



IT Automation

Collect/Compare function [Practice]

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

Exastro IT Automation Version 1.10
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Introduction



(1) About this document

About this document

This document aims to teach the user about the Compare and Collect function by leading them through a hands-on scenario.

The screenshot shows the Exastro dashboard interface. On the left is a sidebar with a 'Main menu' section containing links to 'Device list', 'Operation list', 'Movement list', and 'ER Diagram'. The main area is titled 'DASHBOARD' and contains a 'Menu group' with several icons:

- Management Con... (grey)
- Basic Console (grey)
- Export/Import (blue)
- SOD (blue)
- Conductor (blue)
- Create Menu (blue)
- Compare (red box)
- HostGroup manag... (blue)
- Ansible Common (red box)
- Ansible-Legacy (blue)
- Ansible-Pioneer (blue)
- Ansible-LegacyRole (blue)
- Cobbler (blue)
- Terraform (blue)
- CI/CD for IaC (blue)

A red callout box points from the 'Compare' and 'Ansible Common' icons to the following text:

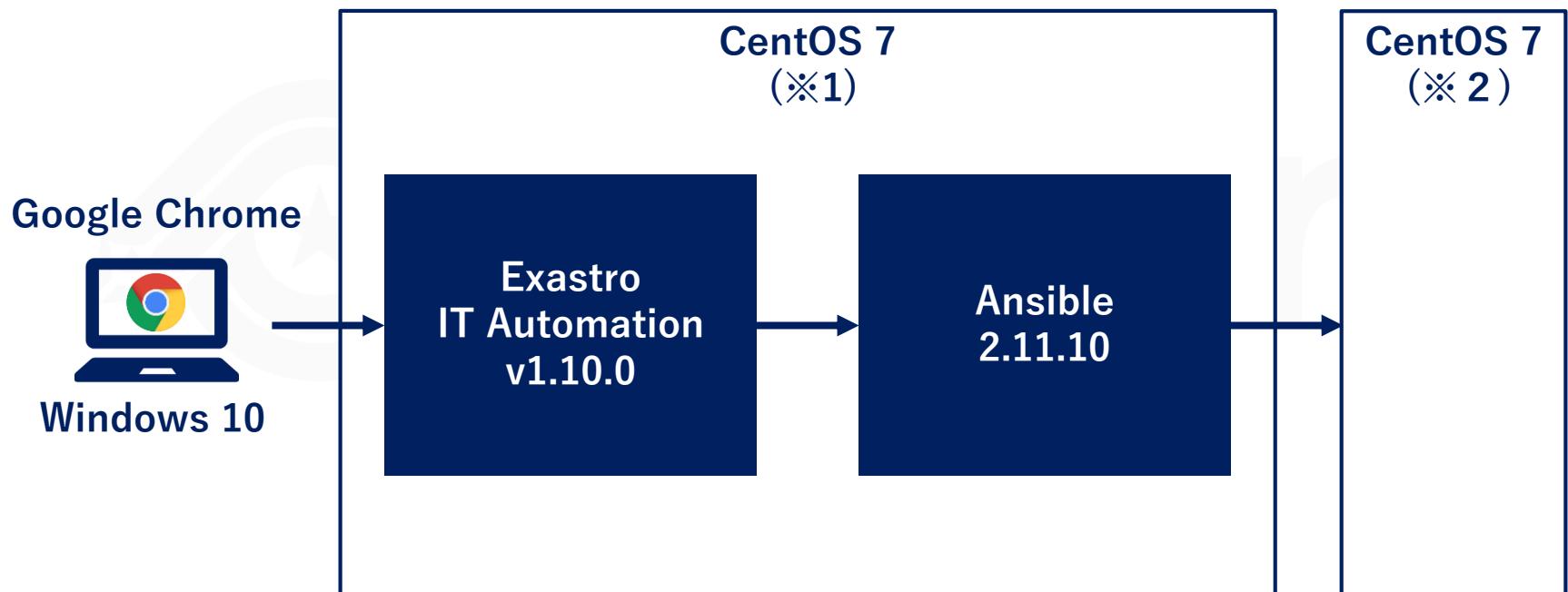
Menus related to the Collect function

- Collect interface information
- Collected item value list

(2) Operation environment

Environment

The environment used in this document is as follows



※1 ITA can be installed on RHEL7 and RHEL8 type OS.

※2 You can use any OS as long as it is compatible with Ansible.

(3) Scenario

Comparing and collecting parameters and files

- Scenario 1 and 2 will be used to collect and compare parameters.
Scenario 3 and 4 will be used to collect and compare files.
- More specifically, we will be collecting/comparing the following information:
Parameter: OS Information
File: SSL Certificate

	Collect function	Compare function
Collecting/ Comparing parameters	Scenario 1 Collect the target host OS information	Scenario 2 Compare the values and the expected values of the one collected in Scenario 1.
Collecting/ Comparing files	Scenario 3 Collect the target host's SSL certificate file	Scenario 4 Compare the file downloaded in scenario 3 with the same file from a different date.

1. Scenario 1 [Collect function]

Collect target host OS Information

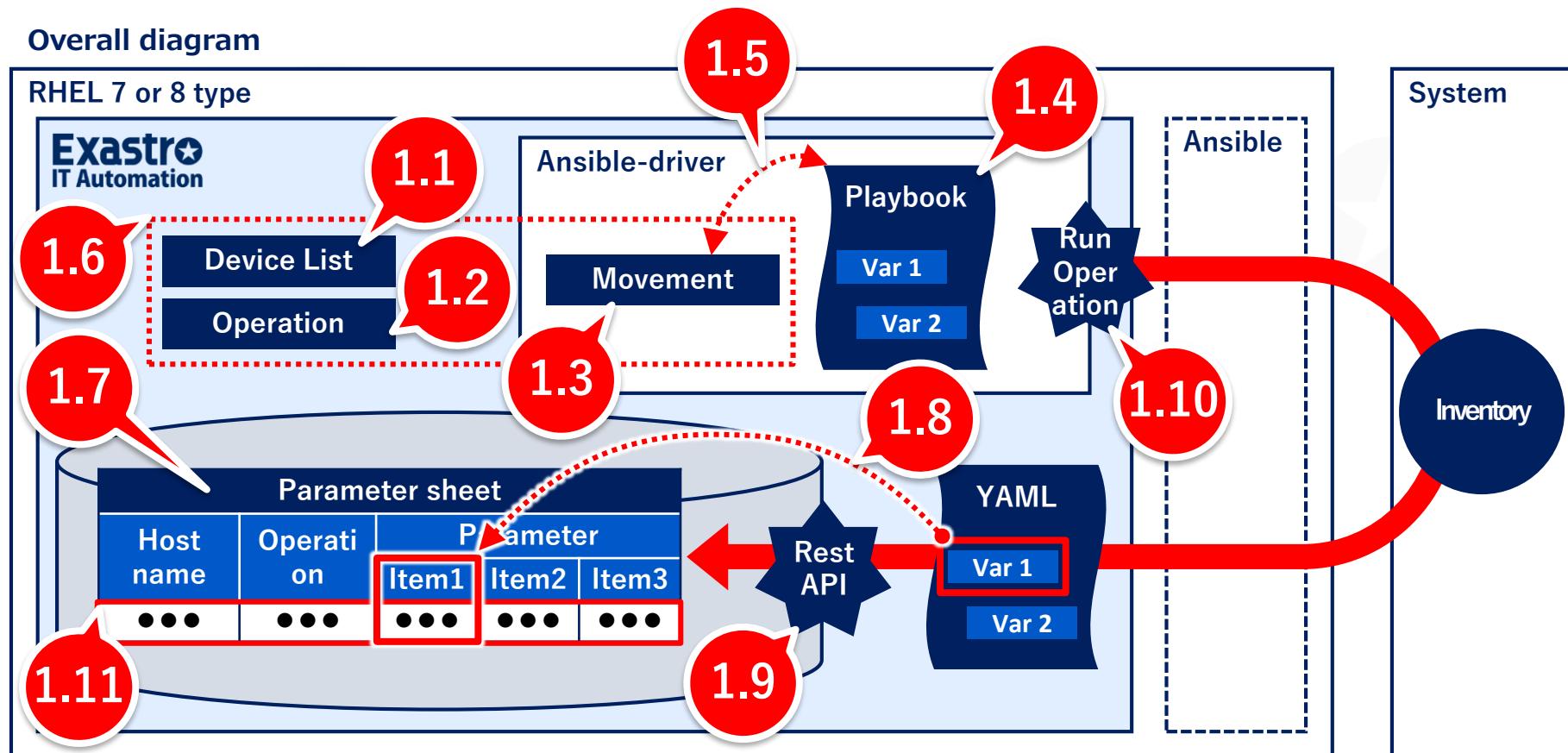


Scenario 1 Overall diagram

Scenario 1 workflow

- The numbers in the diagram below indicates the different chapters in this document.
- After configuring the different settings, we will start the operation and collect the inventory (OS info) , where it will be automatically registered to a parameter sheet.

Overall diagram



1.1 Register target host

Register the target host connection information

Go to “Device list” and start the registration

Menu : **Basic console > Device list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

Managed system item number	HW device type	Host name*	IP address*	EtherwakeOnLan	Login password	Ansible Dedicated information
Auto-input	SV	targethost	192.0.2.1	MAC address Network device name	Login user ID Management Login password	Dedicated information for Legacy/Role WinRM Port no

HW device type	Host name (Free space)	IP address (Depends on your environment)	Login user ID (Depends on your environment)	Login password		Ansible dedicated information
				Management	Login password (Depends on your environment)	Dedicated information for Legacy/Role
						Authentication method
SV	targethost	192.0.2.1	root	●	*****	Password authentication

1.2 Register operation

Register the operation we will use in Scenario 1.

In ITA, we call automated operation units for “Operations”.

Hereinafter, we will link all the necessary data to this operation.

Menu : Basic Console > Operation list

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No.	Operation ID	Operation name*	Scheduled date for execution*
Auto-input	Auto-input	GatherFacts1	2021/04/22 17:09

Operation name (Free space)	Scheduled date for execution (Free space)
GatherFacts1	2021/04/22 17:09

You can name the operation to whatever you want.

This item indicates the planned date and time for the operation. It is not a timer and will therefore not automatically run the operation after the specified time has passed.

1.3 Register movement

Register Movement in Ansible-Legacy

In ITA, the smallest automatic operation unit (A.K.A a “job”) is called a “Movement”.

After this, we will link a Playbook to it, making it a Movement that collects OS Information.

Menu : **Ansible-Legacy > Movement list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

Movement ID	Movement Name*	Delay timer	Host specific format*	Dedicated information for ansible
Auto-input	Gatherfacts		IP	<pre>- hosts: all remote_user: "{{ __loginuser__ }}" gather_facts: yes become: yes</pre>

Movement name (Free space)	Ansible user information	
	Host specific format	Header section
GatherFacts	IP	<pre>- hosts: all remote_user: "{{ __loginuser__ }}" gather_facts: yes become: yes</pre>

This activates “gather_facts”.
※ For more information, see chapter [1.3.1 Header section and gather facts](#).

1.3.1 Header section and gather_facts

Activate gather_facts

The Ansible's Playbook Header section's "gather_facts" is deactivated by default when installing ITA.

- In this scenario, we will use "gather_facts" to collect the OS information, so we will need to input the following under the header section and activate it.
- If you don't need to change the default value, you can leave the header section blank.

Default

```
- hosts: all
  remote_user: "{{ __loginuser__ }}"
  gather_facts: no
  become: yes
```

Set gather_facts to "yes"

```
- hosts: all
  remote_user: "{{ __loginuser__ }}"
  gather_facts: yes
  become: yes
```



Input all the necessary lines
to the header section and
change this value.

1.4 Register Playbook (1/3)

■ Register Playbook for operations (1/2)

- The playbook that we will register in this guide contains a workflow which consists of "Generate YAML file containing gathered OS information under the Target host's /tmp/ directory" → Copy the generated YAML file to the ITA host server's collection directory".
- For more information regarding the YAML file and the Collect directory, please see Chapter [1.4.1 Directory for YAML files and collection](#).

1.4 Register Playbook (2/3)

Register Playbook for operations (1/2)

```
- name: make yaml file
blockinfile:
  create: yes
  mode: 0644
  insertbefore: EOF
  marker: ""
  dest: "/tmp/gatherfacts.yml"
  content: |
    ansible_architecture      : {{ ansible_architecture }}
    ansible_bios_version      : {{ ansible_bios_version }}
    ansible_default_ipv4_address : {{ ansible_default_ipv4.address }}
    ansible_default_ipv4_interface : {{ ansible_default_ipv4.interface }}
    ansible_default_ipv4_network : {{ ansible_default_ipv4.network }}
    ansible_distribution        : {{ ansible_distribution }}
    ansible_distribution_file_path : {{ ansible_distribution_file_path }}
    ansible_distribution_file_variety : {{ ansible_distribution_file_variety }}
    ansible_distribution_major_version: {{ ansible_distribution_major_version }}
    ansible_distribution_release : {{ ansible_distribution_release }}
    ansible_distribution_version : {{ ansible_distribution_version }}
    ansible_machine             : {{ ansible_machine }}
    ansible_memtotal_mb         : {{ ansible_memtotal_mb }}
    ansible_nodename            : {{ ansible_nodename }}
    ansible_os_family            : {{ ansible_os_family }}
    ansible_pkg_mgr              : {{ ansible_pkg_mgr }}
    ansible_processor_cores     : {{ ansible_processor_cores }}

- name: copy the make yaml file to local
fetch:
  src: "/tmp/gatherfacts.yml"
  dest: "{{ __parameter_dir__ }}/{{ inventory_hostname }}/"
  flat: yes
```

File name : **GatherFacts.yml**

1.4 Register Playbook (3/3)

Register Playbook in Ansible-Legacy

Register the playbook we created in the last slide.

