ITA_User instruction Manual

Menu creation function

－Version 1.5－

Disclaimer

All the contents of this document are protected by copyright owned by NEC Corporation.
Unauthorized reproduction or copying of all or part of the contents of this document is prohibited.
The contents of this document are subject to change without prior notice in the future.
NEC Corporation is not responsible for any technical or editorial errors or omissions in this document.
NEC Corporation do not guarantee accuracy, usability, certainty of the content in this document.

Trademark

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

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

The ® mark and TM mark are not specified in this document.

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

Table of contents

Introduction

This document describes the functions and operation methods of the ITA menu creation function (here after referred to as menu creation) system.

1. Overview of menu creation function.

The menu creation functions is for creating menus that can be operated on ITA.

The created menu can be operated from Web, Excel, RestAPI like other other menu.

You can freely design the number, format, size, and input limit of menu items.

The menu types users can create include parameter sheets and data sheets.

1. Parameter Sheet

Manage IaC variable values

This menu can be set with the function 「Substitution value auto registration setting」 of each driver. The items, 「host」 and 「operation」 are automatically assigned to be used in the 「Substitution value automatic registration setting」.

By setting 「Substitution value automatic registration setting」, it is possible to manage the value asssigned to the variable in IaC with the created parameter sheet.

Associate / link with host group function

By linking with the 「host group function」 of ITA , it is possible to manage the IAC variable values for the host group.

2. Data Sheet

Data management within ITA

This menu cannot be used with the function 「Substitution value auto registration setting」 of each driver.

Can be used as a CMDB (Configuration Management Database) to manage the information on ITA.

All menu items can be created freely.

2. Main functions of menu creation function

The main functions of the parameter sheet creation function are classified into the following categories.

Web
Web contents. A screen that allows users to use the function of creating a parameter sheet provided in the browser.

BackYard
A resident process that runs on a server independently of Web content.

3. Menu group of menu creation function

The menu group of the menu creation function and the menu that belongs to it are as follows.

Menu group	Menu	Section	Description
Create menu	Menu creation information	5.1	The menu names of the parameter sheet or datasheet to be created can be maintained (View/Update/Discard/Restore).
	Column Group list	5.2	The column groups of the parameter sheet or datasheet to be created can be maintained (View/Update/Discard/Restore).
	Menu item creation information	5.3	The items of the parameter sheet or datasheet to be created can be maintained (View/Update/Discard/Restore)
	Vertical Menu creation information	5.4	Select the menu name and start item name of the parameter sheet or data sheet to be created, and specify the number of items in vertical management display and number of repetitions.
	Create menu	5.5	Create the menu of the parameter sheet or data sheet in the menugroup that is specified in 「Menu creation information」 menu.
	Menu creation list	5.6	Users can check the status of menu creation
	Menu / table link list	7.2	Displays the link between the created menu and the DB table
	Other menu link	7.3	Displays the link / association between menu group, menu, item, and DB table of created menu
	Menu conversion information	7.4	Displays the link of the menu that is horizontal from vertical menu.

4.　Menu Description

■　Classification of sheets to be created.

When user enters the menu information to create a menu, if 「Parameter Sheet」 is selected as the creation target and menu creation is executed, a Parameter Sheet that allows users to set the items in the 「Substitution value auto registration setting」 of each driver will be created.
If 「Data Sheet」 is selected as the creation target and menu creation is executed, a Data Sheet that is not available in 「Substitute value auto registration setting」 will be created.

Comparison between parameter sheets and data sheets.

Selected value of Creation target	Substitute value auto registration setting	Menu items	Relationship with host/operation
"Parameter Sheet"	Configurable	「Host」 and 「Operation」 items are automatically added. Other items can be created freely.	Associated with specific host/operation.
"Data Sheet"	Not configurable	All items can be created freely.	Not associated with specific host/operation

※The Data Sheet is intended to be used as a source of reference for items selected by pulldown from other menus, and to be used as a CMDB（Configuration Management Database） for centralized management of data on ITA.

■ Menu creation pattern

The five menu creation patterns that can be created with the menu creation function are shown below.

Among them, the menu for creating the parameter sheet has 4 creation patterns depending on the combination of the menu group with or without 「Host Group」 and with or without 「Vertical Management」.

The menu for creating a data sheet specifies one menu group and has 1 creation pattern.

