# Trial of Pro-Server EX

3.1	Starting 'Pro-Studio EX'	3-2
3.2	Trial of New Form	
3.3	Trial of Recipe Function	3-37
3.4	Trial of Logging Function	
3.5	Trial of Send Mail Function	3-68

3

# 3.1 Starting 'Pro-Studio EX'

Operating the data management system using 'Pro-Server EX' requires network setting of the Device/PLCs and functions to be used (Network project file creation).

'Pro-Studio EX' is used to create a network project file.

After having set up, start 'Pro-Studio EX'.

### 3.1.1 Start 'Pro-Studio EX'

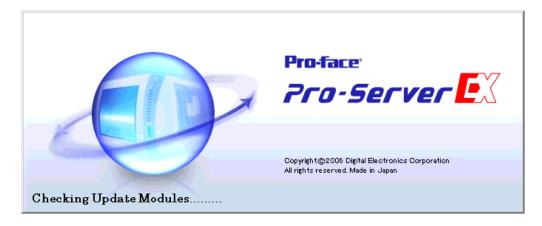
- 1 Turn on the PC power to start Windows.
- 2 Click the [Start] button on the task bar. Point "All Programs" or "Programs" --- "Pro-face" --- and "Pro-Server EX", and then click "Pro-Studio EX".

÷.	Set Program Access and Defaults									
*	Windows Update									
	Programs	•	Ē	Pro-face	►	Ē	Pro-Server EX 🔸	(	Manual (Help)	•
	-		(	Startup	►		×	LOG	2Way Log Viewer	
	Documents	►	C	Internet Explorer				<u>.</u>	Device Access Log	
5	California		<u></u>	Outlook Express		L		<u> </u>	Device Monitor	
<b>\$</b> \$\$	Settings			×		L		١	Environment Setup	
	Search	×						<b>(</b> 2)	Exit Pro-Server EX	
			L .					١	Pro-Server EX	
1	Help		L .					1	Pro-Studio EX 🛛 📐	
777	Run		L .					C.	Status Monitor	
			L .					2	Symbol Monitor	
	Shut Down							3	Uninstall	

'Pro-Studio EX' will start and the opening screen will appear.

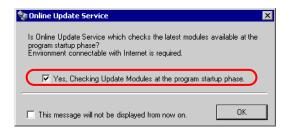






At the same time, the "Online update service" screen will appear.

When you receive the online update service, check "Checking Update Module at the program startup phase" and click [OK].



After a while, the start screen will appear with the "Open Network Project File" screen.

Pro-Studio EX ?.npx	
File         Edit         Tool         Programming Assist           Start         >         >         Node	
Sample Wizard A new network will be constructed. Select a sample.	Open Network Project File
📲 Recipe	New PC that is able to create forms us FA units (connection units) database of Access, etc. to the
Send Mail      Program Design <u>Device-to-Device</u> Communication	Open File  Recent File  Recent File
Monitor Device Status	in which these settings are
Debua Tool Reference Manual	
	×

Then proceed to manipulate on the "Open Network Project File" screen.

How to close 'Pro-Studio EX'	
On the start screen, click "Files" on the menu bar, and select "I	Exit" from the pull-down menu.
💱 Pro-Studio EX 🛛 ?.npx	
File Edit Tool Programming	Assist Setting
New Open	lode ン 붣
Save Save As V Input History at Save Time Print Export Nodes and Symbols Import Nodes and Symbols	
Exit Send Mail	

Startup of 'Pro-Server EX'
While operating 'Pro-Studio EX', if communication is required between the PC and the GP, the following message to request startup of 'Pro-Server EX' will appear. In this case, click the [Yes] button and start 'Pro-Server EX'.
Find Node
Pro-Server EX will start to communicate with another node. Is that OK?
After 'Pro-Server EX' has started, the Pro-Server EX icon will appear in the task tray. 'Pro-Server EX' is always active (resident) unless you close it.
Monitor Status
To close 'Pro-Server EX' (resident cancellation), right-click the icon in the task tray and select 'Exit Pro-Server EX' from the menu.
Load Network Project
Start Pro-Studio EX Tools
ACTION
Pro-Server EX Environment Settings Network Setting
About
Exit Pro-Server EX

## 3.1.2 Selecting Network Project File

After the program has started, the "Open Network Project File" screen will appear in front of the start screen.

Open Network Project File	×
New	
Open File	
Recent File	

On this screen, choose whether to create a new network project file or use an existing network project file.

#### Creating New File

When you use 'Pro-Server EX' for the first time or you want to create a new network project file, click the [New] button.

## Using Existing File

When you want to use an existing network project file, click the [Open Files], and select the file to use in the "Open Files" dialogue.

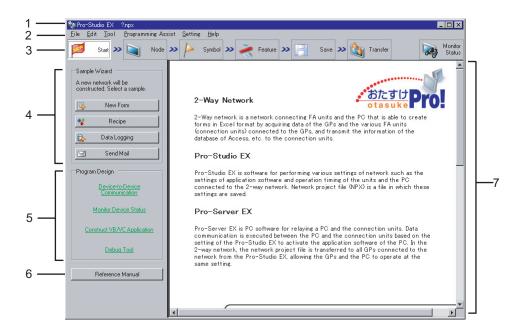
If you find the file name of the network project file you want to start on the list of "Most Recently Used Files", click the file name on the list.

(Follow the same procedures above when you want to edit an existing network project file.)

The network project file you selected through the operations above will open, and the 'Opening Network Project File' screen will close.

## 3.1.3 Start Screen of 'Pro-Studio EX'

The following explains about the start screen.



#### (1) Title bar

Displays the currently open network project file's name.

The file name of a new document is denoted as '? .npx'.

#### (2) Menu bar

Displays the menu to be used to operate 'Pro-Studio EX'. Clicking this bar displays the pull-down menu.

#### (3) Status bar

Displays necessary setting items for creating a network project file in a form of icon. Clicking the icon displays the corresponding setting screen.



Clicking this icon displays the start screen. At an initial startup, the start screen will appear without clicking this icon.



Clicking this icon displays the entry nodes setting screen. You can register or delete entry nodes on this screen.



Clicking this icon displays the symbol setting screen. You can register, delete or group symbols on this screen.



Clicking this icon displays the feature setting screen. You can register or set an ACTION item and content of data transfer, as well as register cache on this screen.



Clicking this icon displays the save setting screen. You can save the network project file you set on this screen.



Clicking this icon displays the transfer setting screen. You can transfer the network project file you set to the GP from this screen.



Clicking this icon displays the monitoring setting screen. You can monitor the current status of the PC and the Device/PLCs on this screen.

#### (4) [Sample Wizard]

'Pro-Server EX' has built-in "Sample Wizard" that allows you to learn how to set frequently used ACTION items such as form creation and recipe.

Clicking each item button activates the 'Sample Wizard' corresponding to the clicked item, and the "Sample Wizard" screen will appear.

Pointing each item button with mouse cursor will display a guide to the wizard of the pointed item in the task area (7).

#### (5) [Programming]

Displays a guide to setting items and operation procedures of useful features in programming. Pointing each item button with mouse cursor will display a guide to the pointed item in the task area (7). Clicking each item button displays a detailed guide to the clicked item.

#### (6) [Reference Manual]

Displays the 'Pro-Server EX Reference Manual' (this manual).

#### (7) Task Area

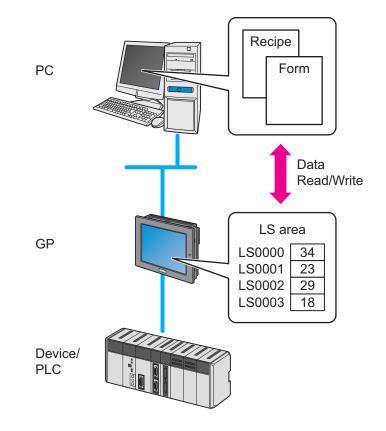
Displays the guide to each item pointed by mouse cursor. On the setting screen, this area is used as a setting area.

## 3.1.4 Before Learning

Device data to use in "Sample Wizard"

The "Sample Wizard" does not use device data of the Device/PLCs. Instead, it accesses to the memory space in the GP (referred to as "LS area") and performs read/write.

Before learning with the "Sample Wizard", ensure that the PC in which 'Pro-Server EX' is installed is connected to the GP as shown below.



NOTE

You can use each menu to edit the contents set in the "Sample Wizard" after the wizard ends.

- Node --- "Node" Menu
- Symbol ---- "Symbol" Menu
- Trigger Condition, Feature (ACTION) --- "Feature" Menu

## 3.2 Trial of New Form

## 3.2.1 What is a New Form Function?

Pro-Server EX allows creating various forms including a management chart and a report according to the purpose by writing production data and measurement data read from the Device/PLCs into the pre-created form template in 'Excel'.

'Pro-Studio EX' is provided with approximately 30 kinds of form formats as "Form Templates". These formats allow you to easily create various forms. The following shows one of those forms.

## Production Management Chart (Tabular form)

Production Management Board (per Day)								
Time	Cumulative Planned Num.	Cumulative Result Num.	Result Num./H	Difference/H	Problems			
Early Morning								
9	100							
10	200							
11	300							
12	400							
13	500							
14	600							
15	700							
16	800							
17	900							
Overtime								

You can edit the format of "Form Templates" as you desire using 'Excel'. You can also create a new template and add it to the existing templates.

For more details, see "5 Creating a Form Using Excel".

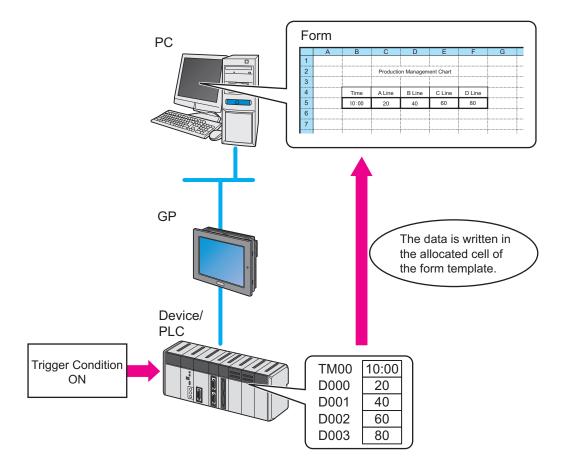
#### Flow of Form Creation

(1) Decide which device address data in the Device/PLC should be written in each cell of the form template in 'Excel'. Allocate each cell for the data beforehand.