Menu: **Ansible-Legacy > Playbook file collection**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

The screenshot shows the 'Playbook file collection' screen in Ansible-Legacy. A red box highlights the 'Playbook name*' field containing 'GatherFacts'. Another red box highlights the 'Playbook files*' section, which includes a 'Choose File' button with 'GatherFacts.yml' selected, an 'Upload in advance' button, and an 'Upload status' message indicating the file has been uploaded. A callout bubble points to the 'Upload in advance' button with the instruction: 'Make sure to press the "Register" button after you have pressed "Upload in advance".'

Playbook file name (Free space)	Playbook file
GatherFacts	GatherFacts.yml

1.4.1 Directory for YAML files and collection (1/2)

Create directory for YAML files and collecting files.

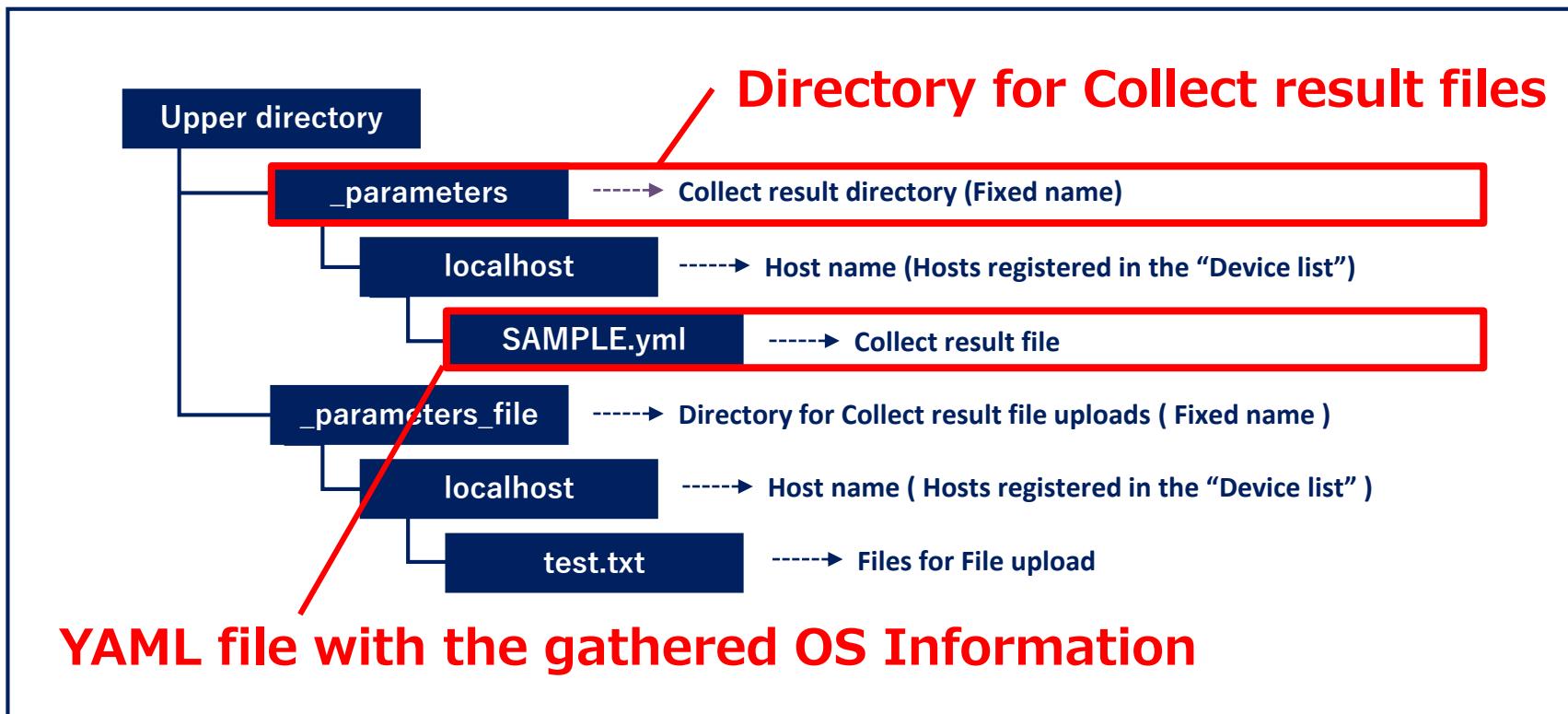
- Since Collect result files in ITA is specified in a YAML file format, we need to create a YAML file.
- The generated YAML file will be stored in the Collection directory specified by the ITA reserved variables.

GatherFacts.yml Line 7		
Path variables	ITA reserved variable	Variable specified contents
Source file storage location	<code>__parameter_dir__</code>	“_parameters” path under the operation result directory
Collected file storage location	<code>__parameters_file_dir__</code>	“_parameters_file” path under the operation result directory

1.4.2 Directory for YAML files and collection (2/2)

The following figure displays the file hierarchy for the Collect file directory.

File hierarchy



1.5 Movement-Playbook link

Link Movement and Playbook

Link the previously registered Movement and Playbook.

Menu: **Ansible-Legacy > Movement-Playbook link**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

Associated item No.	Movement*	Playbook files*	Include order*	Ad Setting
Auto-input	1:Gatherfacts	GatherFacts	1	Setting

Movement	Playbook file	Include order
GatherFacts	GatherFacts	1

The “Include order” specified the order in which the Playbook will be executed if there are multiple Playbooks linked to the Movement. In this scenario, we will only link 1 Playbook.

1.6 Register target host

Link Operation, Movement and the Target host.

Link the previously registered Operation, Movement and Target host.

Menu: **Ansible-Legacy > Target host**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

The screenshot shows a registration form for a target host. At the top, there are three dropdown menus labeled "Operation*", "Movement*", and "Host*". Each menu has a value selected: "1:GatherFacts1" for Operation, "1:Gatherfacts" for Movement, and "1:targethost" for Host. These three fields are highlighted with a large red rectangular box. Below this, there is a summary table with three columns: "Operation", "Movement", and "Host". The corresponding values from the dropdown menus are listed: "GatherFacts1", "GatherFacts", and "targethost".

Operation	Movement	Host
GatherFacts1	GatherFacts	targethost

1.7 Create Parameter sheet for registering collected values (1/4)

Create Parameter sheet that registers collected values.

Create a Menu called “Gathered Facts”. This will be a parameter sheet where the collected values will be automatically registered to.

Menu: **Create Menu >Create/Define menu**

- ① Use the table on the next page and fill out the following fields/items.
- ② Press the “Create” button.

1.Basic info

Fill out the following for each item

Item name
Input method
Maximum number of bytes

3.Items

2.Target Menu group

The screenshot shows the 'Menu creation information' dialog. In the 'Basic information' tab, the 'Id' is set to 'Auto-input', 'Menu name' is 'Gathered Facts', 'Creation target' is 'Parameter Sheet/Host/Ops', and 'Display order' is '1'. In the 'Target menu group' tab, 'Input' is selected. In the 'Items' tab, there are four items defined: 'ansible_architecture' (String, max bytes 128), 'ansible_bios_version' (String, max bytes 128), 'ansible_default_ipv4' (String, max bytes 128), and 'ansible_distribution' (String, max bytes 128). The 'Items' tab also includes sections for 'Explanation', 'Remark', and 'Unique constraint'. At the bottom, a table titled 'Operation' lists three entries with columns for Host name, Operation name, Reference date and time, Scheduled date, Last run date, and the four collected items. A large orange 'Create' button is at the bottom left of the main area.

1.7 Create Parameter sheet for registering collected values (2/4)

1. Basic information

Menu name (Free field)	Creation target	Display order
Gathered Facts	Parameter Sheet (Host/Operation)	1

2. Target Menu group

Input	Substitution value	Reference
Input (Default)	Substitution value (Default)	Reference (Default)

3. Item

Item name (Free field)	Input method	Maximum number of bytes (Free value)
ansible_architecture	String	128
ansible_bios_version	String	128
ansible_default_ipv4 > address (※)	String	128
ansible_default_ipv4 > interface (※)	String	128
ansible_default_ipv4 > network (※)	String	128
ansible_distribution	String	128
ansible_distribution_file_path	String	128
ansible_distribution_file_variety	String	128
ansible_distribution_major_version	String	128
ansible_distribution_release	String	128

1.7 Create Parameter sheet for registering collected values (3/4)

Item name (Free field)	Input method	Maximum number of bytes (Free value)
ansible_distribution_version	String	128
ansible_machine	String	128
ansible_memtotal_mb	String	128
ansible_nodename	String	128
ansible_os_family	String	128
ansible_pkg_mgr	String	128
ansible_processor_cores	String	128

※ Change the following item names and group them together

ansible_default_ipv4 > address
ansible_default_ipv4 > interface
ansible_default_ipv4 > network

Create a column group called "ansible_default_ipv4" and put the following columns in it. [address], [interface] and [network]

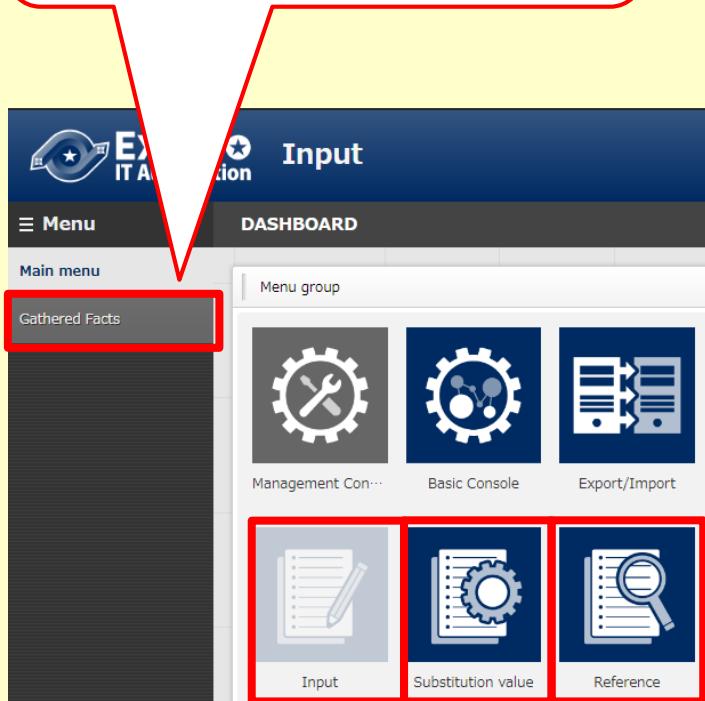
The screenshot shows a software interface for creating a parameter sheet. It features a grid of columns grouped by category. The categories are 'address', 'interface', and 'network'. Each category has a dropdown menu set to 'String'. A red box highlights the header of the first column group, which is labeled 'ansible_default_ipv4'. Below each category are several input fields: 'Maximum number of bytes*' (set to 128), 'Regular expression' (empty), and checkboxes for 'Required' and 'Unique constraint'. At the bottom of each category are sections for 'Explanation' and 'Remark'.

1.7 Create Parameter sheet for registering collected values (4/4)



Created menu

The menu [Gathered Facts] has been created



You can check all the different items by pressing the "Register" button.

A screenshot of a 'Register' dialog box. It contains three separate tables, each with a red border around its header row:

No	Parameter	Value
1	ansible_architecture	Intel(R) Core(TM) i7-8750H CPU @ 2.20GHz
2	ansible_bios_version	UEFI 1.00
3	ansible_default_ipv4	192.168.1.100
4	address	192.168.1.100
5	interface	Ethernet 1
6	network	192.168.1.0/24

No	Parameter	Value
1	ansible_distribution	Ubuntu
2	ansible_distribution_file_path	/etc/lsb-release
3	ansible_distribution_file_variety	lsb
4	ansible_distribution_major_version	18

No	Parameter	Value
1	ansible_machine	DESKTOP-1JF0PQH
2	ansible_memtotal_mb	16384
3	ansible_nodename	DESKTOP-1JF0PQH
4	ansible_os_family	Debian
5	ansible_pkg_mgr	apt
6	ansible_processor_cores	8

1.8 Register Collected item value list (1/3)

Register Collected item value list

- Link the collect item's (FROM) YAML file name, variable name and the Parameter sheet's (TO) menu name and Item name.
- Use the table on the next page and register each variable and item as a single set.

Menu: **Ansible common > Collected item value list**

- Press "Register" -> "Start registration."
- Input the following information and press the "Register" button.

