# 3. Create an EasyBuilder Pro Project

This chapter explains the basic steps to create an EasyBuilder Pro project.

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#### 3.1. Overview

The following is the process of creating a project.

- 1. Create a new project file.
- 2. Save and compile the project file.
- 3. Run On-line or Off-line simulation.
- 4. Download the project file to HMI.

The following describes each process.

Click the icon to watch the demonstration film. Please confirm your internet connection before playing the film.

#### 3.2. Create a New Project File

- 1. Launch EasyBuilder Pro and open a new project file.
- 2. Select a model and select [Use template] check box.

Open Model :	eMT3 Orientation :	0 x 272) 0 x 272) 8071iP (800 x 480) 24 x 600) 24 x 600) 24 x 600) x 480) x 500) (000 x 768) 10 x 272) x 480) 10 x 272) 10 x 272
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3. Click [New] button in the Device tab and select a device.





rmter/	Backup Serv	er Tim	e Sync./DST	e-Mail	Re	cipes Ce	ellular Data Network
Device	Model	General	System Setting	Security	Nor	n-ASCII Fonts	Extended Memory
Device list	:					<u>W1</u>	nat's my IP ?
No.		Name	Location	Device type	в	Interface	I/F Protocol
▶ Loca	I HMI	Local HMI	Local	eMT3105 (	800		-

#### 4. Configure parameters.

Device Properties
Name : Mitsubishi FX0S/FX0N/FX1S/FX1N/FX2
⊘ HMI
Location : Local   Settings
PLC type : Mitsubishi FX0S/FX0N/FX1S/FX1N/FX2
V.1.40, MITSUBISHI_FX0N.e30
PLC I/F : RS-485 4W
* Support communications between HMI and PLC in pass-through mode
* Set LW-9903 to 2 to enhance the speed of download/upload PLC program in pass-through mode
COM : COM1 (9600,E,7,1) Settings
PLC default station no. : 0
Default station no. use station no. variable
Use broadcast command
Interval of block pack (words) : 5
Max. read-command size (words): 32 v
Max. write-command size (words): 32 v
OK Cancel

5. A new device is added to the [Device List].

Printer	Backup Serv	er Tim	e Sync./DST	e-Mail	Rec	ipes Ce	llular Data Network
Device	Model	General	System Setting	Security	Non-	ASCII Fonts	Extended Memory
Device lis	t:					<u>W1</u>	nat's my IP ?
No.		Name	Location	Device typ	e	Interface	I/F Protocol
Loc	al HMI	Local HMI	Local	eMT3105 (	008)	-21	-
A loc	al PLC 1	Mitsubishi F	X0 Local	Mitsubishi	EX0	COM 1 (960)	),E RS485 4W

6. Create an object, for example, a Toggle Switch, and then set the address.

eneral	Security	Shape	Label			
	Comment	1	01			
		) Bit I	Lamp	💿 Toggle :	Switch	
Read a	ddress —	🔽 Rea	d/Write use diffe	rent addresses		
1	PLC : Mit	Mitsubishi FX0S/FX0N/FX1S/FX1N/FX2				Settings
Add	lress : X		-	0		
Write	address :	Inve	ert signal			
I	LC : Mit	subishi FI	COS/FXON/FX1S	FX1N/FX2	•][	Settings
Add	ress : Y		•	0		
		🔲 Wri	te when button is	released		
Attribu	ate					
S	witch style	: Set OF	F 🗸	]		

7. Place the object in the edit window. A project is now created.

] Esy8uilder Pro : E8Project1 - [10 - WINDOW_010 ]					
File 🗄 🖾 🐟 🏕 🗸 Home	Project Object Data/Hist	pry View Tool		- 8 × *	
Paste System Pater Clipboard	Image:	일 후 의 편 아 네 문 관 图 街 水 아 응 등 한 문 소 명· 문· 문· 우· Arrange	AdobeDevanagari • 5 • AA AA I <u>A</u> • <u>U</u> E E Ap Font	S1       S2       S3       S4       1       ‡         L1       L2       L3       L4       1       ‡         State/Language	
Windows 👻 🗙	4 10 - WINDOW_010 x			Þ	
Object list           3: Fast Selection           4: Common Window           5: Full Cesponse           6: HMI Connection           7: Password Restriction           8: Storage Space Insufficient           9: Backup           10: WINDOW_010           11           12           13           14           15           16           17           18           19           20           21           22           23           4           15					

#### 3.3. Save and Compile the Project File

- 1. In EasyBuilder Pro toolbar click [File] » [Save] to save the .emtp file.
- 2. In EasyBuilder Pro toolbar click [Project] » [Compile] to compile .emtp file as .exob file, which could be downloaded to HMI. This also checks if the project can run correctly.



