



# IT Automation

## Version update

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

Exastro IT Automation Version 1.12  
Exastro developer

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# 1. Introduction

## 1.1 About this guide

### About this guide

- This document describes the procedure to update the ITA environment constructed in all-in-one configuration.



## 2. System configuration

## 2.1 System requirement

### About the environment of ITA to perform update

- The procedure in this document can be performed on ITA environment constructed in all-in-one configuration.
- The version of ITA that supports version update is **1.4.0 or later**.  
The environment of ITA version 1.4.0 or later can be updated by executing the procedure in this document.



### 3. ITA construction procedure

## 3.1 Preparation

### ITA Update tool list

- The following list contains tools used for updating ITA.

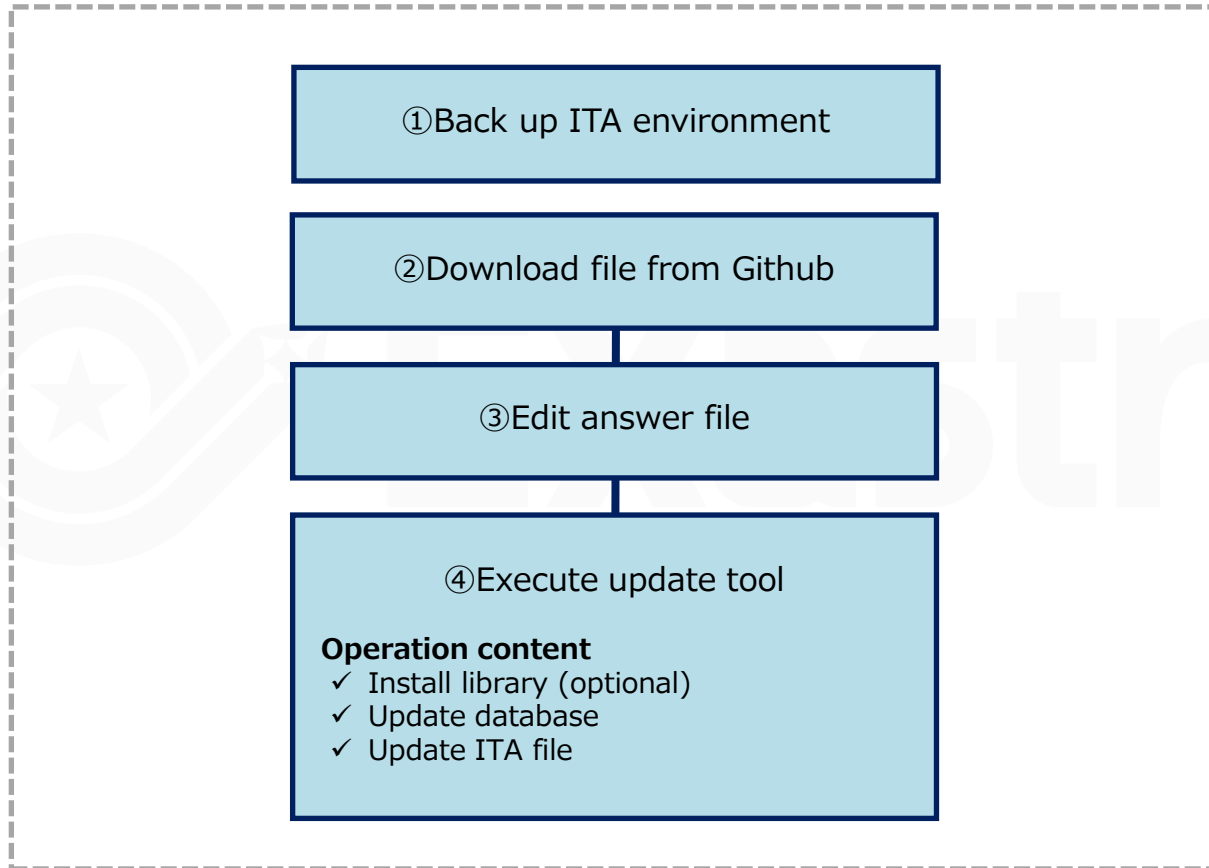
Description	File	Storage path
ITA installer	ita_installer.sh	/(Installation file extract path)/ita_install_package/install_scripts/
Answer file	ita_answers.txt	/(Installation file extract path)/ita_install_package/install_scripts/



## 3.2 ITA update workflow

### Version update work flow

- The work flow of version update is as follows.



