

# 34



# Setting Up Environment

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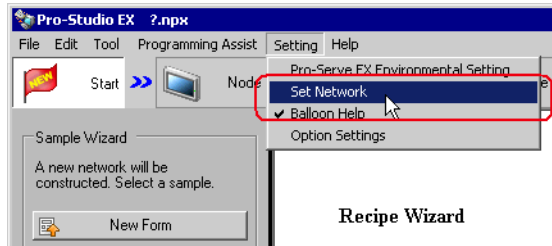
## 34.1 Setting Up the Environment of 'Pro-Server EX'

This section describes how to set the environment of 'Pro-Server EX'.

**NOTE**

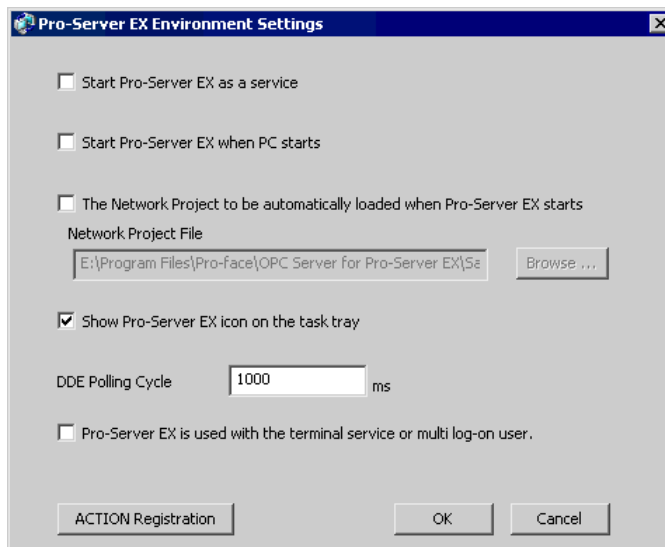
- Effective range of "Pro-Server EX Environmental Setting" is Whole personal computer".  
The environment setting specified in the network project file "X" on the PC "A", for example, is reflected in the network project file "Y" created and edited on the PC "A" later.

- 1 Click [Set Network] from [Setting] on the start screen.


**NOTE**

- When using 'Pro-Server EX' on Windows Vista or later, the "User Account Control" dialog box will be displayed before the "Pro-Server EX Environmental Setting" dialog box is displayed. When it is displayed, click [Allow].

- 2 Specify each item on the "Pro-Server EX Environmental Settings" screen.


**NOTE**

- Change of "Pro-Server EX Environmental Setting" becomes valid by restarting 'Pro-Server EX'.

Setting item	Setting content
Start Pro-Server EX as a service	<p>Starts "Pro-Server EX" at the same time as the PC starts.(Service Mode)</p> <p>☞ "30 Starting 'Pro-Server EX' in the Service Mode"</p> <p><b>IMPORTANT</b></p> <ul style="list-style-type: none"> <li>To start 'Pro-Server EX' as a service on Windows Vista or later, the "User Account Control Function" must be disabled. Refer to "30.2 Restrictions" for more details.</li> </ul>
Start Pro-Server EX when PC starts	Starts 'Pro-Server EX' at the same time as the PC starts.
The Network Project to be automatically loaded when Pro-Server EX starts Network Project File	<p>Loads automatically a network project file when 'Pro-Server EX' starts. Click the [Browse] button and select the network project file on the PC on the "Open File" screen.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>This function is useful for system operation like 'Pro-Server EX' running. Specifying the network project file beforehand makes it unnecessary to start 'Pro-Studio EX' and load the file to 'Pro-Server EX'.</li> </ul>
Show Pro-Server EX icon on the task tray	<p>If unchecked, hides the 'Pro-Server EX' icon in the task tray.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>Please use this function when you wish to prevent the setting from being changed by third person without permission.</li> <li>To display the Pro-Server EX icon again, select the following buttons in this order: [Start] (on Windows), [Program], [Pro-face], [Pro-Server EX] and then [Pro-Server EX Environmental Setting].</li> </ul>
Pro-Server EX is used with the terminal service or multi log-on user.	<p>If checked, 'Pro-Server EX' can be used by multiple logon users, or with the terminal service.</p> <p><b>IMPORTANT</b></p> <ul style="list-style-type: none"> <li>To use 'Pro-Server EX' as the terminal service, or to use it with multiple logon users on Windows Vista or later, the "User Account Control Function" must be disabled. Refer to "30.2 Restrictions" for more details.</li> </ul>
DDE Polling Cycle	<p>Enter the polling cycle at DDE access. The default value is 1000ms (1sec).</p> <p>☞ "28.6 Monitoring Using Excel Graphs"</p>
ACTION Registration	<p>Register ACTION created by a user to 'Pro-Server EX'. The "Open File" screen appears. Specify the file name of ACTION to be newly registered.</p>