The menu group that can Register/Update/Discard/Restore parameters according to each creation pattern of parameter sheet and datasheet are shown in the red frame of the figure below. Register /Update/Discard/Restore can't be performed in other menu groups.
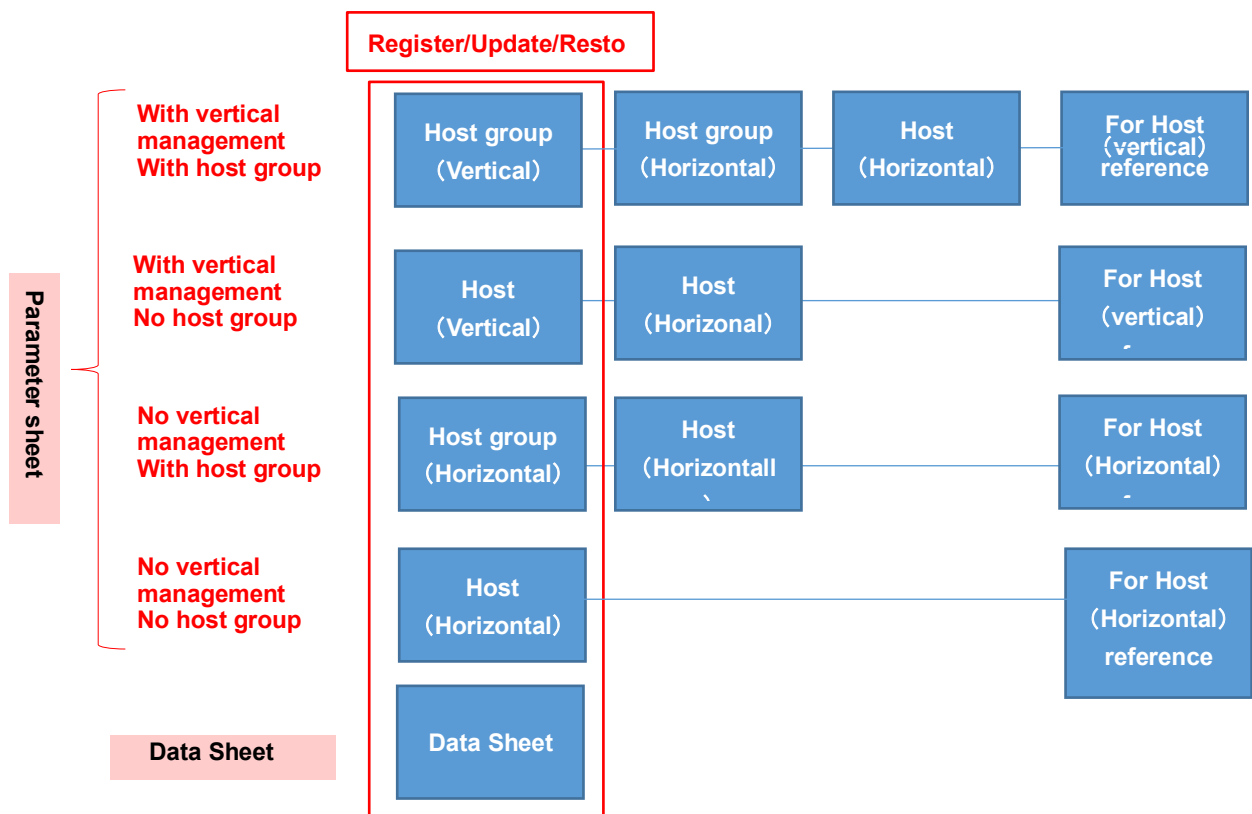
・Using 「Vertical management」 or not

It is recommended to use 「Vertical management」 when it is necessary to enumerate repeatedly the fixed number of items such as IP address+domain as in hosts file.

If you do not need to enumerate a fixed number of items repeatedly like the kernel parameters, we recommend that you do not use the 「Vertical management」 and use the default format.

・Using 「Host group」 or not

When grouping the target hosts by using the host group function, it is recommended to use the host group.

Please refer to 「User instruction Manual_Host Group Function」 for the Host group function.

5 Operation description of menu creation function.

5.1　Register a menu using「Menu creation information」

The menu name of the parameter sheet or data sheet to be created can be maintained (View/Update/Discard/Restore)

Item name	Description	Selected value of creation target	
		Parameter Sheet	Data Sheet
Menu name	Enter the menu name of the menu to be created. The menu name "Main menu" cannot be used.	Displayed	Displayed
Display order	Enter the display order in the menu group. They are displayed in ascending order.	Displayed	Displayed
Creation target	Select「Parameter Sheet (Host / Operation)」or「Data Sheet (master available)」from the pull-down menu. When「Parameter sheet (host / operation)」is selected, then「Menu group for data sheet」is hidden, and「Use」,「Menu group for host group」,「Menu group for host」,「Menu group for view」and「Vertical menu group」are displayed. When「Data Sheet (master available)」is selected ,「Use」,「Menu group for host group」,「Menu group for host」,「Menu group for View」,「Vertical menu group」is hidden and「Menu group for Data Sheet」is displayed.	Displayed	Displayed

