



ITA_Instruction_Manual

Symphony

—Version 1.7 —

Disclaimer

All the contents of this document are protected by copyright owned by NEC Corporation.

Unauthorized reproduction or copying of all or part of the contents of this document is prohibited.

The contents of this document are subject to change without prior notice in the future.

NEC Corporation is not responsible for any technical or editorial errors or omissions in this document.

NEC Corporation do not guarantee accuracy, usability or certainty of the content in this document.

Trademark

- Linux is registered trademark or trademark of Linus Torvalds, registered in the U.S. and other countries.
- Red had is registered trademark or trademark of Red Hat Inc. registered in the U.S. and other countries.
- Apache, Apache Tomcat, and Tomcat are registered trademarks or trademarks of the Apache Software foundation.
- Ansible is registered trademark or trademark of Red Hat Inc.
- Ansible tower is registered trademark or trademark of Red Hat Inc.

The names of other systems, company names and products mentioned in this document are registered trademarks or trademarks of their respective companies.

The ® mark and the TM Mark are not specified in this document

※「Exastro IT Automation」is written as「ITA」in this document

Table of contents

Introduction	4
1 Overview of Symphony	5
2 Symphony Menu screen configuration	6
2.1 Symphony menu list	6
3 Symphony user manual	7
3.1 Workflow	7
4 Function and operation method description.....	8
4.1 Symphony	8
4.1.1 Symphony interface information.....	8
4.1.2 Symphony class list.....	9
4.1.3 Symphony class edit	10
4.1.4 Symphony execution	13
4.1.5 Symphony execution checking.....	16
4.1.6 Symphony execution list.....	18
4.1.7 Symphony regularly execution	19

Introduction

This document describes the functions and operation methods of the ITA Symphony function.

1 Overview of Symphony

This chapter describes the functions and operation methods of the Symphony menu.

Symphony provides the following functions that are commonly required to perform work using ITA.

- Create, manage, execute workflow.

Refer to the “First Step Guide” for the position of the Symphony in the ITA Operation procedure.

2 Symphony Menu screen configuration

This chapter explains Symphony menu and screen configuration.

2.1 Symphony menu list

The ITA Common/Symphony menu is shown below

Table 2.1-1 ITA Screen list

No	Menu Group	Menu group · Screen	Description
1	Symphony console	Symphony interface information	Maintain (View/Register/Update/Discard) settings such as shared directory path of Movement when executing Symphony.
2		Symphony class list	Maintain (View/Discard) Symphony class Click "Details" to move to Class edit menu.
3		Symphony class editor	Edit Symphony class
4		Symphony execution	Execute Symphony class
5		Symphony execution checking	Check the result of Symphony operation execution
6		Symphony execution list	View the Symphony execution list (Execution history) Click "Details" to move to Symphony confirmation.
7		Symphony Regularly execution	Manage regularly executed Symphony operations.

3 Symphony user manual

3.1 Workflow

The standard workflow in Symphony is as follows.

Details of each operation are described in the next section.

- It is possible to use the Movement's shared directory path, even when a Symphony is running. If you need information to be delivered between Movements, you can do so by using a shared directory path. However, only Ansible_Driver can use this function.

For more information, please see Exastro-ITA_User_Instruction_Manual_Ansible-driver.