Collected item (FROM)

Parameter sheet (TO)

Collected items(FROM)			Parameter sheet(TO)	
ID	Perth format*	PREFIX (file name)*	Variable name*	Member variables
1	YAML	gatherfacts	ansible_architectu	2100011611:Substitution value:2:Gathered Facts
				Parameter/ansible_architecture

1.8 Register Collected item value list (2/3)

Collected Item (FROM)			Parameter sheet (TO)	
Perth format	PREFIX (File name)	Variable name	Menu group :Menu	Item
YAML	gatherfacts	ansible_architecture	Substitution value: Gathered Facts	Parameter/ansible_architecture
YAML	gatherfacts	ansible_bios_version	Substitution value: Gathered Facts	Parameter/ansible_bios_version
YAML	gatherfacts	ansible_default_ipv4_address	Substitution value: Gathered Facts	Parameter/ansible_default_ipv4/address
YAML	gatherfacts	ansible_default_ipv4_interface	Substitution value: Gathered Facts	Parameter/ansible_default_ipv4/interface
YAML	gatherfacts	ansible_default_ipv4_network	Substitution value: Gathered Facts	Parameter/ansible_default_ipv4/network
YAML	gatherfacts	ansible_distribution	Substitution value: Gathered Facts	Parameter/ansible_distribution
YAML	gatherfacts	ansible_distribution_file_path	Substitution value: Gathered Facts	Parameter/ansible_distribution_file_path
YAML	gatherfacts	ansible_distribution_file_variety	Substitution value: Gathered Facts	Parameter/ansible_distribution_file_variety
YAML	gatherfacts	ansible_distribution_major_version	Substitution value: Gathered Facts	Parameter/ansible_distribution_major_version
YAML	gatherfacts	ansible_distribution_release	Substitution value: Gathered Facts	Parameter/ansible_distribution_release

1.8 Register Collected item value list (3/3)

Collected item (FROM)			Parameter sheet (TO)	
Perth format	PREFIX (file name)	Variable name	Menu group: Menu	Item
YAML	gatherfacts	ansible_distribution_version	Substitution value: Gathered Facts	Parameter/Ansible_distribution_version
YAML	gatherfacts	ansible_machine	Substitution value: Gathered Facts	Parameter/ansible_machine
YAML	gatherfacts	ansible_memtotal_mb	Substitution value: Gathered Facts	Parameter/ansible_memtotal_mb
YAML	gatherfacts	ansible_nodename	Substitution value: Gathered Facts	Parameter/ansible_nodename
YAML	gatherfacts	ansible_os_family	Substitution value: Gathered Facts	Parameter/ansible_os_family
YAML	gatherfacts	ansible_pkg_mgr	Substitution value: Gathered Facts	Parameter/ansible_pkg_mgr
YAML	gatherfacts	ansible_processor_cores	Substitution value: Gathered Facts	Parameter/ansible_processor_cores

1.9 Register Collect interface information

Register Collect interface information

As REST API access is required when registering the collected values to parameter sheets in ITA, we will need to register a REST user that has execution permission.

Menu: **Ansible common > Collection interface information**

- ① Press the “Filter” button.
- ② Only 1 line will be displayed in the “List”, so press the “update” button, fill in the information below and press the “register” button.

History	Update	ID	hostname	IP	REST user	REST password	REST method	protocol	port	Access permission
										Role to allow access
History	Update	1	localhost	127.0.0.1	administrator	*****	IP	http	80	

ID	hostname*	IP*	REST user	REST password	REST method*	protocol*	port*
1	localhost	127.0.0.1	administrator	*****	IP	http	80

REST user	REST password
User with execute permission	The password of the user

1.10 Run operation (1/2)

Run the operation

Select Movement and Operation and execute them.

Menu: **Ansible-Legacy > Execution**

- ① Select the Movement we registered from Movement[list]
- ② Select the Operation we registered from Operation[list]
- ③ Press the “Execute” button

The screenshot shows the Ansible-Legacy interface with two main sections: Movement [List] and Operation [List].

Movement [List]

Select	Movement ID	Movement Name	Orchestrator	Delay timer	Dedicated information for ansible				Access permission	Remarks	Last update date/time	Last updated by
					Host specific format	WinRM connection	Header section	Optional parameter	Role to allow access			
<input checked="" type="radio"/>	1	Gatherfacts	Ansible Legacy		IP		- hosts: all remote_user: "{{ __loginuser__ }}" gather_facts: yes become: yes				2021/08/31 18:19:41	System Administrator

Filter result count: 1

Operation [List]

Select	No.	Operation ID	operation name	Scheduled date for execution	Last execution date	Access permission	Remarks	Last update date/time	Last updated by
						Role to allow access			
<input checked="" type="radio"/>	1	1	GatherFacts1	2021/04/22 17:09				2021/08/31 18:10:22	System Administrator

Filter result count: 1

Movement ID: 1
Movement Name: Gatherfacts

Operation ID: 1
Operation Name: GatherFacts1

Movement [list] **Operation [list]**

GatherFacts	GatherFacts1
-------------	--------------

Dry run **Execute**

1.10 Run operation (2/2)

Confirm the operation status

The operation ended successfully if the Status in the “Check operation status” menu says “Completed”

Menu: **Ansible-Legacy > Check operation status**

The screenshot shows the Ansible-Legacy interface with the 'Check operation status' menu selected. The main window displays a table of operation details. The 'Status' row is highlighted with a red box, indicating it has been completed.

ITEM	Value	
Execution No.	2	
Execution type	Normal	
Status	Completed	
execution engine	Ansible Engine	
Caller symphony		
Caller conductor		
Execution user	System Administrator	
Movement	ID Name Delay timer (minutes) Dedicated information for ansible	1 Gatherfacts Host specific format WinRM connection
Operation	No. Name ID	1 GatherFacts1 1

1.11 Confirm the collection results (1/2)

Confirm the collection results

Check if the collection succeeded/failed.

Menu: **Ansible-Legacy > Execution list**

- ① Press the “Filter” button.
- ② List > Collect status > “Status” can display the following:
 - Collected : The data has been collected
 - Collected (with notification) : Something went wrong when updating/registering
 - Not target : Failed to collect
 - Collection error : There is an error in the registered operation or the target host

History	Execution No. \downarrow	Check execution status	Execution type \downarrow	Status \downarrow	Execution engine \downarrow	Collection status	Collection log
History	2	Check execution status	Normal	Completed	Ansible Engine	Collected	CollectData_0000000002.log

1.11 Confirm the collection results (2/2)

Confirm the parameters

Check that the values has been registered to the parameter sheet.

Menu: **Input (or reference) > Gathered Facts**

- ① Press the “Filter” button.
- ② Check the list if all the items has values in them.

History	Duplicate	Update	Discard	No.	Host name	Operation					Param												
						ID	Operation name	Reference date	Scheduled date for execution	Last execution date													
History	Duplicate	Update	Discard	1	targethost	1	GatherFacts1	2021/09/01 13:28	2021/04/22 17:09	2021/09/01 13:28	x86_64 1.11.0-2.el7												
<hr/>																							
<table border="1"><tr><td>ansible_default_ipv4 > address</td><td>ansible_default_ipv4 > interface</td><td>ansible_default_ipv4 > network</td><td>ansible_distribution</td><td>ansible_distribution_file_path</td></tr><tr><td>192.0.2.1</td><td>eth0</td><td>192.0.2.0</td><td>CentOS</td><td>/etc/redhat-release</td></tr></table>												ansible_default_ipv4 > address	ansible_default_ipv4 > interface	ansible_default_ipv4 > network	ansible_distribution	ansible_distribution_file_path	192.0.2.1	eth0	192.0.2.0	CentOS	/etc/redhat-release		
ansible_default_ipv4 > address	ansible_default_ipv4 > interface	ansible_default_ipv4 > network	ansible_distribution	ansible_distribution_file_path																			
192.0.2.1	eth0	192.0.2.0	CentOS	/etc/redhat-release																			
<table border="1"><tr><td>ansible_distribution_file_variety</td><td>ansible_distribution_major_version</td><td>ansible_distribution_release</td><td>ansible_distribution_version</td></tr><tr><td>RedHat</td><td>7</td><td>Core</td><td>7.8</td></tr></table>												ansible_distribution_file_variety	ansible_distribution_major_version	ansible_distribution_release	ansible_distribution_version	RedHat	7	Core	7.8				
ansible_distribution_file_variety	ansible_distribution_major_version	ansible_distribution_release	ansible_distribution_version																				
RedHat	7	Core	7.8																				
<table border="1"><tr><td>ansible_machine</td><td>ansible_memtotal_mb</td><td>ansible_nodename</td><td>ansible_os_family</td><td>ansible_pkg_mgr</td><td>ansible_processor_cores</td></tr><tr><td>x86_64</td><td>1771</td><td>demo.localdomain</td><td>RedHat</td><td>yum</td><td>1</td></tr></table>												ansible_machine	ansible_memtotal_mb	ansible_nodename	ansible_os_family	ansible_pkg_mgr	ansible_processor_cores	x86_64	1771	demo.localdomain	RedHat	yum	1
ansible_machine	ansible_memtotal_mb	ansible_nodename	ansible_os_family	ansible_pkg_mgr	ansible_processor_cores																		
x86_64	1771	demo.localdomain	RedHat	yum	1																		

2. Scenario 2 [Compare function]

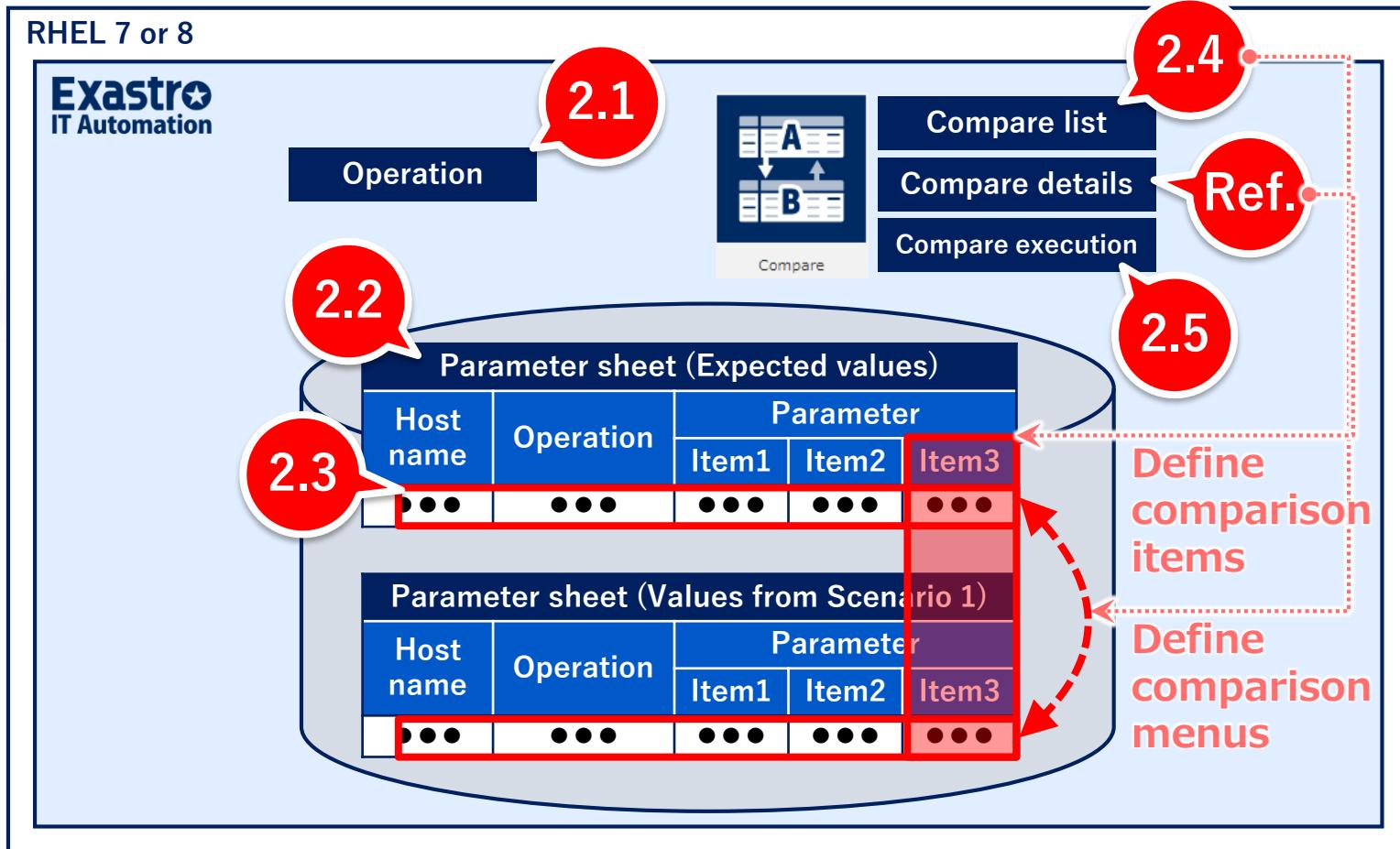
Compare the values and the expected values of the one collected in Scenario 1.

Scenario 2 Overall diagram

Scenario 2 workflow

- Register expected values to ITA and compare them to the values collected in Scenario 1.

Overall diagram



2.1 Register Operation

Register Operation

Register an operation that will compare the values.

