IDEC

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CONFIDENTIAL

PLC & SX8R Communication Parameter Setting Procedure 1.0

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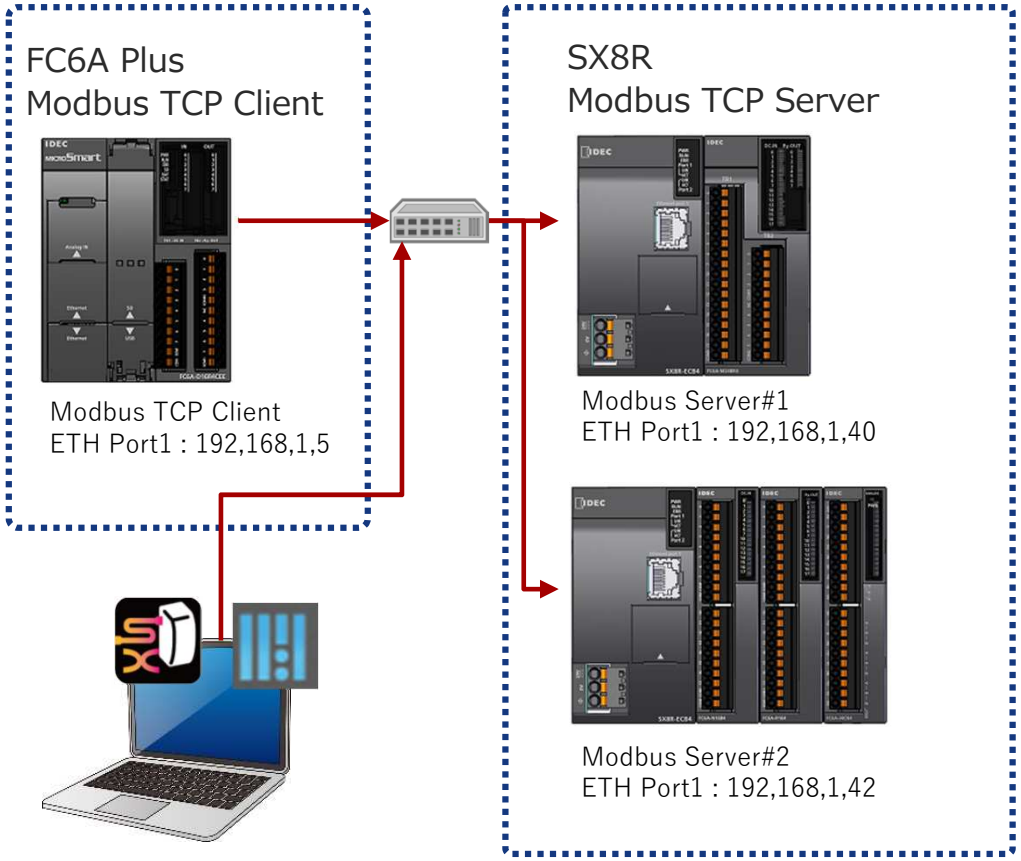
FC6A Plus and SX8R: Modbus TCP Protocol

FC6A Plus and SX8R: Modbus TCP Protocol

Step1: Define shared memory allocation between client and server according to the remote IO system configuration

System Configuration



Shared memory setting

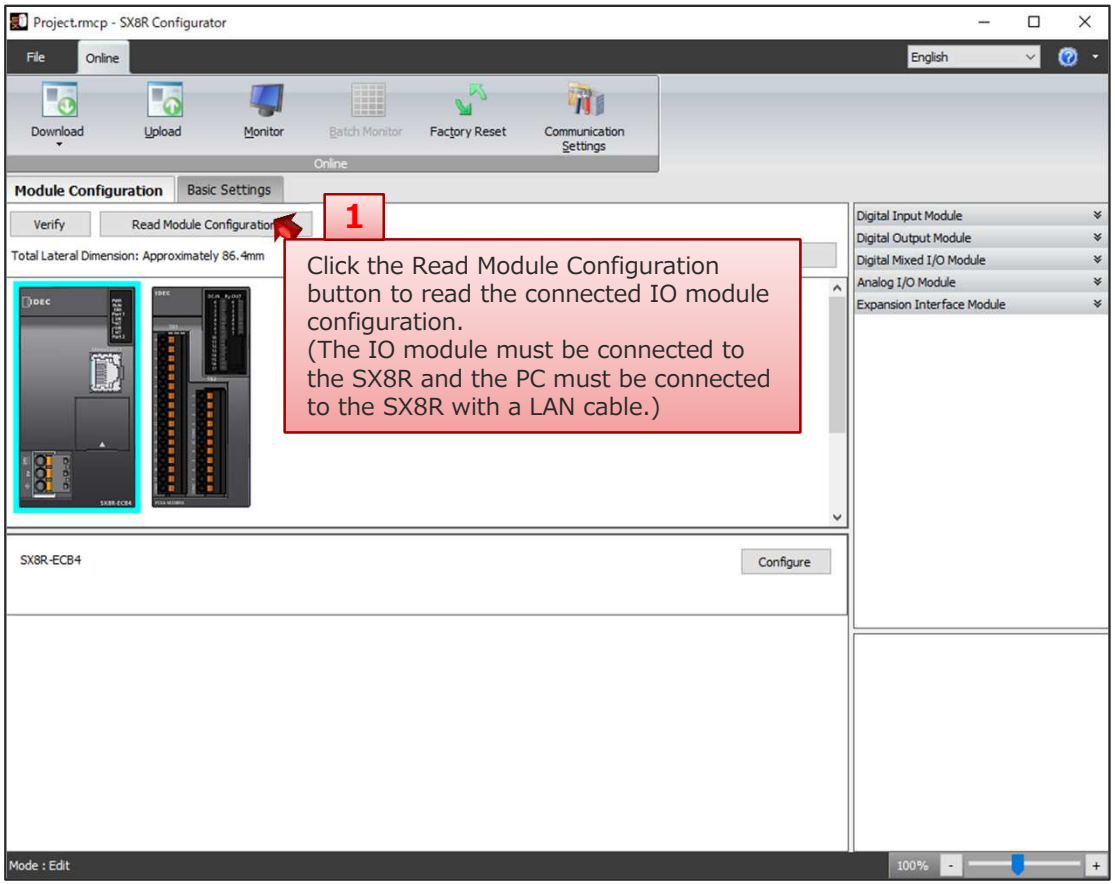
Modbus Client FC6A Plus CPU
D100
D101
M100-M117
M120-M127
D200
D210
M200-M217
M220-M237
D201
D202
D203
D204
D205
D206
D207
D208

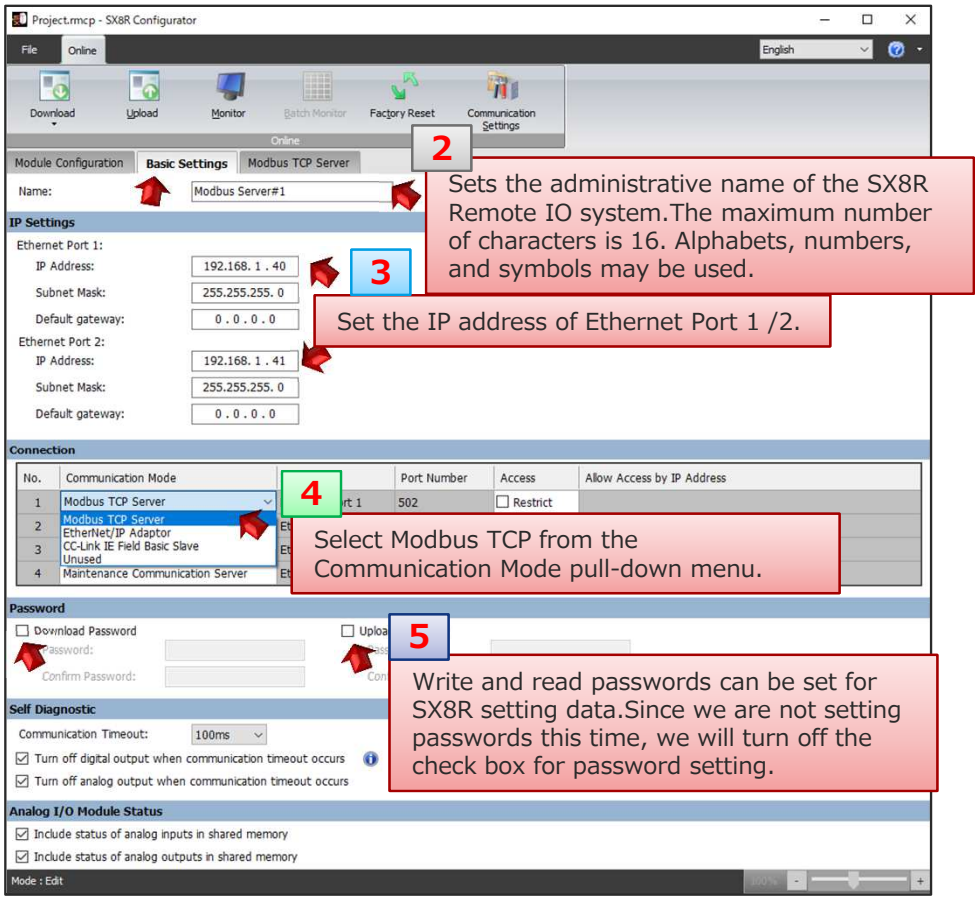
Modbus Server#1			
SX8R-ECB4			Slot #0
System Satus		1-word	
Control Register		1-word	
FC6A-M24BR4			Slot #1
INPUT	Data	16-bit	
OUTPUT	Data	8-bit	

Modbus Server#2			
SX8R-ECB4			Slot #0
System Satus		1-word	
Control Register		1-word	
FC6A-N16B4			Slot #1
INPUT	Data	16-bit	
FC6A-R164			Slot #2
OUTPUT	Data	16-bit	
FC6A-J4CN4			Slot #3
AI Ch.0	Data	1-word	
	Status	1-word	
AI Ch.1	Data	1-word	
	Status	1-word	
AI Ch.2	Data	1-word	
	Status	1-word	
AI Ch.3	Data	1-word	
	Status	1-word	

FC6A Plus and SX8R: Modbus TCP Protocol

Step2: Configure communication settings for SX8R (Modbus Server#1) using SX8R Configurator

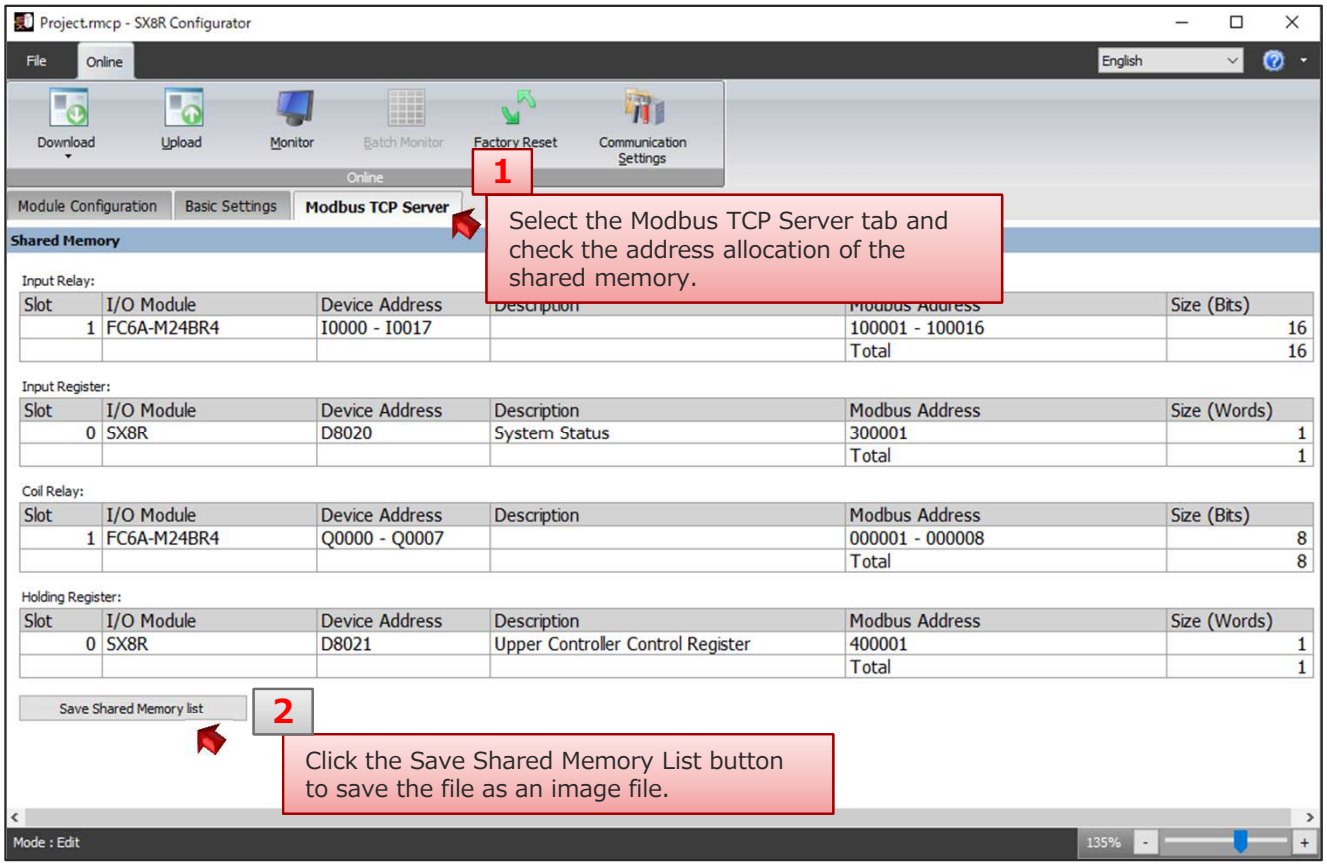




FC6A Plus and SX8R: Modbus TCP Protocol

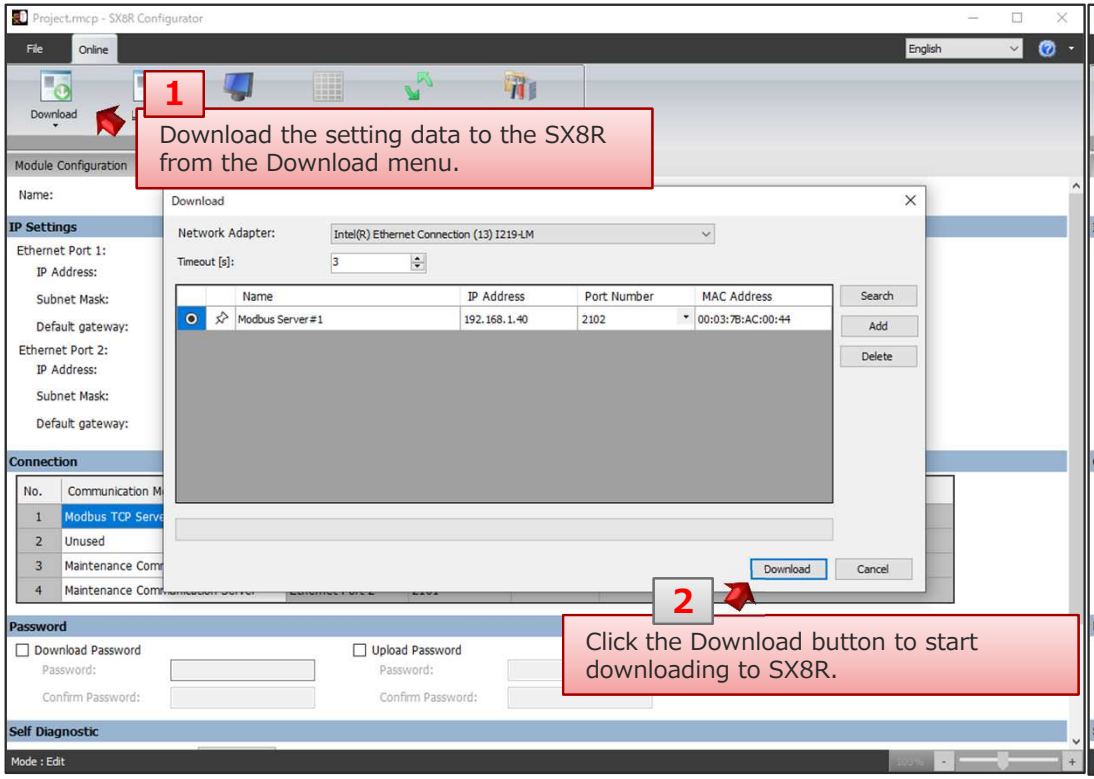
Step3: Check the Modbus address allocation of the shared memory of SX8R (Modbus Server#1)

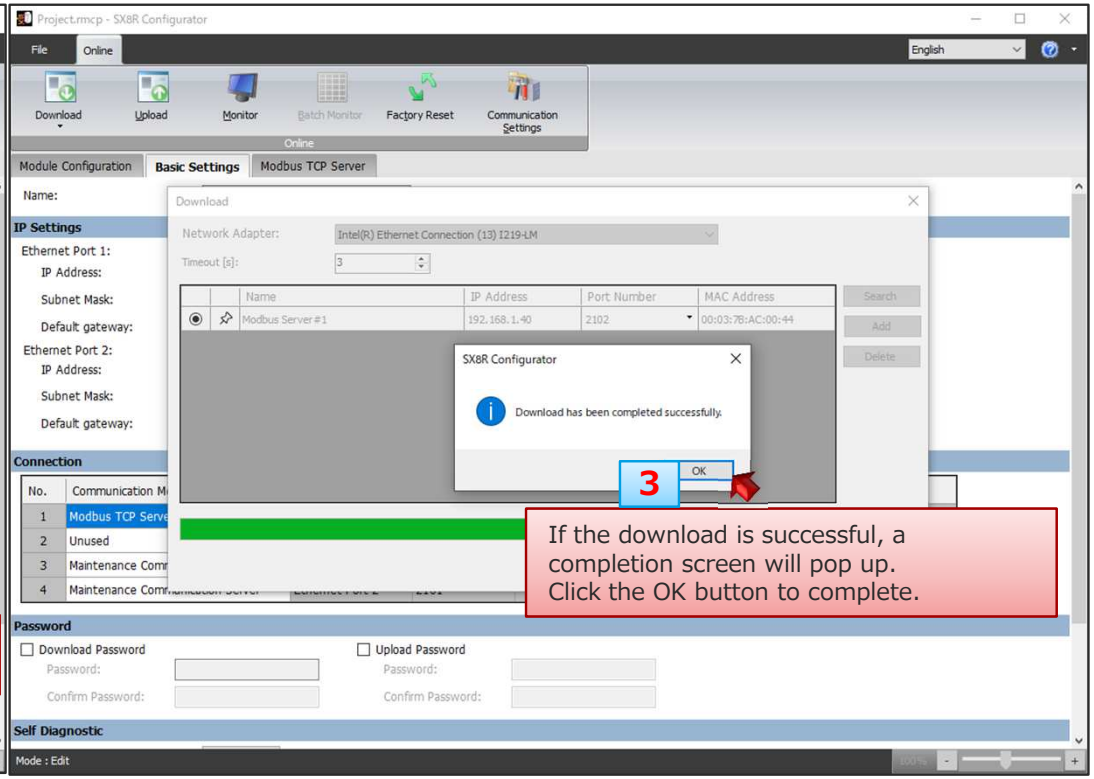
Modbus Server#1			
SX8R-ECB4			Slot #0
System Satus		1-word	
Control Register		1-word	
FC6A-M24BR4			Slot #1
INPUT	Data	16-bit	
OUTPUT	Data	8-bit	



FC6A Plus and SX8R: Modbus TCP Protocol

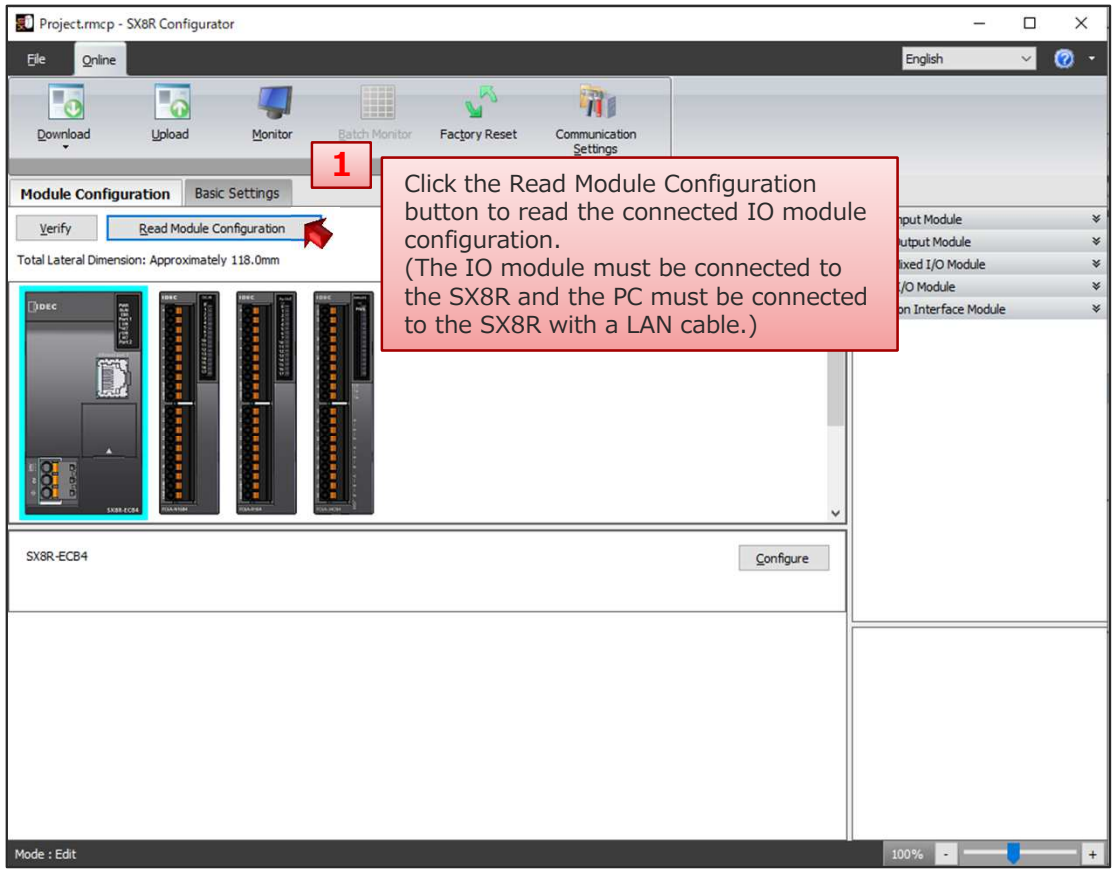
Step4: Download the setting data to SX8R (Modbus Server#1)





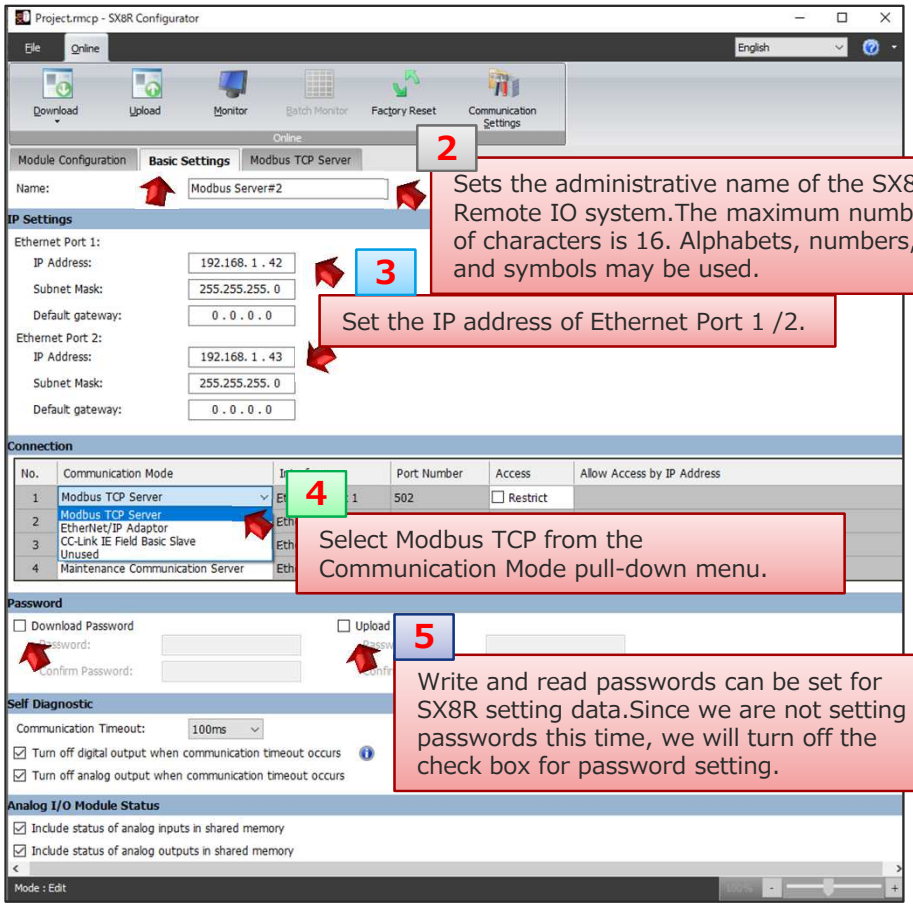
FC6A Plus and SX8R: Modbus TCP Protocol

Step5: Configure communication settings for SX8R (Modbus Server#2) using SX8R Configurator



1

Click the Read Module Configuration button to read the connected IO module configuration.
(The IO module must be connected to the SX8R and the PC must be connected to the SX8R with a LAN cable.)



2

Sets the administrative name of the SX8R Remote IO system.The maximum number of characters is 16. Alphabets, numbers, and symbols may be used.

3

Set the IP address of Ethernet Port 1 /2.

4

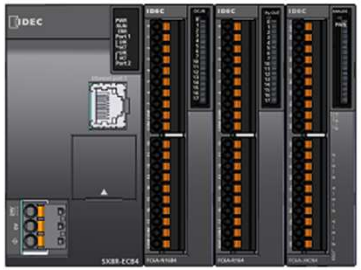
Select Modbus TCP from the Communication Mode pull-down menu.

5

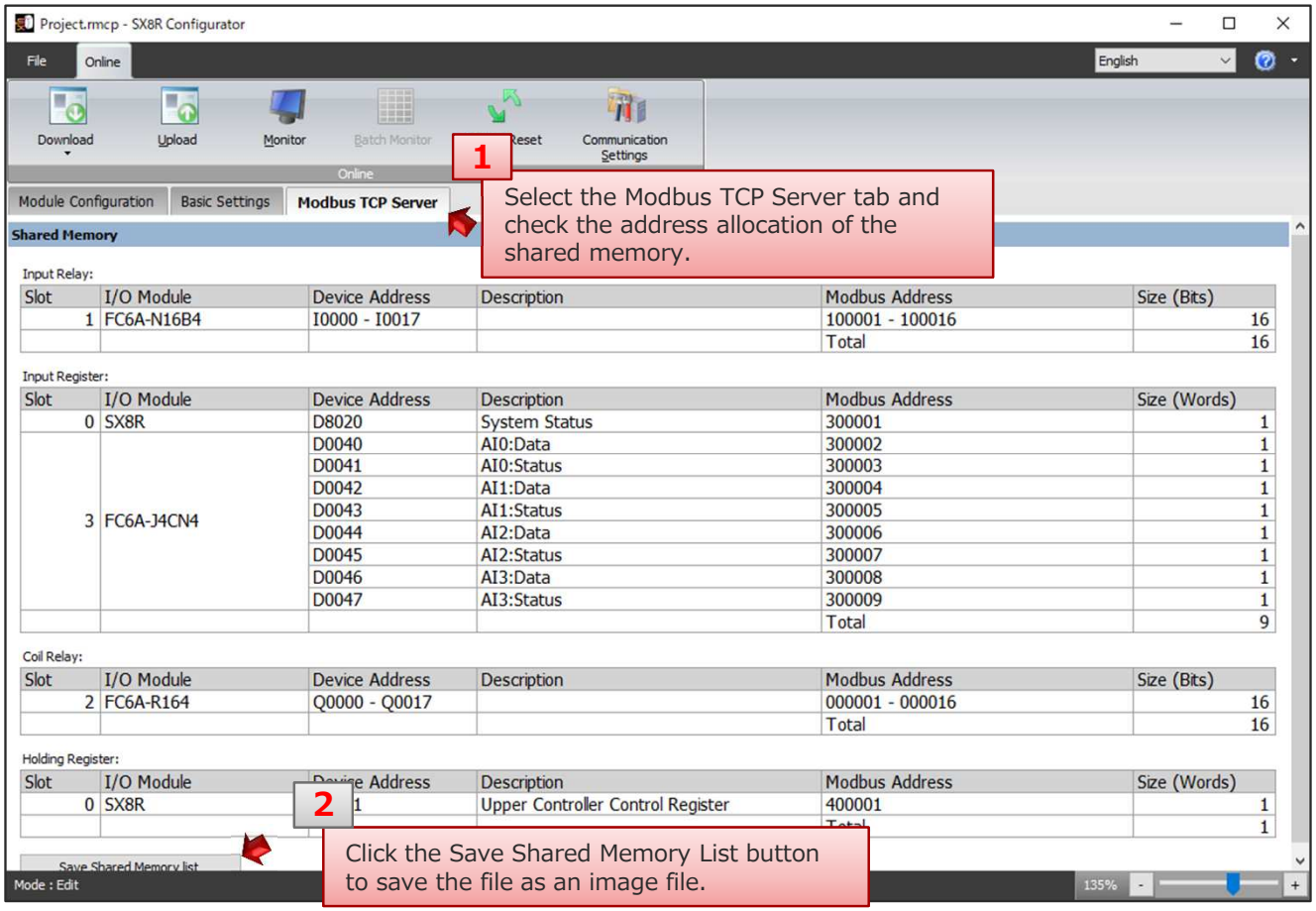
Write and read passwords can be set for SX8R setting data.Since we are not setting passwords this time, we will turn off the check box for password setting.