	А	В	С	D	E	F	G
1							
2			Productio	n Managem	ent Chart		
3							
4		Time	A Line	B Line	C Line	D Line	
5							
6							
7							
8			Data for	Data for	Data for		
9			"D000"				
10							

(2) Using 'Pro-Studio EX', execute action setting of the form creation function, including setting data of the device address to output and requirements for outputting forms.

(3) At a specific timing or at a specific interval, the data of each device address of the Device/PLC is written in the allocated cell of the form template.



## 3.2.2 Workflow from Settings to Form Creation

The following explains about the operation flow from setting to creating a sample form using the "Form Creation" wizard.

#### STEP 1 Selecting Form Template

This step selects a form format to create from the form templates.

Creation of Network Project File (Operation of "Sample Wizard")

#### STEP 2 Registering Entry Nodes

This step selects a form format to create from the form templates.

STEP 3 Registering Symbols

This step registers device addresses of the GPs as symbols.

STEP 4 Setting Trigger Condition

This step sets conditions for executing form output (trigger condition).

#### STEP 5 Setting Feature (ACTION)

This step sets an ACTION item and the output destination and file name of a form to create.

STEP 6 Verifying Setting Result and Form Template

This step verifies the setting result on the "Sample Wizard Setting Result" screen and templates.

STEP 7 Saving Network Project File

This step saves the current settings as a network project file and reloads.

STEP 8 Transferring Network Project File

This step transfers the saved network project file to the GP.

#### STEP 9 Writing Device Data

This step writes the data to the output file after the trigger condition set in STEP4 has become effective.

## 3.2.3 Creating a Form

This section helps you to learn necessary settings efficiently for creating a form by simply following the instructions of the "Form Creation" wizard of the "Sample Wizard" to actually create a sample form.

Example of Sample Form Created with this Wizard

	A B C	D	E	F	G	Н	1
1	Excel01	Production	n Manager	nent Boa	rd (per Day	()	
2					<u>``</u>		
3	Time	Cumulative Planned Num.	Cumulative Result Num.	Result Num./H	Difference/H	Problems	
4	Sarly Morning						
5	9	100					
6	10	200					
7	11	300					
8	12	400					
9	13	500					
10	14	600					
11	15	700					
12	16	800					
13	17	900					
14	Overtime						
15 16							
17	Time to set	t Result Num.					
18	Readout Curnul	ative Result Num		Execute			
19				1			
20 21	Debug(Cumula	ative Result Num)					
22							
23 24	Debug(1	ime to set)					
25				•			

• Form creation needs 'Excel' preinstalled on the PC. Before getting started, ensure that 'Excel' is installed on the PC.

## STEP 1 Selecting Form Template

This step selects a form template to create.

1 On the start screen, click the [Form Creation] button in the [Sample Wizard].

🏷 P	ro-St	udio E	X ?	лря				
File	Edit	Tool	Pro	ogramm	ing	Assist	Sett	ing
	1	Start	<b>&gt;&gt;</b>			Node	<b>&gt;&gt;</b>	1
A	new n	Wizaro ietwork sted. S	: will l	be a samp	le.			
	à	Ne	ew Fo	orm	R		L	
	8	F	lecip	е			L	
	\$	Data	a Log	ıging			L	
E	2	Se	end M	lail			L	

**NOTE** • Pointing each item button in the "Sample Wizard" with mouse cursor will display an explanation to the wizard of the pointed item in the task area.

2 The "Form Creation" wizard starts. The form template selection screen will appear. Scroll the screen by moving the scroll bar and select the form format you want to output.

In this example, select the "Production Management Per Day".

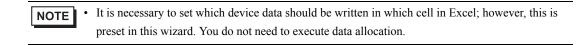
New Form 🛛 🛛
Sample: New Form
To actualize this sample, Node, Symbol, Action, and Trigger Condition must be set in the network project. This wizard automatically generates them.
Select a form you want to create.
Production Management Board (per Day)
and     or production per day.       a     a       a     a       a     a       a     a       b     a
O Production Management Board (per Month)
Management table to organize the planned num. and result num.
Caution To use this feature, Microsoft Excel is required.
Next Cancel

**NOTE** • Clicking the form thumb nail display will enlarge the format on the monitor.

Click the [Next] button.

i e ab		
C Production Manager	ment Board (per Month)	
	Management table to organize the planned num. and result num. of production per month.	•
Caution To use this feat	ure, Microsoft Excel is required.	

This is the end of selecting a form template. The entry nodes setting screen will appear.



Proceed to "STEP 2 Registering Entry Nodes".

#### STEP 2 Registering Entry Nodes

This step registers the PC and the GPs as entry nodes in 'Pro-Studio EX' to allow the PC to read the data.

#### What is Entry Node?

In order to read and write the data of the Device/PLCs using 'Pro-Server EX', the information of the PC and the GPs connected via network must be registered in the network beforehand.

The PC and the GPs registered are referred to as an "Entry node".

Windows PC Node

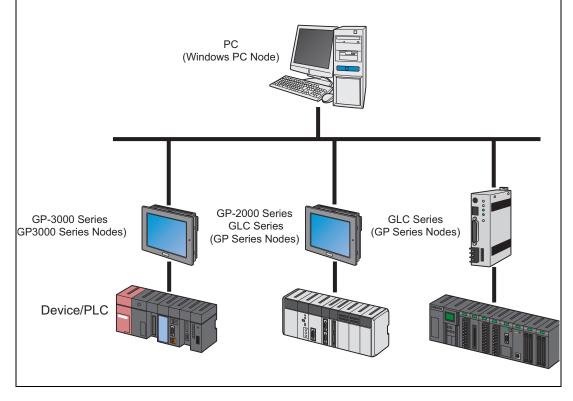
Register the PC to be used for execution of various features of 'Pro-Server EX'.

GP3000 Series Node

Register the GP3000 series displays and the Device/PLCs connected to the GPs to be used for data write/read. Up to four models (protocols) can be registered per one GP3000 series node. Up to 32 units of the connection units can be registered per one protocol (depending on the protocol).

· GP Series Node

Register the GP2000 series displays, GLC series displays, and Factory Gateway to be used for data write/read. One model (protocol) can be registered per one GP series node.



1 Register the PC currently used (PC for creating a form) as an "Action Node". In this wizard, select [Yes].

-To create a form, a PC on the network has to be specified for creation and registered as a participation node.				
Do you want to create with this PC?				
Ves Node Name PC1 will be created				
C No				
-A form is composed of two or more device values, and the node having the devices (Data Source Node) has to also be registered on the network as a participation node.				
As a Data Source Node				
Node Sample_Node IP Address 127.0.0.2 is registered.				
Existing is used.				

The PC currently used is set as an "Action Node", named as "PC1".

**2** Register the GP being connected as a "Data Source Node".

Select the [Register Entry Node Name Sample\_Node IP Address XXX.XXX.XXX.XXX], and enter the IP address of the GP.

-To create a form, a PC on the network has to be specified for creation and registered as a participation node.					
Do you want to create with this PC?					
⊙ Yes Node Name PC1					
C No will be created with					
-A form is composed of two or more device values, and the node having the devices (Data Source Node) has to also be registered on the network as a participation node. As a Data Source Node					
Node Sample_Node IP Address 192, 168, 0, 100 is registered.					
C Existing is used.					

**NOTE** • For how to check IP address set in the GP, see "2.4 Setting GP Network".

The "Data Source Node" is set to the address above.

**3** Click the [Next] button.

⊙ Node Name	Sample_Node	IP Address 19	92,168,0,100	is registered.	
Existing	<b>T</b>	is used.			
🖾 🛛 Find Nod	e	Back	Next	Cancel	

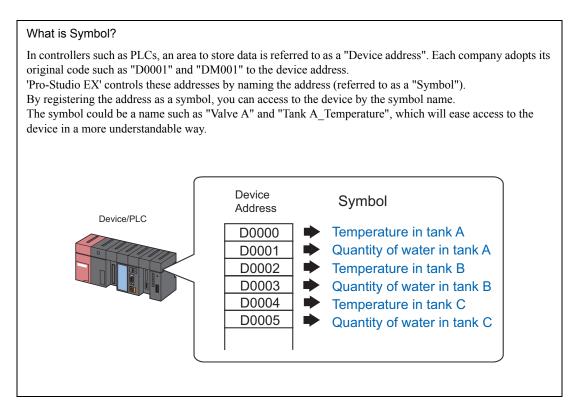
This is the end of registering entry nodes necessary for creating a form.

Proceed to "STEP 3 Registering Symbols".

#### STEP 3 Registering Symbols

This step registers a device address including data necessary for creating a form as a "Symbol".

In this wizard, the memory space ("LS area") in the GP is symbol-registered.



1 Check the [The symbols will be registered as data-source-node symbols.] check box, and then enlarge or scroll the screen to confirm the preset symbol.

New Form 🛛	
Sample: New Form Production Management Board (per Day)	
Node 🍑 ≽ Symbol ⋗ ≷ Feature ≫	
Edit symbol details in the Symbol Screen	
after the sample wizard ends.	
-To create a form, two or more data source devices have to be specified. In the form of the selected sample, the devices have already been specified by their symbol names.	
Edit symbol details in the Symbol Screen after the sample wizard ends. -To create a form, two or more data source devices have to be specified. In the form of the selected sample, the devices have already been specified by their symbol names.	
Back Next Cancel	

Symbol Name	Data Type	Address	
S_Excel01_Cumu S_Excel01_Write	16Bit(Signed) 16Bit(Signed)	3001 3002	

2 Click the [Next] button.

Symbol Name	Data Type	Address		
S_Excel01_Cumu	16Bit(Signed)	3001		
S_Excel01_Write	16Bit(Signed)	3002		
		Back	Next	Cancel
	-			

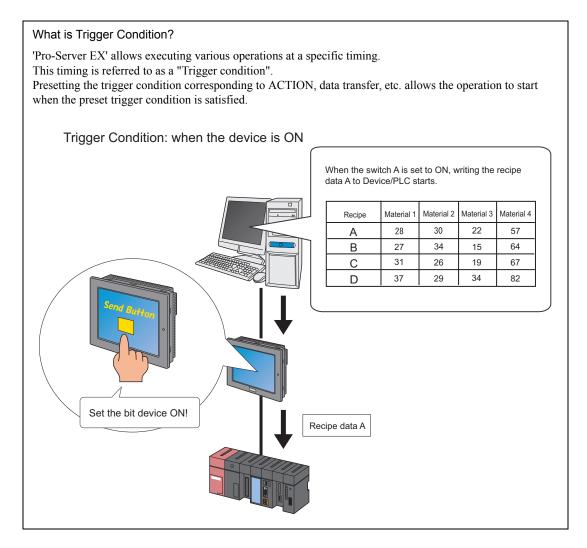
This is the end of registering symbols necessary for creating a form. The trigger condition setting screen will appear.