Menu: **Basic Console > Operation list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No.	Operation ID	Operation name*	Scheduled date for execution*	Access permission
				Setting Role to allow access
Auto-input	Auto-input	GatherFacts2	2021/10/01 09:25	Setting
Operation name (Free space)		Scheduled date for execution (Free space)		
GatherFacts2		2021/10/01 09:25		

2.2 Create parameter sheet for expected values (1/3)

Create a parameter sheet for registering expected values.

Duplicate the parameter sheet we created in Scenario 1 and change the include order and menu name

Menu: **Create menu > Menu definition information**

- ① Press the “Filter” button and look for the “Gathered Facts” menu under “list”. After that, press the “Menu definition / creation” button.
- ② After the Menu definition screen appears, press the [Diversion new] button.
- ③ Only the “Menu name” and “Display” order will not be duplicated, so use table in the next slide to fill in the items.
- ④ Press the “Create” button.



2.2 Create parameter sheet for expected values (2/3)

The screenshot shows the Exastro configuration interface. On the left, there is a list of parameter sheets: 'ansible_machine', 'ansible_memtotal_mb', and 'ansible_nodename'. The 'ansible_nodename' sheet is currently selected. On the right, a 'Menu creation information' dialog is open, containing fields for basic information and target menu group. The 'Basic information' section includes fields for 'Id' (Auto-input), 'Menu name*' (OS information), 'Creation target' (Parameter Sheet(Host/Operat)), and 'Display order*' (3). The 'Target menu group' section includes fields for 'Input*' (Input), 'Substitution value*' (Substitution value), and 'Reference*' (Reference). A red circle with the number '3' points to the 'Display order*' field. In the bottom-left corner, there is a preview window titled 'List(Preview)' showing a table with columns: No, Host name, Operation, Operation name, Reference date and time, Scheduled date, Last run date, and a 'Create' button. A red circle with the number '4' points to the 'Create' button.

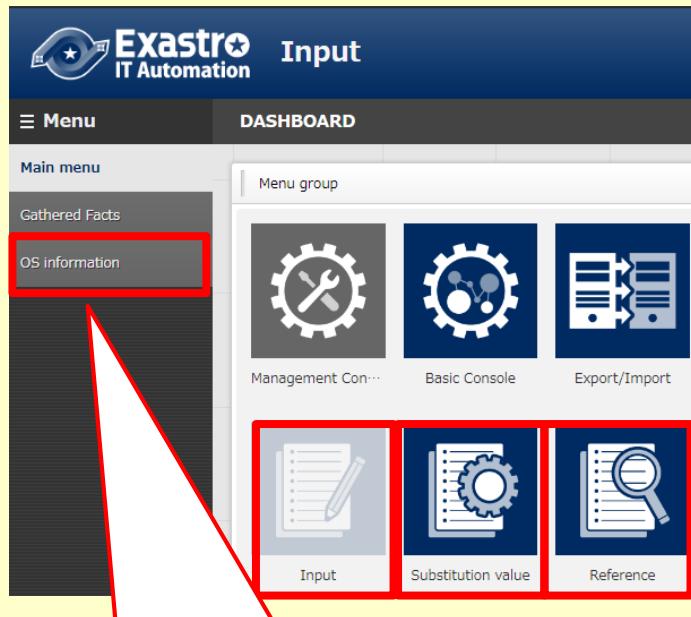
Menu name (Free space)	Display order
OS information	3

The display order can be any number.

2.2 Create parameter sheet for expected values (3/3)



Created menu



The “OS Information” menu has been created.

You can press “Start registration” to check if all the items are there.

The image displays three stacked tables representing parameter sheets:

- Top Table:** Shows columns for No, Parameter, and Value. The Parameter column includes items like ansible_architecture, ansible_bios_version, ansible_default_ipv4, address, interface, and network. A note at the bottom says "※* is a required item."
- Middle Table:** Shows columns for Parameter and Value. The Parameter column includes items like ansible_distribution, ansible_distribution_file_path, ansible_distribution_file_variety, and ansible_distribution_major_version.
- Bottom Table:** Shows columns for Parameter and Value. The Parameter column includes items like ansible_machine, ansible_memtotal_mb, ansible_nodename, ansible_os_family, ansible_pkg_mgr, and ansible_processor_cores.

2.3 Register expected values

Register expected values

We will now register the expected values to the “OS information” menu we created.

We want to make it so the values are different from the ones we collected in Scenario 1, so change the values in “ansible_default_ipv4_address” to something different.

Menu: **Input > OS information**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.



The other items are shortened

No	Host name*	Operation*	Parameter		
Auto-input	targethost	2021/10/01 09:25_2:GatherFacts2	ansible_architecture	ansible_bios_version	address
			x86_64	1.11.0-2.el7	193.0.2.2

Host name	Operation	Parameter/Item name		Other items
		ansible_default_ipv4_address		
targethost	GatherFacts2	Input a value different from the one collected in Scenario 1		Input the same values collected in scenario 1.

2.4 Register a Comparison

Select the two menus you want to compare

We will now define the comparison that will compare the values.

Menu: **Compare > Compare list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No	Compare name*	Compare target menu 1*	Compare target menu 2*	Match all cases
Auto-input	OS info	2100011611:Substitution value:5:OS information	2100011611:Substitution value:2:Gathered Facts	<input checked="" type="radio"/>

Comparison definition name (Free field)	Compare target menu 1	Compare target menu 2	Match all cases
OS info	Substitution value:8:OS information	Substitution value:Gathered Facts	<input checked="" type="radio"/>

Here, we will compare all of the items,
so select “●”

* If you only want to compare select items, please see [\[reference\] Comparison details](#).

2.5 Run comparison (1/2)

Run the previously defined Comparison

We will now compare the values.

Menu: **Compare > Compare execution**

- ① Input>Select the following and press the “Compare” button.
- ② The comparison results will be displayed



Compare execution

Compare list: 1:OS info [5:OS information - 2:Gathered...] Base date 1: Base date 2: Target host:

Output: ALL Difference Only

Comparison definition	Standard date 1	Standard date 2	Output
OS information-Gathered Facts	Blank	Blank	ALL

If you only want the comparison to output the items with differences, select “Difference Only”

2.5 Run comparison (2/2)



Comparison results

If the records contains an item with a difference, the “result” column will display “Difference”.

Compare item number	Result	Hostname	Menu name	No	Operation name	Base date	Parameter/ansible_architecture	Parameter/ansible_bios_version	Parameter/ansible_default_ipv4/address
1	Difference	targethost	OS information	1	GatherFacts2	2021/10/01 09:25	x86_64	1.11.0-2.el7	192.0.2.2
2	Difference	targethost	Gathered Facts	1	GatherFacts1	2021/09/01 13:28	x86_64	1.11.0-2.el7	192.168.141.12

[Excel output](#)
[CSV output](#)

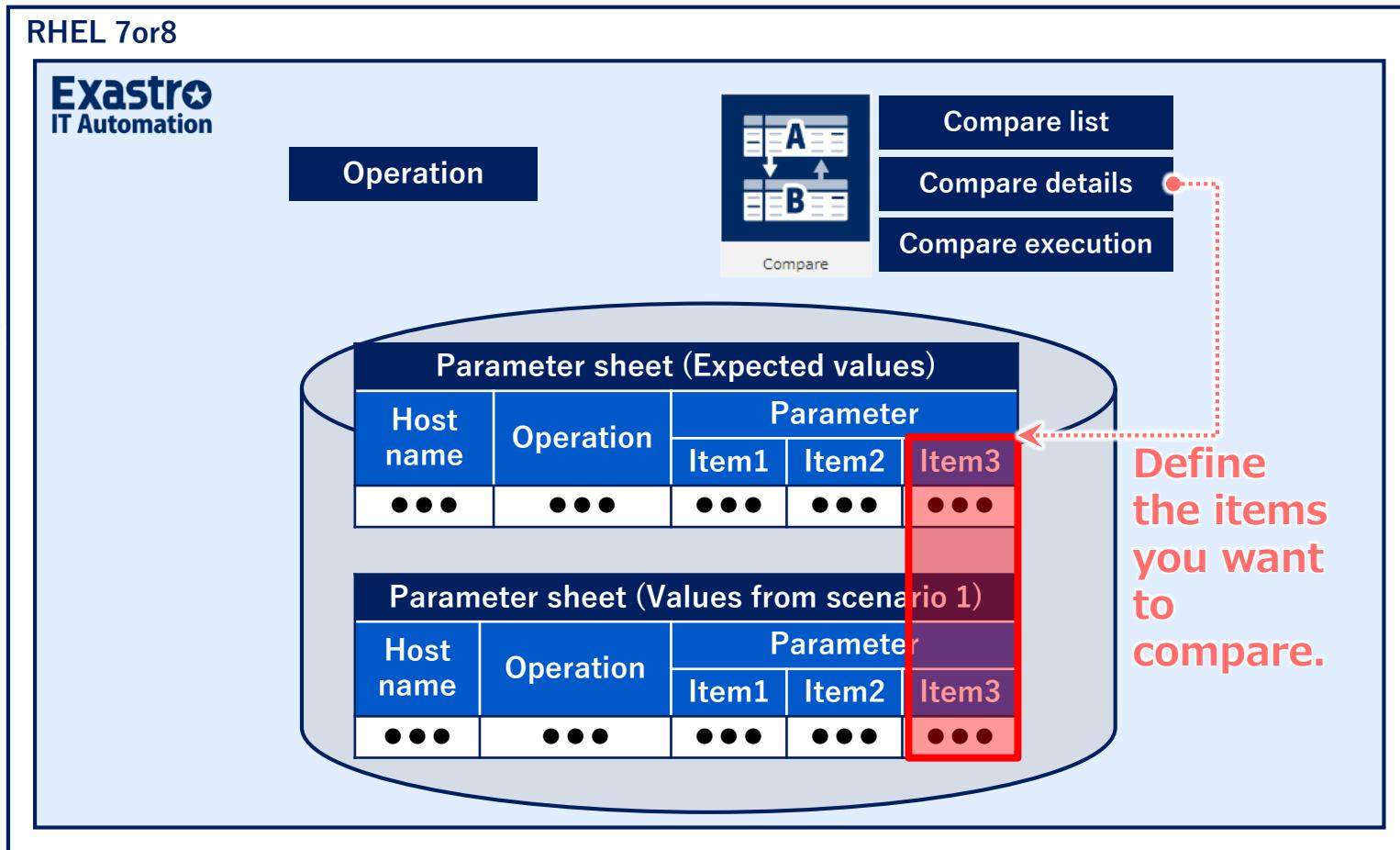
The address, which has different values, will be displayed in red.

[Reference] Compare details

Compare single parameter sheet items.

- You can use the “Compare details” menu if you want to compare single items in a certain parameter sheet.

Diagram



[Reference] (1) Register Comparison details

Select the 2 menus you want to compare

Select the menus you want to compare. Since we are only comparing select items, make sure that Match all cases is set to "OFF".

Menu: **Compare> Compare list**

- ① Press "Register" -> "Start registration."
- ② Input the following information and press the "Register" button.

No	Compare name*	Compare target menu 1*	Compare target menu 2*	Match all cases
Auto-input	IP address	2100011611:Substitution value:5:OS information	2100011611:Substitution value:2:Gathered Facts	<input type="button" value="▼"/>

Compare name (Free)	Compare target menu 1	Compare target menu 2	Match all cases
IP address	Substitution value:8:OS information	Substitution value:Gathered Facts	-

Make sure that this item is blank.

[Reference] (2) Register Compare details

Select the items you want to compare

Select the items you want to compare from the menus in the Compare details menu.

Menu: **Compare > Compare details**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

The screenshot shows a registration form for 'Compare details'. It consists of two main sections: 'Target column 1' and 'Target column 2'. Each section has a 'Display item name*' field where the user can type or select a name. In 'Target column 1', the display name 'IP address' is selected. In 'Target column 2', the display name 'Substitution value:2:Gathered Facts:3:Parameter/ansible_default_ipv4/address' is selected. A red box highlights the entire row for 'Target column 1'. A dashed blue circle highlights the 'Display order' field in 'Target column 2', which contains the value '1'. Below this, a table summarizes the registered items:

Comparison definition name	Display item name	Target column 1	Target column 2	Display order
IP address [Gathered Facts-OS information]	IP address	Substitution value: OS information:Parameter/ansible_default_ipv4/address	Substitution value: Gathered Facts:Parameter/ansible_default_ipv4/address	1

[Reference] (3) Run comparison (1/2)

Run the comparison

Now that you've configured the Comparison definition details, we can now run the comparison.

Menu: **Compare > Run Comparison**

- ① Input>Select the following and press the “Compare” button.
- ② The comparison results will be displayed

Compare execution

Compare list: Base date 1: Base date 2: Target host:

Output: ALL Difference Only

Comparison definition	Base date 1	Base date 2	Output
IP Address [OS information-Gathered Facts]	Blank	blank	ALL

[Reference] (3) Run Comparison (2/2)



Comparison results

Compare result							
Compare item number	Result	Hostname	Menu name	No	Operation name	Base date	IP address
1	Difference	targethost	OS information	1	GatherFacts2	2021/10/01 09:25	193.0.2.2
2	Difference	targethost	Gathered Facts	1	GatherFacts1	2021/09/01 13:28	192.168.41.12

[Excel output](#)

[CSV output](#)

Only the specified item will be displayed.

