

Ansible Tower on Azure: Post Deployment Guide

Overview

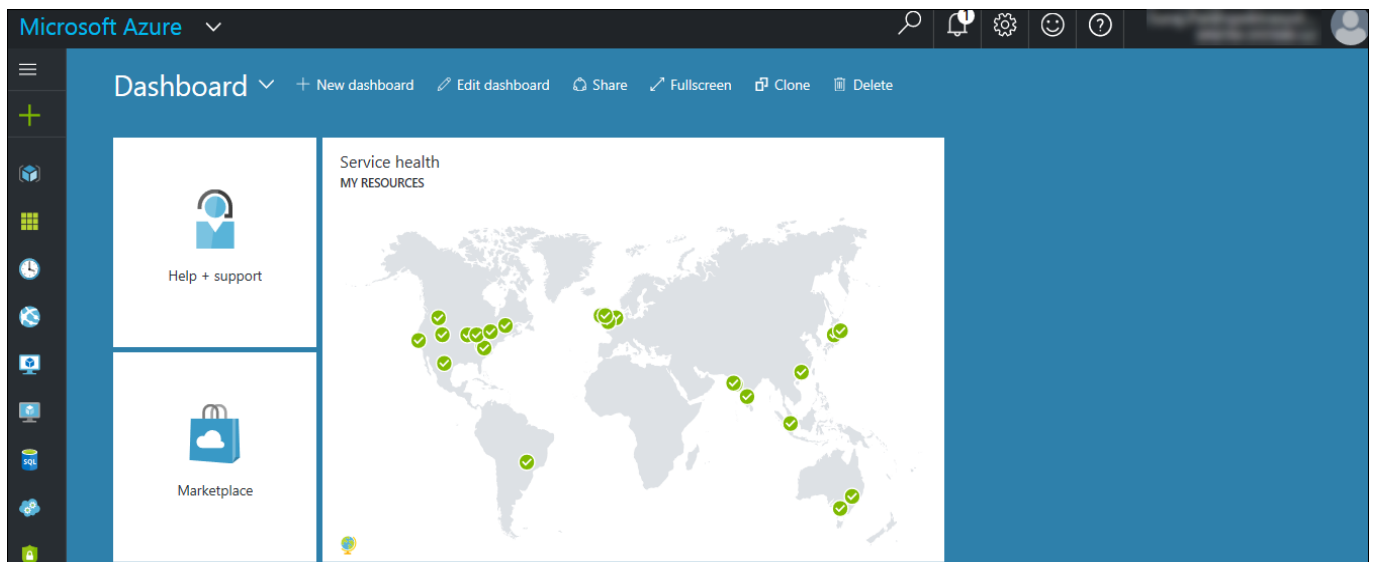
This document will help you in configuring the Ansible Tower to add host VM's and get an introduction to Ansible Tower and Configuration Management.

Prerequisites

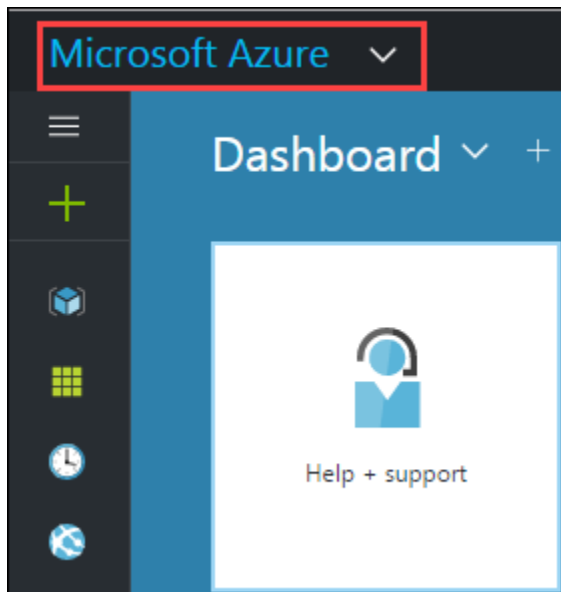
- Microsoft Azure Subscription with admin credentials.
- Azure Quick-start template **Ansible-Tower-RHEL-solution** needs to be deployed successfully in the subscription.

Instructions

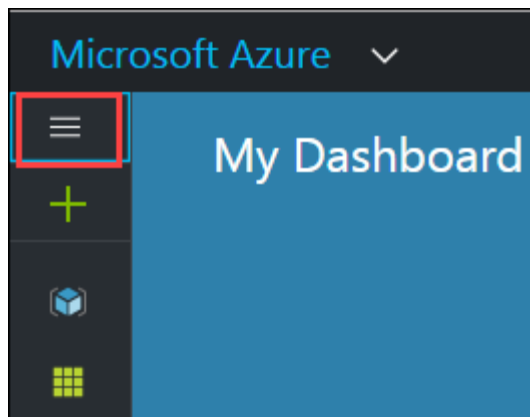
1. **Launch** a browser and **Navigate** to <https://portal.azure.com>. **Login** with your Microsoft Azure credentials.



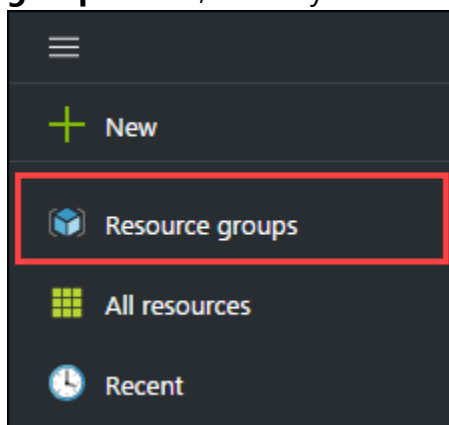
2. **Click** on **Microsoft Azure** at the top left corner of the screen, to view the Dashboard.



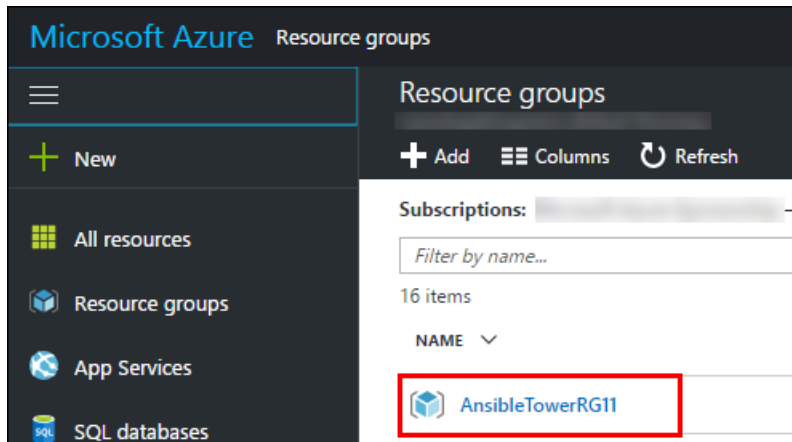
3. To toggle **show/hide** the Portal menu options with icon, **Click** on the **Show Menu** button.



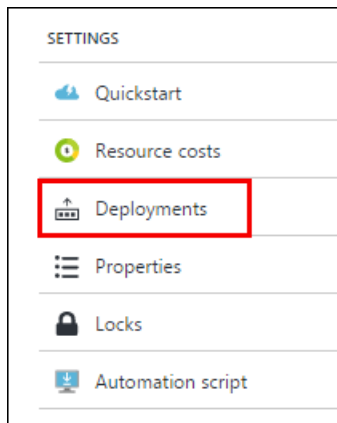
4. **Click** on the **Resource groups** button in the **Menu navigation** bar to view the **Resource groups** blade, where you can view all the resource groups that you have created.