## 34.2 Network Setup

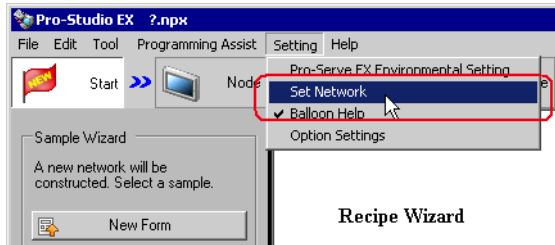
This section describes the network setup of 'Pro-Server EX'.

The setting contents vary according to the referenced node.

**NOTE**

- "Set Network" is to be stored in the network project file.  
If you wish to switch between multiple network project files on one PC, network setup is required for every file.

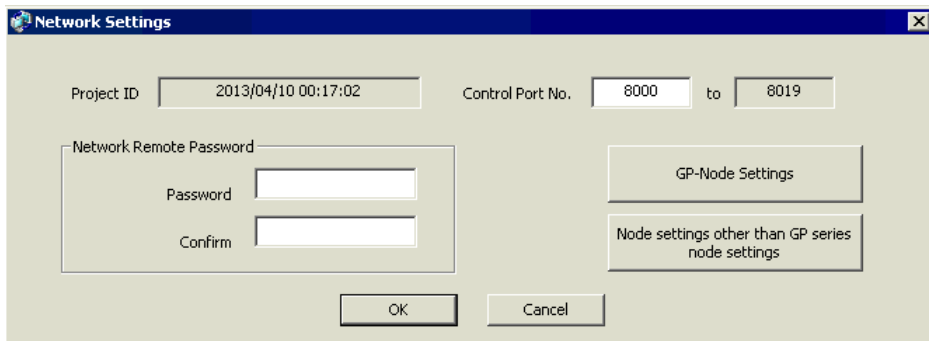
1 Click [Set Network] from [Setting] on the start screen.




**NOTE**

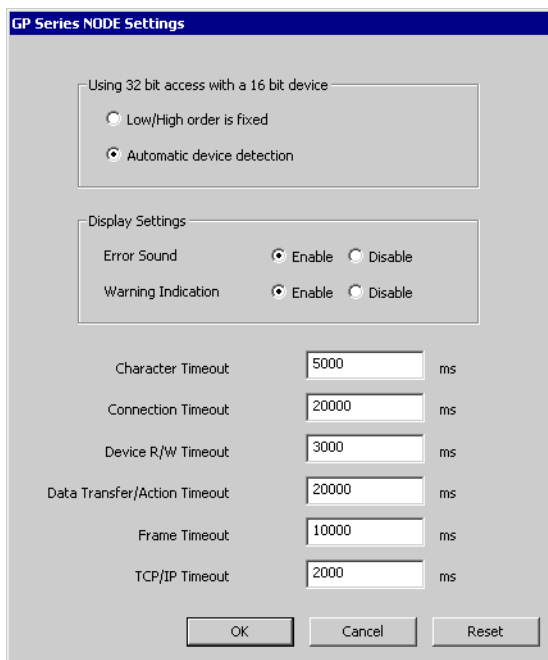
- When using 'Pro-Server EX' on Windows Vista or later, the "User Account Control" dialog box will be displayed before the "Pro-Server EX Environmental Setting" dialog box is displayed. When it is displayed, click [Allow].

