6 Writing Device/PLC Data in Excel File

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6.1 Monitoring Device Value on Excel



To read next data while keeping data read on Excel, refer to "5 Creating a Form Using Excel". Since this function is One-Shot action, data is overwritten in the next capturing action.

[Action Example]

Detect the rising of the trigger device (Bit device: "M01") of Device/PLC, write 5 device values of device address (Word device: address "D50" to "D54") onto an Excel file, and monitor.



This section describes the setting procedures for executing the above action (ACTION) as an example.

- **NOTE** Use only sequential address to write on an Excel file. If you specify non-sequential address, use a group symbol.
 - For more details about a group symbol, refer to "29.3 Grouping Symbols".

[Setting Procedure]

1	Creating a Template	This step creates a template to write device data of Device/PLC on.
	+	
2	Starting 'Pro-Studio EX'	This step starts 'Pro-Studio EX'.
	+	
3	Registering Entry Nodes	This step registers the PC and the GPs as entry nodes.
	+	
4	Registering Symbols	This step registers as a symbol the device of Device/ PLC from which data is read.
	+	
5	Specifying an Excel Template and its Output Book	This step sets the following items:Specify a template bookSpecify an output book
6	Setting Content of an Excel Template	This step sets the following items:Set device to readSet write layout
	+	
7	Setting ACTION Node/Process Completion Notification	This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.
8	Verifying Setting Result	This step verifies setting results on the setting content list screen.
	+	
9	Saving a Network Project File	This step saves the current settings as a network project file and reloads.
	+	
10	Transferring a Network Project File	This step transfers a saved network project file to the GP.
	•	·]
11	Executing ACTION	This step verifies that the data of Device/PLC is written in the specified area of Excel when the preset trigger condition has become effective.

6.1.1 Creating a Template

This step creates a template to write device data of Device/PLC on.

1 Start 'Microsoft Excel'.

Leave the template blank to write data in.

You can write each data on space below when executing action.



Area in which the device data is written

2 Save the file on PC desktop naming "template.xlt".

6.1.2 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

Refer to "3 Trial of Pro-Server EX" for details about starting method.

6.1.3 Registering Entry Nodes

This step registers the PC and the GP connected with network as nodes. Refer to "31 Node Registration" for details about entry nodes.



Node Name : PC1 IP Address : 192.168.0.1



Node Name : AGP1 IP Address : 192.168.0.100

Device/PLC Information



Entry node	Setting item	Setting example
PC	Node Name	PC1
	IP Address	192.168.0.1
	Туре	GP3000 series
GP	Node Name	AGP1
	IP Address	192.168.0.100

6.1.4 Registering Symbols

This step registers as a symbol the device address of Device/PLC from which data is read. Refer to "32 Symbol Registration" for details about symbols.





• Trigger (Trigger Condition)

Setting item	Setting content
Symbol Name	Start reading
Data Type	Bit
Device address for symbol registration	"01" of Device/PLC (PLC1)
No. of Devices	1

Reading Device

Setting item	Setting content
Symbol Name	PLC1 data
Data Type	16Bit (Signed)
Device address for symbol registration	"D50" to "D54" of Device/PLC (PLC1)
No. of Devices	5

6.1.5 Specifying an Excel Template and its Output Book

Specify the form template and output book created in (1). Refer to "6.3 Setting Guide" for more details.

Ex.

Settin	g item	Setting content		
Specify a Template Template Book		C:\Documents and Settings\Administrator\Desktop\templete.xlt		
	Folder Name	C:\Documents and Settings\Administrator\Desktop		
	File Name	monitor.xls		
Output Book	Start with the output book displayed	Checked		
	Do not save the output file when ACTION runs.	Not checked		

1 Click the [Feature] icon on the status bar.

Ŷ	🍫 Pro-Studio EX monitor.npx														
Fi	ile	Edit	Tool	Pro	gramming	g Assist	Setti	ng H	elp		_	_			
ļ	WEY	1	Start	»		Node	»	1	Symbol	×	*	Feature)>>	.2	Save
Г	-Sy	mbol							Node Name	AGP	1			De	vice Nam
	Group		U	ngroup			Sheet Name	Shee	et2			— ∏ Set	it as a glo		
		I	nsert		D)elete				.,					

2 Select [ACTION] from the tree display on the left of the screen, then click the [Add] button.

🂱 Pro-Studio EX 🛛 ?.npx	
File Edit Tool Programming Assist	Setting Help
Start 🌺 🟹 Node	🔉 눧 Symbol 2
Add Import Edit Delete • ACTION • Trigger Condition • Data Transfer • Device Cache	ACTION In addition t using applic using Acces In the Pro-Si referred to a

3 Click the [ACTION Type] list button, and select "Create form using Excel".

Then, enter the name of ACTION to set in the [ACTION Name] field. In this example, enter "Monitor".

Set ACTION Name/Parameter X Add a new ACTION. Specify an ACTION name, and set its parameter. ACTION Type Create form using Excel. Vintes Data to CSV file. Vintes Data from CSV file. ACTION Name Writes Data from CSV file. Upload of GP JEG Data. Upload of GP Log Data. Writes Data to E-Mail. Upload to E-Mail.	NOTE • [A	CTION Name] can be an arbitrary name.
Specify an ACTION name, and set its parameter. ACTION Type Create form using Excel. Create form using Excel. Writes Data to CSV file. ACTION Name Writes Data from CSV file. Upload of GP JPEG Data. Upload of GP Log Data. Writes Data to E-Mail.		Set ACTION Name/Parameter
Create form using Excel. Writes Data to CSV file. ACTION Name Writes Data from CSV file. Upload of GP JPEG Data. Upload of GP Log Data. Writes Data to E-Mail.		Specify an ACTION name, and set its parameter.
Upload of GP JPEG Data. Upload of GP Log Data. Writes Data to E-Mail.		Create form using Excel
Upload to the database.		Upload of GP JPEG Data. Upload of GP Log Data.

4 Click the [Click here to set the ACTION parameter] button.

	ACTION Type Crea	ate form using Excel.	-
	🗆 D	isplay the Actions of the old version of Pro-Server	
	ACTION Name Moni	itor	
(Click here to set the ACTION parameter.	
)
		Next	Cancel

- 5 Set an Excel template and its output book.
 - 1) Click the [Reference] button of [Template File] to set the Excel file "template.xls" which you created.

Create form using Excel		
		Version 1.22
┌─Template Designation ───		
When you use the wizard	of Excel template file that is the source of forms. , the theme template file is copied to a file with this name. emplate, please specify the file name.	
Template File	[Reference
	Edit Template	
Output File		

Select File			? ×
Look in	🔁 Desktop	💌 🔶 🔁	* 📰 •
History Desktop My Documents My Computer My Network P	Eile name: Files of type:	template.xlt Microsoft Excel Template or Book (*.XLT, *.XLS	Open Cancel
		Upen as read-only	1.

2) Click the [Reference] button of [Folder Name] and specify "Desktop" as a folder to save the output book.

Output File The template file stores setting info. The actual output result will be displayed in the following file.								
Folder Name	Folder Name E: Program Files Pro-face Pro-Server EX WPXDataBase Reference							
File Name	Report_%Y%M%D.xls	Return to De	efault Settings					
	Start from Displayed State							
	e output file when ACTION runs. e Save or Save by Macro of Excel.)							
		ок	Cancel					

Browse for Folder	? ×
Select the file output folder.	
Desktop	
E- 🚺 Desktop	_
🕀 😋 My Documents	
⊡ - 🧶 My Computer ⊡ - – 🖓 31⁄2 Floppy (A:)	
C-DRIVEENG (C:)	
Documents and Settings	
⊡ Default User	
	•
ОК	Tancel

3) Set the file name "monitor.xls" for the output book to set.

-Output File		
The template file sto	pres setting info. The actual output result will be d	lisplayed in the following file.
Folder Name	C: Documents and Settings\AdministratorN	Desktop
File Name	Monitor.xls	Return to Default Settings
🔽 Start from Displ	ayed State	
Do not save the (Please use the	eoutput file when ACTION runs. Save or Save by Macro of Excel.)	
		1
		OK Cancel

NOTE

• "%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "37.1 Restrictions on Names".

4) Check the [Start from Displayed State] check box.