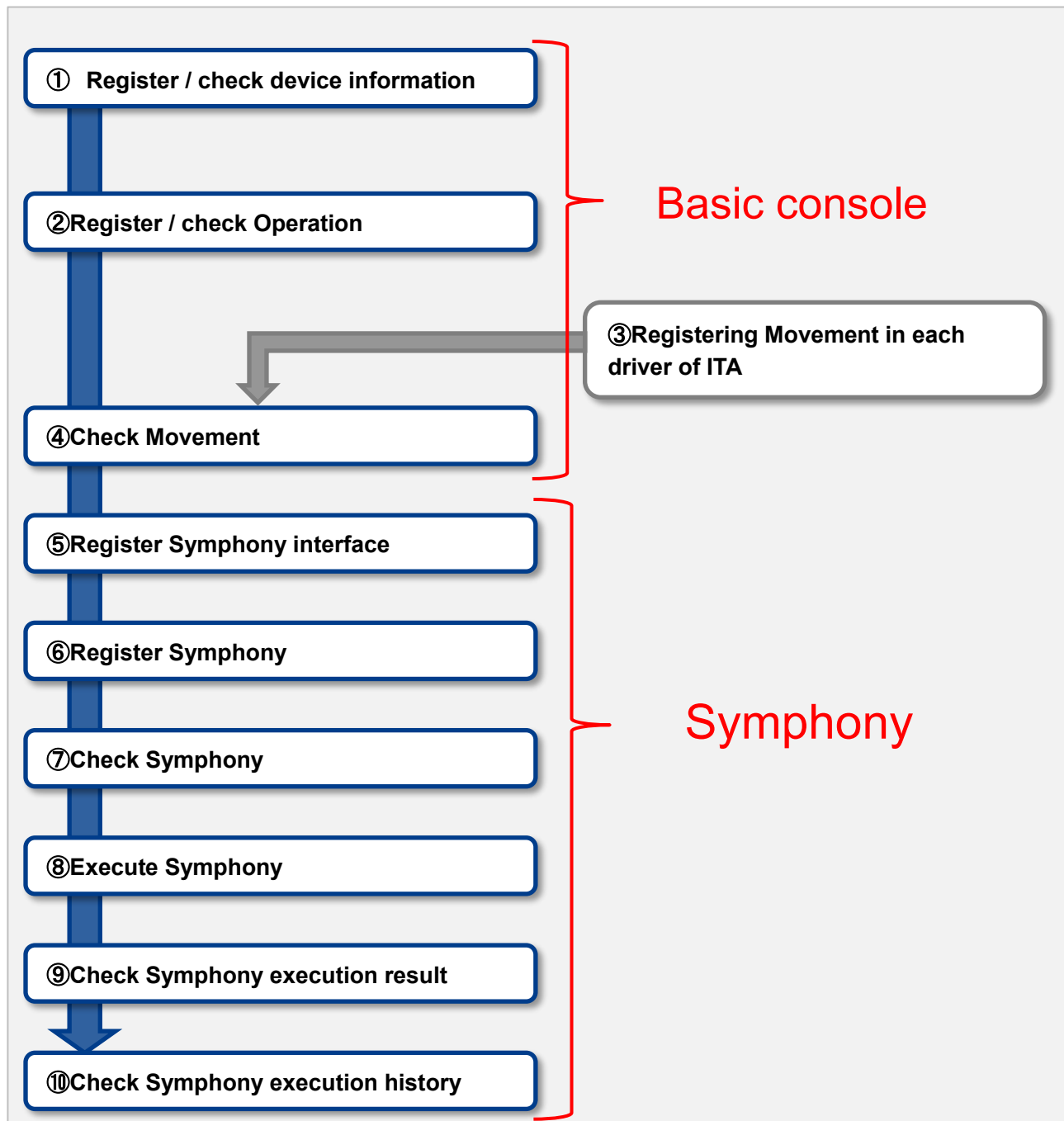


Figure 3.1-1 Workflow

4 Function and operation description

4.1 Symphony

4.1.1 Symphony interface information.

- (1) In the “Symphony interface information” screen, users can set the path of shared directory for each Movement executed by Symphony and the refresh interval for “Symphony confirmation” screen.

The screenshot displays the 'Symphony Interface Information' screen in the Exastro IT Automation system. The interface includes a sidebar menu on the left with options like 'Main menu', 'Symphony class List', 'Symphony class editor', 'Symphony execution', 'Symphony execution checking', 'Symphony execution list', and 'Symphony Regularly execution'. The main content area features a 'Description' section, a 'Display filter' section with various search criteria, and a table listing the data. The table has columns for No., Data relay storage path, Status monitoring cycle (milliseconds), Access permission, Remarks, Last update date/time, and Last updated by. A single entry is shown with No. 1 and a path of /exastro/data_relay_storage/symphony. Below the table, there are buttons for 'History', 'Update', and 'Output Excel'. At the bottom, there are links for 'Download all and edit file uploads' and 'Trace history'.

Figure 4.1-1 Sub menu screen (Symphony interface information)

- (2) The list of common items on the registration screen is as follows.

Table 4.1-1 List of Registration Screen Items (Input operation list).

Items	Description	Input Required	Input method	Restrictions
Data relay storage path	When executing Symphony, enter the directory shared by each Movement with the directory path viewed from the ITA server. For the path viewed from each driver, please refer to the interface information in the instruction manual for each driver. Drivers that can share the directory are as follows. • Ansible • Ansible-Tower	○	Manual input	Maximum length 128 bytes
Status monitoring cycle (Milliseconds)	Enter the interval for refreshing the display of “4.1.4 Symphonic execute”. Generally, it is recommended to set the number to 3000 milliseconds.	○	Manual input	Shortest value: 1000 milliseconds
Remarks	Free description field.	-	Manual input	-

4.1.2 Symphony class list

- (1) In the “Symphony class list” screen, users can refer to /cancel already registered symphony classes.