Proceed to "STEP 4 Setting Trigger Condition".

#### STEP 4 Setting Trigger Condition

This step sets conditions for executing form output (trigger condition).

In this wizard, the trigger condition of detecting a rise of "Upload Start\_BIT" is preset.



1 Confirm the content of the trigger condition in the [Trigger condition settings].

-In Pro-Server EX, various actions caused by arbitrary "Trigger Conditions" are available. Pro-Server EX manages the "Trigger Conditions" separately giving each of them an arbitrary name.				
Trigger Condition Name Set Trigger Condition	T_Excel01 When the Start Upload Bit turns DN, device data is inserted			
Condition	× >			

## $2 \ {\rm Click} \ {\rm the} \ [{\rm Next}] \ {\rm button}.$

-In Pro-Server EX, various actions caused by arbitrary "Trigger Conditions" are available. Pro-Server EX manages the "Trigger Conditions" separately giving each of them an arbitrary name.				
Trigger Condition Name	T_Excel01			
Set Trigger Condition	When the Stat Upload Bit turns DN, device data is inserted			
	Back Cancel			

This is the end of setting a trigger condition necessary for creating a form. The ACTION setting screen will appear.

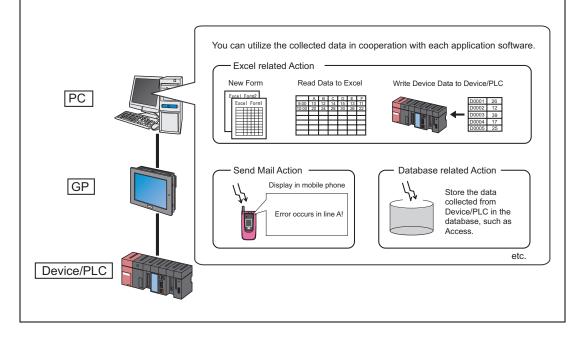
Proceed to "STEP 5 Setting Feature (ACTION)".

#### STEP 5 Setting Feature (ACTION)

This step sets functions (ACTION) to use. This step sets an ACTION item and the output destination folder and file name of a form to create.

#### What is ACTION?

In addition to the access to the devices, 'Pro-Server EX' allows advanced processing using application software, for example creating a form using 'Excel' and creating a database using 'Access'. In the 'Pro-Server EX', the advanced processing in the PC using application software is referred to as "ACTION".



1 Enter the output destination (folder) of the file of a form to create in the [Form Output Destination Folder] field. Click the [More] button. On the "Refer to Folder" screen, specify the output destination folder.

-Pro-Server EX can execute any pre-registered ACTION.			
This Sample Form is also executed as one of such ACTIONS			
An ACTION requires an ACTION name. Specify an ACTION name.			
ACTION Name Action1			
Form Destination Folder			
Form Output File Name XY&M&D%h&m&s.xls			

- The ACTION name can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.
- \* You can type the folder name. In this case, begin the name with a drive name of the PC, e.g. "C:\My Documents".
- **2** Enter the output file name in the [Form Output File Name] field.

In this trial, enter "Production Management".

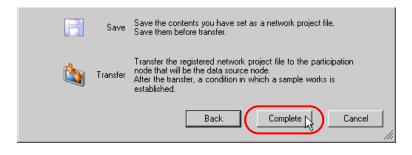
-Pro-Server EX can execute any pre-registered ACTION.
This Sample Form is also executed as one of such ACTIONS
An ACTION requires an ACTION name. Specify an ACTION name.
ACTION Name Action1
Form Destination Folder C:\Documents and Settings\Administrator\Desktop Browse
Form Output File Name ProductionManagement

3 Click the [Next] button.

	An ACTION requires an ACTION name. Specify an ACTION name.
	ACTION Name Action1
	Form Destination Folder C:\Documents and Settings\Administrator\Desktop Browse
	Form Output File Name ProductionManagement
l	
	Back Cancel

This is the end of setting an ACTION item necessary for creating a form. The screen that explains the procedures to follow (saving and transferring network project file) will appear. You can read the explanations how to save and transfer the network project file on the screen.

4 Click the [Complete] button.

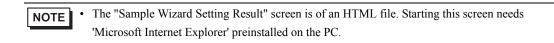


This completes the "Sample Wizard".

Then the save setting screen will appear.

Pro-Studio EX 2.npx File Edit Tool Programming Assist		lonitor Status
Save	Basic Info History Info	
Save/Reload	Network Project Brows file Path	e
Create BAK File	Title	
Input Password at Save Time	Related Document (Registered in the following area by dropping the file. Started by clicking the file.)           Relation-Info         File Name         Folder	

At this time, the "Sample Wizard Setting Result" screen and the form template file (ProduceManagementPerDay.xlt) in Excel format are also created.



Proceed to "STEP 6 Verifying Setting Result and Form Template".

#### STEP 6 Verifying Setting Result and Form Template

This step opens the "Sample Wizard Setting Result" screen to verify the setting result.

1 Click the "Sample Wizard" in the task bar of the PC.



The "Sample Wizard Setting Result" screen will appear.

ile Edit View Favorites Tools Help					
Back × → × 🙆 🗗 🚮 🔞 Search 🚡		B- 3 🛛 - 3			
ldress 🙋 C:\Documents and Settings\Administrat	or\Desktop\Action1.html			<u>▼</u> ∂G0 L	
Sample Wiza	urd Setti	ng Resul	t		
Production Management I	Board (per Dav	7)			
0		/			
Creation Date and Time:Monday, April 1	0, 2006 2:38:08 PM				
Node					
	Node Name	ht. 1. Th		IP Address	
	Node Name PC1	Node Type WindowsP		192.168.0.1	
	Sample Node	GP3000 Sr	-	192.168.0.100	
Symbol Symbol Name	Node Name	Data Type	Device Address	Comment	
	Sample Node	Bit	300000	Bit to order the start of Upload	
S_Excel01_CumulativeNumber_WORD		16Bit(Signed)	3001	Device storing the Cumulative Result Number	
S_Excel01_WriteDestination_WORD	Sample_Node	16Bit(Signed)	3002	Device storing the Time Data to set the Cumulative Result Number	
Trigger Condition					
mgger condition					
~	Condition				
Condition Name	Condition When the Start Upload	Bit turns ON, device data is	inserted into the cell.		
Condition Name		Bit turns ON, device data is	inserted into the cell.		
Condition Name		Bit turns ON, device data is	inserted into the cell.		

2 Scroll the screen and verify that the settings have been correctly entered.

• Scroll down the "Sample Wizard Setting Result" screen and look for the [Sequence]. The content of action is shown here.

**3** After having verified, click the [x] (close) button to close the screen and click the [-] (minimize) button to minimize the screen.

```
• When created, the "Sample Wizard Setting Result" file will be automatically saved in the output destination folder set in procedure 1 of "STEP 5 Setting Feature (ACTION)". The file name is "(the ACTION name set in procedure 1 of STEP 5).html".
```

Proceed to opening the form template in 'Excel' to verify the setting result.

**4** Open the form output destination folder set in procedure 1 of "STEP 5 Setting Feature (ACTION)" and doubleclick the Excel form template (ProductManagementPerDay.xlt).



Verify that the correct form template selected in "STEP 1 Selecting Form Template" is created.

677	diama an Or French	- ProductManage					
		[insert Format ]					
	🛩 🖬 🚭	🖹 💼 🗠 🔹	🔮 Σ 🖅 🛃	15% 🗸	2 🎇 Arial	• 20 • <b>B</b> <i>I</i> ]	U 🗐 🗐 🗉 🔹 🔌 🔹 😲
	🔊 🖓 🔽	1 I I I I I I I I I I I I I I I I I I I	패 # 오 방 .	A 🖾 🔌 -			
Ĺ.	A1 💌	= Exce	01 Production 1	Aanagement Bo	oard (per Day)		
	A B C	D	E	F	G	Н	I J K
1	Excel01	Production	n Managei	nent Boa	rd (per Day	/)	
2							-
	Time	Cumulative	Cumulative	Result	Difference/H	Problems	
3		Planned Num.	Result Num.	Num. /H	Difference/n	T CONTENES	
4	Early Mornin						
5	9	100					
6	10	200					
7	11	300					
8	12	400					
9	13	500					
10	14	600					
11	15	700					
12	16	800					
13	17	900					
14	Overtime						
15 16							
17		t Result Num.					
	Readout Curnul	lative Result Num		Execute			
19 20			r	1			
21	Debug(Cumula	ative Result Num)					
22 23				1			
23	Debug(1	l ime to set)					
25							
26		ate / Explanation	1			•	
Rei		ace A copiditation	/				

NOTE	• You can read the exp	la		how to	o use th	-	-		Explanation] tab.
			A B C	D	E	F	G	н	1
		1	Excel01	Producti	ion Manag	ement Bo	ard (per	Day)	
		2		Elanged h	Jum set beforehan	1 Recult	Num per hour	-	
		3							F
		4	Time	Cumulative Planned Num	Cumulative Result Num.	Result Num./H	Difference/H	Problems	
		5	Early Morning		5.	5		Difference between Planned Num	<u> </u>
		0	9	100	102	97	-3	and Result Num per hour	
		7	10	200	200	90	-2		r -
		8	11	300	298		-2		
		9	12	400		al Cumulative Result value read out from			
		10	13	500		ce is reflected here.	0.6		
		11	14	600	598				
		12	15	700	695	97	-3		
		13	16	800	795	100	0		
		14	17	900	890	95	-5		
		15	Overtime		900	10			
		16							
		18		Result Num.	18	1		Decute button turns On the Upbad BIT <sup>®</sup> , and starts the	
				ative Result Num.	900	Execute	Action	opeasion , and can be the	
		20				1			
		22		tive Result Num)	900				
		23							
		25	Debug(T	ime to set)	18				
		26							
		27				_			
		29				a value as data for Dehug button writes		t Num <sup>®</sup> and <sup>®</sup> Time to set	
		30			Result Num	into "S_Excel01_C	umulative_WORD" a	nd	
		23 24 25 26 27 28 28 30 31 32 33 34 35 36				Write Destination_WC		en devices, and displays	
		33			them in the	column of "Cumulat	ive Result Num" co	rresponding the value	
		35			displayed in	the "Time to set Re	sult Num <sup>~</sup> .		
		36							

Proceed to "STEP 7 Saving Network Project File".

