IT Automation

Collect function / Compare function 【Classroom】

※In this Document “IT Automation” will be written as “ITA”

Exastro IT Automation Version 1.8

Exastro developer

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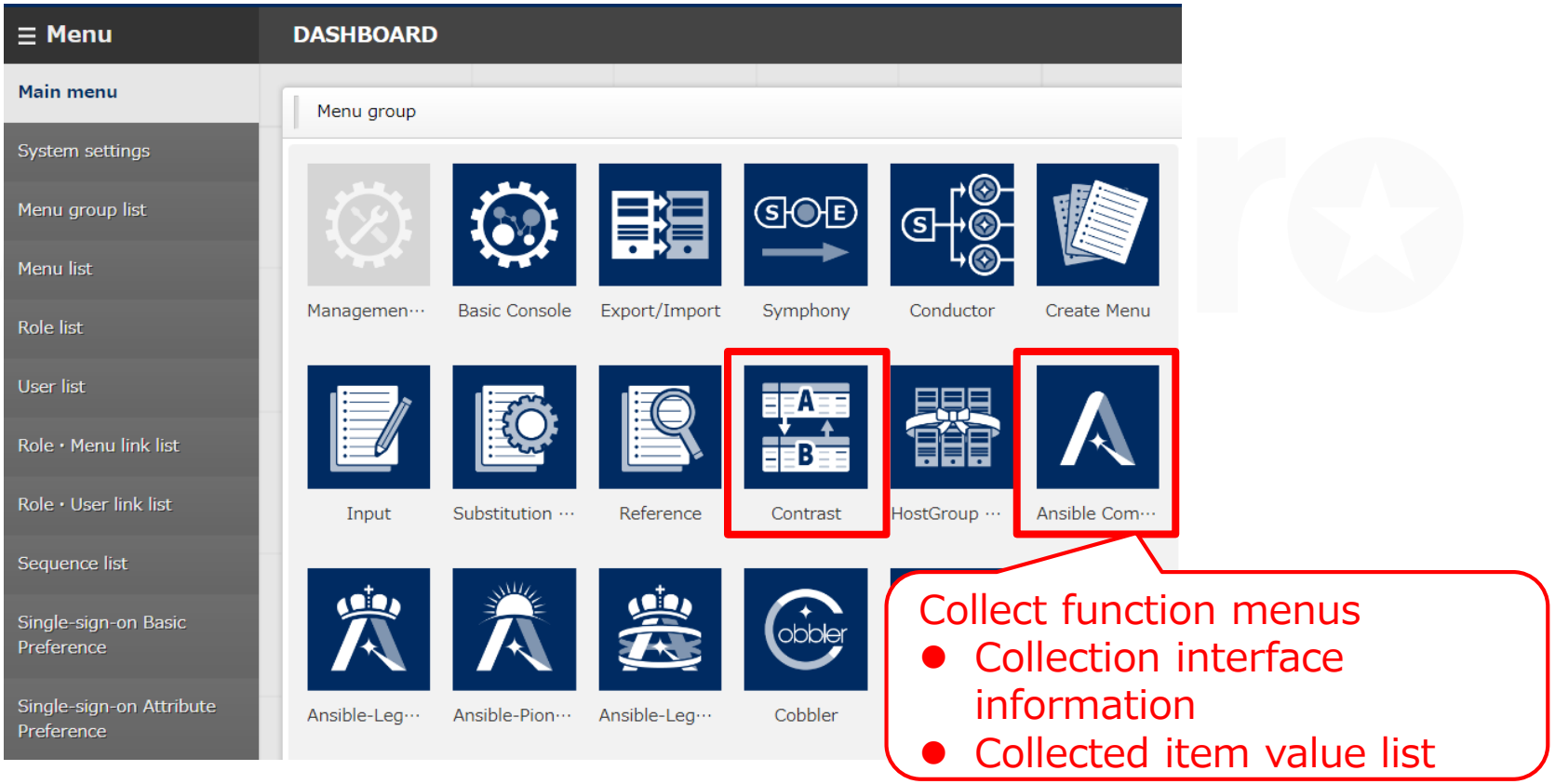
1. Introduction

1.1 About this document

- This document aims to explain the Collect and Compare function.
- In the "Practice document", we will use the ITA Screen to give the user a more hands-on experience, so we recommend reading both of the documents.

