



# IT Automation Conductor 【Practice】

※In this document, “Exastro IT Automation” is described as “ITA”.

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# 1. Introduction

# 1.1 About this document

- The "**Conductor**" menu group is explained in this document.

The screenshot displays the Exastro IT Automation dashboard. The top navigation bar includes the Exastro logo, user information (System Administrator), and links for 'Change password' and 'Logout'. The main menu on the left lists various categories, with 'Conductor' highlighted in the 'Menu group' section. The dashboard features several widgets: 'Movement' (a donut chart showing 4 total movements), 'Work status' (a gauge showing 0 total status), and 'Work result' (a gauge showing 0 total result). Below these are tables for 'Movement', 'Status', and 'Result' with columns for CON, SYM, and SUM. The 'Movement' table lists Ansible Legacy, Ansible Pioneer, Ansible Legacy Role, and Terraform. The 'Status' table lists Executing, Unexecuted (schedule), and Unexecuted. The 'Result' table lists Normal end, Abnormal end, Unexpected error, Emergency stop, and Schedule cancellation.

**Menu group**

- Management...
- Basic Console
- Export/Import
- Symphony
- Conductor**
- File control ...

**Menu set**

- File control c...
- Input
- Substitution ...
- Reference
- Contrast
- HostGroup ...

**Ansible-Leg...**

- Ansible-Leg...
- Ansible-Pion...
- Ansible-Leg...
- Cobbler
- Terraform

**Movement**

| Movement            | SUM |
|---------------------|-----|
| Ansible Legacy      | 1   |
| Ansible Pioneer     | 1   |
| Ansible Legacy Role | 1   |
| Terraform           | 1   |

**Work status**

| Status                | CON | SYM | SUM |
|-----------------------|-----|-----|-----|
| Executing             | 0   | 0   | 0   |
| Unexecuted (schedule) | 0   | 0   | 0   |
| Unexecuted            | 0   | 0   | 0   |

**Work result**

| Result                | CON | SYM | SUM |
|-----------------------|-----|-----|-----|
| Normal end            | 0   | 0   | 0   |
| Abnormal end          | 0   | 0   | 0   |
| Unexpected error      | 0   | 0   | 0   |
| Emergency stop        | 0   | 0   | 0   |
| Schedule cancellation | 0   | 0   | 0   |