FC6A Plus and SX8R: Modbus TCP Protocol

Step6: Check the Modbus address allocation of the shared memory of SX8R (Modbus Server#2)

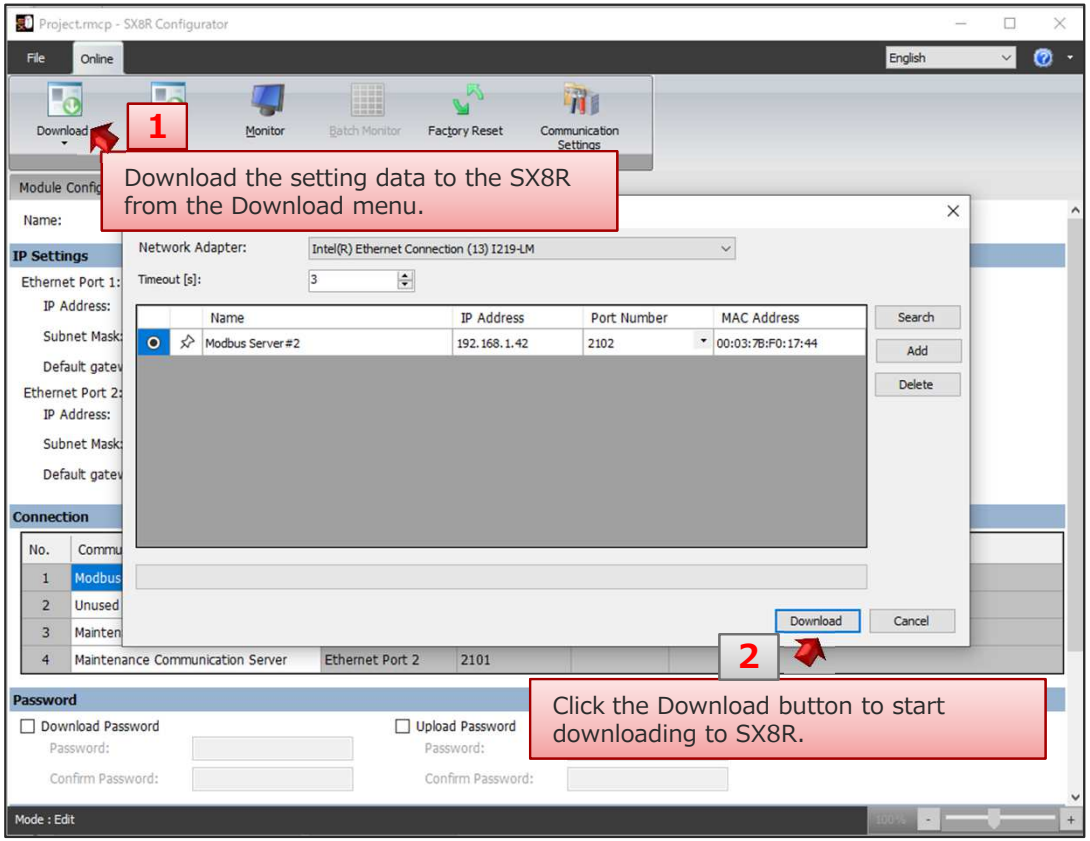


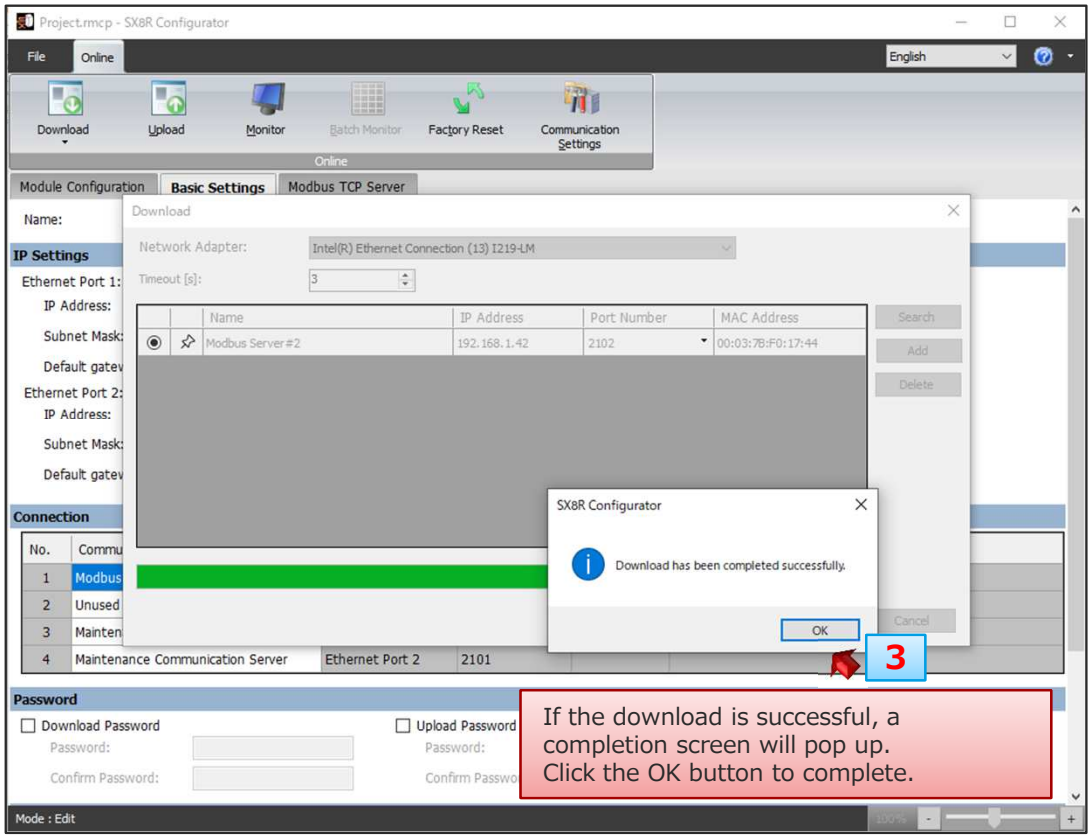
Modbus Server#2			
SX8R-ECB4			Slot #0
System Satus		1-word	
Control Register		1-word	
FC6A-N16B4			Slot #1
INPUT	Data	16-bit	
FC6A-R164			Slot #2
OUTPUT	Data	16-bit	
FC6A-J4CN4			Slot #3
AI Ch.0	Data	1-word	
	Status	1-word	
AI Ch.1	Data	1-word	
	Status	1-word	
AI Ch.2	Data	1-word	
	Status	1-word	
AI Ch.3	Data	1-word	
	Status	1-word	



FC6A Plus and SX8R: Modbus TCP Protocol

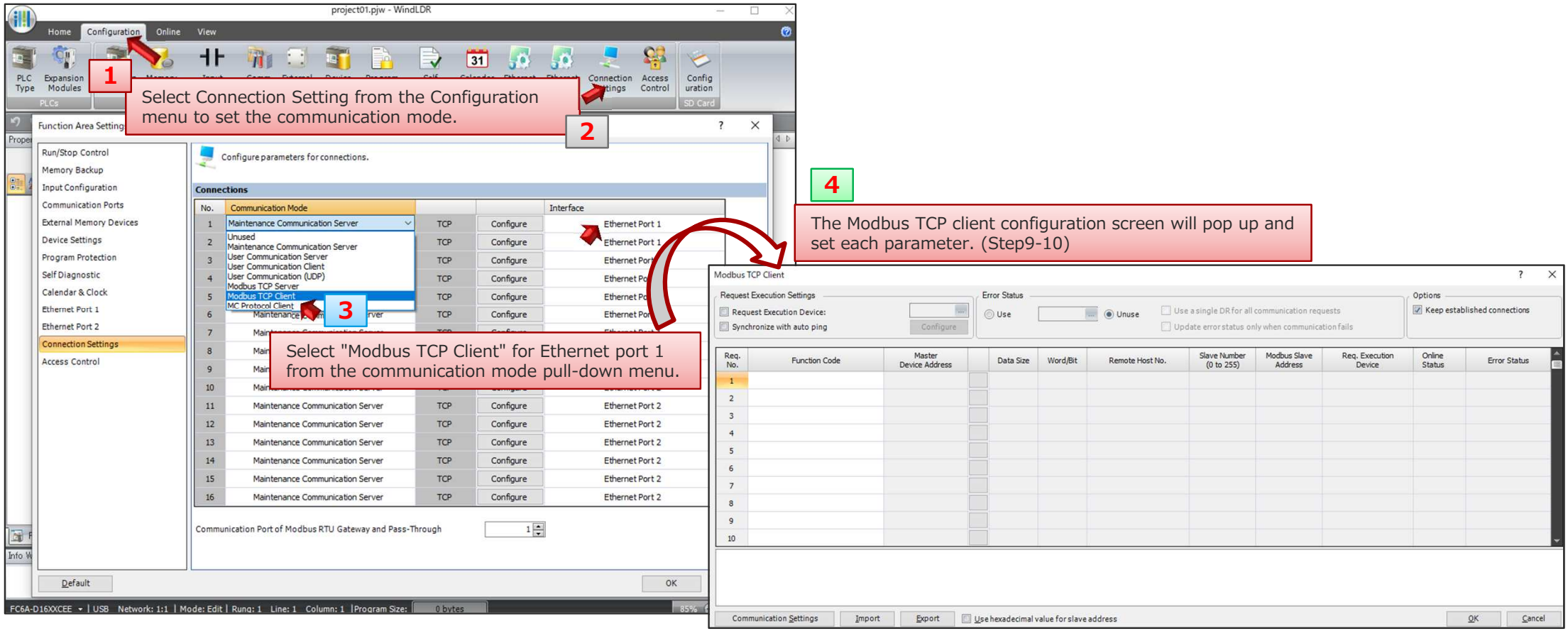
Step7: Download the setting data to SX8R (Modbus Server#2)





FC6A Plus and SX8R: Modbus TCP Protocol

Step 8: Configure communication settings for FC6A Plus CPU (Modbus TCP Client) using WindLDR



FC6A Plus and SX8R: Modbus TCP Protocol

Step9: Configure Modbus TCP client settings for Modbus Server#1

1

Configure the Modbus TCP client settings while checking the shared memory list created by SX8R Configuraor.Register the IP address of Modbus Server#1 as the remote host number. (After registration, it can be selected.)

Req. No.	Function Code	Master Device Address		Data Size	Word/Bit	Remote Host No.	Slave (0 t
1	02 Read Input Status	M0100	...	16	Bit	New Remote Host...	
2							
3							
4							
5							
6							
7							
8							
9							

Remote Host

Remote Host:

IP Address: 192 . 168 . 1 . 40

Host Name:

Data Register:

Port: 502

Shared Memory

Input Relay:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Bits)
1	FC6A-M24BR4	I0000 - I0017		100001 - 100016	16
				Total	16

Input Register:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Words)
0	SX8R	D8020	System Status	300001	1
				Total	1

Coil Relay:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Bits)
1	FC6A-M24BR4	Q0000 - Q0007		000001 - 000008	8
				Total	8

Holding Register:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Words)
0	SX8R	D8021	Upper Controller Control Register	400001	1
				Total	1

Modbus TCP Client

Request Execution Settings

Request Execution Device:

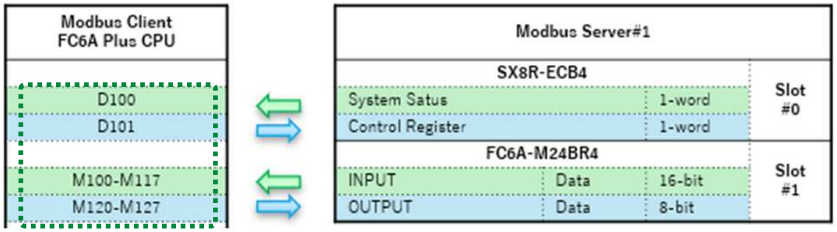
Synchronize with auto ping

Error Status

2

Assign the device address of the PLC according to the shared memory created by SX8R Configuraor.

Req. No.	Function Code	Master Device Address		Data Size	Word/Bit	Remote Host No.	Slave Number (0 to 255)	Modbus Slave Address
1	02 Read Input Status	M0100	...	16	Bit	1: 192.168.1.40 (502)	1	100001
2	04 Read Input Registers	D0100	...	1	Word	1: 192.168.1.40 (502)	1	300001
3	15 Force Multiple Coils	M0120	...	16	Bit	1: 192.168.1.40 (502)	1	000001
4	03 Read Holding Registers	D0101	...	1	Word	1: 192.168.1.40 (502)	1	400001



FC6A Plus and SX8R: Modbus TCP Protocol

Step10: Configure Modbus TCP client settings for Modbus Server#2

1

Configure the Modbus TCP client settings while checking the shared memory list created by SX8R Configuraor.Register the IP address of Modbus Server#2 as the remote host number. (After registration, it can be selected.)

Req. No.	Function Code	Master Device Address		Data Size	Word/Bit	Remote Host No.	Slave Number (0 to 255)	Modbus Slave Address
1	02 Read Input Status	M0100	...	16	Bit	1: 192.168.1.40 (502)	1	100001
2	04 Read Input Registers	D0100	...	1	Word	1: 192.168.1.40 (502)	1	300001
3	15 Force Multiple Coils	M0120	...	16	Bit	1: 192.168.1.40 (502)	1	000001
4	03 Read Holding Registers	D0101	...	1	Word	1: 192.168.1.40 (502)	1	400001
5	02 Read Input Status	M0200	...	16	Bit	New Remote Host...		
6								
7								
8								
9								
10								

Remote Host

Remote Host:

IP Address: 192 . 168 . 1 . 42

Host Name:

Data Register:

Shared Memory

Input Relay:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Bits)
1	FC6A-N16B4	I0000 - I0017		100001 - 100016	16
				Total	16

Input Register:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Words)
0	SX8R	D8020	System Status	300001	1
3	FC6A-J4CN4	D0040	AI0:Data	300002	1
		D0041	AI0:Status	300003	1
		D0042	AI1:Data	300004	1
		D0043	AI1:Status	300005	1
		D0044	AI2:Data	300006	1
		D0045	AI2:Status	300007	1
		D0046	AI3:Data	300008	1
		D0047	AI3:Status	300009	1
				Total	9

Coil Relay:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Bits)
2	FC6A-R164	Q0000 - Q0017		000001 - 000016	16
				Total	16

Holding Register:

Slot	I/O Module	Device Address	Description	Modbus Address	Size (Words)
0	SX8R	D8021	Upper Controller Control Register	400001	1
				Total	1

Modbus TCP Client

Request Execution Settings

Request Execut

Synchronize with auto

Error Status

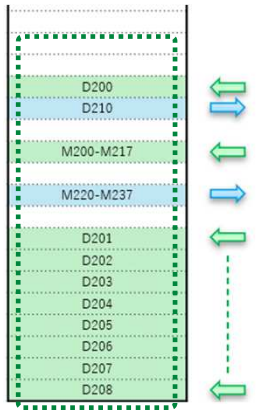
Use a single DR for all communication requ

Update error status only when communicat

2

Assign the device address of the PLC according to the shared memory created by SX8R Configuraor.

Req. No.	Function Code	Master Device Address		Data Size	Word/Bit	Remote Host No.	Slave Number (0 to 255)	Modbus Slave Address
5	02 Read Input Status	M0200	...	16	Bit	2: 192.168.1.42 (502)	2	100001
6	04 Read Input Registers	D0202	...	9	Word	2: 192.168.1.42 (502)	2	300001
7	15 Force Multiple Coils	M0220	...	16	Bit	2: 192.168.1.42 (502)	2	000001
8	03 Read Holding Registers	D0210	...	1	Word	2: 192.168.1.42 (502)	2	400001



Modbus Server#2

SX8R-ECB4			Slot #0
System Satus		1-word	
Control Register		1-word	
FC6A-N16B4			Slot #1
INPUT	Data	16-bit	
FC6A-R164			Slot #2
OUTPUT	Data	16-bit	
FC6A-J4CN4			Slot #3
AI Ch.0	Data	1-word	
	Status	1-word	
AI Ch.1	Data	1-word	
	Status	1-word	
AI Ch.2	Data	1-word	
	Status	1-word	
AI Ch.3	Data	1-word	
	Status	1-word	

FC6A Plus and SX8R: Modbus TCP 通信

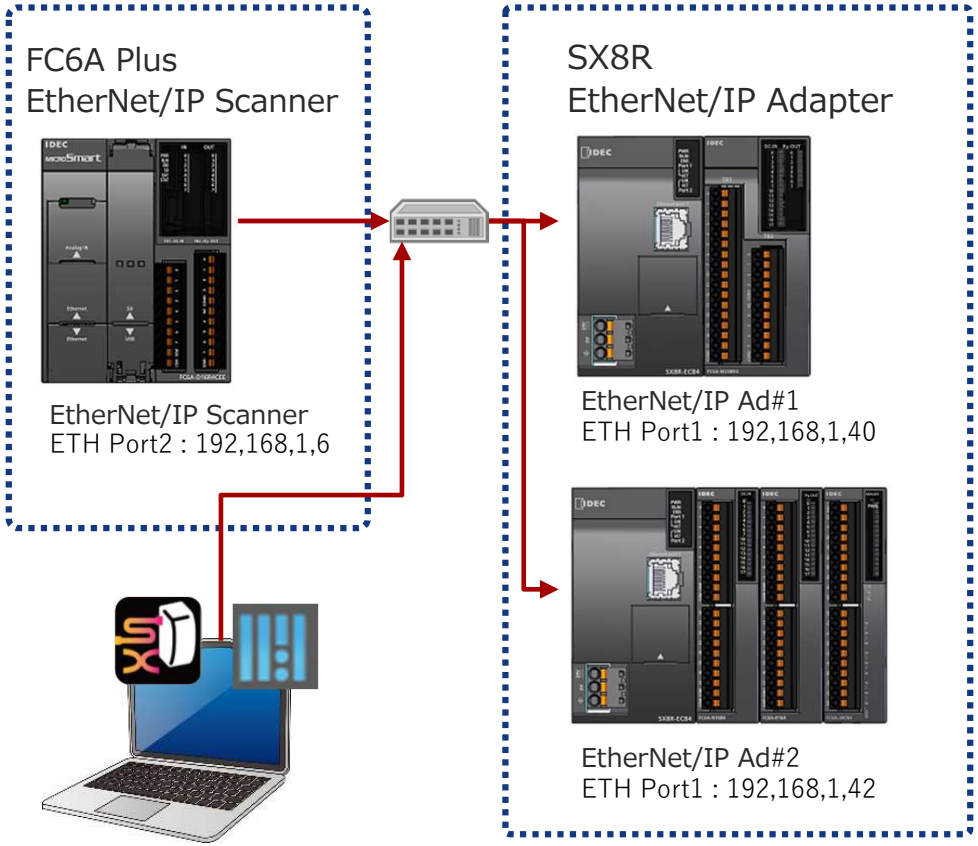
FC6A Plus and SX8R: Modbus TCP communication settings have been completed.

FC6A Plus and SX8R: EtherNet/IP protocol

FC6A Plus and SX8R: EtherNet/IP protocol

Step1: Define shared memory allocation between scanner and adapter according to remote IO system configuration

System Configuration



Shared memory setting

EtherNET/IP Scanner FC6A Plus CPU
D0
D1
D2
D3
D100
D101
D102
D103
D104
D105
D106
D107
D108
D109
D110
D111

EtherNET/IP Ad#1

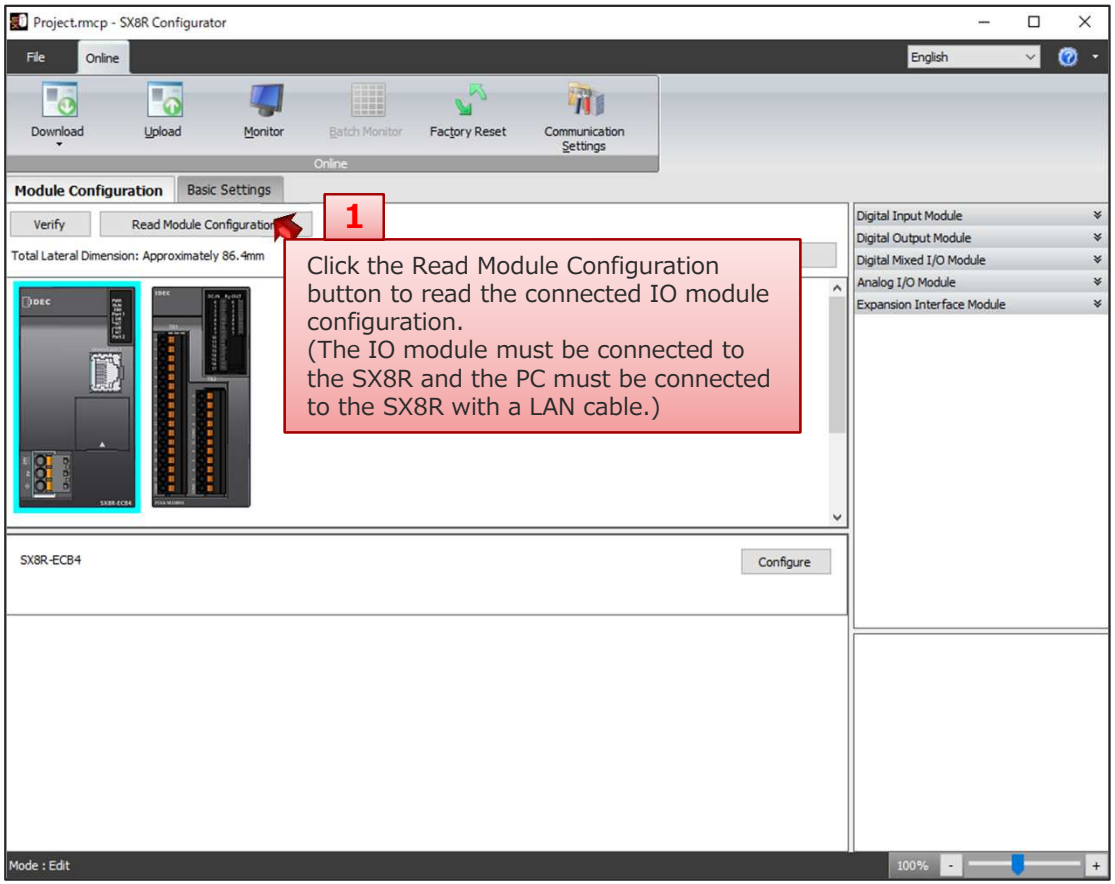
Status	2 byte	SX8R-ECB4	
INPUT	2 byte	FC6A-M24BR1	Slot #1
Control	2 byte	SX8R-ECB4	
OUTPUT	2 byte (1byte Reserved)	FC6A-M24BR1	Slot #1

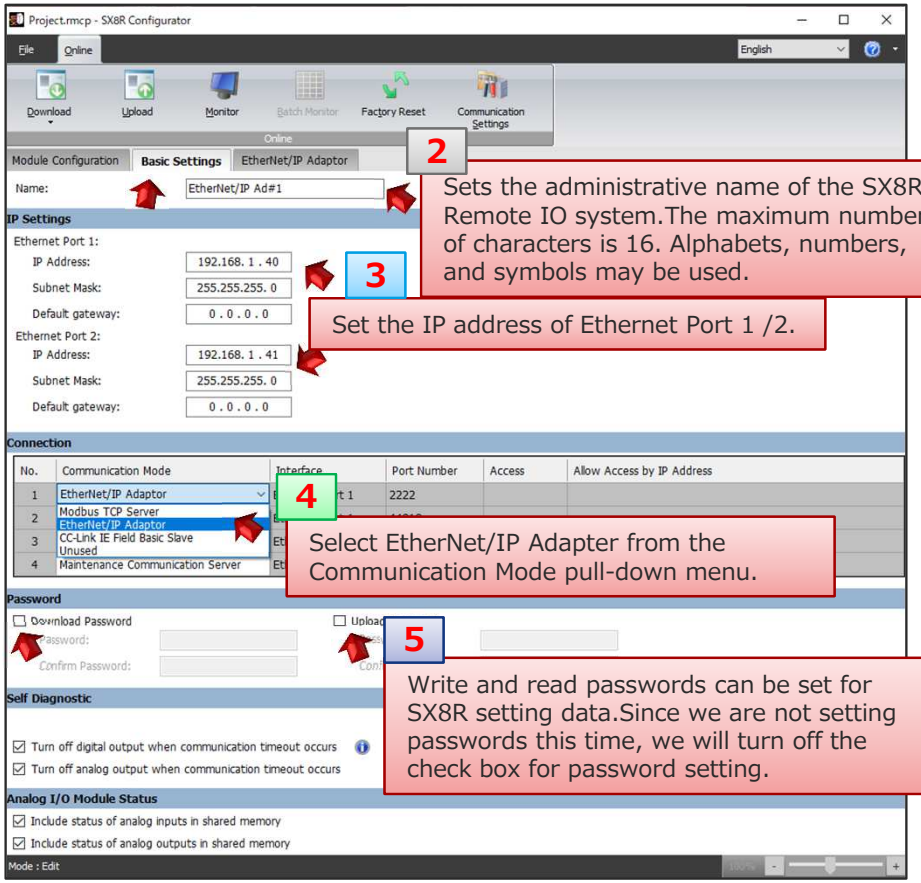
EtherNET/IP Ad#2

Status		2 byte	SX8R-ECB4	
INPUT		2 byte	FC6A-N16B4	Slot #1
AD Ch.0	DATA	2 byte	FC6A-J4CN4	Slot #3
	Status	2 byte		
AD Ch.1	DATA	2 byte		
	Status	2 byte		
AD Ch.2	DATA	2 byte		
	Status	2 byte		
AD Ch.3	DATA	2 byte		
	Status	2 byte		
Control		2 byte	SX8R-ECB4	
OUTPUT		2 byte	FC6A-R164	Slot #2

FC6A Plus and SX8R: EtherNet/IP protocol

Step2: Configure communication settings for SX8R (EtherNet/IP Adpter#1) using SX8R Configurator

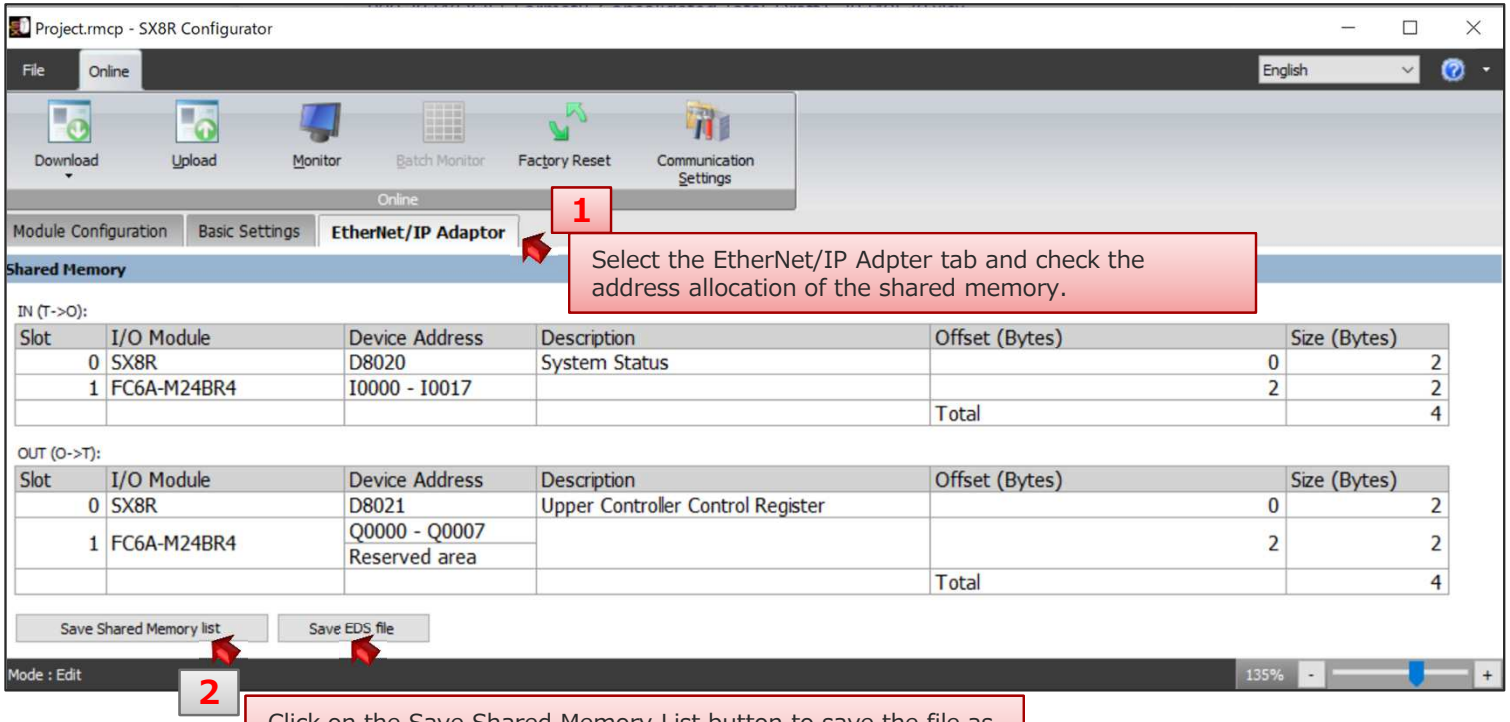




FC6A Plus and SX8R: EtherNet/IP protocol

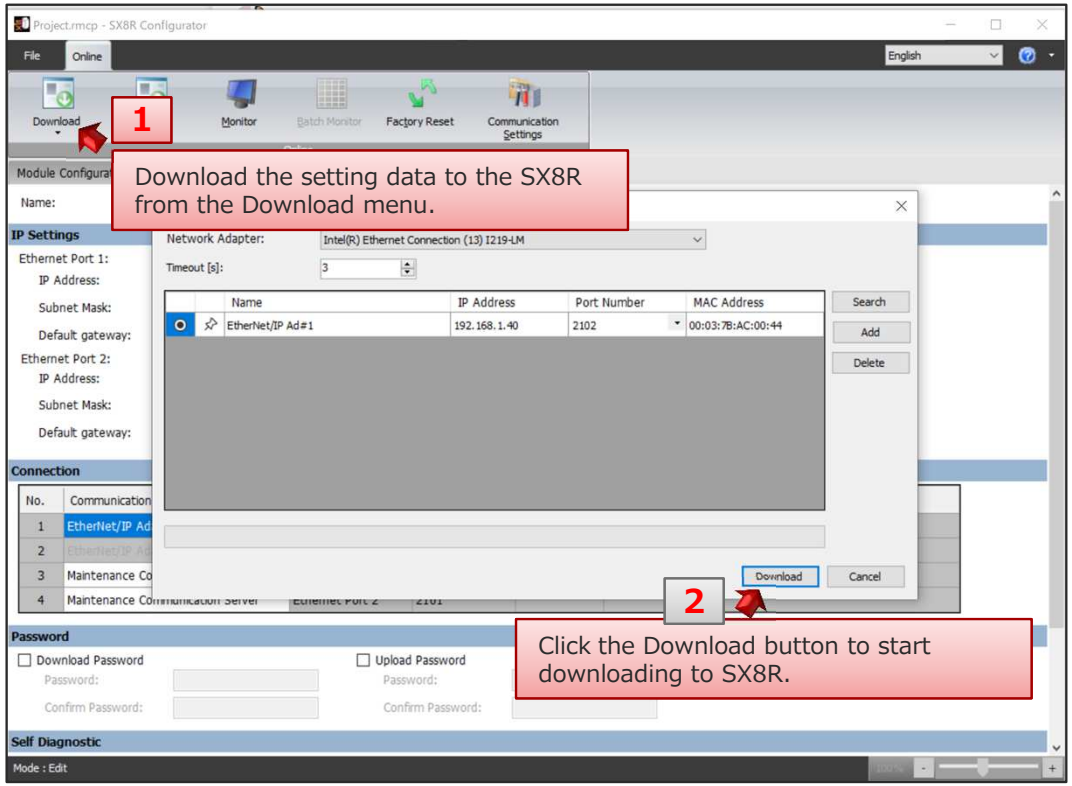
Step3: Check the address allocation of the EtherNet/IP shared memory in SX8R (EtherNet/IP Adpter#1)

