



**ANSIBLE**  
**TOWER**  
by Red Hat®

## Contents

Introduction to Ansible Tower .....	3
About the Test Drive .....	3
Deployment Architecture .....	4
Getting Started.....	5
Lab 1: Getting Started with Ansible Tower.....	7
Access ansible tower .....	7
Request for trial license .....	7
Assign License .....	10
Tower Dashboard .....	10
Add Credentials .....	11
Add Projects .....	13
Add Inventory and Test Connectivity.....	15
Lab 2: Deploy Web Servers on Linux VM using Ansible Playbook .....	22
Deploy Nginx Web Server .....	22
Remove Nginx Web Server .....	25
Deploy Apache Web Server .....	28
Lab 3: Manage Windows VM using Ansible Playbook .....	31
Create a Local User Account in Windows VM .....	31
Install a Package .....	33
Deploy IIS Web Server .....	35

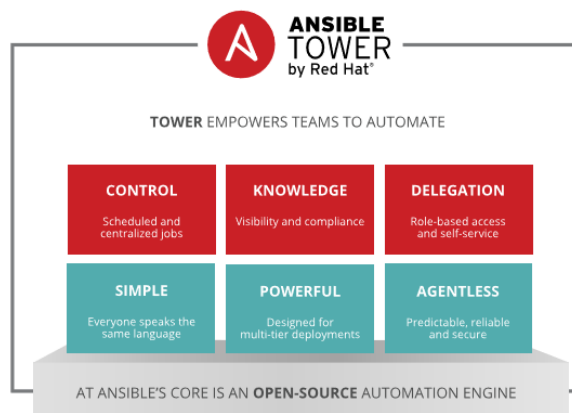
## Introduction to Ansible Tower

**Ansible** is a **simple automation language** that can perfectly describe an IT application infrastructure in Ansible Playbooks. It's an **automation engine** that runs Ansible Playbooks.

**Ansible Tower** by **Red Hat** helps you scale IT automation, manage complex deployments and speed productivity. Centralize and control your IT infrastructure with a visual dashboard, role-based access control, job scheduling and graphical inventory management.

**Ansible Tower** is an **enterprise framework** for controlling, securing and managing your Ansible automation – with a **UI and RESTful API**

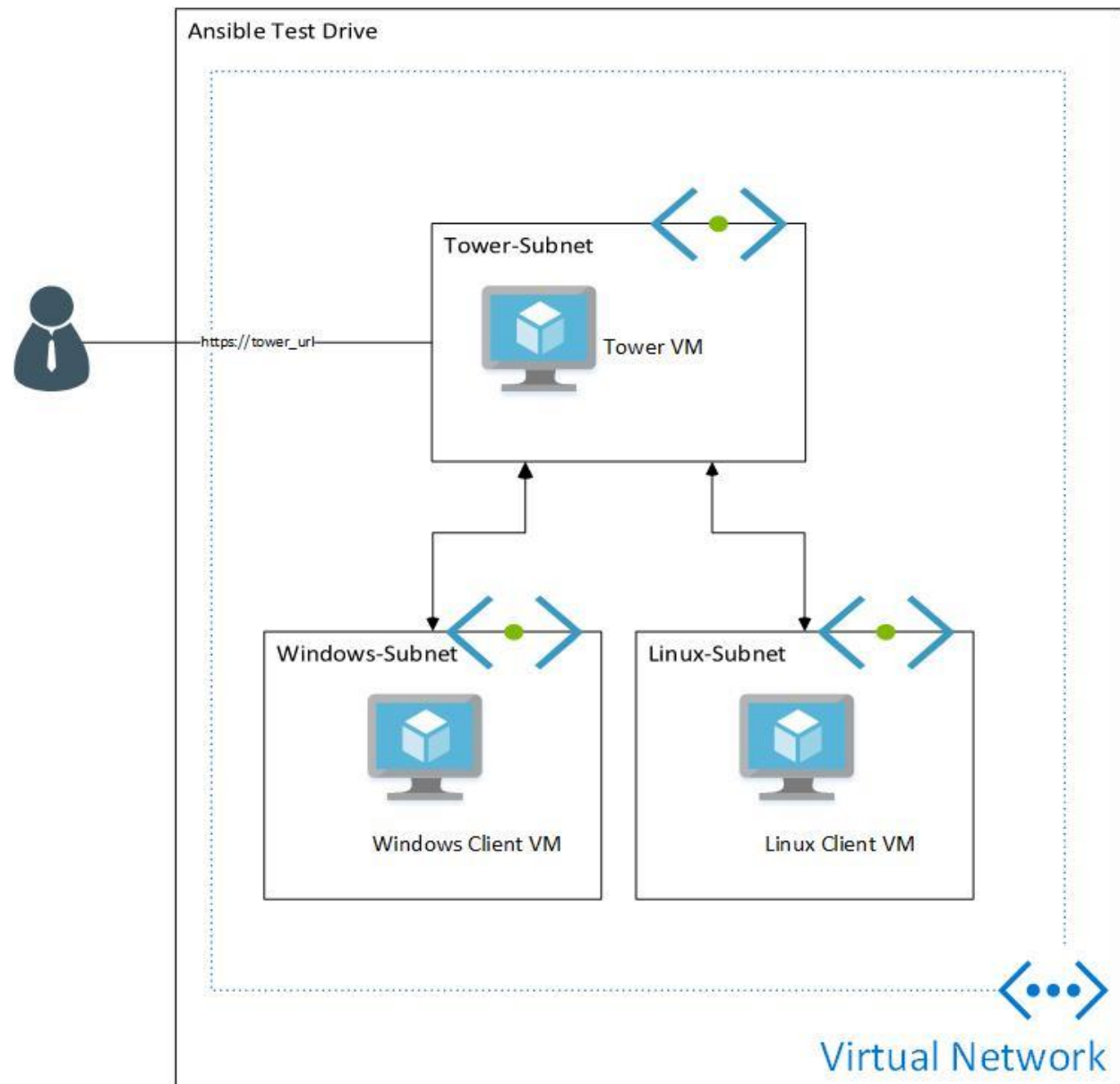
- **Role-based access control** keeps environments secure, and teams efficient
- Non-privileged users can **safely deploy** entire applications with **push-button deployment** access
- All Ansible automations are **centrally logged**, ensuring **complete auditability and compliance**



## About the Test Drive

This test drive will help you experience the capabilities of Ansible Tower. Ansible Tower comes with a feature rich Dashboard to provide users with a nice interface to work with server management. We will be managing Windows as well as a Linux Virtual Machines using Ansible Tower and deploy web servers in that. Are you ready to take the Driver seat and experience Red Hat Ansible test drive.....?

## Deployment Architecture



## Getting Started

When you visit the Microsoft Azure Test Drive page for Red Hat Ansible Tower you see a web page as seen below.



### Details

OpenShift is designed to provide one thing for Developers: Ease of Use without Worries. OpenShift's mission is to make your job easier by taking care of all the messy IT aspects of app development and allowing you to focus on your job: Coding your Application and satisfying your customers. This is a great way to learn about building, deploying, and managing containerized services and applications with RedHat OpenShift Container Platform on Microsoft Azure. You'll get an overview of how OpenShift can help provide a secure, flexible, and easy-to-manage application infrastructure.

[Red Hat OpenShift User guide](#)

**TEST DRIVE DURATION**  
4 hours

**ESTIMATED DEPLOYMENT DURATION**  
2 minutes to 25 minutes

[See details on Azure marketplace](#)

[Add this to your Azure account](#)

Once you click on **Start Free Test Drive**, the test drive starts deploying. It will take 2-30 minutes to successfully launch the test drive.



### Details

OpenShift is designed to provide one thing for Developers: Ease of Use without Worries. OpenShift's mission is to make your job easier by taking care of all the messy IT aspects of app development and allowing you to focus on your job: Coding your Application and satisfying your customers. This is a great way to learn about building, deploying, and managing containerized services and applications with RedHat OpenShift Container Platform on Microsoft Azure. You'll get an overview of how OpenShift can help provide a secure, flexible, and easy-to-manage application infrastructure.

[Red Hat OpenShift User guide](#)

**TEST DRIVE DURATION**  
4 hours

**ESTIMATED DEPLOYMENT DURATION**  
2 minutes to 25 minutes

[See details on Azure marketplace](#)


[Add this to your Azure account](#)

[Stop Test Drive](#)

After the test drive provisioning is complete, login credentials, and required details are provided in the access information as well as by email.

