ITA_ System Configuration/ Environment Construction Guide

Ansible-driver

— Version 1.5 —

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Table of contents

Introduction

This document explains the system configuration and environment construction for operating Ansible optional function (referred to as Ansible driver hereafter) in ITA.

To use the ITA Ansible driver, it is assumed that the basic ITA functions have been built. Please refer to "System Configuration/Environment Construction Guide - Basics" for constructing ITA basic function.

1 Function

Ansible driver provides the following functions.

Table 1 Function name

| No	Function name	Use	WEB Content	BackYard Content
1	Ansible driver	Manage construction of server, storage, network devices from ITA through Ansible or AnsibleTower.	○	○
2	Ansible RestAPI	Contents providing RestAPI for operating Ansible from external.	○	–

2 System configuration

The system configuration of Ansible driver is same as the ITA system.

Ansible RestAPI is considered to be configured in a dedicated Ansible server separated from the ITA driver.

Also, preparing a designated server for Ansible Tower is required. (Consolidating the construction into one server is also possible.)

This figure shows a configuration in which an Ansible RESTAPI server is added to the balanced HA type, the recommended configuration for the ITA system.

※The figure here is a omitted version. Please refer to "System Configuration/Environment Construction Guide - Basics" for details.
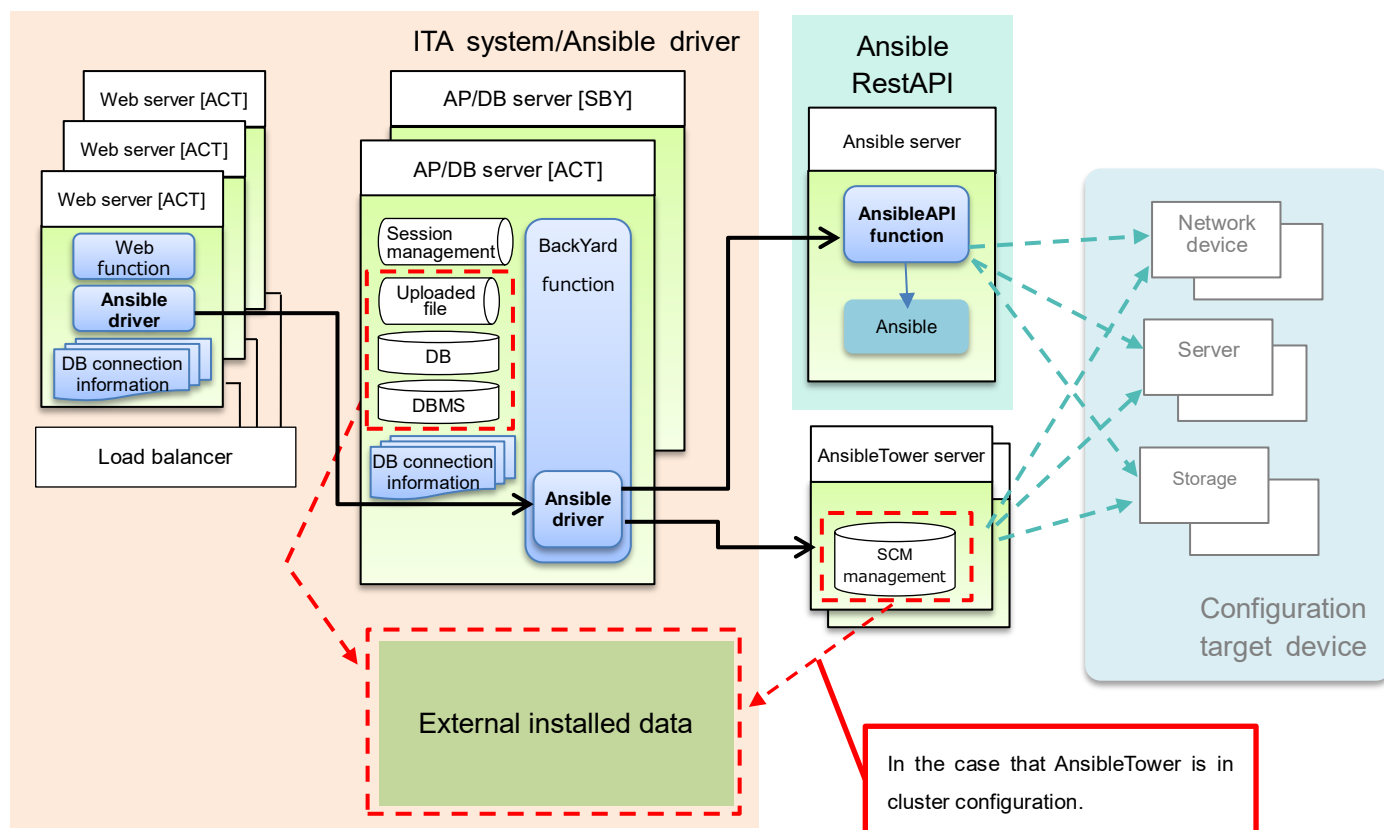
3 System requirements

Since Ansible driver is based on system requirements of ITA system, please refer to "System Configuration/Environment Construction Guide - Basics". This section describes the requirements for BackYard, Ansible RestAPI, and Ansible Tower.

