

Ansible Playbook with Jenkins Pipeline



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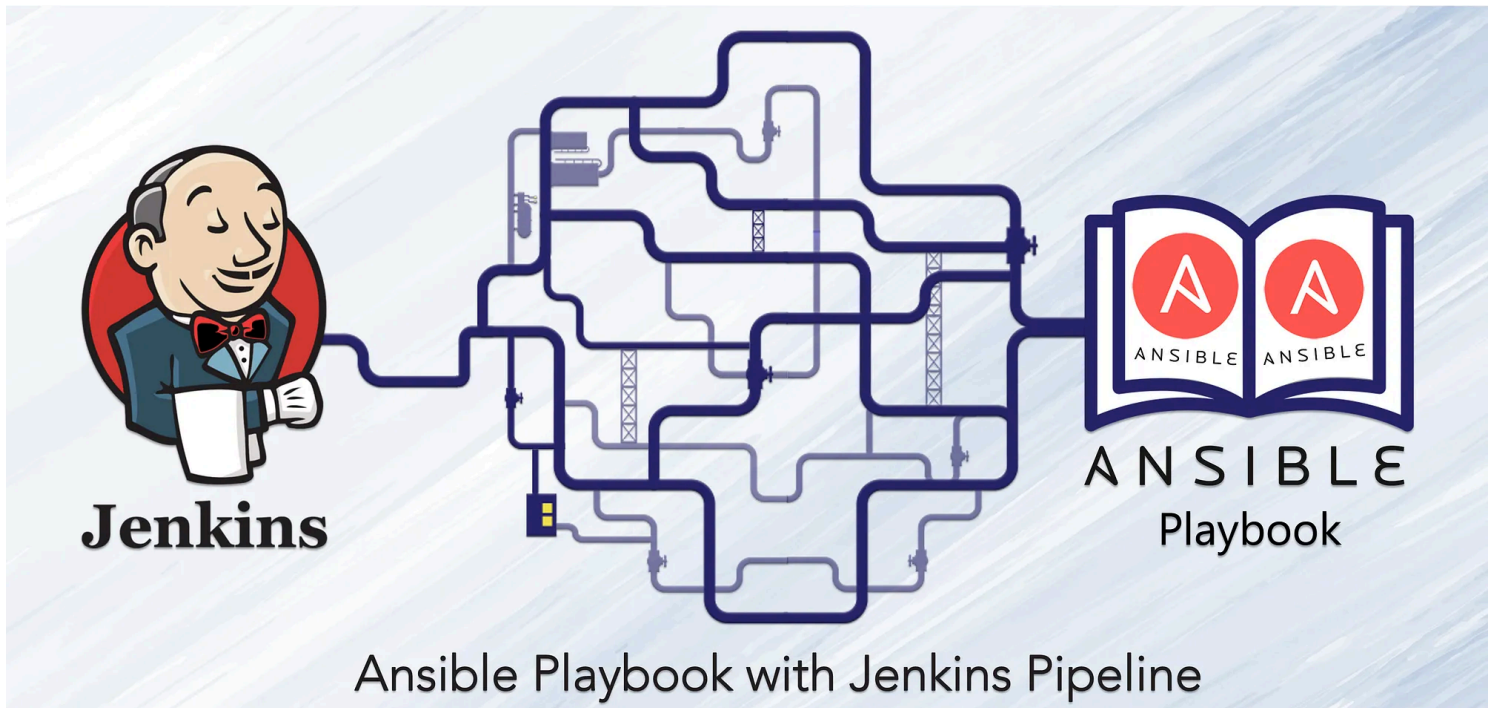
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In this article, we are talking about **Jenkins** Integration with **Ansible**. How we can execute **Ansible Playbook** using Jenkins.

As we all know Jenkins is a well-known open-source continuous integration and continuous development automation tool, I talked a lot about Jenkins and today also I'm talking about Jenkins.

In my previous article, we talked about how to configure **Jenkins** with the help of the **Ansible Playbook**.