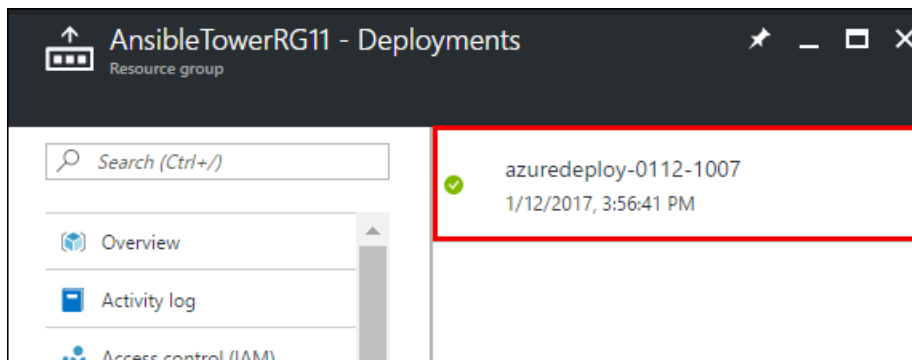
5. **Select** the Resource Group in which you deployed the quick start template.



6. From **Settings**, select **Deployments**.



7. Select the latest **deployment** available on this resource group.



8. In the **Deployment** blade, scroll down to the **Outputs** section. You will see the **Public IP** address and **DNS** Names of **Ansible Tower** and **Client** Virtual Machines.

azuredeploy-0112-1007

Deployment

Delete

Cancel

Refresh









Redeploy

View template









Summary

DEPLOYMENT DATE	1/12/2017, 3:56:41 PM
STATUS	Succeeded
DURATION	19 minutes 17 seconds
RESOURCE GROUP	AnsibleTowerRG11
RELATED	Events

Outputs

ANSIBLETOWERIP	52.174.178.149	
ANSIBLETOWERFQDN	tower1dpagu2nusuwk.westeurope.cloudapp.azure.com	
CLIENT01IP	40.68.251.83	
CLIENT01PRIVATEIP	10.0.1.21	
CLIENT01FQDN	client01dpagu2nusuwk.westeurope.cloudapp.azure.com	
CLIENT02IP	13.95.9.171	
CLIENT02PRIVATEIP	10.0.1.22	
CLIENT02FQDN	client02dpagu2nusuwk.westeurope.cloudapp.azure.com	

- Click the **Copy** icon to copy all the Public IP address. **Create** a new text document in Notepad and **paste** both **IP addresses** to it as **Ansible Tower Public Ip**, **Client01 Public IP** and **Client02 Public IP**.

Outputs		
ANSIBLETOWERIP	52.174.178.149	
ANSIBLETOWERFQDN	tower1dpagu2nusuwk.westeurope.cloudapp.azure.com	
CLIENT01IP	40.68.251.83	
CLIENT01PRIVATEIP	10.0.1.21	
CLIENT01FQDN	client01dpagu2nusuwk.westeurope.cloudapp.azure.com	
CLIENT02IP	13.95.9.171	
CLIENT02PRIVATEIP	10.0.1.22	
CLIENT02FQDN	client02dpagu2nusuwk.westeurope.cloudapp.azure.com	

```

ANSIBLETOWER IP
52.174.178.149

CLIENT 01 IP
40.68.251.83

CLIENT 01 PRIVATE IP
10.0.1.21

CLIENT 02 IP
13.95.9.171

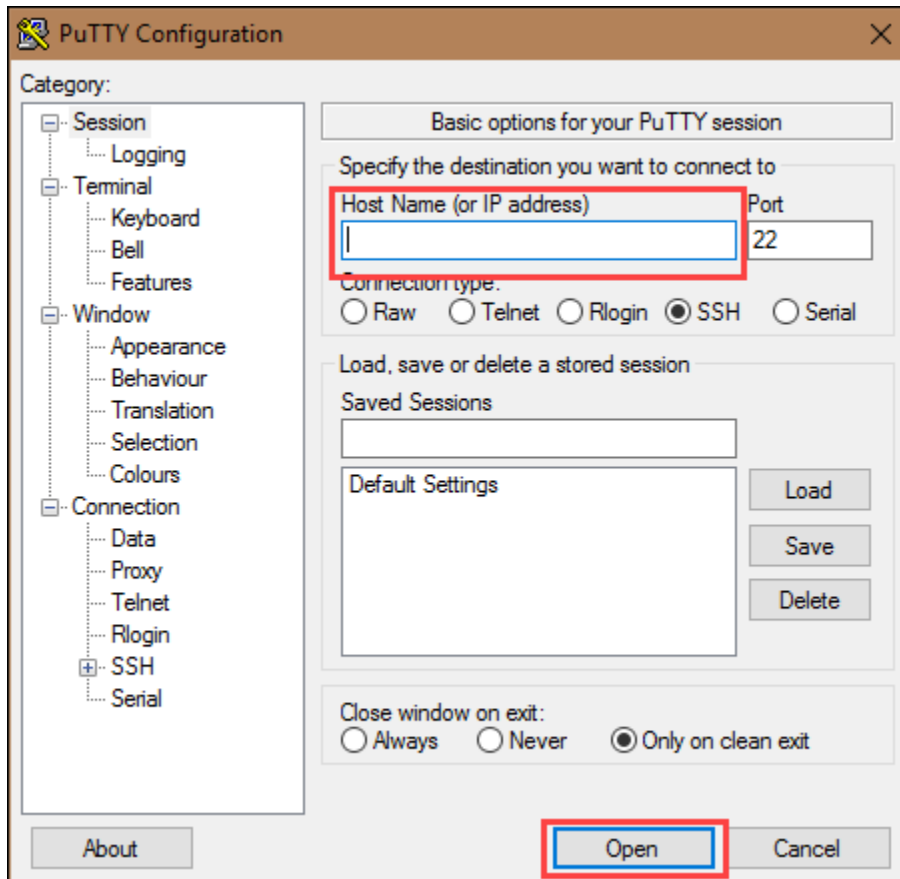
CLIENT 02 PRIVATE IP
10.0.1.22

```

10. Now you will connect to the **Ansible Tower VM**. If you are using a Windows machine, you would need an **SSH client** for connecting to an Linux Virtual Machine. **Putty** is the most used SSH client for windows.
11. **Download** Putty from here.
<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
12. Now run **putty.exe** from you PC.

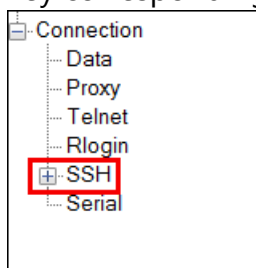


13. This is the application window that pops up when you run **putty.exe**.

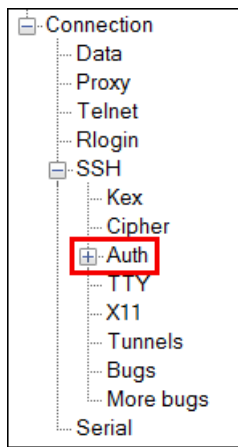


14. **Enter** the **Public IP address** of the Ansible Tower VM to the **Host Name (or IP address)** box of the putty to connect.