**Work history**

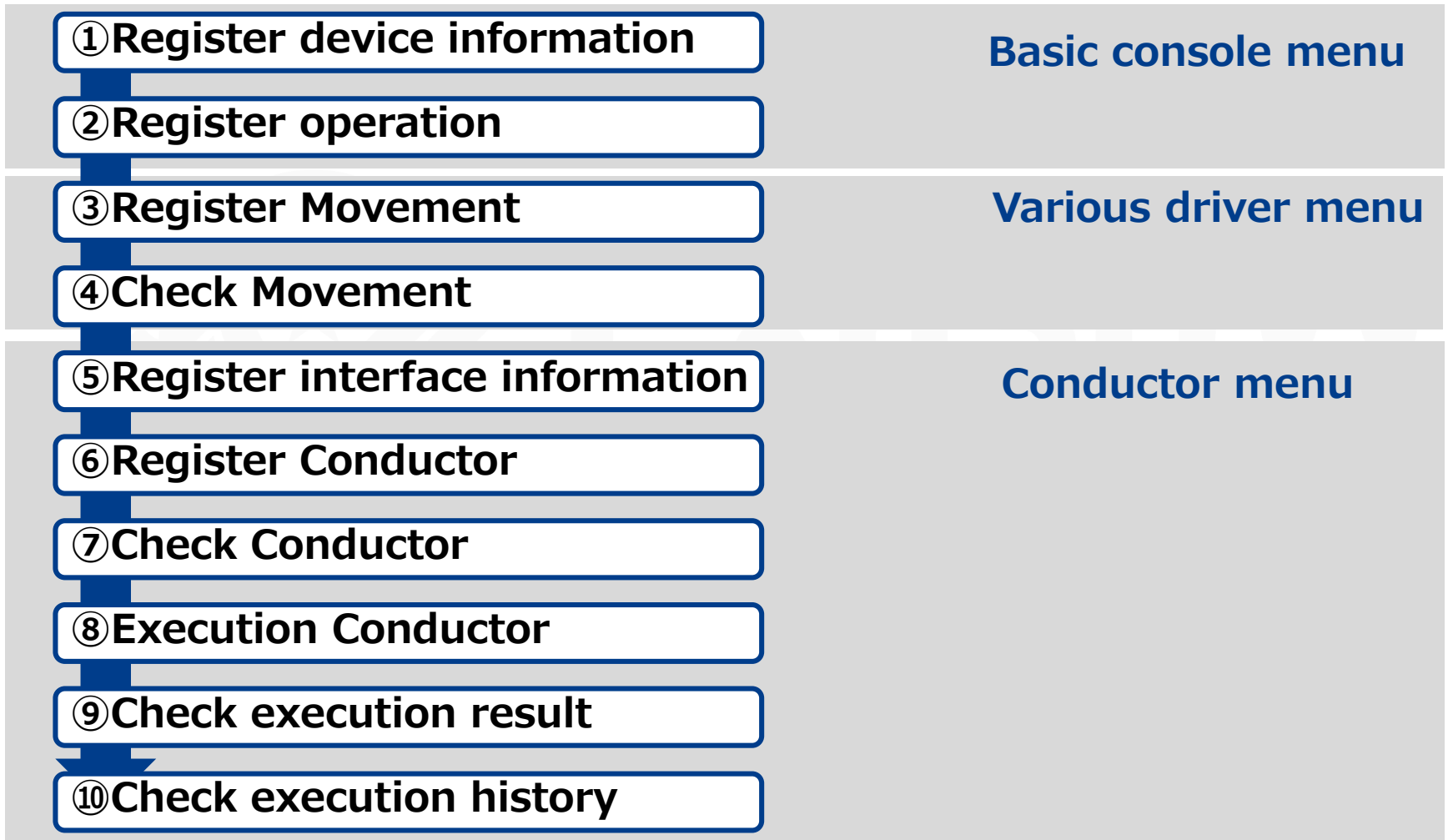
Contact administrator

## 2. About Conductor



## 2.1 Scenario (1/2)

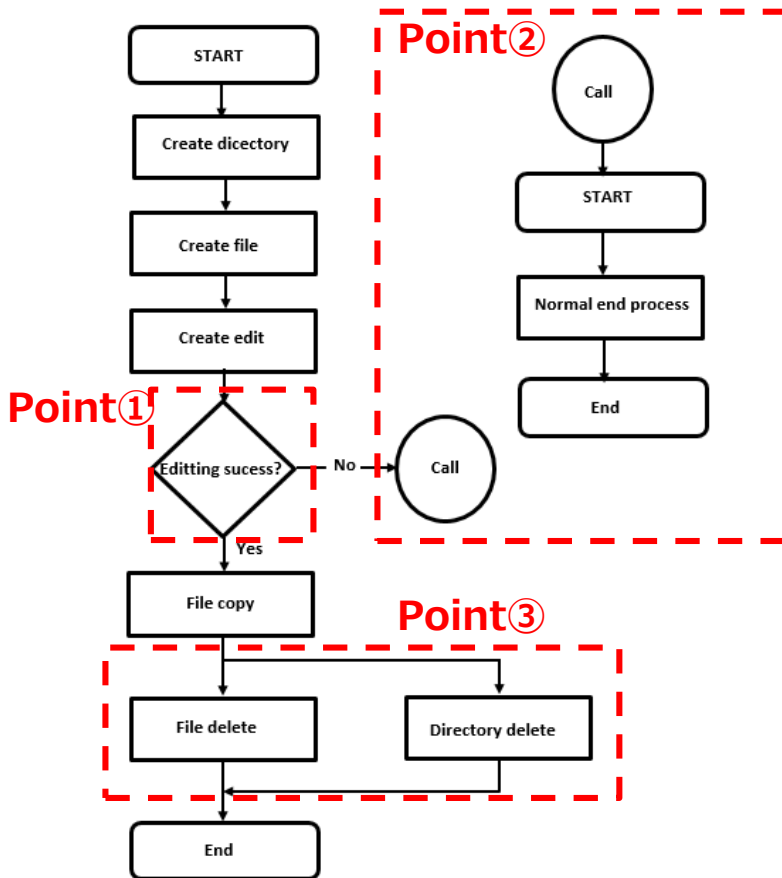
- The Scenario used in this document is as following.
- In this scenario, we will use Ansible-Legacy for the Ansible driver.



## 2.1 Scenario (2/2)

- In order to experience the Conductor functions in this document, we will create a Conductor similar to the following flowchart.

### ● Flowchart



### □ Conductor function features

#### □ Point①

Conditional branch function according to the success/end judgment of pre-processing.

#### □ Point②

Registered Operation/Conductor Call function.

#### □ Point③

Movement parallel processing function.

## 2.2 Preparation

### ●Create IaC(1/2)

In this scenario, Ansible-Legacy is explained with the use of an example.  
Save the following **IaC as an yml file for each module.**

※Character code is "UTF-8", Newline code is "LF", file name extension is "yaml"format.  
Please be careful about indents.

```
- name: create directory
  file:
    path=/tmp/{{ VAR_dir_name_1 }}
    state=directory
    mode=0755

- name: remove directory
  file:
    path=/tmp/{{VAR_dir_name_1 }}
    state=absent

- name: create file
  file:
    path=/tmp/{{VAR_dir_name_1 }}/{{VAR_file_name }}
    state=touch
    mode=0755
```



## 2.2 Preparation








### ● Create IaC(2/2)

Similarly, save the following **IaC as yaml files** for each module.

- name: remove file  
file:  
  path=/tmp/{{VAR\_dir\_name\_1 }}/{{VAR\_file\_name }}  
  state=absent
- name: copy file  
copy:  
  src=/tmp/{{VAR\_dir\_name\_1 }}/{{VAR\_file\_name }}  
  dest=/tmp/{{VAR\_dir\_name\_2 }}/{{VAR\_file\_name }}  
  owner=root  
  group=root  
  mode=0644
- name: edit file  
copy:  
  dest=/tmp/{{VAR\_dir\_name\_1 }}/{{VAR\_file\_name }}  
  content= {{VAR\_edit\_param\_1 }}
- name: forced termination  
fail: msg={{VAR\_message\_text }}



### ● Created image

| Name                                                                                                         | Update date/time | Type     | Size |
|--------------------------------------------------------------------------------------------------------------|------------------|----------|------|
|  copy_file.yml          | 2020/10/30 9:55  | YML file | 1 KB |
|  create_directory.yml   | 2020/10/30 9:55  | YML file | 1 KB |
|  create_file.yml        | 2020/10/30 9:55  | YML file | 1 KB |
|  edit_file.yml          | 2020/10/30 9:55  | YML file | 1 KB |
|  forced_termination.yml | 2020/10/30 9:55  | YML file | 1 KB |
|  remove_directory.yml   | 2020/10/30 9:55  | YML file | 1 KB |
|  remove_file.yml        | 2020/10/30 9:55  | YML file | 1 KB |

### 3. Operation

## 3.1 Register Target host

### ●Register Target host

"Basic Console" menu group >> "Device list" menu >> "Register" submenu >> "Start register" button.