# Note

- For cMT / cMT X Series models, the project file extension is .cmtp, and the compiled file extension is .cxob.
- 3. To use multiple languages, all languages must be configured in Label Tag Library first. When downloading the project to HMI, select the needed languages only. A successful compilation is shown in the following figure.

Compile
Project name : C:\Users\Janecheng\Desktop\EBProject1.cmtp
CXOB file name : C:\Users\Janecheng\Desktop\EBProject1.cxob
CXOB password : Settings (used in decompiler)
Decompilation is prohibited     Disable HMI upload function
Select the languages used on the HMI
Startup language after redownloading the project : Language 1 $\checkmark$
✓ Language 1
Treat the use of unsupported tags as : Frror
Double-dick a message to modify the attributes of the object in question
Compile Quick Compile Font Management Build font files Close

## 3.4. Compile and Quick Compile

The [Compile] and [Quick Compile] modes can be selected in the Compile window. To compile a relatively large file in which only a few windows are modified, the Quick Compile mode can be used to save compilation time.

Compile:

Compile the whole project file.

Quick Compile:

Only compile the modified window or event log. When one of the records in the event log is changed, the whole event log will be compiled.



# Note

- If the project file is compiled for the first time, the Quick Compile mode is not supported.
- In a project file, when its system settings, picture library, sound library, or label library is modified, then Quick Compile mode is not supported for the first compilation after modification.
- The whole project file must be compiled before it is downloaded to HMI.
- Utility Manager does not support the project file compiled using Quick Compile mode. To download a project file using Utility Manager, please compile the whole project file first.

## 3.5. Run On-Line or Off-Line Simulation

Off-line simulation: Simulate project operation on PC without the need for connecting any device.

....

On-line simulation: Simulate project operation on PC without downloading the project to HMI. The PLC is connected to PC, please set correct parameters.

## Note

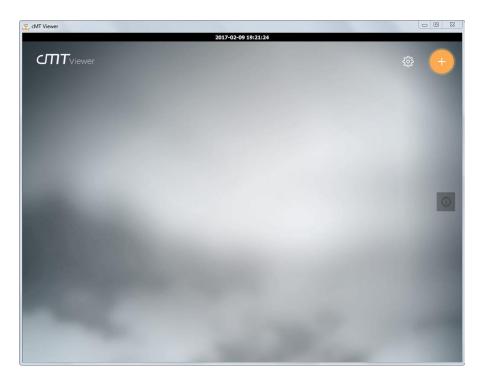
- (iE/XE/eMT Series) When using On-line Simulation on PC, if the target device is the PLC directly connected to PC, there is a 10-minute simulation limit.
- (cMT/cMT X Series) When using On-line Simulation on PC, the monitoring time is limited to one hour and a prompt window pops up every 15 minutes.

## 3.6. cMT Viewer

This program connects to cMT Series models via network. To run this program, execute cMTViewer.exe under installation directory. Or, in EasyBuilder Pro toolbar, click [Tools] » [cMT Viewer].

Click the icon to watch the demonstration film. Please confirm your internet connection before playing the film.





## 3.7. Download the Project File to HMI

The following explains four ways to download the project file to HMI.

# Note

- For cMT-SVR, only the way described in 3.6.1 is available.
- When download project file to HMI using mini USB cable, please do not connect PLC simultaneously, in order to avoid noise from PLC interfering with HMI.

Let the icon to watch the demonstration film. Please confirm your internet connection before playing the film.