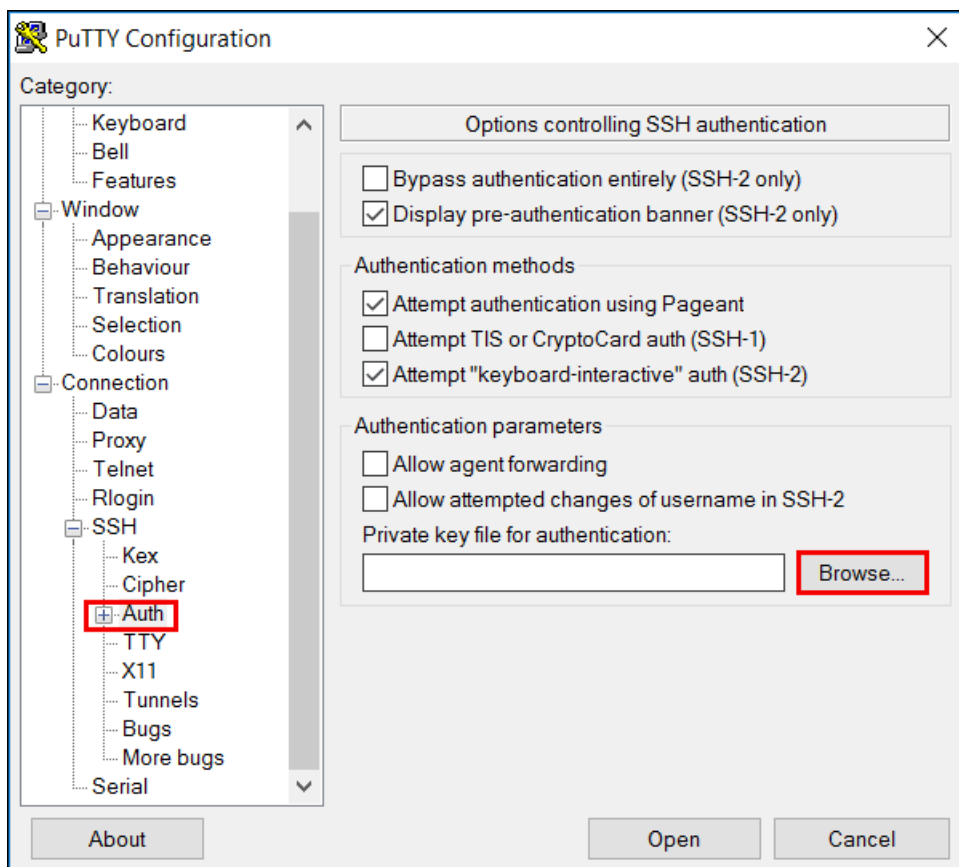
15. Now click on **+ SSH** from the Category menu on the left side of the putty to select the private key corresponding to the public key that was mentioned during the Quick Start launch.



16. Then click on **+ Auth**



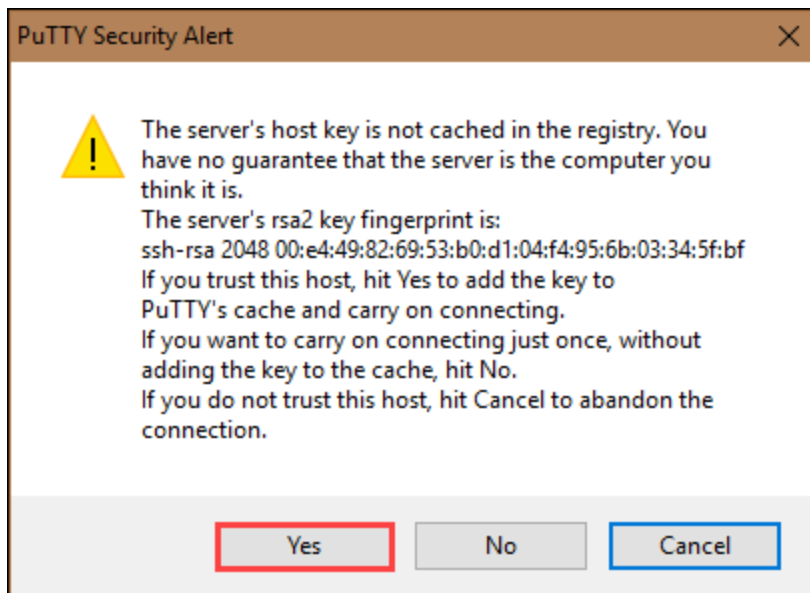
17. Now click on browse and select the private key file with ".ppk" extension.



18. Then **Click** on **Open**.

19. Now a new terminal will pop and you will be connected to your Ansible Tower virtual machine.

20. The **PuTTY Security Alert** will pop up. **Click** on **Yes**.



21. **Login** using your **username** for the **Ansible Tower VM**.
22. After entering the username, you provided during Quick Start Launch, you can start accessing the **Ansible Tower** Virtual Machine.

```
demouser@tower:~  
login as: demouser  
Authenticating with public key "imported-openssh-key"  
Last login: [REDACTED]  
[demouser@tower ~]$
```

23. Now **sudo** to **root** account by executing the following command

```
sudo su -
```

```
root@tower:~  
[demouser@tower ~]$ sudo su -  
Last login: Tue [REDACTED] UTC 2017 on pts/0  
[root@tower ~]#
```

24. Now, **execute** the following **command** to display the private key generated in the Ansible Tower VM.

```
cat .ssh/id_rsa
```

```
[root@tower ~]# cat .ssh/id_rsa  
-----BEGIN RSA PRIVATE KEY-----
```


25. Now **copy** the **private key** by selecting the text from "-----BEGIN RSA PRIVATE KEY-----" and "-----END RSA PRIVATE KEY-----" and then pressing **CTRL + C** on keyboard and then **paste** the private key on **to a notepad**.
26. **Open** a new tab in the browser and paste the **Ansible Tower Public IP** from the notepad.

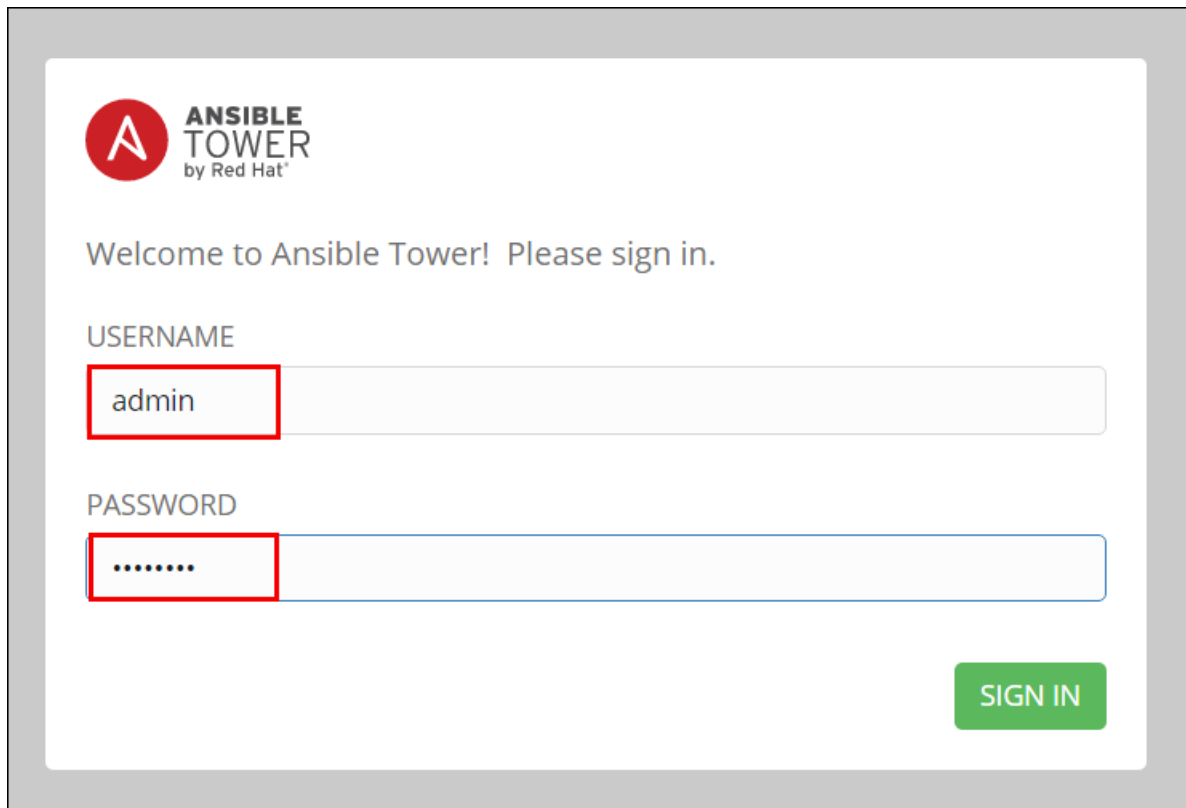


You'll see a warning in your web browser. This is because the deployment uses a self-signed certificate. To proceed, ignore the SSL Warning