## 3.3 Update (1/11)

\*Make sure to start the update as root user.

### Back up ITA environment

- Please back up ITA environment before update.

### Download file from Github

- Download file with the following command

```
# curl -OL https://github.com/exastro-suite/it-automation/releases/download/vx.x.x/exastro-it-automation-x.x.x.tar.gz
```

※ Since v1.10.1, the command is as follows.

```
# curl -OL https://github.com/exastro-suite/it-automation/releases/download/vx.x.x_tag/exastro-it-automation-x.x.x.tar.gz
```

※ Please install curl command beforehand.

※ Please change the version (x.x.x) according to the file.

### Deploying the materials.

- Unzip the .tar.gz file.

```
# tar xzf exastro-it-automation-x.x.x.tar.gz
```

### Change directory

- Switch current directory to the directory where the answer file and shell is located.

```
# cd it-automation-x.x.x/ita_install_package/install_scripts
```

※ Since v1.10.1, the command is as follows.

```
# cd it-automation-x.x.x_tag/ita_install_package/install_scripts
```

## 3.3 Update (2/11)

### Edit answer file (ita\_answers.txt)

- Please edit the answer file to configure the ITA Update.
- If the user wishes to install any library when updating to a new version, input "Versionup\_All" to the "Install\_mode" value. If not, input "Versionup\_ITA".
- The only items used when updating ITA are "Install\_mode" and "ITA\_directory".

Item	Required	Initial value	Description
install_mode	○	Install_Online	Install mode settings • Install_Online : Install online • Install_Offline : Install offline • Gather_Library : Gather library • Install_ITA : Install ITA • Versionup_All : Update ITA (With library install) • Versionup_ITA : Update ITA (Without library install) • Uninstall : Uninstall ITA
ita_directory	○	-	Installation directory Please specify an absolute path for the ITA Installation directory. Make sure the directory can be referenced by all users. If no installation directory exists, one will be created.
ita_language	-	en_US	ITA display language (Japanese (ja_JP) /English (en_US) )
ita_domain	○	exastro-it-automation.local	ITA domain name specification (used when the ITA installer creates a self-certificate.
certificate_path	Optional	-	Specify the path of the file used for the user specified SSL server certificate (Enter only when using a user-specified SSL certificate. Specify an absolute path)
private_key_path	Optional	-	Specify the path of the file used for user-specified SSL private keys. (Enter only when using a user-specified SSL private key. Specify an absolute path)

**Not used when updating**

## 3.3 Update (3/11)

### Installation modes

- Starting from version 1.6.0, the shell executed when the installer is launched is unified to `ita_installer.sh` only, and the behavior of the installer branches according to "install\_mode" value in the answer file (`ita_answers.txt`).
  - Versionup\_All : Updates ITA after having installed all of the necessary libraries through the internet.  
Versionup\_ITA : Updates ITA without installing any libraries.
- If you are using an online environment and want to automatically install libraries, choose "Versionup\_All" for the "install\_mode".  
If you do not wish to automatically install libraries or are using an offline environment, choose "Versionup\_ITA" for the "install\_mode".

## 3.3 Update (4/11)

### Sample of the answer file (ita\_answers.txt)

- The following shows an example of the answer file (ita\_answers.txt)

```
# Select install mode.
# ("Install_Online","Install_Offline","Gather_Library","Install_ITA",
# "Versionup_All","Versionup_ITA","Uninstall")
# e.g) install_mode:Install_Online
# *This installer operates according to the inputted values below.
# Install_Online: ITA will be installed after the necessary libraries
#                 has been installed via internet.
# Install_Offline: ITA will start installing using the package created
#                 in Gather Library.
# Gather_Library: Gathers the necessary libraries via internet and creates
#                 the package necessary to execute Install_Offline.
#                 (Execute this before executing Install_Offline)
# Install_ITA: Installs ITA without installing any libraries.
# Versionup_All: Installs ITA after installing the necessary libraries for
#                 the desired ITA version via internet.
# Versionup_ITA: Updates ITA without installing any libraries.
# Uninstall: ITA Uninstalls ITA.(Libraries will not be uninstalled)
install_mode: Versionup_All

# e.g) ita_directory:/exastro
ita_directory:/exastro

# Select language. ("en_US" or "ja_JP")
# e.g) ita_language:en_US
ita_language:ja_JP
```