#### STEP 7 Saving Network Project File

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

1 Enter a save destination folder and a save file name in the [Path of Network Project File] field. Click the [More] button to specify the save destination folder. On the [Save As] screen, enter the save file name in the [File Name] field, and then click the [Save] button.

Basic Info History In	fo			
Network Proje file Pa	ect C:\Documents and ! ath	Settings\Administrator\Des	ktop\productmanagement.npx	Browse
Ti	itle			
Related Docume	nt (Registered in the	following area by dropp	ing the file. Started by clicking (	the file.)
Relation-Info	File Name	Folder		
I				

2 Enter the title of the network project file in the [Title] field.

Basic Info History Inf	)			
Network Projec file Pat	t h C:\Documents and	Settings\Administrator\[	Desktop\productmanagement.npx	Browse
Tit	e productmanagemer	nt_060430		
Related Documer	t (Registered in the	following area by dro	pping the file. Started by clicking t	he file.)
Relation-Info	File Name	Folder		

3 Click the [Save/Reload] button.

牧 P	ro-St	udio E	X p	oroject.r	рх						
File	Edit	Tool	Pro	grammin	g Assist	2					
	1	Start	<b>&gt;&gt;</b>		Node	2					
	Save										
$\square$	Save/Reload										
	☑ Create BAK File										
Input Password at Save Time											
		S	et Pa	ssword							

The setting result is saved as a network project file.

What is Reload?							
'Pro-Server EX' performs data read/write, etc according to the settings of the network project file. Reload is an operation to make 'Pro-Server EX' recognize the created network project file. Clicking the [Save/Reload] button activates 'Pro-Server EX', execute reload, and display the screen below.							
Reload     Image: Constraint of the second co							
Click the [OK] button.							

At the same time, the "Action Report" screen will appear.

In this screen, working history such as how this ACTION output to the output file is always recorded.

	Micros	oft Excel - 20060413									_ 0	X
	i 🗃	🖬 🔒 🎒 🖪 🖤	🐰 🖻 💼	ダ 🖍 • 🖂 •	🝓 Σ	∫∗ Å	👬 🛍 🚯 7	5% 🔹 🕵	•			
	Eile E	dit View Insert For	mat <u>T</u> ools <u>D</u> at	a <u>W</u> indow <u>H</u> elp					_		_ 8	×
Ari	ial	• 11 •	BIU		\$ %	+.(	3 . 19 🕅 🗐 🗐	- 🎝 - 🛓	<u> </u>			
	r <b>⊳</b> ⊊l J				×.							
	•				<u></u> •							
	A	<b>_</b>	С	D	E	F	G	Н	1	J	ĸ	E
				Action Re	nort							-
1					port		Format	V1.00				- 11
3		Template S	heet Informa	tion			ronnat	¥1.00				
<b>—</b>	No.	Template Sheet	Count of	Sheet Name of								
4	140.	Name	Additions	Final Added								- 11
5		1 Template 2 Explanation		Template Explanation								- 11
7		2 Explanation		Explanation								
8												- 11
9		Townshite Object	Count of	Action Area Infor	mation	GROUP						- 11
10	No.	Template Sheet Name	Count of Writes	Name of Last Sheet Written to	Area ID	Name	Count of Data of Last Sheet	Last Write Time				
11												
12												- 11
13												- 11
15												
16												- 11
17												- 11
19												
20												
K.		🔪 Template 🏒 Explar	hation Action	Report /			•				Þ	
Re	ady								NUM			

**4** Click the [Transfer] button.

					_ 🗆 X
» 📑	Save 😡	Tra	nsfer		Monitor Status
ettings\Admin	istrator\Desł	<top\productm< td=""><td>ianagement.n;</td><td>x</td><td>Browse</td></top\productm<>	ianagement.n;	x	Browse
L_060430					
ollowing are Folder	a by droppi	ing the file. S	tarted by clic	king the fi	le.)

The transfer setting screen will appear.

Proceed to "STEP 8 Transferring Network Project File".

## STEP 8 Transferring Network Project File

This step transfers the saved network project file to the GP.

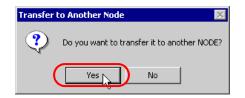
1 Turn on the check box of the entry node to which the network project file will be transferred. In this wizard, check "Sample\_Node", which is the data source node set in procedure 2 of "STEP 2 Registering Entry Nodes".

Node Name	IP Address	Actual Device	No.	Build No.	Last Transfe
Sample_Node	192.168.0.100	Unconfirmed			
h					

2 Click the [Transfer to Another Node] button.

約 P	ro-St	udio E	X p	oroject.	прх						
File	Edit	Tool	Pro	ogrammir	ng Assist	S					
	1	Start	<b>&gt;&gt;</b>		Node	2					
$\subset$	Transfer to Another Node										
	D	elete N	letwo	rk Projec	:t	l					
	(	Confirm	Onlir	ne Node		l					
						l					
						I					
						L					

**3** On the "Transfer to Other Node" screen, click the [Yes] button.



The "Transfer Network Project" screen will appear, transferring the network project file to the entry node checked in procedure 1.

Transfer Network Project					
Status:					
[2006/04/13 19:50:37] Start Consistency Check of the Network Project. [2006/04/13 19:50:37] Check Symbol [2006/04/13 19:50:37] Network Project Size Windows PC = 3624 bytes GP3000 Series = 1172 bytes (max. 262144 bytes) [2006/04/13 19:50:37] The network project is normal. 1/3 AGP2:Transferring					
Each Node:					
Total:					
Close					

Click the [Close] button to close the "Transfer Network Project" screen.

• The network project file cannot be transferred if each entry node is not in on-line status (if communication is not active). Before transfer, always click the [Confirm Nodes online] button and confirm each node is in on-line status.

🎕 Pro-Studio EX 🛛 project.npx								
File	Edit	Tool	Pro	ogrammin	ng Assist	S		
	1	Start	<b>&gt;&gt;</b>		Node	]:		
Transfer to Another Node								
Confirm Online Node								
						L		

Proceed to "STEP 9 Writing Data to Forms".

#### STEP 9 Writing Data to Forms

This step writes the data to the output file after the trigger condition set in "STEP 4 Setting Trigger Condition" has become effective.

In this trial, you can confirm that the data will be written to the output file.

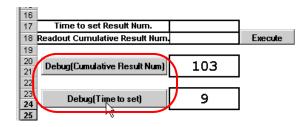
1 Open the output destination folder of the form set in procedure 1 of "STEP 5 Setting Feature (ACTION)" and then open the Excel file whose file name set in procedure 2.

RAN	1icrosoft Excel	- ProductManage	mentPerDay1						
			ools <u>D</u> ata <u>W</u> indo	w Help				_ 8 ×	
								·   <u></u>	
	·▲ · · · · · · · · · · · · · · · · · ·								
	К27 🔽	_ <b>=</b>	E	F	G	н		J K	
1		Production		nent Boa	rd (per Day				
2			gei		a (por Day	/			
	Time	Cumulative	Cumulative	Result	Difference/H	Problems			
3	T LINE.	Planned Num.	Result Num.	Num. /H	Differencem	FIGDICAS			
4	Sarly Mornin								
5	9	100							
6	10	200							
7	11	300							
8	12	400							
9	13	500							
10	14	600							
11	15	700							
12	16	800							
13	17	900			_				
14	Overtime								
15									
17		t Result Num.		_					
18	Readout Curnul	ative Result Num.		Execute					
20	D-1(C1	с							
21	21 Debug(cuildadve nesul null)								
22	22								
24	24 Debug ( Time to set)								
25 26									
I I I I I I I I I I I I I I I I I I I									
Rea	ady						NUM		

2 Store the values for debugging in the memory spaces in the GP, "S\_Excel01\_CumulativeNumber\_WORD" and "S\_Excel01\_Write Destination\_WORD".

In this trial, enter any reasonable values in the "Debug (Cumulative Result)" and "Debug (Time to Set)" and then click the each debug button. The values will then be stored in the memory spaces

"S\_Excel01\_CumulativeNumber\_WORD" and "S\_Excel01\_Write Destination\_WORD" of the GP, respectively.



• The values to input the Debug (Time to Set) field should be from 9 to 17. This value is used to specify the row to which the accumulative quantity will be written.

**3** Click the [Execute] button.

Trigger Condition bit "T\_Excel01" is automatically turned ON.

That allows Trigger Condition to set and New Form ACTION to operate, and then the output file is created. The values stored in the memory spaces "S\_Excel01\_CumulativeNumber\_WORD" and "S\_Excel01\_Write Destination\_WORD" of the GP will be written in Excel form. Verify that the cell of the accumulative quantity at 9 o'clock shows "103".

	A B C	D	E	F	G				
1	Excel01 Production Management Board (per Day								
2									
3	Time Cumulative Planned Num.		Cumulative Result Num.	Result Num./H	Difference/H				
4	Sarly Mornin								
5	9	100	103	103	3				
6	10	200							
7	11	300							

**4** After having verified the form, click the [x] (close) button.

This is the end of creating a sample form using the "Sample Wizard".

# 3.3 Trial of Recipe Function

# 3.3.1 What is a Recipe Function?

'Pro-Server EX' allows writing data created beforehand using application software such as 'Excel', or data in CSV format to an arbitrary device of the Device/PLC.

# Flow of Recipe Creation

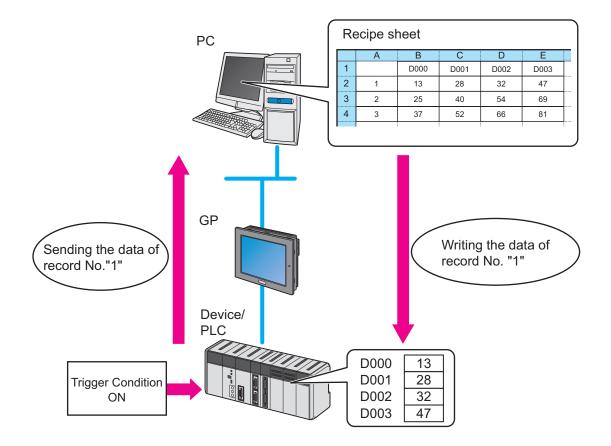
(1) Create a sheet (recipe sheet) of data to be written to the Device/PLC in Excel format.

