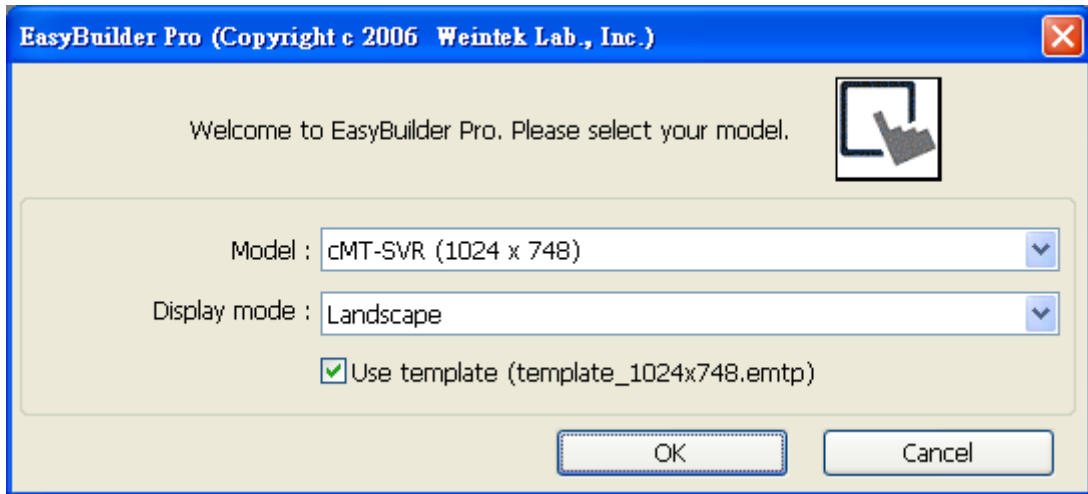
Step 2.   Create the needed objects on editing screen.
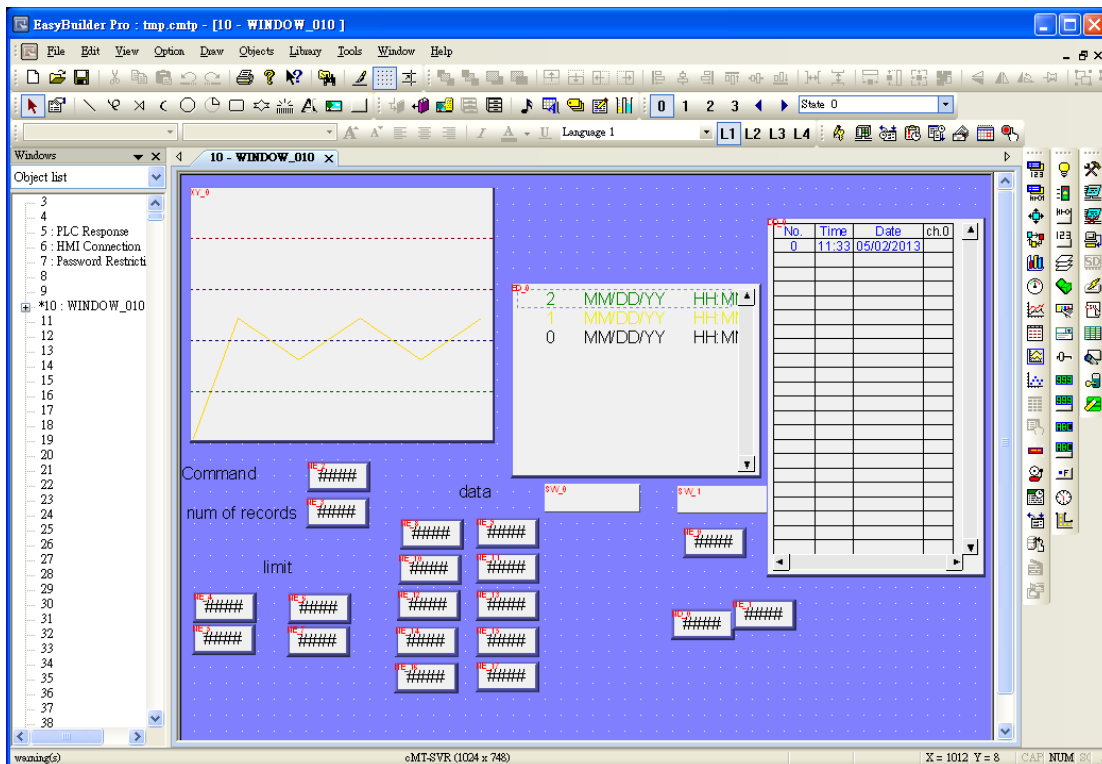
Step 3.   Save the project and compile to *.cxob file.