3. Scenario 3 [Collect function]

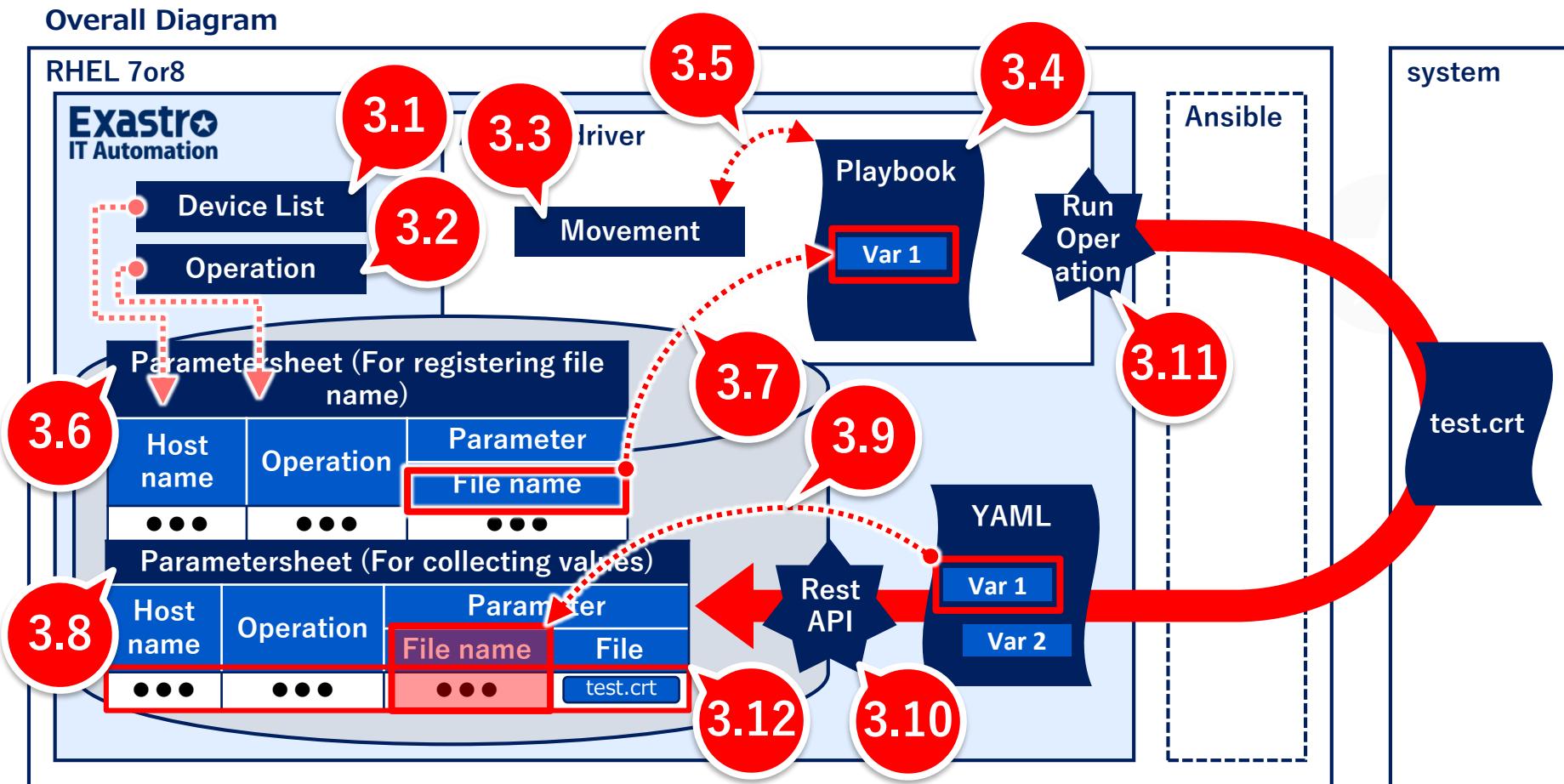
Collect the target host's SSL certificate file

Scenario 3 Overall diagram

Scenario 3 workflow

- While the contents are more or less the same as Scenario 1, in this scenario, we will collect a file.
- The file collected from the Parameter sheet will be downloadable.

Overall Diagram



3.1 Register Target host

Register target host connection information

- You can skip this step if you are using the same host you used in Scenario 1.

Menu: **Basic Console > Device List**

- Press “Register” -> “Start registration.”
- Input the following information and press the “Register” button.

Managed system item number	HW device type	Host name	IP address	EtherwakeOnLan	Login password	Ansible Dedicated information
Auto input	SV	targethost	192.0.2.1	Login user ID root	Management Login password *****	Authentication method Password authentication

HW device type	Host name (Free space)	IP address (Depends on your environment)	Login user ID (Depends on your environment)	Login password		Ansible dedicated information
				Management	Login password (Depends on your environment)	
SV	targethost	192.0.2.1	root	●	*****	Password Authentication

3.2 Register operation

Register operation

Register the operation we will use in this scenario.

Menu: **Basic Console**> **Operation list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No.	Operation ID	Operation name*	Scheduled date for execution*	Action
3	3	getSSL1	2021/04/23 17:10	Setting

Operation name (Free space)	Scheduled date for execution (Free space)
getSSL1	2021/04/23 17:10

3.3 Register Movement

Register Movement in Ansible-Legacy

After this, we will link a Playbook to it, making it Movement that collects the SSL certificate.

Menu: **Ansible-Legacy > Movement List**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

Movement name (Free space)	Ansible User information
getSSL	Host specific format
	IP

3.4 Register Playbook (1/3)

Register Playbook for operations (1/2)

- The playbook that we will register in this guide contains a workflow which consists of "Generate YAML file which will gather the SSL certificate under the Target host's /tmp/ directory" → Copy the SSL certificate to the ITA host server's collection directory".
- For more information regarding the File collection directory, please see chapter [3.4.1 File collection directory](#)
- Make sure to create and put the SSL certificate file (test.crt) under the target host's /etc/pki/tls/certs/ path in advance.

3.4 Register Playbook (2/3)

Register Playbook for operations (2/2)

```
- name: make yaml file
blockinfile:
  create: yes
  mode: 0644
  insertbefore: EOF
  marker: ""
  dest: "/tmp/getSSL.yml"
  content: |
    SSL_file_name      : {{ VAR_ssl_name }}
    SSL_file           : {{ VAR_ssl_name }}

- name: copy the make yaml file to local
  fetch:
    src: "/tmp/getSSL.yml"
    dest: "{{ __parameter_dir__ }}/{{ inventory_hostname }}"
    flat: yes

- name: get SSL file
  fetch:
    src: "/etc/pki/tls/certs/{{ VAR_ssl_name }}"
    dest: "{{ __parameters_file_dir__ }}/{{ inventory_hostname }}"
    flat: yes
```

File name : getSSL.yml

3.4 Register Playbook (3/3)

Register Playbook in Ansible-Legacy

Register the Playbook we created in the last slide.

Menu: **Ansible-Legacy > Playbook file**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

Playbook ID	Playbook name*	Playbook files*	Access permission
Auto-input	getSSL	<input type="button" value="Choose File"/> getSSL.yml <input type="button" value="Upload in advance"/> Upload status: Uploaded. File name getSSL.yml Size514bytes	<input type="button" value="Setting"/> Role to allow access

Playbook file name (Free space)	Playbook file
getSSL	getSSL.yml

3.4.1 File collection directory (1/2)

The collected files will be stored in a file collection directory.

- The collected file will be stored in the File Collection directory specified by the ITA reserved variables.

```
dest: "{{ __parameters_file_dir__ }}/{{ inventory_hostname }}/"
```

getSSL.yml
2 lines from
the bottom

This Directory will be specified

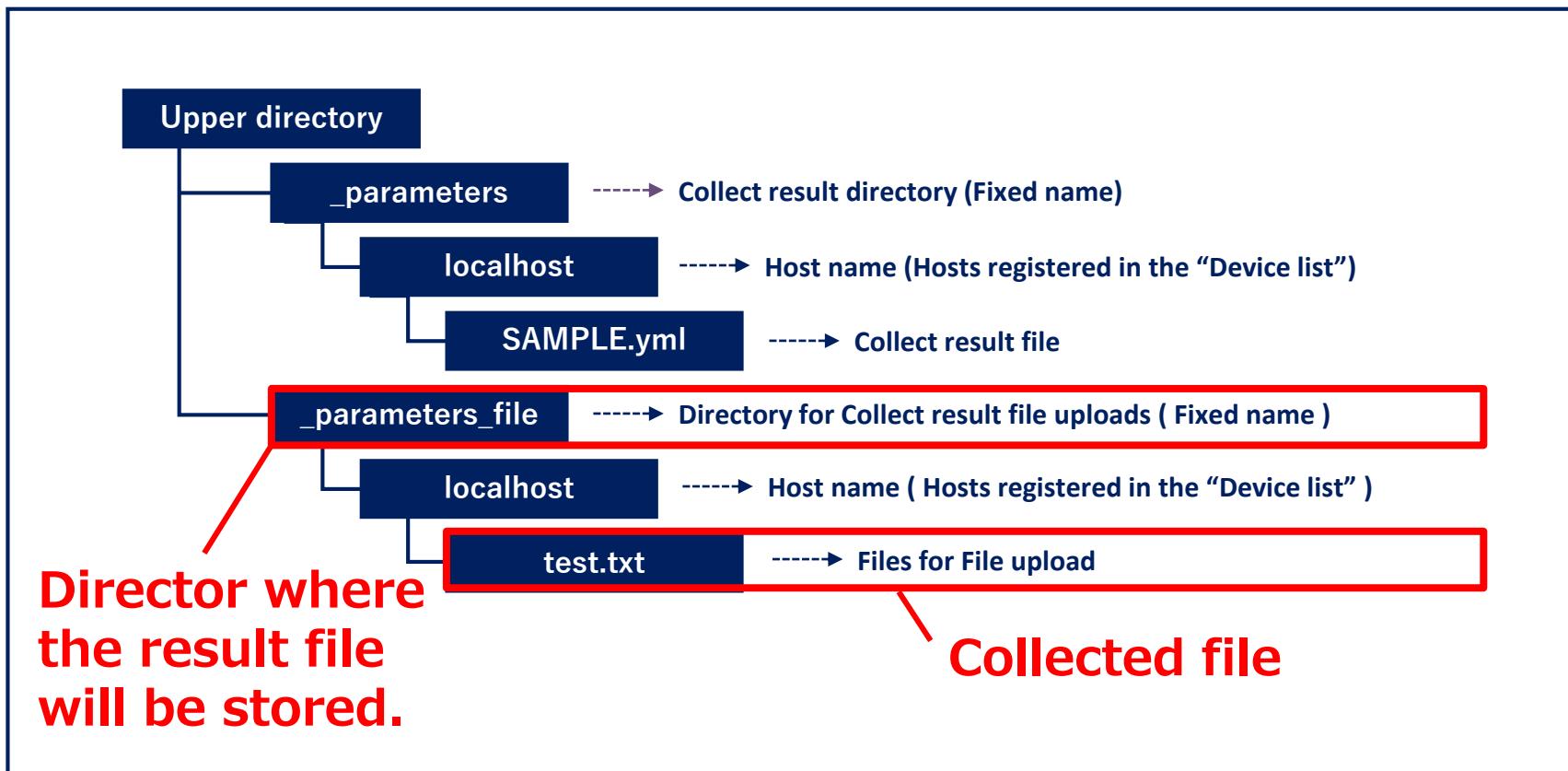
Path variables

	ITA reserved variable	Variable specified contents
Source file storage location	<code>__parameter_dir__</code>	“ <code>_parameters</code> ” path under the operation result directory
Collected file storage location	<code>__parameters_file_dir__</code>	“ <code>_parameters_file</code> ” path under the operation result directory

3.4.1 File collection directory (2/2)

The following figure displays the file hierarchy for the Collect file directory.

File hierarchy



3.5 Movement-Playbook link

Link Movement and Playbook

Link the previously registered Movement and Playbook.