Click the “Details” button to move the selected symphony class edit screen “4.1.3 Symphony class edit”.

The screenshot shows the 'Symphony class List' screen in the Exastro IT Automation system. The interface is divided into a sidebar menu on the left and a main content area. The sidebar menu includes options like 'Main menu', 'Symphony Interface information', 'Symphony class List' (highlighted), 'Symphony class editor', 'Symphony execution', 'Symphony execution checking', 'Symphony execution list', and 'Symphony Regularly execution'. The main content area has a top section with a 'Description' field and a 'Display filter' section. Below the filter section is a table with columns: 'Discard', 'Symphony class ID', 'Symphony name', 'Description', 'Access permission Role to allow access', 'Remarks', 'Last update date/time', and 'Last updated by'. The table contains one row with the following data: 'History' (green), 'Discard' (red), '1', 'Details' (orange), 'Test Symp', 'For testing', '2021/05/26 13:37:16', and 'System Administrator'. Below the table, there is a 'Filter result count: 1' and an 'Output Excel' button. At the bottom of the main content area, there are two buttons: 'Download all' and 'Trace history'.

Discard	Symphony class ID	Symphony name	Description	Access permission Role to allow access	Remarks	Last update date/time	Last updated by
Exclude discarded records	~	Search from pulldown	Search from pulldown	Search from pulldown	Search from pulldown	Search from pulldown	Search from pulldown

Filter

Clear filter

Auto-filter

History	Discard	Symphony class ID	Detailed display	Symphony name	Description	Access permission Role to allow access	Remarks	Last update date/time	Last updated by
History	Discard	1	Details	Test Symp	For testing			2021/05/26 13:37:16	System Administrator

Filter result count: 1

Output Excel

Download all

Trace history

Figure 4.1-2 Submenu screen (Symphony class list)

4.1.3 Symphony class edit

- (1) In the “Symphony class edit” screen, Users can register symphony class titles and work flow movements.
- Registered Movements is displayed in the area on the top-right side of the screen.
 - Users can set Movement by dragging and dropping them on the right side of the screen.
 - Users can switch Movement by dragging and dropping them in the Movement flow edit area.
 - Users can temporarily stop the set Movement by checking the box under it.
 - Users can memo the description of the operation of the comments in the “Description” column and the column below the dropped Movement name.
The column is only for reference on the web and will not affect operation execution.
 - Users can select access permission. The default settings depends on the Role/User linkage settings.
 - Press the “Register” button after setting up Movement flow to register the Symphony class.