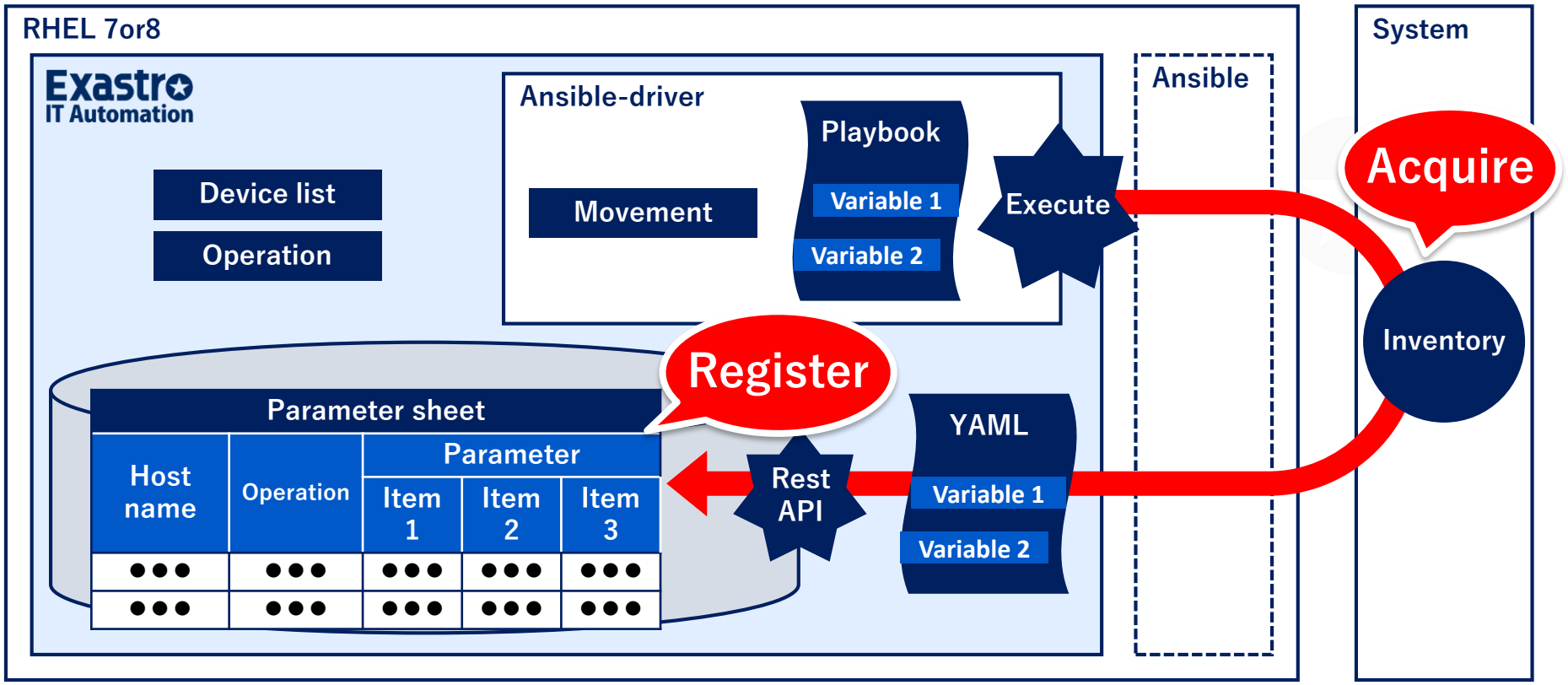


2. Collect function

2.1 What is the Collect function?

The Collect function gathers execution result files, aka inventory (source files output as YAML files) , from the system and automatically registers the value to the ITA Parameter sheets.