- ① Enter the following "Host name", "IP address", "Login ID", "Management", "Login password" and "Authentication method".
- ② Click the "Register" button.

Register

| Managed system item number | Host name * | IP address * | EtherWakeOnLan |                     |
|----------------------------|-------------|--------------|----------------|---------------------|
|                            |             |              | MAC address    | Network device name |
| Auto-input                 |             |              |                |                     |

※\* is a required item.

Back Register

**1** Enter value for the item

| Item                  | Value                   |
|-----------------------|-------------------------|
| Host name             | testserver              |
| IP address            | (Free value)            |
| Login ID              | (Free value)            |
| Management            | ●                       |
| Login password        | (Free value)            |
| Authentication method | Password authentication |

**POINT**

**2**

This scenario assumes that you want to have a ssh password connection to the Target host. Please enter "IP Address", "Login ID", "Login password" appropriate to the settings set in the users environment.

## 3.2 Register operation

### ●Register operation

"Basic Console" menu group >> "Input list" menu >> "Register" submenu  
>>"Start register" button.

- ① Enter "Operation name", "Schedule date for execution".
- ② Click "Registration" button.

Register

| No.        | Operation ID | Operation name*      | Scheduled date for execution* | Remarks |
|------------|--------------|----------------------|-------------------------------|---------|
| Auto-input | Auto-input   | <input type="text"/> | <input type="text"/>          |         |

※\*is a required item.

Back

Register

1

Enter value for item

| Item                        | Value            |
|-----------------------------|------------------|
| Operation name              | operation1       |
| Schedule date for execution | (Free date/time) |

2

POINT

The process will not be executed at the date and time specified here.

## 3.3 Register IaC (1/2)

### ●Register IaC

"Ansible-Legacy" menu group >> "Playbook files" menu >> "Register" submenu  
>> "Start register" button.

- ① Input "Playbook file name".  
Click the "Reference" button in the "Playbook files" column.  
**Upload all previously created yml files.**  
(Click "upload in Advance" button)
- ② Click "Registration" button.

Exastro IT Automation Ansible-Legacy

User name [System Administrator]  
Login ID [administrator]  
Change password Logout

Menu

- Main menu
- Movement list
- Playbook files
- Movement details
- Substitution value auto-registration setting
- Target host
- Substitution value list
- Execution
- Check operation status
- Execution list

Description ▾ Open

Display filter ▾ Open

List/Update ▾ Open

Register ▲ Close

Playbook ID: Auto-input

Playbook name:

Playbook files:  No file chosen

Upload status:

※ \* is a required item.

| Item               | Value        |
|--------------------|--------------|
| Playbook file name | <free>       |
| Playbook file      | <free> .yaml |

**POINT** Please refer to "2.2 Pre-preparation".  
For more information on how to create IaC.

## 3.3 Register IaC (2/2)

### ●Register IaC

- When you're done registering, the list should be something like this:

| List/Update |           |        |         |             |                    |                                        |                                        |                      |         |                       |                      |
|-------------|-----------|--------|---------|-------------|--------------------|----------------------------------------|----------------------------------------|----------------------|---------|-----------------------|----------------------|
| History     | Duplicate | Update | Discard | Playbook ID | Playbook name      | Playbook files                         | Movement playbook link                 | Access permission    | Remarks | Last update date/time | Last updated by      |
|             |           |        |         |             |                    |                                        |                                        | Role to allow access |         |                       |                      |
| History     | Duplicate | Update | Discard | 9           | copy_file          | <a href="#">copy_file.yml</a>          | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:16:19   | System Administrator |
| History     | Duplicate | Update | Discard | 10          | create_directory   | <a href="#">create_directory.yml</a>   | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:16:43   | System Administrator |
| History     | Duplicate | Update | Discard | 11          | create_file        | <a href="#">create_file.yml</a>        | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:17:08   | System Administrator |
| History     | Duplicate | Update | Discard | 12          | edit_file          | <a href="#">edit_file.yml</a>          | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:17:51   | System Administrator |
| History     | Duplicate | Update | Discard | 13          | forced_termination | <a href="#">forced_termination.yml</a> | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:18:21   | System Administrator |
| History     | Duplicate | Update | Discard | 14          | remove_directory   | <a href="#">remove_directory.yml</a>   | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:18:46   | System Administrator |
| History     | Duplicate | Update | Discard | 15          | remove_file        | <a href="#">remove_file.yml</a>        | <a href="#">Movement playbook link</a> |                      |         | 2022/02/01 11:19:05   | System Administrator |

Filter result count: 7

[Output Excel](#)

## 3.4 Register Movement (1/2)

### ●Register Movement

"Ansible-Legacy" menu group >> "Movement list" menu >> "Register" submenu >> "Start register" button.

- ① Input "Movement name" and select "Host specific format".
- ② Click the "Register" button.

The screenshot shows the Exastro Ansible-Legacy web interface. The left sidebar contains a menu with options like 'Main menu', 'Movement list', 'Playbook files', etc. The main content area displays the 'Register' form. A red box labeled '1' points to the 'Movement Name' field and the 'Host specific format' dropdown. A red box labeled '2' points to the 'Register' button. A callout box labeled 'POINT' contains the text 'Please create one Movement for each yml file.'.