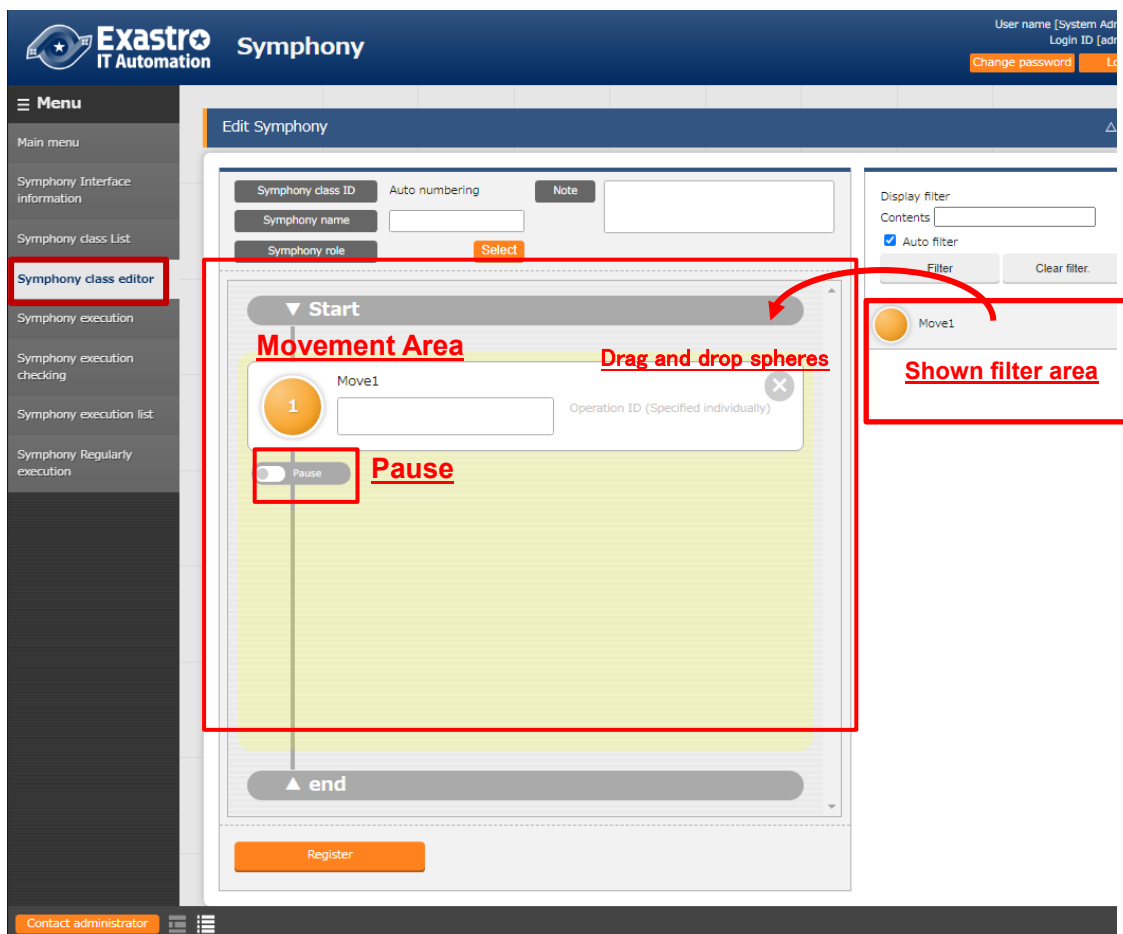


Figure 4.1-3 Submenu screen (Symphony class edit)

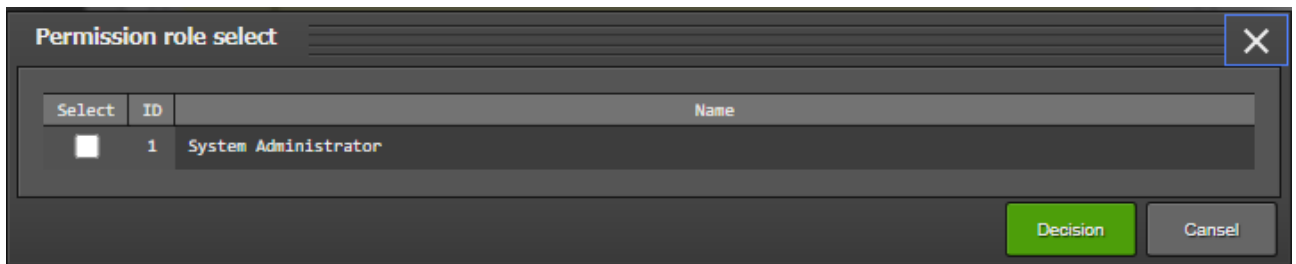


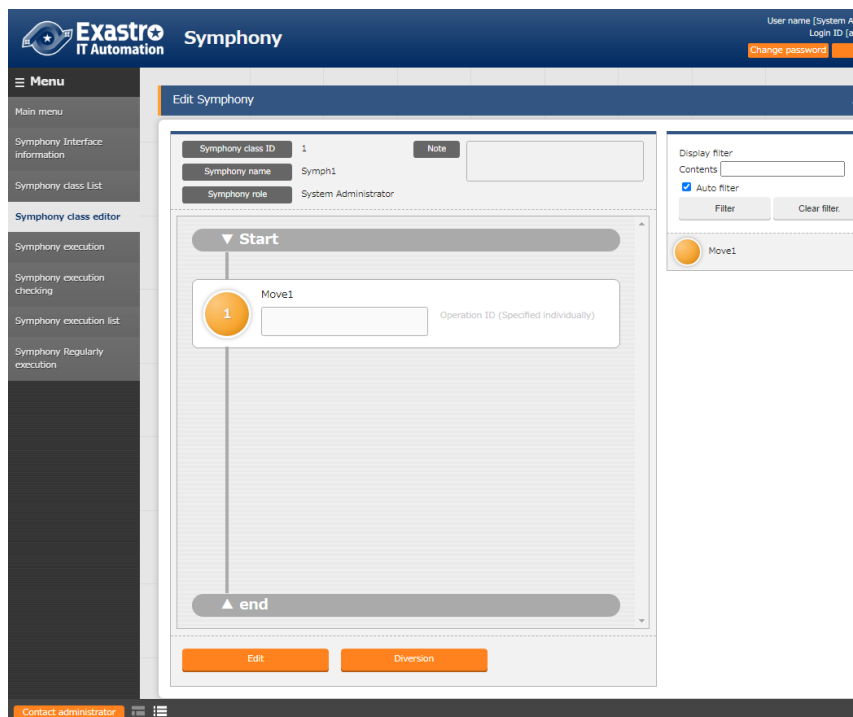
Figure 4.1-4 Sub menu screen (When the “select” button in the “Symphony class edit: Symphony role” is pressed)

The Symphony class edit screen item list is as shown below.