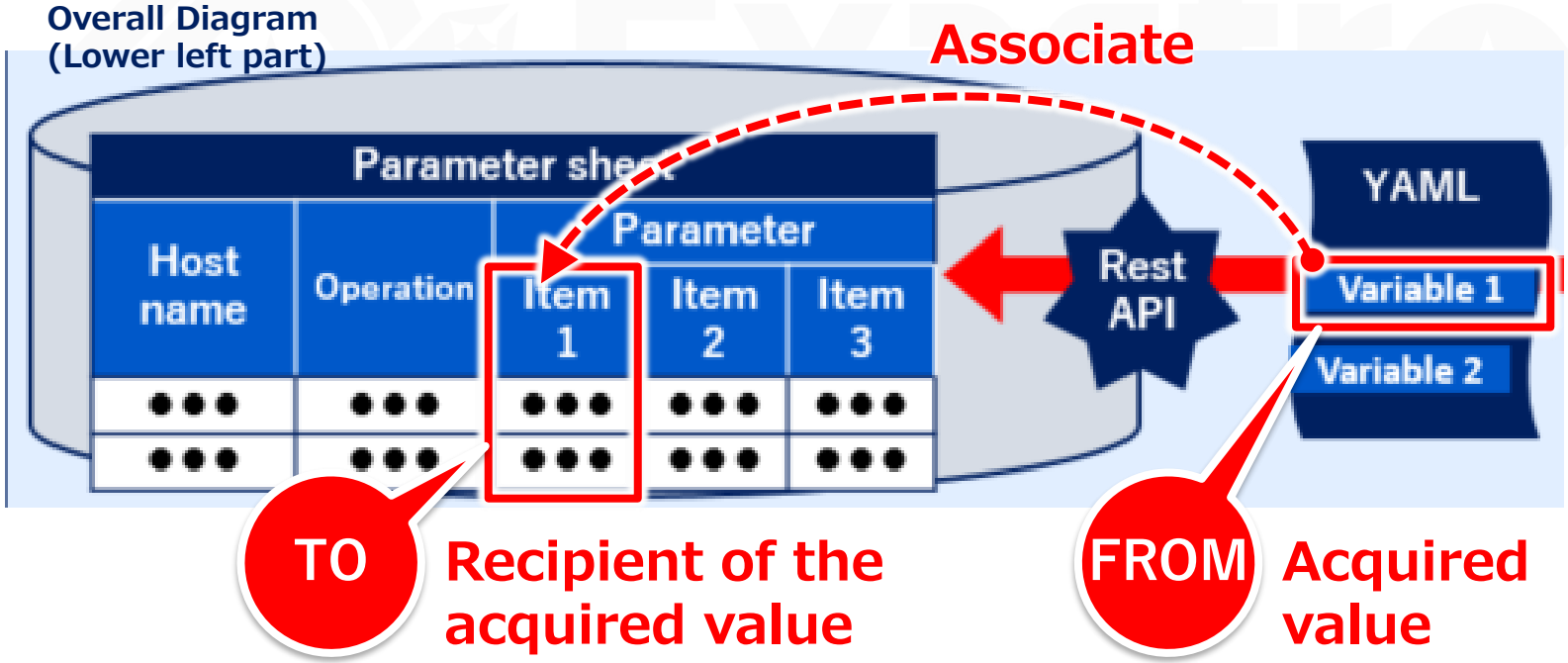
Overall Diagram



2.2 YAML Variables (FROM) and Parameter Sheet Items (TO)

Associate the variable (FROM) in the YAML file with the item (TO) in the parameter sheet. As a result, the acquired value will automatically be registered in the parameter sheet.

Users can associate in the "Collected item value management" menu. (For more details, please refer to chapter "2.3.2, Collected item value list")

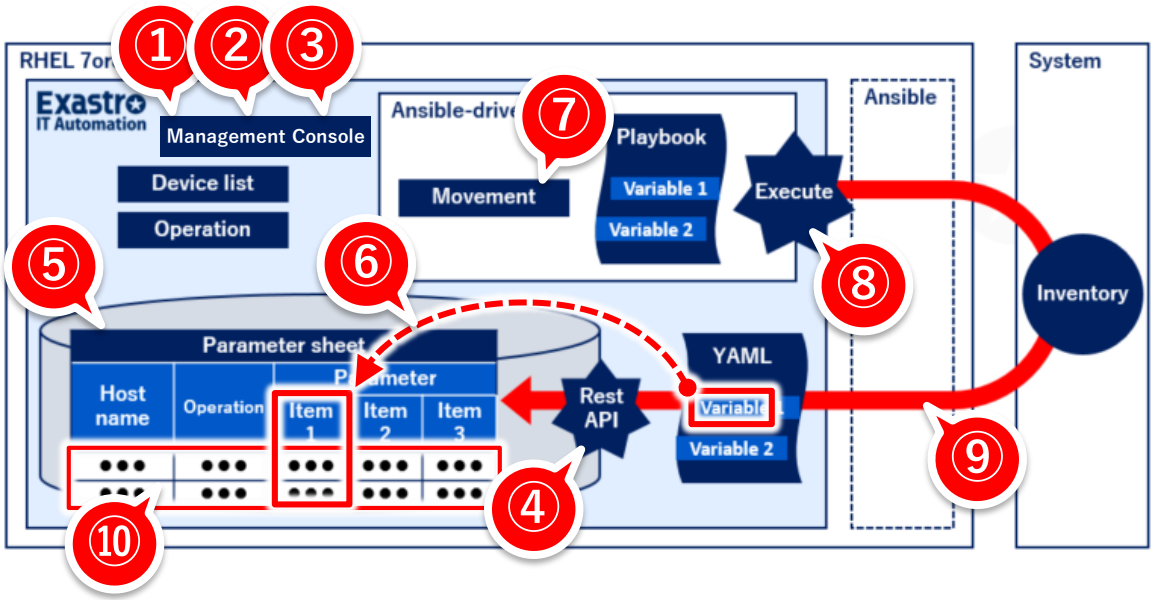


2.3 Work flow (1/2)

The standard work flow of the collect function is shown in the figure below.

- The YAML file collected in ⑨ is explained in the practice document.

①	(Optional) Create a user for the collect function
②	(Optional) Create a role for the collect function
③	(Optional) Role / User link
④	Update the Collection interface information
⑤	Create parameter sheet (host/ operation)
⑥	Register to Collected item value list
⑦	Preparation
⑧	Execute
⑨	Execute Collect function
⑩	Check collection status



2.3 Work flow (2/2)

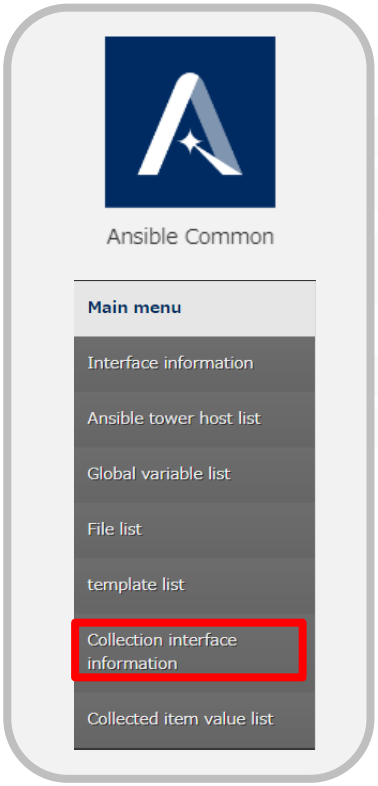
The outline of each work flow is as follows.