●BackYard

Table 3-1. Linux commands required for Ansible BackYard

Command	Note
zip	

Table 3-2. External modules required for Ansible BackYard

External module	Version	Note
php-yaml	2.1.0 or higher	

●Ansible RestAPI

Table 3-3 Ansible RestAPI system requirements

Package	Version	Note
Ansible	2.5 or higher	
Python	3.0 or higher	
pywinrm		Python module. If installation fails when using yum, please use pip to install.
Pexpect		Python module.
telnet	–	Required for telnet connection to the configuration target.
Apache	2.2 series / 2.4 series	Required when operating the function on the server different from the ITA system. The package and version should match the ITA system servers

Table 3-4 Linux command required for Ansible Driver

Command	Note
expect	

●Ansible Tower

Table 3-5 Ansible Tower system requirements

Package	Version	Note
Ansible Tower	3.5.0 or higher	The user/password authentication method under version 3.5.0 is not supported

4   Prepare shared directory

4.1   Ansible driver － Ansible RestAPI

Please prepare a shared directory which both Ansible driver and Ansible RestAPI can refer.
After installing Ansible driver and Ansible RestAPI, it is required to register the shared directory to ITA system. Please refer to "Interface information" in "User instruction manual - Ansible-driver" and perform registration.

4.2   Ansible driver － Ansible Tower server

Please prepare a shared directory which both Ansible driver and AnsibleTower server can reference.
After installing Ansible driver and constructing AnsibleTower server, registering the shared directory to ITA system is required.
Please refer to "Interface information" in "User instruction manual - Ansible-driver" and perform registration.

5 AnsibleTower initial settings

Perform settings required for AnsibleTower after installing AnsibleTower.

5.1 Settings

Login AnsibleTower from browser, set "/var/lib/awx/.ssh" in "SETTINGS" → "JOBS" → "PATHS TO EXPOSE ISOLATED JOBS".
According to this setting, ssh connection that does not require the user and password of the target node with key exchange is enabled.

5.2   Ansible Tower SCM management directory

SCM type is set to manual when creating an AnsibleTower project from ITA.
Files that are required for construction operation will be sent to the base path of AbisbleTower project (/var/lib/awx/projects). The linux user to send the file need to be registered to ITA system.
Please refer to "Ansible Tower host list" in "User instruction manual_Ansible-driver" and register.
It is recommended to set the password to the awx user created during AnsibleTower installation and use the user as linux user.
Furthermore, when using users other than awx user, the permission change of base path (/var/lib/awx/projects) is not under Redhat support.

5.3   Package confirmation

Confirm packages that are required for Ansible-driver are installed.
If not installed, it's required to install the packages.

- Required package
  pexpect
- Method to confirm
  su - awx
  source /var/lib/awx/venv/ansible/bin/activate
  pip list
  deactivate
- Method to install
  su - awx
  source /var/lib/awx/venv/ansible/bin/activate
  umask 0022
  pip install --upgrade pexpect
  deactivate

5.4 Required resource preparation

It is required to register projects, inventory, credentials, and application with Ansible Tower in advance.

Table 5-1 AnsibleTower required resource

Type	Use	Name	Description
Application	Authentication application	o_auth2_access_token	Application information for authentication when connecting from ITA to AnsibleTower with RestAPI
User	Token	-	Connection token used to connect from ITA to AnsibleTower with RestAPI

5.4.1 Application
● AnsibleTower settings
- ・ Name : o_auth2_access_token
- ・ Organization : Default
- ・ Authorization Grant Type : Password base of resource owner
- ・ Client type : Secret

5.4.2 User Token
● AnsibleTower settings
- ・ APPLICATION : o_auth2_access_token
- ・ SCOPE : write

Login with the user used to login AnsibleTower beforehand is required.
The generated token must be set as the connection token in the interface information of the AnsibleTower console. Please refer to "Interface information" in "User Instruction Manual_Ansible-driver" and register.