Microsoft Azure | Test Drive Preview UI
QA Sysgain qa@sysgain.com

My Test Drives > Red Hat OpenShift



# Red Hat OpenShift

by Sysgain

Active (4 hours left)

## Access information

Step 1: OpenShift Console URL:

- Console URL: <https://opnshmdnsdrmy6uq.southcentralus.cloudapp.azure.com:8443/console>

Step 2: OpenShift Console Credentials:

- Username : testdrive
- Password : password

Step 3: Explore [key use scenarios](#) or refer to the test drive documentation to try more complex scenarios.

## Details

OpenShift is designed to provide one thing for Developers: Ease of Use without Worries. OpenShift's mission is to make your job easier by taking care of all the messy IT aspects of app development and allowing you to focus on your job: Coding your Application and satisfying your customers. This is a great way to learn about building, deploying, and managing containerized services and applications with RedHat OpenShift Container Platform on Microsoft Azure. You'll get an overview of how OpenShift can help provide a secure, flexible, and easy-to-manage application infrastructure.

[Red Hat OpenShift User guide](#)

**TEST DRIVE DURATION**  
4 hours

**ESTIMATED DEPLOYMENT DURATION**  
2 minutes to 25 minutes

[See details on Azure marketplace](#)


[Add this to your Azure account](#)

[Stop Test Drive](#)

Once your test drive gets expired you see this following page.

Microsoft Azure | Test Drive Preview UI
QA Sysgain qa@sysgain.com

My Test Drives > Red Hat OpenShift



# Red Hat OpenShift

by Sysgain

Your test drive has ended. ⓘ

[Add this to your Azure account.](#) Or [sign up](#) for a free Azure account.

See the Azure marketplace for [more product details](#), including pricing and deployment information.

## Details

OpenShift is designed to provide one thing for Developers: Ease of Use without Worries. OpenShift's mission is to make your job easier by taking care of all the messy IT aspects of app development and allowing you to focus on your job: Coding your Application and satisfying your customers. This is a great way to learn about building, deploying, and managing containerized services and applications with RedHat OpenShift Container Platform on Microsoft Azure. You'll get an overview of how OpenShift can help provide a secure, flexible, and easy-to-manage application infrastructure.

[Red Hat OpenShift User guide](#)

**TEST DRIVE DURATION**  
4 hours

**ESTIMATED DEPLOYMENT DURATION**  
2 minutes to 25 minutes

[See details on Azure marketplace](#)

[Add this to your Azure account](#)

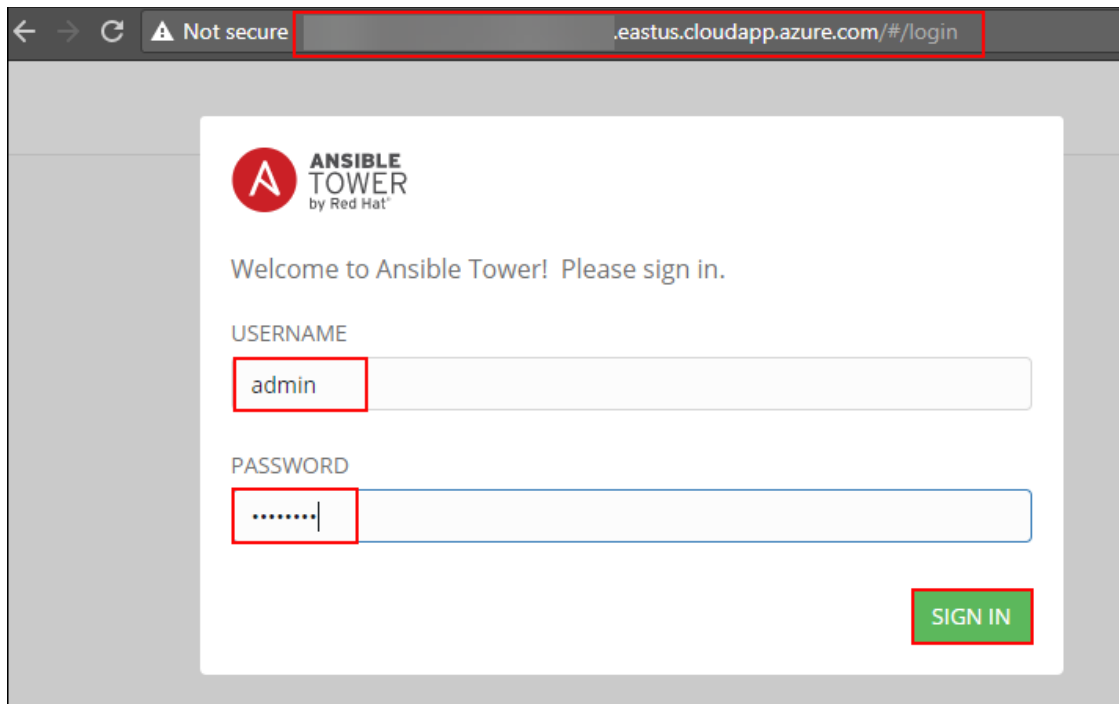
[Start New Free Test Drive](#)

## Lab 1: Getting Started with Ansible Tower

### Access ansible tower

During this lab, we are going to log in to Tower using the Ansible Tower DNS Name and other login details received via email or provided in the access information, browse to the Tower interface at: <http://<TowerDNSName>>

Log in using the Tower username and password details as provided. The default username set during installation is 'admin'. Password will be provided in the email.

A screenshot of a web browser window showing the Ansible Tower login page. The browser's address bar is highlighted with a red box and contains the URL 'eastus.cloudapp.azure.com/#/login'. The page itself has a light gray background. In the center, there is a white rectangular box containing 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' with the text 'admin' and 'PASSWORD' with masked characters '.....'. Both input fields are highlighted with red boxes. To the right of the password field is a green 'SIGN IN' button, also highlighted with a red box.

Once we sign in, we will be directed to the Tower License page.

### Request for trial license

During this lab, we will request for Ansible Tower Trial License. A license is required for Ansible Tower to run. If you already have a license, you can skip this exercise. Ansible Tower by Red Hat ("**Ansible Tower**") is a proprietary software product provided via an annual subscription entered between you and Red Hat, Inc. ("**Red Hat**").

While a license is required for Ansible Tower to run, there is no fee for managing up to 10 hosts. Additionally, trial licenses are available for exploring Ansible Tower with a larger number of hosts.

- Trial licenses for Ansible Tower are also available at: <http://ansible.com/license>

### 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

We can select Free Tower Trial – Limited Features up to 10 Nodes for this test drive and then complete the steps for license request.



Secure | <https://www.ansible.com/license>

# ANSIBLE

## LET'S GET YOU ACTIVATED!

Great job getting Ansible Tower installed and running.  
**Now it's time to get a free trial license file.**

Select a trial option below based on the number of machines and features you'll need. To compare Tower editions, see [www.ansible.com/tower-editions](https://www.ansible.com/tower-editions)

### SELECT A FREE TOWER TRIAL

☐ **FREE TOWER TRIAL - ENTERPRISE FEATURES**  
**For enterprise IT operations that require more than 10 nodes**  
 Standard and Premium Tower editions include powerful, enterprise features not available in the self-support edition:
 

- LDAP and Active Directory support
- System tracking
- Audit trails
- Push-button self-service with surveys
- 8x5 or 24x7 support

☐ **FREE TOWER TRIAL - LIMITED FEATURES UP TO 10 NODES**  
 Self-support trial license that will not expire. Does not include features in Standard and Premium Tower, such as LDAP and Active Directory support, system tracking, audit trails and surveys.

☒ **FREE TOWER TRIAL - LIMITED FEATURES UP TO 10 NODES**  
 Self-support trial license that will not expire. Does not include features in Standard and Premium Tower, such as LDAP and Active Directory support, system tracking, audit trails and surveys.

First Name\*

Last Name\*

Company Name\*

Role\*

Email\*

Phone Number\*

SUBMIT

We must make sure, we provide a valid email id. The license file will be mailed to that email address in 2 to 10 mins.

## Assign License

Once we receive the trial license via email, we will upload the license file.

To add the license:

1. Save the license (or save the license contents to a text file locally, if needed).
2. Click the **Browse** button and navigate to the location where the license file is saved to upload it. The uploaded license may be a plain text file or a JSON file, and must include properly formatted JSON code.
3. Once uploaded, check to agree to the End User License Agreement and click **Submit**.