Output File — The template file stores setting info. The actual output result will be displayed in the following file.							
Folder Name	C:\Documents and Settings\Administrator\De	esktop Reference					
File Name	Monitor .xls	Return to Default Settings					
	layed State o culput filo when ACTION runs. s Save or Save by Macro of Excel.)						
		OK Cancel					

NOTE • If you check [Start from Displayed State], you can read/write data with an output book displayed. This is useful if you need to confirm data immediately.

6.1.6 Setting Content of an Excel Template

Set the content of an Excel template to monitor data on Excel.

The example below shows the setting of data write area (Device one-shot area) in a template.

Refer to "6.3 Setting Guide" for more details.

Target Cell Range								
	A	В	С	D	E			
1								
2								
3								
4								
5								
6								



Setting item	Setting content
Entry Node	AGP1
Device Name	PLC1
Device Address/Symbol Group	PLC1 data
Add Device Address/ Symbol Group	Checked
Target Cell Range	1 to E2
Pattern	Z type
Trigger Condition Name	Turn on read start bit
Trigger Condition	When "Start reading" (M01) is ON

1 Click the [Edit Template] button.

Create form using Exc	el de la companya de	
		Version 1.22
Femplate Designation		
When you use the w	ame of Excel template file that is the source of forms. izard, the theme template file is copied to a file with this name. new template, please specify the file name.	
Template File	C:/Documents and Settings\Administrator/Desktop/template.xl	Reference
	Edit Template	

The Excel template will appear.

Microsoft Excel - template.xlt					_ 🗆 ×
File Edit View Insert Format Tools	Data Window Help E>	celAction(A)			_ 8 ×
D 🛎 🛛 👌 🎒 🗛 🖤 🖪 B			≫ Arial	• 10 •	B <i>I</i> <u>U</u> ≣ ≣ ;
			• []		
		. •			
🤀 🗗 👹 🜮 🍇 🖉 🛱 📑	² 💣 🚊				
A1 =					
A B C	DE	F	G H		J K 🗖
1					
2					
3					
4 5					
6					
7					
8					
9					
10					
11					
12					
13					
15					
16					
17					
18					
H + F Sheet1					
🐚 🖬 🖉 🔍 क्षे 🔍 🕂 = 🏷	2 1 -				
Ready					

- 2 Set a data write area.
 - 1) Click the [Device One-Shot Area] icon on Excel.

	M	licro	soft	Excel	- ter	npla	ate.:	кlt			
		Eile	<u>E</u> dit	⊻iew	Īns	ert	For	nat	Tools	: <u>D</u> ata	Win
] 🗅	2	H	8	9	<u>à</u>	₩BC.			K)	-
		P	S.		abl		C	= #		≓ ≜	
(🤬	P	86	6 🕄	<u>6</u>	Ŧ	ð	j.	F 🖪	¢ و	Å
V	4	A	1	-			=				
	De	evice	One-	Shot A	rea			С		D	
	1			_							
	2			_							
	13										

The "Device OneShot" screen will appear.

Device OneShot
Action Settings Trigger Condition Settings Device Settings Node (Trigger-Source Node) No. of Group Data Type 16Bit(Signed) Vote: When specifying inconcecutive memory data, please use a group
symbol. Layout Settings Target Cell Range Pattern Pattern Note: When using a group symbol, please select its layout from the followings.
S1 S2[0] S1 S2[1] S2[1]
Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.
OK Cancel

IOTE • Selecting "Device One-Shot Area" from [Excel Action] of the menu displays the sam	e screen.
ExcelAction(A)	
Image: Device Legging Area(L) Image: Device Legging Area(L) <th></th>	
- Tools(I) ► - Communication(⊆) ►	
μi Area display(<u>O</u>) Version Info(<u>A</u>)	

2) Click the list button of [Node] and select "AGP1" as a data transfer source node.

提 Device OneShot _ 🗆 🖛]
Action Settings Trigger Condition Settings	
Device Settings Node Device Address/Symbol Group Data Type Tigger-Source Mode PC1 AGP1 (Trigger-Source Node) Data Type No. of Devices No. of No. of Devices No. of Devices	
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.	

3) Click the list button of [Device Name] and select "PLC1" as a data transfer source device.

倡Devi	ce OneShot					_ 🗆 🗙
Action	n Settings Trigger Conditi	on Settings				
	Device Settings	AGP1	.	Device Name	PLC1	
	Device Address/Symbol Group	a	•	No. of Devices		
	Data Type	16Bit(Signed)				
	Add Device Address	/Symbol Name	r		pecifying inconcecutiv please use a group	/e

4) Click the list button of [Device Address/Symbol Group] and select "PLC1 data" as a symbol of the data to read out.

📳 De	vice OneShot					
Acti	on Settings Trigger Cor	idition Settings				
	Device Settings	AGP1	.	Device Name	PLC1	
	Device Address/Symb Group		•		reading	
	Data Type Add Device Addr	16Bit(Signed) ess/Symbol Name			l data	

The device number "5" will be automatically entered in [No. of Devices], and "16Bit(Signed)" in [Data Type].

癮 Devi	ce OneShot					
Action	n Settings Trigger Conditi	on Settings				
	Device Settings	AGP1	.	Device Name	PLC1	•
	Device Address/Symbol Group	E PLC1data	_	No. of Devices	5	÷
	Data Type	16Bit(Signed))		
	Add Device Address	/Symbol Name		Note: When sj memory data, j symbol.		

5) Check [Add Device Address/Symbol Name].

# Device OneShot	
Action Settings Trigger Condition Settings	
Device Settings Node AGP1	Device PLC1
Device Address/Symbol EPLC1data	▼ No. of 5 ÷
Data Type 16Bit(Signed)	
Add Device Address/Symbol Name	Note: When specifying inconcecutive memory data, please use a group symbol.

• Device Address/Symbol Name is to appear in the right or upper cell of the data read in Excel. Refer to [Sample] on screen.

6) Click the cell range specify button of [Target Cell Range].

Layout Setting Target Cell Range Pattern	\$4\$1:\$4\$2 Sample An image of writing to a cell is shown below	ow.
Note: When select its layo	using a group symbol, please ut from the followings.	
© S2[0 S2[1 S2[2 S3	C S2[0] S2[1] S2[2]	
No. of Blank	Cells to insert between Cells Row 0 😴 Column 0 😴	
_	e value to certain text at Read sheet, clear the specified cell range and then start.	
	ОК	Cancel

7) Drag the mouse to specify the data write area (cells A1 to E2). Then click the [OK] button.

Microsoft Excel - template.xlt	
Eile Edit View Insert Format Tools D	ata <u>Wi</u> ndow <u>H</u> elp ExcelAction(<u>A</u>)
	∩・ 🍓 Σ 🏂 🏭 🕄 🗳 Arial 🔹 10 ・ Β 🗷 🗵 🖹 三字 🔭
KG魚 M面」の開開す	
] 🗐 🗗 👋 🜮 🍇 🖉 🧭 🛱 💕 🛙	
A1 =	
A B C	DEFGHIJK
2 2	
4	
5	
6	Specify Range
7	Please specify the range.
8	
9	
11	
12	\$A\$1:\$F\$2
13	
14	OK Cancel
15	
16 17	
18	
I I I I Sheet1	
] 🔄 🖬 Of OL 🕸 🕮 🕂 🚍 🏷 🖉	
Point	

8) Select "Z type" of [Pattern].

Layout Setting Target Cell Range	js \$4\$1:\$G\$1	Sample
Pattern	$\circ \square \bigcirc \mathbb{Z}$	An image of writing to a cell is shown below.
Note: When select its lay © <u>s1</u>	using a group symbol, please out from the followings. [s2[0][s2[1][s2[2][s3]] [s1][s2[1]] [s2[1]] [s2[1]] [s2[2]]	D101 D102 D103 1 2 3 D104 D105 D106 4 0105 D106 4 5 6 D107 D108 D109 7 8 9
No. of Blank	Cells to insert between Cells	Row 0 🕂 Column 0 🕂
_	ice value to certain text at Read a sheet, clear the specified cell range	and then start.
		OK Cancel

3 Set trigger conditions.

1) Click the [Trigger Condition Settings] tab.

49 Device OneShot				_ 🗆 🗙
Action Settings				1
Node AGP1		Device Name	PLC1	•
Device Address/Symbol PLC1data Group	•	No. of Devices	1	÷
Data Type [16Bit(Signed)				
Add Device Address/Symbol Name	me		becifying inconce blease use a gro	

The "Trigger Condition Settings" screen will appear.