ſ		А	В	С	D	E	
	1		D000	D001	D002	D003	Device address
	2	1	13	28	32	47	
	3	2	25	40	54	69	
	4	3	37	52	66	81	
I		Record No.					

(2) Execute action setting of the recipe function, for example setting a write destination of data and requirements for writing data using 'Pro-Studio EX'.

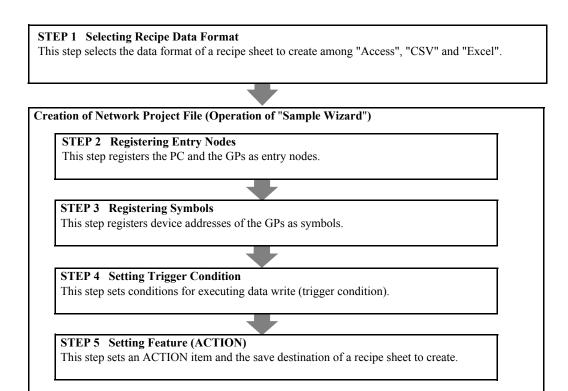
(3) At a specific timing or at a specific interval, the data of preset record No. in the recipe sheet is written to the device address of the Device/PLC.

(Example) Writing the data of record No. "1" of the recipe sheet to the device addresses "D000" to "D003".



# 3.3.2 Workflow from Settings to Write Data

The following explains about the operation flow from setting to device data write using the "Recipe" wizard.



### STEP 6 Verifying Setting Result and Recipe Sheet

This step verifies the setting result on the "Sample Wizard Setting Result" screen and the created recipe sheet.

### STEP 7 Saving Network Project File

This step saves the current settings as a network project file and reloads.

### STEP 8 Transferring Network Project File

This step transfers the saved network project file to the GP.

### **STEP 9** Writing Data to Forms

This step writes the data to the output file after the trigger condition set in STEP 4 has become effective.

# 3.3.3 Writing the Device Data

This section helps you to learn necessary settings efficiently for writing data by simply following the instructions of the "Recipe" wizard of the "Sample Wizard" to actually write data to the GP.

• Recipe sheet creation in Access format or Excel format needs 'Access' or 'Excel' preinstalled on the PC. Before getting started, ensure that necessary software is installed on the PC.

## STEP 1 Selecting Data Format of Recipe Sheet

This step selects the data format of a recipe sheet to create.

In this trial, create a recipe sheet in 'Excel' format.

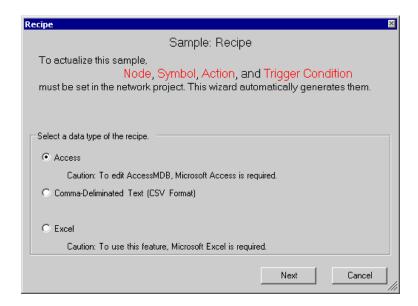
Creating Recipe Sheet (Sample)

Before using the recipe function, you must create a recipe sheet on which device data to be written to the Device/PLC are entered. In this wizard, the sample recipe sheet will be automatically created and stored in the folder specified by the wizard.

1 On the start screen, click the [Recipe] button in the [Sample Wizard].



The "Recipe" wizard starts. The data format selection screen will appear.



2 Select the data format of a recipe sheet to create. In this trial, select "Excel".

Select a data type of the recipe.	
C Access	
Caution: To edit AccessMDB, Microsoft Access is re	equired.
Comma-Deliminated Text (CSV Format)	
C Excel	
Caution: To use this feature, Microsoft Excel is requ	ired.
	Next Cancel

Click the [Next] button.

Select a data type of the recipe.
C Access
Caution: To edit AccessMDB, Microsoft Access is required.
C Comma-Deliminated Text (CSV Format)
© Excel
Caution: To use this feature, Microsoft Excel is required.
Next Cancel

This is the end of selecting a data format. The entry nodes setting screen will appear.

NOTE • The following explanation assumes that "Excel" is selected on the data format selection screen. Note that if "CSV Format" or "Access" is selected, the screens and settings are different from the followings.

Proceed to "STEP 2 Registering Entry Nodes".

# STEP 2 Registering Entry Nodes

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 2 Registering Entry Nodes" in "3.2.3 Creating a Form". If you have tried another wizard and registered entry nodes already, you can skip this procedure. Click the [Next] button and proceed to "STEP 3 Registering Symbols".

Proceed to "STEP 3 Registering Symbols".

# STEP 3 Registering Symbols

This step registers the device address to which data will be written as a "Symbol". In this wizard, the symbol is preset in the device ("LS area") of the GP.

1 Check the [The symbols will be registered as data-source-node symbols.] check box, and then enlarge or scroll the screen to confirm the preset symbol.

Recipe 🛛
Sample: Recipe in Excel Format
Node 🍑 눧 Symbol ⋗ ≷ Feature ≫
Edit symbol details in the Symbol Screen
after the sample wizard ends.
To execute Recipe, two or more copy destination devices have to be specified. In the Recipe of the selected sample, the devices have already been specified by their symbol names.      The symbols will be registered as data-source-node symbols.
Supplement: In the initial condition, the address of a registered symbol is set to the internal device of the data source node. In the sample, the internal device is assigned as a tentative setting.
Back Next Cancel

Symbol Name	Data Type	Address	
S_Recipe03_Rec	16Bit(Signed)	2191	
5_Recipe03_Writ	16Bit(Signed)	2192	

# 2 Click the [Next] button.

	Data Type	Address	
S_Recipe03_Rec	16Bit(Signed)	2191	
S_Recipe03_Writ	16Bit(Signed)	2192	_
			_
			Î

This is the end of registering symbols necessary for data write. The trigger condition setting screen will appear.

Proceed to "STEP 4 Setting Trigger Condition".

# STEP 4 Setting Trigger Condition

This step sets conditions for executing data write (trigger condition).

1 Select a trigger condition in the [Trigger condition settings] field. Here, select "Write data in the device when the download start bit is ON".

	-In Pro-Server EX, various actions caused by arbitrary "Trigger Conditions" are available. Pro-Server EX manages the "Trigger Conditions" separately giving each of them an arbitrary name.							
Trigger Condition Name	T_Recipe03							
Set Trigger Condition	Data is written to the device every 10 seconds. Data is written to the device at 12:00. Data is written to the device when the Start Download Bit tu							

- The name of the trigger condition can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.
- 2 Click the [Next] button.

Set Trigger Condition	Data is written to the device every 10 seconds. Data is written to the device at 12:00. Data is written to the device when the Start Download Bit tu
	Back Next Cancel

This is the end of setting a trigger condition necessary for data write. The ACTION setting screen will appear.

Proceed to "STEP 5 Setting Feature (ACTION)".

# STEP 5 Setting Feature (ACTION)

This step sets functions (ACTION) to use. Specifically, this step sets the name of ACTION to use and the save destination of a recipe sheet to create as a sample.

1 Enter the folder of save destination of a recipe sheet in the [Access Recipe Folder] field.

An ACTION requires an ACTION name. Specify an ACTION name.					
ACTION	Name Action 1				
Folder of Recipe	Excel C:\Documents	and Settings\Adr	ninistrator\Desktop	Browse	
The sample wizard	creates the Excel file o	of the sample in I	his folder.		

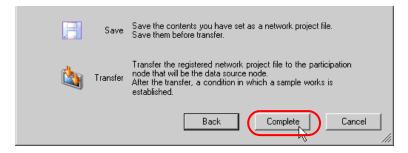
# • The ACTION name can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.

**2** Click the [Next] button.

ACTION Name Action1
Folder of Recipe Excel C:\Documents and Settings\Administrator\Desktop Browse
The sample wizard creates the Excel file of the sample in this folder.
Back Next Cancel

This is the end of setting an ACTION item necessary for data write. The screen that explains the procedures to follow (saving and transferring network project file) will appear. You can read the explanations how to save and transfer the network project file on the screen.

**3** Click the [Complete] button.



This completes the "Sample Wizard".

Then the save setting screen will appear.

🎕 Pro-Studio EX 🛛 ?.npx						V
File Edit Tool Programming Assist	Setting Help					_
Start >> Node		Feature >>	Save 🔉	Transfer Transfer	Moni Stat	itor itus
Save	Basic Into   Histoly Into					
Save/Reload	Network Project				Browse	
🔽 Create BAK File	Title					1
Input Password at Save Time				he file. Started by clickir	g the file.)	
	Relation-Info	File Name	Folder			

At this time, the "Sample Wizard Setting Result" screen and the recipe sheet file (Recipe\_Excel.xlt) in Excel format are also created.

**NOTE** • The "Sample Wizard Setting Result" screen is of an HTML file. Starting this screen needs 'Microsoft Internet Explorer' preinstalled on the PC.

Proceed to "STEP 6 Verifying Setting Result and Recipe Sheet".

## STEP 6 Verifying Setting Result and Recipe Sheet

This step opens the "Sample Wizard Setting Result" screen to verify the setting result.

1 Click the "Sample Wizard" in the task bar of the PC.



The "Sample Wizard Setting Result" screen will appear.

🖇 Sample Wizard: - Microso	oft Internet Explo	orer			]_	X	
File Edit View Favorites	s Tools Help						
🗧 Back 👻 🄿 👻 🔯 🛉	🖄 🔕 Search 👔	🗟 Favorites 🛛 🛞 Med	la 🧭 🗳 🎒	7 - 2			
ddress 🙋 C:\Documents and	d Settings\Administr	ator\Desktop\Action2.h	ntml		▼ 🖓 Go Lir	nks "	
Sample Wizard Setting Result Recipe in Excel Format Creation Date and Time:Thursday, April 13, 2006 7:56:35 PM Node							
	Node Na	me	Node Type		TP Address		
Operation Node	PC2		WindowsPC		10.181.6.216		
Trigger Node	Sample 1	Node	GP3000 Series		10.181.6.217		
Symbol Name Data Type Device Comment							
S_Recipe03_Download	I_BIT	Sample_Node	Bit	219000	Bit to order the start of Download		
S_Recipe03_RecordNu	umber_WORD	Sample_Node	16Bit(Signed)	2191	Device storing the Record No.		

2 Scroll the screen and verify that the settings have been correctly entered.

NOTE	Scroll down the "Sample Wizard Setting Result" screen and look for the [Sequence]. The content
	of action is shown here.