Once the license has been accepted, Tower navigates to the main Ansible interface for the Dashboard (which we can access by clicking on the Ansible Tower logo at the top left of the screen as well).

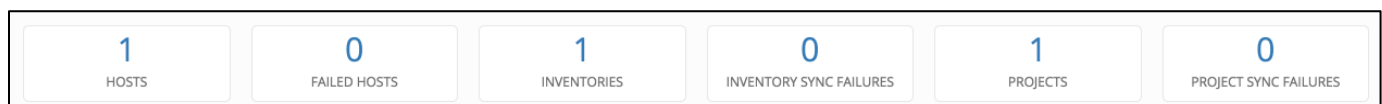
## Tower Dashboard

The Tower Dashboard offers a friendly graphical framework for your IT orchestration needs. Across the top-left side of the Tower Dashboard, administrators can quickly navigate to their **Projects**, **Inventories**, **Job Templates**, and **Jobs**.

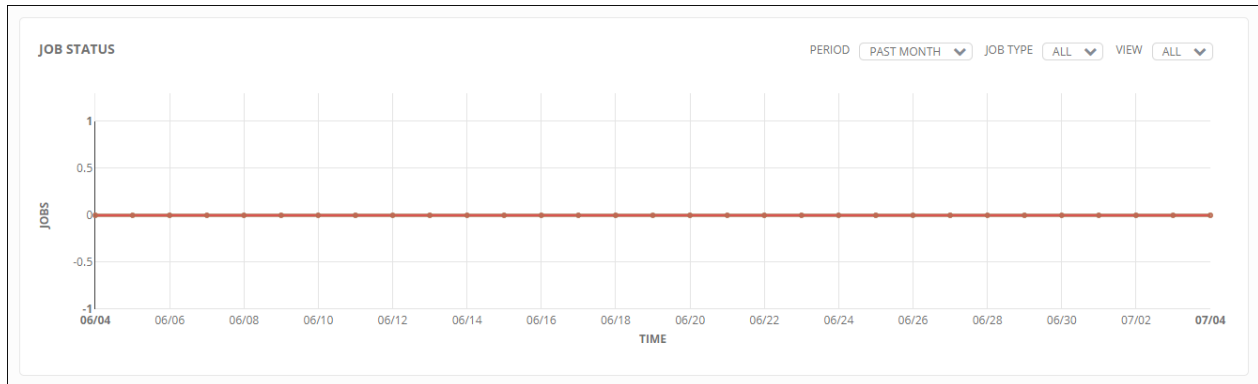
Across the top-right side of this interface, administrators can access the tools they need to configure organizations, users, groups, and permissions as well as view related documentation, access portal mode, and log out.




At the top of the Dashboard is a summary of your hosts, inventories, and projects. Each of these is linked to the corresponding object in Tower, for easy access.

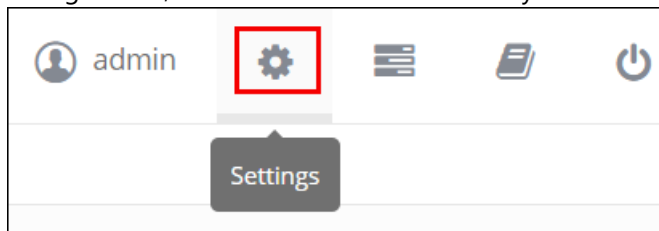


On the main Tower Dashboard screen, a summary appears listing your current **Job Status**. Also, available for review are summaries of **Recently Used Job Templates** and **Recently Run Jobs**.




## Add Credentials

To enter the Settings Menu screen for Ansible Tower, click the  button. This screen allows you to create your organizations, add credentials, add users and teams, schedule management jobs, modify your Tower's configuration, and more. You can also view your license from the Settings Menu's 'View Your License' link.




Credentials are utilized by Tower for authentication when launching Jobs against machines, synchronizing with inventory sources, and importing project content from a version control system.

Tower credentials are imported and stored encrypted in Tower, and are not retrievable in plain text on the command line by any user. Once a password or key has been entered into the Tower interface, it is encrypted and inserted into the Tower database, and cannot be retrieved from Tower. We can grant users and teams the ability to use these credentials, without exposing the credential to the user. If we have a user move to a different team or leave the organization, you don't have to re-key all our systems just because that credential was available in Tower.

Now, we will navigate to Credentials, by clicking on the Setting () button on the top right of the dashboard menu.

We will add new credentials in Ansible Tower for the Linux Virtual Machine as well as Windows Virtual Machine:

1. Click the  button located in the upper right corner of the **Credentials** screen.
2. Enter the following details:
  - **Name:** LinuxVmCredential
  - **Description:** Credentials for Linux VM
  - **Organization:** default

- **Type: Machine**
- **Type details:**
  - a. **Username:** (Enter the **vmUsername** for **VM** received via **email**)
  - b. **Password:** (Enter the **vmPassword** for **VM** received via **email**)
  - c. **Privilege escalation: SUDO**
  - d. **Privilege escalation Password:** (Provide the **vmPassword** for **VM** you received via **email**)

The screenshot shows the 'CREATE CREDENTIAL' form in Red Hat Ansible Tower. The form is divided into two tabs: 'DETAILS' and 'PERMISSIONS'. The 'DETAILS' tab is active. The form contains the following fields:

- NAME:** LinuxVmCredential
- DESCRIPTION:** Credentials for Linux VM
- ORGANIZATION:** (searchable dropdown)
- TYPE:** Machine
- TYPE DETAILS:**
  - USERNAME:** (redacted)
  - PASSWORD:** (SHOW button, redacted)
  - PRIVATE KEY PASSPHRASE:** (SHOW button, redacted)
  - PRIVILEGE ESCALATION:** Sudo
  - PRIVILEGE ESCALATION USERNAME:** (empty)
  - PRIVILEGE ESCALATION PASSWORD:** (SHOW button, redacted)

There are also checkboxes for 'Ask at runtime?' for the password and passphrase fields.

3. Click **Save** when done.
4. Again, click the **+ ADD** button located in the upper right corner of the **Credentials** screen.
5. Enter the given details into the following fields:
  - **Name: WindowsVmCredential**
  - **Description: Credentials for Windows VM**
  - **Organization: default**
  - **Type: Machine**
  - **Type details:**
    - a. **Username:** (Enter the **vmUsername** for **VM** received via **email**)
    - b. **Password:** (Enter the **vmPassword** for **VM** received via **email**)

The screenshot shows the 'WindowsVmCredential' configuration page in Red Hat Ansible Tower. The page has a top navigation bar with 'TOWER', 'PROJECTS', 'INVENTORIES', 'TEMPLATES', and 'JOBS'. The user is logged in as 'admin'. The breadcrumb trail is 'SETTINGS / CREDENTIALS / WindowsVmCredential'. The main form has two tabs: 'DETAILS' (selected) and 'PERMISSIONS'. The form contains the following fields:

- \* NAME:** 'WindowsVmCredential' (highlighted with a red box)
- DESCRIPTION:** 'Credentials for Windows VM' (highlighted with a red box)
- ORGANIZATION:** A search field with a magnifying glass icon.
- \* TYPE:** 'Machine' (highlighted with a red box)
- TYPE DETAILS:**
  - USERNAME:** A text field (highlighted with a red box)
  - PASSWORD:** A text field with 'SHOW' and '\*\*\*\*\*' (highlighted with a red box), and an 'Ask at runtime?' checkbox.
  - PRIVATE KEY PASSPHRASE:** A text field with 'SHOW' and a greyed-out area, and an 'Ask at runtime?' checkbox.
  - PRIVILEGE ESCALATION:** A dropdown menu with 'Choose a privilege escalation'.
  - VAULT PASSWORD:** A text field with 'SHOW' and a greyed-out area, and an 'Ask at runtime?' checkbox.

6. Click **Save** when done.

## Add Projects

A Project is a logical collection of Ansible playbooks, represented in Tower.

We can manage playbooks and playbook directories by either placing them manually under the Project Base Path on your Tower server, or by placing your playbooks into a source code management (SCM) system supported by Tower, including Git, Subversion, and Mercurial.