**Set the value for item**

| Item                 | Value  |
|----------------------|--------|
| Movement name        | <Free> |
| Host specific format | IP     |

**POINT**

Please create one Movement for each yml file.

## 3.4 Register Movement (2/2)

### ● Register Movement

- When you're done registering, the list should be something like this:

#### List/Update

| History | Duplicate | Update | Discard | Playbook ID | Playbook name      | Playbook files                         | Movement playbook link | Access permission    | Remarks | Last update date/time | Last updated by      |
|---------|-----------|--------|---------|-------------|--------------------|----------------------------------------|------------------------|----------------------|---------|-----------------------|----------------------|
|         |           |        |         |             |                    |                                        |                        | Role to allow access |         |                       |                      |
| History | Duplicate | Update | Discard | 9           | copy_file          | <a href="#">copy_file.yml</a>          | Movement playbook link |                      |         | 2022/02/01 11:16:19   | System Administrator |
| History | Duplicate | Update | Discard | 10          | create_directory   | <a href="#">create_directory.yml</a>   | Movement playbook link |                      |         | 2022/02/01 11:16:43   | System Administrator |
| History | Duplicate | Update | Discard | 11          | create_file        | <a href="#">create_file.yml</a>        | Movement playbook link |                      |         | 2022/02/01 11:17:08   | System Administrator |
| History | Duplicate | Update | Discard | 12          | edit_file          | <a href="#">edit_file.yml</a>          | Movement playbook link |                      |         | 2022/02/01 11:17:51   | System Administrator |
| History | Duplicate | Update | Discard | 13          | forced_termination | <a href="#">forced_termination.yml</a> | Movement playbook link |                      |         | 2022/02/01 11:18:21   | System Administrator |
| History | Duplicate | Update | Discard | 14          | remove_directory   | <a href="#">remove_directory.yml</a>   | Movement playbook link |                      |         | 2022/02/01 11:18:46   | System Administrator |
| History | Duplicate | Update | Discard | 15          | remove_file        | <a href="#">remove_file.yml</a>        | Movement playbook link |                      |         | 2022/02/01 11:19:05   | System Administrator |

Filter result count: 7

Output Excel



## 3.5 Register Movement-Playbook link (1/2)

### Register Movement-Playbook link

"Ansible-Legacy" menu group >> "Movement playbook link" menu >> "Register" submenu >> "Start register" button.

- ① Input "Movement", "Playbook files" and "Include order"
- ② Click the "Register" button.

**Exastro IT Automation Ansible-Legacy**

Menu

- Main menu
- Movement list
- Playbook files
- Movement details
- Substitution value auto-registration setting
- Target host
- Substitution value list
- Execution
- Check operation status
- Execution list

Description

Display filter

List/Update

Register

Set the value for item

| Item          | Value                        |
|---------------|------------------------------|
| Movement      | Select the create Movement   |
| Playbook file | Select the register playbook |
| Include order | 1                            |

Associated item No

Auto-input

Movement\*

Playbook files\*

Include order\*

Remarks

Last update date/time

Last updated by

Auto-input

Auto-input

※\* is a required item.

Back Register

#### POINT

Please create the same number of yml files as registered movement information.

## 3.5 Register Movement details (2/2)

### ● Register Movement details

When you're done registering, the list should be something like this:

| List/Update |           |        |         |               |                    |                |               |                                   |                    |              |                  |             |                         | △Close               |
|-------------|-----------|--------|---------|---------------|--------------------|----------------|---------------|-----------------------------------|--------------------|--------------|------------------|-------------|-------------------------|----------------------|
| History     | Duplicate | Update | Discard | Movement ID ↕ | Movement Name ↕    | Orchestrator ↕ | Delay timer ↕ | Dedicated information for ansible |                    |              |                  |             | Last update date/time ↕ | Last updated by ↕    |
|             |           |        |         |               |                    |                |               | Host specific format ↕            | WinRM connection ↕ | virtualenv ↕ | Header section ↕ | Optional pa |                         |                      |
| History     | Duplicate | Update | Discard | 8             | copy_file          | Ansible Legacy |               | IP                                |                    |              |                  |             | 2022/02/01 12:11:39     | System Administrator |
| History     | Duplicate | Update | Discard | 9             | create_directory   | Ansible Legacy |               | IP                                |                    |              |                  |             | 2022/02/01 12:11:57     | System Administrator |
| History     | Duplicate | Update | Discard | 10            | create_file        | Ansible Legacy |               | IP                                |                    |              |                  |             | 2022/02/01 12:12:10     | System Administrator |
| History     | Duplicate | Update | Discard | 11            | edit_file          | Ansible Legacy |               | IP                                |                    |              |                  |             | 2022/02/01 12:12:24     | System Administrator |
| History     | Duplicate | Update | Discard | 12            | forced_termination | Ansible Legacy |               | IP                                |                    |              |                  |             | 2022/02/01 12:14:22     | System Administrator |
| History     | Duplicate | Update | Discard | 13            | remove_directory   | Ansible Legacy |               | IP                                |                    |              |                  |             | 2022/02/01 12:14:47     | System Administrator |

Filter result count: 6

Output Excel

## 3.6 Register Movement and Host connected to the operation

### ●Register Movement and Host connected to the operation

"Ansible-Legacy" menu group >> "Target host" menu >> "Register" submenu >> "Start register" button.

- ① Input "Operation" , "Movement" and "Host".
- ② Click the "Register" button.