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help of Ansible.

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We are using this ansible-playbook for demo.

Let's Move on Jenkins now

If you are new with Jenkins I recommend go through my previous article in which I talked about how to configure Jenkins.

Setup Jenkins on CentOS with Docker for Selenium

I haven't found any walk-through about setting up Jenkins on CentOS with Docker for Selenium, and since I got to do it...

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There is 2 way to execute ansible-playbook on Jenkins.

1. Use *shell/bash* script

2. Use the *Ansible* plugin

1. Use shell/bash script

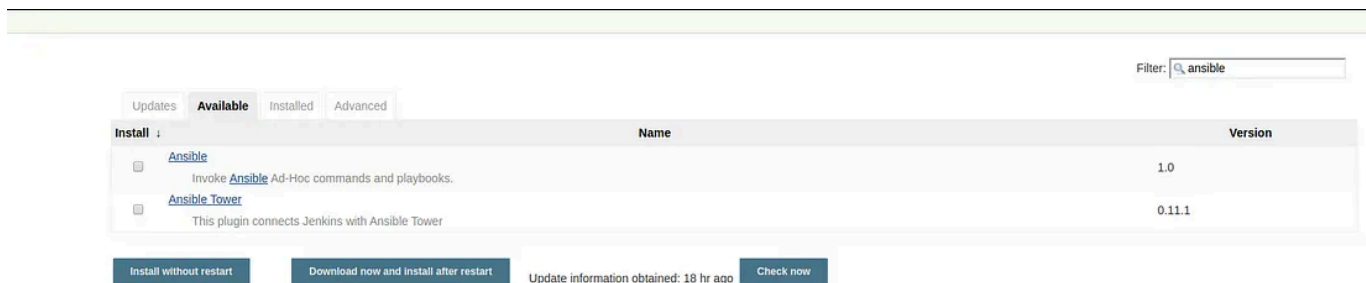
The playbook execution is defined in the **Build > Execute Shell** section of the job. Generation of input values and playbook execution are scripted in this section and that would look like this:

```
#env is Jenkins build parameter  
$ `gen-hosts-list $env` > /path/to/hosts_list  
  
$ ansible-playbook /path/to/ansible-playbook.yml -i  
/path/to/hosts_list -u AUTO_USER --private-key=/path/to/private-key
```

2. Use the Ansible plugin

Step 1) For Jenkins Pipeline we need to install the **Ansible** plugin.

Go to **Manage Jenkins > Manage Plugins > Available > search Ansible**.



If you are already installed **Ansible Plugin** on your Jenkins It will display in the **Installed** section.

Now we can see the **Invoke Ansible Playbook** option in the **Build Environment** section but we need to configure Ansible path for Jenkins.

Now let's configure Ansible on our Jenkins.

Go to **Manage Jenkins > Global Tool Configuration** > It will display **Ansible** on the list.



The screenshot shows the 'Ansible' configuration page in Jenkins. It includes a table with one entry named 'Ansible' and a path to the executables directory set to '/var/lib/jenkins/'. There are buttons for 'Add Ansible' and 'Delete Ansible'.

Ansible
<div>Ansible Name</div> <div>Ansible</div>
<div>Path to ansible executables directory</div> <div>/var/lib/jenkins/</div>
<div><input type="checkbox"/> Install automatically</div>

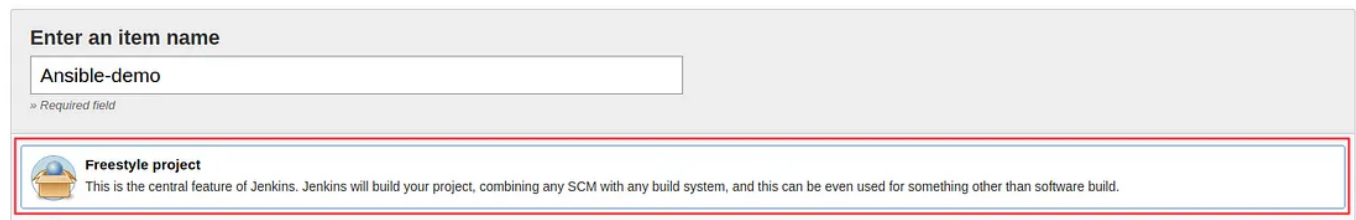
Delete Ansible

Add Ansible

List of Ansible installations on this system

Now let's Create New project to execute Ansible playbook.