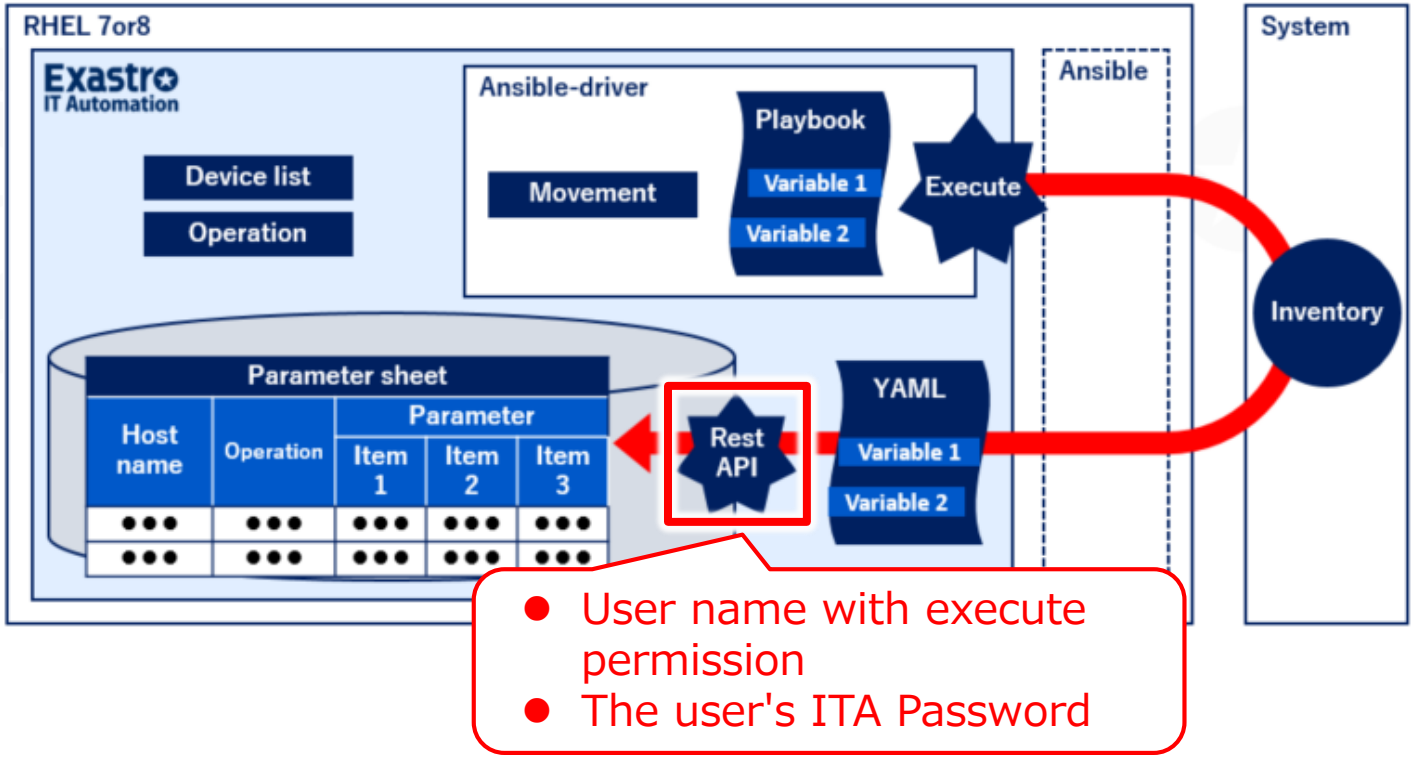
- For details, refer to the "Collect function User manual".

①	(Optional) Create a user for the collect function	Register the user's User information
②	(Optional) Create a role for the collect function	Register the user's Role information
③	(Optional) Role / User link	Link the registered User and Role
④	Update the Collection interface information	Register User name / Password of a user who has permission to run RestAPI ● Go to " 2.3.1　Collect interface information"
⑤	Create parameter sheet (host/ operation)	Create a parameter sheet that will receive collected values.
⑥	Register to Collected item value list	Link YAML variables and Parameter sheet items ● Go　to "2.3.2　Collect item value list"
⑦	Preparation	Create Movement and Job Flow needed in order to execute.
⑧	Execute	Select the execution date and time, Input operation, Movement, and job flow and execute the operation.
⑨	Execute Collect function	Automatically register collection target (Operation No. of executed operations) to Parameter sheets
⑩	Check collection status	Check the collection status of the executed operation. ● Go to "2.4　Confirmation of collection status"