**Exastro IT Automation Ansible-Legacy**

**Menu**

- Main menu
- Movement list
- Playbook files
- Movement details
- Substitution value auto-registration setting
- Target host
  - Substitution value list
  - Execution
  - Check operation status
  - Execution list

**Description**

**Display filter**

**List/Update**

**Register**

**Set value to item**

| Item      | Value            |
|-----------|------------------|
| Operation | operation1       |
| Movement  | Created Movement |
| Host      | testserver       |

**Item No.** Auto-input

**Operation\***

**Movement\***

**Host\***

※\* is a required item.

**Back** **Register**

**POINT** Please register all the created Movements.

## 3.7 Substitution value list(1/2)

### ●Substitution value list

"Ansible-Legacy" menu group >> "Substitution value list" menu >> "Register" submenu >> "Start register" button.

- ① Input "Operation" , "Movement" , "Host" , "Variable name" and "Specific value".
- ② Click the "Register" button.

Exastro IT Automation Ansible-Legacy

User name [System Administrator]  
Login ID [administrator]  
Role Change password Logout

Menu

- Main menu
- Movement list
- Playbook files
- Movement playbook link
- Substitution value auto-registration setting
- Target host
- Substitution value list
- Execution
- Check operation status
- Execution list

Description

Display filter

List/Update

Register

Item No.

Operation \*

Movement \*

Host \*

Variable name \*

Sensitivity

Auto-input

Select operation

Select operation

Select Movement

OFF

※ \* is a required item.

Back Register

Set value to item

| Item          | Value         |
|---------------|---------------|
| Operation     | operation1    |
| Movement      | See next page |
| Host          | testserver    |
| Variable name | See next page |

## 3.7 Substitution value list (2/2)

### ●Substitution value list

Please use the list below for registering substitute values.

| Operation    | Host         | Movement: Variable                       | Specific value | Substitute order |
|--------------|--------------|------------------------------------------|----------------|------------------|
| 1:operation1 | 1:Testserver | 1:copy_file:1:VAR_dir_name_1             | dir1           |                  |
| 1:operation1 | 1:Testserver | 1:copy_file:2:VAR_file_name              | testfile       |                  |
| 1:operation1 | 1:Testserver | 1:copy_file:3:VAR_dir_name_2             | dir2           |                  |
| 1:operation1 | 1:Testserver | 2:create_directory:4:VAR_dir_name_1      | dir1           |                  |
| 1:operation1 | 1:Testserver | 2:create_directory:5:VAR_dir_name_2      | dir2           |                  |
| 1:operation1 | 1:Testserver | 3:create_file:6:VAR_dir_name_1           | dir1           |                  |
| 1:operation1 | 1:Testserver | 3:create_file:7:VAR_file_name            | testfile       |                  |
| 1:operation1 | 1:Testserver | 4:edit_file:8:VAR_dir_name_1             | dir1           |                  |
| 1:operation1 | 1:Testserver | 4:edit_file:9:VAR_file_name              | testfile       |                  |
| 1:operation1 | 1:Testserver | 4:edit_file:10:VAR_edit_param_1          | param1         |                  |
| 1:operation1 | 1:Testserver | 5:forced_termination:11:VAR_message_text | testmsg_fail   |                  |
| 1:operation1 | 1:Testserver | 6:remove_directory:12:VAR_dir_name_1     | dir1           |                  |
| 1:operation1 | 1:Testserver | 7:remove_file:13:VAR_dir_name_1          | dir1           |                  |
| 1:operation1 | 1:Testserver | 7:remove_file:14:VAR_file_name_1         | testfile       |                  |

## 3.8 Register Conductor (1/7)

### ●Register Conductor

Input “Conductor name” in the Conductor menu group.

- ① Input Conductor Class edit
- ② Drag and drop “Movements” and “Functions” displayed from the right side of the screen to center of the screen.
- ③ Click “Registration” button.

Enter value for item

| Item | Value       |
|------|-------------|
| Name | Conductor_1 |

Drag and drop

※ Please see the next section for information regarding registering the conductor used in this guide.

## 3.8 Register Conductor(2/7)

### ●Register Conductor

Please create the Conductor as shown in the figure below.

Input value to item

| Item | Value       |
|------|-------------|
| Name | Conductor_2 |

- Input "Conductor\_2" in "Conductor name".
- Drag and drop "forced\_termination" from the Movement.
- Connect "IN" and "OUT" as shown in the figure.
- Click the "Register" button at the bottom of the screen.