Table 4.1-2 Registered screen item list.(Symphony class edit)

Item	Description	Input required	Input method.	Restrictions
Symphony class ID	Unique ID for Symphony is auto-numbered.	-	Automatic input	-
Symphony name	Enter any desired name for Symphony class	o	Manual input	-
Description	Enter description and comment for Symphony class	-	Manual input	-
Movement Description	Enter description and comment for Movement	-	Manual input	-
Operation ID (Specified individually)	Enter the desired operation ID for to individually specify it.	-	Manual input	-
Pause	Check the box to pause the movement after it has been activated	-	Check box	-
Delete	Delete Movement	-	Button	-

- (2) The screen below will appear if the user has moved from the Symphony class list screen or has finished registering a symphony.



- Users can edit registered Symphonies by clicking the 「Edit」 button
- Click the “Diversión” button to copy registered Symphony then create as a new one.

(3) If the 「Edit」button is pressed, the screen shown below will appear.

- Click the “Reload” button to discard the edited content then return to the state before any edits.
- Click the "Update" button to save edited content
- Click the "Cancel" button to return to the status before any edits

4.1.4 Symphony execution

- (1) The Symphony execution instructions are displayed in the "Symphony execution" screen
 - "Symphony [List]" displays the Symphonies registered in "4.1.2 Symphony class list".
 - "Operation [List]" displays the Operations registered in "Basic console-Input operation list"
 - Select radio button in "Symphony [List]" and "Operation [List]", then click the "Execution" button to move to "4.1.5 Symphony confirmation" then start tracing of execution.
 - Pressing the "Execution" button after scheduled date/time has been entered will schedule the execution. The scheduled execution can be checked in "4.1.6 Symphony execution list". ※ Date/Time before current time can't be entered.
 - Check the "Skip" box next to the Movement symbol to execute without executing the selected Movement.

Figure 4.1-4Sub Menu screen (Symphony execution check)

The screenshot displays the Exastro IT Automation Symphony web interface. The top navigation bar includes the Exastro logo, the title 'Symphony', and user information: 'User name [System Administrator]', 'Login ID [administrator]', and buttons for 'Change password' and 'Logout'.

The left sidebar contains a 'Menu' section with the following items: 'Main menu', 'Symphony Interface Information', 'Symphony class List', 'Symphony class editor', 'Symphony execution' (highlighted with a red box), 'Symphony execution checking', 'Symphony execution list', and 'Symphony Regularly execution'.

The main content area is divided into three sections:

- Description:** A section with a 'Scheduling' tab and a text input field for 'Scheduled date/time' (highlighted with a red box). Below it, a table lists Symphony classes. The first row is highlighted with a red box:

Select	Symphony class ID	Symphony name	Description	Access permission	Remarks	Last update date/time	Last updated by
<input checked="" type="checkbox"/>	1	Symphony		System Administrator		2021/02/26 17:06:29	System Administrator
- Operation:** A section with an 'Operation [List]' table. The first row is highlighted with a red box:

Select	No.	Operation ID	Operation name	Scheduled date for execution	Last execution date	Access permission	Last update date/time	Last updated by
<input checked="" type="checkbox"/>	1	test operation		2021/02/27 17:10		System Administrator	2021/02/26 17:07:19	System Administrator
- Execute Symphony:** A dialog box for executing a specific operation. It shows 'Symphony class ID: 1' and 'Symphony name: Symph1'. The 'Start' section contains a flowchart with a step '1 Move1' and a 'Skip' button (highlighted with a red box). The 'end' section is also visible. An 'Execute' button is at the bottom.

The list of common items in Symphony execution screen is as follows.

Table 4.1-3 Register screen item list (Symphony execution)

Items	Description	Input required	Input method	Restrictions
Scheduled date/time	Specify the scheduled date and time of Symphony execution	-	Manual input	Date and time before the current time cannot be entered.
Symphony 「List」	The symphony registered in “4.1.7 Symphony Class list” will be displayed.	○	Radio button	
Operation「List」	The operation registered in 4.1.4 Input operation list will be displayed.	○	Radio button	
Skip	Target operation will be skipped if checked	-	Check box	
Operation ID (Specified Individually)	※ Refer to the following " About Individually specified Operation ID"	-	Manual input	
Execute	Registered Symphony will be executed.	○	Button	

※ About Individually specified Operation ID

Press the grey “Operation ID (Specified Individually)” text to display the text box.