Menu: **Ansible-Legacy > Movement-Playbook link**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

Associated item No.	Movement*	Playbook files*	Include order*	Action Setting
Auto-input	2:getSSL	getSSL	1	Setting

Movement	Playbook file	Include order
getSSL	getSSL	1

3.6 Register File name (1/3)

Create menu for variable registration

Create a Parameter sheet that we can use to register the File name (test.crt)

Menu: **Create Menu > Create/Define menu**

- ① Use the table below to fill out the following items.
- ② Press the “Create” button

1. Basic Information

Menu name (Free space)	Creation target	Display order
SSL certificate name	Parameter sheet (Host/Operation)	4

2. Target Menu group

Input	Substitution value	Reference
Input (Default)	Substitution value (Default)	Reference (Default)

3. Item

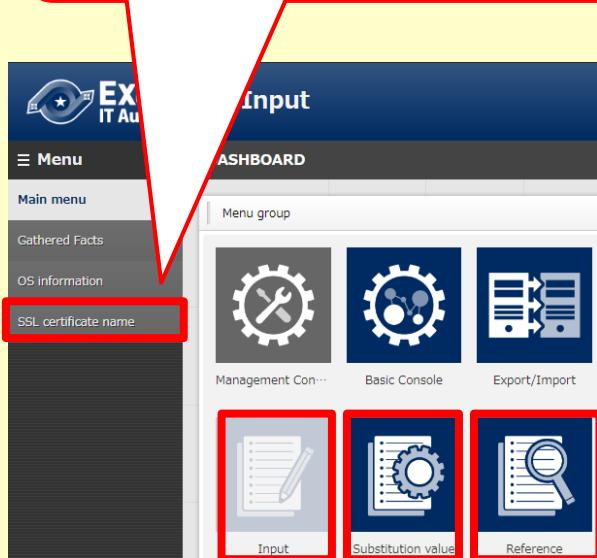
Item name (Free space)	Input method	Maximum number of bytes (Free value)
File name	String	128

3.6 Register File name (2/3)



Created menu

The menu [SSL certificate name] has been created



You can check all the different items by pressing the "Register" button.

The screenshot shows a 'Register' dialog box. It has columns for 'No', 'Host name*', 'Operation', and 'Parameter'. The 'Parameter' column contains a row for 'File name'. This row is highlighted with a red box. The 'File name' input field is also highlighted with a red box.

No	Host name*	Operation	Parameter
		Operation*	File name
Auto-input			

3.6 Register File name (3/3)

Register File name

Register the file name (test.crt) to the parameter sheet you created.

Menu: **Input > SSL certificate name**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No	Host name*	Operation	Parameter
	Host name*	Operation*	File name
Auto-input	targethost ▾	2021/04/23 17:10_3:getSSL1 ▾	test.crt
Host name		Parameter	
		File name	
targethost		test.crt	

3.7 Register substitution value auto-registration settings

Register Substitute value auto-registration settings

- Link the name of the file we will collect (Specific values) with the variables inside the Playbook.name ([File name : test.crt] [Variable name : VAR_ssl_name])
- By registering the file name to a different parameter sheet (already done in chapter [3.6 Register file name](#)) and linking the playbook variable to the parameter sheet's item name in the substitution value auto-registration setting menu, the system can automatically set the variable's specific values.

Menu: **Ansible-Legacy > Substitution value auto-registration setting**

- Press “Register” -> “Start registration.”
- Input the following information and press the “Register” button.

Parameter sheet (From)		Registration method*	Movement*	Value variable
Item No.	Menu group: Menu*	Item*	Value type	Variable name
Auto-input	2100011611:Substitution value:8:SSL certificate name	Parameter/File name	Value type	1:VAR_ssl_name
Parameter sheet (From)		Registration method	IaC variable (To)	
Menu group : Menu	Item		Movement	Value variable
Substitution value : SSL certificate name	Parameter/File name	Value-type	getSSL	VAR_ssl_name

3.8 Create Parameter sheet for collect values (1/3)

Create a Parameter sheet that registers collected values.

- Create a menu called “SSL certificate”
- Inside the menu, create 2 items and name them “File name” and “File”. The “File” item will later allow us to download the collected file.

Menu: **Create menu > Create/Define Menu**

- ① Use the table below to fill out the following fields.
- ② Press the “Create” button.

1. Basic information

Menu name (Free space)	Creation target	Display order
SSL certificate	Parameter sheet (Host/Operation)	2

2. Target Menu group

Input	Substitution value	Reference
Input (Default)	Substitution value (Default)	Reference (Default)

3.8 Create Parameter sheet for collect values (2/3)

3.Items

Item name (Free space)	Input method	Maximum number of bytes (Free value)
File name	String	128
File	File upload	1000000

Fill out the following
for the items

The screenshot shows a software interface for defining parameters. It displays two items side-by-side:

- Item name:** File name
- Input method:** String
- Maximum number of bytes:** 128

Below these, another pair of items is shown:

- Item name:** File
- Input method:** File upload
- Maximum number of bytes:** 1,000,000

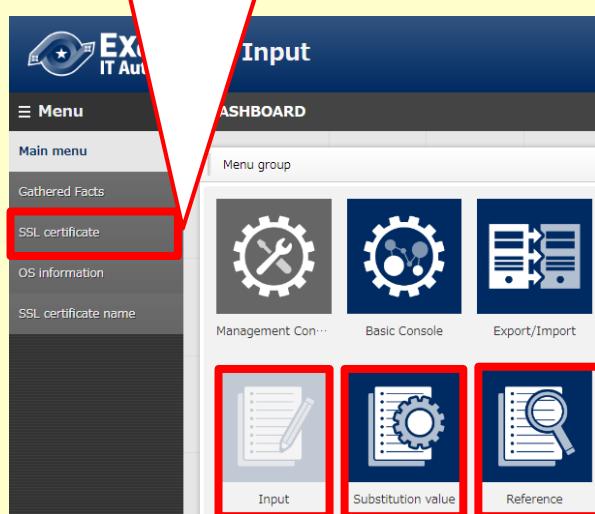
Each item row includes fields for "Regular expression", "Required", and "Unique constraint". Below each row are sections for "Explanation" and "Remark".

3.8 Create Parameter sheet for collect values (3/3)



Created menu

The menu "SSL certificate" has been created.



You can check all the different items by pressing the "Register" button.

The screenshot shows a 'Register' dialog box. It has two main sections: 'Host name*' and 'Operation*'. The 'Host name*' section contains dropdown menus for 'No' (set to 'Auto-input') and 'Operation' (empty). The 'Operation*' section also has a dropdown menu (empty). To the right, there's a 'Parameter' section with a table:

File name	File
<input type="text"/>	<input type="button" value="Choose File"/> No file chosen <input type="button" value="Upload in advance"/> Upload status:

A note at the bottom says: * is a required item.

3.9 Register Collected item value list

Register Collected item value list

- Configure the parameter sheet so that the collected items will automatically be registered to the parameter sheet.
- Link the collect item's (FROM) YAML file name, variable name and the Parameter sheet's (TO) menu name and Item name. Do this for both the "File name" and "File" items.

Menu: **Ansible common > Collected item value list**

- ① Press "Register" -> "Start registration."
- ② Input the following information and press the "Register" button.

Collected item (FROM)			Parameter sheet (TO)		
ID	Perth Format*	PREFIX (file name)*	Variable name*	Member variables	Parameter sheet(TO)
Auto-input	YAML	getSSL	SSL_file_name	2100011611:Substitution value:11:SSL certificate	Item*

Collected item (FROM)			Parameter sheet (TO)	
Parse format	PREFIX (File name)	Variable name	Menu group :Menu	Item
YAML	getSSL	SSL_file_name	Substitution value:SSL certificate	Parameter/File name
YAML	getSSL	SSL_file	Substitution value:SSL certificate	Parameter/File

3.10 Register Collected interface information

Register Collect interface information

- As REST API access is required when registering the collected values to parameter sheets in ITA, we will need to register a REST user that has execution permission.
- If you are going to use the same Rest user you created in Scenario 1, you can skip this step.

Menu: **Ansible common > Collect interface information**

- Press the “Filter” button
- Only 1 line will be displayed in the “list”, so press the “update” button, fill in the information below and press the “register” button

History	Update	ID	hostname	IP	REST user	REST password	REST method	protocol	port	Access permission
										Role to allow access
History	Update	1	localhost	127.0.0.1	administrator	*****	IP	http	80	



ID	hostname*	IP*	REST user	REST password	REST method*	protocol*	port*
1	localhost	127.0.0.1	administrator	*****	IP	http	80

REST user
User with execute permission

REST password
The password of the user

3.11 Run operation (1/2)

Run operation

Select Movement and Operation and execute them.

Menu: **Ansible-Legacy > Execution**

- ① Select the Movement we registered from Movement[list]
- ② Select the Operation we registered from Operation[list]
- ③ Press the “Execute” button

The screenshot shows the Ansible-Legacy interface with two main windows: 'Movement [List]' and 'Operation [Filter]'. The 'Movement [List]' window displays a table of movements, with the second row ('getSSL') highlighted by a red box. The 'Operation [Filter]' window displays a table of operations, with the third row ('getSSL1') highlighted by a red box. At the bottom, there is a navigation bar with buttons for 'Dry run' and 'Execute' (the 'Execute' button is also highlighted by a red box). To the right, there are two summary boxes: 'Movement [List]' showing 'getSSL' and 'Operation [List]' showing 'getSSL1'.

Select	Movement ID	Movement Name	Orchestrator	Delay timer	Host specific format	WinRM connection	Dedicated information for ansible	Access permis	Last update date/time	Last updated by
<input type="radio"/>	1	GatherFacts	Ansible Legacy		IP		- hosts: all remote_user: "{{ __loginuser__ }}" gather_facts: yes		2021/08/31 18:19:41	System Administrator
<input checked="" type="radio"/>	2	getSSL	Ansible Legacy		IP				2021/09/01 15:46:15	System Administrator

Filter result count: 2

Select	No.	Operation ID	Operation name	Scheduled date for execution	Last execution date	Access permission	Remarks	Last update date/time	Last updated by
<input type="radio"/>	1	1	GatherFacts1	2021/04/22 17:09	2021/09/01 13:28			2021/09/01 13:28:17	Legacy execution procedure
<input type="radio"/>	2	2	GatherFacts2	2021/10/01 09:25				2021/09/01 13:50:51	System Administrator
<input checked="" type="radio"/>	3	3	getSSL1	2021/04/23 17:10				2021/09/01 15:40:58	System Administrator

Filter result count: 3

Movement ID: 2
Movement Name: getSSL

Movement [List] Operation [List]

getSSL getSSL1

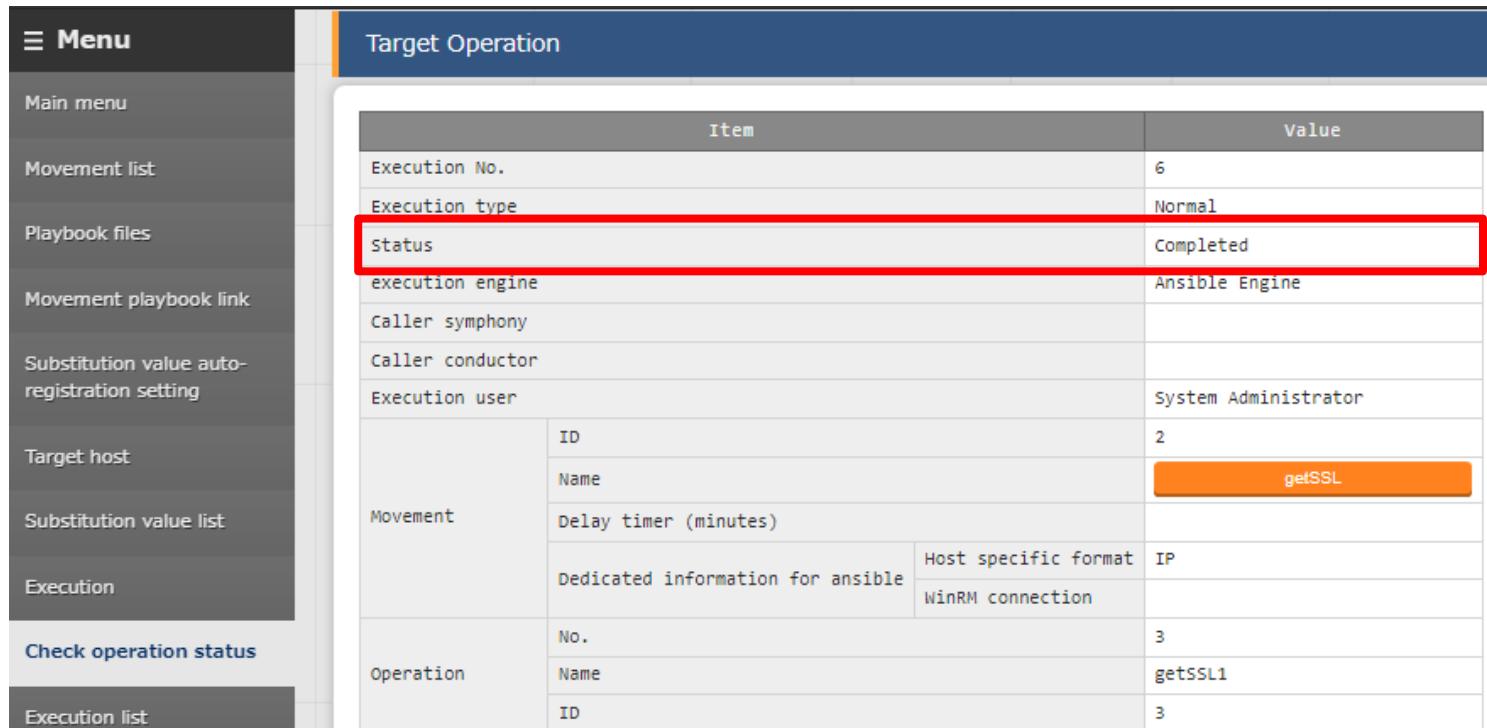
Dry run Execute

3.11 Run operation (2/2)

Confirm the operation status

The operation ended successfully if the Status in the “Check operation status” menu says “Completed”

Menu: **Ansible-Legacy > Check operation status**



The screenshot shows the 'Target Operation' configuration interface. On the left is a sidebar with a dark background and light text, listing various menu items. The 'Check operation status' item is highlighted in blue, indicating it is the active or selected menu. The main area has a title 'Target Operation' and contains a table with two sections: 'Item' and 'Value'. The first section includes fields for 'Execution No.' (value: 6), 'Execution type' (value: Normal), and 'Status' (value: Completed, which is highlighted with a red border). The second section includes fields for 'execution engine' (value: Ansible Engine), 'Caller symphony', 'Caller conductor', and 'Execution user' (value: System Administrator). Below this is another table section for 'Movement' with fields for 'ID' (value: 2), 'Name' (value: getSSL, highlighted with an orange button-style background), and 'Delay timer (minutes)'. There are also columns for 'Host specific format' (value: IP) and 'WinRM connection'. Finally, there is a table section for 'Operation' with fields for 'No.' (value: 3), 'Name' (value: getSSL1), and 'ID' (value: 3).