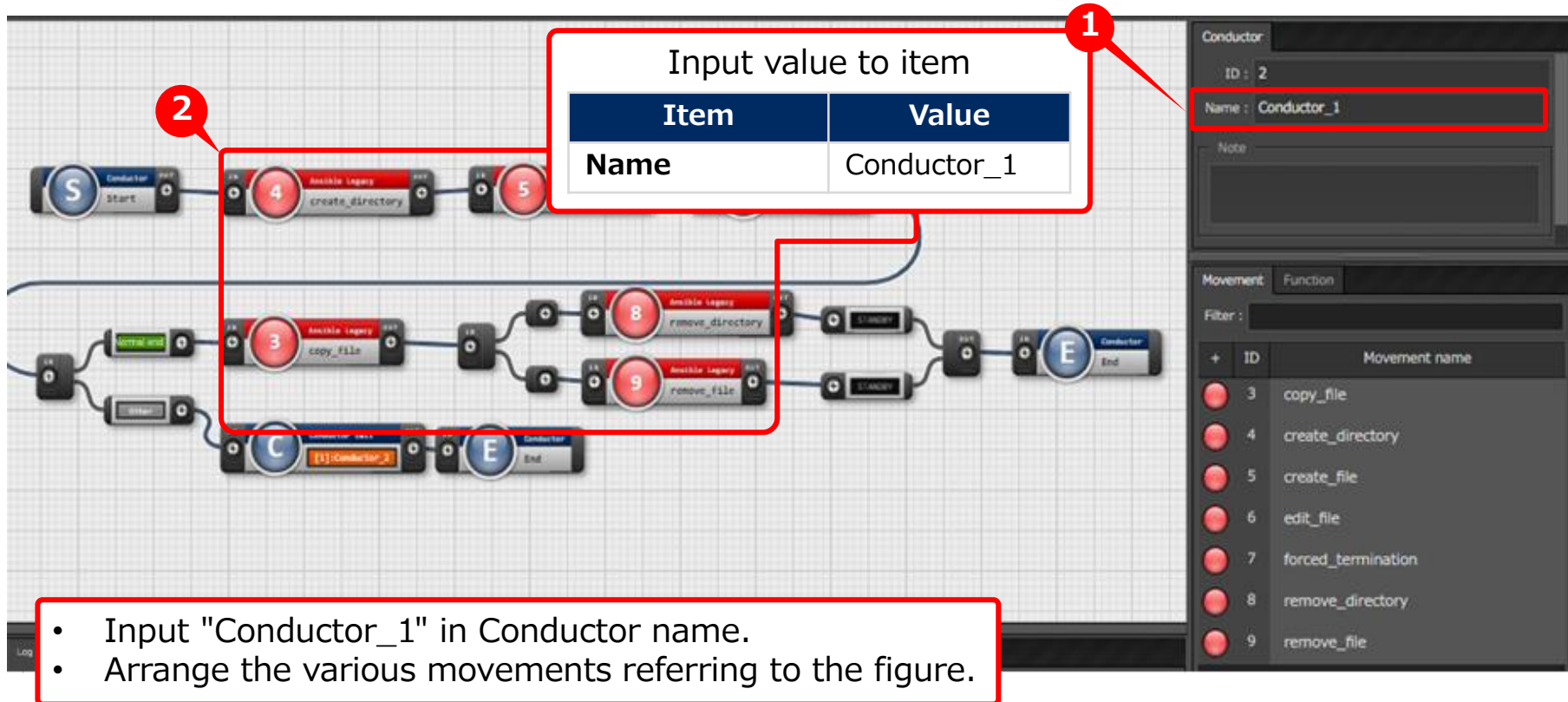
Registration

## 3.8 Register Conductor(3/7)

### ●Register Conductor

The overall view of "Conductor\_1" is as follows.

The details are explained on the next pages.