2.3.1 Collection interface information

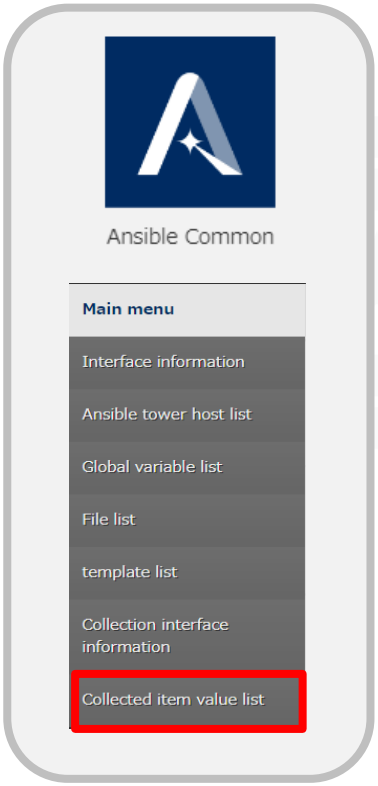
Register the user name and password of a user that has permission to run RestAPI. (We will need one for accessing with RestAPI when registering values to the ITA CMDB)

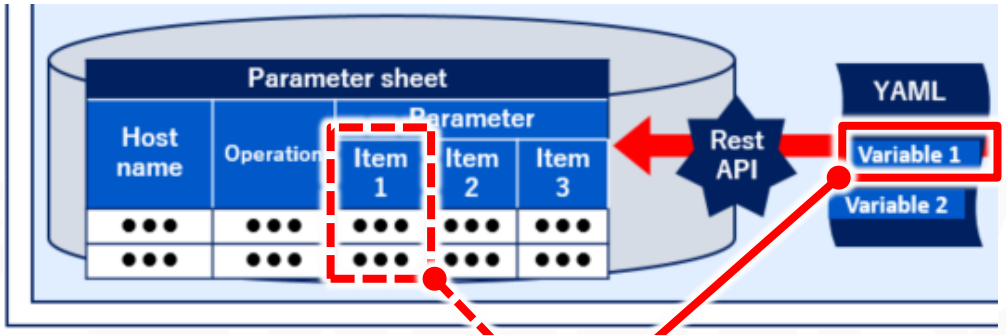




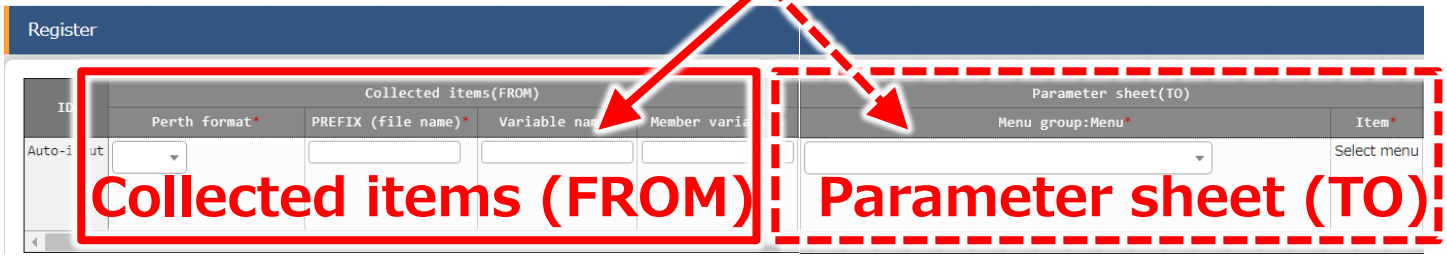
2.3.2 Collected item value list

In the collection item value list menu, users can link the collected item's YAML variable name (FROM) with the Parameter sheet item name (TO).





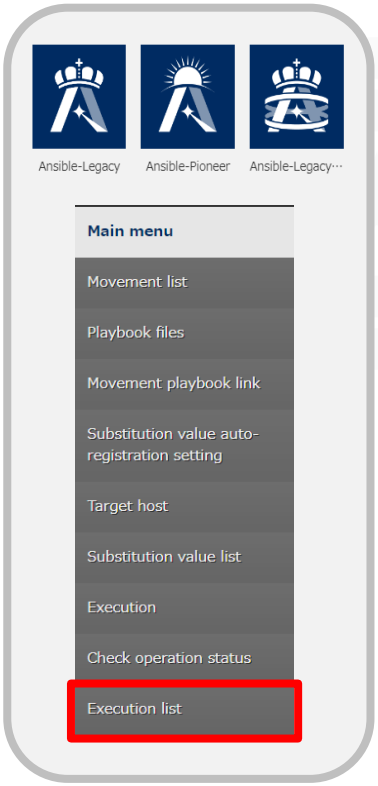
ITA Screen



2.4 Check the collection status

From the Ansible-driver "Execution list" menu, check that the collection has ended successfully.

If the "Collection status" displays "Collected", then it has ended successfully. If it displays, it will display "Not target".