Item name	Description	Selected value of creation target	
		Parameter Sheet	Data Sheet
Use	Select either 「For Host」 or 「For Host Group」 from the pull-down menu. When 「For Host」 is selected, parameter sheet for the host to link with 「Substitute value auto-registration setting」 is created. When 「For Host group」 is selected, a parameter sheet to be used in the host group function is created.	Displayed	Hidden
Menu group for data sheet (※)	Select the menu group for creating the data sheet from the pull-down menu. When 「Datasheet」 is selected in 「Creation target」, selection is required.	Hidden	Displayed
Menu group for host group (※)	Select the menu group for creating the parameter sheet for the host group from the pull-down menu. The selection is required when the use is 「For host group」 and cannot be selected when it is 「For Host」.	Displayed	Hidden
Menu group for Host (※)	Select the menu group for creating the parameter sheet for the host from the pull-down menu. When 「Parameter sheet」 is selected in 「Creation target」,selection is required.		
Menu group for view (※)	Select a menu group for creating a parameter sheet for view from the pull-down menu. When 「Parameter sheet」 is selected in 「Creation target」, selection is required.		
Vertical menu group (※)	Select the menu group for creating the parameter sheet for vertical menu group from the pull-down menu.		
Description	Enter the content to be displayed in the description column of the menu screen.	Displayed	Displayed
Item creation information	This button is displayed only in 「List」. When clicked, the 「Menu item creation information」 menu is displayed in separate tab, and is displayed in a list filtered by 「Menu name」.	Displayed	Displayed

(※) Please create the menu group using 「Management Console:Menu Group Management」 in advance. Please refer to 「User Instruction Manaual_Management Console」 for how to create a menu.

5.2 Register a column group using 「Column Group list」

The column groups of sheets that belong to the menu to be created can be maintained (View/Update/Discard/restore).

A column group is a group that displays the heading portion of a menu item. The menu creation function allows users to create a column groups of items that they want to create. The red marked frame in the following example is the column group that can be created by the menu creation function

Item name	Description
Parent column group	※Displayed in register / update only Select the parent column group from the pull-down.
Column group name	※Displayed in register / update only Enter the column group name
Column group	※Displayed in list / discard / restore only Parent column group and column group name are connected by 「/」 and displayed

The following checks are performed at the time of updating / discard.

① The data itself cannot be selected as a parent column group.

② If it is specified in the parent group of other data, it cannot be discarded.

③ A parent-child relationship that results in a loop relationship cannot be set. (If the parent-child relationship is A⇒B⇒C, C cannot be specified as the parent of A.).

5.3 Register items to be set using 「Menu item creation information」

The items managed in the parameter sheet or data sheet menu to be created can be maintained (View/Update/Discard/restore).

Item name	Description
Menu name	Select the menu to be linked with the parameter from the pull-down menu.
Item name	Enter the item name to be displayed on the menu .※ Do not use 「/」 in the item names. When 「/」 is used, the 「Substitute value auto registration setting」 in each driver may not work properly.
Display order	Enter the order of the columns displayed in the menu. They are displayed in ascending order from the left.
Required	To make it a required item, select 「●」 from the pull-down menu.
Column group	Select the column group to which it belong from the pull-down menu.
Unique	To make it a unique item, select 「●」 from the pull-down menu.
Input method	Selecte "String", "Multi string", "Integer", "Decimal number", "Date", "Date/time", "Pull down selection" from the pulldown menu. When "String" is selected, the item is a text box with single line input. When "Multi string" is selected, the item is a text box with multiple line input. When "Integer" is selected, the item is a text box that only integer can be entered. When "Decimal number" is selected, the item is a text box that integer/decimal number can be entered. When "Date" and "Date/time" is selected, the item is entered by calendar selection. When "Pulldown selection" is selected, the item is a pulldown menu item. ※ About the trace history of the menu created with 「Pulldown selection」 is selected, the supplement is described in 「7.5 Trace history when「Pulldown selection」is included in the sheet」.

