Upgrading to the latest version of Ansible Automation Platform and migrating legacy virtual environments to automation execution environments
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Abstract

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CHAPTER 1. UPGRAADING YOUR RED HAT ANSIBLE AUTOMATION PLATFORM

To upgrade your Red Hat Ansible Automation Platform to the later version, download the desired version of the Ansible Automation Platform installer. Configure it with the same parameters you have used in previous installations, configure any new parameters, then run the installer.

In some cases, you may need to configure other settings if you plan on upgrading other components of your Ansible Automation Platform, such as automation controller. The following sections describes these steps in further detail.

1.1. UPGRADE PLANNING

Depending on your installation, there may be several changes to consider as you attempt to upgrade your Red Hat Ansible Automation Platform.

Upgrading automation controller

If you plan on upgrading your automation controller instance along with your Ansible Automation Platform, review the following information:

- Even if you already have a valid license from a previous version, you still must provide your credentials or a subscriptions manifest upon upgrading to the latest version of automation controller. See Import a subscription in the Automation Controller User Guide.

- If you need to upgrade Red Hat Enterprise Linux and automation controller, you will need to do a backup and restore of your automation controller data. Refer to Back up and restoring Tower for further detail.

- Clustered upgrades require special attention to instance and instance groups prior to starting the upgrade. See Clustering for details.

Once you have completed the necessary changes during upgrade planning, proceed by downloading the desired version of the Ansible Automation Platform installer.

1.2. CHOOSING AND OBTAINING A RED HAT ANSIBLE AUTOMATION PLATFORM INSTALLER

Choose the Red Hat Ansible Automation Platform installer you need based on your Red Hat Enterprise Linux environment internet connectivity. Review the scenarios below and determine which Red Hat Ansible Automation Platform installer meets your needs.

NOTE

A valid Red Hat customer account is required to access Red Hat Ansible Automation Platform installer downloads on the Red Hat Customer Portal.

Installing with internet access

Choose the Red Hat Ansible Automation Platform installer if your Red Hat Enterprise Linux environment is connected to the internet. Installing with internet access will retrieve the latest required repositories, packages, and dependencies.
1. Navigate to https://access.redhat.com/downloads/content/480

2. Click Download Now for the Ansible Automation Platform <latest-version> Setup

3. Extract the files:

   $ tar xvzf ansible-automation-platform-setup-<latest-version>.tar.gz

**Installing without internet access**

Use the Red Hat Ansible Automation Platform Bundle installer if you are unable to access the internet, or would prefer not to install separate components and dependencies from online repositories. Access to Red Hat Enterprise Linux repositories is still needed. All other dependencies are included in the tar archive.

1. Navigate to https://access.redhat.com/downloads/content/480

2. Click Download Now for the Ansible Automation Platform <latest-version> Setup Bundle

3. Extract the files:

   $ tar xvzf ansible-automation-platform-setup-bundle-<latest-version>.tar.gz

### 1.3. SETTING UP THE INVENTORY FILE

To upgrade using the Red Hat Ansible Automation Platform installer, edit the inventory file found in the installer to match your desired configuration. When editing the inventory file, you can use the inventory file parameters from your previous Ansible Automation Platform setup to keep the same configuration as before. You can also enable any new parameters in the inventory file that was introduced in the new version of the Red Hat Ansible Automation Platform.

**Procedure**

1. Navigate to the installer:

   **Bundled installer**

   $ cd ansible-automation-platform-setup-bundle-<latest-version>

   **Online installer**

   $ cd ansible-automation-platform-setup-<latest-version>

2. Open the inventory file with a text editor.

3. Edit the inventory file parameters to match the inventory file in your previous version of Red Hat Ansible Automation Platform.

**NOTE**

To review information about the inventory file requirements for your specific installation scenario, see the Red Hat Ansible Automation Platform Installation Guide.
4. Optional: Edit the inventory file parameters to enable any new features introduced in the new version of the Red Hat Ansible Automation Platform.