Item	Value										
Execution No.	6										
Execution type	Normal										
Status	Completed										
execution engine	Ansible Engine										
Caller symphony											
Caller conductor											
Execution user	System Administrator										
Movement	<table border="1"><thead><tr><th>ID</th><th></th></tr></thead><tbody><tr><td>2</td><td></td></tr><tr><td>Name</td><td>getSSL</td></tr><tr><td>Delay timer (minutes)</td><td></td></tr><tr><td>Dedicated information for ansible</td><td>Host specific format: IP WinRM connection</td></tr></tbody></table>	ID		2		Name	getSSL	Delay timer (minutes)		Dedicated information for ansible	Host specific format: IP WinRM connection
ID											
2											
Name	getSSL										
Delay timer (minutes)											
Dedicated information for ansible	Host specific format: IP WinRM connection										
Operation	<table border="1"><thead><tr><th>No.</th><th></th></tr></thead><tbody><tr><td>3</td><td></td></tr><tr><td>Name</td><td>getSSL1</td></tr><tr><td>ID</td><td>3</td></tr></tbody></table>	No.		3		Name	getSSL1	ID	3		
No.											
3											
Name	getSSL1										
ID	3										

3.12 Confirm collection results (1/2)

Confirm the collection results

Check if the collection succeeded/failed.

Menu: **Ansible-Legacy > Execution list**

- ① Press the “Filter” button.
- ② List > Collect status > “Status” can display the following:
 - Collected : The data has been collected
 - Collected (with notification) : Something went wrong when updating/registering
 - Not target : Failed to collect
 - Collection error : There is an error in the registered operation or the target host

The screenshot shows the Ansible-Legacy interface with the 'Execution list' page open. A 'Collection status' dialog box is displayed, connected by a dashed arrow from the 'Status' column in the main table. The dialog box has a title 'Collection status' and two columns: 'status' and 'Collection log'. The 'status' column contains 'Collected' and the 'Collection log' column contains a link 'collectData_0000000006.log'.

History	Execution No. ◆	Check execution status	Execution type ◆	Status ◆
History	6	Check execution status	Normal	Completed

Collection status

status ◆	Collection log
Collected	collectData_0000000006.log

3.12 Confirm collection results (2/2)

Confirm the parameters

Check that the values has been registered to the parameter sheet. You can also download the file.

Menu: **Input (or Substitution value) > SSL Certificate**

- ① Press the “Filter” button.
- ② Check the list if all the items has values in them.

History	Duplicate	Update	Discard	No	Host name	Operation					Parameter	
						ID	Operation name	Reference date	Scheduled date for execution	Last execution date	File name	File
History	Duplicate	Update	Discard	1	targethost	3	getSSL1	2021/09/02 09:38	2021/04/23 17:10	2021/09/02 09:38	test.crt	test.crt

4. Scenario 4 [Compare function]

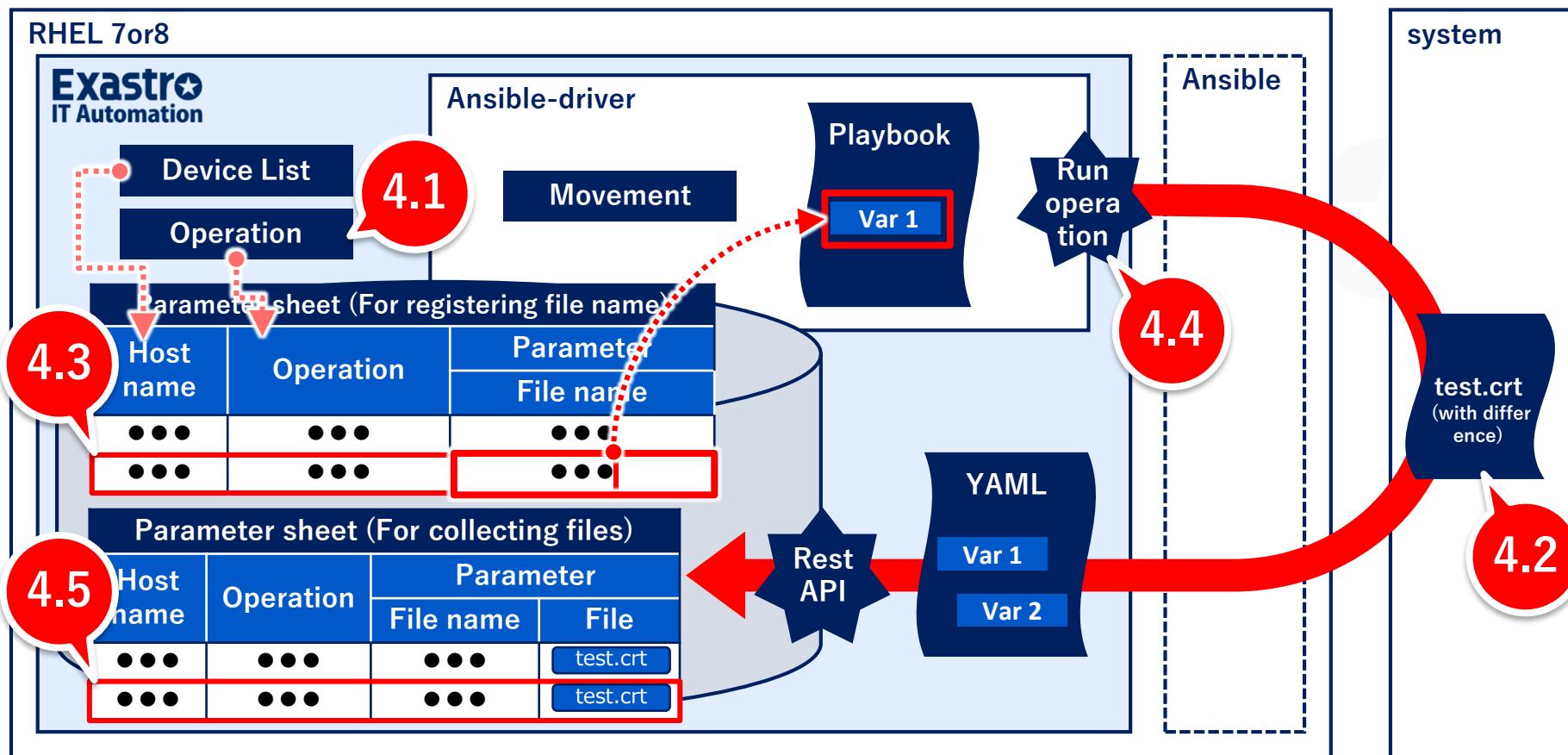
Compare the file downloaded in scenario 3 with the same file from a different date.

Scenario 4 Overall diagram (1/2)

Scenario 4 workflow

- Collect a SSL certification file with a different “base date” from the one we collected in Scenario 3 and compare the files.

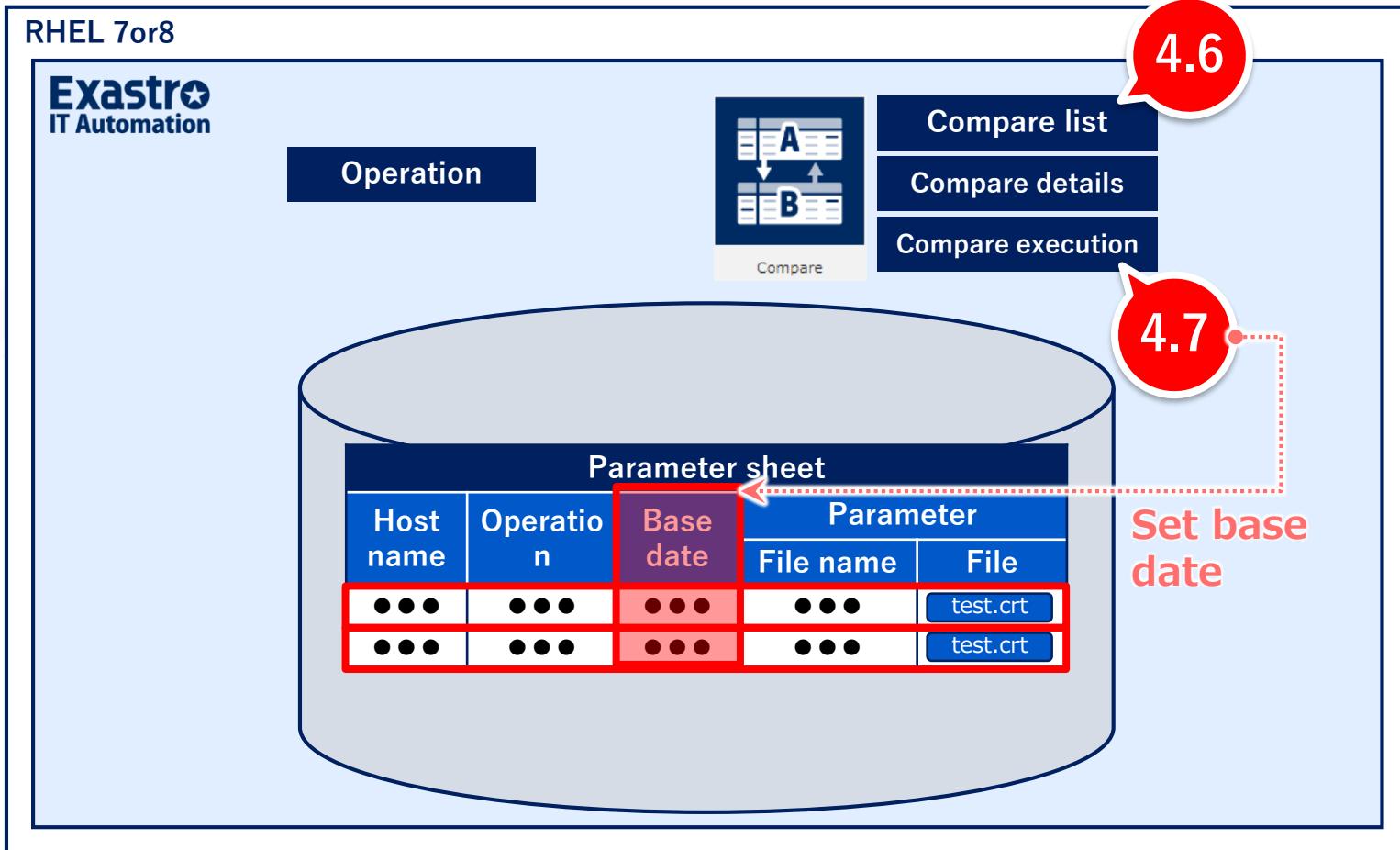
Overall diagram



Scenario 4 Overall diagram (2/2)

- As we are comparing a file within the same menu, but with different date values, we will change the “Standard date”.