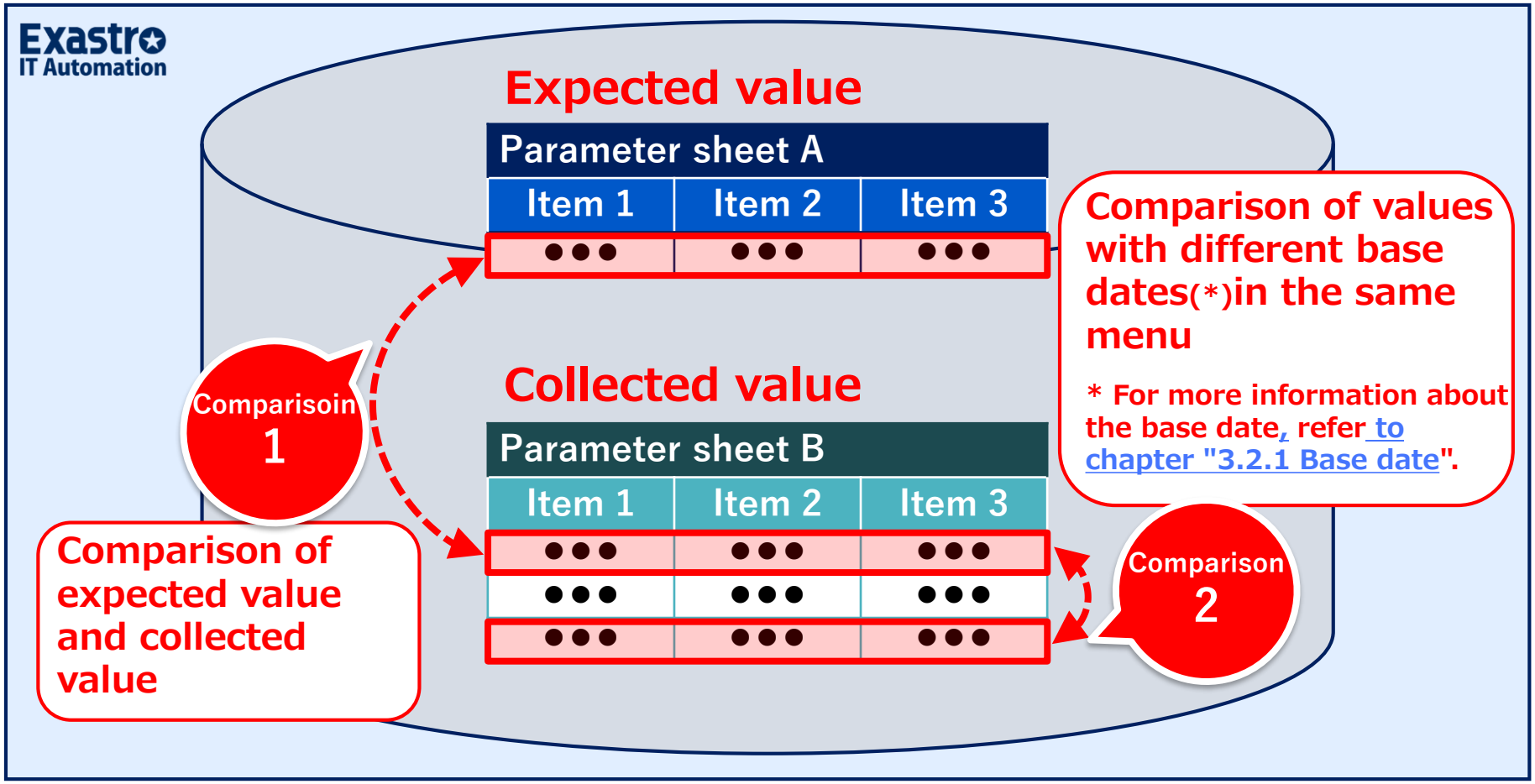


3. Compare Function

3.1 What is the Compare function?

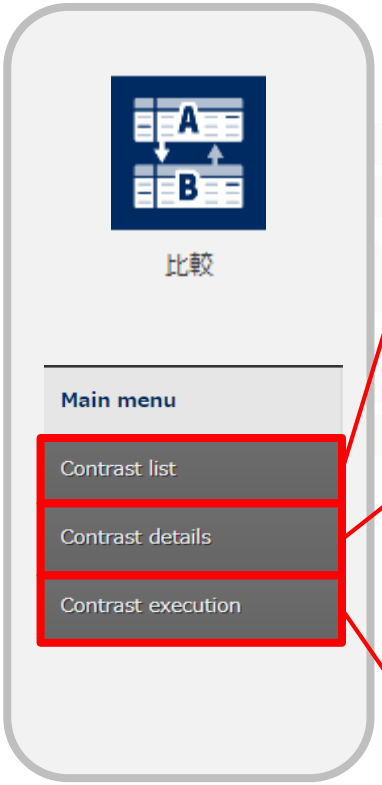
The Compare function compares parameter sheets with each other and checks for differences. By using it together with the Collect function, you can compare the two patterns shown in the figure below.

Overall Diagram



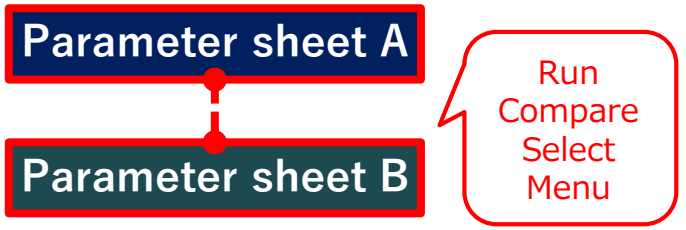
3.2 Compare menu group

The Compare menu group has 3 menus.