標 Device OneShot	_ 🗆 ×
Action Settings Trigger Condition Settings	
Action Area No. When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type. New Trigger Condition New Trigger Button	
Edit Delete Trigger Condition *	
If two or more are specified, the Action is executed when any of them is satisfied. For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.	
OK Car	ncel

2) Click the [New Trigger Condition] button.

Action Area No.	
When the specified trigger type (under-condition be Please specify a trigger type.	utton) is satisfied, this area is executed.
New Trigger Condition	write
Edit Delete	Edit Delete
Trigger Condition	Trigger Condition

3) Click the [New Trigger Condition] button.

Set Trigger Condition 🛛 🛛 🕅
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
Edit
Node
Close

 Enter the trigger condition name "TurnOnReadStartBit" in [Trigger Condition Name], and select "AGP1" in [Node Name] as a name of the data transfer source.

Triager Condition				_	×
Trigger Condition Name TurnOnReadStar	tBit				ind Node
Node Name PC1		🗾 📑 Add N	lode	₽	
PC1 AGP1		dition			
	¢				
Condition 1					
Specify the Trigger Condition.					
👫 🛛 🛛 👫		While Device is ON		While Condition 9	Satisfied
G Specified Time		While Device is OFF		When Condition 9	Satisfied
Constant Cycle		When Device ON		When Partner N	ode ON
When Device Changes		When Device OFF	*	When Partner No	ode OFF
		Detail Settings		ОК	Cancel

5) Click the [When Device ON] button in the [Condition 1] tab and select "PLC1" for the device name.

Condition ⁻	1				
Specify th	he Trigger Condition.				
B	When Turned ON		While Device is ON		While Condition Satisfied
Ġ	Specified Time	<u>F</u>	While Device is OFF		When Condition Satisfied
۸	Constant Cycle		When Device ON		When Partner Node ON
	When Device Changes		When Device OFF	寒	When Partner Node OFF
Device Name #INTERNAL Turn OFF the Specified Device Address after Processing. #INTERNAL					
Data Typ	e 16Bit(Signed)				

6) Click the [Device Address] list button and select "Start reading" for the device symbol name which serves as a trigger.

Device Name	er
PLC1 Processing.	
Device Address	
▼ E- Local:Sheet2	
Data Type 16Bit(Signed) Startreading PLC1data	
🔲 Limited Time Offer	
0 + hour 0 + min - 0 + hou	
	el

[Data Type] automatically appears after selection, too.

Device Name
PLC1
Device Address
📰 Startreading 💌
Data Type Bit
Limited Time Offer
0 🛨 hour 🛛 🕂 min - 🛛 🛨 hour

7) Click the [OK] button.

Device Name
PLC1 Turn OFF the Specified Device Address after Processing.
Device Address
🖅 ReadStartBit
Data Type Bit
🗖 Limited Time Offer Check Cycle 🗖 Always
0 + hour 0 + min · 0 + hour 0 + min 500 + ms
Detail Settings OK Cancel

8) Click the [Close] button.

Set Trigger Condition
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
TurnOnReadStartBitEdit
Node AGP1
When ReadStartBit of Node AGP1 is Turned ON
Close

9) Click the blank line of [Trigger Condition] of [Logging].



10) Click the list button and select "TurnOnReadStartBit" as a trigger condition.



11) Click the [OK] button.



This is the end of the content settings of an Excel template.

4 Close "Excel".

Microsoft Excel - template.xlt	_ □ ×
File Edit View Insert Format Tools Data	Window Help ExcelAction(A)
Ctrl+N	🍓 Σ f* ∯ 🛍 🛛 💘 🔹 🔹 🔹
Ctrl+O	
u∰ ⊑save Ctrl+S	
📥 💼 Save as Web Page	CelFormOcx.FormRangeInfo.1","")
1 Web Page Preview	
2	
3 Page Setup 4 Print Area	
5 Q Print Preview	
6 🔮 Print Ctrl+P	
9	
10 <u>1</u> \Documents and Settings\mh\test.xls	
E <u>x</u> it	
13	
14	
15	
17	
18	
K A B Sheet1	
] 🔚 🖬 🛈 🔍 ्रंग 斗 🕇 = 狗 🖉 🕇	<u>ت</u>
Ready	

The following dialog box will appear, asking you if you want to save changes before closing. Click the [Yes] button.



5 On the "Create form using Excel" screen, click the [OK] button.

Output File The template file stores setting info. The actual output result will be displayed in the following file.						
Folder Name	C:\Documents and Settings\Administrator\Desktop Reference					
File Name	Monitor.xls	Return to Default Settings				
Start from Displayed State						
Do not save the output file when ACTION runs. (Please use the Save or Save by Macro of Excel.)						
		OK Cancel				

6.1.7 Setting ACTION Node/Process Completion Notification

This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.



- ACTION Node : PC1
- Receive Notification: OFF

1 On the "Set ACTION Name/Parameter" screen, click the [Next] button.

Set ACTION Name/Parameter 🛛 🛛 🕅
Add a new ACTION. Specify an ACTION name, and set its parameter.
ACTION Type Create form using Excel.
Display the Actions of the old version of Pro-Server
ACTION Name Monitor
Click here to set the ACTION parameter.
Next Cancel

2 Click the list button of [ACTION Node] and select "PC1" as a node where ACTION operates.

Set ACTION Node/Process Con	pletion Notification 🛛 🛛 🛛 🛛
ACTION Type Create form u	sing Excel.
ACTION Name Monitor	
Specify an action node (Wind	ows PC) where the ACTION works practically.
ACTION Node	
	ified device that will be informed of CTION. After the execution of the
Device Na	
#INTERN	
, Notified D	evice
	¥
Data Type	Bit
Back	Complete Cancel

 $\mathbf 3$ Turn off the check box of [Receive Notification Exists], if checked.

	TION Node	
F	201	
C	Receive Notification Exists Please specify the notified device that will be informed of the execution of the ACTION. After the execution of the ACTION, it will be is turned on.	
	Device Name	
	#INTERNAL	
	Notified Device	
	T	
	Data Type Bit	

NOTE

• Do not check "Receive Notification Exists".

4 Click the [End] button.

The "Set ACTION Node/Process Completion Notification" screen will disappear. On the left of the screen, the name of ACTION you set will appear.



This is the end of the settings of the ACTION node and process completion notification.

6.1.8 Verifying Setting Result

This step verifies setting results on the setting content list screen.

1 Select the ACTION name "Monitor" from the tree display on the left of the screen.



Confirm that the setting content appears on the right of the screen.

Setting Help	
» ≽ Symbol » ≷ Feature » 📄 Save » 🆄	Transfer Monitor Status
ACTION-Specific Trigger Condition/Process List	ACTION
Add Edit Release	Delete ACTION
Data Source Node AGP1	Monitor
Trigger When Startreading of Node AGP1 is	Rename
Condition Data Completion TurnOn	Create form using Excel.
	Set Parameter
L	ACTION Node
	PC1

2 Select the trigger condition name "TurnOnReadStartBit" from the tree display on the left of the screen.



Confirm that the setting content appears on the right of the screen.

					_	
Setting Help						
🅦 눧 Symbol ≫ 襓 Feature .	» 🗄	Save >	N	🤰 Transfe	r 😽 '	vlonitor Status
Trigger Condition	Sequence Diagram by Trigger Condition					
		Collapse		l ra	ansfer ACTION/Data	
TurnOnRea 🔽 – Edit	Feature	Source		Destinat	Receive/Process Co	
Node AGP1	 Monitor 	AGP1.#	->	PC1.Mo		
When Startreading of Node AG						
						_
Process Co						
Processing						
Error Code	L					
IP Address						

This is the end of the verification of the settings.

6.1.9 Saving a Network Project File

This step saves the current settings as a network project file and reloads to 'Pro-Server EX'.

Refer to "25 Saving" for details about saving a network project file.

- 'Pro-Server EX' reads a created network project file, and then executes ACTION according to the settings in the file. The settings therefore need be saved in the network project file.
 - Be sure to reload the network project file to 'Pro-Server EX' If not, ACTION will not work.



- Path of network project file
- Title

- : Desktop\monitor.npx
- : EXCEL Report ACTION

6.1.10 Test Read

You can check if the settings are correct before transferring a created network project file to entry nodes. When executing ACTION, the setting data is output to an output file. However, when executing a test read, it is reflected in a template file.

