



# 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**

Work history

Contact administrator

## 2. About Conductor



## 2.1 Scenario (1/2)

- The Scenario used in this document is as following.
- Ansible driver is required to proceed with the scenario, so in this scenario, we will explain using Ansible-Legacy.

①Register device information

Basic console menu

②Register operation

③Register Movement

Various driver menu

④Check Movement

⑤Register interface information

Conductor menu

⑥Register Conductor

⑦Check Conductor

⑧Execution Conductor

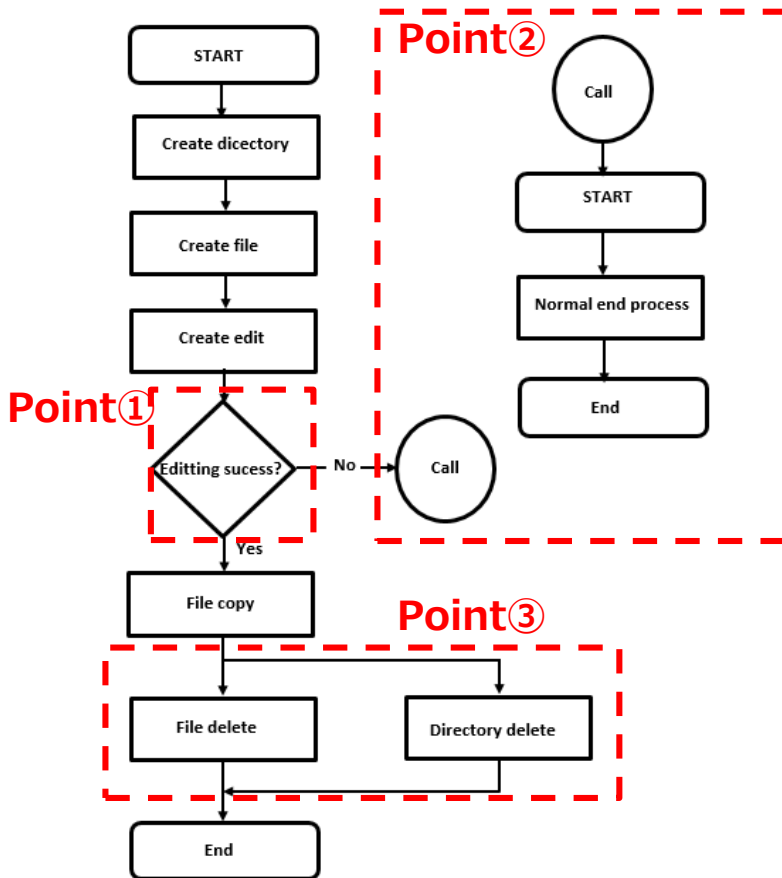
⑨Check execution result

⑩Check execution history

## 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



### □ Features of Conductor function

#### □ 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/{{ item.dir }}
    state: directory
    mode: 0755
  with_items:
    - { dir: "{{ VAR_dir_name_1 }}" }
    - { dir: "{{ VAR_dir_name_2 }}" }

- 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 "Register" button.

Register

Managed system item number	Host name *	IP address *	EtherWakeOnLan	
			MAC address	Network device name
Auto-input	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

※\* 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 playbook link
- 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: Choose File No file chosen  
Upload in advance  
Upload status:

※\* is a required item.

Back Register

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										△Close
History	Duplicate	Update	Discard	Playbook ID	Playbook name	Playbook files	Movement playbook link	Access perm Role to allow	Last update date/time	Last updated by
History	Duplicate	Update	Discard	4	yum_package_install	<a href="#">yum_package_install.yml</a>	Movement playbook link		2021/12/09 13:07:53	System Administrator
History	Duplicate	Update	Discard	5	copy_file	<a href="#">CopyFile.yml</a>	Movement playbook link		2021/12/09 16:42:19	System Administrator
History	Duplicate	Update	Discard	6	create_directory	<a href="#">CreateDirectory.yml</a>	Movement playbook link		2021/12/09 16:42:41	System Administrator
History	Duplicate	Update	Discard	7	create_file	<a href="#">CreateFile.yml</a>	Movement playbook link		2021/12/09 16:43:10	System Administrator
History	Duplicate	Update	Discard	8	forced_termination	<a href="#">ForcedTermination.yml</a>	Movement playbook link		2021/12/09 16:43:29	System Administrator
History	Duplicate	Update	Discard	9	remove_file	<a href="#">RemoveFile.yml</a>	Movement playbook link		2021/12/09 16:43:45	System Administrator
History	Duplicate	Update	Discard	10	remove_directory	<a href="#">RemoveDirectory.yml</a>	Movement playbook link		2021/12/09 16:44:04	System Administrator
History	Duplicate	Update	Discard	11	edit_file	<a href="#">EditFile.yml</a>	Movement playbook link		2021/12/09 16:44:21	System Administrator