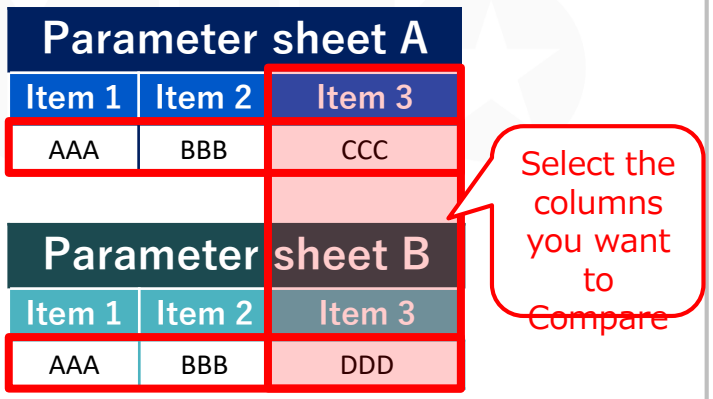
Compare definition

Select the 2 menus (parameter sheets) you want to compare.



Compare definition details

We will now further narrow down what we will compare by narrowing down to the specific columns from the menus we selected in the "Compare definition" menu.



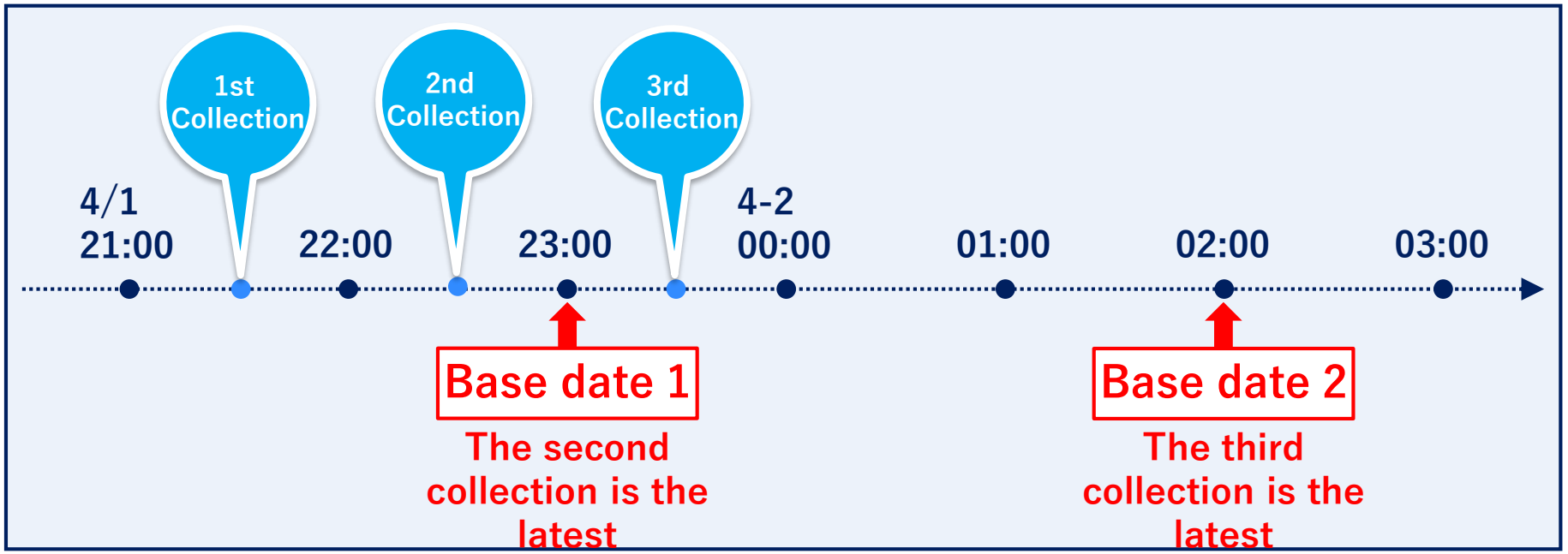
Run Compare

- Run the defined Compare.
- When comparing parameters with the same menu but different base dates, specify both base dates when executing the comparison.

3.2.1 Base date

The Base date (time) depicts the time and date of the Compare.
The values collected before the specified date will be displayed.

