

Ansible Workshop - Exercises

Automation Platform

Learn to manage and run your Ansible
content in AAP.



3 - Projects & Job Templates

Objective

An Ansible automation controller **Project** is a logical collection of Ansible playbooks. You can manage your playbooks by placing them into a source code management (SCM) system supported by automation controller such as Git or Subversion.

This exercise covers:

- Understanding and using an Ansible automation controller Project
- Using Ansible playbooks kept in a Git repository.
- Creating and using an Ansible Job Template

Guide

Setup Git Repository

For this demonstration we will use playbooks stored in a Git repository:

<https://github.com/ansible/workshop-examples>

A playbook to install the Apache web server has already been committed to the directory **rhel/apache**, `apache_install.yml`:

```

---
- name: Apache server installed
  hosts: web

  tasks:
  - name: latest Apache version installed
    yum:
      name: httpd
      state: latest

  - name: latest firewalld version installed
    yum:
      name: firewalld
      state: latest

  - name: firewalld enabled and running
    service:
      name: firewalld
      enabled: true
      state: started

  - name: firewalld permits http service
    firewalld:
      service: http
      permanent: true
      state: enabled
      immediate: yes

  - name: Apache enabled and running
    service:
      name: httpd
      enabled: true
      state: started

```

Tip

Note the difference to other playbooks you might have written! Most importantly there is no `become` and `hosts` is set to `all`.

To configure and use this repository as a **Source Control Management (SCM)** system in automation controller you have to create a **Project** that uses the repository

Create the Project

- Go to **Resources** → **Projects** click the **Add** button. Fill in the form:

Parameter	Value
Name	Workshop Project
Organization	Default
Default Execution Environment	Default Execution Environment

Source Control Type	Git
---------------------	-----

Enter the URL into the Project configuration:

Parameter	Value
Source Control URL	<code>https://github.com/ansible/workshop-examples.git</code>
Options	Select Clean, Delete and Update Revision on Launch to request a fresh copy of the repository and to update the repository when launching a job.

- Click **SAVE**

The new project will be synced automatically after creation. But you can also do this manually: Sync the Project again with the Git repository by going to the **Projects** view and clicking the circular arrow **Sync Project** icon to the right of the Project.

After starting the sync job, go to the **Jobs** view: there is a new job for the update of the Git repository.

Create a Job Template and Run a Job

A job template is a definition and set of parameters for running an Ansible job. Job templates are useful to execute the same job many times. So before running an Ansible **Job** from automation controller you must create a **Job Template** that pulls together:

- **Inventory:** On what hosts should the job run?
- **Credentials** What credentials are needed to log into the hosts?
- **Project:** Where is the playbook?
- **What** playbook to use?

Okay, let's just do that: Go to the **Resources -> Templates** view, click the **Add** button and choose **Add job template**.

Tip

Remember that you can often click on magnifying glasses to get an overview of options to pick to fill in fields.

Parameter	Value
Name	Install Apache
Job Type	Run

Project	Workshop Project
Execution Environment	Default execution environment
Playbook	rhel/apache/apache_install.yml
Credentials	Workshop Credential
Limit	web
Options	<input checked="" type="checkbox"/> Privilege Escalation

- Click **Save**

You can start the job by directly clicking the blue **Launch** button, or by clicking on the rocket in the Job Templates overview. After launching the Job Template, you are automatically brought to the job overview where you can follow the playbook execution in real time:

Job Details

[Jobs](#) > [Install Apache](#)

Details ↻

◀ Back to Jobs **Details** Output

Status	■ Successful	Started	8/2/2021, 3:45:14 PM	Finished	8/2/2021, 3:45:43 PM
Job Template	Install Apache	Job Type	Playbook Run	Launched By	admin
Inventory	Workshop Inventory	Project	■ Workshop Project	Revision	fe1f099af84ce0f8a93eb5b16fb2c8b5b6dc60de
Playbook	rhel/apache/apache_install.yml	Limit	web	Verbosity	0 (Normal)
Execution Environment	Default execution environment	Execution Node	localhost	Instance Group	controlplane
Job Slice	0/1				
Credentials	SSH: Workshop Cred...				
Created	8/2/2021, 3:45:07 PM by admin	Last Modified	8/2/2021, 3:45:14 PM		

Variables YAML JSON

1 { }

Artifacts YAML JSON

1 { }

Job Run

Jobs > Install Apache

Output

◀ Back to Jobs Details **Output**

Install Apache Plays 1 Tasks 6 Hosts 3 Elapsed 00:00:28

Stdout

```
0 Identity added: /runner/artifacts/13/ssh_key_data (/runner/artifacts/13/ssh_key_data)
1
2 PLAY [Apache server installed] ***** 15:45:18
3
4 TASK [Gathering Facts] ***** 15:45:18
5 ok: [node1]
6 ok: [node3]
7 ok: [node2]
8
9 TASK [latest Apache version installed] ***** 15:45:20
10 ok: [node3]
11 ok: [node1]
12 changed: [node2]
13
14 TASK [latest firewalld version installed] ***** 15:45:28
15 ok: [node1]
16 ok: [node3]
17 changed: [node2]
18
19 TASK [firewalld enabled and running] ***** 15:45:37
```

Since this might take some time, have a closer look at all the details provided:

- All details of the job template like inventory, project, credentials and playbook are shown.
- Additionally, the actual revision of the playbook is recorded here - this makes it easier to analyse job runs later on.
- Also the time of execution with start and end time is recorded, giving you an idea of how long a job execution actually was.
- Selecting **Output** shows the output of the running playbook. Click on a node underneath a task and see that detailed information are provided for each task of each node.

After the Job has finished go to the main **Jobs** view: All jobs are listed here, you should see directly before the Playbook run an Source Control Update was started. This is the Git update we configured for the **Project** on launch!

Challenge Lab: Check the Result

Time for a little challenge:

- Use an ad hoc command on all hosts to make sure Apache has been installed and is running.

You have already been through all the steps needed, so try this for yourself.

Tip

What about `systemctl status httpd` ?

✓ Solution

- Go to **Resources** → **Inventories** → **Workshop Inventory**
- In the **Hosts** view select `node1`, `node2`, `node3` and click **Run Command**
- Within the **Details** window, select **Module** `command`, in **Arguments** type `systemctl status httpd` and click **Next**.
- Within the **Execution Environment** window, select **Default execution environment** and click **Next**.
- Within the **Machine Credential** window, select **Workshop Credential** and click **Launch**.

i Info

The output of the results is displayed once the command has completed.

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