#### 3.7.1. Configure in EasyBuilder Pro

- In EasyBuilder Pro toolbar, click [Project] » [Download]. Make sure that all the settings are correct.
- 2. Select [Ethernet], set password and HMI IP.



## eMT, iE, XE, mTV Series

cMT,	cMT 2	X Series
------	-------	----------

Download (PC->HMI)	Download (PC->HMI)
Ethernet     Password/Fort no. of download/upload : Settings      IP HMI Name     IP : 10.7.139.86	Ethernet     Password/Port no. of download/upload : Settings      IP HMI Name     P     IP : 10.7.139.86
Font files     Vise EasyAccess 2.0     Viset's mv IP?     Disgnostic tool     Runtime * Necessary if update runtime or execute download first time.     Use user-defined startup screen	What's my IP?           Project Checksum : 9ee5836c3331ab235f69a5a011d7e5b7           Image: The constraint of the second s
Use system settings file	Use system settings file
Synchronize HMI clock with PC     Delete user-defined startup screen     Reset recipe (RW, RW, A)     Reset event log     Reset recipe database     Reset operation log     Reset string table	Synchronize HMI clock with PC     Reset recipe (RW, RW, A)     Reset event log     Reset recipe database     Reset operation log     Reset tring table     Reset PRW on HMI and all cMT Viewers
Reboot HMI after download     Automatically using current settings to download after compiling     Download Stop Exit	Automatically using current settings to download after compiling           Download         Stop   Exit

Setting	Description			
Font files	Download the font used in the project to HMI.			
Runtime	Select the check box to update the HMI kernel			
	programs. If this is the first time downloading file or			
	EasyBuilder Pro version is updated, please download			
	the firmware before downloading files to HMI.			
EasyAccess 2.0	Download EasyAccess 2.0 driver to HMI. (This option			
	is available only for MT8000iE models. For other			
	models, EasyAccess 2.0 will be automatically			
	downloaded.)			
Use user-defined	Download the specified .bmp image file to the HMI			
startup screen	as the startup screen. For cMT/cMT X HMI, please			
	see chapter 5.4 General Settings in this user manual			
	for more information on updating the startup screen			
	on the HMI.			
Use system settings	Download the system settings file to update			
file	hardware settings.			
Synchronize HMI	Synchronize HMI time with PC time when			
clock with PC	downloading project file.			
Delete existing user	Select the check box to delete existing user			
accounts, e-Mail contacts and SMTP	accounts, e-Mail contacts or SMTP settings before			
settings	downloading the project. This setting is only			
	effective when one of the following settings is			

	enabled:			
	1. [System Parameters] » [Security] » [Enhanced			
	security mode] » [Use existing user accounts on			
	HMI first (if existed), Othrewise, use settings			
	below].			
	2. [System Parameter s] » [e-Mail] » [Use existing			
	user accounts on HMI first (if existed),			
	Othrewise, use settings below].			
Reset recipe/ event log/ data sampling/ recipe database/ operation log/ string table/ user-defined startup screen	The selected files will be erased before downloading.			
Reboot HMI after download	HMI will reboot after the downloading process is			
aowilloau	done.			
Automatically using current	The system will compile the project and download it			
settings to	to the latest target HMI. The way to enable this			
download after	<b>o</b> ,			

[Automatically using current settings to download after compiling]

If this check box is selected, EasyBuilder Pro will compile the project and download it to the latest target HMI.

- 1. In EasyBuilder Pro toolbar, click [File] » [Preferences].
- 2. Select [Automatic save and compile when download and simulate] check box.



ference	
Project Display Grid	<ul> <li>Automatically save and compile the project when download and simulate</li> <li>Generate backup of project file before save</li> </ul>
Library	<ul> <li>Automatically make used pictures and shapes into the project library</li> <li>Save AutoRecover information</li> </ul>
	OK Cancel

- 3. In EasyBuilder Pro toolbar, click [Save] and then [Download].
- **4.** In the dialog box, select [Automatically using current settings to download after compiling] check box.
- 5. Click [Download].
- 6. When finished, next time when [Download] is clicked, EasyBuilder Pro will automatically compile and download the project to the latest target HMI.