(Example) When the base date 1 is set to "4/1 23:00" and the base date 2 is set to "4/2 02:00"

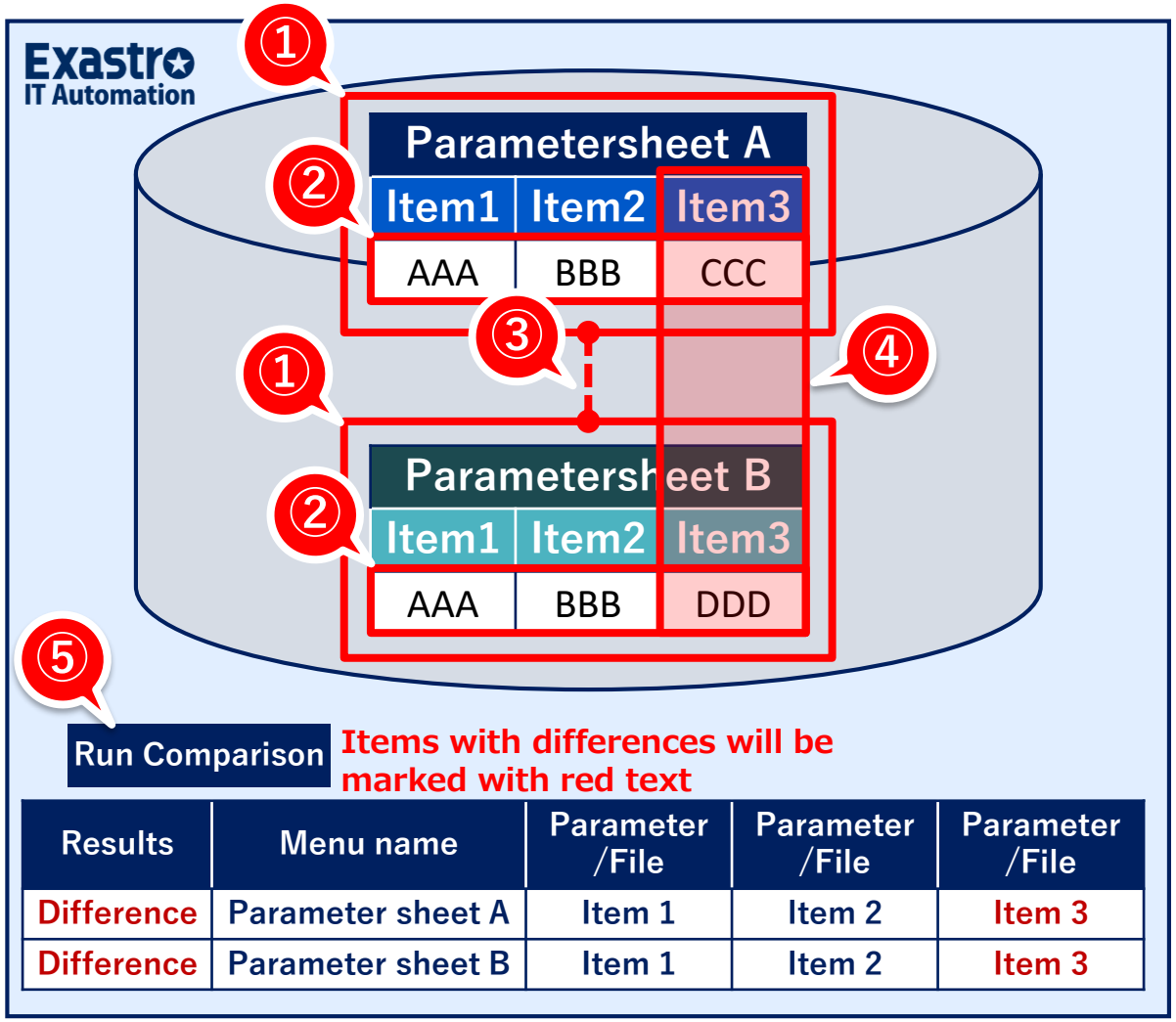


In this case, the second and third collected values are compared.

3.3 Workflow（1/2）

The following figure illustrates a standard workflow for the Compare function

①	Create Parameter sheets
②	Register data to the parameter sheets and run Collect function
③	Create Comparison definition
④	(Optional) configure detailed information for the comparison definition
⑤	Run Comparison



Results	Menu name	Parameter /File	Parameter /File	Parameter /File
Difference	Parameter sheet A	Item 1	Item 2	Item 3
Difference	Parameter sheet B	Item 1	Item 2	Item 3

3.3 Workflow（2/2）

The overview for the different steps are as following

- For more information, please see「User instruction manual CompareFunction」

①	Create Parameter sheets	Create Parameter sheet.
②	Register data to the parameter sheets and run Collect function	Register data to the Parameter sheets. If the user is using the Collect function, run it in this step.
③	Create Comparison definition	Select what menus (Parameter sheets) to compare.
④	(Optional) configure detailed information for the comparison definition	Select what column in the menus (Parameter sheets) to compare.
⑤	Run Comparison	Run the defined comparison. Any differences will be marked in red text.

4. Collect function / Compare function application

4.1 Application example

Collection function

By collecting the results of the network device's config output command and AWS EC2 list, users can synchronize the values of the parameter sheets and the values of the actual machine, meaning that work efficiency will improve while mistakes will occur less frequently.

Compare function

We can first use the Compare function to compare [Pre-execution Expected value] and [Post-execution Actual value (collected value)] to have the system show us what places we want to change, aka the differences.

After applying the changes, we can use the Compare function again to confirm there are no differences anymore, meaning that the application has been successful.

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