Step 2) Goto Jenkins Home > New Item > Create New Freestyle Project.



The screenshot shows the 'New Item' form in Jenkins. The 'Enter an item name' field contains 'Ansible-demo'. Below the form, the 'Freestyle project' option is selected and highlighted with a red box.

Enter an item name

Ansible-demo

» Required field

Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

We create a new freestyle project now lets configure our project.

Goto source code management section and add your code repository here you are free to use any of the source code management platforms like Github, Gitlab and also Bit bucket.

Source Code Management

☐ None
☒ Git

Repositories

Repository URL:

Credentials:

Advanced...
Add Repository

Branches to build

Branch Specifier (blank for 'any'):

Add Branch

Repository browser:

Additional Behaviours:

☐ Multiple SCMs
☐ Subversion

Now let's configure ansible plugin.

Goto **Build** section and select **Invoke Ansible Playbook**. Once you select that option it will display ansible-playbook configuration option like below.

Invoke Ansible Playbook

Ansible installation:

Playbook path:

Inventory

☐ Do not specify Inventory
☒ File or host list
File path or comma separated host list:
☐ Inline content

Host subset:

Credentials:

Vault Credentials:

☐ become
☒ sudo
sudo user:

Advanced...

Add build step

Let see all option provided by Ansible Plugin.

- **Ansible Installation:** It will display all Ansible installation list that we are configured in **Global Tool Configuration > Ansible**.

- **Playbook path:** We have to provide the **Absolute** or **Relative** path of our Ansible-playbook file.
- **Inventory:** It gives 3 options to configure our host file.

Do not specify Inventory: We have to give our host list in the subdomain option.

File or host list: add a path of our HOST file.

Inline content: It means we are set our host list on the starting of our ansible-playbook file.

- **Host subset:** If we want to filter a specific set of the host from the provided Host file.
- **Credentials:** Configure added host's username and password.
- **Vault Credentials:** IF you are using ansible vault then configure that credentials.
- **become:** If you want to set a specific user for ansible-playbook execution select and add the name of that user.
- **sudo:** If you need to use a sudo user(root) then select this and add the name of that user.

In advance View.



The screenshot shows the configuration for an Ansible build step in Jenkins. It includes several input fields and checkboxes:

- Tags to run:** An empty text input field.
- Tags to skip:** An empty text input field.
- Task to start at:** An empty text input field.
- Number of parallel processes:** A text input field containing the value "5".
- Disable the host SSH key check:** A checked checkbox.
- Unbuffered stdout:** A checked checkbox.
- Colorized stdout:** A checked checkbox.
- Extra Variables:** A section with an "Add Extra Variable" button.
- Additional parameters:** An empty text input field.

At the bottom left, there is a button labeled "Add build step" with a dropdown arrow.

- **Tags to run:** If you are using tag base script then Jenkins will run only specified tag.
- **Tags to skip:** If you are using tag base script then Jenkins will skip the specified tag.
- **Task to start at:** If you are using tag base script then Jenkins will start execution with the specified task.
- **Number of parallel processes:** Specified number of tasks that can run parallel.
- **Disable the host SSH key check:** Disable the validation of the host's SSH server keys.
- **Unbuffered stdout:** Skip standard output buffering for the ansible process. The ansible output is directly rendered into the Jenkins console. This option can be useful for long-running operations.
- **Colorized stdout:** Check this box to allow ansible to render ANSI color codes in the Jenkins console.
- **Extra Variables:** Want to add some variable for ansible-playbook execution.
- **Additional parameters:** Any additional parameters to pass to the ansible command.