- **3** After having verified, click the [x] (close) button to close the screen and click the [-] (minimize) button to minimize the screen.
  - NOTE

 When created, the "Sample Wizard Setting Result" file will be automatically saved in the save destination folder of the recipe sheet set in procedure 2 of "STEP 5 Setting Feature (ACTION)". The file name is '(ACTION name).html'.

Proceed to opening the recipe sheet in 'Excel' to verify the setting result.

4 Open the save destination folder of the recipe sheet set in procedure 1 of "STEP 5 Setting Feature (ACTION)" and double-click the recipe sheet (Recipe\_Excel.xlt) in 'Excel'.



Verify that the recipe sheet is created.

M	licrosoft Exc	el - Book1			
	<u>Eile E</u> dit <u>V</u> i	ew <u>I</u> nsert	F <u>o</u> rmat <u>T</u> ool	s <u>D</u> ata <u>W</u> ir	ndow <u>t</u>
	🖻 🖬 🔒	) 🖨 🖪	🔊 🔹 🍓	Σ ƒ* 💈	)   🛍
	😭 🖓 🖪	Z [ab] 💷	• == ==	≓ € ‡	A [
	H9	<b>•</b>	=		
	A	В	С	D	E
1	1	2	3		
2	1111	111	11		
3	2222	222	22		
4	3333	333	33		
5	4444	444	44		
6	5555	555	55		
7					
8					
9					
10					

Proceed to "STEP 7 Saving Network Project File".

# STEP 7 Saving Network Project File

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

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 7 Saving Network Project File" in "3.2.3 Creating a Form".

Proceed to "STEP 8 Transferring Network Project File".

### STEP 8 Transferring Network Project File

This step transfers the saved network project file to the GP.

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 8 Transferring Network Project File" in "3.2.3 Creating a Form".

Proceed to "STEP 9 Writing Device Data".

### STEP 9 Writing Device Data

This step writes the device data into the GP after the trigger condition set in "STEP 4 Setting Trigger Condition" has become effective.

In this trial, you can confirm that the data will be written to the GP.

**1** Turn on the download start bit to effect the trigger condition.

**NOTE** You can turn ON the download start bit by:

- turning on the bit from the screen of the GP; or
- turning on the bit on the "Device Monitor" or "Symbol Monitor".
- For more details, see 'GP-Pro EX Reference Manual' or "27 Simply Confirming On-site Status".
- 2 When Trigger Condition is enabled, check that the recipe sheet data corresponding to the record number stored in "S\_Recipe\_ record number \_WORD" is written in "S\_Recipe03\_Write Destination\_WORD".

This is the end of writing recipe data using the "Sample Wizard".

# 3.4 Trial of Logging Function

# 3.4.1 What is a Data Logging Function?

'Pro-Server EX' allows logging (continuously read) of data that has been collected in Device/PLCs over a period of time and at an arbitrary timing and writing the logged data in application software such as 'Excel'.

# Flow of Data Logging

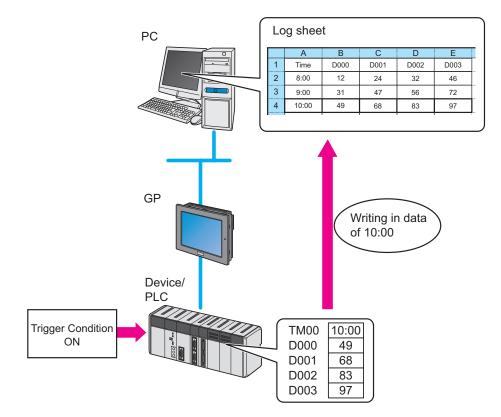
(1) Create a sheet (log sheet) in Excel format to which logged data will be written.

	A	В	С	D	E
1	Time	D000	D001	D002	D003
2	9:00				
3	10:00				
4	11:00				
5	12:00				

(2) Execute action setting of the data logging function, for example setting of a write destination of data and requirements for logging using 'Pro-Studio EX'.

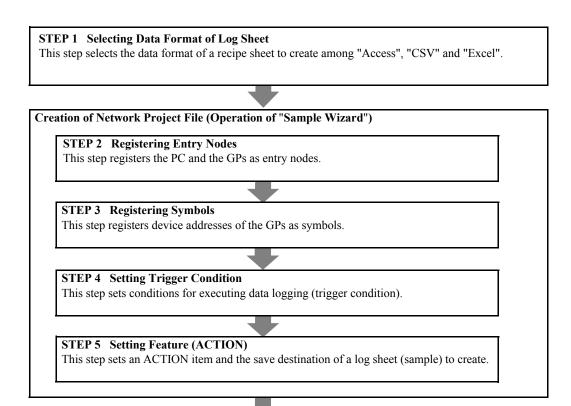
(3) At a specific timing or at a specific interval, data logging is executed and the data of the Device/PLC are written onto the log sheet.

(Example) Logging the data of the device addresses, "D000" to "D003" of the Device/PLC every one hour.



# 3.4.2 Workflow from Settings to Data Logging

The following explains about the operation flow from setting to data logging using the "Data Logging" wizard.



**STEP 6** Verifying Setting Result and Log Sheet This step verifies the setting result on the "Sample Wizard Setting Result" screen and the created log sheet.

STEP 7 Saving Network Project File

This step saves the current settings as a network project file and reloads.

STEP 8 Transferring Network Project File

This step transfers the saved network project file to the GP.

### **STEP 9** Logging Device Data

This step writes the device data of the GP into the log sheet after the trigger condition set in STEP 4 has become effective.

# 3.4.3 Logging the Device Data

This section helps you to learn necessary settings efficiently for logging the data of the GP by simply following the instructions of the "Data Logging" wizard of the "Sample Wizard" to actually log the data of the GP.

• Log sheet creation in Access format or Excel format needs 'Access' or 'Excel' preinstalled on the PC. Before getting started, ensure that necessary software is installed on the PC. Before getting started, ensure that necessary software is installed on the PC.

# STEP 1 Selecting Data Format of Log Sheet

This step selects the data format of a log sheet to create.

In this trial, create a log sheet in Excel format.

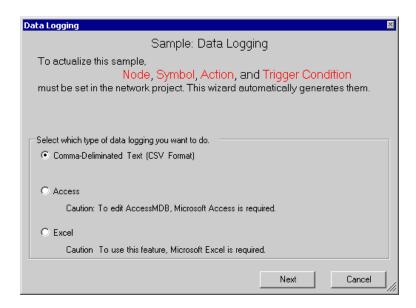
### Creating Log Sheet (Sample)

Before using the recipe function, you must create a log sheet on which device data or logging time are entered. In this wizard, the sample log sheet will be automatically created and stored in the folder specified by the wizard.

1 On the start screen, click the [Data Logging] button in the [Sample Wizard].



The "Data Logging" wizard starts. The data format selection screen will appear.



2 Select the data format of a log sheet to create.

In this trial, select "Excel".

Select which type of data logging you want to do.		
C Comma-Deliminated Text (CSV Format)		
© Access		
Caution: To edit AccessMDB, Microsoft Access is required.		
Excel Califon To use this feature, Microsoft Excel is required.		
Nex	(t	Cancel

### Click the [Next] button.

Select which type of data logging you want to do.
C Comma-Deliminated Text (CSV Format)
O Access
Caution: To edit AccessMDB, Microsoft Access is required.
• Excel
Caution To use this feature, Microsoft Excel is required.

This is the end of selecting a data format. The entry nodes setting screen will appear.

• The following explanation assumes that "Excel" is selected on this screen. Note that if "CSV Format" or "Access" is selected, the screens and settings are different from the followings.

Proceed to "STEP 2 Registering Entry Nodes".

# STEP 2 Registering Entry Nodes

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 2 Registering Entry Nodes" in "3.2.3 Creating a Form". If you have tried another wizard and registered entry nodes already, you can skip this procedure. Click the [Next] button and proceed to "STEP 3 Registering Symbols".

Proceed to "STEP 3 Registering Symbols".

# STEP 3 Registering Symbols

This step registers the device address from which data will be read as a "Symbol". In this wizard, the symbol is preset in the device ("LS area") of the GP.

1 Check the [The symbols will be registered as data-source-node symbols.] check box, and then enlarge or scroll the screen to confirm the preset symbol.

Data Logging 🛛 🛛 🛛
Sample: Logging in Excel Format
Node 🍑 ≽ Symbol ⋗ ≷ Feature ≫
Edit symbol details in the Symbol Screen
after the sample wizard ends.
To execute Data Logging, two or more copy source devices have to be specified. In the Data Logging of the selected sample, the devices have already been specified by their symbol names.      The symbols will be registered as data-source-node symbols.
Supplement: In the initial condition, the address of a registered symbol is set to the internal device of the data source node. In the sample, the internal device is assigned as a tentative setting.
Back Next Cancel

Symbol Name	Data Type	Address	
S_Logging03_Re		2291	

# $2 \ {\rm Click} \ {\rm the} \ [{\rm Next}] \ {\rm button}.$

Symbol Name	Data Type	Address	
S_Logging03_Re	16Bit(Signed)	2291	
		Back	Next Next

This is the end of registering symbols necessary for data logging. The trigger condition setting screen will appear.

Proceed to "STEP 4 Setting Trigger Condition".

# STEP 4 Setting Trigger Condition

This step sets conditions for executing data logging (trigger condition).

1 Select a trigger condition in the [Trigger condition settings] field. Here, select "Read Device Data in 10-second cycle".

	actions caused by arbitrary "Trigger Conditions" are available. ie "Trigger Conditions" separately giving each of them an
Trigger Condition	T_Logging03
Set Trigger Condition	Device data is read out every 10 seconds. Device data is read out at 12:00.
	Device data is read out when the Start Upload Bit turns UN.

# • The name of the trigger condition can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.

2 Click the [Next] button.

Set Trigger Condition	Device data is read out every 10 seconds. Device data is read out at 12:00. Device data is read out when the Start Upload Bit turns ON.	
	Back Next Cancel	//

This is the end of setting a trigger condition necessary for data logging. The ACTION setting screen will appear.

Proceed to "STEP 5 Setting Feature (ACTION)".

# STEP 5 Setting Feature (ACTION)

This step sets functions (ACTION) to use. This step sets functions (ACTION) to use. Specifically, this step sets the name of ACTION to use and the save destination of a log sheet to create as a sample.