NOTE	You do not necessarily have to perform a test read.	
	If you skip this, proceed to "6.1.11 Transferring a Network Project File".	

IMPORTANT • To perform a test read, it is necessary that 'Pro-Server EX', to which a created network project file has been loaded, is running.

- **1** Click the [Feature] button.
- 2 Click "ACTION" from the tree display on the left of the screen, then click the [Edit] button.
- 3 On the "Set ACTION Name/Parameter" screen, click the [Click here to set the ACTION parameter] button.
- **4** On the "Create form using Excel" screen, click the [Edit Template] button.

5 With the ACTION area selected, click the [Test Read] icon.

🔀 Microsoft Excel - template.xlt							
Eile Edit View In:	sert F <u>o</u> rmat <u>T</u> ool	s <u>D</u> ata <u>W</u> indow	Help ExcelActio	n(<u>A</u>)			
] D 🗳 🖬 🔒 🎒	🖪 🖏 👘 🛢	ι 🗠 τ 🍓 Σ	<i>f</i> ≈ ≜↓ 🏙	2 ×			
🖳 🔛 🖓 🔽 🖬		≓ 🕭 🗒 A	🔊 ⊁ -				
] 🤀 🖅 👋 🞷 🍇	🖉 🖉 🛱 🖪						
Object 2 💌	= =EMBE	ProExcelFo	mOcx.FormRa	ngelnfo.1","")			
A B	3 C	Test Read	E F	G	Н		
1	2		<u> </u>				
2							
3		U					
4							
Ε							

The setup contents will be read in the template.

NOTE	•	Refer to "6.4 Restrictions" for details about the restrictions on test reads.

6.1.11 Transferring a Network Project File

This step loads a saved network project file to 'Pro-Server EX' and then transfers to entry nodes. Refer to "26 Transferring" for details about transferring a network project file.

NOTE • Be sure to transfer a network project file. If not, ACTION will not work.

6.1.12 Executing ACTION

This step verifies that enabling trigger conditions activates ACTION, opens an Excel book (file name: "Monitor.xls"), and then writes the device data in the specified location in Excel.

	🐹 Microsoft Excel - Book1 📃 🚺												
	Elle Edit View Insert Format Tools Data Window Help												
	🛩 🔒	B	<i>a</i>	RBC	🖻 🔒 🔊	• 🍓 Σ f,	, ≜ ↓ ∭ (🤇 🐥 Ari	əl	• 10	• B .	<u>ı</u> <u>u</u> ≣	E = .
	i 🖻 🖓		- 	•		1 # A 🗔	*						
	J28	•		=									
	A		В		С	D	E	F	G	Н	1	J	
1	PLC dat	:a[0]	PLC da	ta[1]	PLC data[2]	PLC data[3]	PLC data[4]						
2		10		20	30	40	50						
3													_
4													_
5	_												_
6													
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18													
19													
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21													
	• • • •	iheet	1 / Shee	t2 / S	Sheet3 /			•					
Re	ady										NUM		

This is the end of the explanation of this ACTION.

NOTE • If you want to achieve faster communication during ACTION, refer to "29 Tips for Faster Communication".

6.2 Correcting and Restoring Once Read Data



If you want to select data case by case among several recipe data on Excel, refer to "12 Writing Excel Data in Device/PLC".
 This function, which is One-Shot action, is fixed to 1 recipe.

[Action Example]

Restore data to Device/PLC after correcting device address value of Device/PLC (word device: address "D50" to "D54") from which data was read into Excel and detecting the rising of trigger device (bit device: "M01") of Device/PLC.



This section describes the setting procedures for executing the above action (ACTION) as an example.

[Settin	g Procedure]					
1	Starting 'Pro-Studio EX'	This step starts 'Pro-Studio EX'.				
	•					
2	Registering Entry Nodes	This step registers the PC and the GPs as entry nodes.				
	+					
3	Registering Symbols	This step registers as a symbol the device of Device/ PLC to write data in.				
	+					
4	Specifying an Excel Template and its Output Book	This step sets the following items:Specify a template bookSpecify an output book				
	+					
5	Setting the Area to Read Out an Excel File	This step sets the following items:Set a writing deviceSet the area to read out				
	+					
6	Setting ACTION Node/Process Completion Notification	This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.				
7	Verifying Setting Result	This step verifies setting results on the setting content list screen.				
	+					
8	Saving a Network Project File	This step saves the current settings as a network project file and reloads.				
	+					
9	Transferring a Network Project File	This step transfers a saved network project file to the GP.				
	+					
10	Executing ACTION	This step verifies that Excel file data is written in the specified device of Device/PLC when the preset trigger condition has become effective.				

6.2.1 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

Refer to "3 Trial of Pro-Server EX" for details about starting method.

6.2.2 Registering Entry Nodes

This step registers the PC and the GP connected with network as nodes. Refer to "31 Node Registration" for details about entry nodes.



Node Name : PC1

IP Address : 192.168.0.1



Node Name : AGP1 IP Address : 192.168.0.100 Device/PLC Information



Entry Node	Setting item	Setting example		
PC	Node Name	PC1		
	IP Address	192.168.0.1		
	Туре	GP3000 series		
GP	Node Name	AGP1		
	IP Address	192.168.0.100		
6.2.3 Registering Symbols

This step registers as a symbol the device address of Device/PLC to which Excel device data is written. Refer to "32 Symbol Registration" for details about symbols.





• Trigger (Trigger Condition)

Setting item	Setting content
Symbol Name	Start writing
Data Type	Bit
Device address for symbol registration	"M01" of Device/PLC (PLC1)
No. of Devices	1

Writing Device

Setting item	Setting content
Symbol Name	PLC1 data
Data Type	16Bit (Signed)
Device address for symbol registration	"D50" to "D54" of Device/PLC (PLC1)
No. of Devices	5

6.2.4 Specifying an Excel Template and its Output Book

This step specifies an Excel file and an output book where device data has been written. Refer to "6.3 Setting Guide" for more details.

Ex.

Settin	g item	Setting content
Specify a Template	Template Book	C:\Documents and Settings\Administrator\Desktop\monitor.xls
	Folder Name	C:\Documents and Settings\Administrator\Desktop
	File Name	Device data modification.xls
Output Book	Start with the output book displayed	Not checked
	Do not save the output file when ACTION runs.	Not checked

1 Click the [Feature] icon on the status bar.

-	Pro-St	udio E	Хc	haptert	і.пря									
Fi	le Edit	Tool	Pro	grammin	g Assist	Setti	ng He	lp			_			
I	<u>_</u>	Start	>>		Node	»		Symbol	26	*	Feature) »	3	Save
Г	Symbol						N	lode Name	AGP	1	hè		Dev	/ice Nam
	(Group		U	ngroup		s	heet Name	Shee	et2			Setit	: as a glol
	I	nsert		C)elete									

2 Select [ACTION] from the tree display on the left of the screen, then click the [Add] button.

🂱 Pro-Studio EX 🛛 ?.npx	
File Edit Tool Programming Assist	Setting Help
Start ン 🟹 Node	🔉 눧 Symbol 2
Add Import Edit Delete	ACTION
ACTION Trigger Condition Data Transfer Device Cache	In addition t using applic using Acces In the Pro-Si referred to a

3 Click the [ACTION Type] list button, and select "Create form using Excel".

Then, enter the name of ACTION to set in the [ACTION name] field. In this example, enter "DeviceData Modification".

NOTE • [AC	NOTE • [ACTION Name] can be an arbitrary name.				
	Set ACTION Name/Parameter				
	Add a new ACTION. Specify an ACTION name, and set its parameter.				
	ACTION Type Create form using Excel.				
	Vites Data to CSV file.				
	ACTION Name Writes Data from CSV file. Upload of GP JPEG Data. Upload of GP Log Data. Writes Data to E-Mail.				
	Download from the database.				

4 Click the [Click here to set the ACTION parameter] button.

	ACTION Type Create form using Excel.				
	Display the Actions of the old version of Pro-Server				
	ACTION Name DeviceDataModification				
1					
	Click here to set the ACTION parameter.				

- 5 Set an Excel template and its output book.
 - 1) Click the [Reference] button of [Template File] to set the Excel file "monitor.xls" where device data has been written.