Filter result count: 8

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 "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**

**1** Set the value for item

Item	Value
Movement name	<Free>
Host specific format	IP

**Movement ID**

**Movement Name\***

**Delay timer**

**Host specific format\***

**WinRM connection**

Auto-input

※\*is a required item.

**Back** **Register**

**2**

**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 △Close

History	Duplicate	Update	Discard	Movement ID	Movement Name	Orchestrator	Access permission	Remarks	Last update date/time	Last updated by
							Role to allow access			
History	Duplicate	Update	Discard	13	copy_file	Ansible Legacy			2021/12/09 16:49:32	System Administrator
History	Duplicate	Update	Discard	14	create_directory	Ansible Legacy			2021/12/09 16:49:44	System Administrator
History	Duplicate	Update	Discard	15	create_file	Ansible Legacy			2021/12/09 16:49:53	System Administrator
History	Duplicate	Update	Discard	16	edit_file	Ansible Legacy			2021/12/09 16:50:03	System Administrator
History	Duplicate	Update	Discard	17	forced_termination	Ansible Legacy			2021/12/09 16:50:21	System Administrator
History	Duplicate	Update	Discard	18	remove_directory	Ansible Legacy			2021/12/09 16:50:36	System Administrator
History	Duplicate	Update	Discard	19	remove_file	Ansible Legacy			2021/12/09 16:50:48	System Administrator

Filter result count: 7

Output Excel



## 3.5 Register Movement details (1/2)

### Register Movement details

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

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

Description ▾Open

Display filter ▾Open

List/Update ▾Open

Register △Close

Associated item No	Movement*	Playbook files*	Include order*	Remarks	Last update date/time	Last updated by
Auto-input	<input type="text"/>	<input type="text"/>	<input type="text"/>		Auto-input	Auto-input

※\* is a required item.

[Back](#) [Register](#)

Set the value for item

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

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 <span>△Close</span>										
History	Duplicate	Update	Discard	Associated item No. ⚙	Movement ⚙	Playbook files ⚙	Include order ⚙	Access permis Role to allow a	Last update date/time ⚙	Last updated by ⚙
History	Duplicate	Update	Discard	4	<a href="#">13:copy_file</a>	<a href="#">copy_file</a>	1		2021/12/09 16:52:09	System Administrator
History	Duplicate	Update	Discard	5	<a href="#">14:create_directory</a>	<a href="#">create_directory</a>	1		2021/12/09 16:52:28	System Administrator
History	Duplicate	Update	Discard	6	<a href="#">15:create_file</a>	<a href="#">create_file</a>	1		2021/12/09 16:52:38	System Administrator
History	Duplicate	Update	Discard	7	<a href="#">16:edit_file</a>	<a href="#">edit_file</a>	1		2021/12/09 16:54:42	System Administrator
History	Duplicate	Update	Discard	8	<a href="#">17:forced_termination</a>	<a href="#">forced_termination</a>	1		2021/12/09 16:54:54	System Administrator
History	Duplicate	Update	Discard	9	<a href="#">18:remove_directory</a>	<a href="#">remove_directory</a>	1		2021/12/09 16:55:08	System Administrator
History	Duplicate	Update	Discard	10	<a href="#">19:remove_file</a>	<a href="#">remove_file</a>	1		2021/12/09 16:55:28	System Administrator

Filter result count: 7

Output Excel

Table setting

## 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 "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

Item No.	Operation*	Movement*	Host*
Auto-input			

※\*is a required item.