NOTE
For more information about any new features and how to enable them, see the Product Documentation for Red Hat Ansible Automation Platform to search for specific features and their configurations. Review the Red Hat Ansible Automation Platform Release Notes for a full list of features in each version release.

1.4. RUNNING THE RED HAT ANSIBLE AUTOMATION PLATFORM INSTALLER SETUP SCRIPT

You can run the setup script once you have finished updating the inventory file to match your previous Ansible Automation Platform installation.

Procedure

1. Run the setup.sh script

   $ ./setup.sh

The installation will begin.
CHAPTER 2. UPGRADING TO AUTOMATION EXECUTION ENVIRONMENTS

If upgrading from older versions of automation controller to 4.0 or later, the controller has the ability to detect previous versions of virtual environments associated with Organizations, Inventory, and Job Templates; and inform you that you will need to migrate to the new automation execution environments model. A brand new installation of automation controller creates two virtualenvs during installation—one is used to run the controller itself, while the other is used to run Ansible. Like legacy virtual environments, automation execution environments allow the controller to run in a stable environment, while allowing you to add or update modules to your automation execution environments as necessary to run your playbooks.

Migrate legacy venvs to automation execution environments

You can have the exact same setup in an automation execution environment that you had in a prior custom virtual environment by migrating them to the new automation execution environment. Use the awx-manage commands in this section to:

- list of all the current custom virtual environments and their paths (list_custom_venvs)
- view the resources that rely a particular custom virtual environment (custom_venv_associations)
- export a particular custom virtual environment to a format that can be used to migrate to an automation execution environment (export_custom_venv)

The below workflow describes how to migrate from legacy venvs to automation execution environments using the awx-manage command.

2.1. MIGRATING VIRTUAL ENVS TO AUTOMATION EXECUTION ENVIRONMENTS

Use the following sections to assist with additional steps in the migration process once you have upgraded to Red Hat Ansible Automation Platform 2.0 and automation controller 4.0.

2.1.1. Listing custom virtual environments

You can list the virtual environments on your automation controller instance using the awx-manage command.

Procedure

1. SSH into your automation controller instance and run:

   $$ awx-manage list_custom_venvs $$

A list of discovered virtual environments will appear.

```bash
# Discovered virtual environments:
/var/lib/awx/venv/testing
/var/lib/venv/new_env
```
2.1.2. Viewing objects associated with a custom virtual environment

View the organizations, jobs, and inventory sources associated with a custom virtual environment using the `awx-manage` command.

Procedure

1. SSH into your automation controller instance and run:

   ```bash
   $ awx-manage custom_venv_associations /path/to/venv
   ```

A list of associated objects will appear.

```plaintext
inventory_sources:
- id: 15
  name: celery

job_templates:
- id: 9
  name: Demo Job Template @ 2:40:47 PM
- id: 13
  name: elephant

organizations
- id: 3
  name: alternating_bongo_meow
- id: 1
  name: Default

projects: []
```

2.1.3. Selecting the custom virtual environment to export

Select the custom virtual environment you wish to export using `awx-manage export_custom_venv` command.

Procedure

1. SSH into your automation controller instance and run:

   ```bash
   $ awx-manage export_custom_venv /path/to/venv
   ```

The output from this command will show a `pip freeze` of what is in the specified virtual environment. This information can be copied into a `requirements.txt` file for Ansible Builder to use for creating a new automation execution environments image.

```plaintext
numpy==1.20.2
pandas==1.2.4
python-dateutil==2.8.1
pytz==2021.1
six==1.16.0
```
To list all available custom virtual environments run:
awx-manage list_custom_venvs

NOTE
Pass the -q flag when running `awx-manage list_custom_venvs` to reduce output.

2.2. ADDITIONAL RESOURCES

- See the Red Hat Ansible Automation Platform Creator Guide for more information of migrating to automation execution environments.