Create form using	ixcel	
		Version 1.22
_ ⊢Template Designati	n	
When you use the	ename of Excel template file that is the source of forms. a wizard, the theme template file is copied to a file with this name. a new template, please specify the file name.	
Template File	C:Documents and Settings\Administrator\Desktop\template.x	Reference
	Edit Template	

2) Click the [Reference] button of [Folder Name] and specify "Desktop" as a folder to save the output book.

Output File The template file sto Folder Name	ores setting info. The actual output result will be dis	
File Name	Report_%Y%M%D.xls	Return to Default Settings
	ayed State soutput file when ACTION runs. Save or Save by Macroof Excel.)	
		OK Cancel

"%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "37 Restrictions". NOTE

3) Set the file name "DeviceDataModification.xls" in the [File Name] field, for the output book to set.

Output File The template file st	ores setting info. The actual output result v	vill be displayed in the follo	wing file.
Folder Name File Name	C: Documents and Settings\Admini		Reference efault Settings
Start from Disp	ayed State soutput file when ACTION runs. Save or Save by Macroof Excel.)		
		OK	Cancel

6.2.5 Setting Data Read Range of Excel File

This step sets data read range on Excel file to write in Device/PLC. The example below shows the setting of data read area (Device One-Shot Area) of Excel file.

Refer to "6.3 Setting Guide" for more details.

	Target C	Cell Range	Pattern		
	A	В	С	D	E
1	PLC1 data[0]	PLC1_data[1]	PLC1 data[2]	PLC1_data[3]	PLC1_data[4]
2	60	70	80	90	100
3					
4					
5					
6					



Setting item	Setting content
Entry Node	AGP1
Device Name	PLC1
Device Address/ Symbol Group	PLC1 data
Add Device Address/ Symbol Name	Not checked
Target Cell Range	A1 to E2
Pattern	Z type
Trigger Condition Name	Turn on write start bit
Trigger Condition	When "Start writing" (M01) is ON

1 Click the [Edit Template] button.

Create form using Exce	
	Version 1.22
- Template Designation -	
When you use the wiz	ne of Excel template file that is the source of forms. ard, the theme template file is copied to a file with this name. w template, please specify the file name.
Template File	E:/Documents and Settings\Owner/Desktop/template.xtt
	Edit Template
-Output File	

The Excel file contents will appear.

Microsoft Excel - monitor.xlt					_ 🗆 ×
Eile Edit View Insert Format Iools Data Window Help	ExcelAction(A)				_ 8 ×
		>> Autol	10		
Δ 🖆 🖬 🔒 🎒 🖪 🖏 🖤 🗎 💼 👘 🔹 🖇 Σ 🌆		⊊ Ariai	• 10	• B <i>I</i>	<u>□</u> = = ÷
	*				
🕼 🗗 🐝 🜮 🍇 🖉 🗳 🖼 💕 🖆					
E3 - =					
A B C D	E	F	G H	I	J
1 PLC data[0] PLC data[1] PLC data[2] PLC data[3]	PLC data[4]				
2 60 70 80 90	100				
3					
4 5					
6					
7					
8					
9					
10					
11					
12					
13					
15					
16					
17					
18					
I I B M Sheet1					
Na = 0f 0(対対 4) # = 例 2 Na -					
Ready				NUM	
			, ,		

2 Set a data read area.

1) Click the [Device One-Shot Area] icon on Excel.

	M	licro	soft	Ехсе	l - mo	nito	r.xlt		
		<u>F</u> ile	<u>E</u> dit	⊻iev	v <u>I</u> nse	ert	Form	at	<u>T</u> ools
		2	H	2	6	à.	ABC		ß
ĺ		P	5		abl .		•	=	i ii
/		P	86	Ø.	86 4	Ē	ð"	÷ii	8
V	h	E:	3				=		
		E:	3		Area		=		C
	1		3 e One	-Shot	Area	В	=		
	1		3 e One	-Shot	Area	В	=		С
	1		3 e One	- <mark>Shot</mark> a[0]	Area	В	= a[1]		С
V	1		3 e One	- <mark>Shot</mark> a[0]	Area	В	= a[1]		С

The "Device OneShot" screen will appear.

Device OneShot
Action Settings Trigger Condition Settings
Device Settings
Node (Trigger-Source Node) Vevice Varies Varies
Device Address/Symbol
Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings
Target Cell \$E\$3 Sample
Pattern Pattern Note: When using a group symbol, please select its lavout from the followings.
S1 S2(0) S2(1) S2
No. of Blank Cells to insert between Cells Row 0 📑 Column 0
Convert device value to certain text at Read
In creating a sheet, clear the specified cell range and then start.
OK Cancel

NOTE	•	Selecting	"Device	One-Sho	t Area"	from [E	Excel	Action]	of the	menu c	lisplay	s the s	ame screen
						veol Action (



2) Click the list button of [Node] and select "AGP1" as a data transfer destination node.

標 Device OneShot	
Action Settings Trigger Condition Settings	
Device Settings Node Device Address/Symbol Group Data Type Device Node 16Bit(Signed) 	Device #INTERNAL V Name 1
Add Device Address/Symbol Name	↓ Note: When specifying inconcecutive memory data, please use a group symbol.

3) Click the list button of [Device Name] and select "PLC1" as a data transfer destination device.

標 Device OneShot 📃 🖸 🔀	ĸ
Action Settings Trigger Condition Settings	
Device Settings Node AGP1 Device UNTERNAL	
Device Address/Symbol	
Data Type 16Bit(Signed)	
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.	

4) Click the list button of [Device Address/Symbol Group] and select "PLC1 data" as a symbol of the data to read out.

🏭 De	vice OneShot						
Acti	on Settings Trigger Condit	ion Settings					
	Device Settings	AGP1	T	Device	PLC1	-	
	Device Address/Symbol Group			Name - Local:Sh	eet2		
	Data Type	16Bit(Signed)		PLC			
	Add Device Address	s/Symbol Name			45		
			:				

The device number "5" will be automatically entered in [No. of Devices], and "16Bit(Signed)" in [Data Type].

ŧ	₿ De	vice OneShot					_ 🗆 >	×
	Acti	on Settings Trigger Conditi	on Settings					
		Device Settings Node	AGP1	 •	Device Name	PLC1	•	
		Device Address/Symbol Group	E PLC1 data	•	No. of Devices	5	÷	
		Data Type	16Bit(Signed))			
		Add Device Address	/Symbol Name	п	lote: When sj nemory data, j ymbol.			

5) Click the cell range specify button of [Target Cell Range].

Layout Settings Target Cell \$J\$21	Sample
Pattern • 🖊 • 📩	An image of writing to a cell is shown below.
Note: When using a group symbol, please select its layout from the followings.	
	D101 1 D104 4 D107 7 D102 2 D105 5 D108 8 D103 9 D106 6 D109 9
No. of Blank Cells to insert between Cells	Row 0 - Column 0 -
Convert device value to certain text at Read	
In creating a sheet, clear the specified cell range	ge and then start.
	OK Cancel

6) Drag the mouse to specify the data read area (cells A1 to E2). Then click the [OK] button.

Microsoft Excel - monitor.xlt						
Eile Edit View Insert Format Iools	Data Window Help ExcelAction(A)					5 ×
	N + € Σ f _n ≵↓ ∰ Ω	» [Arial	- 10		U = :	
			• 10			
	= 🗄 🗄 A 🖾 🞘 🗸					
	💣 🚊					
A2 💌 =						
A B C	D E	F G	Н	1	J	
1 (PLC data[0] PLC data[1] PLC dat 2 60 70						
2 60 70 3	80 90 100					- 11
4						- 11
5	Specify Range	? ×				
6	Please specify the range.					
7	Ficase specify the range.					- 11
8						
10						- 11
11	\$A\$1:\$E\$2					
12	Thursday					
13	ОК	Cancel				
14						
15						
17						
18						
I I I I Sheet1				1		١Č
🎽 🖬 Of OL 🕸 🕸 🕁 🚽 🖶 🦅						
Point				NUM] //

7) Select "Z type" of [Pattern].

Layout Settings Target Cell \$A\$1:\$E\$2					
	ample An image of writing to a cell is shown below.				
Note: When using a group symbol. please select its layout from the followings. \$1\$ \$2[0]\$2[1]\$2[2]\$3 S1 \$2[0]\$32 \$3\$ S1 \$2[0]\$3 \$3\$ S1 \$2[0]\$3 \$3\$ S2[2] \$3\$ \$3\$	D101 D102 D103 1 2 3 D104 D105 D106 4 5 6 D107 D108 D109 7 8 9				
No. of Blank Cells to insert between Cells Row	0 🕂 Column 0 🐳				
Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.					
	OK Cancel				

- **3** Set trigger conditions.
 - 1) Click the [Trigger Condition Settings] tab.