Diagram (Compare function)



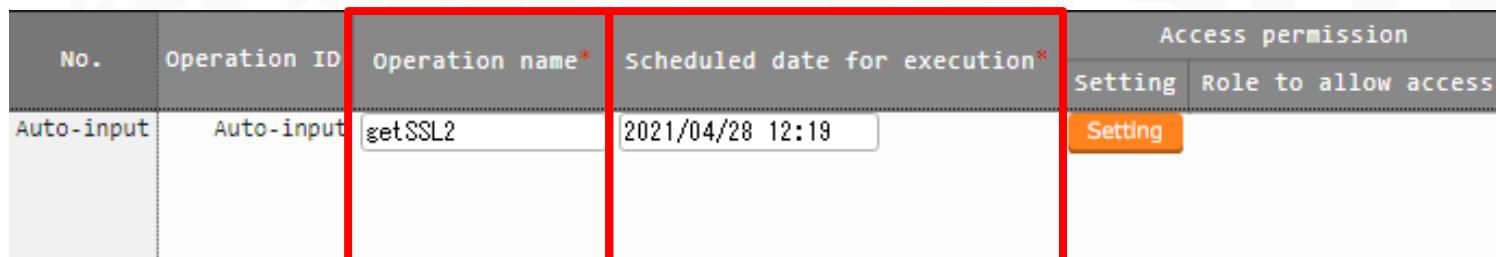
4.1 Register operation

Register operation

Register an operation for comparing

Menu: **Basic Console**> **Operation list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

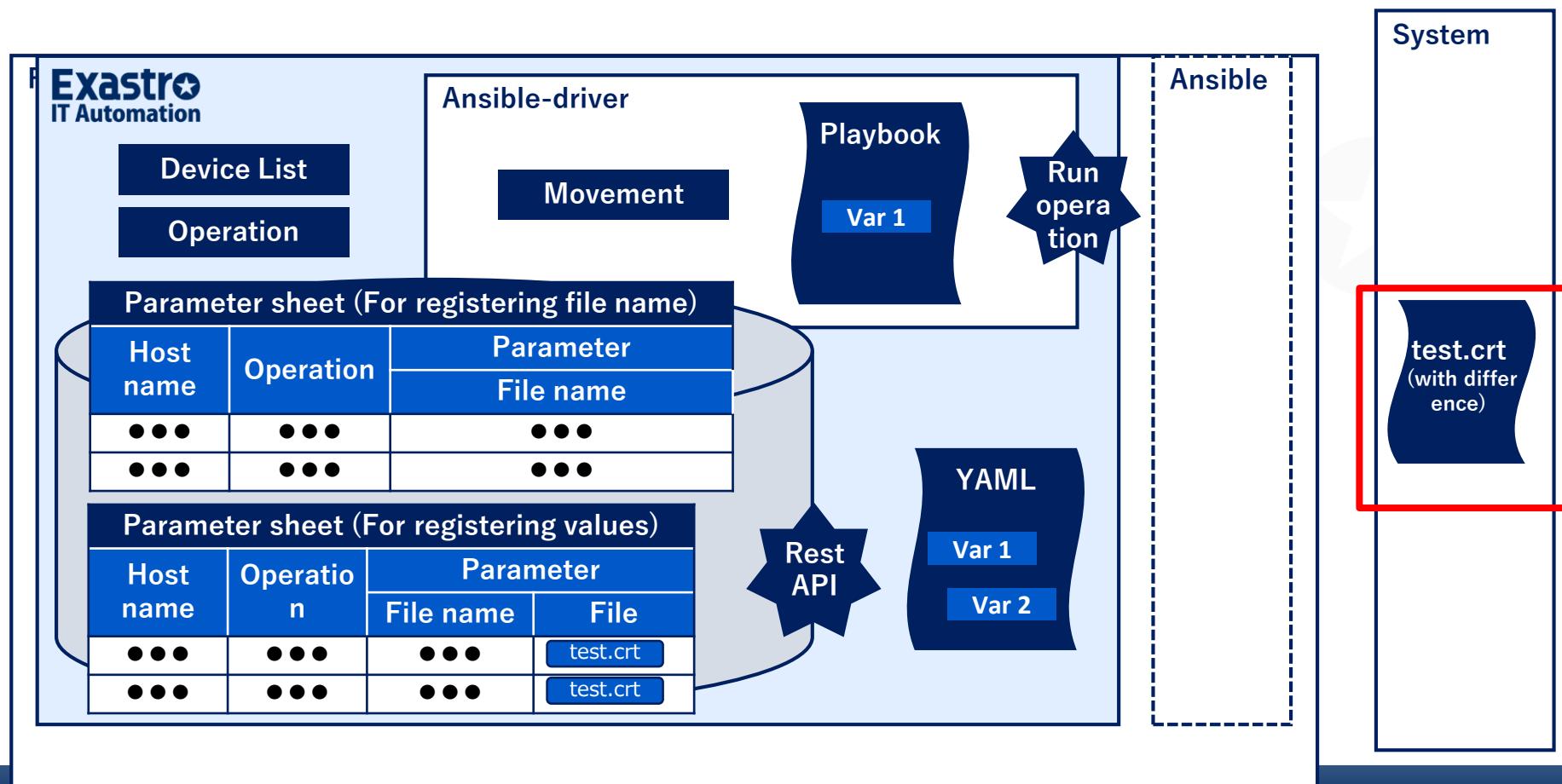


No.	Operation ID	Operation name*	Scheduled date for execution*	Access permission
				Setting Role to allow access
Auto-input	Auto-input	getSSL2	2021/04/28 12:19	<button>Setting</button>
Operation name (Free space)		Scheduled date for execution (Free space)		
getSSL2		2021/04/28 12:19		

4.2 Prepare SSL certificate with different contents

Prepare an SSL certificate with a difference

- In this scenario, we want to check if something is different from the certificate we collected in Scenario 3, so prepare an SSL certificate different to that one.
- In order to do so, we will change a part of the contents of the SSL certificate (test.crt) that is in the Target server's /etc/pki/tls/certs/ directory.test.crt)



4.3 Register file name

Register file name

- Register a new Record in the menu we created in Scenario 3, “SSL certificate name”.
- The contents should be the same as the one we created in Scenario 3, but change the operation to the one we created for comparing.

Menu: **Input > SSL certificate name**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No	Host name*	Operation	Parameter
	Host name*	Operation*	File name
Auto-input	targethost	2021/04/28 12:19_4:getSSL2	test.crt

Host name	Operation	Parameter
		File name
targethost	getSSL2	test.crt

4.4 Run operation

Run operation

- Collect the SSL certificate with different contents from the one collected in scenario 3.
- Select the same Movement from Scenario 3, “getSSL”. The operation should be the new one we created for comparing, “getSSL2”.

Menu: Ansible-Legacy > Execution

- ① Select the registered Movement from Movement[List]
- ② Select the newly registered operation from Operation[List]
- ③ Press the “Execute” button.

The screenshot shows the Ansible-Legacy interface with two main windows open:

- Movement [List]**: A table listing movements. The second row, "getSSL", is highlighted with a red border. The table columns include: Select, Movement ID, Movement Name, Orchestrator, Delay timer, Host specific format, WinRM connection, Header section, Optional parameter, Role to allow access, Remarks, Last update date/time, and Last updated by. The "getSSL" entry has the following details:
 - Host specific format: IP
 - WinRM connection: IP
 - Header section: - Hosts: all
remote_user: "{{ __loginuser__ }}"
gather_facts: yes
 - Role to allow access: System Administrator
 - Last update date/time: 2021/08/31 18:19:41
 - Last updated by: System Administrator
- Operation [Filter]**: A table listing operations. The fourth row, "getSSL2", is highlighted with a red border. The table columns include: Select, No., Operation ID, Operation name, Scheduled date for execution, Last execution date, Access permission, Remarks, Last update date/time, and Last updated by. The "getSSL2" entry has the following details:
 - No.: 4
 - Operation ID: 4
 - Operation name: getSSL2
 - Scheduled date for execution: 2021/04/28 12:19
 - Last execution date: 2021/09/02 09:38:47
 - Access permission: Legacy execution procedure
 - Remarks: System Administrator
 - Last update date/time: 2021/09/02 12:59:38
 - Last updated by: System Administrator

At the bottom of the interface, there is a navigation bar with two buttons:

- Movement [List]**: Contains the text "Movement ID: 2" and "Movement Name: getSSL".
- Operation [List]**: Contains the text "getSSL" and "getSSL2".

Below the Movement [List] button, there are two orange buttons: "Dry run" and "Execute". The "Execute" button is highlighted with a red border.

4.5 Confirm comparison results

Confirm Parameter sheet

- Check that the “getSSL2” has been collected to the Parameter sheet.
- Check the Standard date/time (We will need it in 4.7 Run Comparison)

Menu: **Input (or Reference) > SSL certificate**

- ① Press the “Filter” button.
- ② Check the updated list that the items has values in them.

List/Update											
History	Duplicate	Update	Discard	No	Host name	Operation		Parameter			
						ID	Operation name	Reference date	Scheduled date for execution	File name	File
History	Duplicate	Update	Discard	1	targethost	3	getSSL1	2021/09/02 09:38	2021/04/23 17:10	test.crt	test.crt
History	Duplicate	Update	Discard	2	targethost	4	getSSL2	2021/09/02 13:13	2021/04/28 12:19	test.crt	test.crt

4.6 Register Comparison definition

Select the 2 menu you want to compare

As we will compare the same menu, but with different values, choose the same menu for both of the items.

Menu: **Compare> Compare list**

- ① Press “Register” -> “Start registration.”
- ② Input the following information and press the “Register” button.

No	Compare name*	Compare target menu 1*	Compare target menu 2*	Match all cases
Auto-input	SSL certificate	2100011611:Substitution value:11:SSL certificate	2100011611:Substitution value:11:SSL certificate	<input checked="" type="radio"/>
Comparison definition name (Free space)		Compare target menu 1	Compare target menu 2	Match all cases
SSL certificate		Substitution value:SSL certificate	Substitution value:SSL certificate	<input checked="" type="radio"/>

4.7 Run Comparison (1/3)

Run the comparison

- Select the “SSL Certificate” Comparison definition and input the standard dates.
- The Standard dates should be the most recent for both of them
- Please see the next page for more information regarding standard dates.

Menu: **Compare > Compare execution**

- ① Input the following information and press the “Compare” button.
- ② The Comparison result should be displayed

Compare execution

Compare list: 3:SSL certificate [11:SSL certificate - 11:...] Base date 1: 2021/09/02 12:00 Base date 2: 2021/09/02 13:30 Target host: Choice

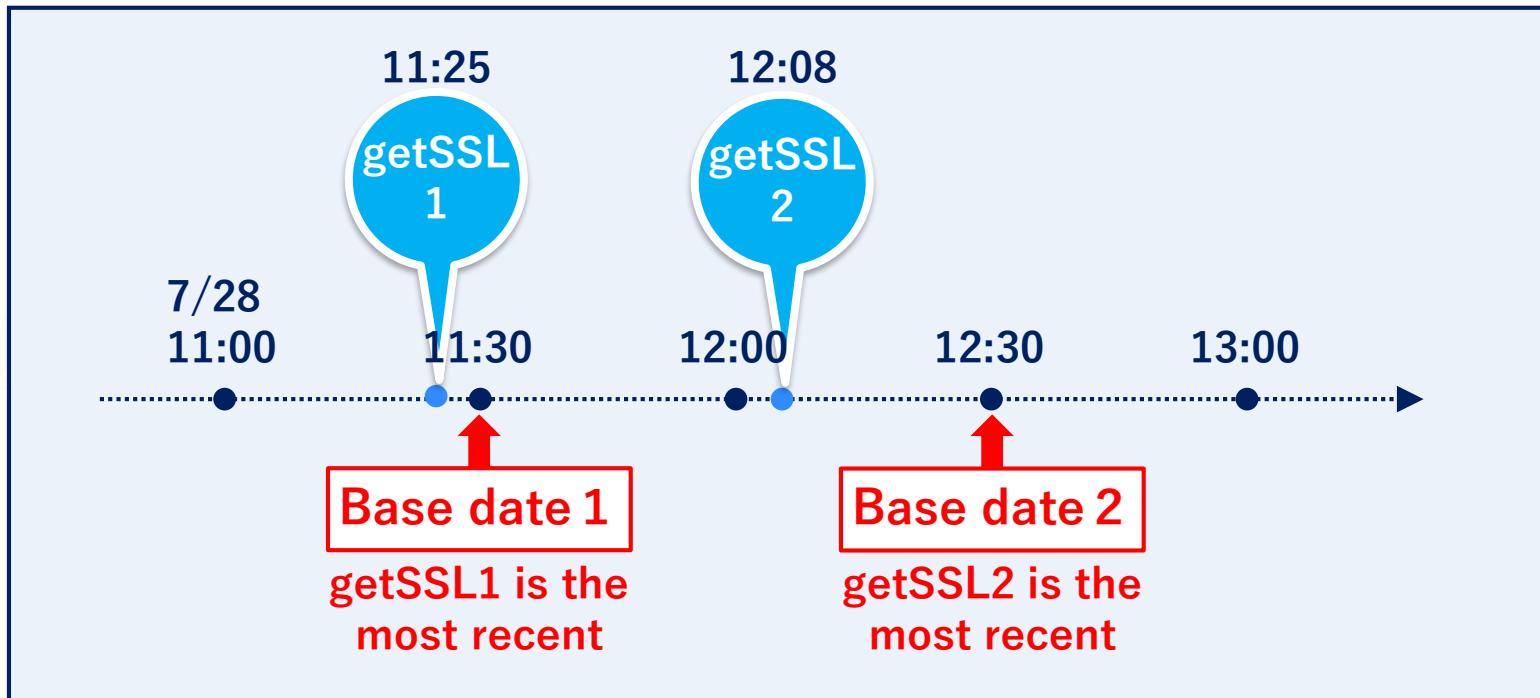
Output: ALL Difference Only

Compare

Comparison definition	Base date 1	Base date 2	Output contents
SSL certificate	2021/7/28 11:30	2021/7/28 12:30	ALL

4.7 Run comparison (2/3)

- The Standard dates are displayed below.



Set the base date depending on when the files were collected.

4.7 Run comparison (3/3)



Compare results

Compare result

Compare item number	Result	Hostname	Menu name	No	Operation name	Base date	Parameter/File name	Parameter/File
1	Difference	targethost	SSL certificate 1		getSSL1	2021/09/02 09:38	test.crt	test.crt
2	Difference	targethost	SSL certificate 2		getSSL2	2021/09/02 13:13	test.crt	test.crt

[Excel output](#)
[CSV output](#)

Items that are different
(different content)
are displayed in red text.



Exastro