Back Register

POINT

Please register all the created Movements.

1

Set value to item

Item	Value
Operation	operation1
Movement	Created Movement
Host	testserver

## 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 "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

Item No.	Operation*	Movement	Host	Variable name	Specific value
Auto-input	1:Operation1				

※\* is a required item.

Back Register

Download all and edit file uploads

Trace history

## 3.7 Substitution value list (2/2)

### ●Substitution value list

Please use the list below for registering substitute values.

Operation	Host	Variable name	Specific value	Substitution order
1:operation1	1:Testserver	3:copy_file:1:VAR_dir_name_1	dir1	
1:operation1	1:Testserver	3:copy_file:2:VAR_file_name	dir2	
1:operation1	1:Testserver	3:copy_file:3:VAR_edit_param_1	testfile	
1:operation1	1:Testserver	4:create_directory:4:VAR_dir_name_1	dir1	
1:operation1	1:Testserver	5:create_file:5:VAR_dir_name_1	dir1	
1:operation1	1:Testserver	5:create_file:6:VAR_file_name	testfile	
1:operation1	1:Testserver	6:edit_file:7:VAR_dir_name_1	dir1	
1:operation1	1:Testserver	6:edit_file:8:VAR_file_name	testfile	
1:operation1	1:Testserver	6:edit_file:9:VAR_edit_param_1	param1	
1:operation1	1:Testserver	7:forced_termination:10:VAR_message_text	testmsg_fail	
1:operation1	1:Testserver	8:remove_directory:11:VAR_dir_name_1	dir1	
1:operation1	1:Testserver	9:remove_file:12:VAR_dir_name_1	dir1	
1:operation1	1:Testserver	9:remove_file:12:VAR_dir_name_1	testfile	

## 3.8 Register Conductor (1/7)

### ●Register Conductor

Input "Conductor name" in the Conductor menu group>> Conductor Class edit.

- ① Drag and drop "Movements" and "Functions" displayed from the right side of the screen to center of the screen.
- ② Click "Registration" button.

Enter value for item

Item	Value
Name	Conductor_1

1

Drag and drop

2

3

To edit

※ The Conductor to be created is on the next page.

## 3.8 Register Conductor(2/7)

### ●Register Conductor

Please create the Conductor as shown the figure below.

The screenshot displays the Exastro interface. On the left, a workflow is shown on a grid background, consisting of three connected blocks: a 'Start' block (blue circle with 'S'), a 'forced\_termination' block (red circle with '7' and 'Ansible Legacy' text), and an 'End' block (blue circle with 'E'). The 'Start' block has an 'OUT' port, and the 'forced\_termination' block has an 'IN' port and an 'OUT' port. The 'End' block has an 'IN' port. On the right, a sidebar shows the 'Conductor' configuration with 'ID : 1' and 'Name : Conductor\_2'. Below this, a 'Movement' table lists various functions.

Movement	Function	
+	ID	Movement name
3	copy_file	
4	create_directory	
5	create_file	
6	edit_file	
7	forced_termination	
8	remove_directory	
9	remove_file	