1 Enter the folder of save destination of a log sheet in the [Data Log Storage Destination Folder] field.

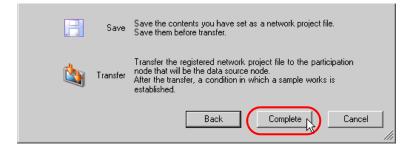
# • The ACTION name can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.

2 Click the [Next] button.

	ACTION Name Action1	
	Data Log Storage Folder C:\Documents and Settings\Administrator\Desktop	
l		]
	Back Next Cancel	

This is the end of setting an ACTION item necessary for data logging. The screen that explains the procedures to follow (saving and transferring network project file) will appear.

**3** Click the [Complete] button.



This completes the "Sample Wizard".

Then the save setting screen will appear.

Sample Wizard: - Microsoft In File Edit View Favorites To				_ 6
	🕅 Search 📓 Favorites 🛞 Media 🌀			
	ings\Administrator\Desktop\Action2.html			▼ 🗟 Go Link
C	V: 1 C - 44:	<b>D</b> 1	1	
Sample v	Vizard Setti	ng Kesuli	[	
I		$\mathcal{O}$		
Logging in Excel 1	Format			
50 <del>00</del> 000 01 011001 1				
Creation Date and Time:Mor	nday, April 10, 2006 2:54:06 PM			
Node				
	Node Name	Node Type		IP Address
Operation Node	PC1	WindowsPO	2	192.168.0.1
Frigger Node	Sample_Node	GP3000 Se	ries	192.168.0.100
Symbol				
	Node Name	Data Type	Device Address	Comment
Symbol Name		71		Device storing the data to upload to an
Symbol Name	unter WORD Committee NL de	1 CD it/Cime A		perice storing the data to dproud to dir
*	ata_WORDSample_Node	16Bit(Signed)	2291	Excel file
S_Logging03_ReadSourceD	Data_WORDSample_Node	16Bit(Signed)	2291	
Symbol Name S_Logging03_ReadSourceD Trigger Condition	0ata_WORDSample_Node	16Bit(Signed)	2291	

At this time, the "Sample Wizard Setting Result" screen and the log sheet file (Logging\_Excel) in Excel format are also created.

NOTE	The "Sample Wizard Setting Result" screen is of an HTML file. Starting this screen needs
	'Microsoft Internet Explorer' preinstalled on the PC.

Proceed to "STEP 6 Verifying Setting Result and Log Sheet".

# STEP 6 Verifying Setting Result and Log Sheet

This step opens the "Sample Wizard Setting Result" screen to verify the setting result.

1 Click the "Sample Wizard" in the task bar of the PC.



The "Sample Wizard Setting Result" screen will appear.

File Edit View Favorites To				
	🔍 Search 🚡 Favorites 🎯 Media 🎯	B- 3 M - 5		
ddress 🙋 C:\Documents and Sett	ings\Administrator\Desktop\Action2.html			▼ 🖓 Go Li
-	Vizard Setti	ng Resul	t	
Logging in Excel 1	Format			
	1 4 110 2006 2 54 06 734			
	nday, April 10, 2006 2:54:06 PM			
oreason is use and Third Mo.				
	<i>v</i> , <b>v</b> , <i>v</i>			
	Node Name	Node Type		IP Address
Node	Node Name PC1	Node Type WindowsP0	2	IP Address 192.168.0.1
Node Operation Node Trigger Node				
Node Operation Node Trigger Node Symbol	PC1 Sample_Node	WindowsP GP3000 Se	ries	192.168.0.1 192.168.0.100
Node Operation Node Trigger Node Symbol	PC1	WindowsP		192.168.0.1 192.168.0.100 Comment
Node Operation Node	PC1 Sample_Node Node Name	WindowsP GP3000 Se	ries	192.168.0.1 192.168.0.100

2 Scroll the screen and verify that the settings have been correctly entered.

• Scroll down the "Sample Wizard Setting Result" screen and look for the [Sequence]. The content of action is shown here.

**3** After having verified, click the [x] (close) button to close the screen and click the [-] (minimize) button to minimize the screen.

```
• When created, the "Sample Wizard Setting Result" file will be automatically saved in the save destination folder of the recipe sheet set in procedure 2 of "STEP 5 Setting Feature (ACTION)". The file name is "(the ACTION name set in procedure 1 of STEP 5).html".
```

Proceed to opening the log sheet in 'Excel' to verify the setting result.

4 Open the save destination folder of the log sheet set in procedure 1 of "STEP 5 Setting Feature (ACTION)" and double-click the log sheet (Logging\_Excel.xlt) in 'Excel'lí.



Verify that the log sheet is created.

B Ele Edit View Insert Format Iools Data Window Help D 22 ■ A A II ■ B Z U ■ E II • B Z U ■ E II • B Z U ■ E II • 3 • B1 ■ =	EVI NAT										_ 🗆 ×
Image: Image											
Image: Normal State Network       Image: Network											
B1       I       I       J         A       B       C       D       E       F       G       H       I       J       I         1       Image: Strategy of the s	D	🛎 日 🔗	1 😂 🖪	🗠 🖌 🍓 Σ	∫* ĝ↓ 🛍	, 🖗 🖏 /	vrial	- 11	• B I	ū ≣ ≣	🗌 🗉 🕶 🌺 - 🎇
B1       I       I       J         A       B       C       D       E       F       G       H       I       J       I         1       Image: Strategy of the s		n 🖓 🖪		• == == =	€ # A [	a 🛠 -					
1       1											
1		A	В	C	D	Е	F	G	Н	1	J
3	1										
4       4       6	2										
5	3										
6	4										
7											
8											
9	-										
10											
11											
12 13 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15											
13											
14											
15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17											
16 17 18											
17											
	10										
	19										
( ( ) )) Sheet1 /		▶ ▶ \She	et1 /	1				d			
Ready NUM						1				NUM	

Proceed to "STEP 7 Saving Network Project File".

# STEP 7 Saving Network Project File

This step saves the current settings as a network project file.

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 7 Saving Network Project File" in "3.2.3 Creating a Form".

Proceed to "STEP 8 Transferring Network Project File".

## STEP 8 Transferring Network Project File

This step transfers the saved network project file to the GP.

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 8 Transferring Network Project File" in "3.2.3 Creating a Form".

Proceed to "STEP 9 Logging Device Data".

# STEP 9 Logging Device Data

This step starts data logging after the trigger condition set in "STEP 4 Setting Trigger Condition" has become effective.

In this trial, you can confirm that the data will be logged at a preset interval in the log sheet.

- 1 Open the Data Log Check Destination Folder set in step 1 of "STEP 5 Setting Feature (ACTION)".
- 2 When 10 seconds elapse after transferring the Network Project File, the preset Trigger Condition becomes enabled, and the log sheet of the Excel file in which the data stored in "S\_Logging03\_ReadSourceData\_WORD" is written is created.

	A	В	С	D	E	F	G	Н
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

At every 10 seconds, new data will be written onto the log sheet.

	A	В	С	D	Е	F	G	Н
1	0							
2	0							
3	11							
4	11							
5	18							
6	22							
7	22							
8	44							
9	48							
10	48							
11								
12								
13								

**3** After having verified the log sheet, click the [x] (close) button.

This is the end of data logging using the "Sample Wizard".

# 3.5 Trial of Send Mail Function

# 3.5.1 What is a Send Mail Function?

Pro-Server EX allows e-mailing a preset message to a specific mail address when a preset event occurs such as change in data or trouble. You can send mail messages by:

- Sending a same message all the time;
- Sending a message created on the Device/PLC; and
- Sending a message preset on the Excel sheet.

## Flow of Mail Send

(Example) E-mailing a massage preset on the Excel sheet.

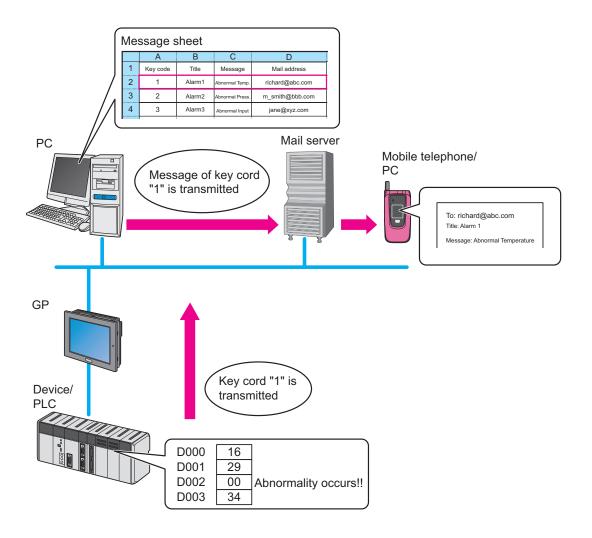
(1) Create an Excel sheet (message sheet) in which messages to send and the mail addresses of send destinations are entered.

	А	В	С	D
1	Key code	Title	Message	Mail address
2	1	Alarm1	Abnormal Temp.	richard@abc.com
3	2	Alarm2	Abnormal Press.	m_smith@bbb.com
4	3	Alarm3	Abnormal Input	jane@xyz.com

(2) Execute action setting of the Mail send function, for example setting of a mail server name and requirements for e-mailing using 'Pro-Studio EX'.

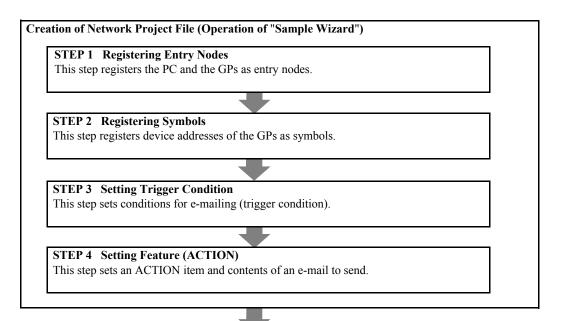
(3) When a preset event has occurred, the message of the key code corresponding to the occurred event on the message sheet will be sent to the recipient such as a cellular phone or a PC via the mail server.

(Example) Transmitting the content of "Alarm 1 Abnormal Temperature" of the key code "1" on the message sheet



# 3.5.2 Workflow from Settings to Send Mail

The following explains about the operation flow from setting to e-mailing using the "Mail Send" wizard.



### STEP 5 Verifying Setting Result

This step verifies the setting result on the "Sample Wizard Setting Result" screen.

### STEP 6 Saving Network Project File

This step saves the current settings as a network project file and reloads.

# STEP 7 Transferring Network Project File

This step transfers the saved network project file to the GP.