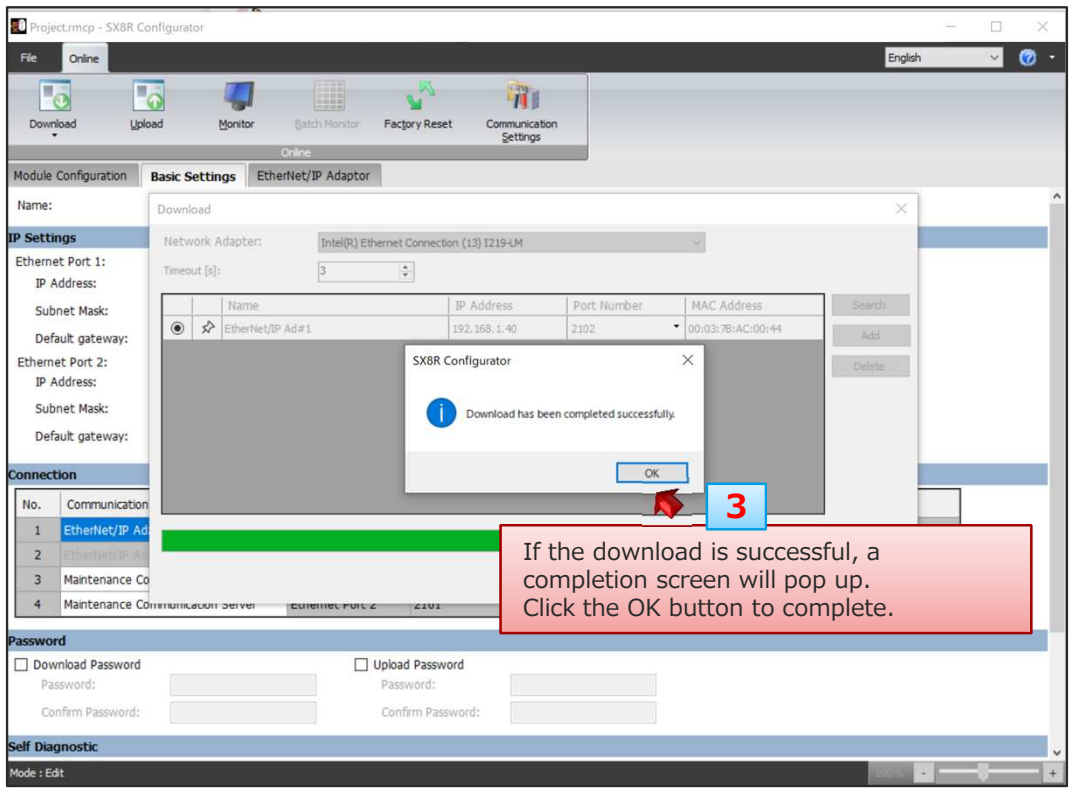
EtherNET/IP Ad#1			
Status	2 byte	SX8R-ECB4	
INPUT	2 byte	FC6A-M24BR1	Slot #1
Control	2 byte	SX8R-ECB4	
OUTPUT	2 byte (1byte Reserved)	FC6A-M24BR1	Slot #1



FC6A Plus and SX8R: EtherNet/IP protocol

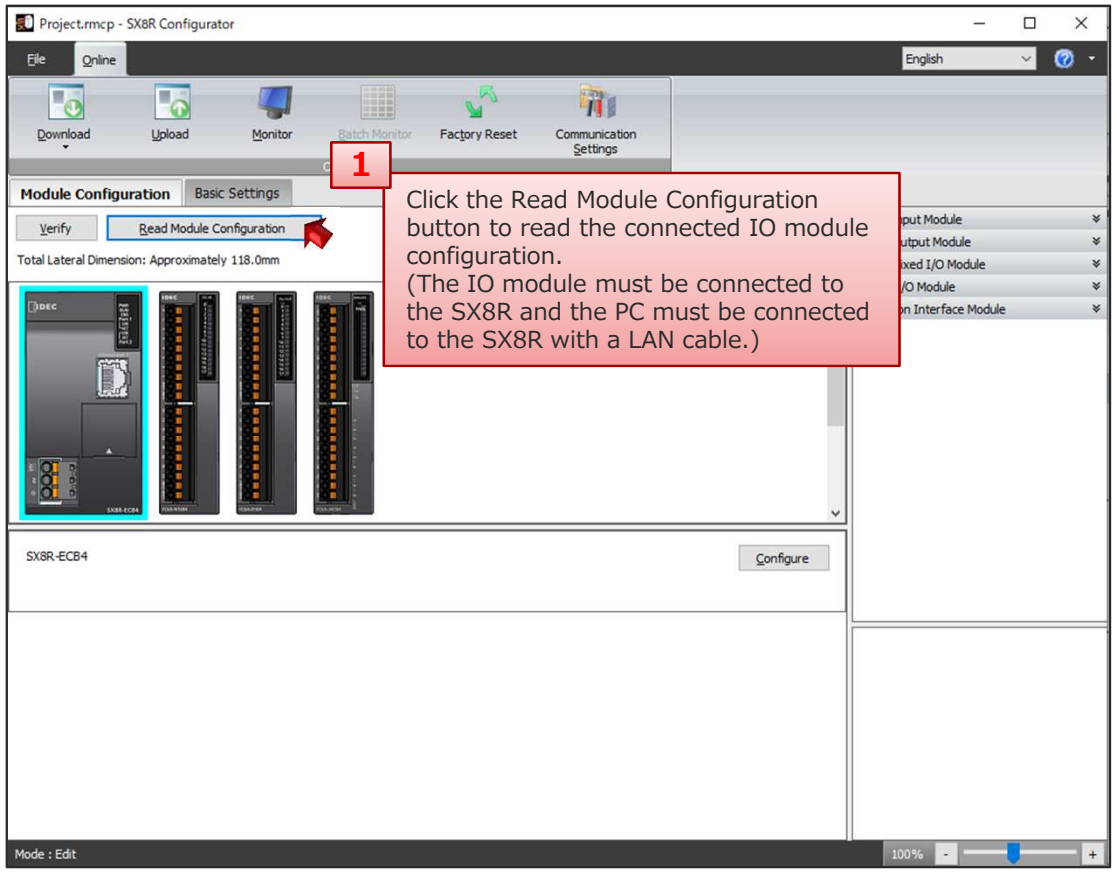
Step4: Download the setting data to SX8R (EtherNet/IP Adpter#1)





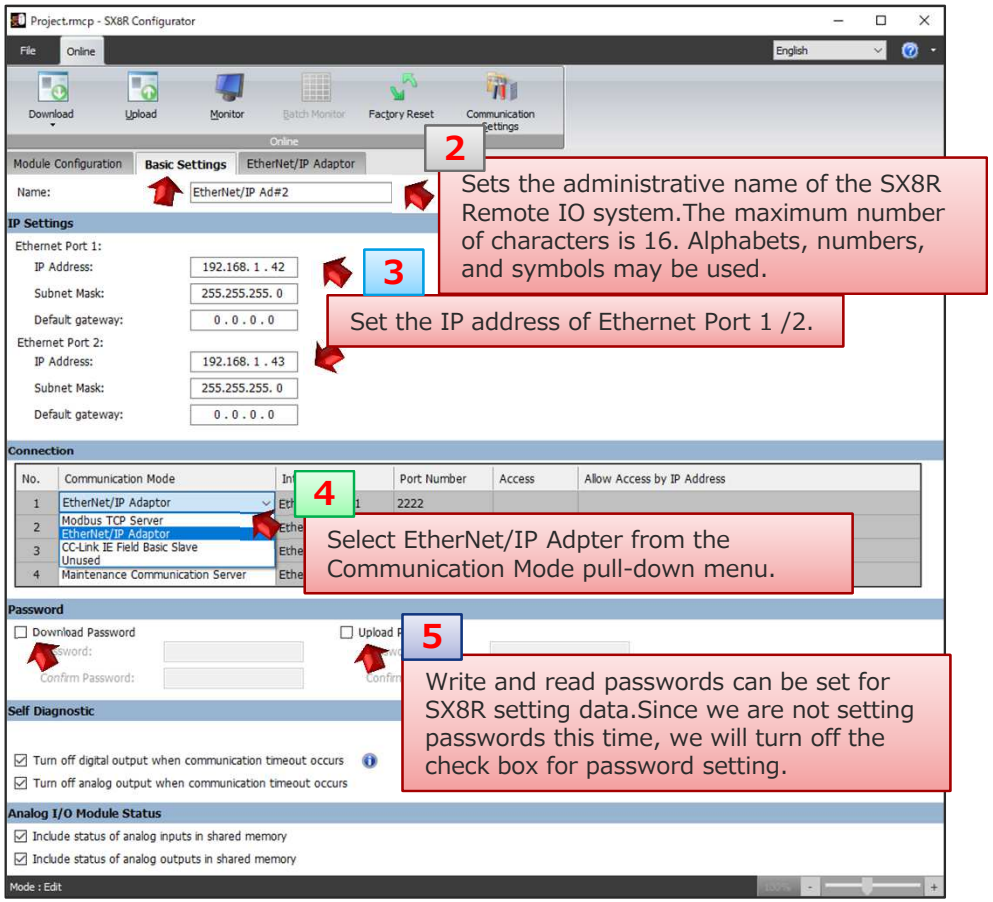
FC6A Plus and SX8R: EtherNet/IP protocol

Step5: Configure communication settings for SX8R (EtherNet/IP Adpter#1) using SX8R Configurator



1

Click the Read Module Configuration button to read the connected IO module configuration.
(The IO module must be connected to the SX8R and the PC must be connected to the SX8R with a LAN cable.)



2

Sets the administrative name of the SX8R Remote IO system.The maximum number of characters is 16. Alphabets, numbers, and symbols may be used.

3

Set the IP address of Ethernet Port 1 /2.

4

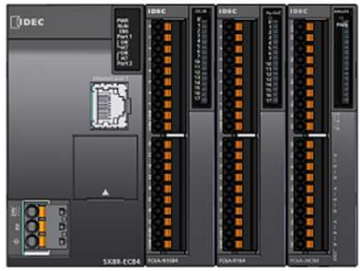
Select EtherNet/IP Adpter from the Communication Mode pull-down menu.

5

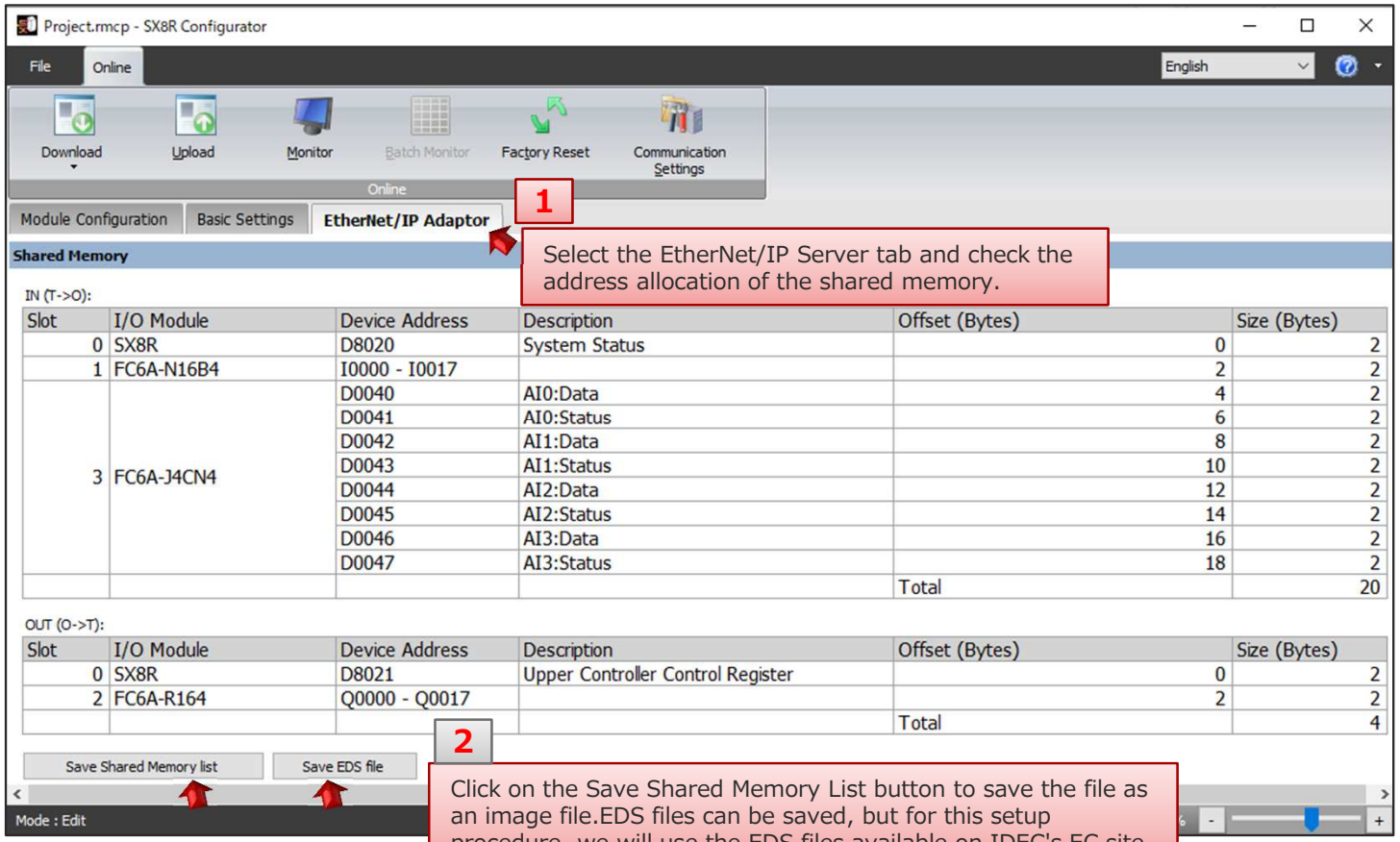
Write and read passwords can be set for SX8R setting data.Since we are not setting passwords this time, we will turn off the check box for password setting.

FC6A Plus and SX8R: EtherNet/IP protocol

Step6: Check the address allocation of the EtherNet/IP shared memory in SX8R (EtherNet/IP Adpter#1)

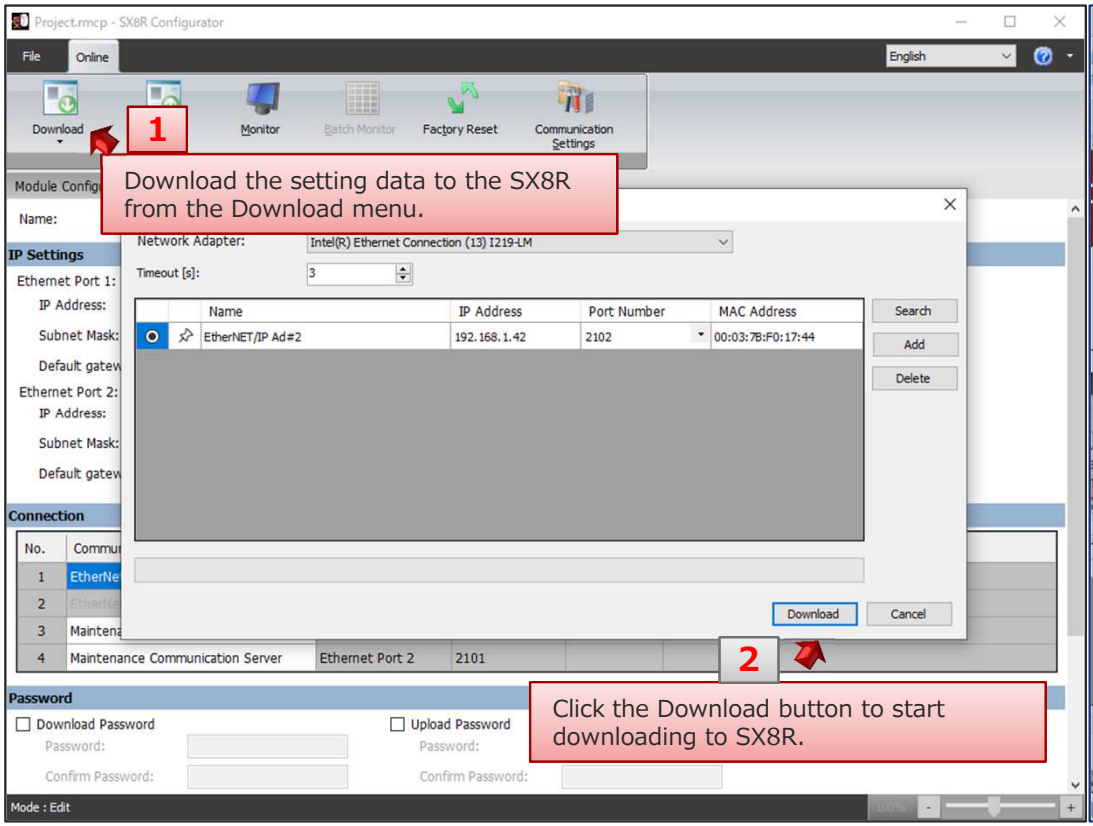


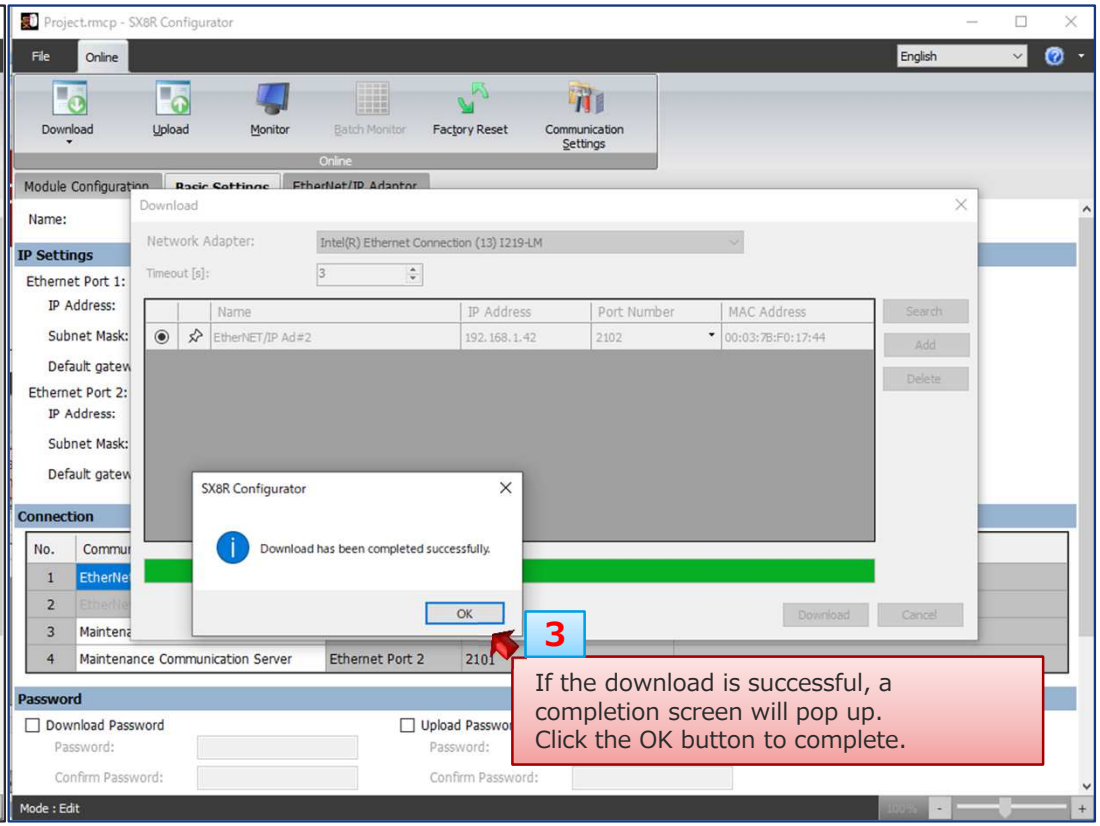
EtherNET/IP Ad#2				
Status		2 byte	SX8R-ECB4	
INPUT		2 byte	FC6A-N16B4	Slot #1
AD Ch.0	DATA	2 byte	FC6A-J4CN4	Slot #3
	Status	2 byte		
AD Ch.1	DATA	2 byte		
	Status	2 byte		
AD Ch.2	DATA	2 byte		
	Status	2 byte		
AD Ch.3	DATA	2 byte		
	Status	2 byte		
Control	2 byte		SX8R-ECB4	
OUTPUT	2 byte		FC6A-R164	Slot #2



FC6A Plus and SX8R: EtherNet/IP protocol

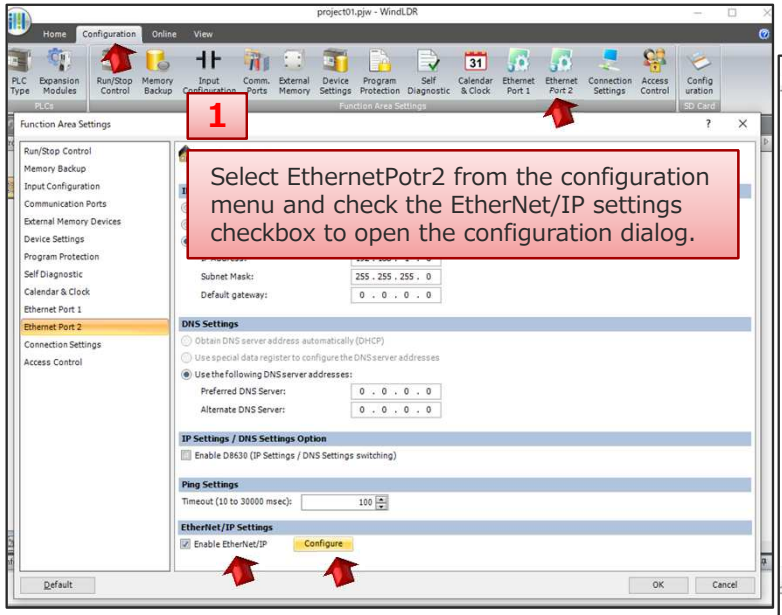
Step7: Download the setting data to SX8R (EtherNet/IP Adpter#2)





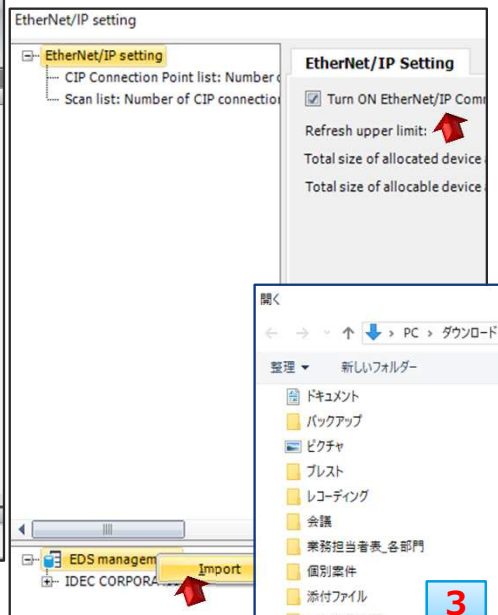
FC6A Plus and SX8R: EtherNet/IP protocol

Step8: Configure communication settings for FC6A Plus CPU (EtherNet/IP Scanner) using WindLDR
Download the EDS file from the IDEC EC site and import the EDS file into WindLDR.



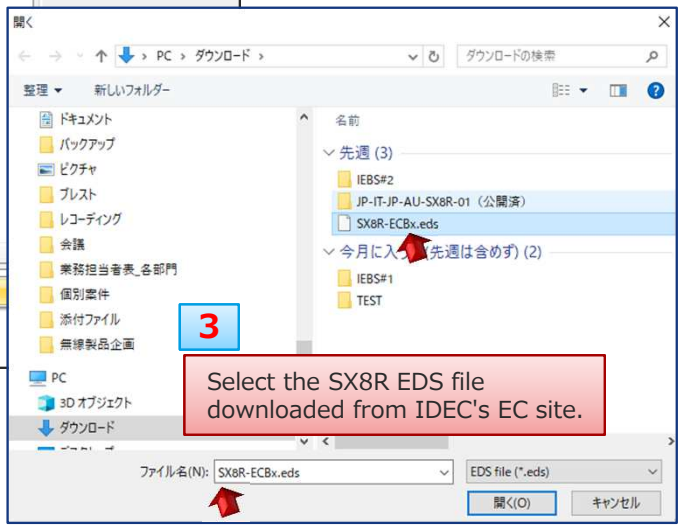
1

Select EthernetPotr2 from the configuration menu and check the EtherNet/IP settings checkbox to open the configuration dialog.



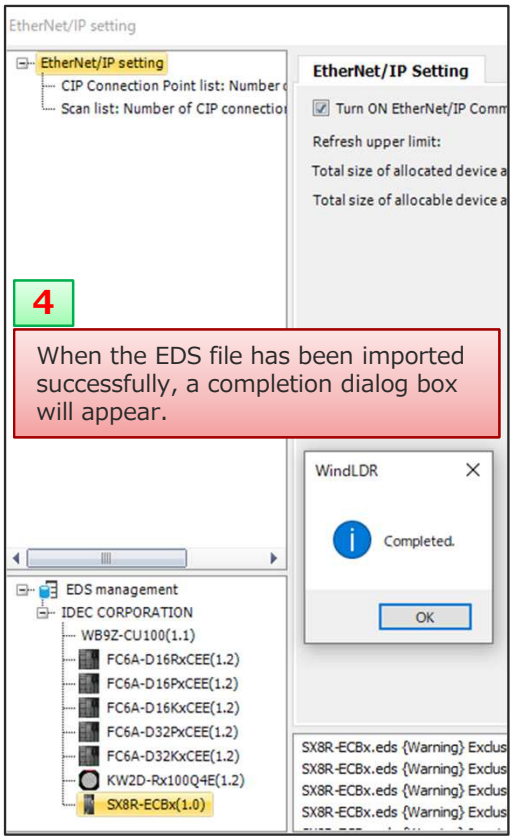
2

Right-click on the EDS Management menu and turn on the Import button. Tunn ON EtherNet/IP communication permission to automatic.



3

Select the SX8R EDS file downloaded from IDEC's EC site.



4

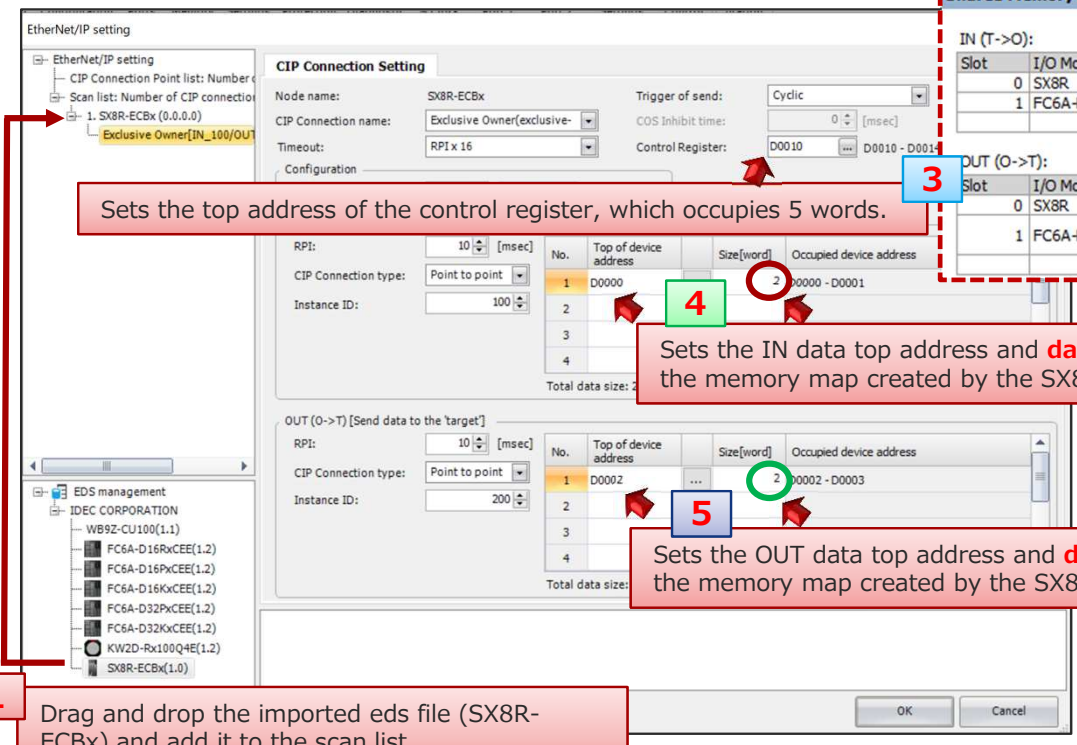
When the EDS file has been imported successfully, a completion dialog box will appear.