Item name		Description
		※The association target item in "Substitution value automatic registration setting" are "String", "Integer", and "Decimal number". "Multi string", "Date/time", and "Date" can't be associated. "Pulldown selection" can't be associated if the item of pulldown selection are "Multi string", "Date/time", and "Date".
String	Maximum number of bytes	Enter the maximum number of bytes. The maximum size is 8192 bytes. The byte count of half-width alphanumeric characters are equivalent to the number of characters. For full-width characters, the number of characters x 3 + 2 bytes is required. Required if "Input Method" is "String". Can't be entered if "Input method" is "Multi string", "Integer", "Decimal number", "Date/time", "Date", and "Pulldown selection".
	Regular expression	If you want to check input values with regular expression, enter the regular expression. Example: For half-width numeric items of 0 bytes or more: /^[0-9]*$/ For half-width alphanumeric characters of 1 byte or more:/^[a-zA-Z0-9]+$/ Can't be entered if "Input method" is "Multi string", "Integer", "Decimal number", "Date/time", "Date", and "Pulldown selection".
Multi string	Maximum number of bytes	Enter the maximum number of bytes. The maximum size is 8192 bytes. The byte count of half-width alphanumeric characters are equivalent to the number of characters. For full-width characters, the number of characters x 3 + 2 bytes is required. Required if "Input Method" is "Multi String". Can't be entered if "Input method" is "String", "Integer", "Decimal number", "Date/time", "Date", and "Pulldown selection".
	Regular expression	If you want to check input values with regular expression, enter the regular expression. Example: For half-width numeric items of 0 bytes or more: /^[0-9]*$/ For half-width alphanumeric characters of 1 byte or more:/^[a-zA-Z0-9]+$/ Can't be entered if "Input method" is "String", "Integer", "Decimal number", "Date/time", "Date", and "Pulldown selection".
Integer	Minimum value	Enter the minimum value of the column. Integer value from -2147483648 to 2147483647 can be entered. The value will be -2147483648 if not entered. Please enter value smaller than the maximum value. Can't be entered if "Input method" is "String", "Multi string", "Decimal number", "Date/time", "Date", and "Pulldown selection".
	Maximum value	Enter the maximum value of the column. Integer value from -2147483648 to 2147483647 can be entered. The value will be 2147483647 if not entered. Please enter value larger than the minimum value. Can't be entered if "Input method" is "String", "Multi string", "Decimal number", "Date/time", "Date", and "Pulldown selection".
Decimal number	Minimum value	Enter the minimum value of the column. Integer value from -99999999999999 to 99999999999999 with total digit for whole number + fraction part less than 14 digits can be entered. The value will be -99999999999999 if not entered. Please enter value smaller than the maximum value.

Item name		Description
		Can't be entered if "Input method" is "String", "Multi string", "Integer", "Date/time", "Date", and "Pulldown selection".
	Maximum value	Enter the maximum value of the column. Integer value from -99999999999999 to 99999999999999 with total digit for whole number + fraction part less than 14 digits can be entered. The value will be 99999999999999 if not entered. Please enter value larger than the minimum value. Can't be entered if "Input method" is "String", "Multi string", "Integer", "Date/time", "Date", and "Pulldown selection".
	Digits	Enter the upper limit of the total digit for whole number + fraction part. Example: 0.123 has 4 digits (whole number 1 digit, fraction part 3 digits) 11.1111 has 6 digits (whole number 2 digit2, fraction part 3 digits) Integer value from 1 to 14 can be entered. Can't be entered if "Input method" is "String", "Multi string", "Integer", "Date/time", "Date", and "Pulldown selection".
Pulldown selection	Menu group: Menu: Item	Select the item to be referenced in the pulldown menu from the pull-down menu. ※Items that satisfy the following conditions are displayed in the pull-down menu . Menu:「Basic Console: Device List」 and menu created with this function Item: String, required and unique constraint item. Input required if "Input method" is "Pulldown selection". Can't be entered if "Input method" is "String", "Multi string", "Integer", "Decimal number", "Date/time", and "Date".
Description		Enter the description that will be displayed when users hover mouse cursor over the item name.

5.4 Vertical registration using 「Vertical menu creation information」

Users can select the menu and start item name of the parameter sheet to be created, and specify the number of items and the number of repetitions for vertical management display.
(※) The 「Vertical management」 function cannot be used in the data sheet.

Item name	Description
Menu name: Start item name	Select menu and start item name of the parameter sheet from pull-down menu.
Number of items	Enter the number of items from the start item.
Repetition count	Enter the number of repetition count in the vertical display.

Example) Manage the parameters described in the hosts file.

hosts File

When specifying IP address + domain name in set as described above , use 「Vertical menu (vertical) creation information」 and by setting the menu name: start item name to 「role: IP address」 and specify the number of items as 「2」 and repetition count as「4」, vertical display conversion is performed as below becoming more readable and management becomes easier.