27. Now you will be directed to the Ansible Tower Login page.



28. For the user name, type **admin**, and then **provide** the **admin password** you provided when you launched the Azure Quickstart template and then **Click** on **SIGN IN**.



The image shows the Ansible Tower login interface. At the top left is the Ansible Tower logo, which consists of a red circle with a white 'A' inside, followed by the text 'ANSIBLE TOWER by Red Hat'. Below the logo, the text 'Welcome to Ansible Tower! Please sign in.' is displayed. There are two input fields: 'USERNAME' and 'PASSWORD'. The 'USERNAME' field contains the text 'admin' and is highlighted with a red rectangular border. The 'PASSWORD' field contains seven dots and is also highlighted with a red rectangular border. To the right of the input fields is a green button with the text 'SIGN IN' in white capital letters.

29. Now you will be redirected to the license page.

TOWER LICENSE

Welcome to Ansible Tower! Please complete the steps below to acquire a license.

- 1 Please click the button below to visit Ansible's website to get a Tower license key.

REQUEST LICENSE

- 2 Choose your license file, agree to the End User License Agreement, and click submit.

* LICENSE FILE

BROWSE

No file selected.

* END USER LICENSE AGREEMENT

ANSIBLE TOWER BY RED HAT END USER LICENSE AGREEMENT

This end user license agreement ("EULA") governs the use of the Ansible Tower software and any related updates, upgrades, versions, appearance, structure and organization (the "Ansible Tower Software"), regardless of the delivery mechanism.

1. License Grant. Subject to the terms of this EULA, Red Hat, Inc. and its affiliates ("Red Hat") grant to you ("You") a non-

☐ I agree to the End User License Agreement

SUBMIT

30. If you already have a license file, **click** Browse and **select** the license file. Else, **click** on **REQUEST License** and get a license and **upload** the license file.

31. After uploading the license file, **accept** the License Agreement and then **click** on **SUBMIT**.

TOWER LICENSE

Welcome to Ansible Tower! Please complete the steps below to acquire a license.

- 1 Please click the button below to visit Ansible's website to get a Tower license key.

REQUEST LICENSE

- 2 Choose your license file, agree to the End User License Agreement, and click submit.

*** LICENSE FILE**

BROWSE license_35c923eb53924e37b3a7a5cf97ca86ad.txt

*** END USER LICENSE AGREEMENT**

ANSIBLE TOWER BY RED HAT END USER LICENSE AGREEMENT

This end user license agreement ("EULA") governs the use of the Ansible Tower software and any related updates, upgrades, versions, appearance, structure and organization (the "Ansible Tower Software"), regardless of the delivery mechanism.

1. License Grant. Subject to the terms of this EULA, Red Hat, Inc. and its affiliates ("Red Hat") grant to you ("You") a non-

☒ I agree to the End User License Agreement

SUBMIT

32. Now you will be directed to the Ansible Tower Dashboad.

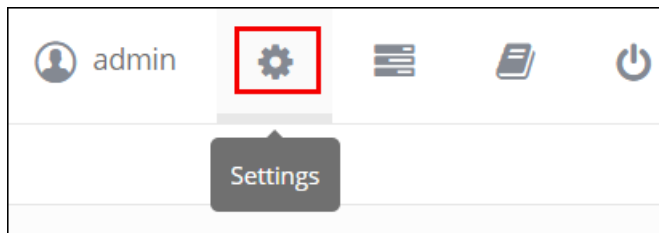
TOWER PROJECTS INVENTORIES JOB TEMPLATES JOBS admin

DASHBOARD

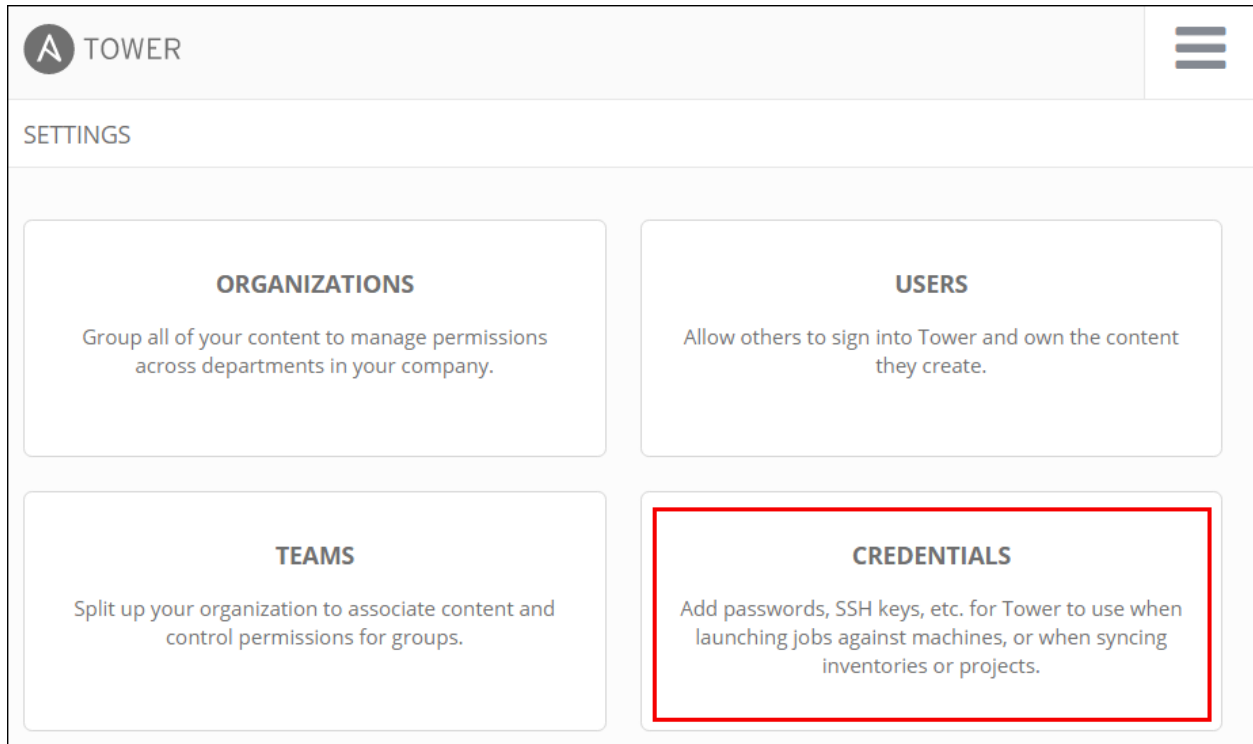
1 HOSTS	0 FAILED HOSTS	1 INVENTORIES	0 INVENTORY SYNC FAILURES	1 PROJECTS	0 PROJECT SYNC FAILURES
------------	-------------------	------------------	------------------------------	---------------	----------------------------

JOB STATUS PERIOD **PAST MONTH** JOB TYPE **ALL** VIEW **ALL**

33. On the Ansible Tower dashboard, **choose** the **Settings** button in the upper-right corner to open the Settings screen.