2 Specify each item on the "Network Settings" screen.



Setting item	Setting content
Project ID	Displays the date and time when the project was created.
Control Port No.	<p>Specify the port numbers for TCP and UDP.  'Pro-Server EX' uses 20 ports beginning with the port number specified here.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>If you may find the overlapped port number on other application software, please change the setting.  You also need to change the display unit port number to be the same when changing the setting.</li> </ul>
Network Remote Password	Set the password necessary for remote connecting.  "23.1.1 Remote Access"
GP-Node Settings	The "GP Series NODE Setting" screen appears. Refer to "■ "GP Series NODE Settings" Screen" for more details.
Node settings other than GP series node settings	The "Node settings other than GP Series node settings" screen appears. Refer to "■ "Node settings other than GP series node settings" Screen" for more details. <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>Pro-Server EX, SP-5B40/WinGP, SP-5B10, GP4000/LT4000 Series, GP3000 Series, and LT3000 are provided with two types of protocols: The 2way protocol mounted on the GP Series and the upgraded 2way protocol offering safer and more prompt communication. Communication is performed by automatically selecting the most efficient protocol according to the communication contents and type of the partner node.</li> </ul>

■ "GP Series NODE Settings" Screen



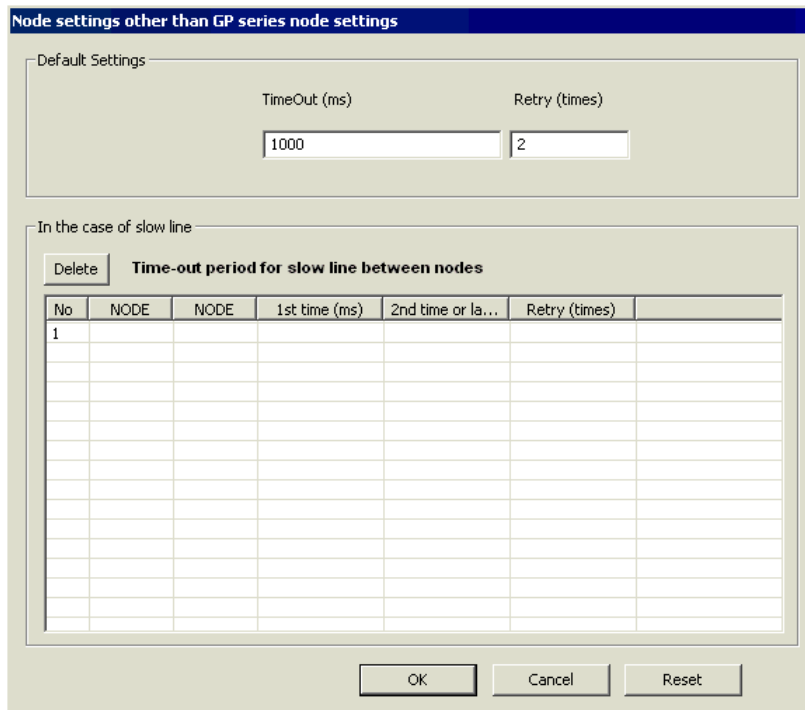
Setting item		Setting content
Using 32 bit access with a 16 bit device		Selects the access order of sequential two 16-bit devices that are regarded as a single 32-bit device.
Display Settings	Error Sound	Select whether the buzzer beeps or not when error occurs.
	Warning Indication	Select whether displays alarms on the display unit or not.
Character Timeout		Reserved.
Connection Timeout		While currently establishing connection, if there is no communication via the connection for the period of time specified here, the connection will be terminated. (You can establish only one connection for one consumer node, in TCP.)
Device R/W Timeout		<p>If there is no response within the time specified here after 'Pro-Server' raised a read/write request, it will be regarded as timeout. Adjust the timeout period including the time required for the line speed and read/write process.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>When the network is quite busy or the delay is observed in the communication between the display unit and Device/PLC, timeout error may possibly occur even under the normal operation. In this case, set a longer time in [Device R/W Timeout]. If the set time is too long, however, it takes much time to detect the communication error (like packet lost) when it occurs.</li> </ul>

Setting item	Setting content
Data Transfer/ACTION Timeout	<p>If there is no response within the time specified here after data transfer or ACTION is executed, it will be regarded as timeout.</p> <p>In the case of data transfer, however, this is effective only when you checked [Response Check] and [Use Distribution Timeout of Network Settings] in the [Detail Settings] tab.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• Some of the ACTIONs use application software on the PC, like Excel, and need so much processing time as to cause timeout depending on your PC performance. In this case, please set a longer time in [Data Transfer/ACTION Timeout].</li></ul>
Frame Timeout	<p>When working on mass data, a provider node sends data dividing those into more than one packet, while a self node receives a packet sent in turn. If a self node cannot receive the next packet within the time specified here after receiving one packet, it will be regarded as timeout.</p>
TCP/IP Timeout	<p>In TCP communication, "ACK" will be returned to data sent. If "ACK" is not returned, it will be retried, however, if "ACK" is not returned even at retry time, it will be disconnected. Time specified here is maximum waiting time for one action from data sending till ACK return.</p>