Users can enter a different operation ID than the operation ID specified by radio button in this text box.

Accordingly, that Movement can be executed with the “Specific value” (e.g. “Substitution value list” in ITA Anisble-Legacy console) substituted with the value registered for other Operation ID in the “Substitution value list” menu of the orchestrator which that Movement belongs to
The Operation ID specified in Symphony class edit screen is saved according to the register/update.

Moreover, users can change Operation ID already registered in the Symphony edit menu for each step of the Symphony before execution.

However, the settings in Symphony execution screen only reflects the Symphony execution. The settings will not be saved.

Users can use this function to diverse the Movement to operate another server.

※Operation Access permission.

If even one of the Movements or the individually specified Operation in the Symphony execution screen contains a target without access permission, a validation error will occur when “Execute” button is clicked.

4.1.5 Symphony execution checking.

- (1) In the “Symphony execution checking” screen, the status of the Symphony execution is displayed. By clicking the “Details” button in “4.1.6 Symphony execution list”, the status of the selected Symphony will be displayed.

Users can execute “Cancel reservation”, “Resume” or “Emergency stop” according to the situation. It is also possible to move to the different operation confirmation screens by clicking the Movement Flow sphere.

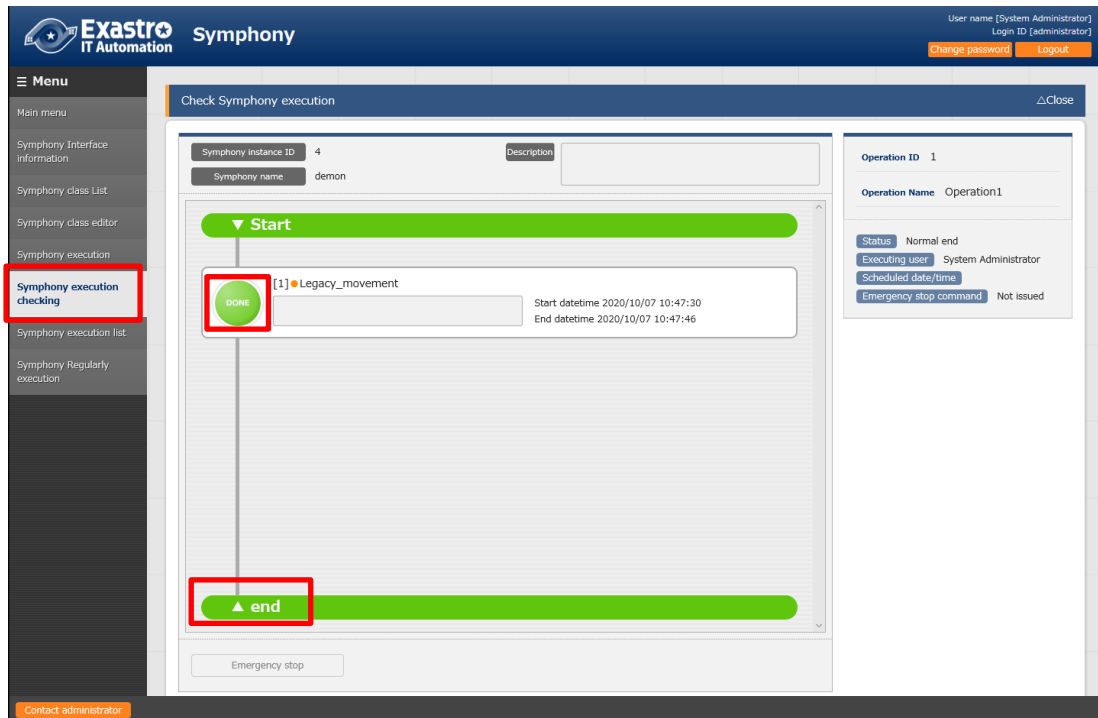


Figure 4.3-5 Submenu screen (Symphony execution checking)

If the selected Symphony has a set reservation and has yet to be executed, a “Cancel Reservation” button will be displayed.

If the button is clicked, the status in “4.1.6 Conductor list” will change to “Unexecuted (Schedule)” and will not be executed.

Check Symphony execution

Symphony instance ID6

Description

Symphony namedemon

▼ Start

[1] Legacy_movement

Start datetime

End datetime

▲ end

Schedule cancellation

Figure 4.1-6 Submenu screen (Symphony execution checking - Cancel reservation)
The list of items in the Symphony confirmation screen is as follows.