FC6A Plus and SX8R: EtherNet/IP protocol

Step9: Add SX8R EDS file to the scan list and configure CIP connection settings for EtherNet/IP Adpter#1

2

CIP connection settings (control register, first device, size).



3

Sets the top address of the control register, which occupies 5 words.

4

Sets the IN data top address and **data size in words** according to the memory map created by the SX8R Configurator.

5

Sets the OUT data top address and **data size in words** according to the memory map created by the SX8R Configurator.

1

Drag and drop the imported eds file (SX8R-ECBx) and add it to the scan list.

EtherNet/IP Adapter#1

Shared Memory

IN (T->O):

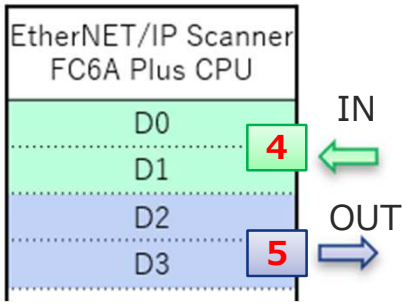
Slot	I/O Module	Device Address	Description	Offset (Bytes)	Size (Bytes)
0	SX8R	D8020	System Status	0	2
1	FC6A-M24BR4	I0000 - I0017		2	2
			Total		4

4

OUT (O->T):

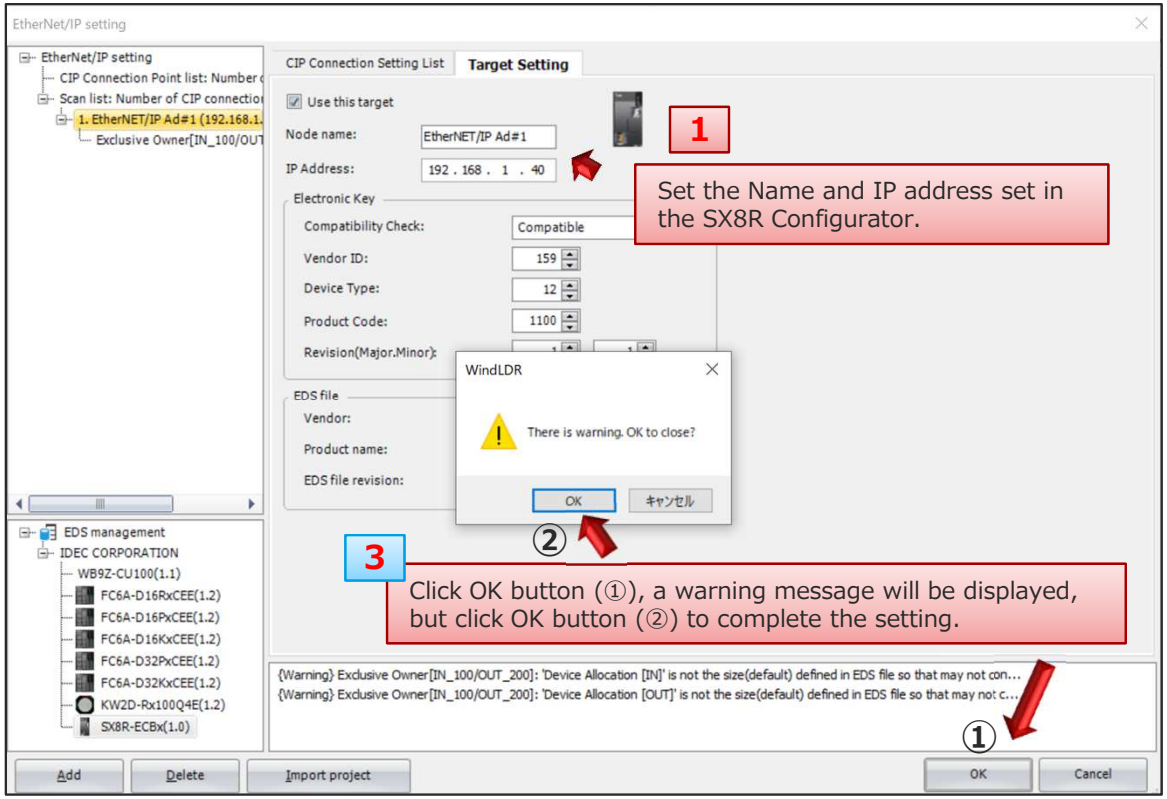
Slot	I/O Module	Device Address	Description	Offset (Bytes)	Size (Bytes)
0	SX8R	D8021	Upper Controller Control Register	0	2
1	FC6A-M24BR4	Q0000 - Q0007		2	2
		Reserved area			
			Total		4

5



FC6A Plus and SX8R: EtherNet/IP protocol

Step10: Configure target settings for EtherNet/IP Adpter#1 from scanlist

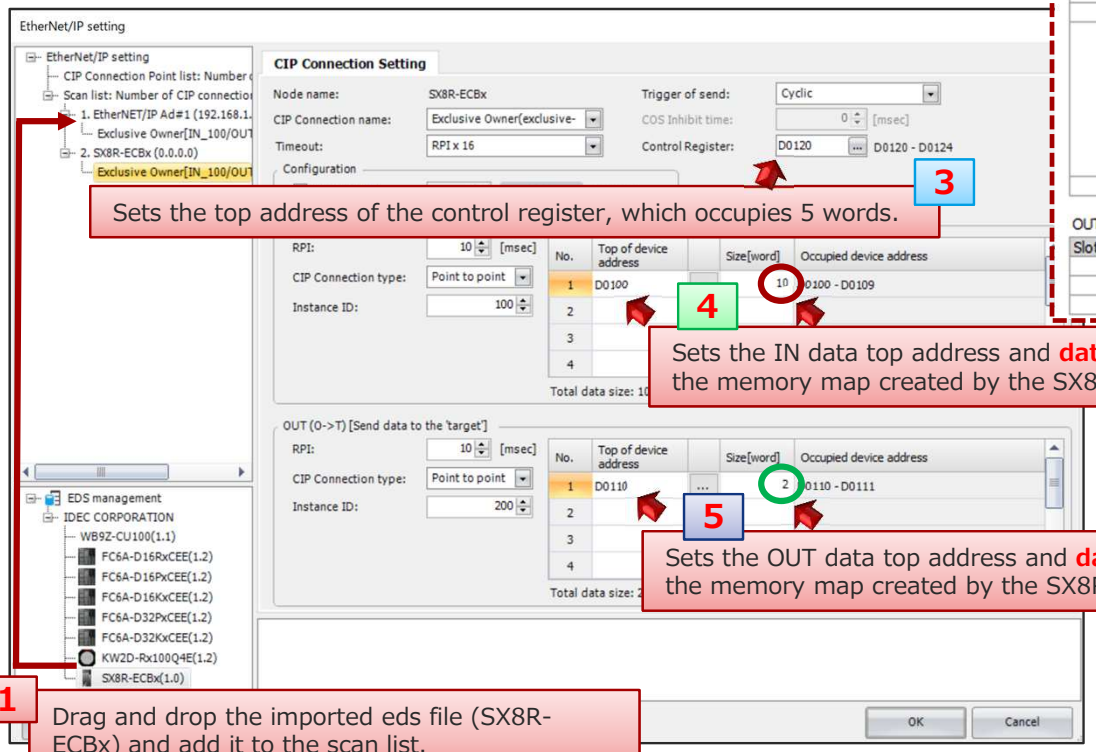


FC6A Plus and SX8R: EtherNet/IP protocol

Step11: Add SX8R EDS file to the scan list and configure CIP connection settings for EtherNet/IP Adpter#2

2

CIP connection settings (control register, first device, size).



3 Sets the top address of the control register, which occupies 5 words.

4 Sets the IN data top address and **data size in words** according to the memory map created by the SX8R Configurator.

5 Sets the OUT data top address and **data size in words** according to the memory map created by the SX8R Configurator.

1 Drag and drop the imported eds file (SX8R-ECBx) and add it to the scan list.

Shared Memory

EtherNet/IP Adapter#2

IN (T->O):

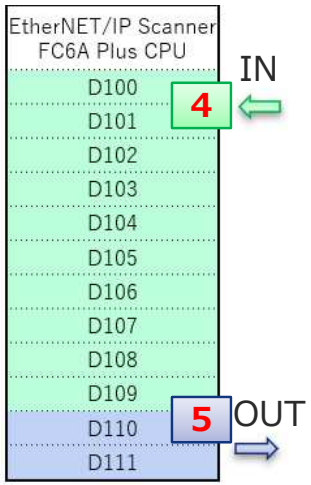
Slot	I/O Module	Device Address	Description	Offset (Bytes)	Size (Bytes)
0	SX8R	D8020	System Status	0	2
1	FC6A-N16B4	I0000 - I0017		2	2
3	FC6A-J4CN4	D0040	AI0:Data	4	2
		D0041	AI0:Status	6	2
		D0042	AI1:Data	8	2
		D0043	AI1:Status	10	2
		D0044	AI2:Data	12	2
		D0045	AI2:Status	14	2
		D0046	AI3:Data	16	2
		D0047	AI3:Status	18	2
				Total	20

4

OUT (O->T):

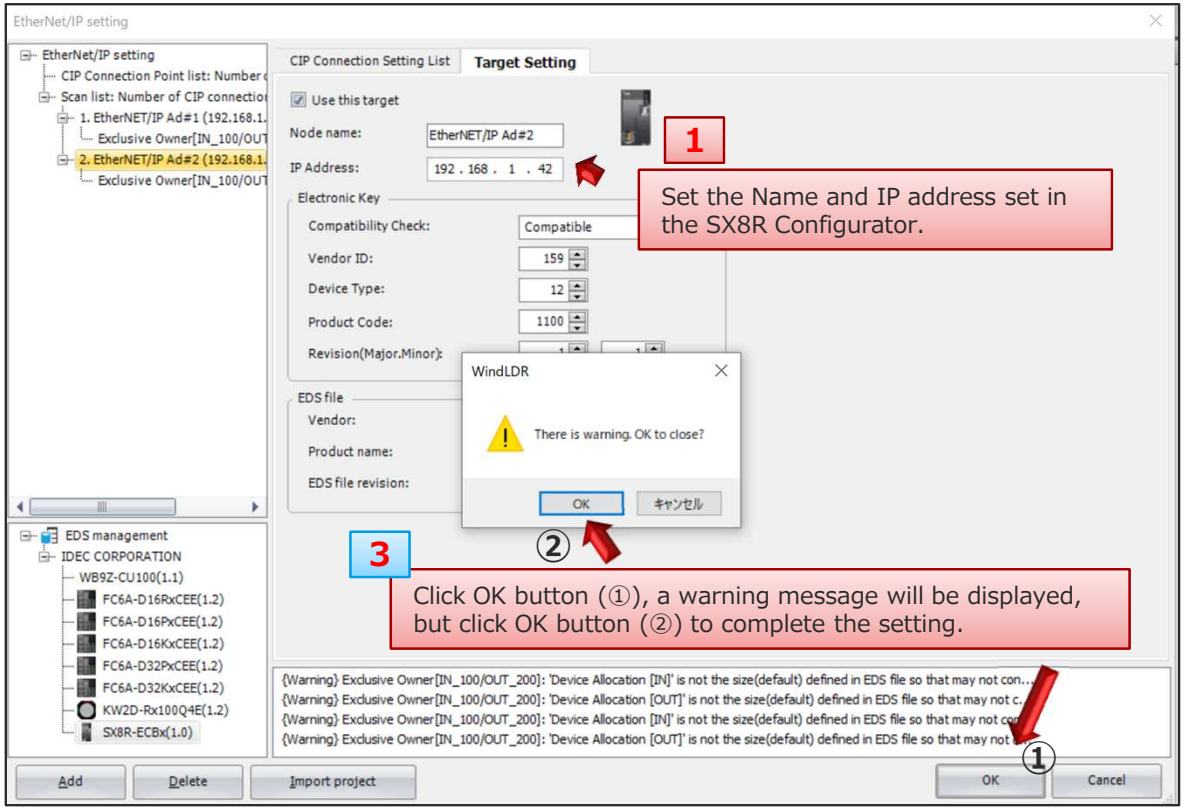
Slot	I/O Module	Device Address	Description	Offset (Bytes)	Size (Bytes)
0	SX8R	D8021	Upper Controller Control Register	0	2
2	FC6A-R164	Q0000 - Q0017		2	2
				Total	4

5



FC6A Plus and SX8R: EtherNet/IP protocol

Step12: Configure target settings for EtherNet/IP Adpter#1 from scanlist



FC6A Plus and SX8R: EtherNet/IP protocol

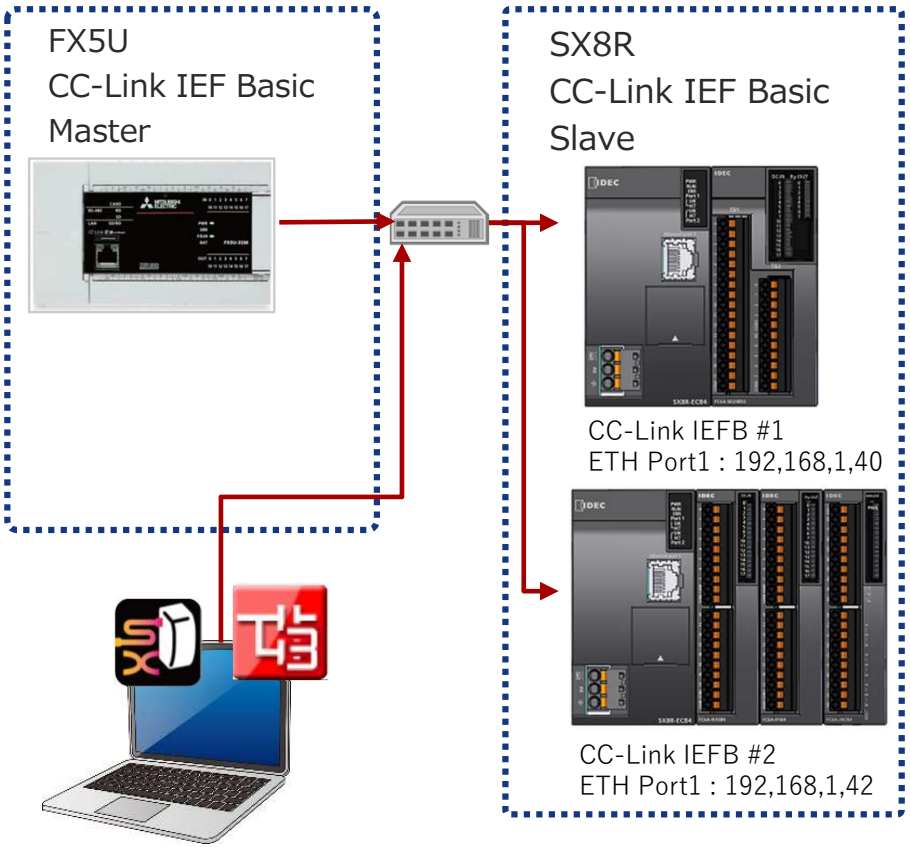
FC6A Plus and SX8R: EtherNet/IP communication settings have been completed.

Mitsubishi PLC and SX8R:CC-Link IE Field Basic protocol

FX5U and SX8R: CC-Link IE Field Basic protocol

Step 1: Define shared memory allocation between master and slave according to the remote IO system configuration

System Configuration



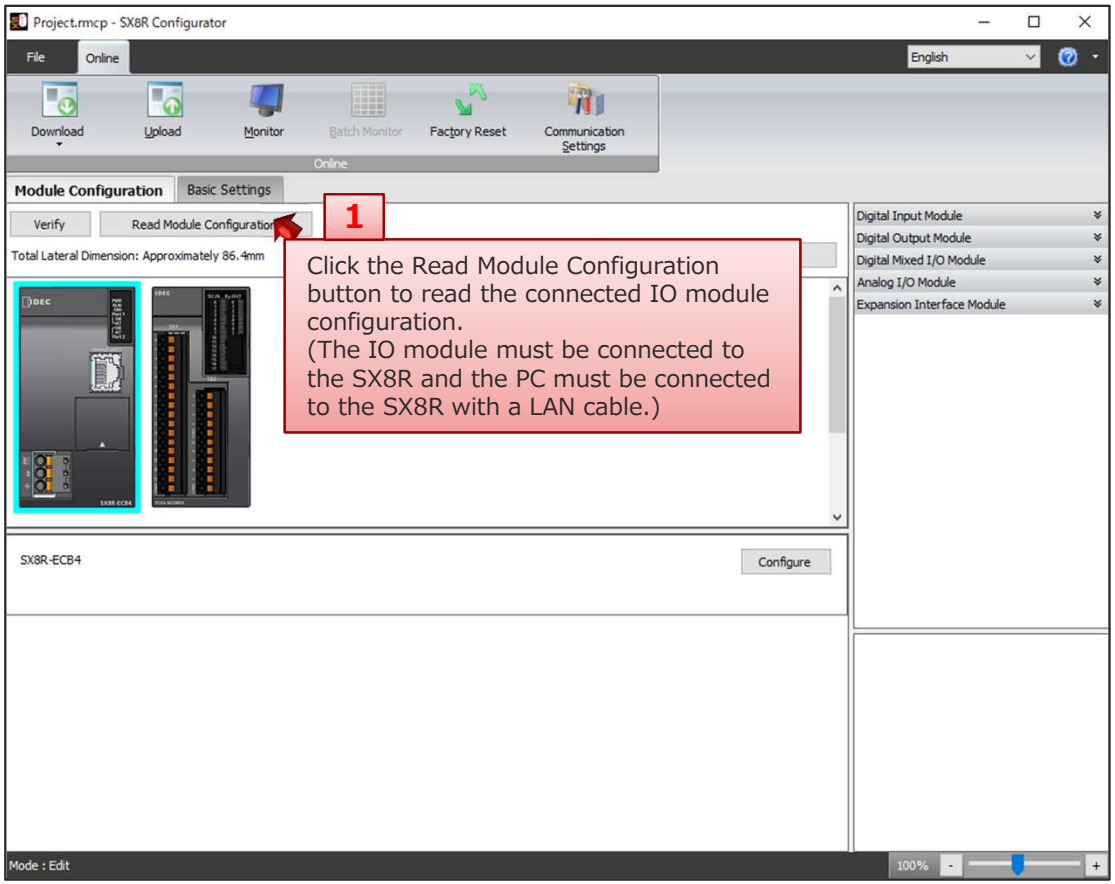
Shared memory setting

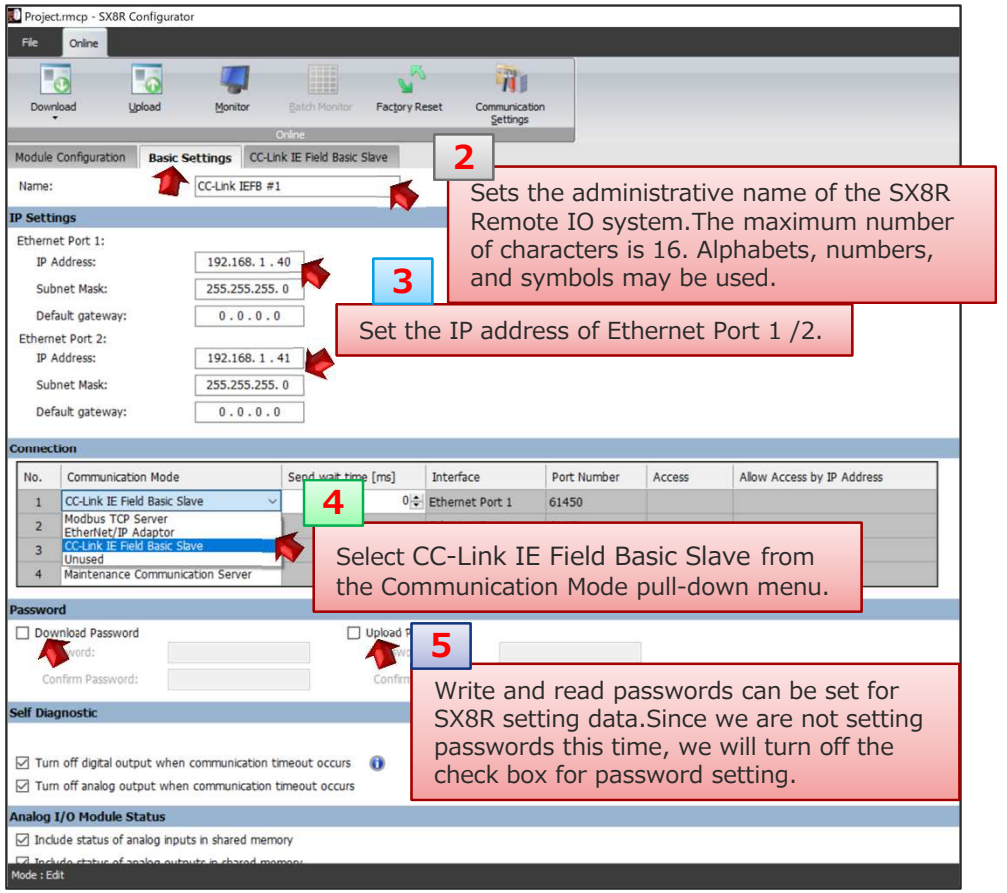
CC-Link IEFB Master FX5U CPU			
RX 128 bit	M0-15	1	
	M16-63	2	
	M64-79	3	
	M80-127	4	
RY 128 bit	M128-135	5	
	M136-191	6	
	M192-207	7	
	M208-255	8	
RWr 64 word	D0	9	
	D1-31	10	
	D32	11	
	D33	12	
	D34		
	D35	13	
	D36		
	D37	14	
	D38		
	D39	15	
	D40		
	D41-63	16	
RWw 64 word	D64	17	
	D65-95	18	
	D96	19	
	D97-127	20	

CC-Link IEFB #1					
1	INPUT	16-bit		FC6A-M24BR1	Slot #1
2	(Reserved)	48-bit			
5	OUTPUT	8-bit		FC6A-M24BR1	Slot #1
6	(Reserved)	56-bit			
9	Status	1-word		SX8R-ECB4	Slot #0
10	(Reserved)	31-word			
17	Contorol Register	1-word		SX8R-ECB4	Slot #0
18	(Reserved)	31-word			
CC-Link IEFB #2					
3	INPUT	16-bit		FC6A-N16B4	Slot #1
4	(Reserved)	48-bit			
7	OUTPUT	16-bit		FC6A-R164	Slot #2
8	(Reserved)	48-bit			
11	Status	1-word		SX8R-ECB4	Slot #0
12	AD Ch.0	DATA	1-word	FC6A-J4CN4	Slot #3
		Status	1-word		
13	AD Ch.1	DATA	1-word		
		Status	1-word		
14	AD Ch.2	DATA	1-word		
		Status	1-word		
15	AD Ch.3	DATA	1-word		
		Status	1-word		
16	(Reserved)	23-word			
19	Contorol Register	1-word		SX8R-ECB4	Slot #0
20	(Reserved)	31-word			

FX5U and SX8R: CC-Link IE Field Basic protocol

Step 2: Configure communication settings for SX8R (CC-Link IE Field Basic Slave #1) using SX8R Configurator

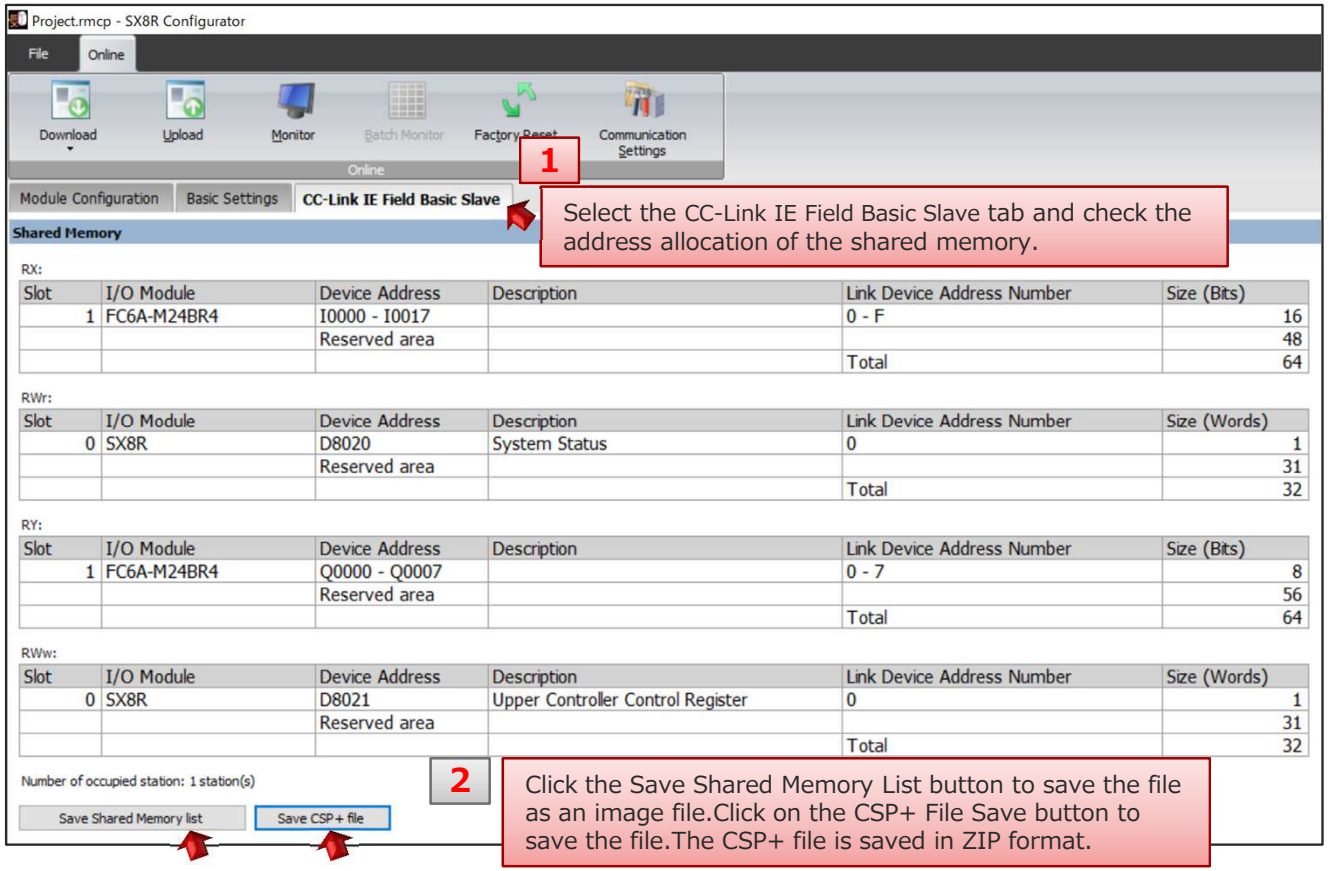




FX5U and SX8R: CC-Link IE Field Basic protocol

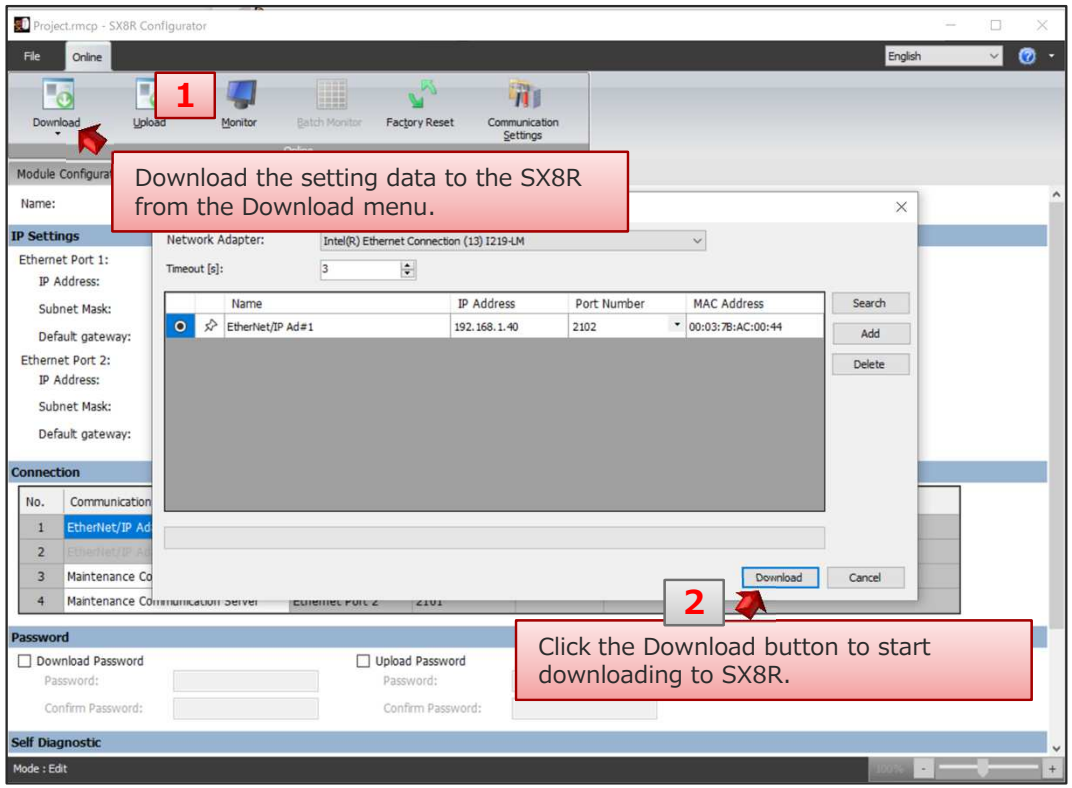
Step 3: Check the address allocation of the shared memory of SX8R (CC-Link IE Field Basic Slave #1)

