Obtaining Backups from NJ/NX

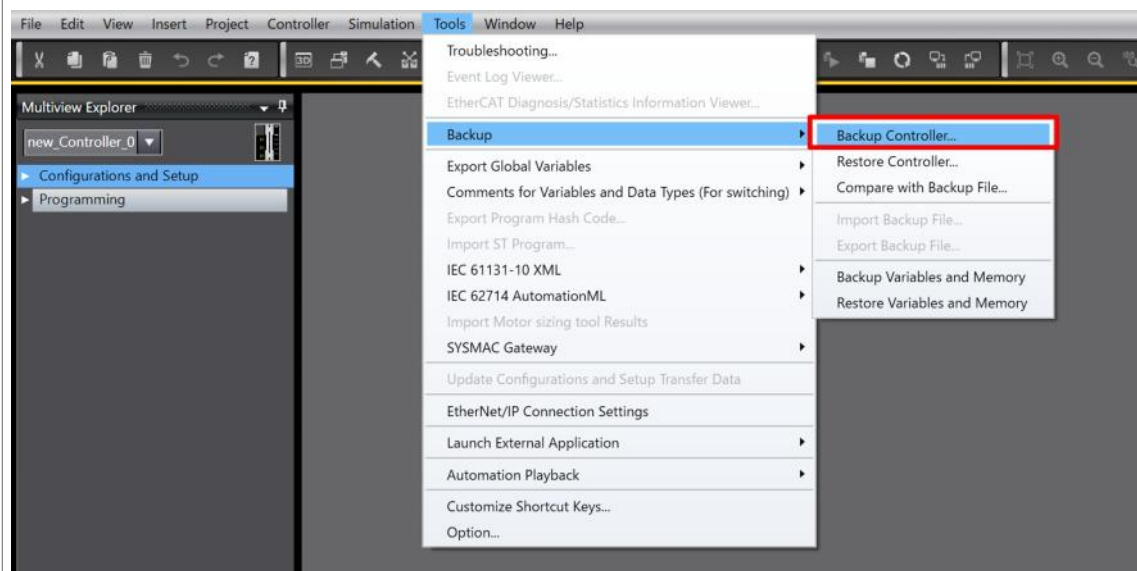| Steps |
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This section describes how to back up the PLC data.

① Go online with the Controller to back up the data.
② Select [Tools] - [Backup] - [Backup Controller] from the menu.
③ Select the destination to save the backup data.
④ Select the target data to create a backup.
⑤ Execute the backup.

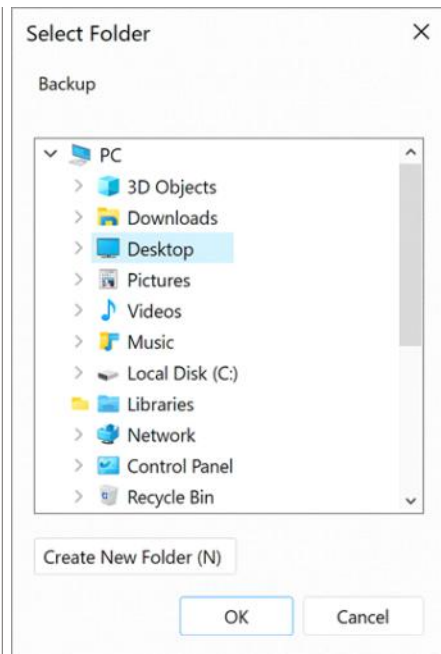| Detailed Steps |
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① Go online with the Controller to back up the data.
Go online with the Controller by referring to "**Going Online with an NJ/NX Controller**".

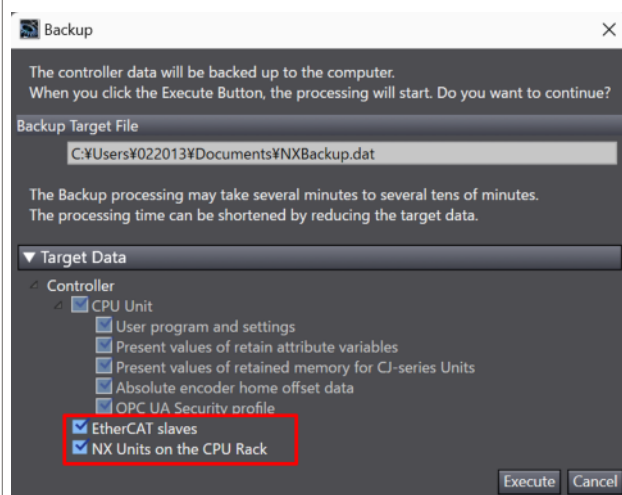**② Select [Tools] - [Backup] - [Backup Controller] from the menu.**