## 3.7.2. Use HMI Name

**1.** Go to [System settings] on HMI and then set HMI name first.

stem settings	
Network <sup>1</sup> Time/D	ate <sup>\</sup> Securif / HMI name \setting \g \
HMI name 📧	31



2. On PC, select the HMI name and start downloading. To use [Search], enter the HMI name first to search for the HMI. [Search all] searches for all HMIs in the same subnet network.

Download		<b></b>
Ethernet	Password/Por	t no. of download/upload : Settings
4 IP HMI Name		Þ
	Search	
<ul> <li>✓ Font files</li> <li>✓ Use EasyAc</li> <li>✓ Runtime * Necessary if update runtime</li> </ul>		What's my IP?
Use user-defined startup screen		
Use system settings file		
Synchronize HMI dock with PC		
Delete user-defined startup screen		
Reset recipe	<ul> <li>Reset event log</li> <li>Reset operation log</li> </ul>	<ul> <li>Reset data sampling</li> <li>Reset string table</li> </ul>
Reset recipe database	Keset operation log	V Reset sung table
Reboot HMI after download  Automatically using current settings to	download after compiling	
Download Stop		Exit



#### **3.7.3.** Use USB cable

Download		
OSB cable		Password : Settings
▼ Font files		
Runtime * Necessary if update runtin	ne or execute download first time.	
Use user-defined startup screen		
Use system settings file		
Delete user-defined startup screen		
Reset recipe	Reset event log	📝 Reset data sampling
Reset recipe database	Reset operation log	Reset string table
Reboot HMI after download		
Automatically using current settings to	o download after compiling	
Download Stop		Exit

Select USB cable to download project to HMI. The way of setting is same as "3.6.1 Configure in EasyBuilder Pro". Before downloading via USB cable, please make sure the USB driver is installed. Go to [Computer Management] » [Device Manager] to check if USB driver is installed. If it is not installed, please refer to installation steps to install manually.

#### 3.7.4. Use USB Drive or SD Card

The following explains how to download project file by using USB drive or SD card.

 On EasyBuilder Pro toolbar click [Project] » [Build for SD card / USB disk download]. Browse for the project file and then click [Build], the file for download will be generated in the connected external device.



USB Disk/CF Card/SD Card Data	X
oso bisiy cri cardy so card bata	
Select the folder to save download data :	
H:\	Browse
✓ Use system setting (OS version 20131106 or later supports only)	
System setting file location :	
System setting hie location :	
	Browse
Build System Settings	Exit

- 2. Insert an external device to HMI.
- 3. Select [Download] on HMI and enter password.

Download/Upload	
Download	Download Settings
Upload	Password:
Restart project and exit	
	Download project files
Load System Setting	Download history files
Cancel	Clear history files
Stop after download/upload Time remaining 4	Ok Cancel

**4.** After password is confirmed, it will show the directories in the external device. (pccard: SD Card; usbdisk: USB Drive)

Pick a Directory		$\times$
Directory: /usb	disk/disk_a_1	
®∕ <b>∛</b> pccard ©∕ <b>∛</b> usbdisk		
<sup>_</sup> loor disk a 1		
≜ <sup>d</sup> ite mt8000	ie	
	ок <-	Cancel

5. Select the directory that contains project, and then click [OK] to start downloading.



Note

- Please select the parent directory of the generated files when downloading. For the structure above, please select disk\_a\_1, not mt8000ie.
- You may click [System Settings] to save the hardware settings configured in EasyBuilder Pro into SD card or USB disk, and then download the settings file to HMI. See "4 Hardware Settings" for more information.

Click the icon to watch the demonstration film. Please confirm your internet connection before playing the film.

## 3.8. Upload the Project File from HMI

- 1. On EasyBuilder Pro toolbar click [File] » [Upload].
- 2. Set HMI IP, HMI model, project location and project name, and then click [Upload].

Upl	oad								×
	Ethernet	ΟU	SB cable	Pas	sword/Port no	. of download/	upload :	Settings	
	4 IP N	lame							▶
		IP:	192.168.1.100	+	1				
							1	What's my IP ?	
	HMI	model:	eMT3070			•			
	Project lo	cation :	C:\EMTP1.exob					Browse	
	Upload		Stop					Exit	