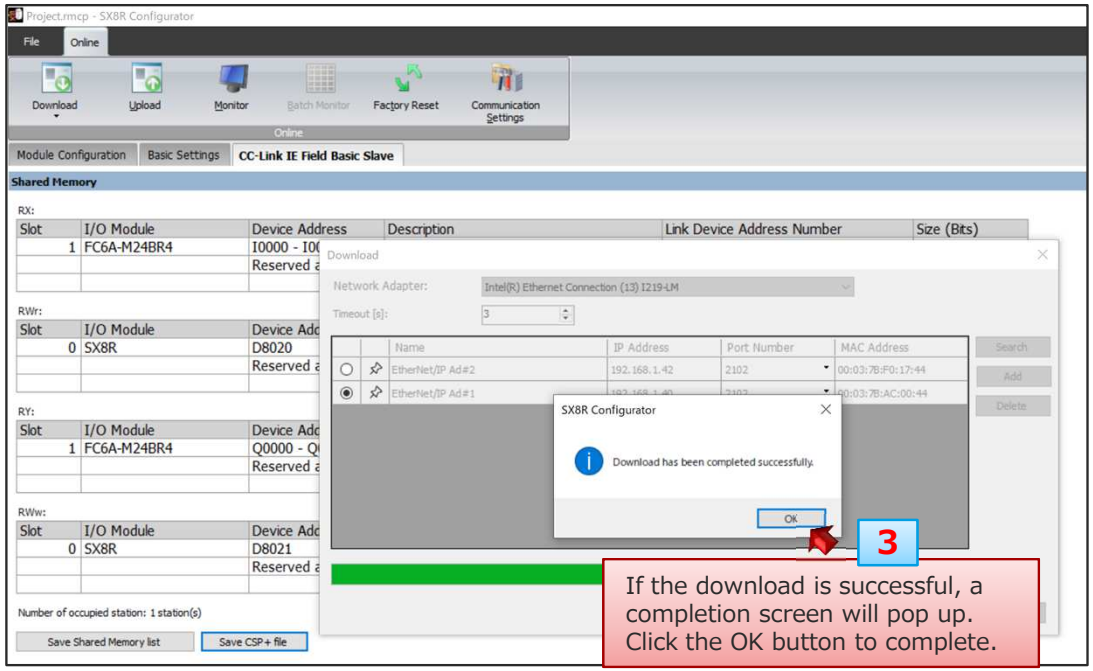
	CC-Link IEFB #1			
1	INPUT	16-bit	FC6A-M24BR1	Slot #1
2	(Reserved)	48-bit		
5	OUTPUT	8-bit	FC6A-M24BR1	Slot #1
6	(Reserved)	56-bit		
9	Status	1-word	SX8R-ECB4	Slot #0
10	(Reserved)	31-word		
17	Contorol Register	1-word	SX8R-ECB4	Slot #0
18	(Reserved)	31-word		



FX5U and SX8R: CC-Link IE Field Basic

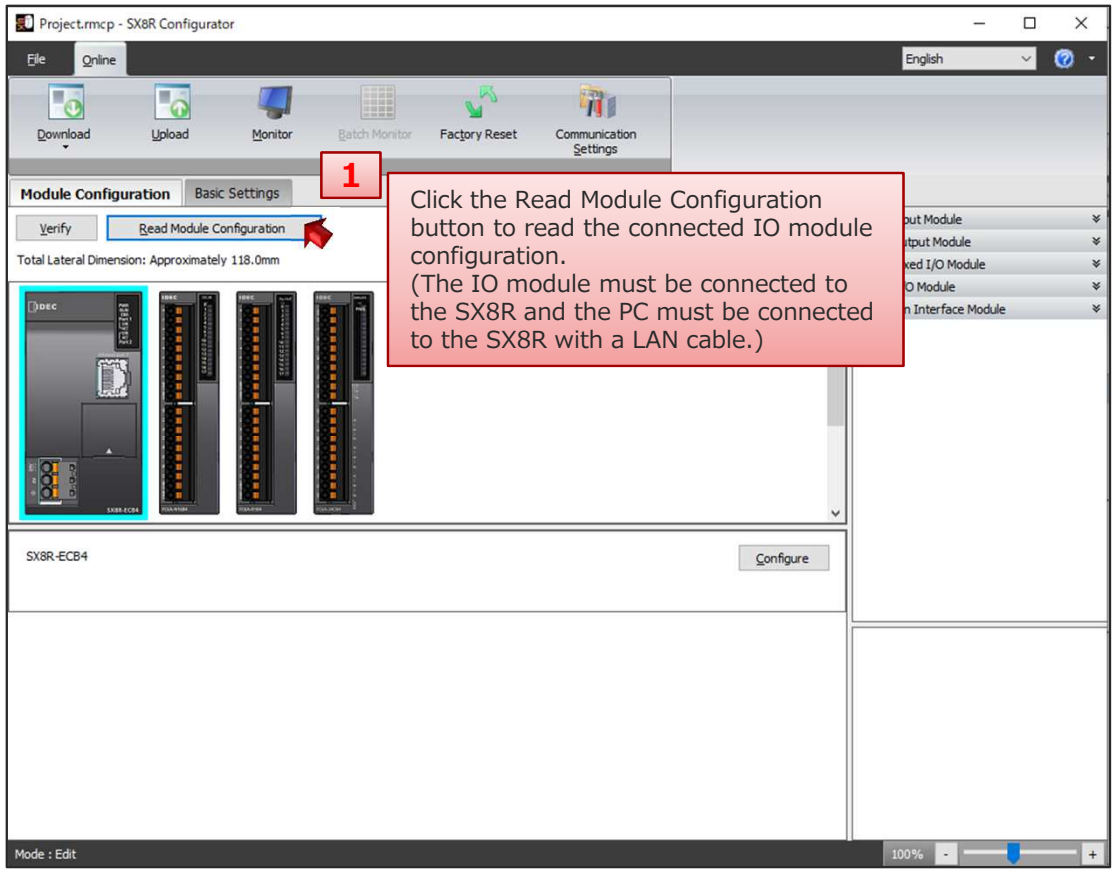
Step4: Download the setting data to SX8R (CC-Link IE Field Basic Slave #1)



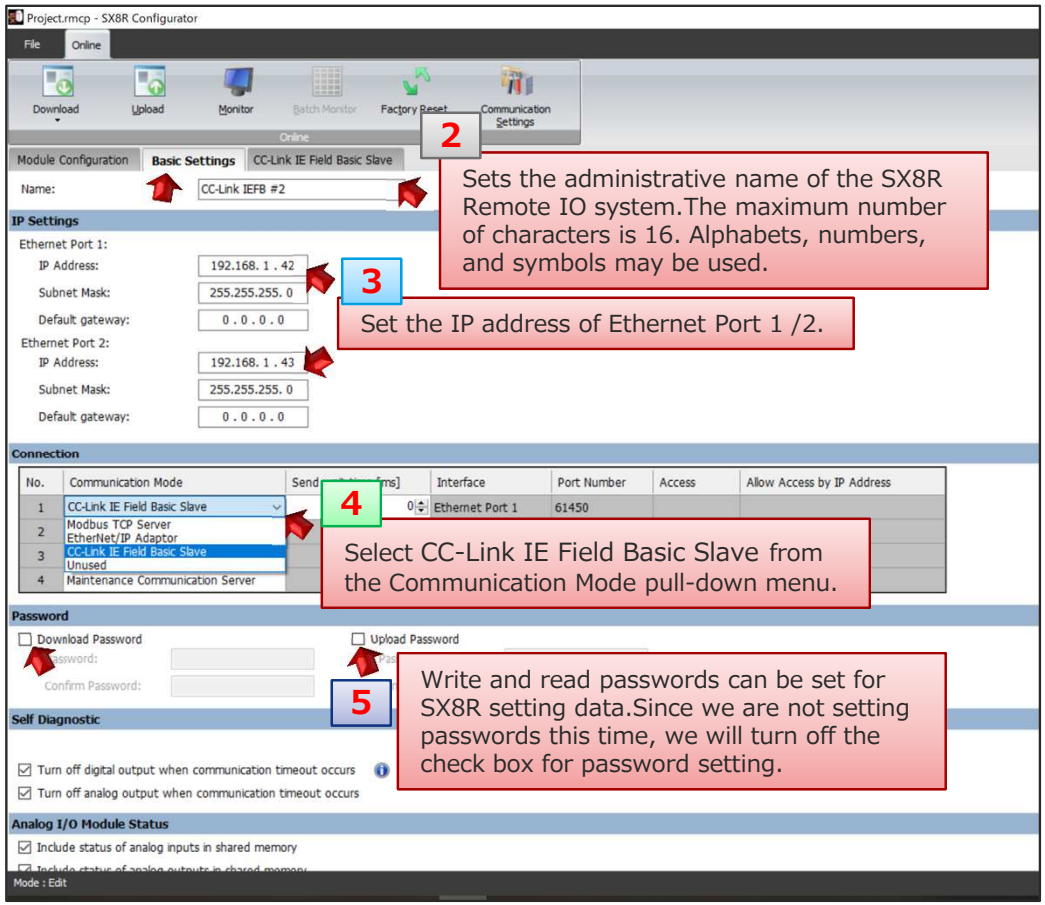


FX5U and SX8R: CC-Link IE Field Basic protocol

Step 5: Configure communication settings for SX8R (CC-Link IE Field Basic Slave #2) using SX8R Configurator



Click the Read Module Configuration button to read the connected IO module configuration.
(The IO module must be connected to the SX8R and the PC must be connected to the SX8R with a LAN cable.)



Sets the administrative name of the SX8R Remote IO system.The maximum number of characters is 16. Alphabets, numbers, and symbols may be used.

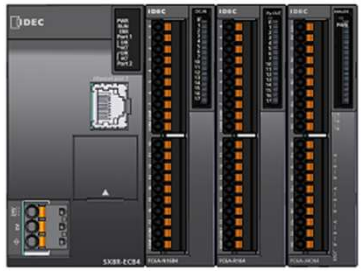
Set the IP address of Ethernet Port 1 /2.

Select CC-Link IE Field Basic Slave from the Communication Mode pull-down menu.

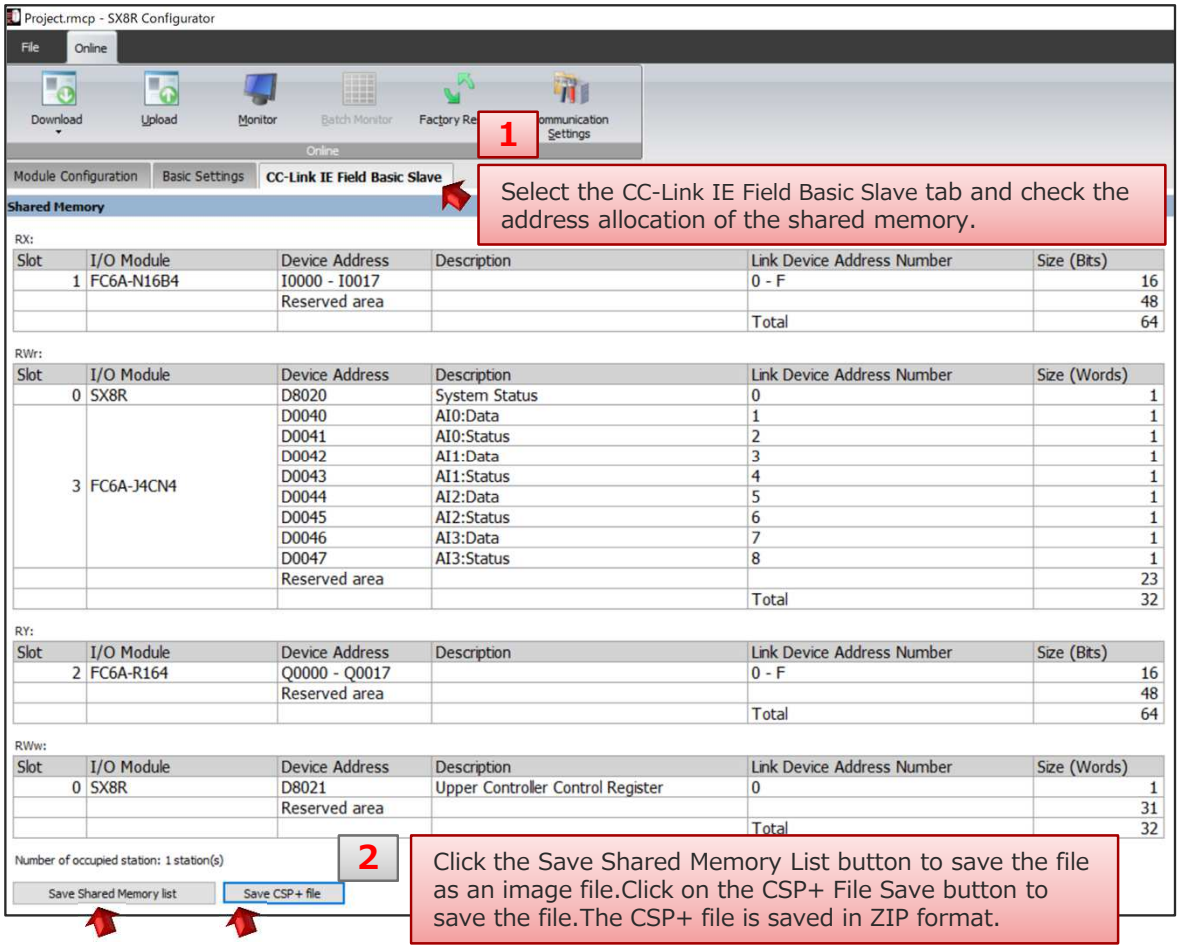
Write and read passwords can be set for SX8R setting data.Since we are not setting passwords this time, we will turn off the check box for password setting.

FX5U and SX8R: CC-Link IE Field Basic protocol

Step 6: Check the address allocation of the shared memory of SX8R (CC-Link IE Field Basic Slave #2)

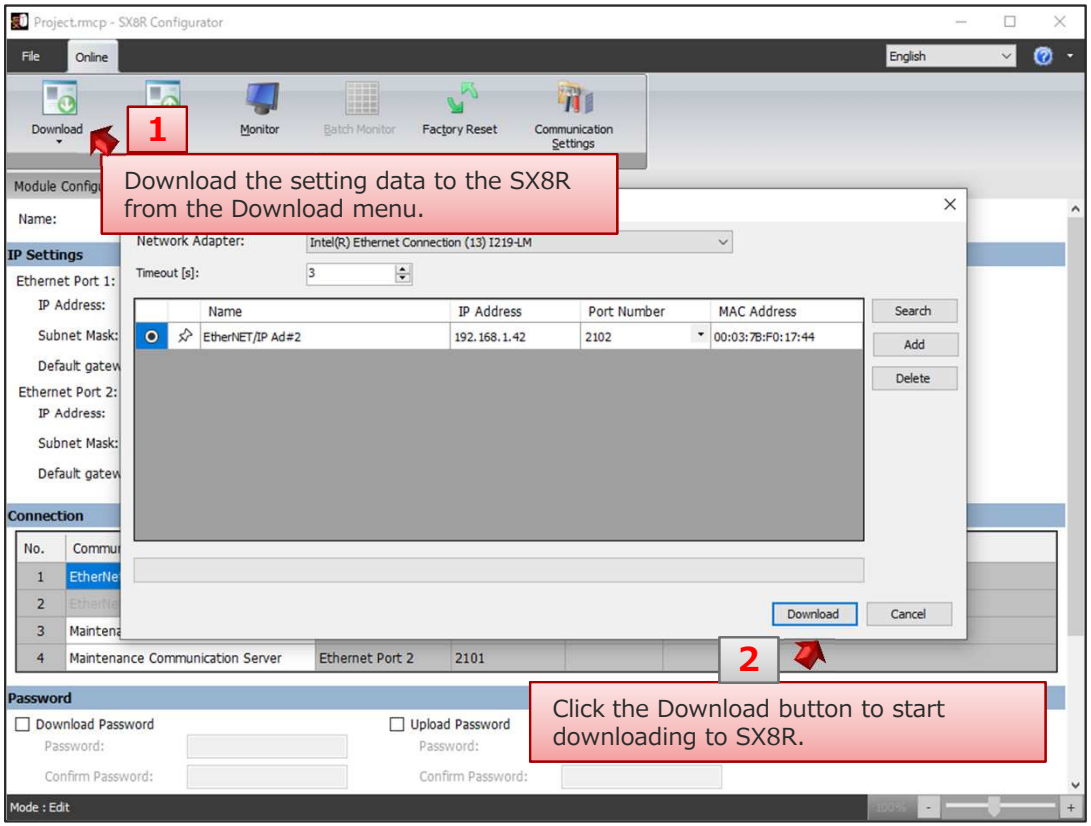


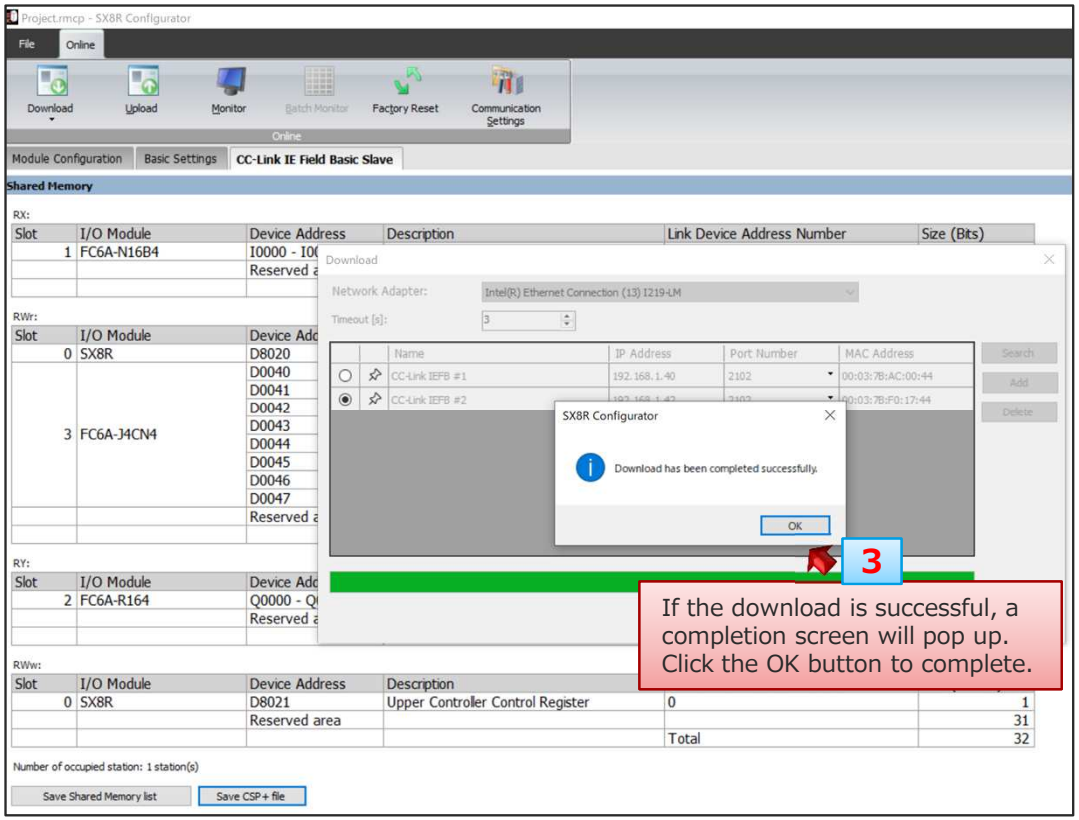
	CC-Link IEFB #2				
3	INPUT	16-bit		FC6A-N16B4	Slot #1
4	(Reserved)	48-bit			
7	OUTPUT	16-bit		FC6A-R164	Slot #2
8	(Reserved)	48-bit			
11	Status	1-word		SX8R-ECB4	Slot #0
12	AD Ch.0	DATA	1-word	FC6A-J4CN4	Slot #3
		Status	1-word		
13	AD Ch.1	DATA	1-word		
		Status	1-word		
14	AD Ch.2	DATA	1-word		
		Status	1-word		
15	AD Ch.3	DATA	1-word		
		Status	1-word		
16	(Reserved)	23-word			
19	Contorol Register	1-word		SX8R-ECB4	Slot #0
20	(Reserved)	31-word			



FX5U and SX8R: CC-Link IE Field Basic protocol

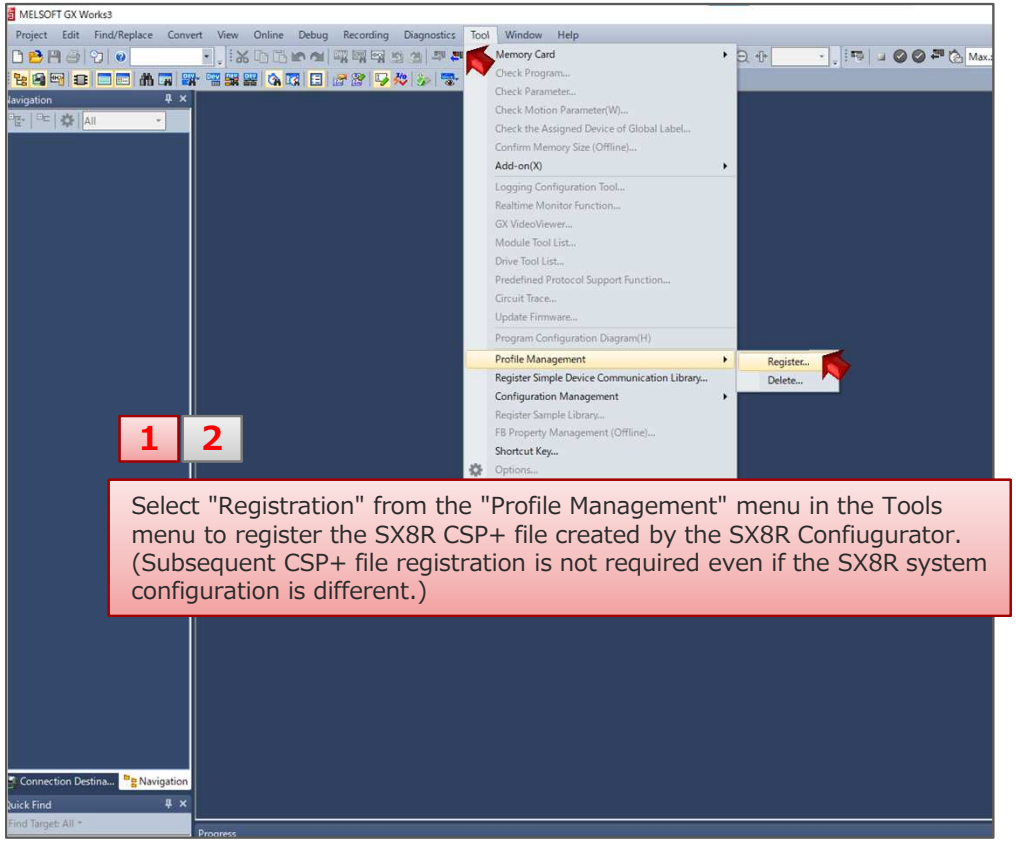
Step4: Download the setting data to SX8R (CC-Link IE Field Basic Slave #2)



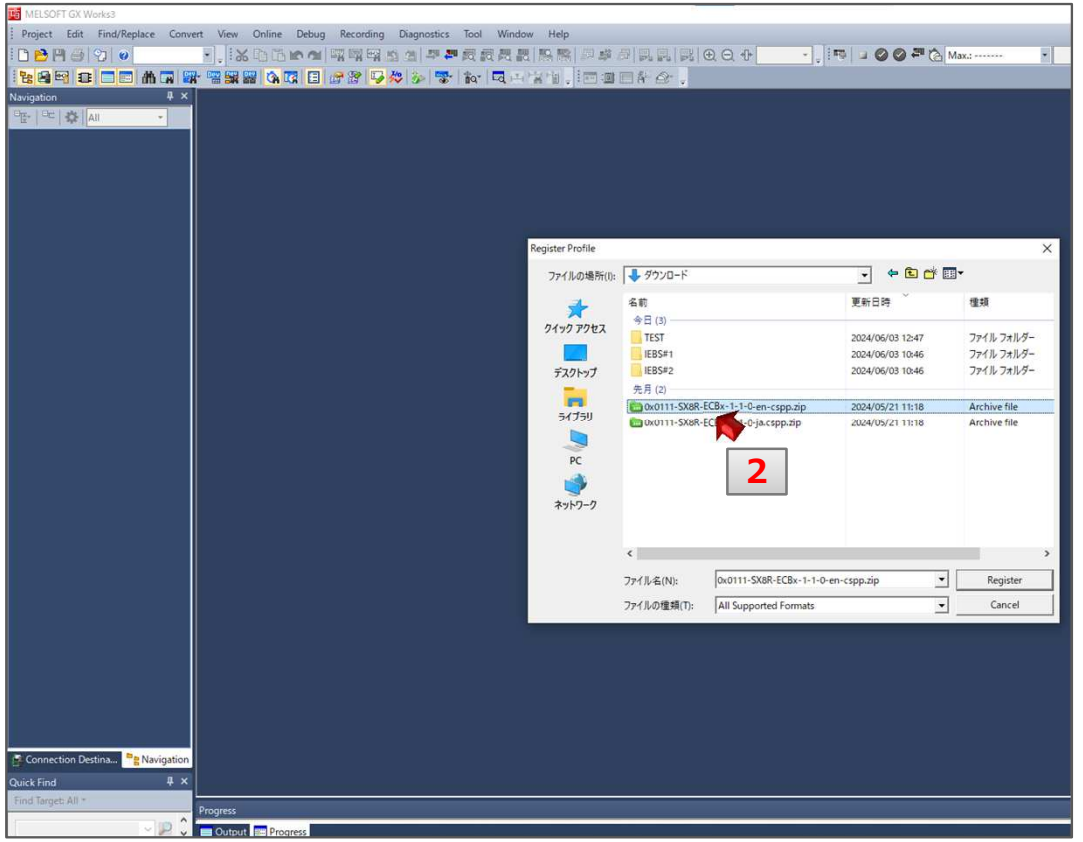


FX5U and SX8R: CC-Link IE Field Basic

Step8: Import the SX8R CSP+ file created by SX8R Configurator into GX Works
(SX8R CSP+ files can also be downloaded from IDEC's EC site)



Select "Registration" from the "Profile Management" menu in the Tools menu to register the SX8R CSP+ file created by the SX8R Confiugurator. (Subsequent CSP+ file registration is not required even if the SX8R system configuration is different.)

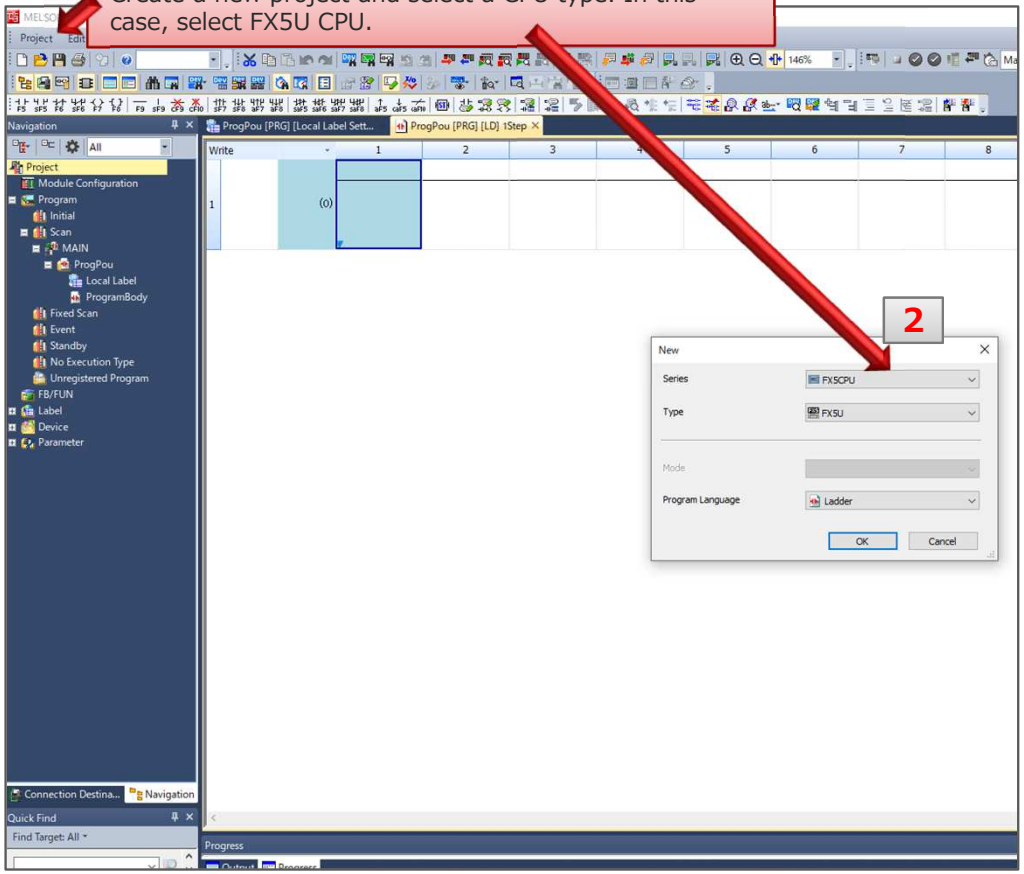


FX5U and SX8R: CC-Link IE Field Basic protocol

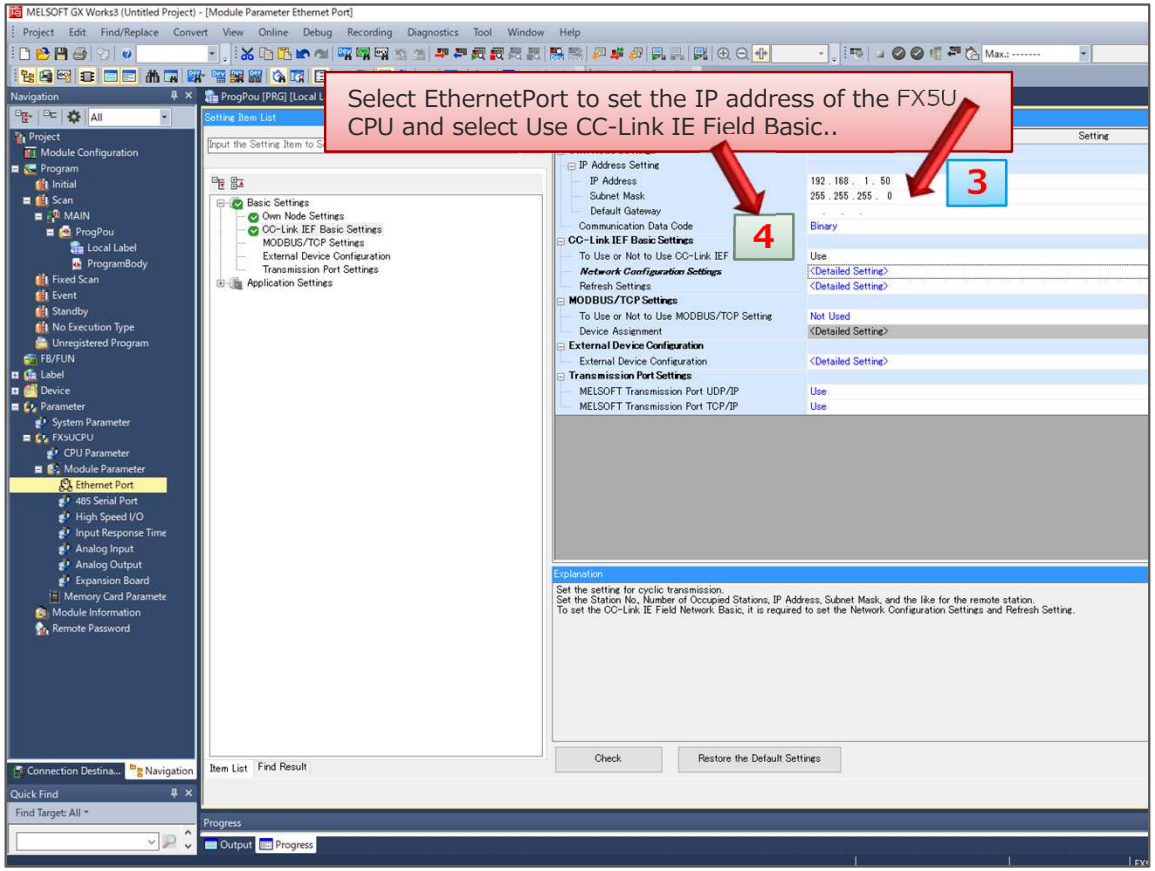
Step 9: Create a new project and enable CC-Link IFE Basic settings.