■ "Node settings other than GP series node settings" Screen

By using [Time-out period for slow line between nodes], you can specify the setting of communication between particular nodes in details, when transmission speed of communication with a particular node differs from that with other nodes due to different pathway.

As for the communication with the node not specified in [Time-out period for slow line between nodes], [Default Settings] is adopted.



Setting item		Setting content
Default Settings	TimeOut	<p>Enter a timeout period for communication (ms). You can specify the period in the range from min. 300ms to max. 86400000ms (24 hours). When receiving the requests for writing and reading simultaneously, each request will be processed in order. Adjust the timeout period using the following reference.</p> <p>For SP-5B40/WinGP, SP-5B10, GP4000/LT4000 Series, GP-3200/3400/3500/3600/3700 Series, LT3000 or Pro-Server EX Nodes Timeout period = 300ms + Number of receiving requests simultaneously x 60ms or more</p> <p>For GP-3300 Series Timeout period = 300ms + Number of receiving requests simultaneously x 120ms or more</p>
	Retry	<p>Specifies the number of retry frequency under communication. You can set the number up to 32. Retrying is not performed by entering "0".</p>



Setting item		Setting content
Time-out period for slow line between nodes	Node	Select the node where the communication timeout period is specified. You can specify the communication timeout period for each pair of nodes. Click the display list and select the nodes to be specified.
	1st time 2nd time or Later	Specifies the first and the later timeout period under communication. Click the display field and enter the timeout period to be specified. <b>NOTE</b> <ul style="list-style-type: none"><li>When initial connection to the network takes some time like a dial-up connection, you can specify the timeout period for the first and later individually.</li></ul>
	Retry	Specifies the number of retry frequency under communication. Click the display field and enter the retry frequency to be specified.

## 34.3 Option Settings

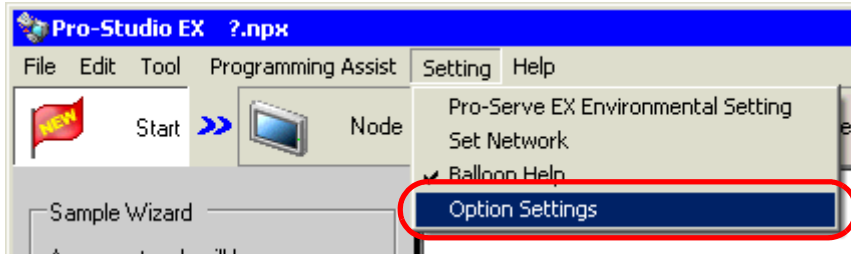
This section describes the option settings of 'Pro-Server EX'.

- 1 Click [Option Settings] from [Setting] on the start screen.

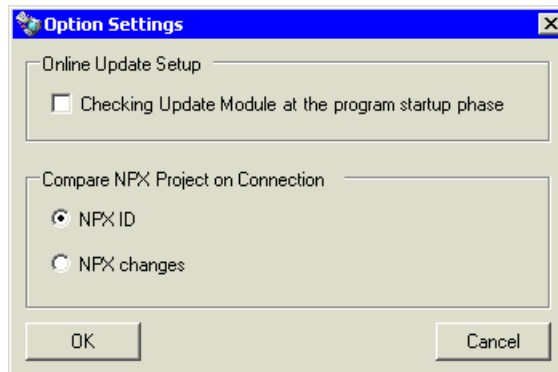
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**NOTE** • The setting contents in [Option Settings] are stored in the network project file. If you wish to switch between multiple network project files on one PC, network setup is required for every file.

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- 2 Specify each item on the [Option Settings] screen.



Setup Item	Setup content
Online Update Setup	If you check [Checking Update Module at the program startup phase], you can check and execute software and manual updates via the Internet when starting 'Pro-Studio EX.'