#### POINT

The only items used when updating are "install\_mode" and "ita\_directory". The other items are not used.

```
#####
# Enter when using user-specified certificates and private keys.
# If no file path is entered for both "certificate_path" and "private_key_path",
# the ITA installer creates and installs a self-certificate and private key
# using the values entered in "ita_domain".

# Enter the file path where the certificate to be install.
# e.g) certificate_path:/temp/etc_pki_tls_certs/exastro-it-automation.crt
certificate_path:

# Enter the file path where the private key to be install.
# e.g) private_key_path:/temp/etc_pki_tls_certs/exastro-it-automation.key
private_key_path:
#####
```

#### POINT

Items in the answer file (ita\_answer.txt) does not support full-width characters.

## 3.3 Update (5/11)

### Executing the configuration tool (for online installation)

- Execute the ITA installer (updater) with the following command:

```
# sh ita_installer.sh
```

- If the “install\_mode” in the answer file (ita\_answers.txt) is set to “Versionup\_All”, the libraries will automatically be updated during the process.  
See the next page for information on what libraries are installed with each version.

### Check process

- If successful, users can update any files acquired.
- Running the Update tool will output process contents to the ita\_version\_up.log file.
- Log storage path  
/(Installation file extract path)/ita\_install\_package/install\_scripts/log/

### Exit status

- The ITA installer returns one of the exit statuses listed below depending on the shell process exit status.  
Normal exit : 0  
Abnormal exit : 1

## 3.3 Update (6/11)

### List of libraries that will be installed during update

- If “yes” is entered for library installation during install, the following libraries will be automatically installed according to the installed driver.  
If “no” is entered, please install the libraries manually.

Version	Installed driver	Library name	Install command	Required	Application
1.5.0	ita_base	php-devel	yum install -y php-devel	○	Used for YAML analysis library (yaml)
		libyaml	yum install -y libyaml	○	Used for YAML analysis library (yaml)
		libyaml-devel	yum install -y libyaml-devel	○	Used for YAML analysis library (yaml)
		make	yum install -y make	○	Used for YAML analysis library (yaml)
		yaml	pecl install yaml	○	Used for YAML analysis library (yaml)
	ansible-driver	nc	yum install -y nc	-	Used for SSH command option when executing Ansible Playbook by connecting SSH from ITA under proxy environment to external server such as AWS via proxy server.
		paramiko	pip3 install paramiko	-	Required to connect to a network device by specifying network_cli for ansible_connection.
1.6.0	There are no libraries added in Version 1.6.0.				
1.6.1	There are no libraries added in Version 1.6.1.				
1.6.2	There are no libraries added in Version 1.6.2.				
1.6.3	There are no libraries added in Version 1.6.3.				
1.7.0	ansible-driver	boto	Pip3 install boto	-	Used for community.aws.iam of Ansible module.
1.7.1	There are no libraries added in Version 1.7.1.				
1.7.2	There are no libraries added in Version 1.7.2.				

## 3.3 Update (7/11)

Version	Installed driver	Library name	Install command	Required	Application
1.8.0	There are no libraries added in Version 1.8.0.				
1.8.1	There are no libraries added in Version 1.8.1.				
1.8.2	There are no libraries added in Version 1.8.2.				
1.9.0	There are no libraries added in Version 1.9.0.				
1.9.1	There are no libraries added in Version 1.9.1				
1.10.0	ansible-driver	git	yum install -y git	-	Used for linking with Ansible Automation Controller.
	terraform-driver	python-hcl2	pip3 install python-hcl2	-	Used for analyzing tf files.
1.10.1	There are no libraries added in Version 1.10.1				
1.10.2	There are no libraries added in Version 1.10.2				
1.11.0	terraformcli-driver	terraform	yum -y install terraform	-	Used for terraform command execution.
1.11.1	There are no libraries added in Version 1.11.1				
1.11.2	There are no libraries added in Version 1.11.2				



## 3.3 Update (8/11)

### ITA behavior when updating.

Updating ITA will restart all ITA services.

This also includes all services that has been stopped manually. If necessary, the user will need to stop said services manually after ITA has been updated.

### PHP version

ITA v1.9.1 and earlier versions requires PHP7.2. ITA v1.10.0 and later versions can use both PHP7.2 and 7.4.

If ITA v1.10.0 is installed through the installer, PHP7.4 will be installed.

If ITA is updated from v1.9.1(or earlier) to v1.10.0(or later), The PHP version will not be updated to 7.4, but will be left as 7.2

If you wish to update to 7.4, please do so manually.