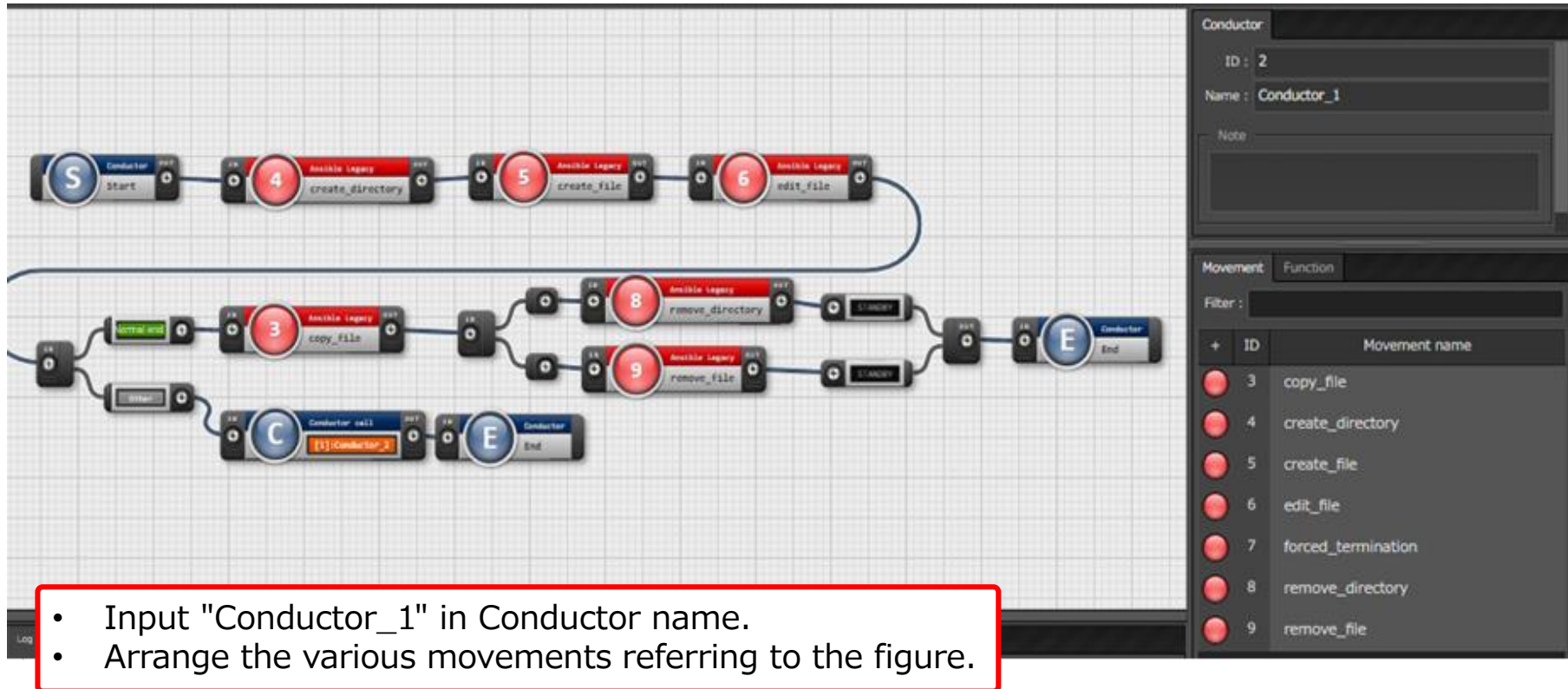
- Input "Conductor\_2" in "Conductor name."
- Drag and drop "forced\_termination" from the Movement.
- Drag and drop "Conductor" from the Function.
- Connect "IN" and "OUT" as shown in the figure.
- Click the "Register" button at the bottom of the screen.

## 3.8 Register Conductor(3/7)

### ●Register Conductor

The overall view of the created Conductor is as follows.

The details are explained on the next pages.