1

Create a new project and select a CPU type. In this case, select FX5U CPU.

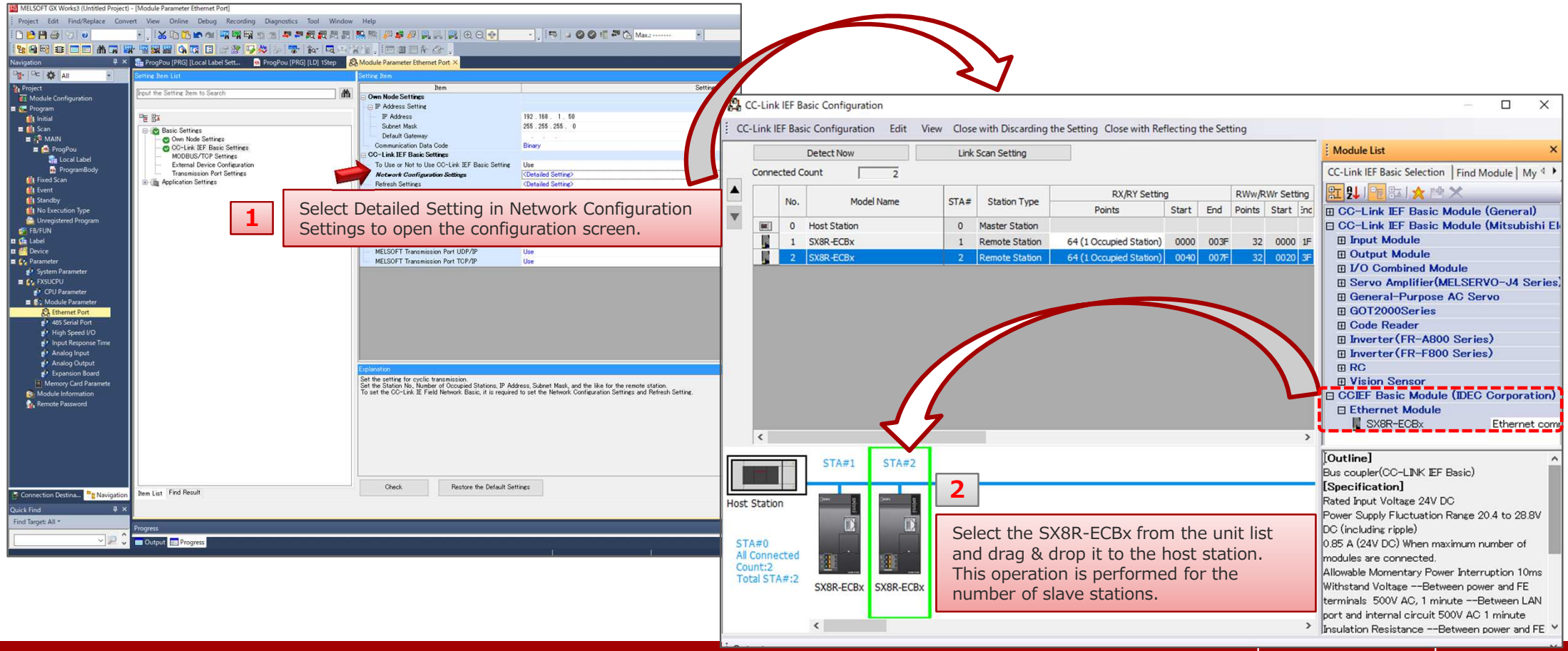


Select EthernetPort to set the IP address of the FX5U CPU and select Use CC-Link IE Field Basic..



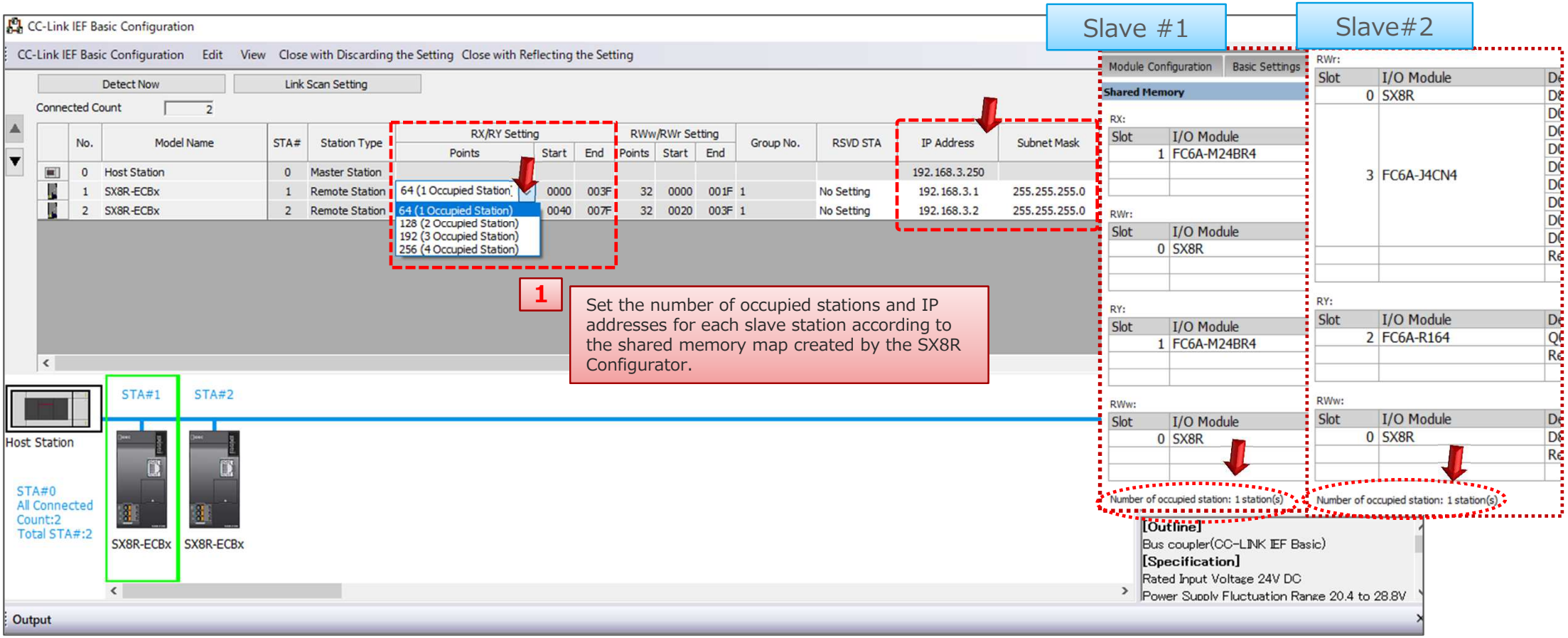
FX5U and SX8R: CC-Link IE Field Basic protocol

Step10: Select SX8R from the module list and configure the network connection.



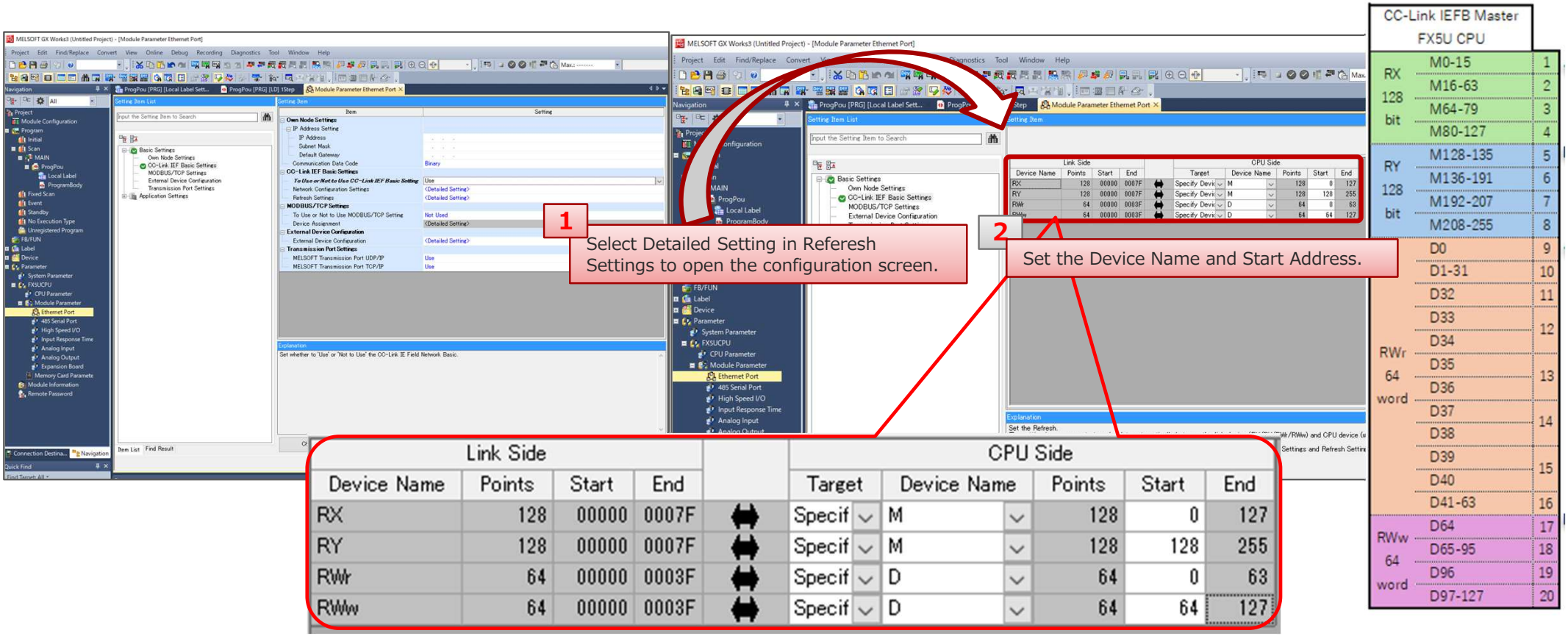
FX5U and SX8R: CC-Link IE Field Basic protocol

Step11: Set the number of occupied stations and IP addresses for each slave



FX5U and SX8R: CC-Link IE Field Basic protocol

Step12: Perform memory allocation between SX8R remote IO (link side) and FX5U on the refresh setting screen



FX5U and SX8R: CC-Link IE Field Basic protocol

FX5U and SX8R: CC-Link IE Field Basic communication settings have been completed.

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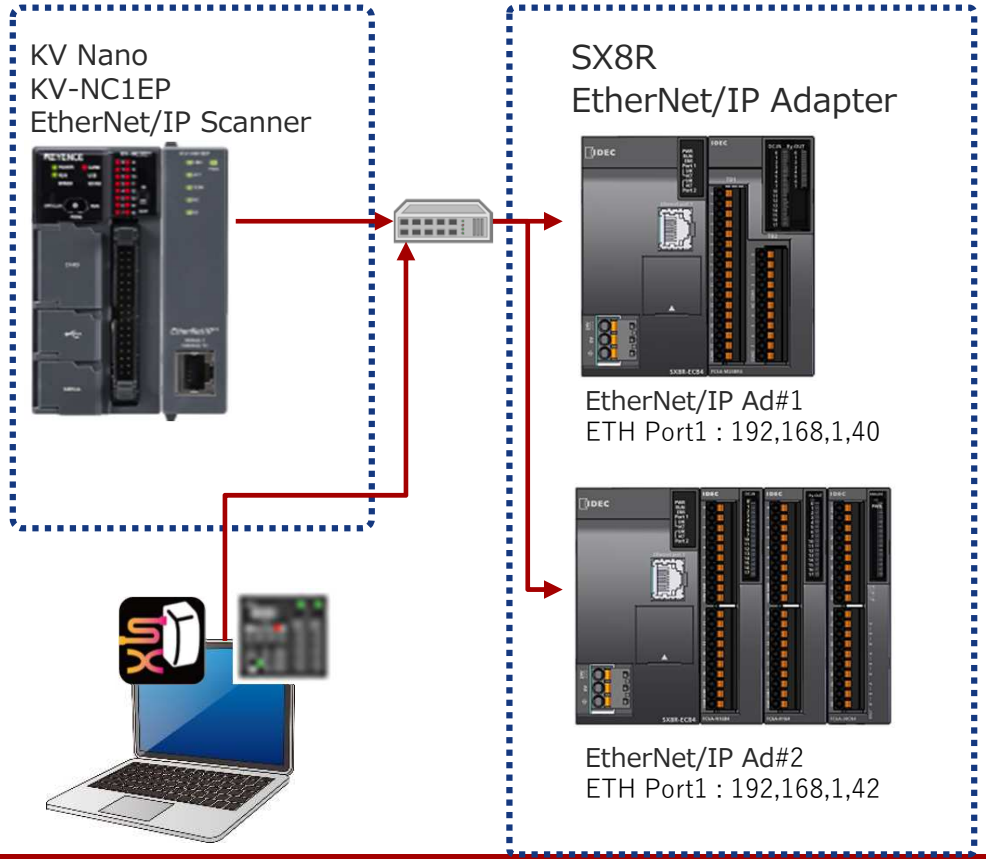
KV Nano PLC and SX8R: EtherNet/IP protocol

KV Nano PLC and SX8R: EtherNet/IP protocol

Step1: Define shared memory allocation between scanner and adapter according to remote IO system configuration

System Configuration



Shared memory setting

EtherNET/IP Scanner KV Nano CPU
W00
W01
W02
W03
W04
W05
W06
W07
W08
W09
W0A
W0B
W0C
W0D
W0E
W0F

EtherNET/IP Ad#1

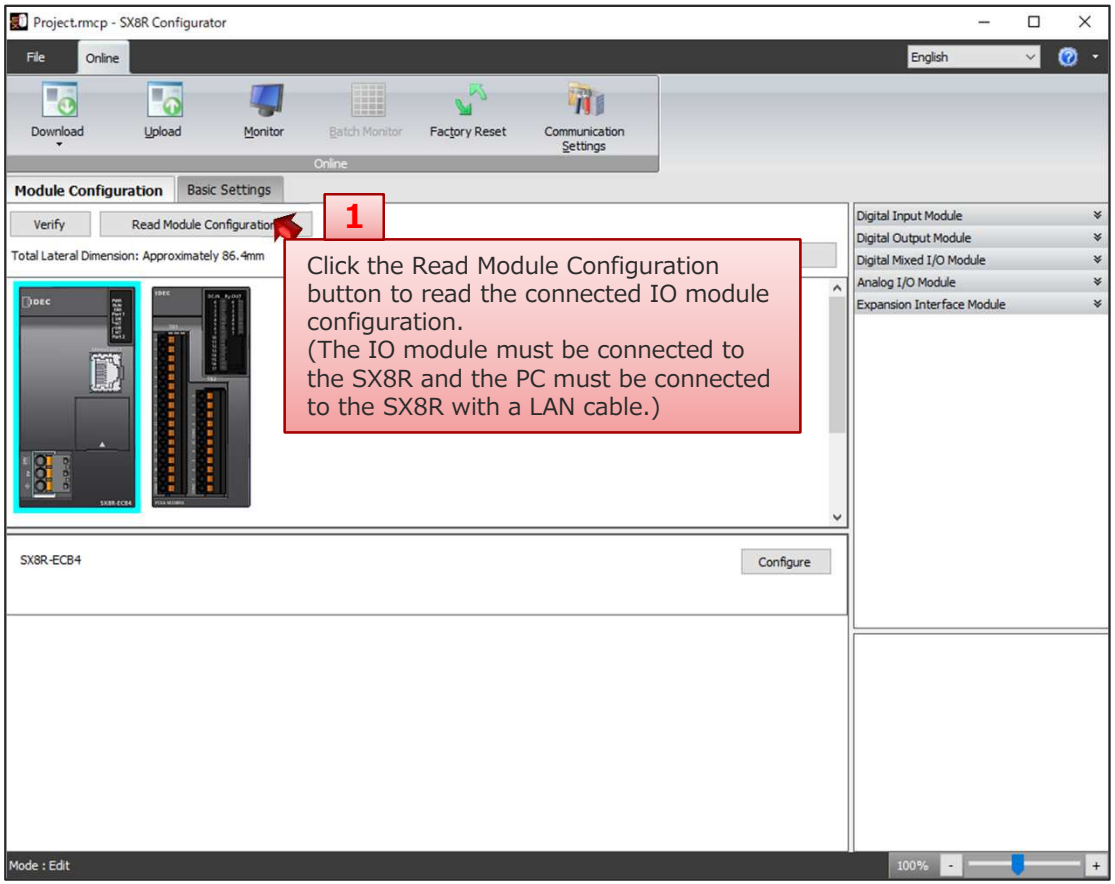
Status	2 byte	SX8R-ECB4	
INPUT	2 byte	FC6A-M24BR1	Slot #1
Control	2 byte	SX8R-ECB4	
OUTPUT	2 byte (1byte Reserved)	FC6A-M24BR1	Slot #1

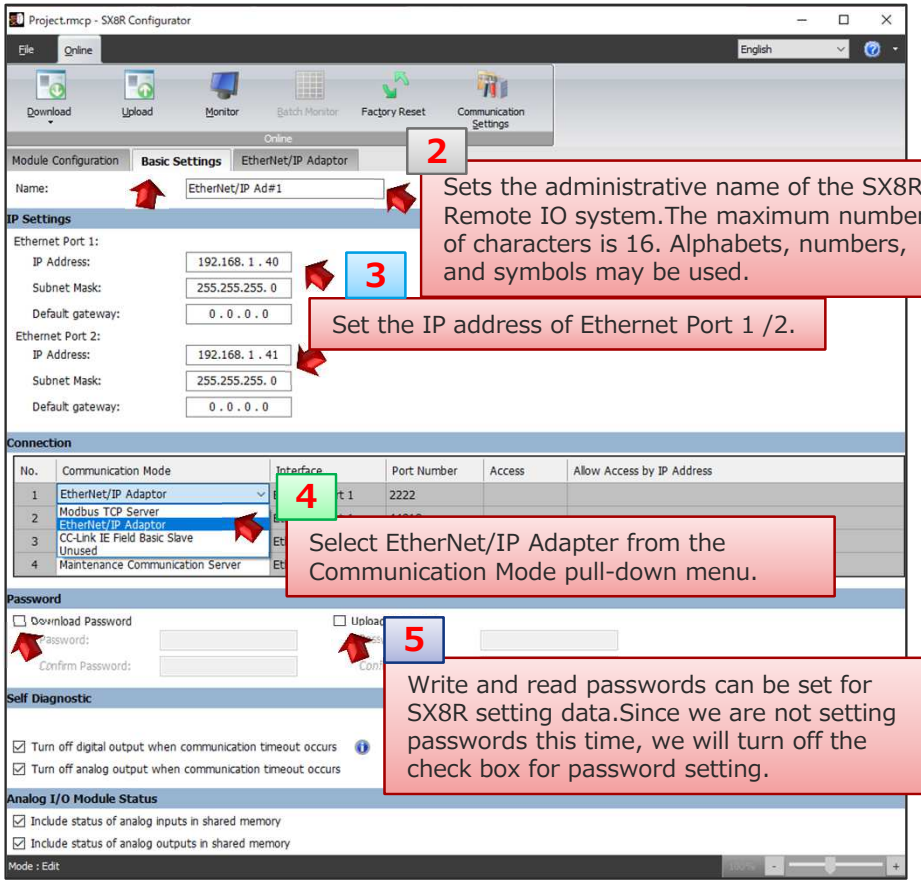
EtherNET/IP Ad#2

Status		2 byte	SX8R-ECB4	
INPUT		2 byte	FC6A-N16B4	Slot #1
AD Ch.0	DATA	2 byte	FC6A-J4CN4	Slot #3
	Status	2 byte		
AD Ch.1	DATA	2 byte		
	Status	2 byte		
AD Ch.2	DATA	2 byte		
	Status	2 byte		
AD Ch.3	DATA	2 byte		
	Status	2 byte		
Control		2 byte	SX8R-ECB4	
OUTPUT		2 byte	FC6A-R164	Slot #2

KV Nano PLC and SX8R: EtherNet/IP protocol

Step2: Configure communication settings for SX8R (EtherNet/IP Adpter#1) using SX8R Configurator

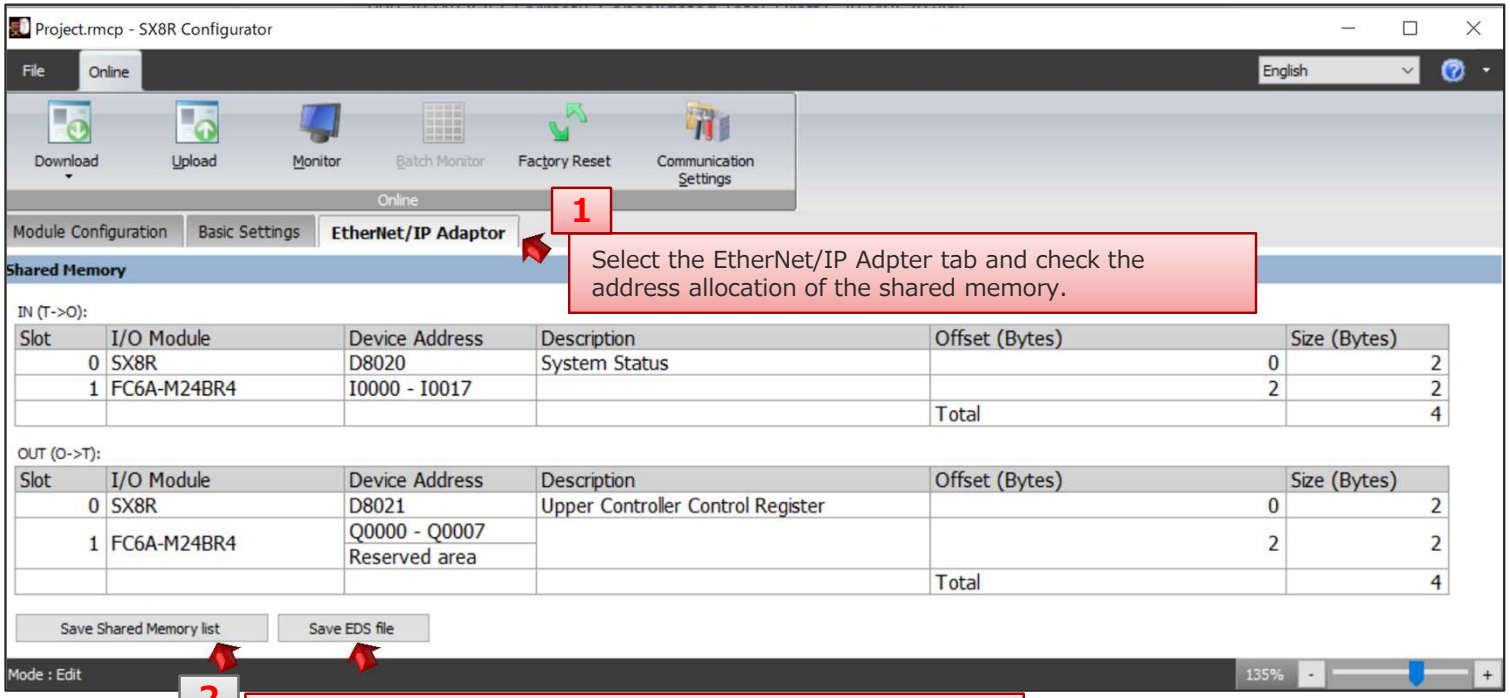




KV Nano PLC and SX8R: EtherNet/IP protocol

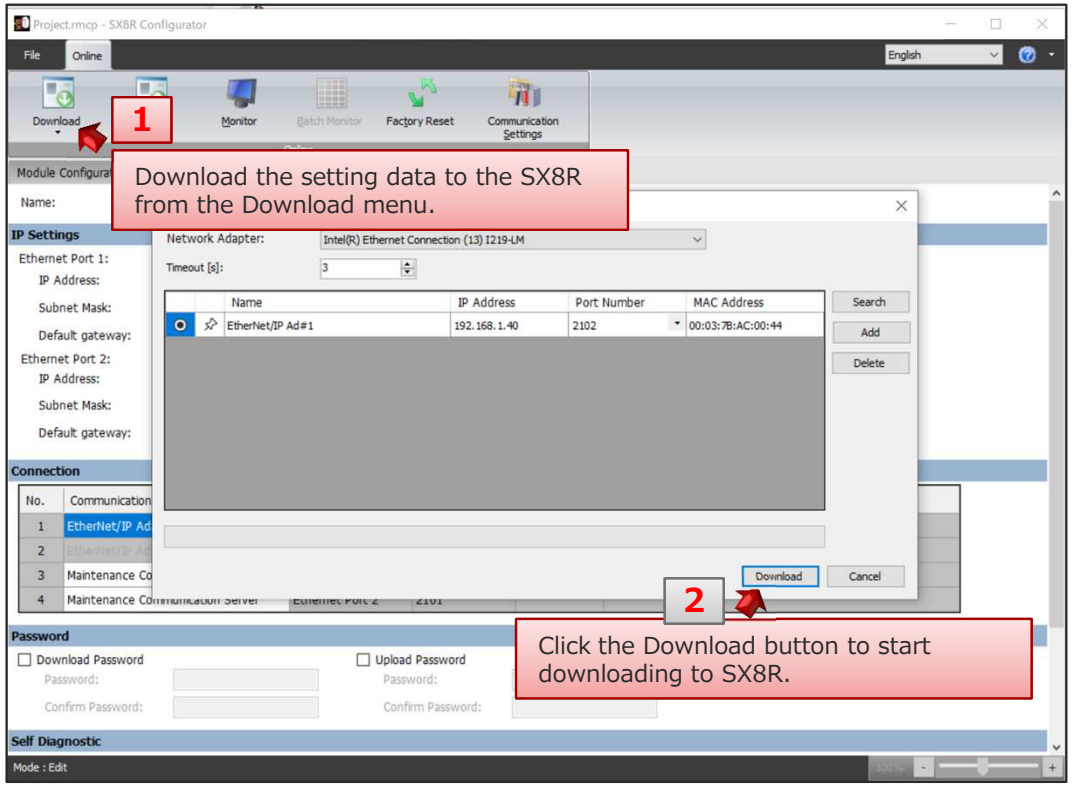
Step3: Check the address allocation of the EtherNet/IP shared memory in SX8R (EtherNet/IP Adpter#1)

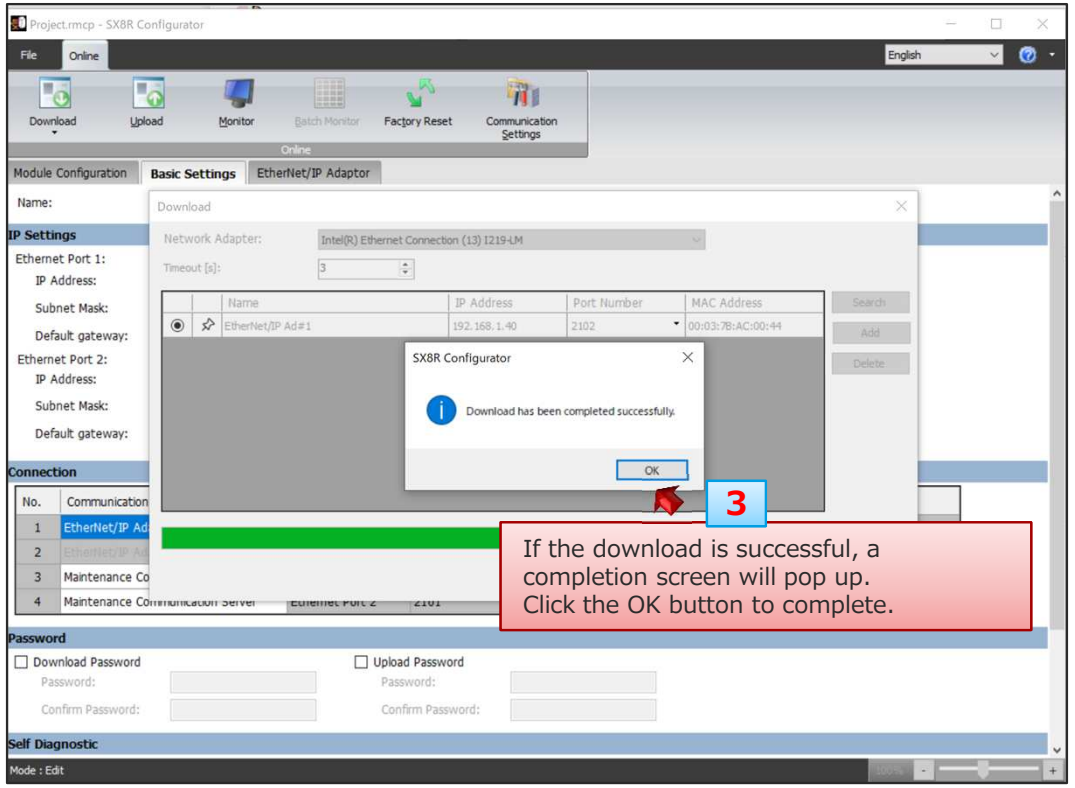
EtherNET/IP Ad#1			
Status	2 byte	SX8R-ECB4	
INPUT	2 byte	FC6A-M24BR1	Slot #1
Control	2 byte	SX8R-ECB4	
OUTPUT	2 byte (1byte Reserved)	FC6A-M24BR1	Slot #1