## 3.3 Update (9/11)

### ■ Ansible Automation Controller4.x

Starting from ITA v1.10.0, ITA will be able to link with Ansible Automation Controller4.x

Please see 「[System Configuration/Environment Construction Guide - Ansible-driver](#)」 for information regarding linking Ansible Automation Controller

Make note that the process is a bit different from linking with Ansible Tower3.x.

If you want to update ITA to v1.10.0 or later and link with Ansible Tower3.x, make sure to configure the settings found in chapter 5.2 in 「[System Configuration/Environment Construction Guide - Ansible-driver](#)」

## 3.3 Update (10/11)

### ■ Specification change of MariaDB 11.0.2

The "mysql\*" command was deprecated in mariaDB 11.0.2 released on June 23, 2023, and the specification was changed so that the following warning is output when the "mysql\*" command is executed.

*mysql: Deprecated program name. It will be removed in a future release, use '/usr/bin/mariadb' instead*

Because the installer up to ITA 1.11.0 uses the "mysql\*" command, The installer up to ITA1.11.0 uses the "mysql\*" command, so the upgrade will fail under the following conditions, as shown in the error output example on the next page.

- MariaDB 11.0.2 or later is used.
- Upgrading from a certain ITA version to 1.11.0 or earlier.

When upgrading under the above conditions, please make the corrections on the next page before performing the upgrade.

There is no problem when upgrading to ITA1.11.1 or later, since the correction has already been made in ITA1.11.1 or later.