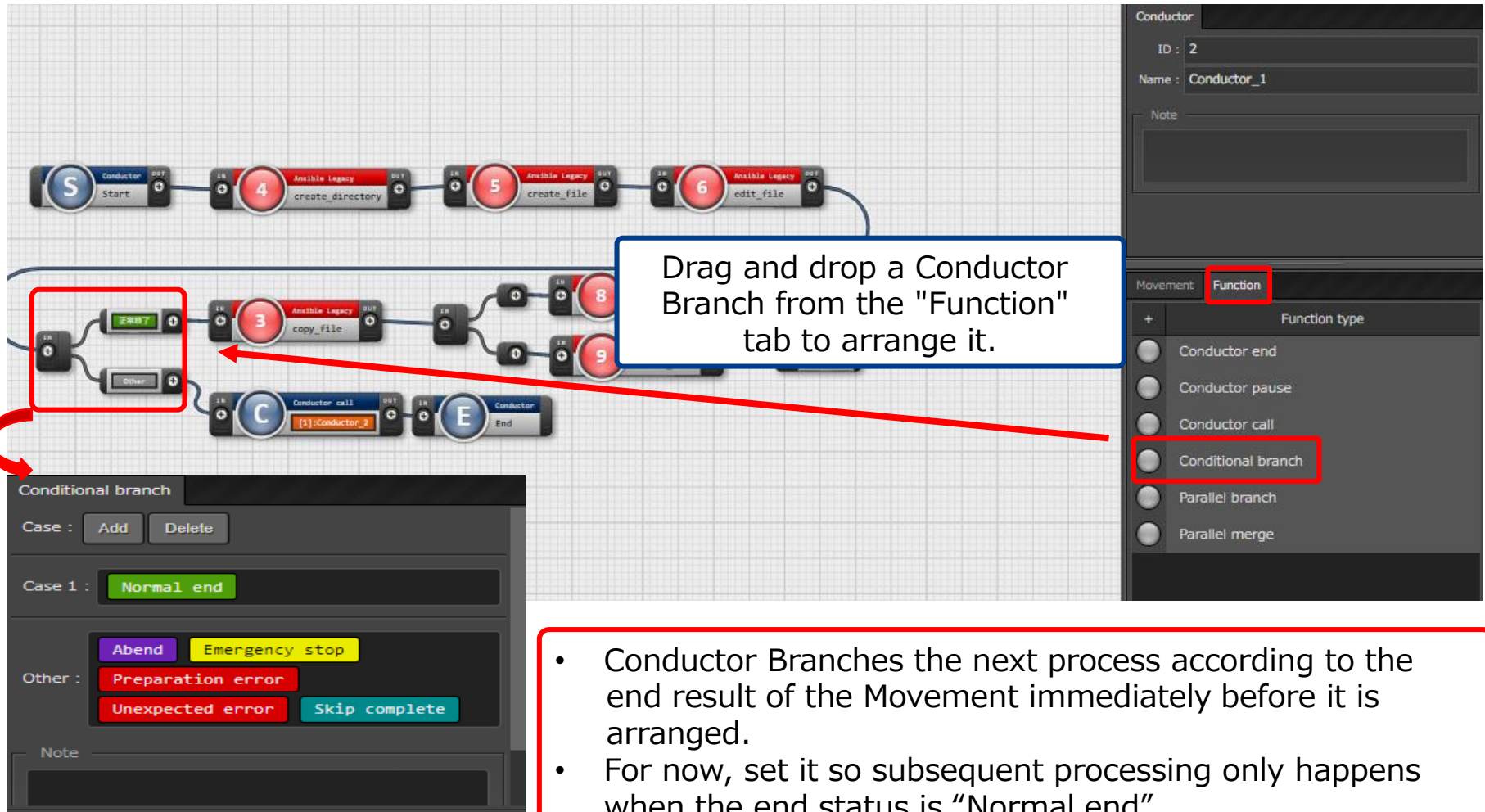




## 3.8 Register Conductor(4/7)

### ●Register Conductor