癮Devi	ce OneShot						_	х
Action	Setting: Trigger Conditi	on Settings						_
	Device Settings							
	Node	AGP1	•		Device Name	PLC1	•	
	Device Address/Symbol Group	PLC1data		▼	No. of Devices	1	÷.	
	Data Type	16Bit(Signed)						
	Add Device Address	/Symbol Name		me		ecifying inco Ilease use a j		

The "Device OneShot" screen will appear.

欄Device OneShot
Action Settings Trigger Condition Settings
Action Area No. O When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type. New Trigger Condition New Trigger Button Read Vrite Edit Delete Trigger Condition Trigger Condition
If two or more are specified, the Action is executed when any of them is satisfied. For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.
OK Cancel

2) Click the [New Trigger Condition] button.

New Trigger Co	ndition New Tri	igger Button Clear Cell wher satisfied.	n the following condition	is —
Edit Trigger *	Delete	Edit Trigg *	Delete per Condition	

3) Click the [New Trigger Condition] button.

Set Trigger Condition 🛛 🛛 🛛 🛛 🛛
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
Edit
Node
Close

 Enter the trigger condition name "TurnOnWritesStartBit" in [Trigger Condition Name], and select "AGP1" in [Node Name] as a name of the data transfer source.

Trigger Condition Name TurnDnWritesSta Node Name PC1 PC1 AGP1	artBit	ode Find Node
Condition 1 Specify the Trigger Condition. When Turned DN Specified Time Constant Cycle When Device Changes	While Device is ON While Device is OFF When Device ON When Device OFF	While Condition Satisfied When Condition Satisfied When Partner Node ON When Partner Node OFF
	Detail Settings	OK Cancel

5) Click the [When Device ON] button in the [Condition 1] tab and select "PLC1" for the device name.



6) Click the [Device Address] list button and select "Start writing" for the device symbol name which serves as a trigger.

Device Name	
PLC1 I Turn OFF the Specified Device Address after Processing.	
Device Address	
Data Type [TBBit[Signed]	
Limited Time Offer	
hour min · I hou	
	;el

[Data Type] automatically appears after selection, too.

Device Name	
PLC1	
Device Address	
Startwriting	▼
Data Type Bit	
Limited Time Offer	hour

7) Click the [OK] button.

Device Name
PLC1 Processing.
Device Address
Startwriting V
Data Type Bit
🗖 Limited Time Offer Check Cycle 🗖 Always
0 → hour 0 → min - 0 → hour 0 → min 500 → ms
Detail Settings OK Cancel

8) Click the [Close] button.

Set Trigger Condition
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
TurnOnWritesStartBit Edit
Node AGP1
When Startreading of Node AGP1 is Turned ON
Close

9) Click the blank line of [Trigger Condition] of [Write].

New Trigger Condition New Trigger Bu	utton
Read Edit Delete Trigger Condition *	Write Edit Delete Trigger Condition *

10) Click the list button and select "TurnOnWritesStartBit" as a trigger condition.

New Trigger Condition	New Trigger Button		
Edit Delete		Edit Delete	TumOnWritesStartBit

11) Click the [OK] button.

(i)	If two or more are specified, the Action is executed when any of them is satisfied.
	For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.
	OK Cancel

This is the end of the content settings of an Excel template.

4 Close 'Excel'.

Microsoft Excel - monitor.xlt	
File Edit View Insert Format Tools Data	Window Help ExcelAction(A)
Ctrl+N	🝓 Σ 🌾 斜 🏙 🕄 💙 🔹 🔹 🔹 🔹 🔹
📊 🚰 Open Ctrl+O	🗄 A 🖾 😤 -
Ctrl+O	
tig Save Ctrl+S	Sector Contraction Contraction (1998)
📑 Save as Web Page	CelFormOcx.FormRangeInfo.1","") D E F G H I J 🗍
1 Web Page Preview	
2	i i i i i i i i i i i i i i i i i i i
4 Print_Area 5 🗟 Print Preview	
6 Brint Ctrl+P	
7	
8 Sen <u>d</u> To	
9 10 <u>1</u> \Documents and Settings\mh\test.xls	
Exit N	
13	
15	
16	
17	
18	
	1.1
	× ·
Ready	

The following dialog box will appear, asking you if you want to save changes before closing. Click the [Yes] button.

Excel Rep	oort Action	- Completion	Confirmation	×
?	Save chang	jes to the templ	late and finish ed	iting?
\square	Yes	No	Cancel	

5 On the "Create form using Excel" screen, click the [OK] button.

-Output File The template file sto	res setting info. The actual output result will be d	isplayed in the following file.
Folder Name	C:\Documents and Settings\Administrator\D	Desktop Reference
File Name	DeviceDataModification.xls	Return to Default Settings
	ayed State output file when ACTION runs. Save or Save by Macro of Excel.)	
		OK Cancel

6.2.6 Setting ACTION Node/Process Completion Notification

This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.



- ACTION Node : PC1
- Receive Notification: OFF

1 On the "Set ACTION Name/Parameter" screen, click the [Next] button.

Set ACTION Name/Parameter
Add a new ACTION. Specify an ACTION name, and set its parameter.
ACTION Type Create form using Excel.
Display the Actions of the old version of Pro-Server
ACTION Name DeviceDataModification
or Li
Click here to set the ACTION parameter.
Next Cancel

2 Click the list button of [ACTION Node] and select "PC1" as a node where ACTION operates.

Set ACTION Node/Process Completion Notification
ACTION Type Create form using Excel.
ACTION Name DeviceDataModification
Specify an action node (Windows PC) where the ACTION works practically.
ACTION Node
PC1
Retaine Natification Exists Please specify the notified device that will be informed of
the execution of the ACTION. After the execution of the
ACTION, it will be is turned on.
Device Name
#INTERNAL 💌
Notified Device
▼
Data Type Bit
Back Complete Cancel

3 Turn off the check box of [Receive Notification Exists], if checked.

ACTION Node	
PC1	
Receive Notification Exists	
the execution of the ACTION. After the execution of the	
ACTION, it will be is turned on.	
Device Name	
#INTERNAL	
Notified Device	
Data Type Bit	

|--|

4 Click the [Complete] button.

The "Set ACTION Node/Process Completion Notification" screen will disappear. On the left of the screen, the name of ACTION you set will appear.



This is the end of the settings of the ACTION node and process completion notification.

6.2.7 Verifying Setting Result

This step verifies setting results on the setting content list screen.

• With the "Excel Report" ACTION, you cannot add, edit or delete a trigger condition in "ACTIONspecific Trigger Condition/Process List". To change a preset condition, click the [Set Parameter] button, and select [Edit Template] to change data on Excel.

1 Select the ACTION name "DeviceDataModification" from the tree display on the left of the screen.

🏷 P	ro-St	udio EX	((hapter6	.прх
File	Edit	Tool	Pro	ogrammin	g Assist
	1	Start	>>		Node
	Ad	ld		Impo	nt
	Ec	lit		Dele	te
		rigger C	iondi OnW nsfe	•	

Confirm that the setting content appears on the right of the screen.

Setting Help	
» ≽ Symbol » ≷ Feature » 📄 Save » 🆄	Transfer Monitor
ACTION-Specific Trigger Condition/Process List	ACTION
Add Edit Release	Delete ACTION
Data Source Node AGP1	DeviceDataModification
Trigger When Startwriting of Node AGP1 is Data	Rename
Completion TumOn	Create form using Excel.
	Set Parameter
L	ACTION Node
	PC1

2 Select the trigger condition name "TurnOnWritesStartBit" from the tree display on the left of the screen.

牧 P	ro-St	udio EX	((hapter6	.прх
File	Edit	Tool	Pro	ogramming	Assist
	3	Start	>>		Node
	Ad	ld		Impor	t
	Ec	lit		Delet	e
ACTION Action Trigger Condition Trigger Condition TurnOnWritesStartBit Date Transfor Device Cache					

Confirm that the setting content appears on the right of the screen.