Now you will create a new project for Linux Machines by clicking on PROJECTS on top of the dashboard menu:

1. Then, click the **+ ADD** button, which launches the **Create Project** dialog.
2. Enter the given details into the following fields:
  - **Name:** **LightBulb**
  - **Description:** **Project with Playbook examples**
  - **Organization:** **default**
  - **SCM Type:** **Git**
  - **Source details:**
    - a. **SCM URL:** <https://github.com/ansible/lightbulb>

**LightBulb**

DETAILS PERMISSIONS NOTIFICATIONS

\* NAME: LightBulb

DESCRIPTION: Project with Playbook examples

\* ORGANIZATION: Default

\* SCM TYPE: Git

SOURCE DETAILS

\* SCM URL: https://github.com/ansible/lightbulb

SCM BRANCH:

SCM CREDENTIAL:

SCM UPDATE OPTIONS

☐ Clean

☐ Delete on Update

☐ Update on Launch

CANCEL SAVE

- Click **Save** when done.

Now you will create another new project for Windows Machines by clicking on PROJECTS on top of the dashboard menu:

- Again, click the **+ ADD** button, which launches the **Create Project** dialog.
- Enter the given details into the following fields:
  - Name:** WindowsProject
  - Description:** Project with Windows Playbooks
  - Organization:** default
  - SCM Type:** Git
  - Source details:**
    - SCM URL:** <https://github.com/SpektraSystems/ansible-testdrive>

The screenshot shows the 'NEW PROJECT' form in Red Hat Ansible Tower. The form is titled 'NEW PROJECT' and has three tabs: 'DETAILS', 'PERMISSIONS', and 'NOTIFICATIONS'. The 'DETAILS' tab is active. The form contains several fields: 'NAME' (WindowsProject), 'DESCRIPTION' (Project with Windows Playbooks), 'ORGANIZATION' (Default), 'SCM TYPE' (Git), 'SCM URL' (https://github.com/SpektraSystems/ansible), 'SCM BRANCH' (empty), 'SCM CREDENTIAL' (empty), and 'SCM UPDATE OPTIONS' (Clean, Delete on Update, Update on Launch). The 'SAVE' button is highlighted in green.

6. Click **Save** when done.

## Add Inventory and Test Connectivity

An Inventory is a collection of hosts against which jobs may be launched, the same as an Ansible inventory file. Inventories are divided into groups and these groups contain the actual hosts. Groups may be sourced manually, by entering host names into Tower, or from one of Ansible Tower's supported cloud providers.

Now, you will create a new Inventory and add Linux and Windows Machines as hosts by first clicking on INVENTORIES on top of the dashboard menu:

1. Then, click the **+ ADD** button, which launches the **Create Inventory** dialog.
2. Enter the given details into the following fields:
  - **Name:** **Agent VM Inventory**
  - **Description:** **Inventory with Agent hosts**
  - **Organization:** **Default**

INVENTORIES / CREATE INVENTORY

\* NAME: Agent VM Inventory

DESCRIPTION: Inventory with Agent hosts

\* ORGANIZATION: Default

VARIABLES: ☒ YAML ☐ JSON

1 ---

CANCEL SAVE

3. Click on **Save** when done.
4. Now, click the **+ ADD** button in GROUPS, which launches the **Create Group** dialog.
5. Enter the given details into the following fields:
  - *Name:* **web**
  - *Description:* **Group for Linux Hosts**
  - *Source:* **Manual**

INVENTORIES / Agent VM Inventory / web

web

DETAILS NOTIFICATIONS

\* NAME: web

DESCRIPTION: Group for Linux Hosts

SOURCE: Manual

VARIABLES: ☒ YAML ☐ JSON

1 ---

CANCEL SAVE

6. Click on **Save** when done.
7. Now, click on the created group **web**
8. Then, click the **+ ADD** button in HOSTS, which launches the **Create Host** dialog.
9. Enter the given details into the following fields:



- *Host Name:* (Enter the **DNS Name** for **Linux VM** received via **email**)
- *Description:* **Linux Host**

10. Click on **Save** when done.

11. Now go back to Agent VM Inventory page by clicking on Agent VM Inventory

INVENTORIES / **Agent VM Inventory** / web

12. Now, click the **+ ADD** button in GROUPS, which launches the **Create Group** dialog.

13. Enter the given details into the following fields:

- *Name:* **windowsVM**
- *Description:* **Group for Windows Hosts**
- *Source:* **Manual**
- *Variables:* Add the following lines below ---  
     **ansible\_connection: winrm**  
     **ansible\_winrm\_server\_cert\_validation: ignore**

INVENTORIES / Agent VM Inventory / CREATE GROUP

**CREATE GROUP**

DETAILS NOTIFICATIONS

\* NAME DESCRIPTION SOURCE

windowsVM Group for Windows Hosts Manual

VARIABLES ? YML JSON

```

1 ---
2 ansible_connection: winrm
3 ansible_winrm_server_cert_validation: ignore
4

```

CANCEL SAVE

14. Click on **Save** when done.

15. Now, click on the created group **windowsVM**

16. Then, click the **+ ADD** button in HOSTS, which launches the **Create Host** dialog.

17. Enter the given details into the following fields:

- *Host Name:* (Enter the **DNS Name** for **Windows VM** received via **email**)
- *Description:* **Windows Host**

INVENTORIES / Agent VM Inventory / windowsVM / CREATE HOST

**CREATE HOST** ON

\* HOST NAME ? DESCRIPTION

Windows Host

VARIABLES ? YML JSON

```

1 ---

```

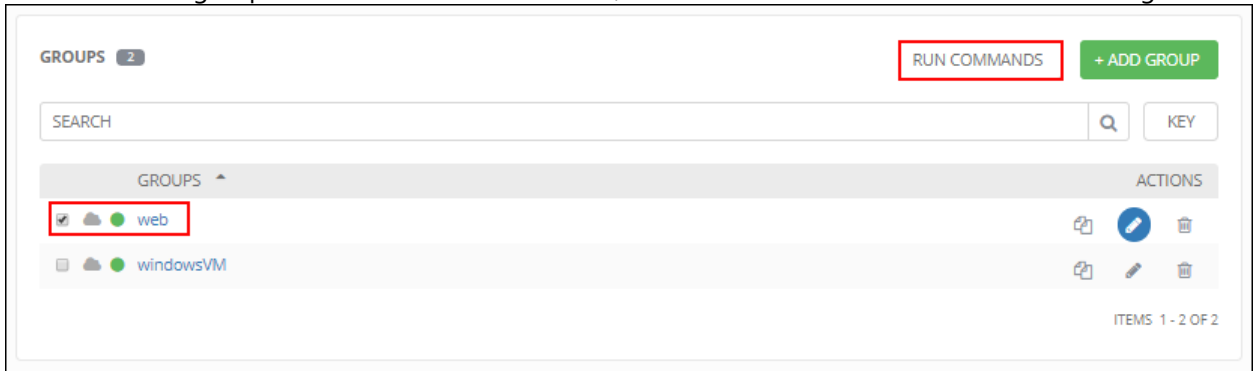
CANCEL SAVE

18. Click on **Save** when done.

Now we will test the connectivity to the added hosts.

19. Now go back to Agent VM Inventory page by clicking on Agent VM Inventory

20. Select **linuxVM** group and click on **Run Commands**, which launches the Execute Command dialog



21. Enter the given details into the following fields:

- Module: **ping**
- Machine Credential: **LinuxVmCredential**

The screenshot shows the 'EXECUTE COMMAND' dialog. The 'MODULE' field is set to 'ping' (highlighted with a red box). The 'MACHINE CREDENTIAL' field is set to 'LinuxVmCredential' (highlighted with a red box). The 'LIMIT' field is set to 'web'. The 'VERBOSITY' field is set to '0 (Normal)'. The 'FORKS' field is set to '0'. The 'EXTRA VARIABLES' field is empty. At the bottom right, there is a 'RESET' button and a 'LAUNCH' button (highlighted with a red box).

22. Click on **Launch** when done, which launches the Job Results page.

JOBS / ping

**RESULTS**

NAME	ping
STATUS	<span style="color: green;">●</span> Successful
STARTED	5/7/2017 20:25:18
FINISHED	5/7/2017 20:25:22
ELAPSED	4.407 seconds
INVENTORY	Agent VM Inventory
CREDENTIAL	LinuxVmCredential
LAUNCHED BY	admin
FORKS	0
LIMIT	web
VERBOSITY	0
EXTRA VARIABLES	1 ---

**STANDARD OUT**

```
SSH password:
SUDO password[defaults to SSH password]:
.eastus.cloudapp.azure.com | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
```

We can see status of the Job in that page, and if that job was successful, status will be **Successful** with a green icon next to it.