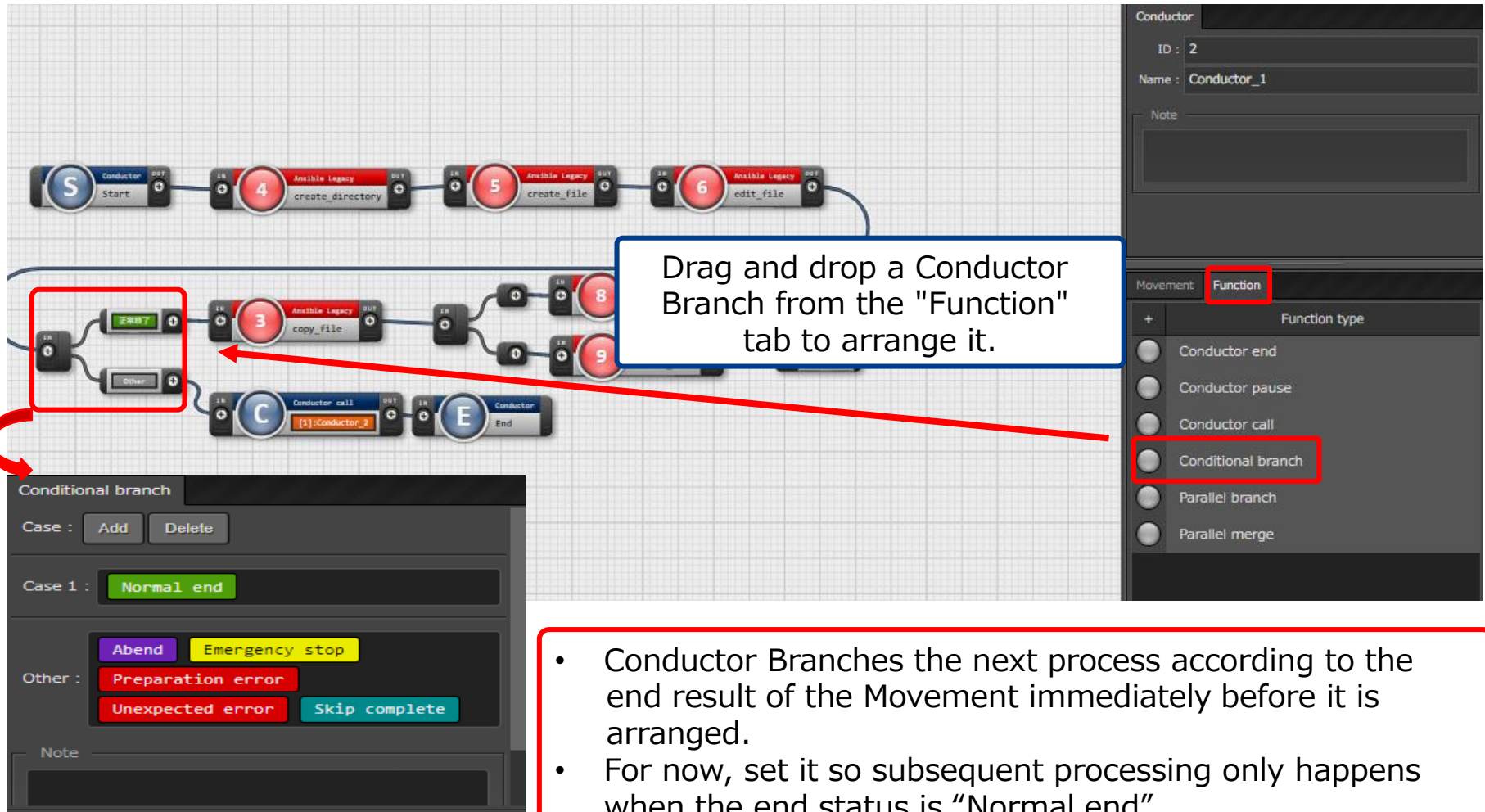




## 3.8 Register Conductor(4/7)

### ●Register Conductor

Please create the Conductor as shown in the figure below.



- Conductor Branches the next process according to the end result of the Movement immediately before it is arranged.
- For now, set it so subsequent processing only happens when the end status is "Normal end".

## 3.8 Register Conductor (5/7)

### ● Register Conductor

Please create the Conductor as shown in the figure below.

Drag and drop Conductor Call from the "Function" tab to arrange it.

Conductor call configuration panel:

- Default skip: ☐
- Conductor select: [1]:Conductor\_2
- Operation select: Conductor call
- Note:

Function type list:

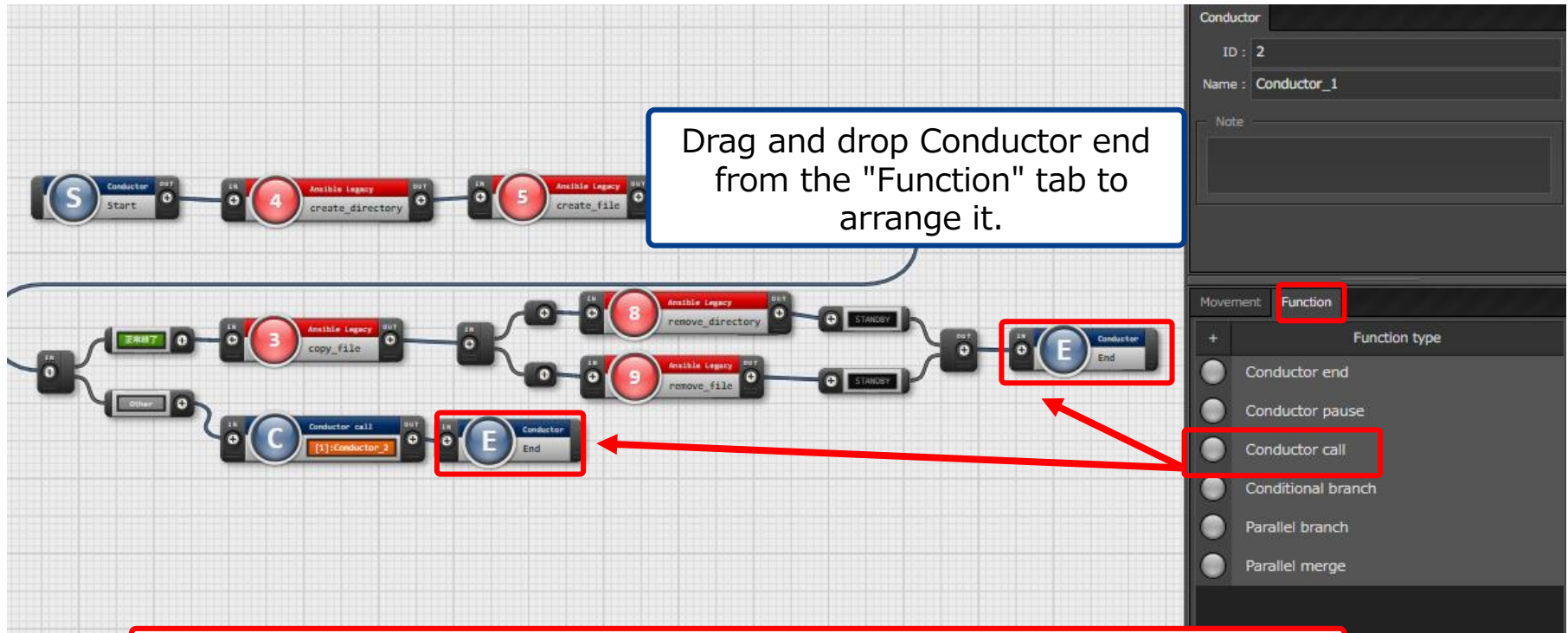
- Conductor end
- Conductor pause
- Conductor call
- Conditional branch
- Parallel branch
- Parallel merge

- “Conductor call” can call in and execute previously set Conductors and Operations.
- Specify the previously created Conductor\_2.

## 3.8 Register Conductor (6/7)

### ● Register Conductor

Please create the Conductor as shown in the figure below.