Setting Help Symbol Symbol Feature Sequence Diagram by Trigger Condition Sequence Diagram by Trigger Condition Collapse Transfer ACTION/Data Feature Source Destinat Receive/Process Co Node AGP1 When Startwriting of Node AG	
Trigger Condition Sequence Diagram by Trigger Condition TurnOnWriki Edit Feature Source Destinat Receive/Process Co [DeviceD AGP1.#	
TurnOnWriti▼ Edit ▼ Collapse Transfer ACTION/Data Node_AGP1 Feature Source Destinat Receive/Process Co	nitor atus
TurnOnWritiv Edit Feature Source Destinat Receive/Process Co Node AGP1 DeviceD AGP1.# > PC1.De	
Node AGP1	
	-
Process Co Processing	
Error Code	
IP Address	-

This is the end of the verification of the settings.

6.2.8 Saving a Network Project File

This step saves the current settings as a network project file and reloads to 'Pro-Server EX'.

Refer to "25 Saving" for details about saving a network project file.

- 'Pro-Server EX' reads a created network project file, and then executes ACTION according to the settings in the file. The settings therefore need be saved in the network project file.
 - Be sure to reload the network project file to 'Pro-Server EX'. If not, ACTION will not work.



- Path of network project file
- : Desktop\monitor_write.npx

• Title

: EXCEL Report ACTION

6.2.9 Test Write

You can check if the settings are correct before transferring a created network project file to entry nodes.

NOTE	• You do not necessarily have to perform a test write. If you skip this, proceed to "6.2.10 Transferring a Network Project File".
[MPORTANT]	 Note that the data will be actually written in the Device/PLC when you specify the device of Device/PLC as a write destination. To perform a test write, it is necessary that 'Pro-Server EX', to which a created network project file has been loaded, is running.

- **1** Click the [Feature] button.
- 2 Click "ACTION" from the tree display on the left of the screen, then click the [Edit] button.
- 3 On the "Set ACTION Name/Parameter" screen, click the [Click here to set the ACTION parameter] button.
- **4** On the "Create form using Excel" screen, click the [Edit Template] button.

5 With the ACTION area selected, click the [Test Write] icon.



At this point, data is written in the Device/PLC.

- **NOTE** You can check that data is being written in the "Symbol Monitor" screen of "Status Monitor". For more details, see "28 Simply Confirming On-site Status".
 - Refer to "6.4 Restrictions" for details about the restrictions on test writes.

6.2.10 Transferring a Network Project File

This step loads a saved network project file to 'Pro-Server EX' and then transfers to entry nodes.

Refer to "26 Transferring" for details about transferring a network project file.

NOTE • Be sure to transfer a network project file. If not, ACTION will not work.

6.2.11 Executing ACTION

This step verifies that enabling trigger conditions activates ACTION and writes Excel data to the specified device of Device/PLC.

🕎 Symbol - Mo	🖳 Symbol - Monitor of Pro-Server EX 📃 🗖 🗙											
Node AGP	1	•	Device/PLC	PLC.	1	Device Ac	ldress Sheet3	•				
C-1									Start Start			
Set	Poli	ing time	1000ms	Time	e expended for read	3009ms	Time expended for v	write 481ms	STAIT			
G G Symbol		Data	type	+	Address	Count	+00	+01	+02	+03	+04	•
💷 StartR	ead	Bit			M0001	1	0					
PLC1Da	ta	16Bit((Signed)		D0050	5	60	70	80	90	100	
-					<i>h</i>							

NOTE
Check actually written value with such function as monitor of rudder creation software.
If you want to achieve faster communication during ACTION, refer to "29 Tips for Faster Communication".

This is the end of the explanation of this ACTION.

6.3 Setting Guide

This section explains how to set each screen in detail.

6.3.1 "Create form using Excel" Screen ^C "■ "Creating form using Excel" Screen"

6.3.2 "Device OneShot" Screen

"Action Settings" Tab

Action Settings Trigger Condition Settings
Device Settings Node (Trigger-Source Node) Mame Device Address/Symbol Group No. of 1 Devices 1 Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings Target Cell \$B\$6 Pattern Image Note: When using a group symbol, please select its layout from the followings. Image: State of S2(1) S1 S2(2) S1 S2(2) S3
No. of Blank Cells to insert between Cells Row Column End Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.
OK Cancel

S	etting item	Setting content		
		 Selects nodes which have a device to read/write data NOTE Clicking the [] button can retrieve or add entry nodes. Selecting "(Trigger-Source Node)" will select the entry node that has triggered the action. 		
	Node	Trigger CauseThe trigger condition satisfiedThe trigger button clickedStarted directly from the user program	Target Entry NodeTrigger condition nodePro-Server EX node on which you clicked the buttonPro-Server EX node on which the user program is operated	
	Device Name	o read/write data entry nodes are GP Series nodes and		
Device Settings	Device Address/ Symbol Group	Sets the device address or symbol to • When specifying a device address Enter directly from the Calculator ic Calcula Device Address/Symbol Group • When specifying a symbol: Select the symbol by clicking the lis Device Address/Symbol Group	s: con. ator icon	
	Data Type		(Signed) Bit (Unsigned) Float	
	No. of Devices	Sets the number of devices to read/v Enabled only when the device addre NOTE • When the symbol or group symbol		

Setting item		Setting content			
		Displays the device address, symbol name, or group symbol name in the Excel cells next to the cells in which data have been written. In this case, depending on the data write pattern, the device address, symbol name, or group symbol name will be written in the different cells as follows.			
		Write Pattern	Disp	lay Cell Position	
		N type	On the left	of the value	
		Z type	Above the	value	
Device Settings	Add Device Address/Symbol Name	Example) • Device address "D100 D100		devices "3", Write pattern "N type" (Value of D100)	
		D101		(Value of D101)	
		D102	(Value of I	,	
		Device address "D100 D100 (Value of D100)			

Se	etting item	Setting content		
Layout Settings	Target Cell Range	 Specifies the cell range to which data will be written. Clicking the button can select the cell range on Excel. Drag the mouse to select the cell range. NOTE Set the target cell range under the following conditions. Row: 65536 or less Column: 256 or less Instead of using the mouse, you can type the cell range. Click the Excel screen, enter the cell range on the "Specify Range" screen, and then click the [OK] button. Specify Range Please specify the range. When you specify the cell range including 1501 lines or more, only the top-left cell of the selected range seems to be specified on the display. A B C C C C C C C C C C C C C C C C C C		

Se	etting item	Setting content
	Pattern	Sets the data write/read direction when selecting multiple cells. (N type) Sequentially from top to bottom. (Z type) Sequentially from left to right. NOTE
		 The write/read image of the content set in "Layout Settings" appears in [Sample]. Specifies write/read layout of symbols making up a group if group symbols have been specified. (Example) N type
Layout Settings	Layout to Cell	 IN type Store Store
	No. of Blank Cells to insert between Cells	Sets the number of blank cells to insert (blank cells to insert between data and data) when writing data in plural cells. You can use different settings for columns and rows, respectively.
Convert device value to certain text at Read		Converts the read device values into text. Turning on this check box will display "Text Substitution Table Settings" screen. Refer to "■ "Text Substitution Table Settings" Screen" for more details. NOTE • If checked, the data write function is not available.
In creating a sheet, clear the specified cell range and then start.		Before copying a sheet from the template file, if data are written in the cell range of the sheet, clears the data and starts copying.

"Trigger Condition Settigs" tab

標Device OneShot
Action Settings Trigger Condition Settings Action Area No. 1 When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type.
New Trigger Condition New Trigger Button Fead Edit Delete Trigger Condition Edit Delete * Trigger Condition * If two or more are specified, the Action is executed when any of them is satisfied.
For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.
OK Cancel

Setting item	Setting content			
Action Area No.	Displays No. allocated to each ACTION area by template.			
New Trigger Condition	Displays the "Trigger Condition Settings" dialog box. Click here to set a new trigger condition.			
New Trigger Button	Displays the "Create Trigger Button" dialog box. Refer to "5.6.2 Setting Guide" Screen" for more details.			
	Selects a trigger condition to read data. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition.			
Read	 NOTE When plural trigger conditions have been specified, satisfying at least one of those conditions executes ACTION. Clicking the [Edit] button can edit the specified trigger conditions. Clicking the [Delete] button deletes the specified trigger conditions. 			