### **STEP 8** Sending E-Mail Messages

This step sends e-mail messages to the preset mail address after the trigger condition set in STEP 3 has become effective.

# 3.5.3 Sending a Message

This section helps you to learn necessary settings efficiently for sending mail messages by simply following the instructions of the "Mail Send" wizard of the "Sample Wizard" to actually send an e-mail message.

• An e-mail message cannot be sent if the PC is not connected to a mail server (SMTP server) via a network. Before getting started, confirm the connection environment of the PC.

### STEP 1 Registering Entry Nodes

1 On the start screen, click the [Send Mail] button in the [Sample Wizard].



2 Click the [Next] button.



The entry node setting screen will appear.

Send Mail
Sample: Send Mail
>> 🟹 Node >> 🏳 Symbol >> ≷ Feature >>
Edit node details in the Node Screen after the sample wizard ends.
-To perform Send Mail maintenance, a PC on the network has to be specified as the executing PC, and registered as a participation node.
Do you want to create with this PC?
Yes Node Name PC1
C No PC1 will be created with
-Send Mail is executed when a condition occurs. The node generating the condition
(Condition Generating Node) has to also be pre-registered as a participation node.
As a Condition Generatino Node
Node     Sample_Node     IP Address     192,168, 0, 100     is     registered
Name registered.
O Existing Sample_Node 💌 is used.
Back Next Cancel

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 2 Registering Entry Nodes" in "3.2.3 Creating a Form". If you have tried another wizard and registered entry nodes already, you can skip this procedure. Click the [Next] button and proceed to "STEP 2 Registering Symbols".

Proceed to "STEP 2 Registering Symbols".

# STEP 2 Registering Symbols

This step registers the device address from which data will be read as a "Symbol". In this wizard, the symbol is preset in the device ("LS area") of the GP.

1 Check the [The symbols will be registered as data-source-node symbols.] check box, and then enlarge or scroll the screen to confirm the preset symbol.

Send Mail		×
	Sample: Send Mail	
» 🔊	Node 🍑 📂 Symbol ≫ ≷ Feature ≫	
	Edit symbol details in the Symbol Screen	
	after the sample wizard ends.	
Send Mail of name.	Send Mail, a source device for sending data has to be specified. In the the selected sample, a device has already been specified by its symbol symbols will be registered as condition-generating-node symbols. plement: In the initial condition, the address of a registered symbol is set to internal device of the data source node. In the sample, the internal device signed as a tentative setting.	
	Back Next Cance	

		Address	
S_Mail01_KeyCo	16Bit(Signed)	2351	
S_Mail01_MailTitl	String	2400	

# $2 \ {\rm Click} \ {\rm the} \ [{\rm Next}] \ {\rm button}.$

Symbol Name	Data Type	Address	
S_Mail01_KeyCo	16Bit(Signed)	2351	
S_Mail01_MailTitl	String	2400	
			î

This is the end of registering symbols necessary for data write. The trigger condition setting screen will appear.

Proceed to "STEP 3 Setting Trigger Condition".

# STEP 3 Setting Trigger Condition

This step sets conditions for executing data send (trigger condition).

In this wizard, the trigger condition of detecting a rise of "Mail Send Start\_BIT" is preset.

1 Confirm the content of the trigger condition in the [Trigger condition settings].

	actions caused by arbitrary "Trigger Conditions" are available. e "Trigger Conditions" separately giving each of them an
Trigger Condition Name Set Trigger Condition	T_Mail01 The mail is sent when the Start Sending Mail_BIT turns ON.

- 2 Click the [Next] button.
  - The name of the trigger condition can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.

Set Trigger Condition	The mail is sent when the Start Sending Mail_BIT turns ON.
	Back Next Cancel

This is the end of setting a trigger condition necessary for mail send. The ACTION setting screen will appear.

Proceed to "STEP 4 Setting Feature (ACTION)".

# STEP 4 Setting Feature (ACTION)

This step sets functions (ACTION) to use. Specifically, this step sets the name of ACTION to use and the save destination of a message sheet to create as a sample.

## 1 Execute setting of mail server

Enter the name of the currently connected server for mail send (e.g. Mail.xxxx.co.jp) in the [SMTP Server] field in single-byte characters.

An ACTION requires an ACTION name. Specify an ACTION name.	
ACTION Name Action1	
-Set about the Mail Server and Mail Contents.	
Mail Server SMTP Server Name mail.co.jp	
Mail Source Address	
··· • •	-

• The ACTION name can be an arbitrary name. However, in this wizard the name is preset. Changing this name in this trial may cause discrepancies. Accept the default provided by this wizard.

### SMTP Server

A server for delivering e-mail messages complying with SMTP (Simple Mail Transfer Protocol), a mail transfer protocol (standard for data communication). E-mail messages are sent or received through a computer called "Server" that is always on the Internet. There are two types of serves: for sending and for receiving. SMTP server is typically used to send messages from a mail client to a mail server.

Enter the mail address of the currently using PC (PC saved as an entry node in "STEP1 Registering Entry Nodes") in the [Sender Mail Address] field.

An ACTION requires an ACTION name. Specify an ACTION name.	
ACTION Name Action1	
-Set about the Mail Server and Mail Contents.	
Mail Server	
SMTP Server Name mail.co.jp	
Mail Source Address abc@ddd.co.jp	
	-

# 2 Execute setting for mail message

Select the [Always Send Same Message] to send the message preset in this wizard.

Mail Contents  Always Send the Same Message.  Mail Destination  Address  Message to Send	
C Send the data sent from the trigger NODE as a message. Mail Destination Address	
O Send a prepared message in an Excel sheet to the destination. (A messages and a receiver can be specified from the Device/PLC.)	-

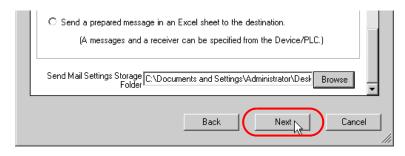
Enter the mail address of the recipient (PC or cellular phone) in the [Recipient Mail Address] field, and a message you want to send in the [Message to Send] field in single-byte characters.

Mail Contents	
Always Send the Same Message.	
Mail Destination wyz@ddd.co.jp	
Message to Send Please contact us	

**3** Enter the save destination folder of the message sheet in the [Mail Send Setting Storage Folder] field.

-	je to Send Please contact us	
	ta sent from the trigger NODE as a message.	
Mail D	Destination Address	
C Send a prep	ared message in an Excel sheet to the destination.	
(A mess	sages and a receiver can be specified from the Device/PLC.)	
		_

4 Click the [Next] button.



This is the end of setting an ACTION item necessary for mail send. The screen that explains the procedures to follow (saving and transferring network project file) will appear.

5 Click the [Complete] button.



This completes the "Sample Wizard".

Then the save setting screen will appear.

📚 Pro-Studio EX 🛛 ?.npx					_ 🗆 🗙
File Edit Tool Programming Assist	Setting Help				
Start >> 🛐 Node	>> 🔑 Symbol >>	Feature >	📄 Save 渊 🕻	V Transfer	Monitor Status
Save	Basic Info History Info				
Save/Reload	Network Project file Path				Browse
	ino r dui				
Create BAK File	Title				
Input Password at Save Time	Related Document ( Relation-Info	Registered in the follow File Name	ving area by dropping ( Folder	he file. Started by click	ing the file.)
Set Password	Helation-Inro	File Name	Folder		

At this time, the "Sample Wizard Setting Result" screen is also created.

Proceed to "STEP 5 Verifying Setting Result".

## STEP 5 Verifying Setting Result

This step opens the "Sample Wizard Setting Result" screen to verify the setting result.

1 Click the "Sample Wizard" in the task bar of the PC.



The "Sample Wizard Setting Result" screen will appear.

🗿 Sample Wizard:Send Mail - Mici	osoft Internet Explore	r			×
File Edit View Favorites Too	s Help				
← Back 🙆 🐼 🔏 🔇	Search 📓 Favorites	Media	<b>4 7 -</b> E		
Address 🖉 C:\Documents and Settin	•			▼ 🖉 Go Lin	nks X
Sample W	Vizard	Setting	g Resu	ılt	
Send Mail					
Creation Date and Time:Thurs	day, April 13, 2006 '	7:59:34 PM			
Node					
	Node Name	Node Typ	e	IP Address	1
Operation Node	PC2	WindowsF	PC	10.181.6.216	
Trigger Node	Sample_Node	GP3000 S	eries	10.181.6.217	
Symbol	Node Name	Data Trma	Device Address	Comment	1
Symbol Name	INOGE IName	Data Type	Device Address	Comment Bit to order the start of	
S_Mail01_Start_BIT	Sample_Node	Bit	235000	Sending Mail	
S_Mail01_KeyCode_WORI	Sample_Node	16Bit(Signed)	2351	Device storing the KeyCode to identify the Message Type	
S Mail01 MailTitle STRING	Sample Node	String	2400	Device storing the Message	-
Done				My Computer	

- 2 Scroll the screen and verify that the settings have been correctly entered.
- **3** After having verified, click the [x] (close) button to close the screen and click the [-] (minimize) button to minimize the screen.

68

Proceed to "STEP 6 Saving Network Project File".

# STEP 6 Saving Network Project File

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

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 7 Saving Network Project File" in "3.2.3 Creating a Form".

Proceed to "STEP 7 Transferring Network Project File".

### STEP 7 Transferring Network Project File

This step transfers the saved network project file to the GP.

The setting items are the same as those in the "Form Creation" wizard above. See "STEP 8 Transferring Network Project File" in "3.2.3 Creating a Form".

Proceed to "STEP 8 Sending E-Mail Messages".

### STEP 8 Sending E-Mail Messages

When the trigger condition set in "STEP 3 Setting Trigger Condition" has become effective, the e-mail message set in the wizard will be sent to the specified mail address.

In this trial, you can confirm that an e-mail message will be sent to the specific mail address.

**1** Turn on the mail send start bit to effect the trigger condition.

NOTE

- You can turn ON the mail send start bit by:
- turning on the bit from the screen of the GP; or
- turning on the bit on the "Device Monitor" or "Symbol Monitor".

For more details, see 'GP-Pro EX Reference Manual' or "27 Simply Confirming On-site Status".

2 When the trigger condition becomes effective, the content of the [Message to Send] field set in the procedure 3 of the "STEP 4 Setting Feature (ACTION)" will be transmitted.

This is the end of sending e-mail messages using the "Sample Wizard".