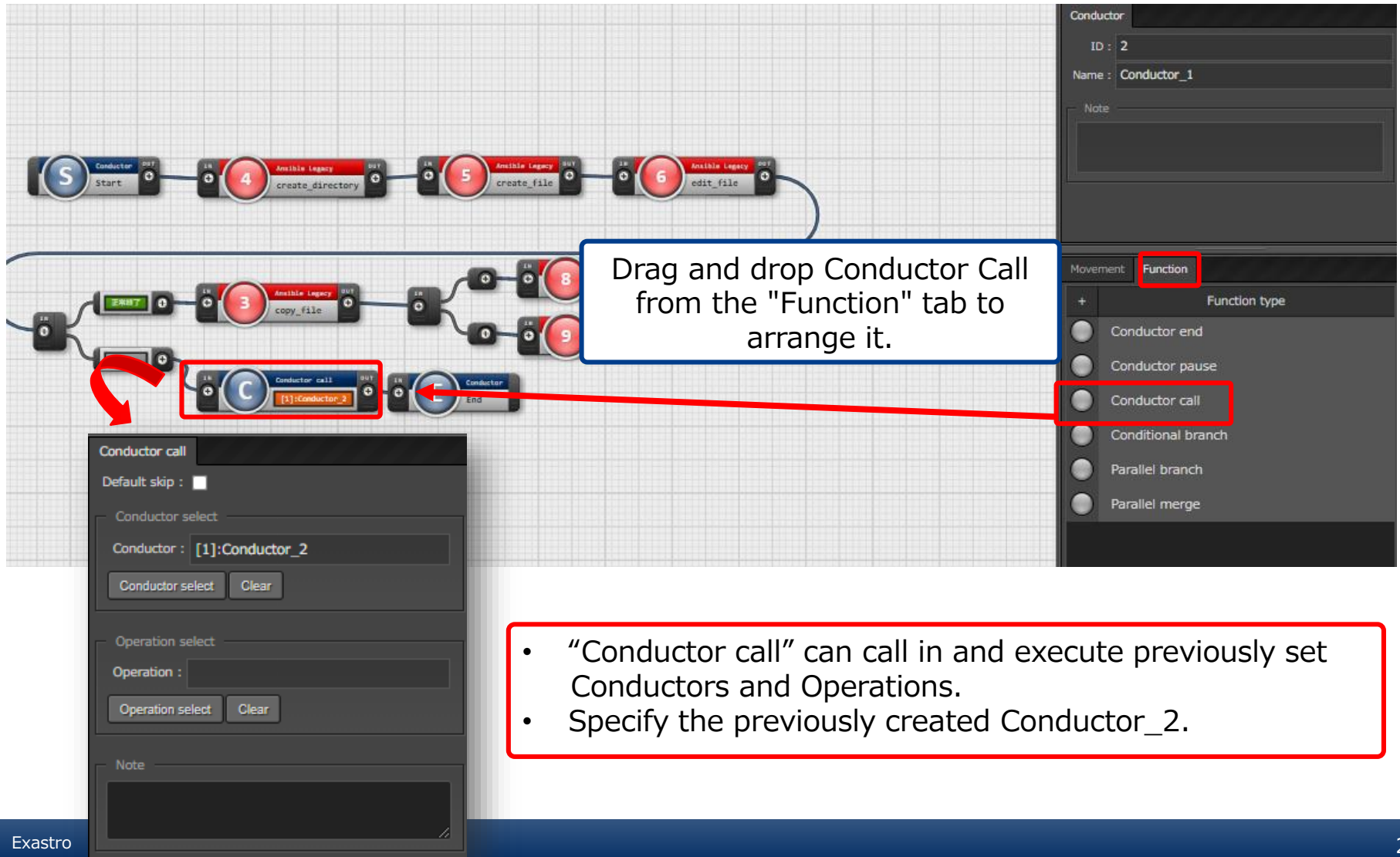
Please create the Conductor as shown in the figure below.