Setting item	Setting content
Write	 Selects a trigger condition for writing data. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition. NOTE When plural trigger conditions have been specified, satisfying at least one of those conditions executes ACTION. Clicking the [Edit] button can edit the specified trigger conditions. Clicking the [Delete] button deletes the specified trigger conditions.

■ "Text Substitution Table Settings" Screen

Text Substitution Table Settings						
To convert a device value to a certain text, a conversion table specifying the replacement rule is required. Please specify the storage location of the table.						
EXCEL book storing the table						
Cell storing the table (top-left cell)						
Sheet1 A1						
OK Cancel						

Setting item	Setting content			
Excel book storing the table	Specifies the Excel book in which the text substitution table is stored. Click the [] button, and then specify the file on the "Open File" screen.			
Cell storing the table	Specifies the book name in which the text substitution table is stored and then the cell number of the top-left of the table. On the "Specify Cell" screen, click the button and enter the cell number of the top-left of the table. Specify cell ? Please specify the topleft cell of the conversion table specifying the replacement rule. OK Cancel			

Refer to "■ About Text Substitution of Data" for more details about a text substitution table.

6.4 Restrictions

Writing data of Excel in the Device/PLCs

When writing the cell value and the cell is empty, 0 will be written for the numeral type, blank will be written for the character string type.

Also, when the data type is the character string, but you do not set the target cell format to "character string", you sometimes fail to write correctly.

In this case, you need to change the cell format to "character string" in advance.

Operation in ACTION area when error occurs

When you actually write/read in "Device One-Shot" function and exceed the ACTION area, perform the common operation as follows:

1) When performing a test read/ a test write

Error screen is displayed.

2) When executing ACTION in runtime

It will be recorded as ACTION error in the Log Viewer of the 'Pro-Server EX'.

Functions which are not executed by a Test Write/Read

The following function is not executed by a Test Read/Write.

"Clear the cell range specified in creating a sheet to start"

In the case of closing the displayed output book

If you have mistakenly closed an output book of Excel Report ACTION, follow these steps to open it again: Dragging and dropping the book to open will make it read-only and the start button etc. invalid.

1. Double-click the output book.

2. When the following dialog box appears, select "No" to open it.



Receive notification

You cannot set the receive notification which indicates the completion of ACTION.

When setting "Trigger-Source Node"

When setting "Trigger-Source Node" at node in Excel Report action, node type and device are uncertain. Therefore, the device address is displayed in red.But, it is no problem.

Edit the output file

While Excel Report Action is executing, you can not edit the output file.

Therefore, it becomes very difficult to operate Excel at the setting in which the Trigger condition satisfies at a short cycle. Moreover, the following error message is displayed when the Action is executed during editing the output file.



Restrictions on Copying or Cutting and Pasting the Action Area

When you paste the Action area using Ctrl+C & Ctrl+V or Ctrl+X & Ctrl+V, specify [Target Cell Range] for the copied Action area.

The Action area just after pasting remains the same [Target Cell Range] as that for the original Action area.

	A	В	С	D
1				
2				
3				
4				
5				
6				
7				

When the trigger button does not function nomally

After the security patch of Microsoft Office is applied, the trigger button may not function normally. For details, refer to "■When the trigger button in Excel Report does not function normally" of "37.2 Restrictions on Pro-Server EX".

Excel Auto Save Function

The Excel auto save function does not operate due to the Excel restrictions. To save automatically, create the Excel save macro using the following procedure and execute the created save macro by Action.

1 Open a template you want to save automatically using 'Pro-Studio EX'.

Create form using Excel						
		Version 1.22				
Template Designation —						
Please specify the name of Excel template file that is the source of forms. When you use the wizard, the theme template file is copied to a file with this name. When you create a new template, please specify the file name.						
Template File	C:\Documents and Settings\Administrator\Desktop\template.x					
	Edit Template					
Output File	and a fact the second as the transformed with the star	- love dia the fellowine file				
i ne tempiate nie stores s	etting info. The actual output result will be dis	played in the following file.				
Folder Name	C:\Documents and Settings\Administrator\Desktop					
File Name	Report_%Y%M%D.xls	Return to Default Settings				
✓ Start from Displayed State						
□ Do not save the output file when ACTION runs. (Please use the Save or Save by Macro of Excel.)						
		OK Cancel				

2 Select "Macro" and "Record New Macro" from the "Tools" menu.

t							
Tool	s <u>D</u> ata	<u>W</u> indow	<u>H</u> elp	ExcelAction	n(<u>A</u>)		
ŧŸ:	Spelling	1	=7	f∗ ≜↓	🛍 🛛 🙄	Arial	
	<u>A</u> utoCorre	ect]	_ , ,,		
	S <u>h</u> are Wo	rkbook					
	<u>T</u> rack Cha	nges	►	1			
	Merge <u>W</u> o	orkbooks,		F	G	Н	
	Protection	n –	•				
	O <u>n</u> line Col	llaboratio	n •				
	<u>G</u> oal Seek		_				
:	Sc <u>e</u> narios						
	A <u>u</u> diting		•				
	<u>M</u> acro			• Macros		Alt	го
	Add- <u>I</u> ns			<u>R</u> ecord	New Macro		
9	⊆ustomize			Securit	y	15	
	Options			췸 Yisual B	Basic Editor	Alt+F	=11
				OB Microcy	oft Script Editor	ALLASHIELLE	=1.1

3 Enter the macro name "Macro1" and click the [OK] button.

Recording the macro starts.

Record Macro		? ×
Macro name: Macro1		
Shortcut <u>k</u> ey: Ctrl+	Store macro in: This Workbook	-
Description:	*/*/200* by *****r	
1		
	ок Д	Cancel

4 Select "Save" from the "File" menu.

"Macro1" is recorded in the macro.

🔣 Mi	crosoft Excel - template2.xlt			
E E	ile Edit View Insert Format Tools Data Y	<u>W</u> ind		
	New Ctrl+N	7		
00	Gren	┢		
	Save Ctrl+S			
	🛓 Save as 🗤 Beb Page	Ľ		
	Page Setup	h		
1	Print Area			
2 €	Print Ctrl+P	H		
4	Send To			
5				
6	<u>1</u> \Documents and Set\convert_D02.xls 2 \Documents and Set\convert D01.xls			
8	3 \Documents and Setting\templete.xls			
9	₹ /sectaments and sectarily receives			
10				

5 Select "Macro" and "Stop Recording" from the "Tools" menu. Recording the macro is complete.

<u>T</u> ools <u>D</u> ata <u>W</u> indow <u>H</u>	Help ExcelAction(A)	
🕺 💞 Spelling F7	🖌 🕺 🛍 🐼 💥 Arial	
S <u>h</u> are Workbook		
Protection	•	
Online Collaboration	•	
Macro	Alti FO	
<u>C</u> ustomize	Stop <u>R</u> ecording	
Options	Security	4
*		
	Microsoft Script Editor Alt+Shift+F11	

 $6 \ {\rm Select} \ {\rm "Execution} \ {\rm Sequence} \ {\rm List"} \ {\rm from \ the} \ {\rm "Excel} \ {\rm Action"} \ {\rm menu}.$



- 7 Create the trigger condition save automatically.
- 8 Select the created trigger condition and "Excel Operation Function".

Execution Sequence List		<u>_ ×</u>				
Execute when Trigger Condition satisfied Execute when Trigger Button clicked Execute from another application						
When Trigger Condition is satisfied, Action is exe	ecuted.					
New Trigger Condition Please place actions to execute or EXCEL operation commands in orde Edit Insert Clear	er of execution.					
Trigger Condition 1 2 3 4	5	6				
CreateForm CreateForm K						
		<u> </u>				
	ОК	Cancel				

9 Select "Execute Macro" and enter the macro name "Macro1".

Excel	Operation Fur	nction			. 🗆 X
C	New Sheet	C Print Sheet	Sheet Name sh	eet1	-
0	New Book				
0	Show Book	🔿 Hide Book			
0	Print Book	C Close Excel			
	Execute Macro	Macro1)
0	Export				
	File Name	Report_%Y	%M%D%n.csv	Defa	ault
	Saving Folde	er 📔			
	Saving	CSV(.cs			
	Format	Export o Report.	nly the last page ex	cept Action	
		C HTML(.)	itm)		
			ОК	Cancel	

- 10 Click the [OK] button.
- **11** Finish editing the template.
- 12 Save/Reload the setting contents.

According to the created trigger condition, the template is automatically saved.