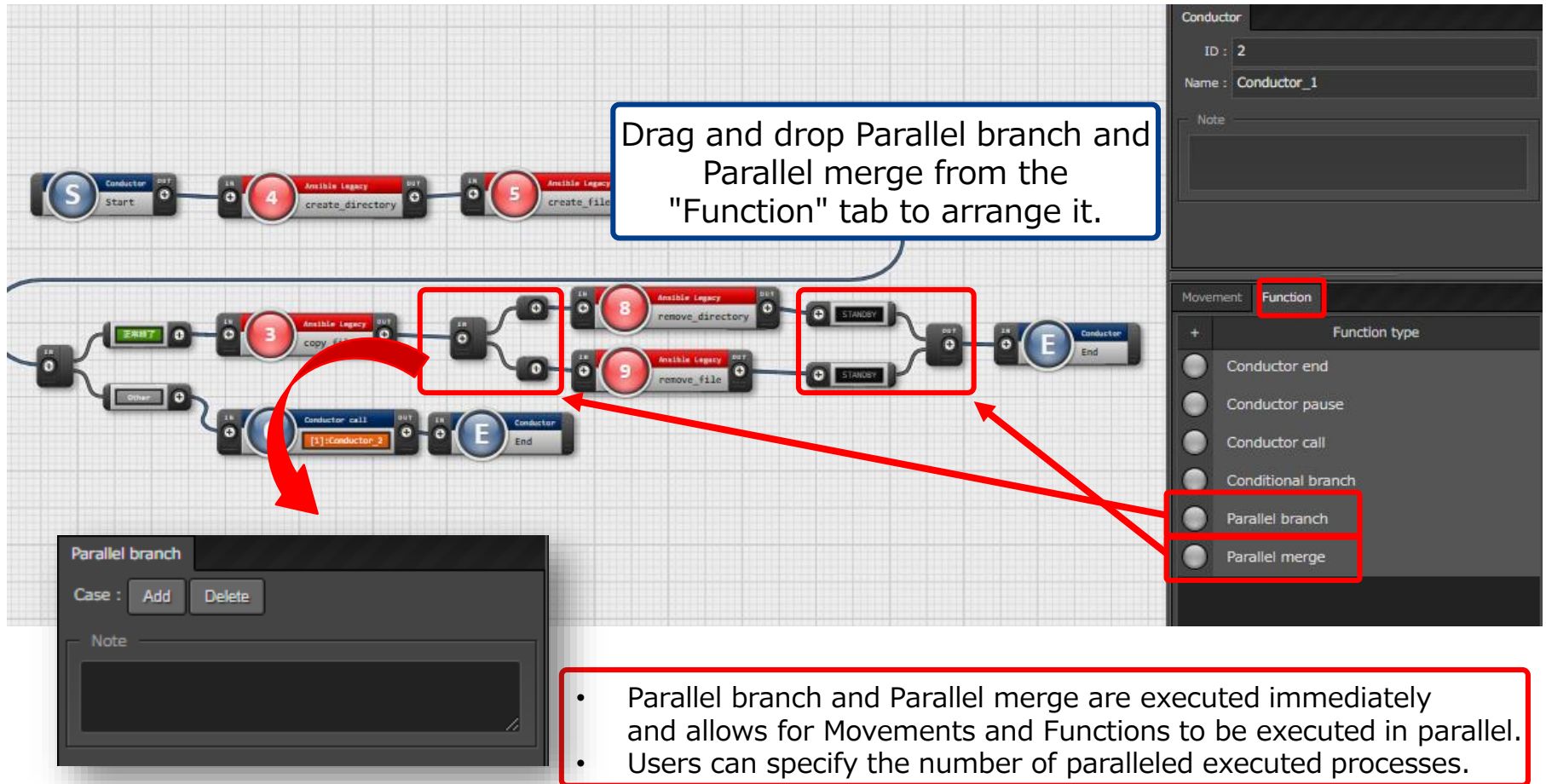


- The “Conductor end” node is placed at the end of the process string.
- It is also deployed at the end of the branch process introduced in (5/7).

## 3.8 Register Conductor (7/7)

### ● Register Conductor

Please create the Conductor as shown the figure below.





## 3.9 Conductor execution

### ●Conductor execution

"Conductor" menu group >> "Conductor execution" menu.

- ① Determine the execution date and time from the "Schedule date/time" item in the "Conductor [list]" submenu.
- ② Select "Conductor\_1" in the "Conductor name" , "Conductor [List]" submenu items.
- ③ Select "operation" in the "operation name" , "operation [list]" submenu items.
- ④ Click the "Execute" button.

The screenshot shows the Exastro Conductor execution interface. It includes a 'Description' section, a 'Scheduling' section with a 'Specify the scheduled date/time in (YYYY/MM/DD)' field, and a 'Conductor [filter]' section. Below these are three submenus: 'Conductor [List]', 'Operation [Filter]', and 'Operation [List]'. Each submenu has a table of items. Red callouts with numbers 1 through 4 point to specific elements: 1 points to the 'Schedule date/time' field in the 'Scheduling' section; 2 points to the 'Conductor\_1' row in the 'Conductor [List]' table; 3 points to the 'Operation\_1' row in the 'Operation [List]' table; and 4 points to the 'Execute' button at the bottom right. A large diagram on the right side of the interface shows a complex flowchart of operations and their dependencies.

**1** Select the following value

| Item               | Value    |
|--------------------|----------|
| Schedule date/time | Optional |

**2** Select the following value

| Item           | Value       |
|----------------|-------------|
| Conductor name | Conductor_1 |

**3** Select the following value

| Item           | Value       |
|----------------|-------------|
| Operation name | Operation_1 |

**4** Execute

## Conductor confirmation

- 

### Progress status(Execution log)

Filter :  ☐ Display only corresponding lines

30



**Exastro**