KV Nano PLC and SX8R: EtherNet/IP protocol

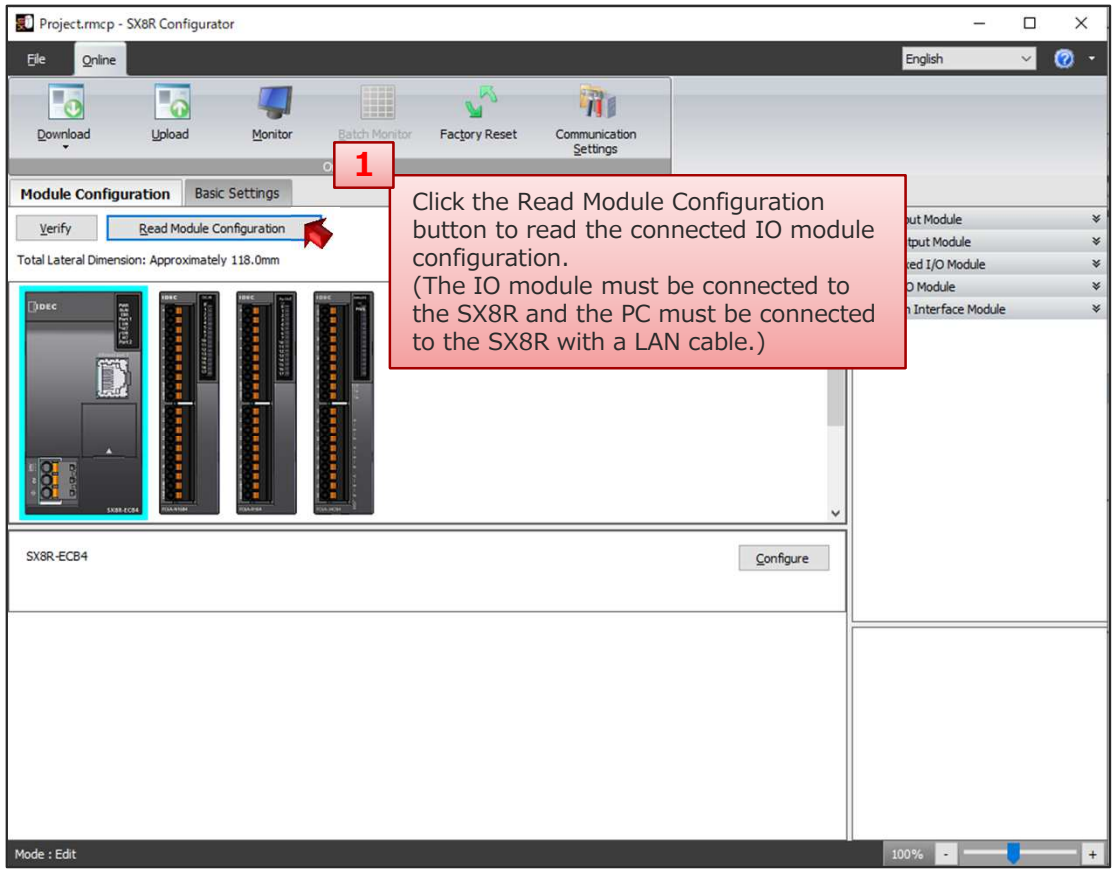
Step4: Download the setting data to SX8R (EtherNet/IP Adpter#1)





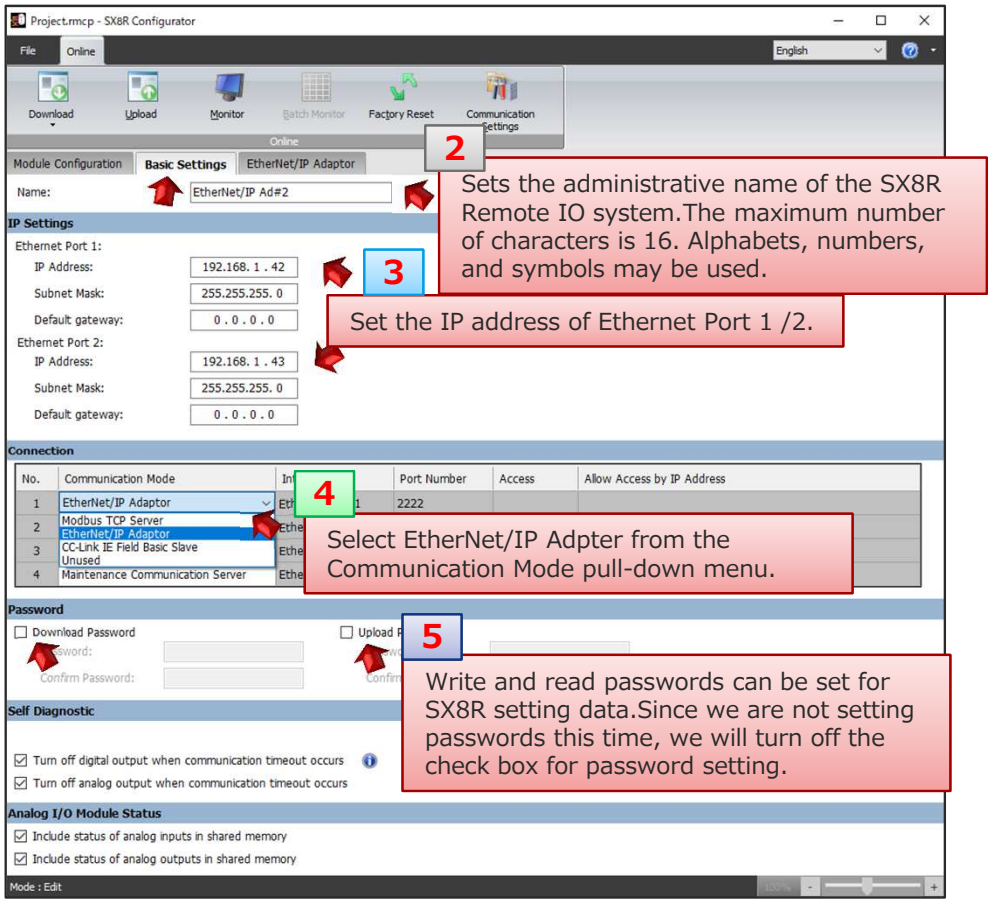
KV Nano PLC and SX8R: EtherNet/IP protocol

Step5: Configure communication settings for SX8R (EtherNet/IP Adpter#1) using SX8R Configurator



1

Click the Read Module Configuration button to read the connected IO module configuration.
(The IO module must be connected to the SX8R and the PC must be connected to the SX8R with a LAN cable.)



2

Sets the administrative name of the SX8R Remote IO system.The maximum number of characters is 16. Alphabets, numbers, and symbols may be used.

3

Set the IP address of Ethernet Port 1 /2.

4

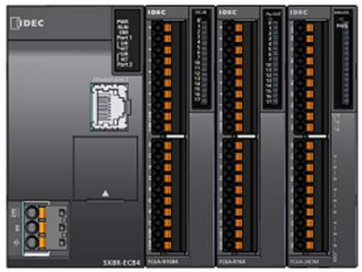
Select EtherNet/IP Adpter from the Communication Mode pull-down menu.

5

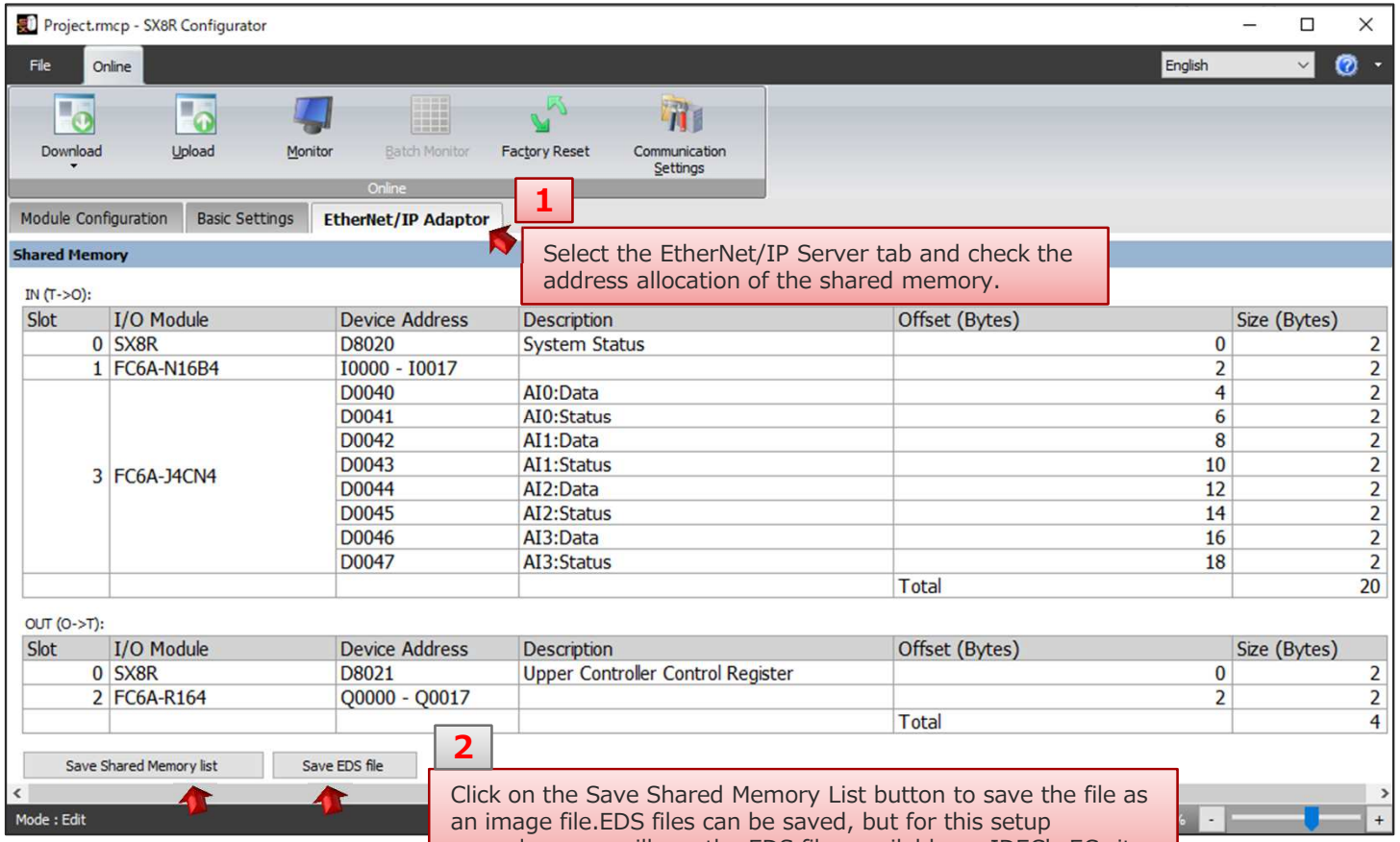
Write and read passwords can be set for SX8R setting data.Since we are not setting passwords this time, we will turn off the check box for password setting.

KV Nano PLC and SX8R: EtherNet/IP protocol

Step6: Check the address allocation of the EtherNet/IP shared memory in SX8R (EtherNet/IP Adpter#1)

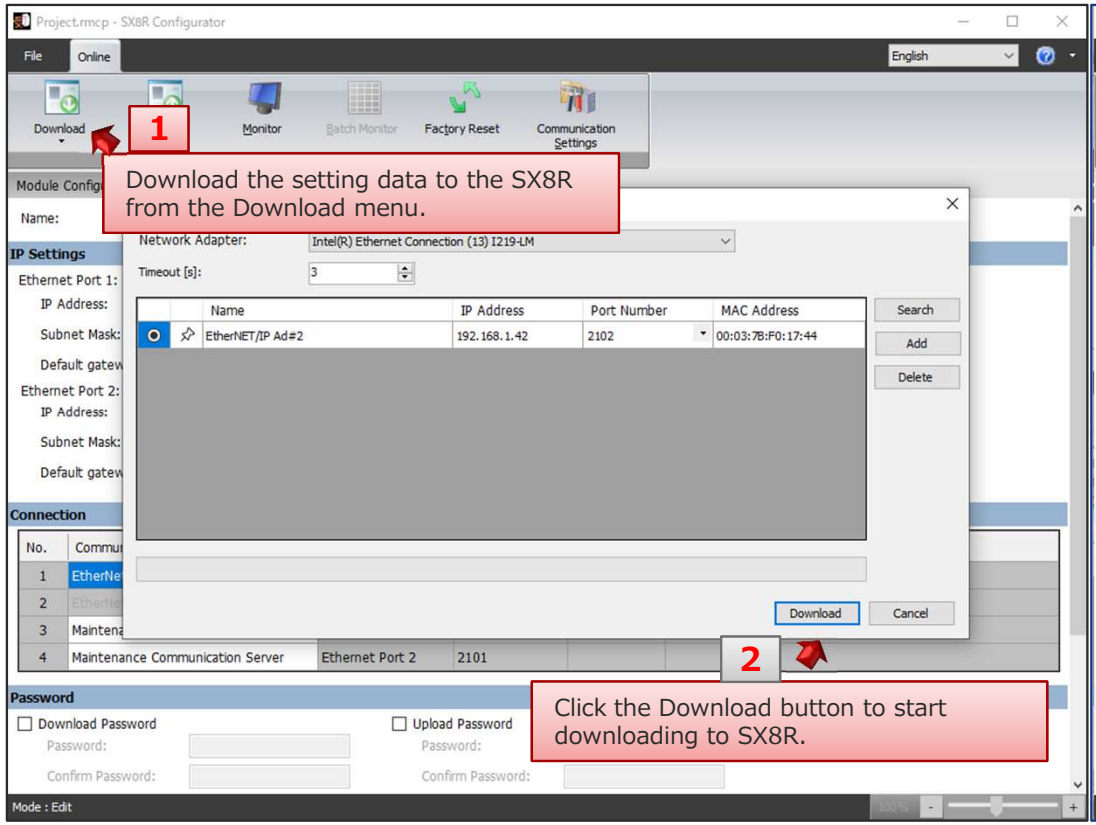


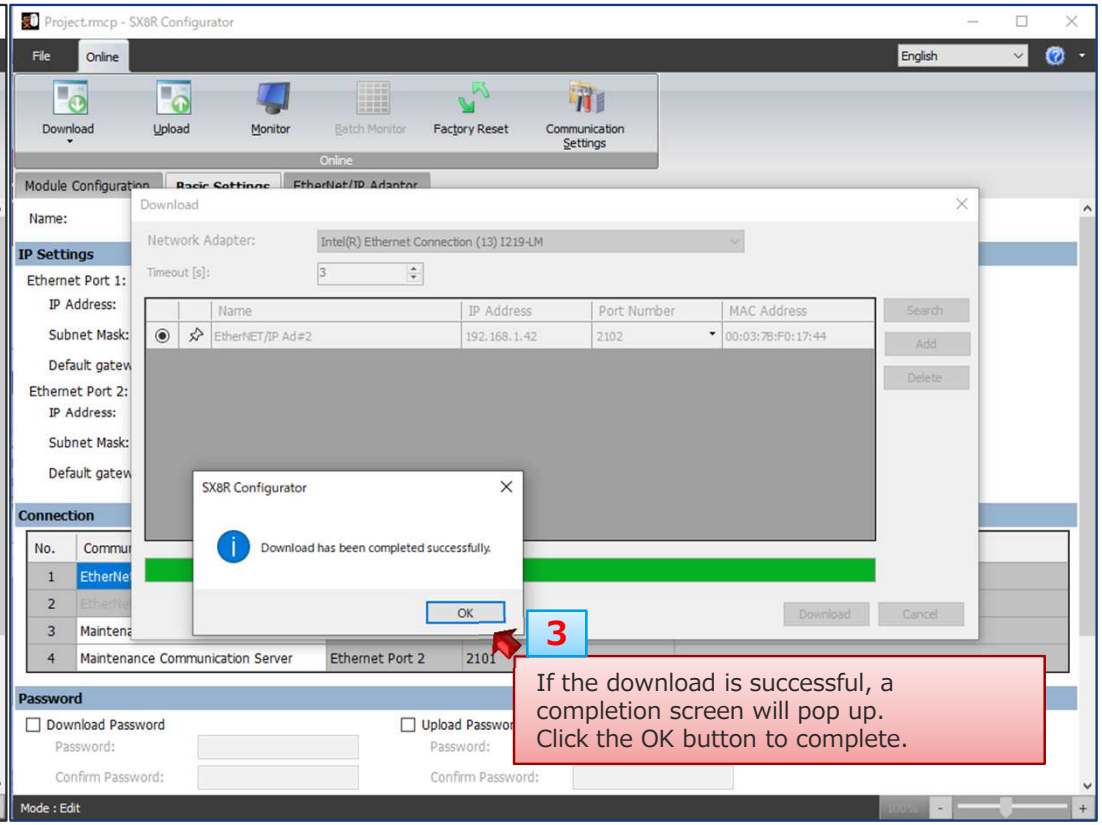
EtherNET/IP Ad#2				
Status		2 byte	SX8R-ECB4	
INPUT		2 byte	FC6A-N16B4	Slot #1
AD Ch.0	DATA	2 byte	FC6A-J4CN4	Slot #3
	Status	2 byte		
AD Ch.1	DATA	2 byte		
	Status	2 byte		
AD Ch.2	DATA	2 byte		
	Status	2 byte		
AD Ch.3	DATA	2 byte		
	Status	2 byte		
Control	2 byte		SX8R-ECB4	
OUTPUT	2 byte		FC6A-R164	Slot #2



KV Nano PLC and SX8R: EtherNet/IP protocol

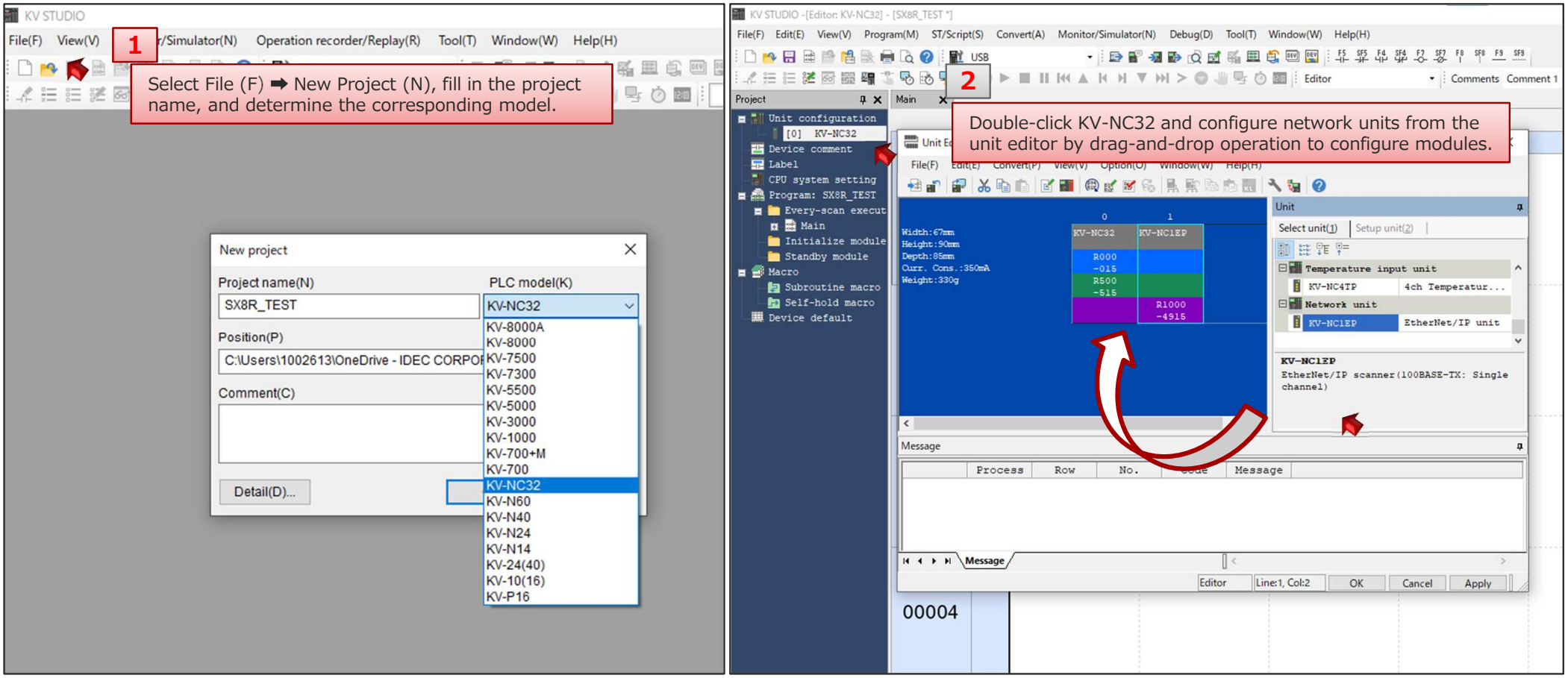
Step7: Download the setting data to SX8R (EtherNet/IP Adpter#2)





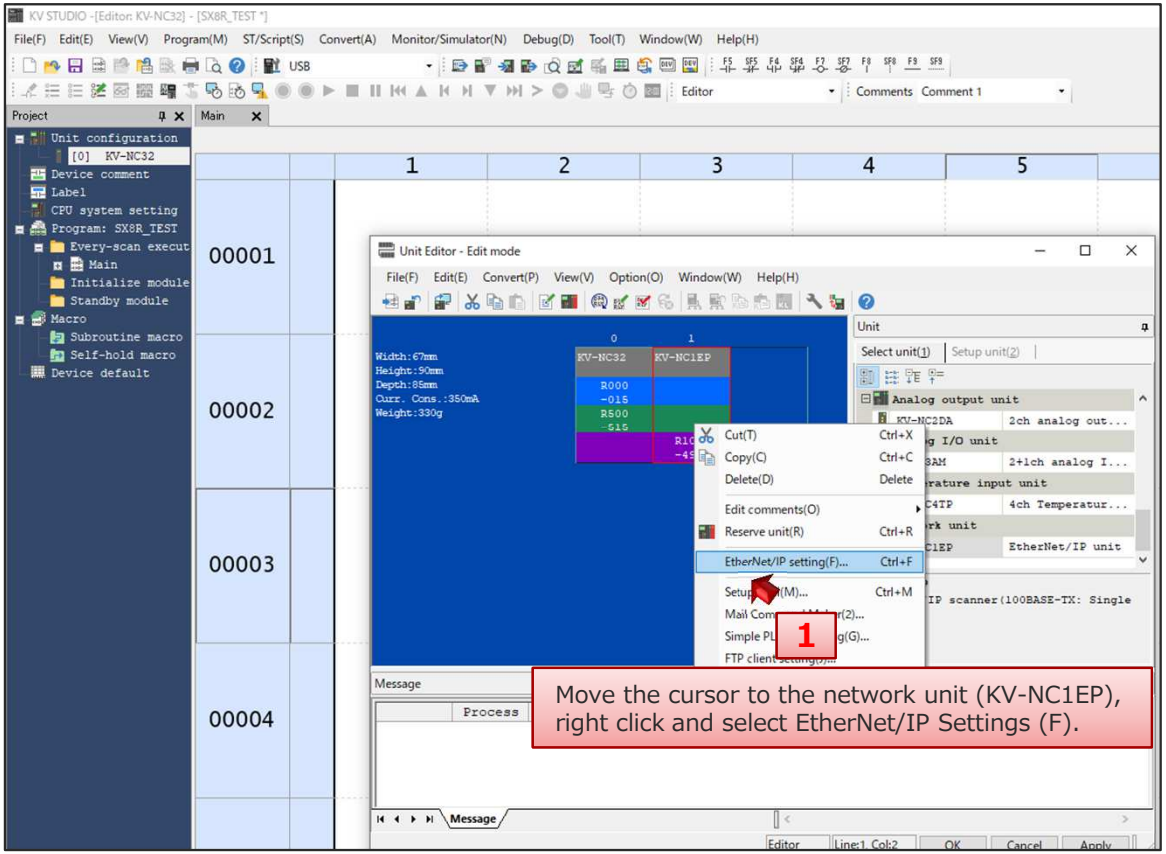
KV Nano PLC and SX8R: EtherNet/IP protocol

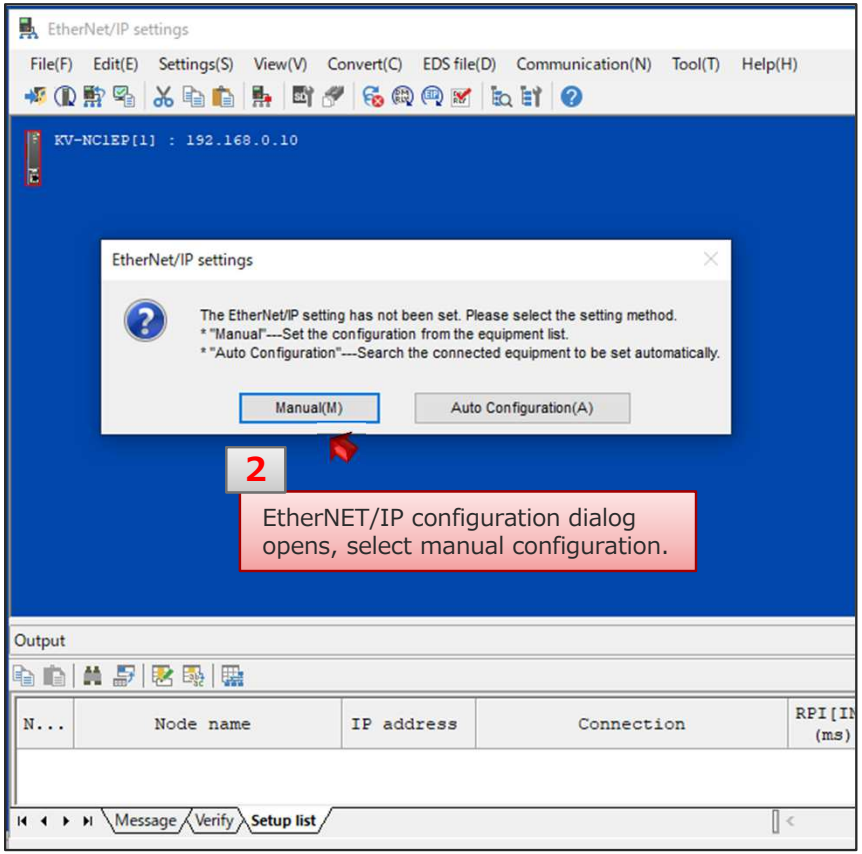
Step8: Configure the KV Nano and EtheNet/IP communication module from a new project in KV Studio



KV Nano PLC and SX8R: EtherNet/IP protocol

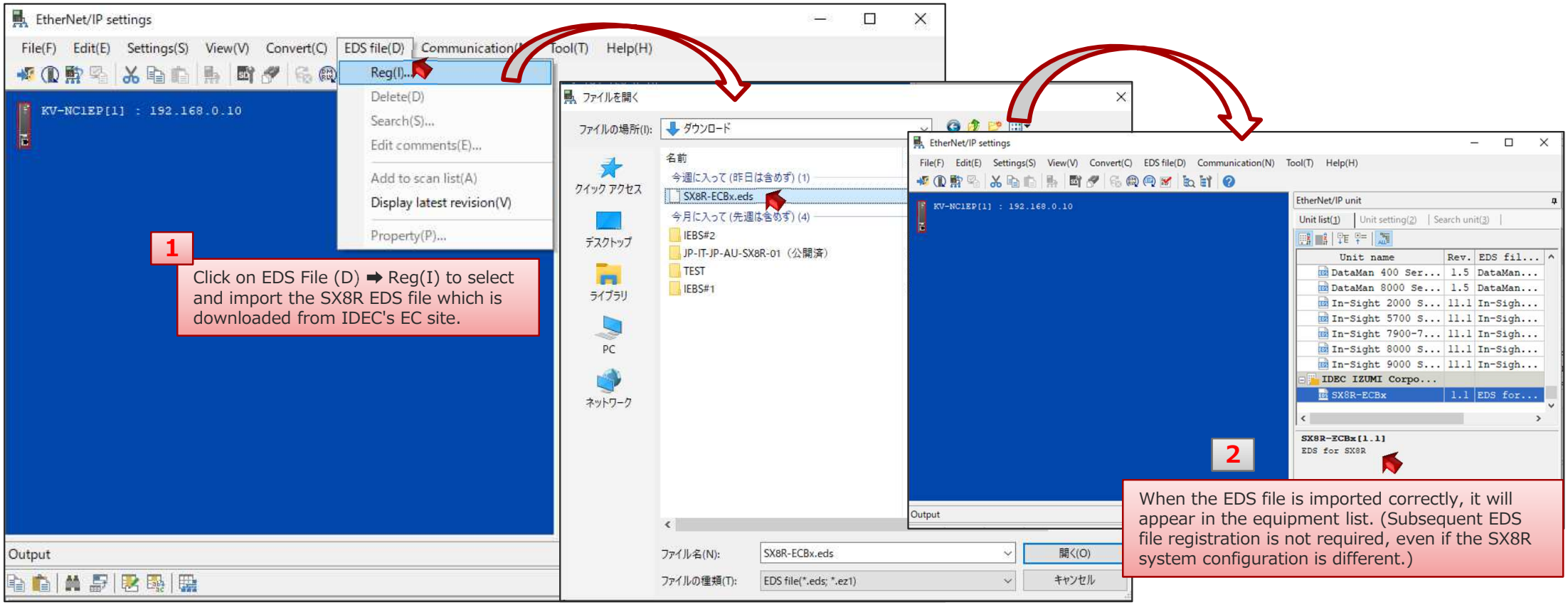
Step9: Configure EtherNet/IP settings for the EtheNet/IP communication module.