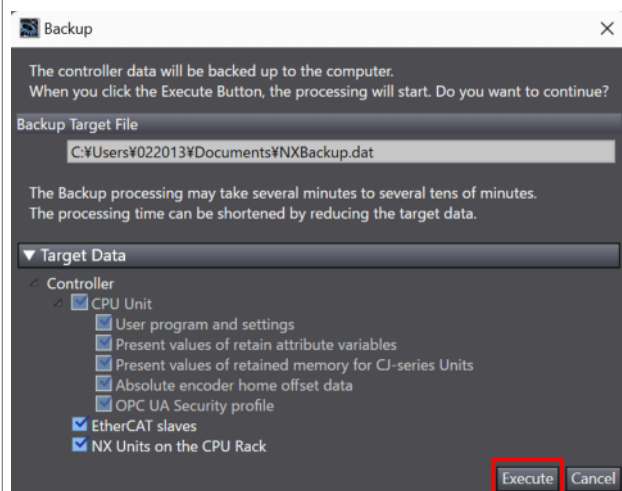**③ Select the destination to save the backup data.**

④ Select the target data to create a backup.

* You can optionally select to back up data of the "EtherCAT slaves" and the "NX Units on the CPU Rack".

⑤ Execute the backup.

Remarks

The backup target data to be obtained by the steps described above are listed in the table below.

Data group	Data items
User program and settings	EtherCAT configuration (EtherCAT slave configuration and EtherCAT master settings)
	Unit Configuration and Unit Setup[*1*2]
	I/O Map
	Controller Setup (Operation Settings, Built-in EtherNet/IP Port Settings, Built-in I/O Settings, and Option Board Settings)[*3]
	Motion Control Setup
	Cam Data Settings
	Event Settings
	Task Settings
	Data Trace Settings
	Tag Data Link Tables
	Controller name
	Operation authority verification
	User authentication[*4]
	Secure communications version[*5]
	User program execution ID in user program
	Built-in clock (time zone setting)
	POU
	Data (data types and global variables)
	Memory Settings for CJ-series Units[*6]
IP address of the built-in EtherNet/IP port[*7]	Of the TCP/IP Settings in the Built-in EtherNet/IP Port Settings, setting type, IP address, subnet mask, and default gateway
Present values of variables	Values of variables with a Retain attribute[*8]
Present values of memory used for CJ-series Units	Values of the Holding, DM, and EM Areas in the memory for CJ-series Units[*6]
Units and slaves settings	Backup parameters for EtherCAT slaves[*9]
	Parameters in the CJ-series Units[*6*10]
	NX Unit Settings
Absolute encoder home offsets	The set value to restore the actual position of a Servo Drive with an absolute encoder
X Bus Unit Settings[*2]	Settings in X Bus Unit
IP address of an EtherNet/IP port on an X Bus Unit[*2]	Of the TCP/IP Settings in the EtherNet/IP Port Settings for the NX-series EtherNet/IP Unit, setting type, IP address, subnet mask, and default gateway

*1. For the NX Units on the NX502 CPU Unit, NX102 CPU Unit, and NX1P2 CPU Unit, data of configuration information, Unit operation settings and Unit application data is backed up.

*2. You can use X Bus Units only on the NX502 CPU Units.

*3. Data of Built-in I/O Settings and Option Board Settings is backed up only for the NX1P2 CPU Units.

*4. User authentication is backed up for the following CPU Units of the stated unit versions.
   - NJ-series, NX102, NX1P2 CPU Unit: Version 1.49 or later
   - NX701 CPU Unit: Version 1.29 or later
   - NX502 CPU Unit: Version 1.60 or later

*5. Secure communications verison is backed up for the following CPU Units of the stated unit versions.
   - NJ-series, NX502, NX102, NX1P2 CPU Unit: Version 1.69 or later
   - NX701 CPU Unit: Version 1.36 or later

*6. You can use the memory used for CJ-series Units only with the NJ-series CPU Units, NX502 CPU Units, NX102 CPU Units, and NX1P2 CPU Units. You can use parameters in the CJ-series Units only with NJ-series CPU Units.

*7. With a combination of the CPU Unit with unit version 1.14 or later and Sysmac Studio version 1.18 or higher, IP address of the Built-in EtherNet/IP Port Settings can be used as a data group.
IP address is included in the user program and settings for other combinations.

*8. Of the system-defined variables with a Retain attribute, some variables are not applicable for the data backup function. Refer to *A-9 Specifications for Individual System-defined Variables* on page A-168 for details on the specifications for individual system-defined variables.

*9. A part or all of the set parameters are not backed up for some EtherCAT slave models. For the details on the target EtherCAT slaves for the data backup function, refer to *9-9-4 EtherCAT Slaves for Which You Can Back Up Data* on page 9-59.

*10. Refer to the *CJ-series CJ2 CPU Unit Hardware User's Manual (Cat. No. W472)* for details on the data that is backed up.

Precautions for Safe Use

Precautions on the Absolute Encoder Home Offset

The *absolute encoder home offsets* are retained in the CPU Unit as absolute encoder information. If any of the following conditions is met, clear the absolute encoder home offsets from the list of data items to restore, and then restore the data. Then, define the absolute encoder home again. If you do not define home, unintended operation of the controlled system may occur.

- The Servomotor or Servo Drive was changed since the data was backed up.
- The absolute encoder was set up after the data was backed up.
- The absolute data for the absolute encoder was lost.