Vertical menu creation information

Update	Discard	Id	Menu name: Start item name	Number of items	Repetition count	Remarks	Last update date/time	Last updated by
Update	Discard	1	laravel:create	2	4	cACAScscs	2020/02/17 11:24:51	System Administrator

In the example, the start item name specifies the leftmost 「IP address」 in the red frame below

Horizontal display

Parameter								Remarks	Last update date/time	Last updated by
IP address 1	Domain 1	IP address 2	Domain 2	IP address 3	Domain 3	IP address 4	Domain 4			
11.11.11.11	test1.com	22.22.22.22	test2.com	33.33.33.33	test3.com	44.44.44.44	test5.com		2020/02/17 13:39:04	Convert Menu procedure

Counting from the specified 「IP address」, the items until the second item 「domain name」 is displayed

Vertical display

No	Host name	Operation					Input order	Parameter		Remarks
		ID	Operation name	Reference date	Scheduled date for execution	Last execution date		IP address 1	Domain 1	
1	Cloud	2	legacy	2020/02/13 16:27	2020/02/10 14:31	2020/02/13 16:27	1	11.11.11.11	test1.com	
2	Cloud	2	legacy	2020/02/13 16:27	2020/02/10 14:31	2020/02/13 16:27	2	22.22.22.22	test2.com	
3	Cloud	2	legacy	2020/02/13 16:27	2020/02/10 14:31	2020/02/13 16:27	3	33.33.33.33	test3.com	
4	Cloud	2	legacy	2020/02/13 16:27	2020/02/10 14:31	2020/02/13 16:27	4	44.44.44.44	test5.com	
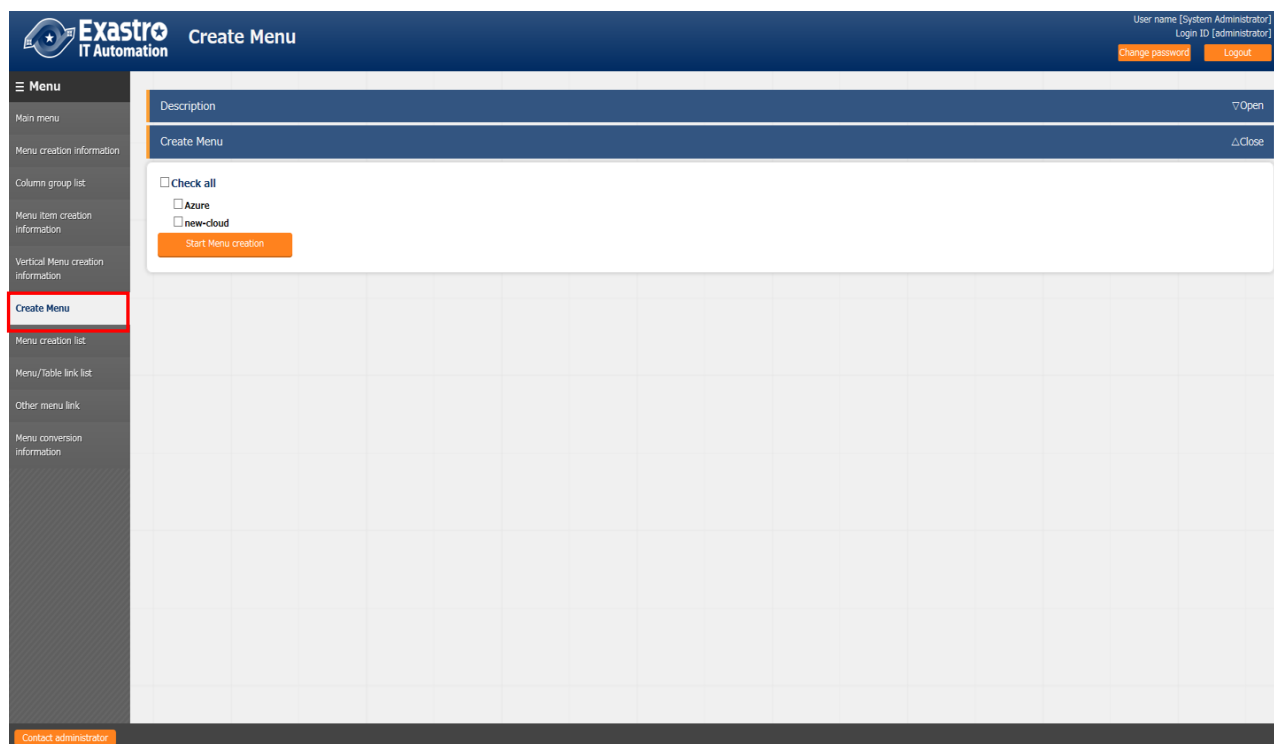
The parameter for the 2 items is displayed vertically for 4 times repeatedly.

5.5 Create menu using「Create menu」

Create a menu of the parameter sheet or data sheet in the menu group specified in 「Menu creation Information」.

The created menu will be associated to System Administrator and the role of the user who executed menu creation.

A list of parameter sheet and data sheet whose menu names and items has already registered is displayed so please check the parameter sheet you want to create and click the 「Menu creation list」button.