## 3.8 Register Conductor (5/7)

### ● Register Conductor

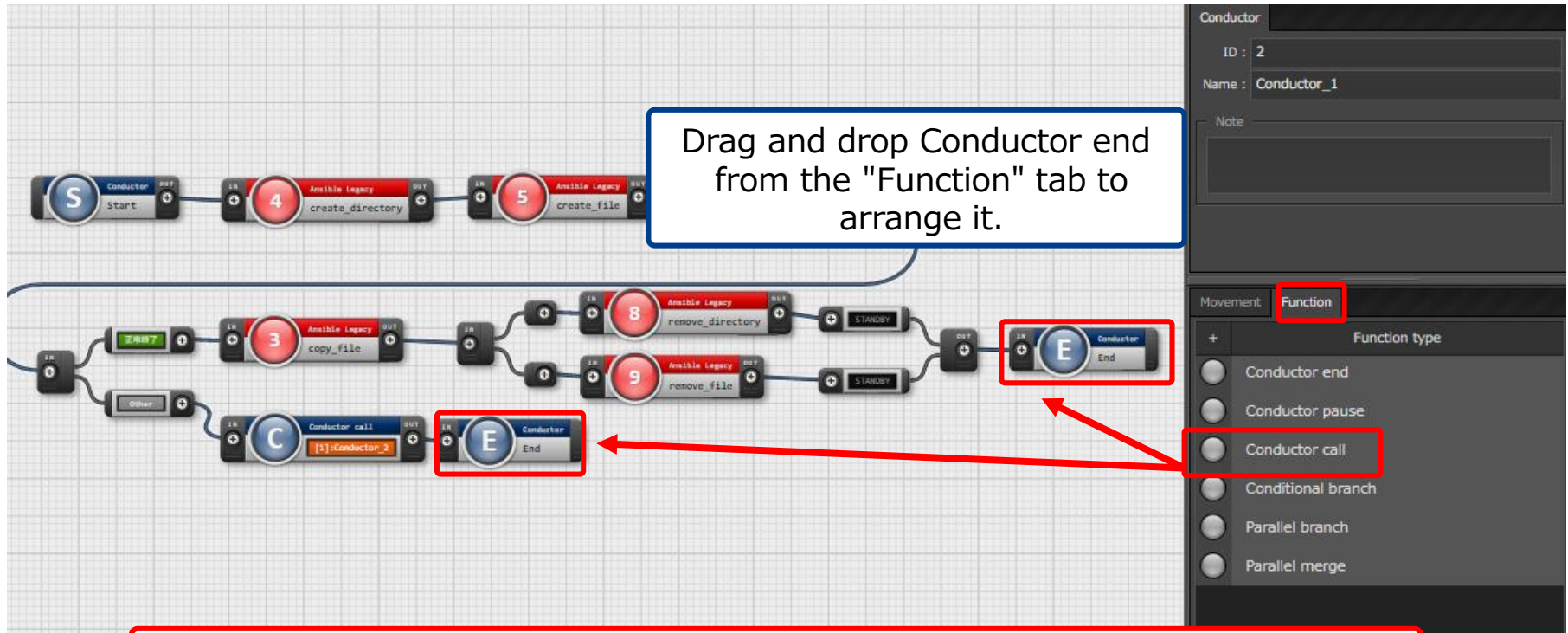
Please create the Conductor as shown in the figure below.



## 3.8 Register Conductor (6/7)

### ● Register Conductor

Please create the Conductor as shown in the figure below.