23. Now go back to Agent VM Inventory page by clicking on INVENTORIES from the top menu and then click on Agent VM Inventory.
24. Select **windowsVM** group and click on **Run Commands**, which launches the Execute Command dialog

GROUPS 2

**RUN COMMANDS** + ADD GROUP

SEARCH [ ] Q KEY

GROUPS	ACTIONS
<input type="checkbox"/> web	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="checkbox"/> windowsVM	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

ITEMS 1 - 2 OF 2

25. Enter the given details into the following fields:

- Module: Select **win\_ping**
- Machine Credential: **WindowsVmCredential**

INVENTORIES / Agent VM Inventory / RUN COMMAND

EXECUTE COMMAND

\* MODULE

win\_ping

ARGUMENTS

LIMIT

windowsVM

\* MACHINE CREDENTIAL

WindowsVmCredential

ENABLE PRIVILEGE ESCALATION

\* VERBOSITY

0 (Normal)

\* FORKS

0

EXTRA VARIABLES

YAML JSON

1

RESET

LAUNCH

26. Click on **Launch** when done, which launches the Job Results page.

JOBS / win\_ping

RESULTS

NAME	win_ping
STATUS	<span>● Successful</span>
STARTED	5/7/2017 16:57:07
FINISHED	5/7/2017 16:57:21
ELAPSED	14.226 seconds
INVENTORY	Agent VM Inventory
CREDENTIAL	WindowsVmCredential
LAUNCHED BY	admin
FORKS	0
LIMIT	windowsVM
VERBOSITY	0
EXTRA VARIABLES	<div> <div>1</div> <div></div> </div>

STANDARD OUT

```

SSH password:
.eastus.cloudapp.azure.com | SUCCESS => {
  "changed": false,
  "ping": "pong"
}

```

We can see status of the Job in that page, and if that job was successful, status will be **Successful** with a green icon next to it.

**END OF LAB**

## Lab 2: Deploy Web Servers on Linux VM using Ansible Playbook

### Deploy Nginx Web Server


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. Job templates also encourage the reuse of Ansible playbook content and collaboration between teams. While the REST API allows for the execution of jobs directly, Tower requires that you first create a job template.

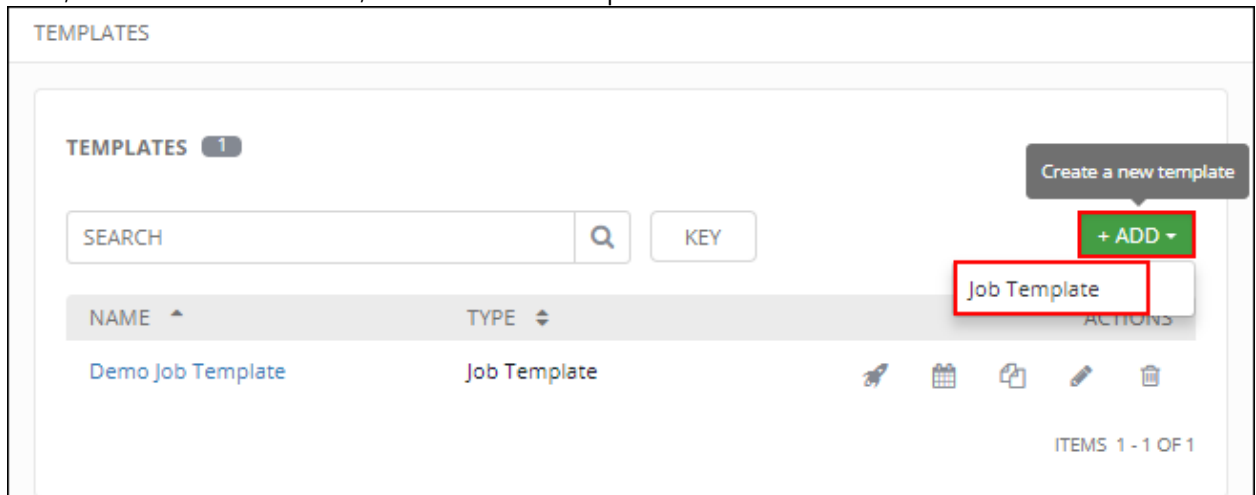
We can access Job Template page by clicking on TEMPLATES on the menu on top of the dashboard.



This menu opens a list of the job templates that are currently available. The job template list may be sorted and searched by **Name** or **Description**. The **Templates** tab also enables the user to launch, schedule, modify, and remove a job template.

Now, you will create a new template for deploying Nginx Web Server by first clicking on TEMPLATES on top of the dashboard menu:

1. Then, click the  button, then select Job Template from the menu list.



2. Enter the given details into the following fields:

- **NAME:** Install Nginx
- **JOB TYPE:** Run
- **INVENTORY:** Agent VM Inventory
- **PROJECT:** LighBulb
- **PLAYBOOK:** examples/nginx-basic-playbook/site.yml
- **MACHINE CREDENTIAL:** LinuxVmCredential
- **LIMIT:** web
- **Enable Privilege Escalation:** Tick

**Install Nginx**

DETAILS COMPLETED JOBS PERMISSIONS NOTIFICATIONS

\* NAME:

DESCRIPTION:

\* JOB TYPE:

☐ Prompt on launch

\* INVENTORY:

\* PROJECT:

\* PLAYBOOK:

☐ Prompt on launch

\* MACHINE CREDENTIAL:

CLOUD CREDENTIAL:

NETWORK CREDENTIAL:

☐ Prompt on launch

FORKS:

LIMIT:

\* VERBOSITY:

☐ Prompt on launch

JOB TAGS:

SKIP TAGS:

OPTIONS

- ☒ Enable Privilege Escalation
- ☐ Allow Provisioning Callbacks
- ☐ Enable Concurrent Jobs

3. Click on **Save** when done.

Saving the template does not exit the job template page but remains on the Job Template Details view for further editing, if necessary. The **Details** tab of a saved job allows you to review, edit, and add a survey (if the job type is not a scan).

You can verify the template is saved when the newly created template appears on the list of templates at the bottom of the screen.

**TEMPLATES** 2

SEARCH

NAME	TYPE	ACTIVITY	LABELS	ACTIONS
Demo Job Template	Job Template			
Install Nginx	Job Template			

ITEMS 1 - 2 OF 2

Now, we will launch a Job Template by clicking the launch icon. We will be directed to the Job Results Page. The Jobs page shows details of all the tasks and events for that playbook run.

The screenshot displays the Red Hat Ansible Tower interface. On the left, the 'DETAILS' panel for the 'Install Nginx' job shows a 'Successful' status, which is highlighted with a red box. Other details include: STARTED (5/7/2017 22:34:13), FINISHED (5/7/2017 22:34:38), TEMPLATE (Install Nginx), JOB TYPE (Run), LAUNCHED BY (admin), INVENTORY (Agent VM Inventory), PROJECT (LightBulb), REVISION (d319ec4103c2816309879fd0a9f3e2000a555f4), PLAYBOOK (examples/nginx-basic-playbook/site.yml), MACHINE CREDENTIAL (LinuxVmCredential), FORKS (0), LIMIT (web), and VERBOSITY (0 (Normal)). The 'EXTRA VARIABLES' section is empty.

On the right, the 'Install Nginx' task execution log is shown. It lists the following tasks and their outputs:

- 1 SSH password:
- 2 SUDO password[defaults to SSH password]:
- 3
- 4 PLAY [install and start nginx with wsgi] \*\*\*\*\*
- 5
- 6 TASK [Gathering Facts] \*\*\*\*\*
- 7 Ok: [eastus.cloudapp.azure.com]
- 8
- 9 TASK [nginx packages are present] \*\*\*\*\*
- 10 Ok: [eastus.cloudapp.azure.com] => (11 u'python-devel', u'gcc')]
- 11
- 12 TASK [uwsgi package is present] \*\*\*\*\*
- 13 Ok: [eastus.cloudapp.azure.com]
- 14
- 15 TASK [latest default.conf is present] \*\*\*\*\*
- 16 Ok: [eastus.cloudapp.azure.com]
- 17
- 18 TASK [latest index.html is present] \*\*\*\*\*
- 19 Ok: [eastus.cloudapp.azure.com]
- 20
- 21 TASK [nginx service is started and enabled] \*\*\*\*\*
- 22 Ok: [linagentyomfjqagpwmml.eastus.cloudapp.azure.com]
- 23

We can see the status as successful for Job to deploy Nginx Web Server in Linux VM.


Now to verify that apache is installed on Linux Virtual Machine and is accessible through Public DNS Name, we will open a browser and navigate to the Linux VM DNS name and check if the Ansible Tower is coming on the page as shown below.