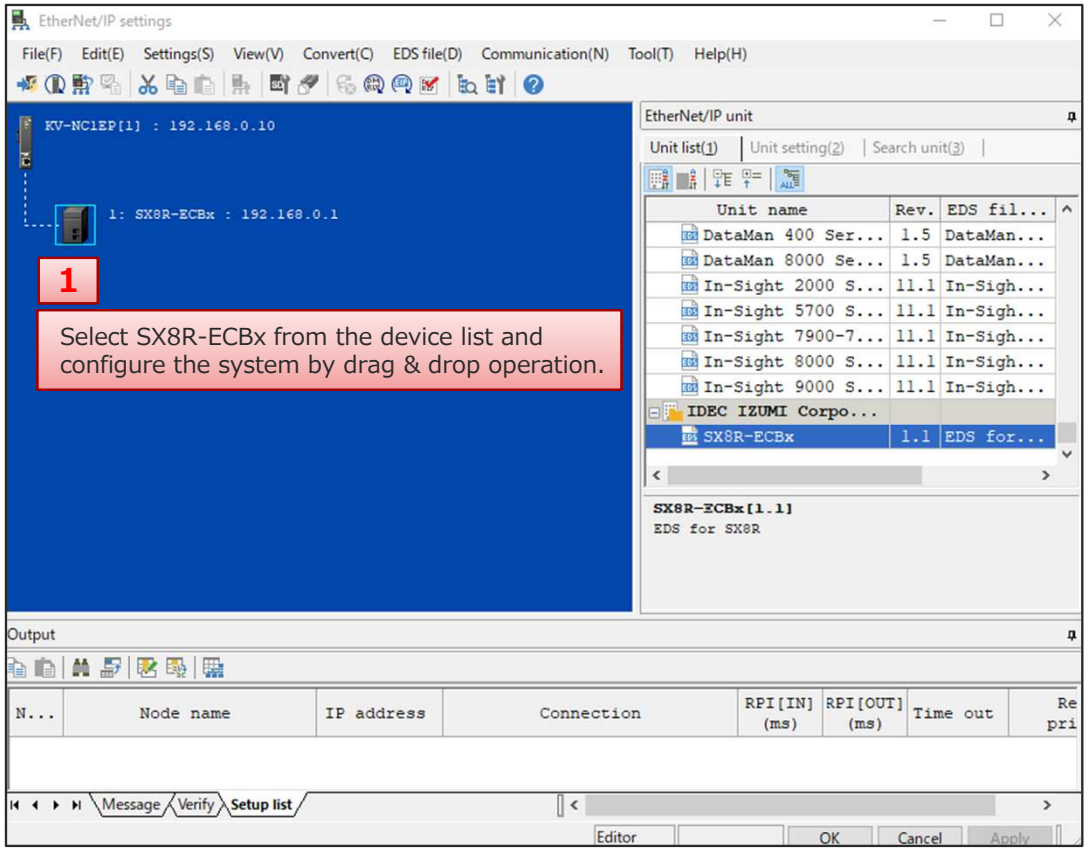
KV Nano PLC and SX8R: EtherNet/IP protocol

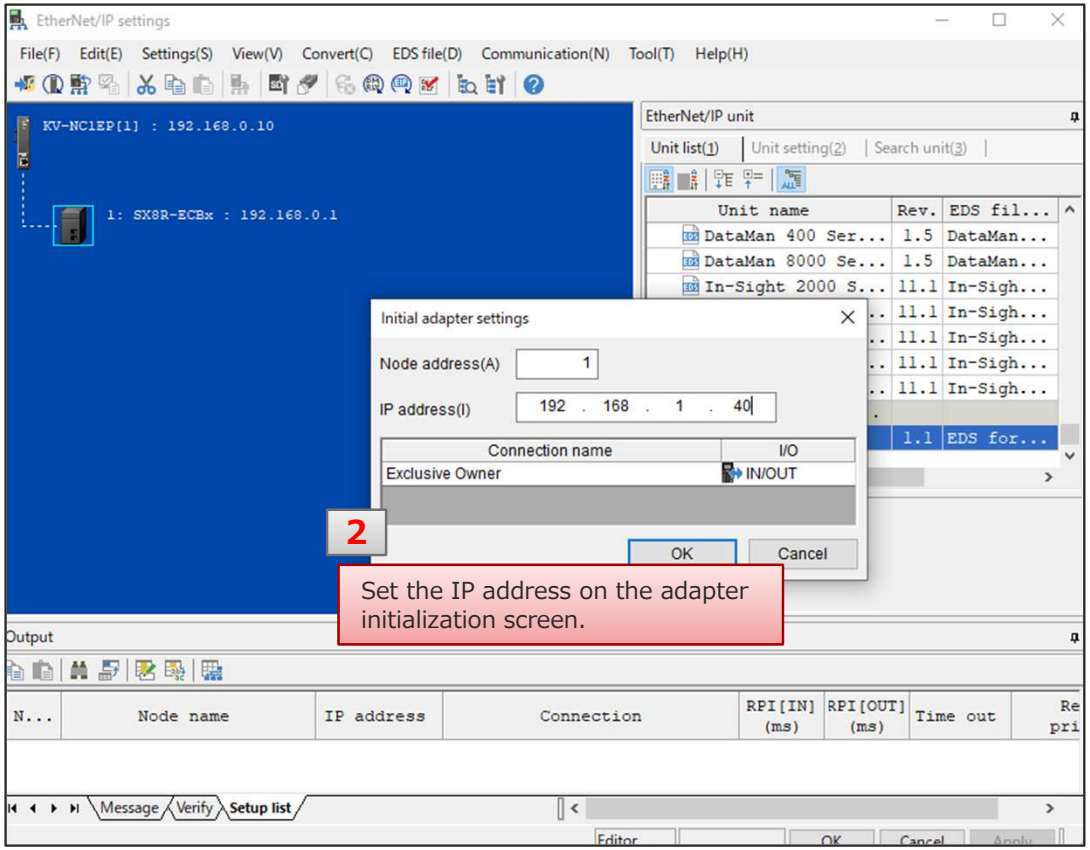
Step10: Download EDS files from IDEC EC site and import EDS files into KV Studio



KV Nano PLC and SX8R: EtherNet/IP protocol

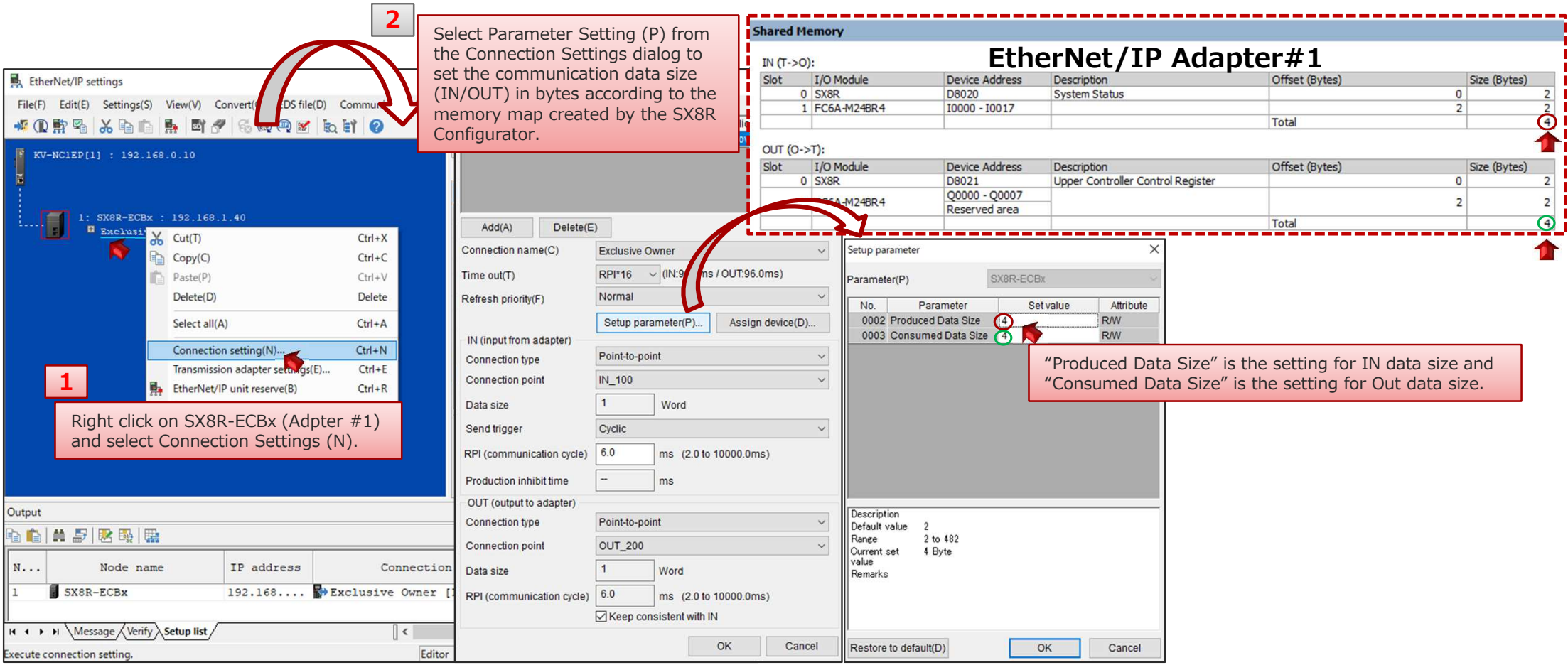
Step 11: Configure IP settings for the SX8R bus coupler (EtherNet/IP Adapter#1)





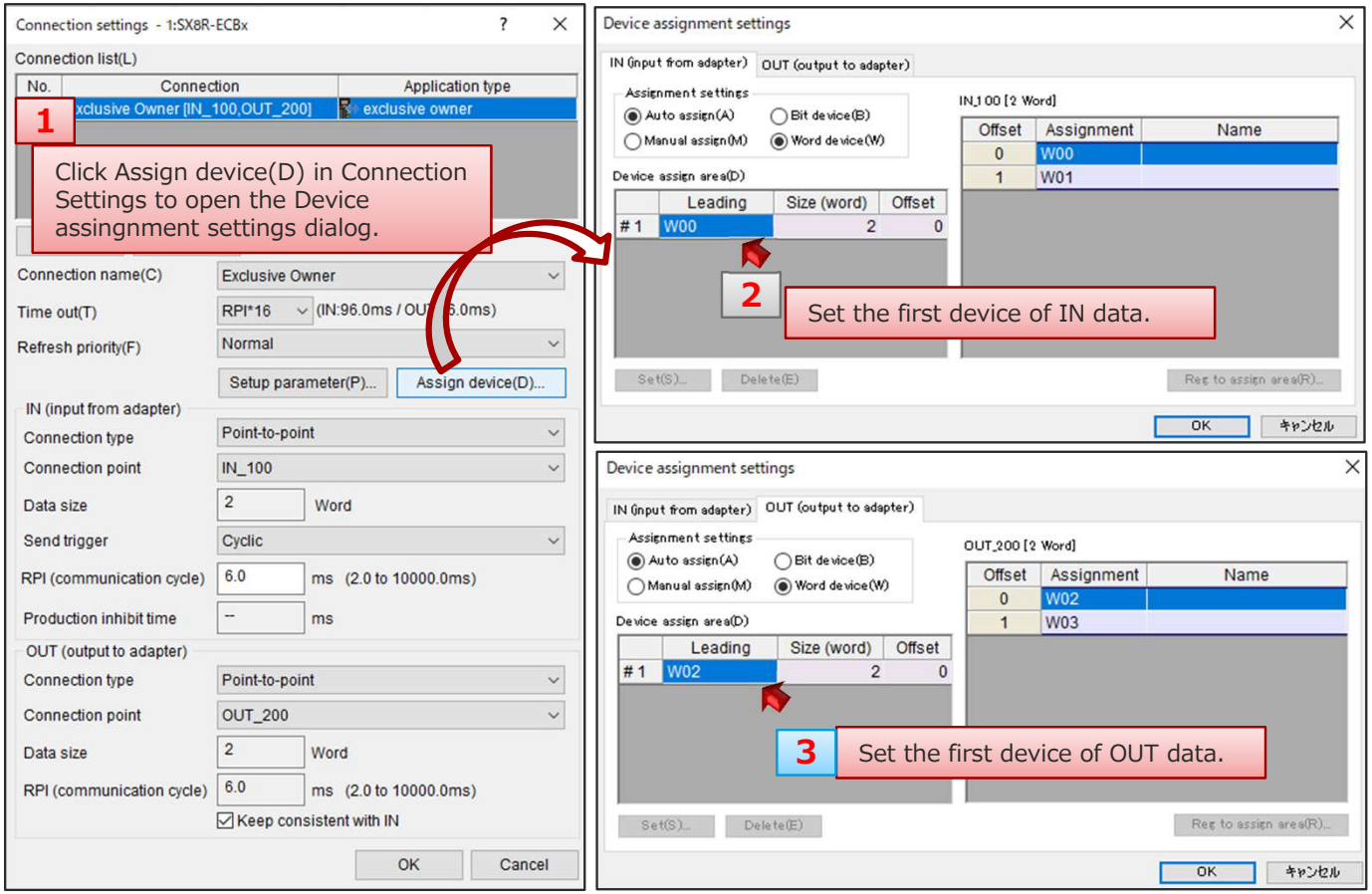
KV Nano PLC and SX8R: EtherNet/IP protocol

Step12: Set the communication data size (IN/OUT) of the SX8R bus coupler (EtherNet/IP Adapter#1)

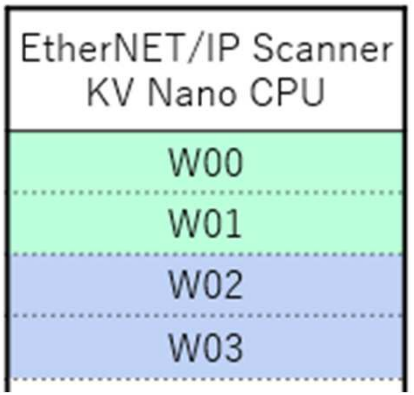


KV Nano PLC and SX8R: EtherNet/IP protocol

Step13: Setting the device allocation for SX8R bus coupler (EtherNet/IP Adapter#1)



EtherNet/IP Adapter#1



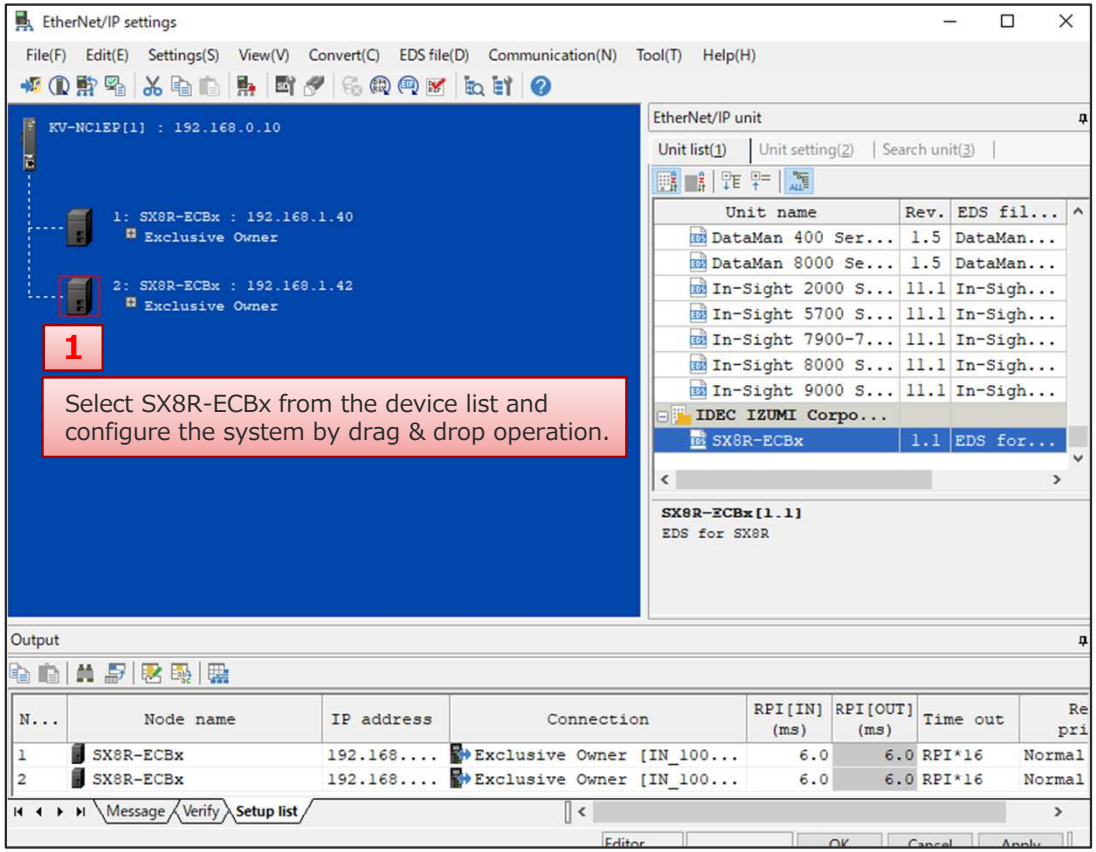
IN data

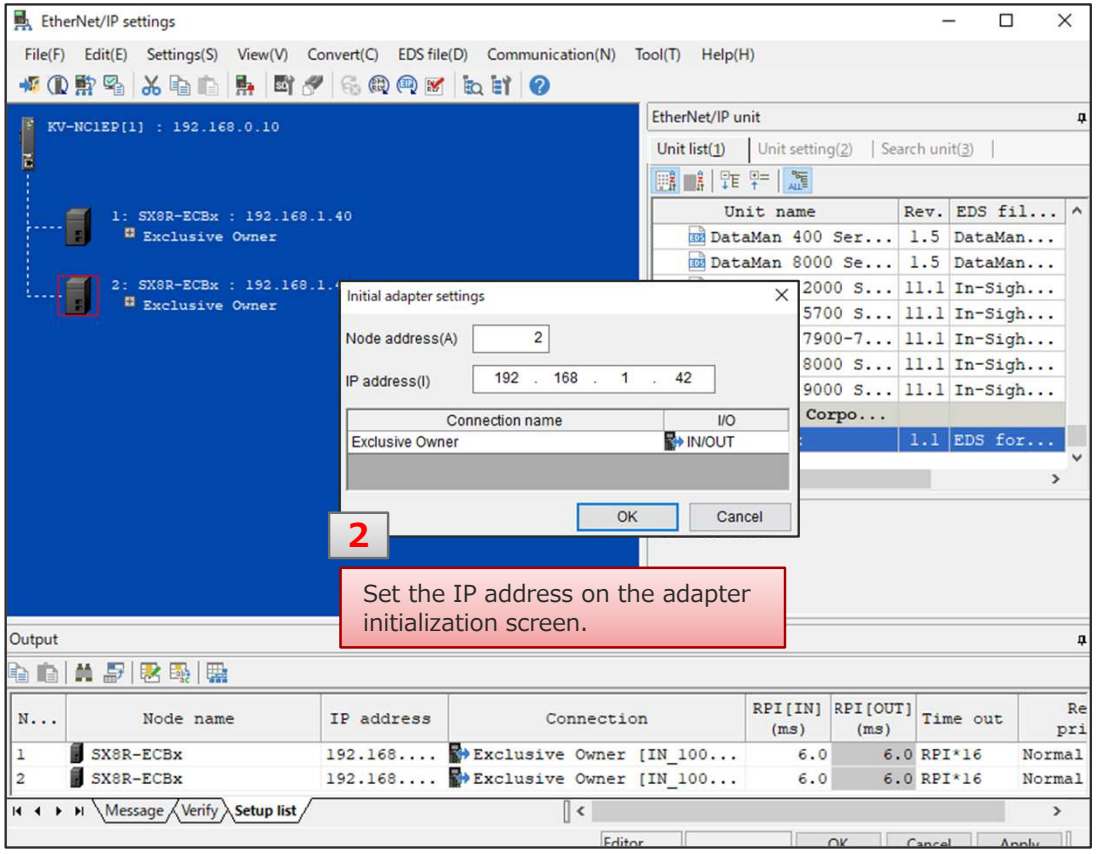
OUT data

Auto assing (A) automatically allocates the allocation devices in succession.

KV Nano PLC and SX8R: EtherNet/IP protocol

Step 14: Configure IP settings for the SX8R bus coupler (EtherNet/IP Adapter#2)



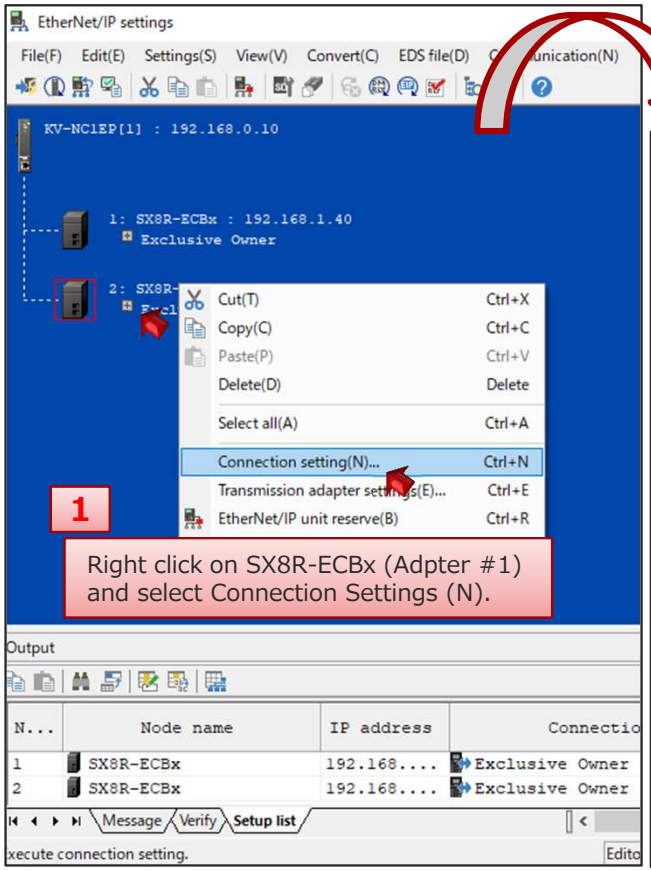


KV Nano PLC and SX8R: EtherNet/IP protocol

Step15: Set the communication data size (IN/OUT) of the SX8R bus coupler (EtherNet/IP Adapter#2)

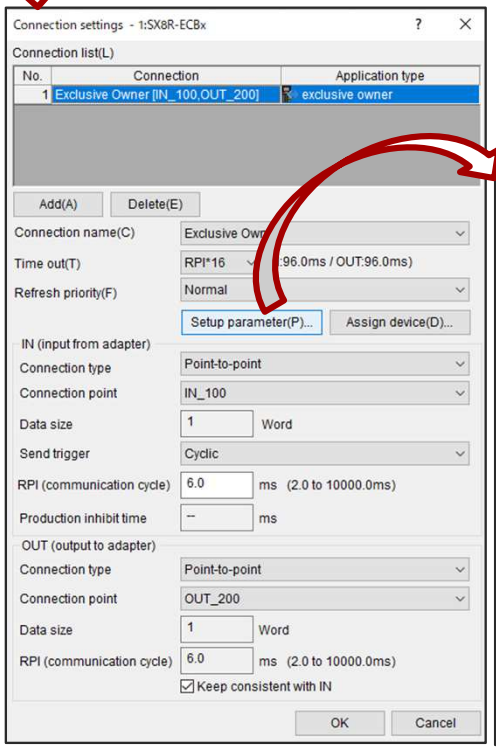
2

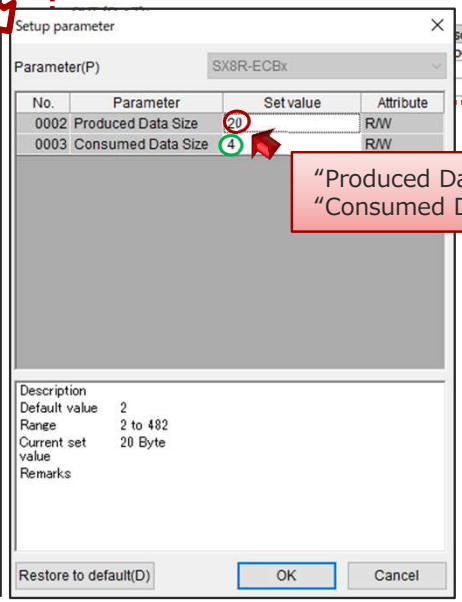
Select Parameter Setting (P) from the Connection Settings dialog to set the communication data size (IN/OUT) in bytes according to the memory map created by the SX8R Configurator.



1

Right click on SX8R-ECBx (Adpter #1) and select Connection Settings (N).





EtherNet/IP Adapter#2

Shared Memory

IN (T->O):

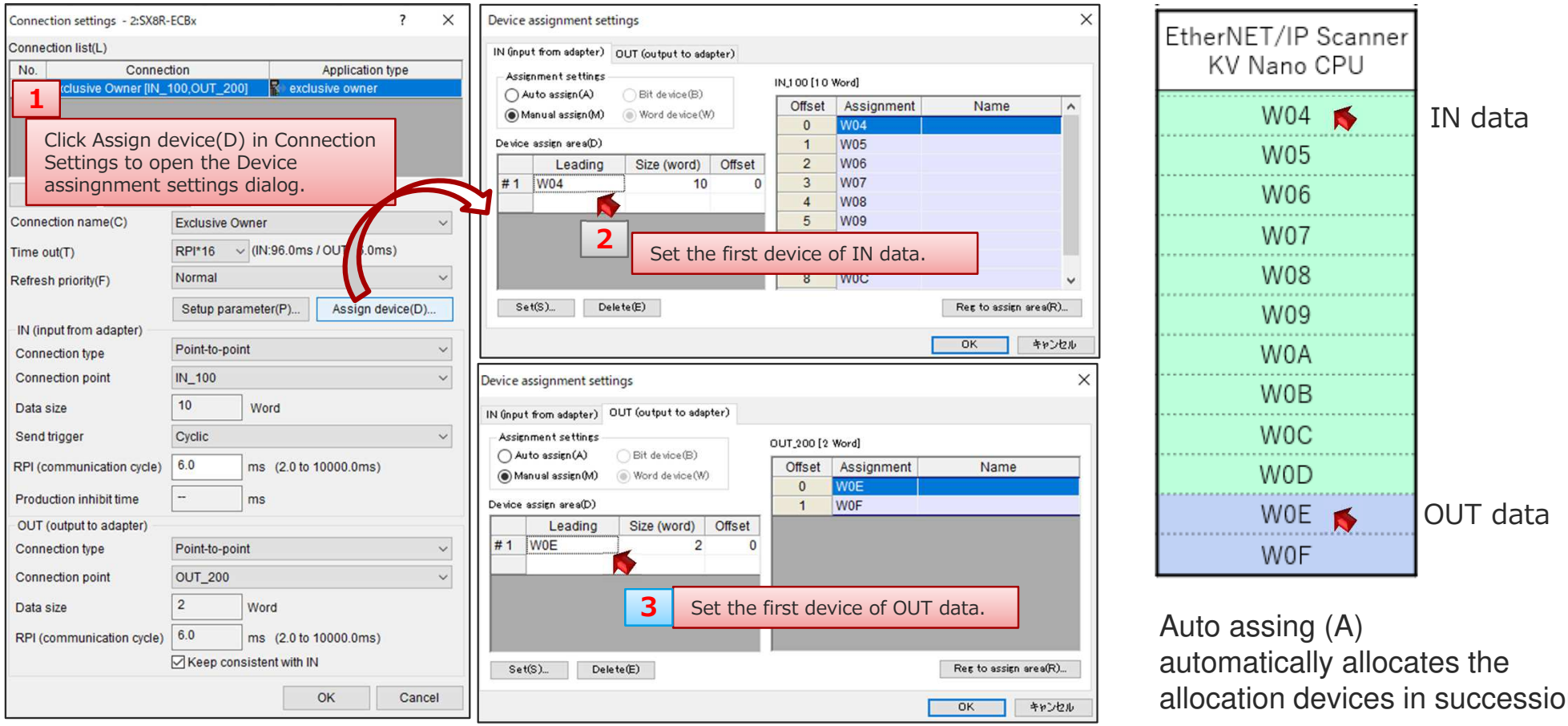
Slot	I/O Module	Device Address	Description	Offset (Bytes)	Size (Bytes)
0	SX8R	D8020	System Status	0	2
1	FC6A-N16B4	I0000 - I0017		2	2
3	FC6A-J4CN4	D0040	AI0:Data	4	2
		D0041	AI0:Status	6	2
		D0042	AI1:Data	8	2
		D0043	AI1:Status	10	2
		D0044	AI2:Data	12	2
		D0045	AI2:Status	14	2
		D0046	AI3:Data	16	2
		D0047	AI3:Status	18	2
				Total	20

scription	Offset (Bytes)	Size (Bytes)
per Controller Control Register	0	2
	2	2
	Total	4

"Produced Data Size" is the setting for IN data size and "Consumed Data Size" is the setting for Out data size.

KV Nano PLC and SX8R: EtherNet/IP protocol

Step16: Setting the device allocation for SX8R bus coupler (EtherNet/IP Adapter#2)



IN data

OUT data

Auto assing (A) automatically allocates the allocation devices in succession.

KV Nano PLC and SX8R: EtherNet/IP protocol communication settings have been completed.