3.2 Download project to cMT-SVR

The compiled *.cxob file can be downloaded by using EasyBuilder Pro via Ethernet.
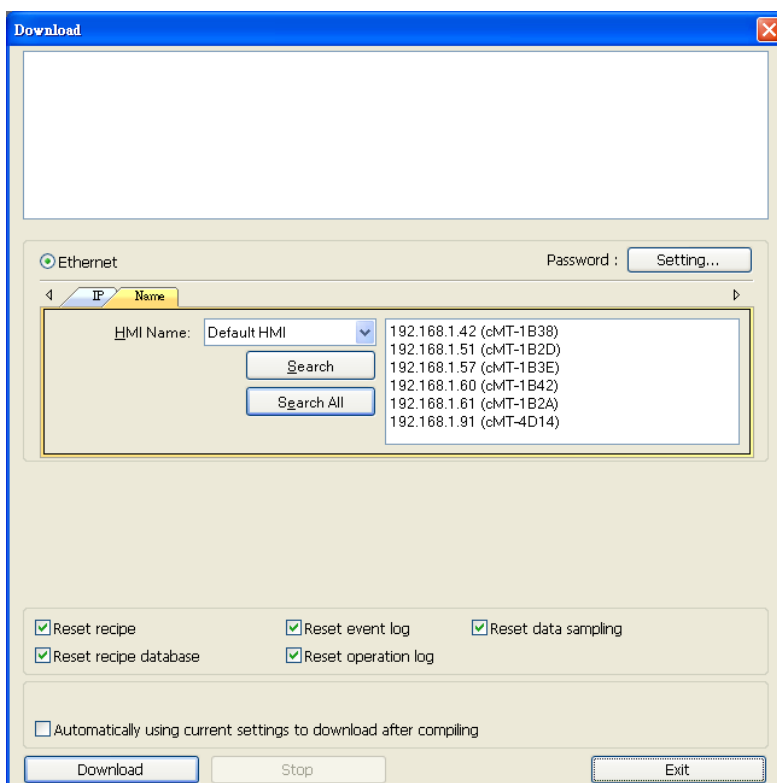
Or, in cMT-SVR System Setting, tap [Update Project to SVR] to transfer project file from PC to cMT-SVR. Open internet browser (IE, Chrome, Firefox), enter cMT-SVR IP address (for example: 192.168.1.44/web_ihmi), tap System Setting, enter password, and then configure cMT-SVR settings.

Chapter 4 CloudHMI App

4.1 Introduction of icons

Icon	Description
	After download CloudHMI from App Store, tap this icon to run CloudHMI App.
	After opening CloudHMI, tap the Start Button to configure the settings.
	Project tab lists the logged in cMT-SVRs. Each iPad can control three cMT-SVRs simultaneously.
	Search tab lists all the cMT-SVRs on the same network.
	History tab lists the cMT-SVRs that logged in before.
	System tab is used to adjust the volume or enable iPad Auto-Lock. If needed, switch language here. After changing the language, log in CloudHMI App again to update the setting.
	Tap this icon to make cMT-SVR CPU LED (green) blink for finding the cMT-SVR.
	Tap this icon to load cMT-SVR project to iPad and operate.
	Tap this icon to configure cMT-SVR system settings.
	In Search tab sort cMT-SVRs according to IP address.
	In Search tab sort cMT-SVRs according to HMI name.
	In History tab clear all the login records.
	Tap this icon to open Help.

4.2 How to load project file to iPad
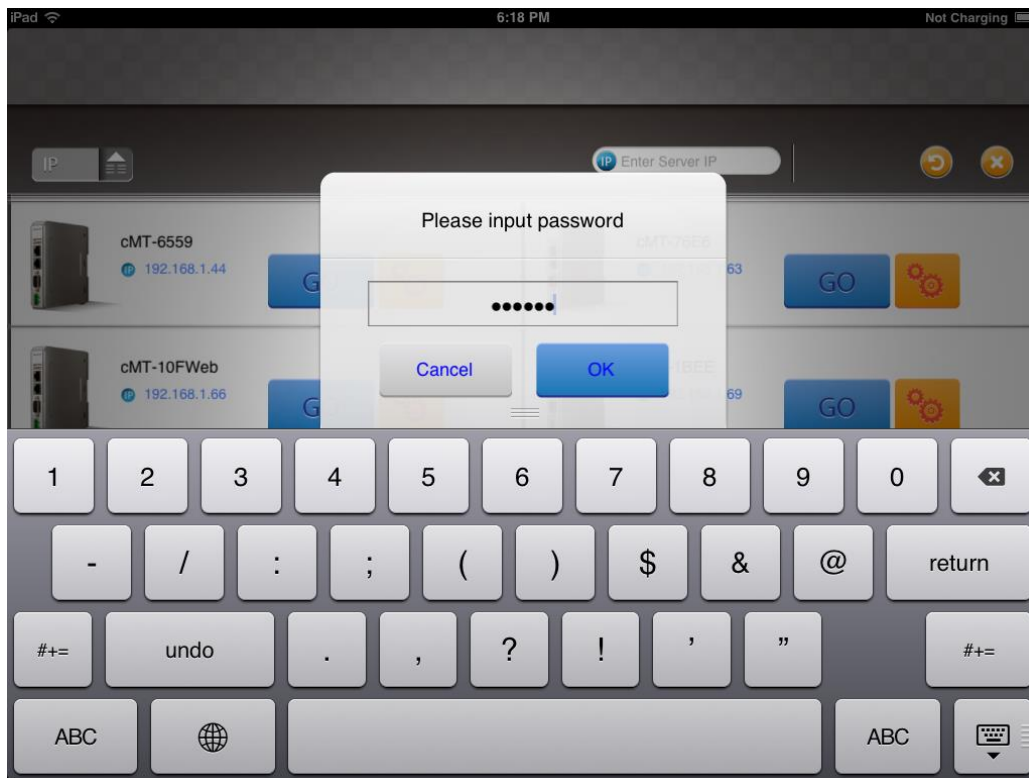
Step 1.   Start CloudHMI App, tap Start Button as shown in the following figure.

Step 2.   Search all the cMT-SVRs on the same network.

Step 3.   Select the cMT-SVR, tap [GO] and then enter password.

Step 4.   The iPad displays the project after the project is loaded

Tap Start Button to return to Search screen. To connect other cMT-SVR, follow the preceding steps to search cMT-SVR and load the project.

The ☑ badge is displayed in the icons of the successfully connected cMT-SVRs.

Up to three cMT-SVRs can log in iPad simultaneously, and for the rest connected cMT-SVRs, the

GO button is not available.

4.3 How to switch between cMT-SVR projects

When multiple cMT-SVRs are connected, to switch between cMT-SVR projects, select from Project tab. To delete cMT-SVR project, tap .