## Remove Nginx Web Server

Now, you will create a new template for removing Nginx Web Server by first clicking on TEMPLATES on top of the dashboard menu:

1. Then, click the  button, then select Job Template from the menu list.
2. Enter the given details into the following fields:
  - **NAME:** Remove Nginx
  - **JOB TYPE:** Run
  - **INVENTORY:** Agent VM Inventory
  - **PROJECT:** LighBulb
  - **PLAYBOOK:** examples/nginx-remove-playbook/site.yml
  - **MACHINE CREDENTIAL:** LinuxVmCredential
  - **LIMIT:** web
  - **Enable Privilege Escalation:** Tick

**NEW JOB TEMPLATE**

**DETAILS** | COMPLETED JOBS | PERMISSIONS | NOTIFICATIONS

\* NAME: Remove Nginx

DESCRIPTION:

\* JOB TYPE: Run

Prompt on launch

\* INVENTORY: Agent VM Inventory

\* PROJECT: LightBulb

\* PLAYBOOK: examples/nginx-remove-playbook/site.yml

Prompt on launch

\* MACHINE CREDENTIAL: LinuxVmCredential

CLOUD CREDENTIAL:

NETWORK CREDENTIAL:

Prompt on launch

FORKS: 0

LIMIT: web

\* VERBOSITY: 0 (Normal)

Prompt on launch

JOB TAGS:

SKIP TAGS:

Prompt on launch

OPTIONS:

- ☒ Enable Privilege Escalation
- ☐ Allow Provisioning Callbacks
- ☒ Enable Concurrent Jobs

3. Click on **Save** when done.

Saving the template does not exit the job template page but remains on the Job Template Details view for further editing, if necessary. The **Details** tab of a saved job allows you to review, edit, and add a survey (if the job type is not a scan).

You can verify the template is saved when the newly created template appears on the list of templates at the bottom of the screen.

**TEMPLATES** 3

SEARCH

NAME	TYPE
Demo Job Template	Job Template
Install Nginx	Job Template
Remove Nginx	Job Template

Now, we will launch a Job Template by clicking the launch icon. We will be directed to the Job Results Page. The Jobs page shows details of all the tasks and events for that playbook run.

The screenshot displays the Red Hat Ansible Tower interface. On the left, the 'DETAILS' panel shows the job status as 'Successful' (highlighted with a red box). The job was started on 5/7/2017 at 22:34:43 and finished at 22:35:03. The template used is 'Remove Nginx', and the job type is 'Run'. The inventory is 'Agent VM Inventory', the project is 'LightBulb', and the revision is 'd319ec4103c2816309879fd0a9f3e2080a555f4'. The playbook is 'examples/nginx-remove-playbook/site.yml', and the machine credential is 'LinuxVmCredential'. The job was launched by 'admin' and has 0 forks, a limit of 'web', and a verbosity of 0 (Normal). The 'EXTRA VARIABLES' section is empty.

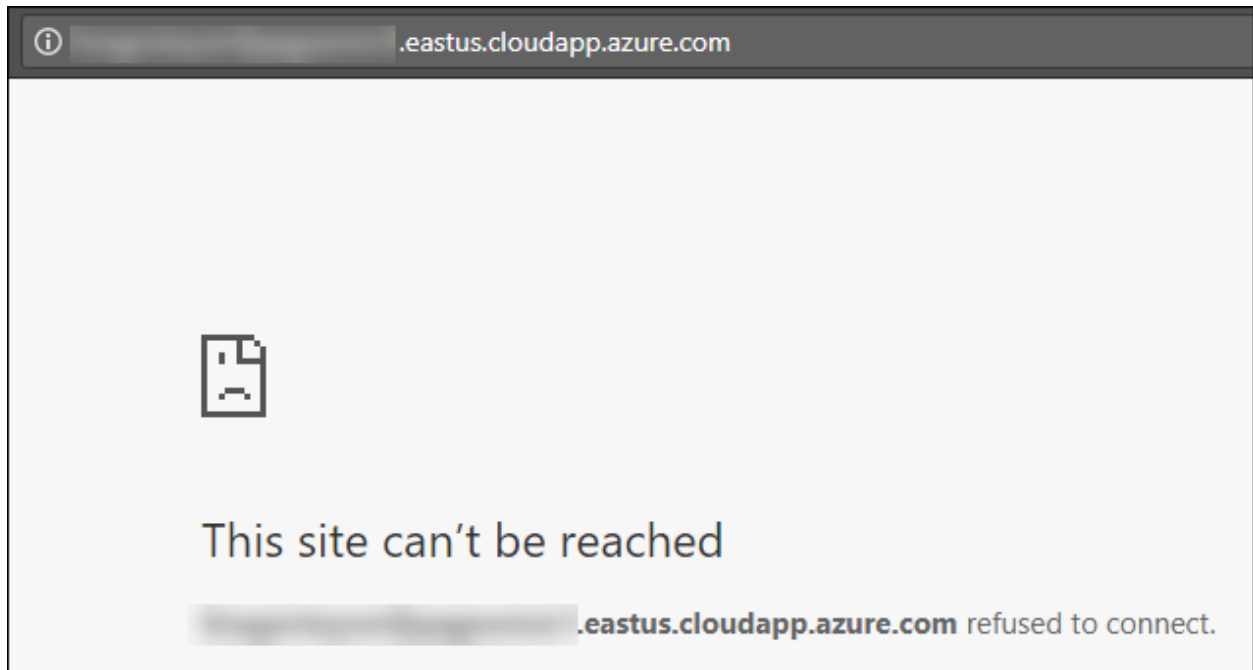
The main panel shows the execution details for the 'Remove Nginx' job. The output is as follows:

```

PLAY [removes nginx with wsgi] *****
TASK [Gathering Facts] *****
Ok: [ .eastus.cloudapp.azure.com ]
TASK [nginx service is stopped] *****
changed: [ .eastus.cloudapp.azure.com ]
TASK [nginx package is absent] *****
changed: [ .eastus.cloudapp.azure.com ]
TASK [uwsgi package is absent] *****
changed: [ .eastus.cloudapp.azure.com ]
TASK [files created by nginx-simple are absent] *****
Ok: [ .eastus.cloudapp.azure.com ] => (item=/etc/nginx/nginx.
Ok: [ .eastus.cloudapp.azure.com ] =>
(item=/usr/share/nginx/html/index.html)
PLAY RECAP *****
. eastus.cloudapp.azure.com : Ok=5  changed=3  un
failed=0
  
```

We can see the status as successful for Job to deploy Nginx Web Server in Linux VM.

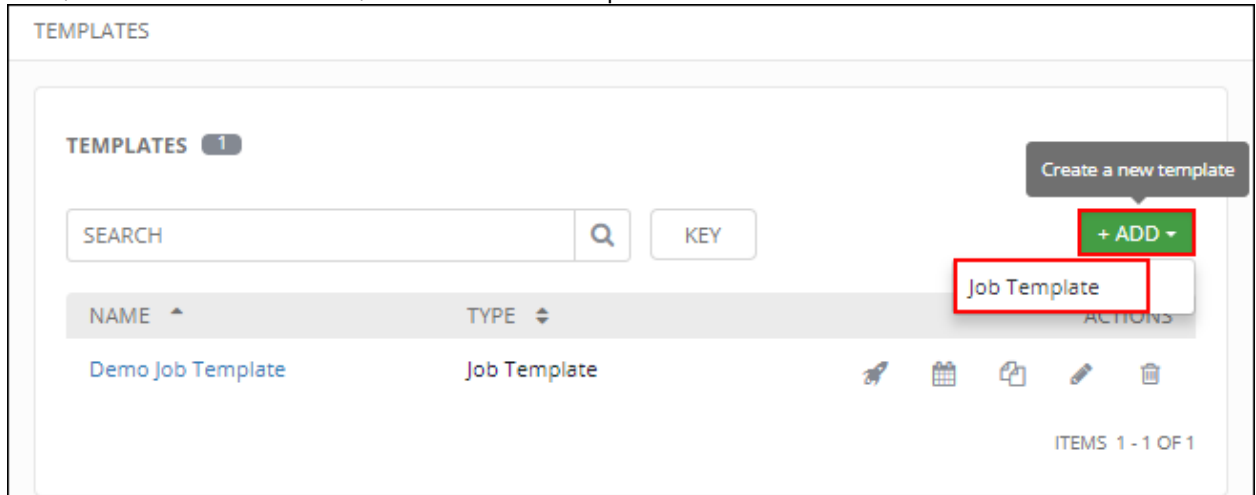
Now to verify that Nginx Webserver is removed from the Linux Virtual Machine and is not accessible through Public DNS Name, we will open a browser and navigate to the Linux VM DNS name and check if the page is unreachable