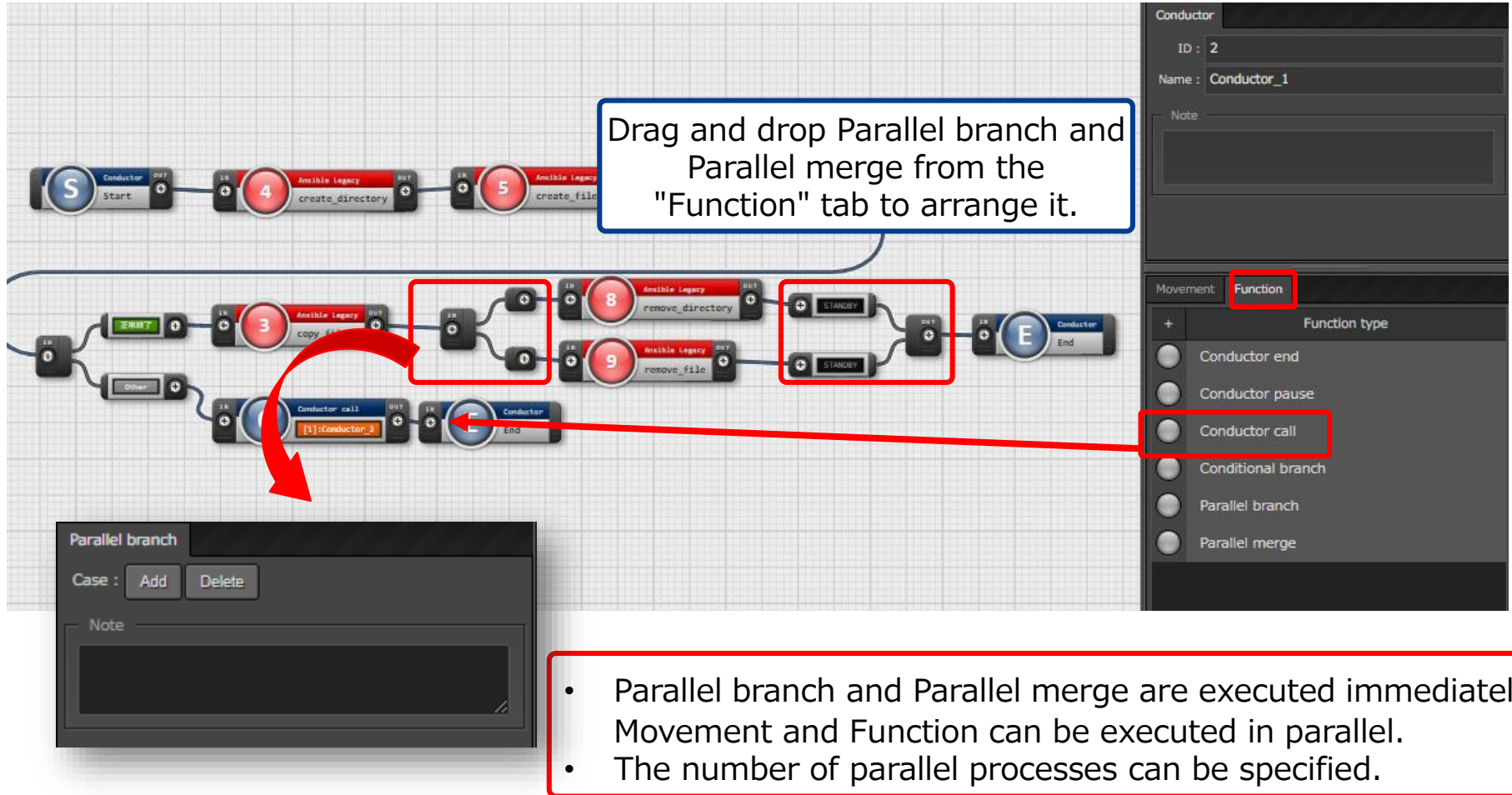


- Conductor end is a function is deployed at the end of a process..
- It is also deployed at the end of the branch process introduced in (5/7).

## 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 'Scheduling' section with a 'Specify the scheduled date/time in (YYYY/MM/DD)' field and a 'Scheduled date/time' input field. Below this is a 'Conductor [filter]' section and a 'Conductor [List]' table. The 'Conductor [List]' table has columns 'Select', 'Conductor class ID', and 'Conductor name'. The 'Operation [Filter]' section and 'Operation [List]' table are also visible. The 'Operation [List]' table has columns 'Select', 'No.', 'Operation ID', and 'Operation name'. On the right side, there is a 'Last' section with a grid showing a sequence of operations. At the bottom right, there is an 'Execute' button.

**1** Select the value for below

Item	Value
Schedule date/time	Optional

**2** Select the value for below

Item	Value
Conductor name	Conductor_1

**3** Select the value for below

Item	Value
Operation name	Operation_1

**4** Execute

## Conductor confirmation

- 
- The screenshot displays the Camunda BPMN console interface. On the left, a workflow diagram is visible, showing a sequence of tasks including 'Start', 'create\_directory', 'create\_file', 'edit\_file', 'copy\_file', 'remove\_directory', 'remove\_file', and 'End'. A red box highlights the 'create\_directory' task, and a red arrow points from it to the detailed view on the right.
- On the right, the 'Target Operation' panel shows details for the 'Conductor End' operation:
- Node:**
    - Node type: movement
    - Node instance ID: 80
    - Node name: node-7
    - Status: 正常終了
    - Start time: 2020/11/04 14:43:50
    - End time: 2020/11/04 14:44:02
    - Operation status: [https://10.197.19.110:1443/dsl/nuk/menu/01\\_browse.php?no=2100020112&execution\\_no=12](https://10.197.19.110:1443/dsl/nuk/menu/01_browse.php?no=2100020112&execution_no=12)
  - Operation:**
    - Operation name: Conductor End
    - Execution No.: 1
    - Execution type: Movement
    - Status: 正常終了
    - Execution engine: Camunda
    - Caller symphony: Camunda
    - Caller conductor: Camunda
    - Execution user: Camunda

### Progress status(Execution log)

Filter :  ☐ Display only corresponding lines

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**Exastro**