34. Now choose **Credentials**, and then choose the **+Add** button to create a new credential.



35. **Enter** the **credential details** as shown:

- Provide a **Name** and **Description**.
- Leave **User** selected as the owner type.
- Choose **Machine** as the type.

- **Username:** Provide the Client VM's username here
 - **Password:** Provide the Client VM's password here
 - **Privilege Escalation:** Select Sudo from the list
 - **Privilege Escalation Username:** Provide root
 - **Privilege Escalation Password:** Provide the Client VM's password here
 - **Private Key:** Paste the private key that was copied earlier in the field
- Then Choose **Save**.

CREATE CREDENTIAL

DETAILS

PERMISSIONS

* NAME

ClientVM

DESCRIPTION

Client VM Credentials

ORGANIZATION ?

* TYPE ?

Machine

TYPE DETAILS

USERNAME

demouser

PASSWORD

SHOW

.....

PRIVATE KEY PASSPHRASE

SHOW

☐ Ask at runtime?

☐ Ask at runtime?

PRIVILEGE ESCALATION ?

Sudo

PRIVILEGE ESCALATION USERNAME

root

PRIVILEGE ESCALATION PASSWORD

SHOW

.....

☐ Ask at runtime?

VAULT PASSWORD

SHOW

☐ Ask at runtime?

PRIVATE KEY ?

TyEuVhLL1i3QkB0b1RVoT+zK5aVqGc1nrYXLv7XptpIGA6Mbv/iSxR0oAR5sVf37
 3N+uLnvvQP16ops8PXVnMe+kZDqg0zuuian6fkt4wgeEkvZSyLDDenXhg/69nrVu
 fxIc3x10WexIpq2hTSBxJBz3SHnPVx0pAoIBADsPL9CTJc2jYWg9PyZYvj4qtT34
 YC1rkPb1bFPJoGUBA1Z6Z4P5+CHxAbRnxGoGx6sZq9X/5Rfb2fzCPTVHbMphu4mb
 WCQaCERjgJ0WTO1QvAo0BY/6nBGMxGmRchOY1TgIfovp8gtbZtGS5yA/6JAR9FCs
 76fBdEgetHfVv1MzE6GMGrS7HnCOGNcvf8Nlh8ad6jkQ4AZiVfLwTBDZp0Wqaom
 ygJbr1ISVrA0d87GLg9cKPrAjsFsI6rGpMNvyFBqpyL80U0uNtTtbED3DaS1ksFh

36. Select **INVENTORIES** in the Ansible Tower dashboard.

A TOWER

PROJECTS

INVENTORIES

JOB TEMPLATES

JOBS

SETTINGS / CREDENTIALS / CLIENTVM

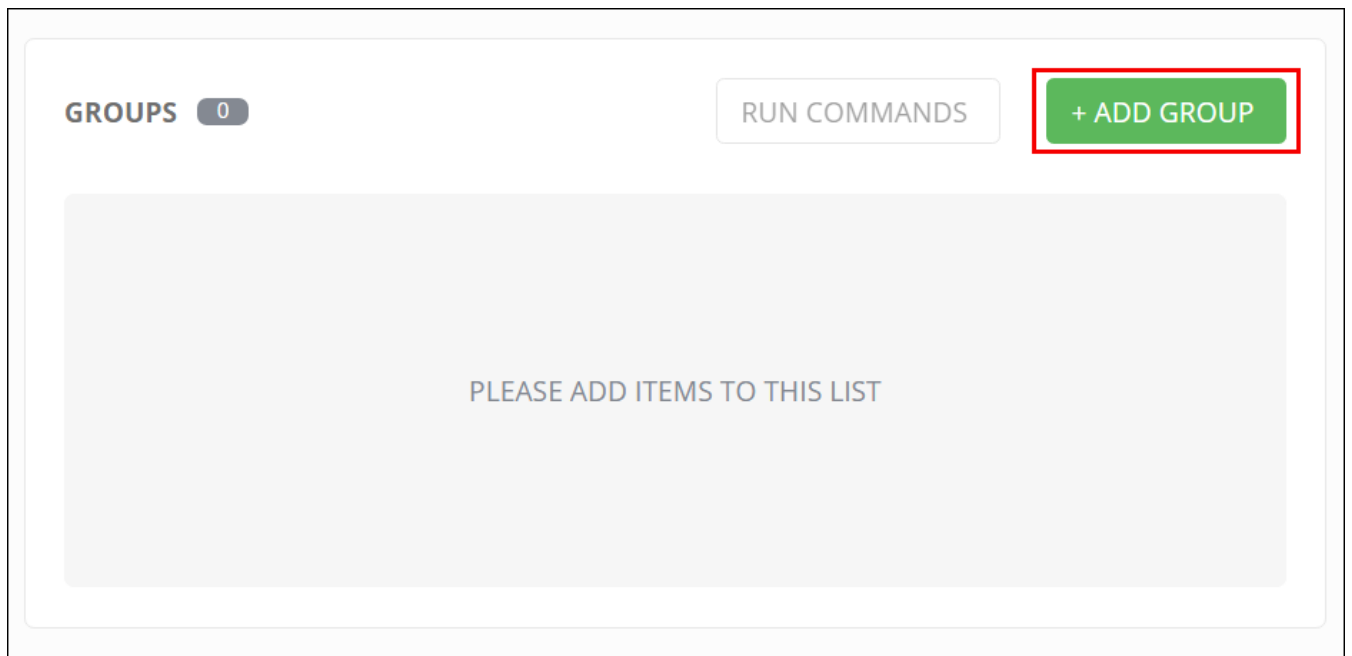
37. **Create** a new **inventory** by clicking the **+ ADD** button, which opens the **Create Inventory** window.



38. **Provide a name** and **description** for the default organization. Leave the Variables section unchanged, and choose **Save** to create an inventory.

The screenshot shows the 'NEW INVENTORY' form with a close button in the top right. There are two tabs: 'DETAILS' (active) and 'PERMISSIONS'. Under 'DETAILS', there are two input fields: '* NAME' with the value 'Azure Inventory' and 'DESCRIPTION' with the value 'Azure VM Inventory'. Below these is the '* ORGANIZATION' dropdown menu, which is set to 'Default'. At the bottom, there is a 'VARIABLES' section with a help icon, a radio button selected for 'YAML', and an unselected radio button for 'JSON'. Below the variables section is a large text area for editing variables. At the bottom right of the form, there are two buttons: 'CANCEL' and 'SAVE'. The 'SAVE' button is highlighted with a red rectangular box.

39. **Create** a new **group** for an inventory by clicking the **+ ADD GROUP** button, which opens the **Create Group** window.