## 3.3 Update (11/11)

- (Reference) Example of error output when upgrading

```
~~~~~ ( abbreviation ) ~~~~~  
[2023-07-19 17:47:26] INFO : -----MODE[VERSIONUP] START-----  
[2023-07-19 17:47:26] INFO : Authorization check.  
[2023-07-19 17:47:26] INFO : Reading answer-file.  
[2023-07-19 17:47:36] INFO : Version check.  
[2023-07-19 17:47:36] INFO : Stopping Apache.  
[2023-07-19 17:47:38] INFO : Stopping ITA services.  
[2023-07-19 17:47:39] INFO : Updating tables.  
[2023-07-19 17:47:39] ERROR : SQL Error. Check logfile[/root/it-automation-  
1.11.0/ita_install_package/install_scripts/log/1.10.2_base_sql.log].  
[2023-07-19 17:47:39] INFO : Abort version up.
```

- Fixes for MariaDB 11.0.2 or later and upgrading to version 1.11.0 or earlier

/(installation material deployment location)/ita\_install\_package/install\_scripts/bin/ita\_version\_up.sh  
can be successfully executed by modifying and executing the following

Example of modification for ITA1.11.0

Line 618 (the number of lines may differ depending on the version)

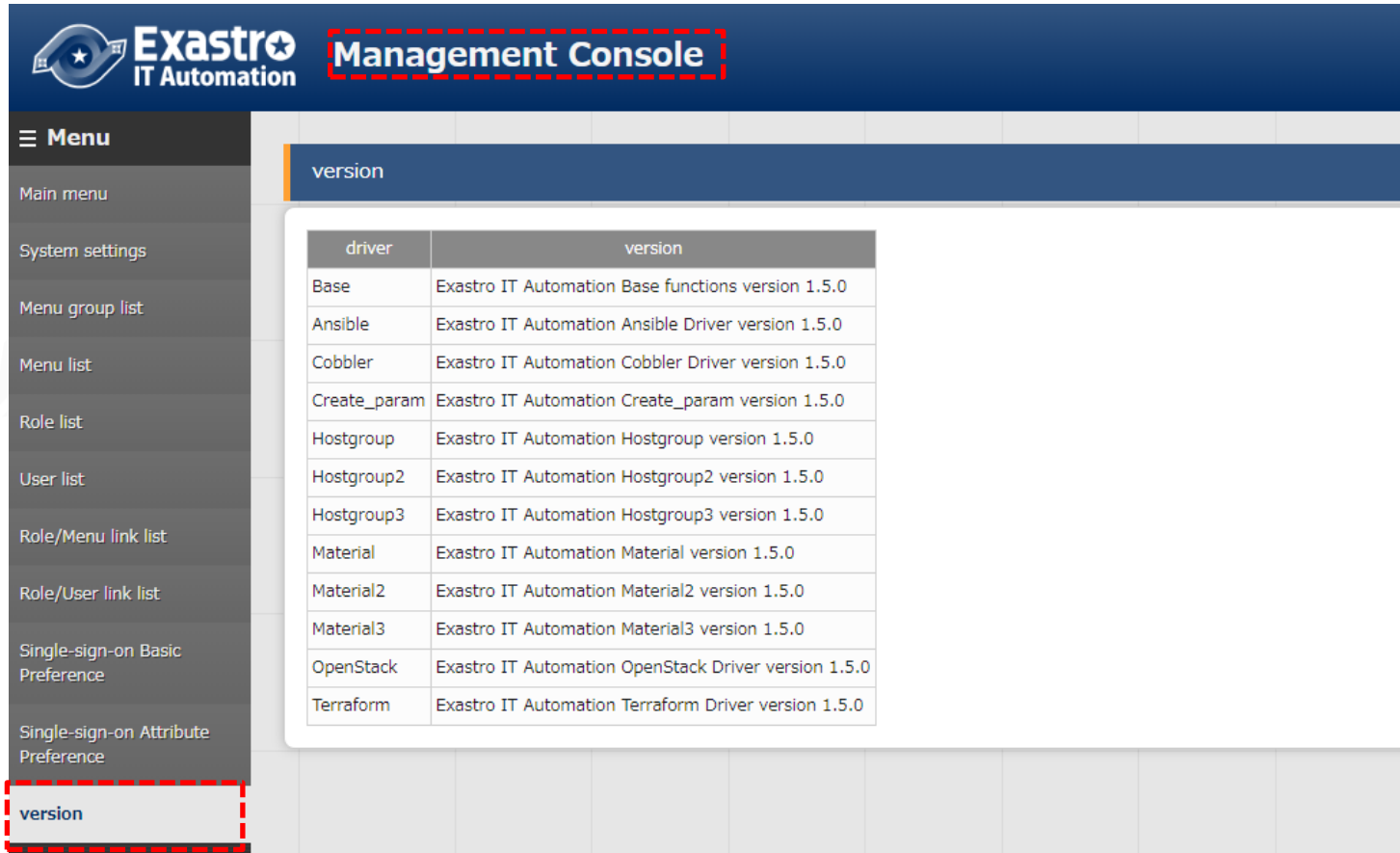
```
env MYSQL_PWD=${DB_PASSWORD} mysql -u${DB_USERNAME} ${DB_NAME} -h ${DB_HOST} < "$SQL_REPLACE" 1>${SQL_LOGFILE} 2>&1  
↓  
env MYSQL_PWD=${DB_PASSWORD} mariadb -u${DB_USERNAME} ${DB_NAME} -h ${DB_HOST} < "$SQL_REPLACE" 1>${SQL_LOGFILE} 2>&1
```

## 4. ITA Operation check

## 4.1 Operation check (1/2)

### Check version

- After logging into ITA, check if the version is updated in “Management console” - “Version”.



The screenshot displays the Exastro IT Automation Management Console interface. The top header features the Exastro logo and the text "Management Console". A left sidebar contains a "Menu" with various options, including "version" which is highlighted with a red dashed box. The main content area shows a table titled "version" with two columns: "driver" and "version". The table lists various drivers and their corresponding versions, all of which are 1.5.0.

driver	version
Base	Exastro IT Automation Base functions version 1.5.0
Ansible	Exastro IT Automation Ansible Driver version 1.5.0
Cobbler	Exastro IT Automation Cobbler Driver version 1.5.0
Create_param	Exastro IT Automation Create_param version 1.5.0
Hostgroup	Exastro IT Automation Hostgroup version 1.5.0
Hostgroup2	Exastro IT Automation Hostgroup2 version 1.5.0
Hostgroup3	Exastro IT Automation Hostgroup3 version 1.5.0
Material	Exastro IT Automation Material version 1.5.0
Material2	Exastro IT Automation Material2 version 1.5.0
Material3	Exastro IT Automation Material3 version 1.5.0
OpenStack	Exastro IT Automation OpenStack Driver version 1.5.0
Terraform	Exastro IT Automation Terraform Driver version 1.5.0

## 4.1 Operation check (2/2)

### Removed functions

The list below contains deleted functions and what version they were deleted.

The functions in the list below will still be there when updated, but there is no guarantee that they will function properly.

Function	Version
DSC-Driver	v1.5.0
OpenStack-Driver	v1.6.1
Construction file management function	v1.8.0



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