Table 4.1-4 Registration screen list (Symphony confirmation)

Items	Descriptions	Input required	Input method	Restrictions
Resume	Cancel pause and continue Movement	-	Button	-
Emergency Stop	Stop Symphony execution	-	Button	-
Cancel reservation	Cancel scheduled Symphony execution	-	Button	Displayed only when execution is scheduled and is yet to be executed

4.1.6 Symphony execution list

- (1) Users can manage executed Symphony operations in “Symphony execution list” screen. By specifying the criteria and clicking the “Filter” button, The Symphony table, list and graphs will be displayed.

Clicking the “Details” button in the operation column will take you to the “4.1.5 Symphony Confirmation” screen

Clicking “Download(.zip)” for “Input data type(zip)” will download all of the data from the executed Movements in Symphony.

Clicking “Download(.zip)” for “DataFormat(.zip)” will download all the execution and error logs for all the executed Movements in Symphony.

The screenshot shows the Exastro Ansible-Legacy interface. The sidebar menu on the left has 'Execution list' highlighted. The main content area is divided into sections: 'Description', 'Display filter', and 'List'. The 'Display filter' section contains a table with columns: Discard, Execution No., Execution type, Status, exe, Last update date/time, and Last updated by. Below this table are 'Filter' and 'Clear filter' buttons, and an 'Auto-filter' checkbox. The 'List' section contains a table with columns: Execution No., Check execution status, Execution type, Input data, Output data, Caller, Last update date/time, and Last updated by. A red box highlights the 'Input data' and 'Output data' columns. Below the table is a 'Filter result count: 1' and an 'Output Excel' button. At the bottom, there are 'Download all' and 'Trace history' buttons.

Figure 4.1-7 Submenu screen (Symphony execution list)

4.1.7 Symphony regularly execution

- (1) Users can manage regular execution of Symphony operation in “Symphony regularly execution” screen.

Clicking the “Check the work list” in “List” will move to “4.1.6 Symphony execution list” screen with the target executed by regular execution.

The screenshot shows the 'Symphony regularly execution' screen. On the left is a sidebar menu with 'Symphony Regularly execution' highlighted. The main area has a 'Description' section with a 'Display filter' dropdown. Below this is a table with columns: Discard, RegularlyID, Symphony name, Operation, Status, Last update date/time, and Last updated by. The 'Discard' column has a dropdown menu. The 'RegularlyID' column has a search field. The 'Symphony name' column has a search field. The 'Operation' column has a search field. The 'Status' column has a search field. The 'Last update date/time' column has a search field. The 'Last updated by' column has a search field. Below the table are 'Filter' and 'Clear filter' buttons. There is also an 'Auto-filter' checkbox. Below the table is a 'List/Update' section with a table showing the list of regular executions. The table has columns: Update, Discard, RegularlyID, RegularlyWorkList, Symphony name, Operation, Status, Next execution date, Last update date/time, and Last updated by. The 'Update' column has an 'Update' button. The 'Discard' column has a 'Discard' button. The 'RegularlyID' column has a value of 1. The 'RegularlyWorkList' column has a value of 'RegularlyWorkList'. The 'Symphony name' column has a value of 'Demo'. The 'Operation' column has a value of 'Operation1'. The 'Status' column has a value of 'In preparation'. The 'Next execution date' column has a value of '2021/08/07 10:18:38'. The 'Last update date/time' column has a value of '2021/08/07 10:18:38'. The 'Last updated by' column has a value of 'System Administrator'. Below the table is a 'Filter result count: 1' and an 'Output Excel' button.

Figure4.1-8 Sub menu screen (Symphony regularly execution)

- (2) Click “Register” - “Start Registration” button to register Symphony regular execution. Schedule can only be set in the setting window by clicking “Schedule settings” button.

The screenshot shows the 'Set a schedule' dialog box. It has a 'Work period' section with 'Start date' and 'End date' fields. Below this is a 'Schedule' section with radio buttons for 'Time', 'Day', 'Week', 'Month(Specify day)', 'Month(Specify day of week)', and 'End of month'. The 'Time' radio button is selected. To the right of the 'Schedule' section is an 'Interval' field with a 'Time' label. Below the 'Schedule' section is a 'Work suspension period' section with a range field. At the bottom is a 'Note' text area. There are 'OK' and 'Close' buttons at the bottom right. A small asterisk indicates that the 'Start date' field is required.

Figure 4.1-9 Schedule settings screen (Symphony regular execution)

(3) The register screen item list is as shown below.