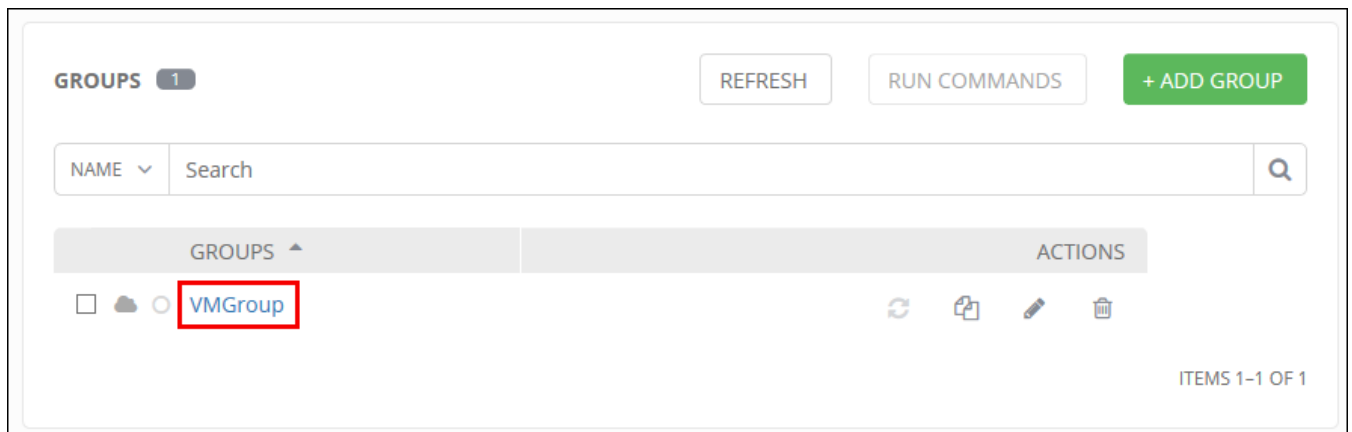


40. **Enter** the **following details** into the required and optional fields, and click **Save**.

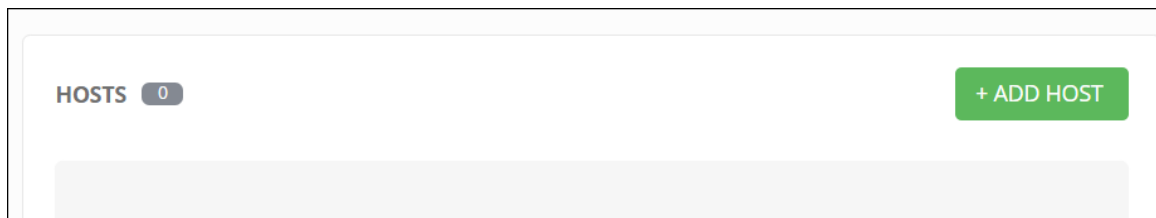
- **Name:** VMGroup
- **Description:** Enter an arbitrary description as appropriate
- **Source:** Choose Manual

A screenshot of a 'CREATE GROUP' modal window. It has a close button (X) in the top right corner. Below the title, there are two tabs: 'DETAILS' (active) and 'NOTIFICATIONS'. The form contains three input fields: '* NAME' with the value 'VMGroup', 'DESCRIPTION' with the value 'Vm-group', and 'SOURCE' with a dropdown menu showing 'Manual'. Below these fields, there are radio buttons for 'VARIABLES', 'YAML' (selected), and 'JSON'. A large text area for YAML/JSON content is below the radio buttons, showing a line number '1' and some blue dashed lines. At the bottom right of the modal, there are two buttons: 'CANCEL' and 'SAVE'. The 'SAVE' button is highlighted with a red rectangular border.

41. To add Hosts to an existing group, **select** the existing group **VMGroup** from the inventory by **clicking** on **VM Group**.



42. To add Hosts, **click** the button **+ ADD HOST**



43. In the **Add Hosts** window, **provide** the copied **Private IP** of **client01** virtual machine as Host name and a **description** for the Host, as shown. Leave the Variables section unchanged, and then choose **Save**.

CREATE HOST ON

* HOST NAME ?
10.0.1.21

DESCRIPTION
Client 01

VARIABLES ? ☒ YAML ☐ JSON

1 ---

CANCEL

SAVE

44. Similarly, **add** the **Private IP** of **Client 02** as host.

45. Now, in the **HOSTS** section of the inventory, you can see the added hosts.

HOSTS 2

+ ADD HOST

NAME ▾

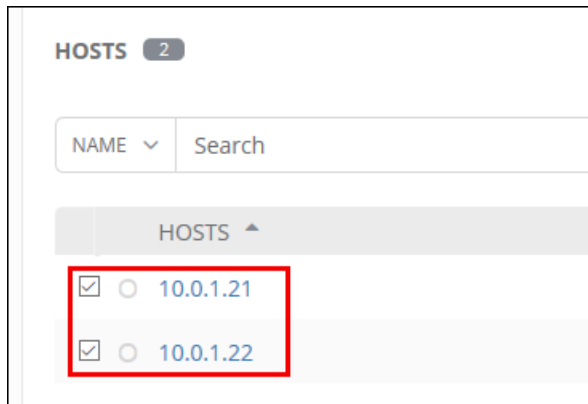
SEARCH

Q

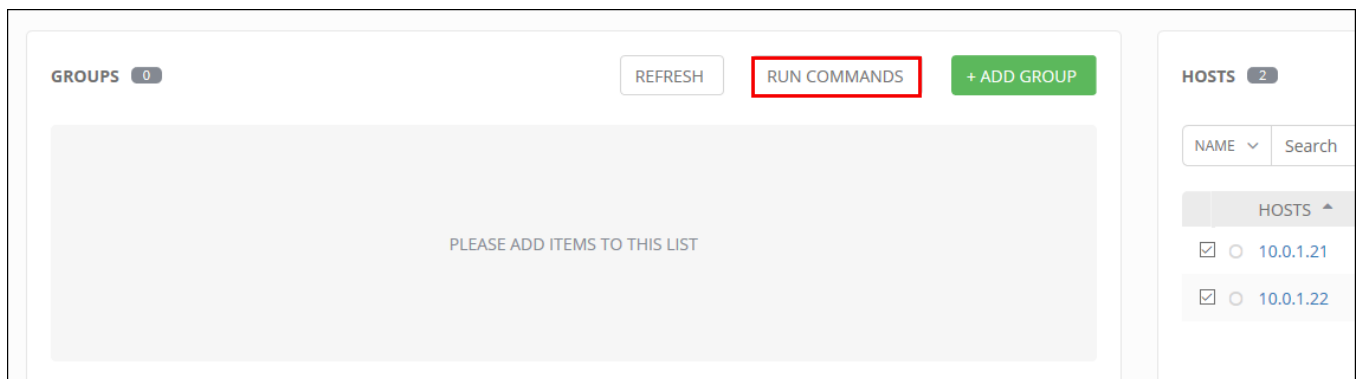
HOSTS ▴		ACTIONS		
<input type="checkbox"/>	10.0.1.21			
<input type="checkbox"/>	10.0.1.22			

ITEMS 1-2 OF 2

46. To verify that SSH connection can be established between the hosts, **select** both hosts.



47. Select **Run Commands** from the Group Section.



48. **Enter** the **following details** into the Execute Command Section, and click **Launch**.

- **Module:** command
- **Arguments:** hostname
This command prints the host name

- **Machine Credential:** ClientVM

EXECUTE COMMAND

* MODULE ?

command

▼

ARGUMENTS ?

hostname

LIMIT ?

10.0.1.21:10.0.1.22

* MACHINE CREDENTIAL ?

ClientVM

☐

ENABLE PRIVILEGE ESCALATION ?

* VERBOSITY ?

0 (Normal)

▼

FORKS ?