※ If a menu with the same ID or same menu of 「Menu creation information」 already exists , the new menu is created by overwriting and the registered data is deleted. If you need the registered data, please select 「Cancel」 and back up the data

If the 「OK」 button in the confirmation dialog is clicked, the create request will be accepted.

exastro-it-automation says

Do you want to create the Menu ?

*If a menu with the same menu name or a menu the same 'Menu creation information' ID already exists, the existing data will be deleted and overwritten by the new data.
If you need to retain the existing data, select 'Cancel' and perform a backup.

OK Cancel

When you click the 「Menu Creation list」 button, the screen changes to 「Menu Creation list」 menu , which is displayed in a state filtered by 「ID」.
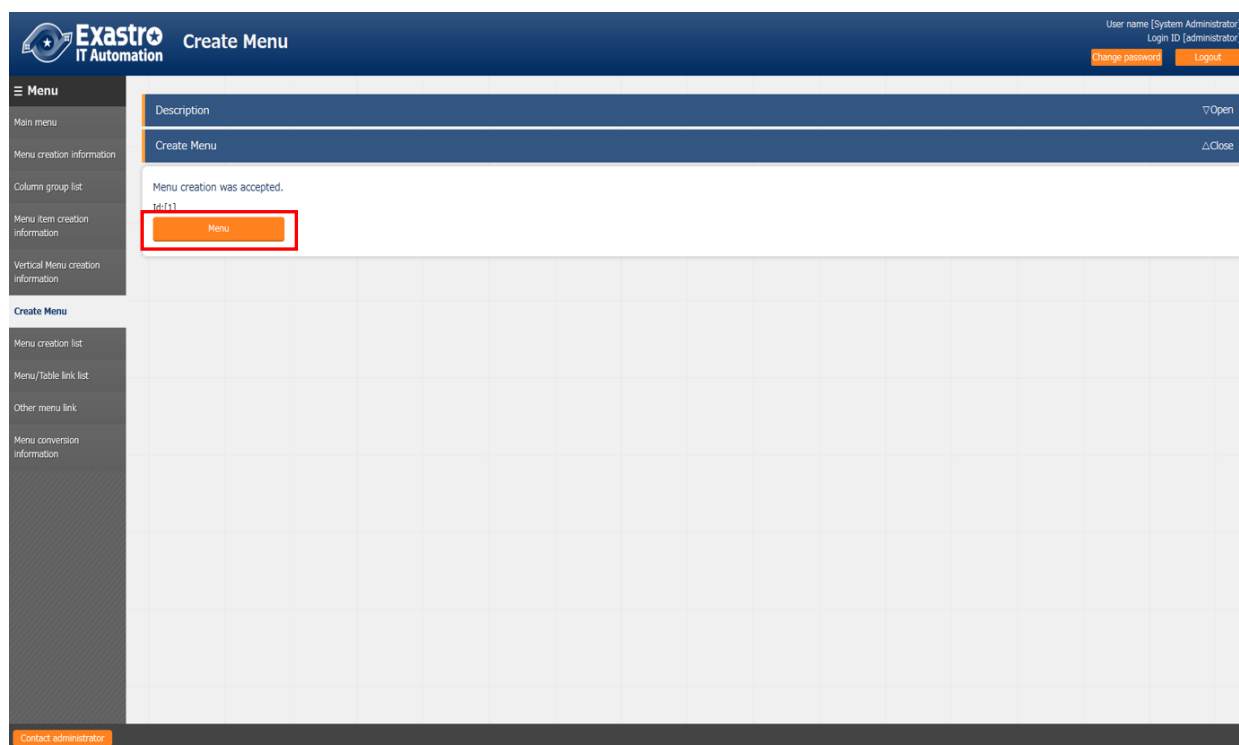
5.6 Check the status of creation using 「Menu creation list」

Check the status of menu creation list on the parameter sheet or data sheet.

BackYard monitors the status「unexecuted」, and creates a menu screen setting file based on the unexecuted data, which executes SQL Commands to create a table and registers the menu screen program. After several tens of seconds, when the status changes to 「Completed」, the menu will be created.

Item name	Description
Menu name	Name of the menu to be created
Status	Menu creation status. Unexecuted: status before menu creation Executing: BackYard is executing the menu creation process Completed: Menu creation completed successfully Completed (error): When creating the menu ended with an error
Menu file	The PHP file and SQL file used in the menu. If BackYard is seperated from the web server, this file is required to be placed on the web server. Refer to 「7.1 Place PHP files」
Created menu	If the status is 「Complete」, the created menu opens. If 「Use」 is 「For Menu group」, menu created under the menu group specified in 「menu group for Host group」 opens. And if 「Use」 is 「For Host」, the menu created under the menu group specified in 「Host menu group」 opens. If 「Creation target」is 「Data Sheet」, the menu created under the menu group specified in「menu group for Data Sheet」 is opened.