Table 4.1-5 Register screen item list (Symphony regularly execution)

Items		Descriptions	Input required	Input method	Restrictions
Symphony class name		The symphonies registered in 「4.1.2 Symphony class list」 will be displayed in the list	○	Choose from list	-
Operation name		Operation registered in "Basic Console-Input operation" Input operation list will be displayed.	○	Choose from list	-
Executing user		Any user who did any registration or update to the operation will be registered as an "Executing user". When a regularly executed operation is registered to 4.1.6 Symphony list, a new Executing user will be registered. If the "Executing user" cannot execute the selected "Symphony class name" (e.g does not have access to the Movement), the status will show up as "Link error".	-	Automatic input	
Status		Refer to the following " Table 4.2.11 Status list (Symphony regular execution)	-	Automatic input	-
Schedule settings		Opens the window where one can configure Schedule settings.	-	-	-
Schedule	Next execution date	The next execution date will be automatically updated after registering schedule settings.	-	Automatic input	-
	Start date	Enter the date when the Symphony regular execution will start. " The next execution date will always be updated to be a date after the set "Start date"	○	Manual input	Can only enter data from Schedule settings
	End date	Enter the date when the Symphony regular execution will end. If the " Next execution date" exceeds the " Final date" the status will be changed to " Completed"	-	Automatic input	Can only enter data from Schedule settings
	Period	Choose the period of the regular execution "Time", "Day", "Week", "Month (Specify day)", "Month (Specify day of week)", "End of month" can be selected.	○	Radio button	Can only enter data from Schedule settings
	Interval	Select the regular execution interval based on the selected period	○	Manual input	Can only enter data from Schedule settings
	Week number	Used when period is "Month (Specify day of week)", select the week number to execute work.	※1	Choose from list	Can only enter data from Schedule settings
	Day of week	Used when period is "Week" or "Month (Specify day of week)", select the day of week to execute work.	※2	Choose from list	Can only enter data from Schedule settings
	Date	Used when period is "Month (Specify day)", select the date to execute work.	※3	Manual input	Can only enter data from Schedule settings
	Time	Enter the time of regular execution.	※4	Manual input	Can only enter data from Schedule settings
Work suspension period	Start	Enter the start date/time of work suspension period. Registered Symphony will not be executed	※5	Manual input	Can only enter data from Schedule settings

		during the time between the start and end time.			
	End	Enter the date/time of work suspension period. The registered Symphony will not be executed during the time between the start and end time.	※5	Manual input	Can only enter data from Schedule settings
Remarks		Free description field	-	Manual input	-

※1 Week number is required when period is "Month (Specify day of week)".

※2 Day of week is required when period is "Month (Specify day of week)".

※3 Day is required when period is "Month (Specify day)".

※4 Time is required when period is "Day", "Week", "Month (Specify day)", "Month (Specify day of week)", "End of month".

※5 When setting work suspension period, both "Start" and "End" are required.

Table 4.1-6 Status list (Symphony regular execution)

Status	Description
In preparation	The status immediately after registration. The status will become "In operation" when backyard updates "Next execution date" automatically.
In operation	The status of normal execution. The system registers operation to "4.1.6 Symphony execution list" 3 minutes before "Next execution date", then updates "Next execution date" based on the schedule setting
Completed	The status when "Next execution date" passed "End date". Further Symphony registration will not be performed.
Mismatch error	The status when setting value of schedule is not correct.
Linking error	The status when registering execution failed in "4.1.6 Symphony execution list". Same as the status "In operation", system registered execution in "4.1.6 Symphony execution list", then updates "Next execution date" based on the schedule setting. If registration of execution failed again, the status will remain "Linking error".
Unexpected error	The status when errors other than "Mismatch error" and "Linking error" happens.
Symphony discard	The status when the registered Symphony is discarded. The status will be updated to "In preparation" if the discarded Symphony is restored.
Operation discard	The status when the registered Operation is discarded. The status will be updated to "In preparation" if the discarded Operation is restored.

- (4) The status will become "In preparation" immediately after registered in "Symphony regular execution" menu.

Backyard will update "Next execution date" based on the registered schedule setting, then the status will become "In operation"

If the status is "In operation" or "Linking error", the system registers operation to "4.1.6 Symphony execution list" 3 minutes before "Next execution date", then updates "Next execution date" based on the schedule setting.

※ When pause is set in the Symphony which is registered in regularly execution, if users don't "resume" in "4.1.5 Symphony execution check" after operation is registered, the status in "4.1.6 Symphony execution list" will remain "Executing".