0

▲▼

RESET

LAUNCH

49. Now you will be redirected to the Results page and you can verify that the commands were properly executed by checking the **STANDARD OUT** section for hostnames of client VM's

RESULTS

NAME

command

STATUS

● Successful

STARTED

1/18/2017 6:44:13 PM

FINISHED

1/18/2017 6:44:16 PM

ELAPSED

3.196 seconds

MODULE ARGS

hostname

INVENTORY

Azure Inventory

CREDENTIAL

ClientVM

LAUNCHED BY

admin

STANDARD OUT

```

Identity added: /tmp/ansible_tower_sEjq
SSH password:
SUDO password[defaults to SSH password]
10.0.1.22 | SUCCESS | rc=0 >>
vm-client02
10.0.1.21 | SUCCESS | rc=0 >>
vm-client01

```

Installing Wordpress on Client VM's (Optional)

50. **Connect** to **Ansible Tower VM** using **Putty** or terminal as done earlier.
51. **Login** using the **username** you provided for the **Ansible Tower VM**.
52. After entering the username, you provided during Quick Start Launch, you can start accessing the **Ansible Tower** Virtual Machine.

```
demouser@tower:~  
login as: demouser  
Authenticating with public key "imported-openssh-key"  
Last login: [REDACTED]  
[demouser@tower ~]$
```

53. Now sudo to root account by executing the following command

```
sudo su -
```

```
root@tower:~  
[demouser@tower ~]$ sudo su -  
Last login: Tue [REDACTED] UTC 2017 on pts/0  
[root@tower ~]#
```

54. Now, **execute** the following **command** to change the directory to Ansible project directory.

```
cd /var/lib/awx/projects
```

```
root@tower:/var/lib/awx/projects  
[root@tower ~]# cd /var/lib/awx/projects  
[root@tower projects]#
```

55. Now **execute** the following **commands** to clone the Ansible Official Samples Repository and change the permissions of the folder.

```
git clone https://github.com/ansible/ansible-examples  
chmod 777 ansible-examples/*
```

```
root@tower:~/projects  
[root@tower projects]# git clone https://github.com/ansible/ansible-examples  
Cloning into 'ansible-examples'...  
remote: Counting objects: 3165, done.  
remote: Total 3165 (delta 1), reused 1 (delta 1), pack-reused 3163  
Receiving objects: 100% (3165/3165), 16.25 MiB | 3.23 MiB/s, done.  
Resolving deltas: 100% (1092/1092), done.  
[root@tower projects]# chmod 777 ansible-examples/*  
[root@tower projects]#
```

56. Now, **execute** the following **command** to edit the Inventory file of wordpress-nginx_rhel7 project by opening it in VI Text Editor.

```
vi ansible-examples/wordpress-nginx_rhel7/site.yml
```

```
root@tower:/var/lib/awx/projects
[root@tower projects]# vi ansible-examples/wordpress-nginx rhel7/site.yml
```

```
root@tower:/var/lib/awx/projects
--
- name: Install WordPress, MariaDB, Nginx, and PHP-FPM
  hosts: wordpress-server
  remote_user: root
  # remote_user: user
  # sudo: yes

  roles:
    - common
    - mariadb
    - nginx
    - php-fpm
    - wordpress
~
```

57. Now press **Insert** key and **replace** root corresponding to remote_user with the username of the Client VM's user and replace '**wordpress-server**' with '**all**' and then press **ESC** and then type '**:wq!**'

```
root@tower:/var/lib/awx/projects
---
- name: Install WordPress, MariaDB, Nginx, and PHP-FPM
  hosts: all
  remote_user: demouser
  # remote_user: user
  # sudo: yes

  roles:
    - common
    - mariadb
    - nginx
    - php-fpm
    - wordpress
~
```

58. **Open** a new tab in the browser and paste the **Ansible Tower Public IP** from the notepad.

59. Now you will be directed to the Ansible Tower Login page.



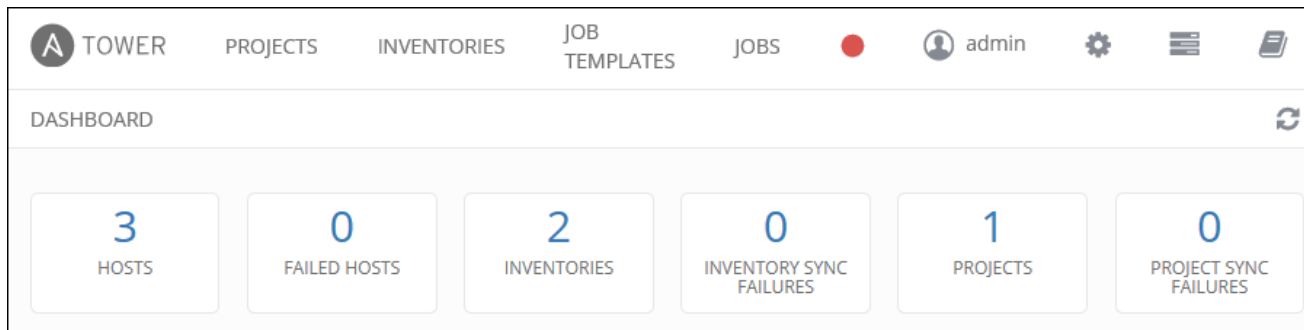
A screenshot of a web browser window showing the Ansible Tower login page. The browser's address bar displays a "Not Secure" warning and the URL <https://52.174.178.149/#/login>. The page features the Ansible Tower logo (a red circle with a white 'A') and the text "ANSIBLE TOWER by Red Hat". Below the logo, it says "Welcome to Ansible Tower! Please sign in." There are two input fields: "USERNAME" and "PASSWORD". A green "SIGN IN" button is located at the bottom right of the form.

60. For the user name, type **admin**, and then **provide** the **admin password** you provided when you launched the Azure Quickstart template and then **Click** on **SIGN IN**.

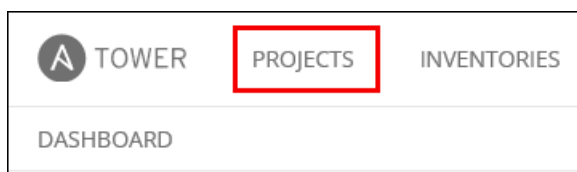


A screenshot of the same Ansible Tower login page, but with the "admin" username entered in the "USERNAME" field and masked characters (dots) in the "PASSWORD" field. Both input fields are highlighted with red rectangular boxes. The "SIGN IN" button remains at the bottom right.

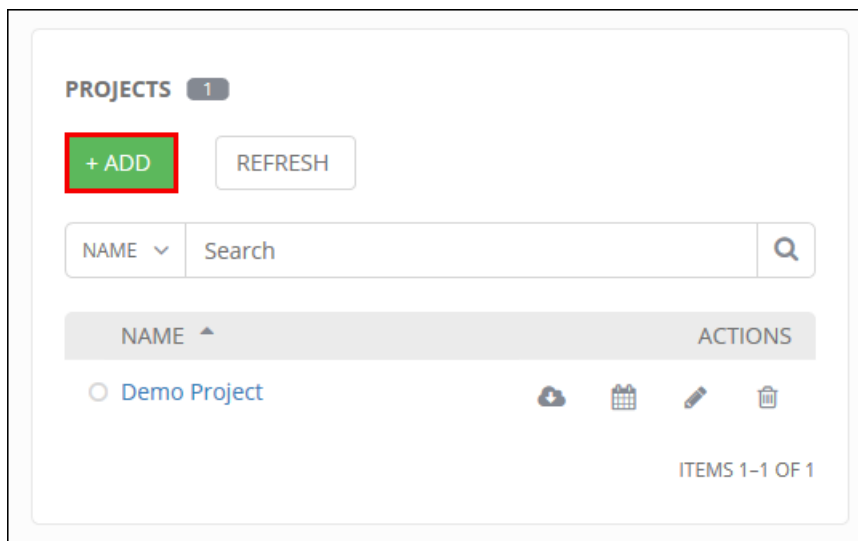
61. Now you will be directed to the Ansible Tower Dashboard.