## Deploy Apache Web Server

Now, you will create a new template for deploying Apache Web Server by first clicking on TEMPLATES on top of the dashboard menu:

1. Then, click the **+ ADD** button, then select Job Template from the menu list.



2. Enter the given details into the following fields:

- **NAME:** Install Apache
- **JOB TYPE:** Run
- **INVENTORY:** Agent VM Inventory
- **PROJECT:** LighBulb
- **PLAYBOOK:** examples/apache-simple-playbook/site.yml
- **MACHINE CREDENTIAL:** LinuxVmCredential
- **LIMIT:** web
- **Enable Privilege Escalation:** Tick

**Install Apache**

DETAILS | COMPLETED JOBS | PERMISSIONS | NOTIFICATIONS

\* NAME: **Install Apache**

DESCRIPTION:

\* JOB TYPE: Run

☐ Prompt on launch

\* INVENTORY: **Agent VM Inventory**

☐ Prompt on launch

\* PROJECT: **LightBulb**

\* PLAYBOOK: **examples/apache-simple-playbook/site.yml**

\* MACHINE CREDENTIAL: **LinuxVmCredential**

☐ Prompt on launch

CLOUD CREDENTIAL:

NETWORK CREDENTIAL:

FORKS: 0

LIMIT: **web**

☐ Prompt on launch

\* VERBOSITY: 0 (Normal)

JOB TAGS:

☐ Prompt on launch

SKIP TAGS:

☐ Prompt on launch

OPTIONS:

- ☒ **Enable Privilege Escalation**
- ☐ Allow Provisioning Callbacks
- ☐ Enable Concurrent Jobs

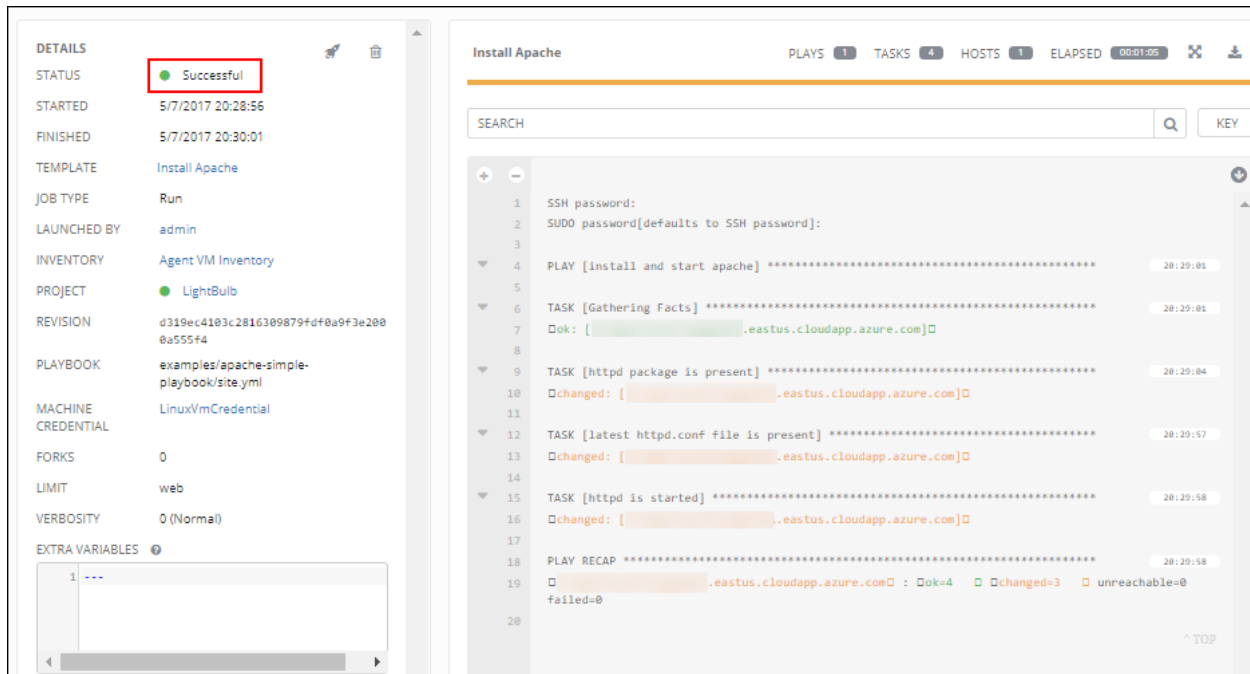
3. Click on **Save** when done.

Saving the template does not exit the job template page but remains on the Job Template Details view for further editing, if necessary. The **Details** tab of a saved job allows you to review, edit, and add a survey (if the job type is not a scan).

You can verify the template is saved when the newly created template appears on the list of templates at the bottom of the screen.

TEMPLATES 4	
SEARCH	
NAME	TYPE
Demo Job Template	Job Template
<b>Install Apache</b>	Job Template
Install Nginx	Job Template
Remove Nginx	Job Template

Now, we will launch a Job Template by clicking the launch icon. We will be directed to the Job Results Page. The Jobs page shows details of all the tasks and events for that playbook run.



We can see the status as successful for Job to deploy Nginx Web Server in Linux VM.

Now to verify that apache is installed on Linux Virtual Machine and is accessible through Public DNS Name, we will open a browser and navigate to the Linux VM DNS name and check if the Ansible Tower is coming on the page as shown below.



**END OF LAB**

## Lab 3: Manage Windows VM using Ansible Playbook

### Create a Local User Account in Windows VM

Now, you will create a new template for creating a local User account in Windows VM by first clicking on **TEMPLATES** on top of the dashboard menu:

1. Then, click the **+ ADD** button, then select Job Template from the menu list.
2. Enter the given details into the following fields:
  - **NAME:** Create User
  - **JOB TYPE:** Run
  - **INVENTORY:** Agent VM Inventory
  - **PROJECT:** WindowsProject
  - **PLAYBOOK:** windows/create-user.yml
  - **MACHINE CREDENTIAL:** WindowsVmCredential
  - **LIMIT:** windowsVM

**NEW JOB TEMPLATE**

DETAILS | COMPLETED JOBS | PERMISSIONS | NOTIFICATIONS

\* NAME: **Create User**

DESCRIPTION:

\* JOB TYPE: Run

☐ Prompt on launch

\* INVENTORY: **Agent VM Inventory**

\* PROJECT: **WindowsProject**

\* PLAYBOOK: **windows/create-user.yml**

☐ Prompt on launch

\* MACHINE CREDENTIAL: **WindowsVmCredential**

CLOUD CREDENTIAL:

NETWORK CREDENTIAL:

☐ Prompt on launch

FORKS: 0

LIMIT: **windowsVM**

☐ Prompt on launch

JOB TAGS:

SKIP TAGS:

☐ Prompt on launch

\* VERBOSITY: 0 (Normal)