Setup Item	Setup content
Compare NPX Project on Connection	<p>Select conditions to allow communication connection between nodes.</p> <ul style="list-style-type: none"> <li>• NPX ID This mode allows communication connection between nodes when the network project IDs match in both nodes. Each time you change the network project, you need to transfer the network project to all nodes, including those that are not affected by the changes.</li> <li>• NPX changes This mode allows communication connection between nodes when target items for comparison included in the network project match in both nodes. Unless the changes of the network project affect target items for comparison, transfer the network project only to nodes that are affected by the changes. Refer to the following section for more details on the description of target items for comparison. ☞ " ■ Target items for comparison in the NPX changes mode"</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• When you change selection for [Compare NPX Project on Connection], execute the transfer to all nodes.</li> <li>• When using group symbols, select [ID Compare Mode].</li> <li>• The NPX changes mode is only valid only for a distribution type of data transfer. The reason is that the network projects cannot be compared in a collection type of data transfer, which operates only with the network project information held by the collection source nodes.</li> <li>• To select [NPX changes], all the following conditions need to be satisfied. <ul style="list-style-type: none"> <li>• A GP Series node is not included in the nodes.</li> <li>• Individual communication is used for the communication method. ☞ " ◆ "Set Trigger Condition Details" Screen"</li> </ul> </li> <li>• The runtime version in the Pro-Server EX node is 1.24 or later.</li> <li>• The runtime version in the SP-5B40/WinGP node, SP-5B10 node, GP4000/LT4000 Series node, GP3000 Series node and LT3000 node is 2.60 or later.</li> </ul>

## ■ Target items for comparison in the NPX changes mode

The NPX changes mode requires consistency of target items for comparison as a communication connection condition between nodes. The changes to affect target items for comparison are described as follows: If the changes of the network project affect target items for comparison, you need to transfer the network project to all nodes.

Node	<ul style="list-style-type: none"> <li>• Add/Delete devices in nodes</li> <li>• Change the text mode for devices in nodes</li> </ul>
ACTION	<ul style="list-style-type: none"> <li>• Add/Delete ACTION</li> <li>• Change the device address, type, or data count at a transfer source</li> <li>• Change the actual address, data type, or data count specified by the symbol when the symbol is specified at a transfer source by ACTION</li> <li>• Change the constant value or count when the constant is specified at a transfer source by ACTION</li> <li>• Change a start condition specified in ACTION</li> <li>• Change the receive notification settings</li> </ul>
Data Transfer	<ul style="list-style-type: none"> <li>• Add/Delete data transfer</li> <li>• Change the settings at a data transfer source or destination</li> <li>• Change the actual address, data type, or data count specified by the symbol when the symbol is specified at a transfer source or destination</li> <li>• Change the contents of the group (device address, data type, data count, array element count) when the group symbol is specified at a data transfer source or destination</li> <li>• Change the constant value or count when constant distribution is selected for data transfer</li> <li>• Change the receive notification settings</li> </ul>
Trigger Condition	<ul style="list-style-type: none"> <li>• Change the execution order for ACTION/Data Transfer</li> </ul>

## 34.4 Restrictions

The following restrictions will be applied when 'Pro-Server EX' is used by multiple logon users, or with the terminal service.

- You must give the right of "Create global objects" to a user in the local security settings, and on the server side, you must register the 'Pro-Server EX' user on the network.

Make the setting as follows:

- 1 After you click the [Start] button on the task bar, select "Administrative Tools" and "Local Security Policy" under the "Control Panel".
  - 2 Select "Local Policies" from "Security Settings", and double-click "Create global objects" under "User Rights Assignment".
  - 3 Register the 'Pro-Server EX' user.
- The log viewer functions only in one location when 'Pro-Server EX' is used by multiple logon users, or with the terminal service.

### ■ On Windows Vista or later

- The "User Account Control" dialog box will be displayed before performing "Environmental Setting" and "Network Setup".  
When it is displayed, click [Allow].
- To start 'Pro-Server EX' as a service or, to use it as the terminal service, or to use it with multiple logon users, the "User Account Control Function" must be disabled.

Refer to the following for the steps to disable the "User Account Control Function".

1. After you click the [Start] button on the task bar, select "User Account" under the "Control Panel".
2. Click "Turn User Account Control on or off".
3. Uncheck the [Use User Account Control (UAC) to help protect your computer] option and click the [OK] button.