5.7　Check the created menu

(1) When "Parameter sheet" is selected for「Creation target」

◆ If you specify「For Host Group」in「Use」of the「Menu Creation Information」menu, please make sure that the menu is added under the menu group specified in「Menu Group for Host Group」.

※The reference date and time is set to the last execution date and time if the last execution date and time of the operation are included, and the scheduled execution date and time is set to the last execution date and time of the operation.

Menu group for host group

◆ Please make sure that the menu is added under the menu group specified in 「Host Menu Group」 of the 「Menu creation Information」 menu.

※The reference date and time is set to the last execution date and time if the last execution date and time of the operation are included, and the scheduled execution date and time is set to the last execution date and time of the operation.

Host menu group

◆ Please make sure that the menu is added under the menu group specified in 「Menu group for view」 in the 「Menu creation information」 menu .

In this menu, the data registered for the host is displayed only with the latest operation/ reference date and time for each host name.
If you specify the operation / reference date and time of the search condition, the latest data before the specified date will be displayed. By using this menu, you can get the latest setting information for each host and the setting information as of the specified reference date and time.

※The reference date and time is set to the last execution date and time if the last execution date and time of the operation are included, and the scheduled execution date and time is set to the last execution date and time of the operation.

◆ Please make sure that the menu is added under the menu group specified in the 「Vertical menu group」 in the「Menu creation information」 menu .

In this menu, vertical display is performed according to the number of items and the number of repetition count registered in the (vertical) menu creation information.

※The reference date and time is set to the last execution date and time if the last execution date and time of the operation are included, and the scheduled execution date and time is set to the last execution date and time of the operation.

Menu group for vertical menu

(2) When "Datasheet" is selected for 「Creation target」.

◆ Please make sure that the menu has been added under the menu group specified in 「Menu group for data sheet」 in the 「Menu creation information」 menu.

※Since the Data Sheet is not linked to a specific host / operation, the host / operation items are not displayed.

Menu group for data sheet

6 Applicational operation

Operation that utilize the Menu creation function include not only user input from the browser screen of the client PC, but also system operation and maintenance. The operation and maintenance are as follows.

■ Maintenance
■ Change log level

6.1 Maintenance

The following files are required to Start/Stop/Restart the process of the Menu creation function.

Description	Target file name
Menu creation function .this function creates a parameter sheet menu based on the information entered in the web	ky_create_param_menu_execute.service
Menu update function for linking with other menus This is a function to create items to be displayed in the pull-down menu of 「Menu group: Menu: Item」 in the 「Menu item creation information」 menu.	ky_createOtherMenuLink.service

The target file is located in 「<installation directory>/ita-root/backyards/create_param_menu」 and a link is created in 「/usr/lib/systemd/system」. Please do not delete them.

The method of Starting/Stopping/Restarting a process is as follows. Please execute the command with root permission.

① Start the process

```
# systemctl start ky_create_param_menu_execute.service  ↵
```

② Stop the process

```
# systemctl stop ky_create_param_menu_execute.service  ↵
```

③ Restart the process

```
# systemctl restart ky_create_param_menu_execute.service ↵
```

6.2 Change log level

① Change to NORMAL level
Rewrite 「DEBUG」 to 「NORMAL」 on the 8th line of the target file .
Local level setting file: <installation directory>/ita-root/confs/backyardconfs/ita_env

② Change to DEBUG level
Rewrite 「NORMAL」 to 「DEBUG」 on the 8th line of the target file
Local level setting file: <installation directory>/ita-root/confs/backyardconfs/ita_env

After rewriting the file, effect takes place after the process is (restart).

For restarting, refer to 「6.1 Maintenance」.
Log file output destination: < installation directory >/ita-root/logs/backyardlogs

7 Appendix

7.1 Placing PHP files

※If the ITA web server is on the same server as BackYard, the parameter management menu will be added by the previous operation. However, if the web server is on a different server from BackYard, the created menu is not displayed because the files are not automatically arranged. PHP files must be manually placed on the web server so that they can be displayed on the web.

Status of PHP file placement
```
└ita-root
  ├webconfs
  │ └users
  │   │
  │   ├XXXXXXXXXX_loadTable.php（XXXXXXXXXX: Menu ID）
  │   │
  │
```

Method to place PHP file
(1) Download the zip file from「Menu creation list」or「Master creation list」.