62. Select **PROJECTS** from the dashboard menu.



63. **Create** a new project by clicking the **+ ADD** button, which opens the **NEW PROJECT** window.



64. A **Enter** the **following details** into the NEW PROJECT Section, and click **Launch**.

- **NAME:** Project1
- **DESCRIPTION:** Install Wordpress
- **SCM TYPE:** Select **Manual**
- **PLAYBOOK DIRECTORY:** Select **ansible-examples**

And then **Click Save**.

NEW PROJECT

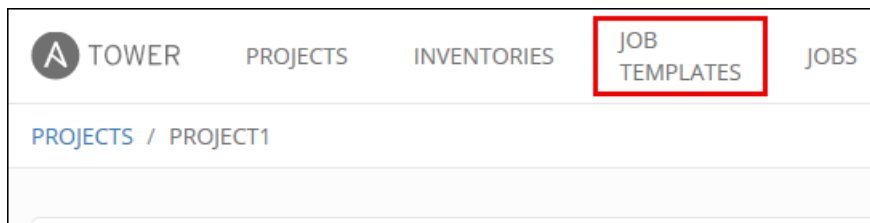
DETAILS PERMISSIONS NOTIFICATIONS

* NAME: Project1 DESCRIPTION: Install Wordpress * ORGANIZATION: Default

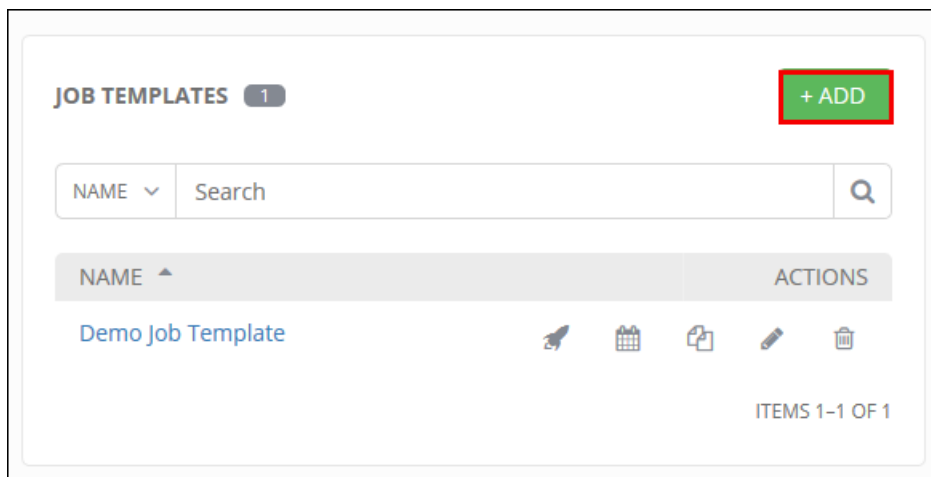
* SCM TYPE: Manual PROJECT BASE PATH: /var/lib/awx/projects * PLAYBOOK DIRECTORY: ansible-examples

CANCEL SAVE

65. Select **JOB TEMPLATES** from the dashboard menu.



66. **Create** a new job template by clicking the **+ ADD** button, which opens the **CREATE JOB TEMPLATE** window.



67. **Enter** the **following details** into the Create Job Template Section, and click **Save**.

- **NAME:** InstallWordpress
- **JOB TYPE:** Run
- **INVENTORY:** Azure Inventory
- **PROJECT:** Project1
- **PLAYBOOK:** Select wordpress-nginx_rhel7/site.yml

- **MACHINE CREDENTIAL:** ClientVM
- Under Options, select **Enable Privilege Escalation**

And then **Click Save**.

JOB TEMPLATES / INSTALLWORDPRESS

INSTALLWORDPRESS

DETAILS COMPLETED JOBS PERMISSIONS NOTIFICATIONS

*NAME: **InstallWordpress** DESCRIPTION: *JOB TYPE: **Run** ☐ Prompt on launch

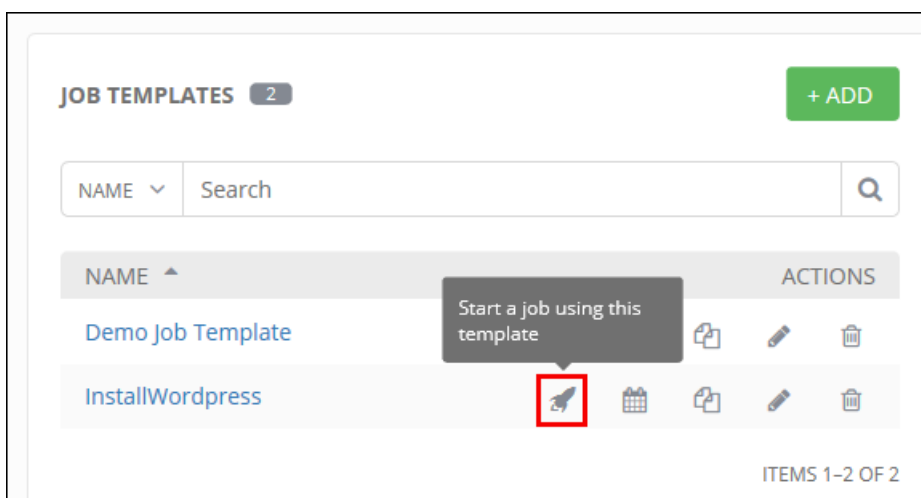
*INVENTORY: **Azure Inventory** *PROJECT: **Project1** *PLAYBOOK: **wordpress-nginx_rhel7/site.yml** ☐ Prompt on launch

*MACHINE CREDENTIAL: **ClientVM** CLOUD CREDENTIAL: NETWORK CREDENTIAL: ☐ Prompt on launch

FORKS: **0** LIMIT: *VERBOSITY: **0 (Normal)** ☐ Prompt on launch

JOB TAGS: SKIP TAGS: OPTIONS: ☒ **Enable Privilege Escalation** ☐ Allow Provisioning Callbacks

68. Now **start a job** by using the created Job template by **clicking** the launch icon. Now you will be directed to the Results Page and you can see the outputs in the Standard Out section.



69. Once the job is completed, you can **check** the **status** in Results Section.

JOBS / 4 - INSTALLWORDPRESS

RESULTS ▾

STATUS	● Successful	TEMPLATE	InstallWordpress
STARTED	20/1/2017 08:18:14	JOB TYPE	Run
FINISHED	20/1/2017 08:22:03	LAUNCHED BY	admin
ELAPSED	00:03:49	INVENTORY	Azure Inventory
PROJECT	Project1	PLAYBOOK	wordpress-nginx_rhel7/site.yml
MACHINE CREDENTIAL	ClientVM	VERBOSITY	Default
EXTRA VARIABLES			

STANDARD OUT

```

Identity added: /tmp/ansible_tow
SSH password:
SUDO password[defaults to SSH pa

PLAY [Install WordPress, MariaDB]

TASK [setup] *****
ok: [10.0.1.21]
ok: [10.0.1.22]

TASK [common : Copy the NGINX re
changed: [10.0.1.22]
changed: [10.0.1.21]

TASK [common : Copy the EPEL rep
changed: [10.0.1.21]
changed: [10.0.1.22]

```

70. Now to **verify** that **wordpress** is **installed** on both Client Virtual Machines and is accessible on port 80, open a new tab in browser and copy the public ip of client 01 vm and public ip of client 02 vm and hit enter key.
71. The Wordpress installation page will come up if successfully installed.