Id ⇕	Menu name ⇕	Status ⇕	Menu file	Created menu	Remarks ⇕	Last update date/time ⇕	Last updated by ⇕
1	new-cloud	Completed	0000000001.zip	Created menu		2020/02/14 15:47:35	Create Menu procedure

(2) After unzipping the Zip file, place the「XXXXXXXXXX_loadTable.php」file in the /ita-root/webconfs/users/ on the web server with root user permission using WinSCP, etc.
   ※ XXXXXXXXXX：Menu ID (From left 0 is filled with 10 digits) .→10 digits with0 filled on the left
   ※ If there are multiple「XXXXXXXXXX_loadTable.php」files, place them all.

7.2 Menu / Table link list

A menu that displays the link between the created menu and the DB table

The menu is set hidden during installation. The menu is used by BackYard so no user operation can be performed. Even if you change the link directly after creating the menu, this menu will not change.

Item name	Decription
Menu group: Menu name	Menu name associated with DB.
Table name	Name of the created table.
Primary key	Primary key of the created table.
Table name(history)	The name of the created history table.

7.3 Other menu link

Displays the link between the created menu item name and the DB column name.

The menu is set hidden during installation. The menu is used by BackYard so no user operation can be performed. Even if you change the link directly after creating the menu, this menu will not change.

Item name	Description
Menu group	Menu group name associated with DB.
Menu	Menu name of created parameter sheet or data sheet
Item name	The column name that is associated.
Table name	Name of the created table.
Primary key	Primary key of the created table.
Column name	The column name that is linked.

7.4 Menu conversion information

Displays the link of the menu that is converted to horizontal from the created vertical menu.

The menu is set hidden during installation. The menu is used by BackYard so no user operation can be performed. Even if you change the link directly after creating the menu, this menu will not change.

Item name	Description
Source menu	The vertical menu name of the source.
Destination menu	Horizontal menu name of the destination.
Use	The purpose of the sheet menu.
Repeat start column	The name of the repeat start item of the horizontal menu
Number of items	The number of items in the horizontal menu.
Number of repetitions	The number of repetitions of the horizontal menu.
Vertical and horizontal converted flag	Specify the vertical and horizontal converted flag.

7.5 Trace history when 「Pulldown selection」 is included in the sheet

This section describes how to display the history when items include 「Pulldown selection」 when creating a parameter sheet or data sheet.

When the parameter of the reference destination (hereinafter, master) is changed, the parameter referred to is also changed automatically.
「Trace history」 displays the value of the master when the parameter is edited (registered / updated / Discarded / restored)

Example:
  In, Parameter sheet, Item of 「Param 1」 - 「Param 1-2」 refers to Item of 「Master」 - 「Master」.

Operation：
① Register the value 「mas1-1」 in 「Master」
② One entry is registered in 「Param1」.
③ Update the 「Param1」.
④ Update 「Master」 with value 「mas1-2」.
⑤ Update 「Master」 with value 「mas1-3」
⑥ Update the 「Param1」.
⑦ Update 「Master」 with value 「mas1-4」
⑧ Update 「Master」 with value 「mas1-5」
⑨ Update the 「Param1」

Display：
  Display of 「Param1」

		Operation				Parameter		
ID	Operation name	Reference date	Scheduled date for execution	Last execution date	param1-1	param1-2	item3	
2	legacy	2020/02/13 16:27	2020/02/10 14:31	2020/02/13 16:27		mas1-5		

Trace history of 「Param1」

Host name/Host group name		Operation					Param	
	ID	Operation name	Reference date	Scheduled date for execution	Last execution date	param1-1	param1-2	
[HG]new-host	2	legacy	2020/02/20 09:28	2020/02/10 14:31	2020/02/20 09:28	AAA	mas1-5	⑧
[H]Cloud	2	legacy	2020/02/20 09:28	2020/02/10 14:31	2020/02/20 09:28	AAA	mas1-3	⑤
[H]exastro-it-automation	3	pioneer	2020/02/12 09:49	2020/02/12 09:36	2020/02/12 09:49	AAA	mas1-1	①

Display of 「master」

No	Parameter Master	Remarks	Last update date/time	Last updated by
1	mas1-5		2020/02/17 15:12:14	System Administrator

Trace history of 「master」

History log No.	Change date/time	Discard	No	Parameter Master	Remarks	Last update date/time	Last updated by	
5	2020/02/17 15:12:14		1	mas1-5		2020/02/17 15:12:14	System Administrator	⑨
4	2020/02/17 15:12:07		1	mas1-4		2020/02/17 15:12:07	System Administrator	⑦
3	2020/02/17 15:11:43		1	mas1-3		2020/02/17 15:11:43	System Administrator	⑤
2	2020/02/17 15:11:36		1	mas1-2		2020/02/17 15:11:36	System Administrator	④
1	2020/02/17 15:07:46		1	mas1-1		2020/02/17 15:07:46	System Administrator	①