OPTIONS

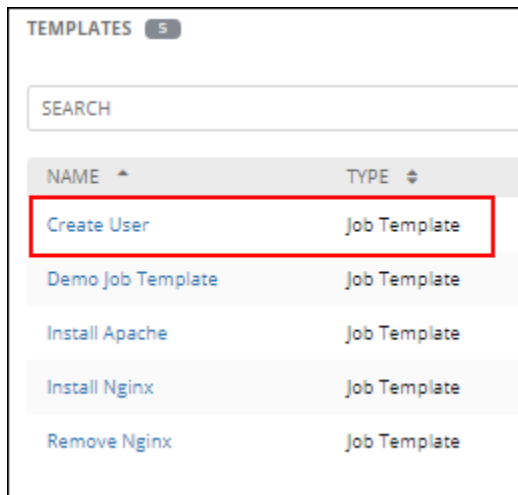
☐ Enable Privilege Escalation

☐ Allow Provisioning Callbacks

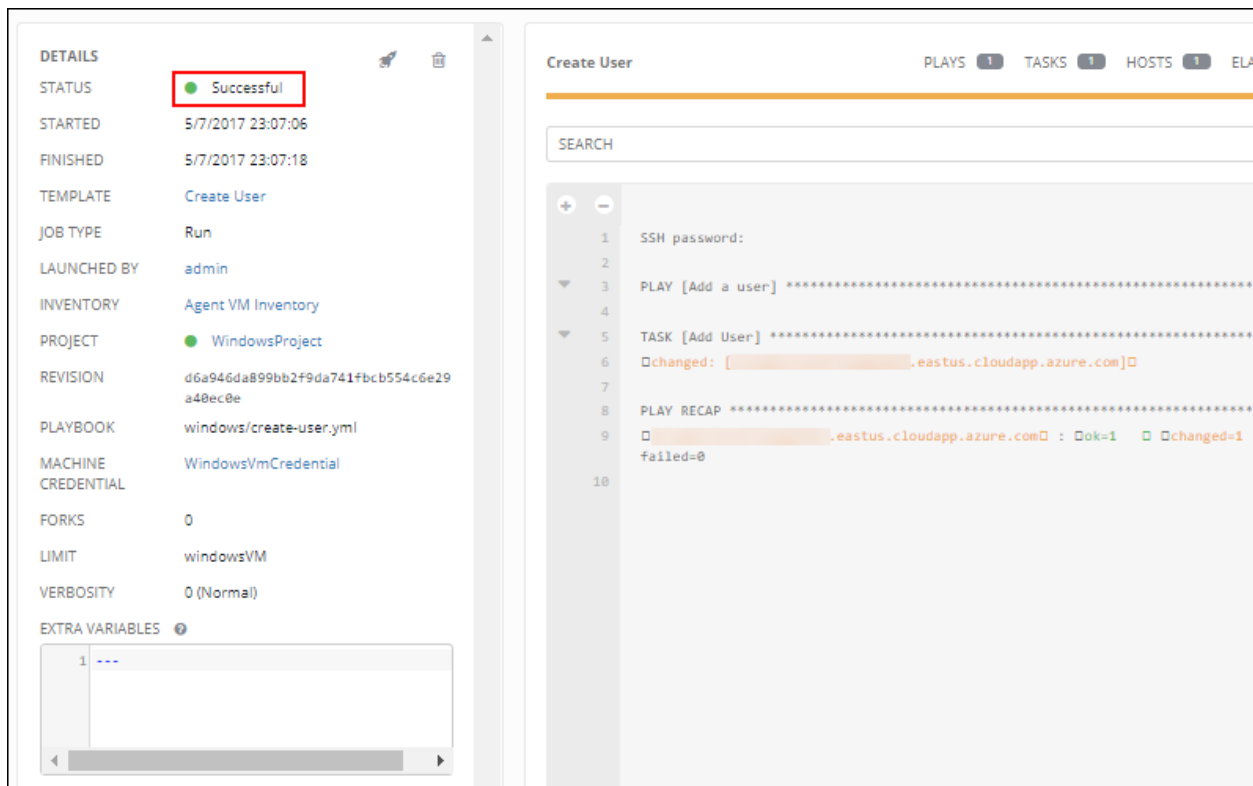
☐ Enable Concurrent Jobs

3. Click on **Save** when done.

You can verify the template is saved when the newly created template appears on the list of templates at the bottom of the screen.



Now, we will launch a Job Template by clicking the launch icon. We will be directed to the Job Results Page. The Jobs page shows details of all the tasks and events for that playbook run.



We can see the status as successful for Job to create a local user account in Windows VM.


Now to verify that user account is created on Windows Virtual Machine, we will access the Virtual Machine and check.

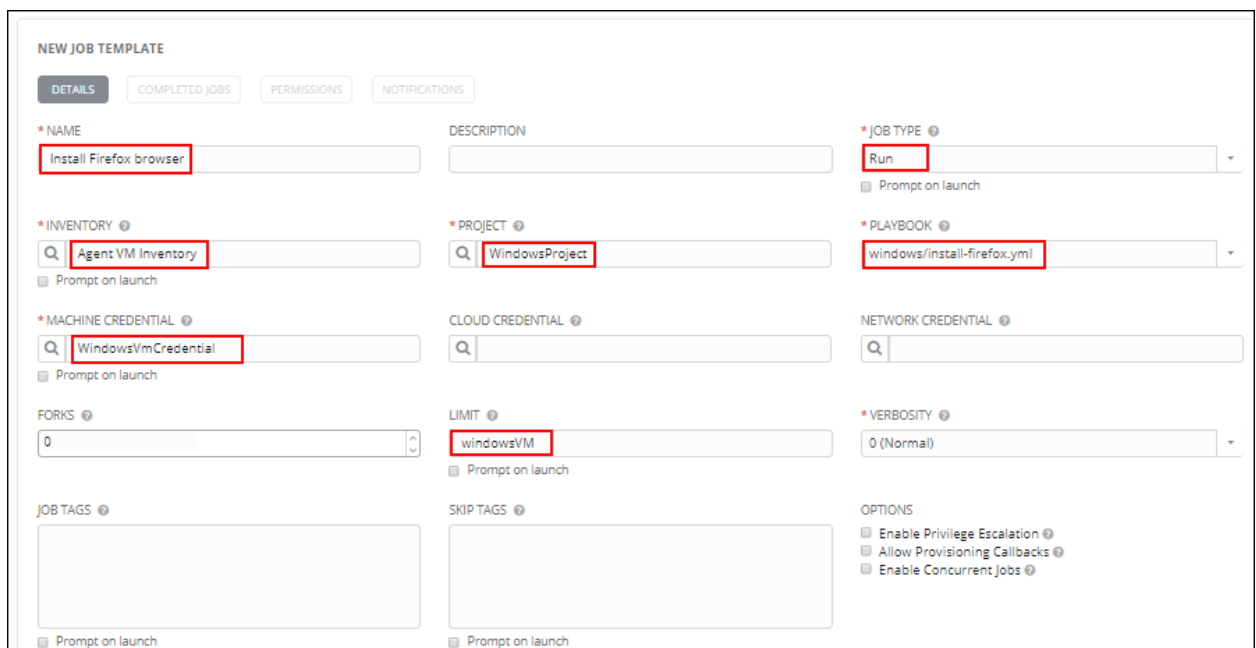


<TO DO>

## Install a Package

Now, you will create a new template for installing Firefox Browser by first clicking on TEMPLATES on top of the dashboard menu:

1. Then, click the  button, then select Job Template from the menu list.
2. Enter the given details into the following fields:
  - **NAME:** Install Firefox browser
  - **JOB TYPE:** Run
  - **INVENTORY:** Agent VM Inventory
  - **PROJECT:** WindowsProject
  - **PLAYBOOK:** windows/install-firefox.yml
  - **MACHINE CREDENTIAL:** WindowsVmCredential
  - **LIMIT:** windowsVM



NEW JOB TEMPLATE

DETAILS COMPLETED JOBS PERMISSIONS NOTIFICATIONS

\* NAME:

DESCRIPTION:

\* JOB TYPE:

☐ Prompt on launch

\* INVENTORY:

\* PROJECT:

\* PLAYBOOK:

☐ Prompt on launch

\* MACHINE CREDENTIAL:

CLOUD CREDENTIAL:

NETWORK CREDENTIAL:

☐ Prompt on launch

FORKS:

LIMIT:

\* VERBOSITY:

☐ Prompt on launch

JOB TAGS:

SKIP TAGS:

☐ Prompt on launch

OPTIONS

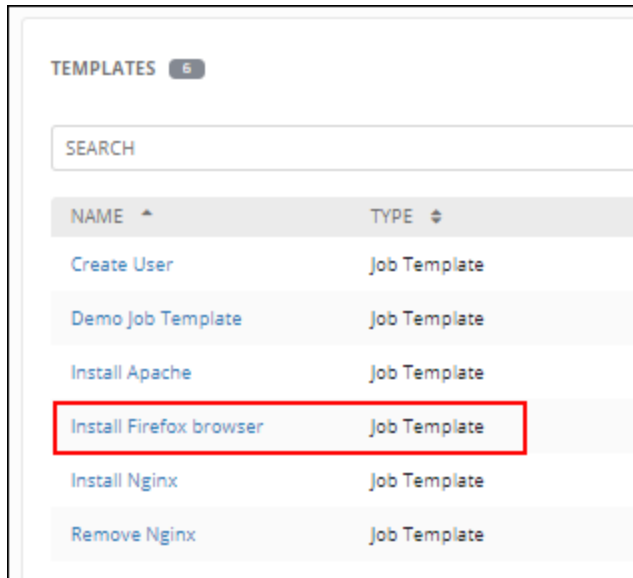
☐ Enable Privilege Escalation

☐ Allow Provisioning Callbacks

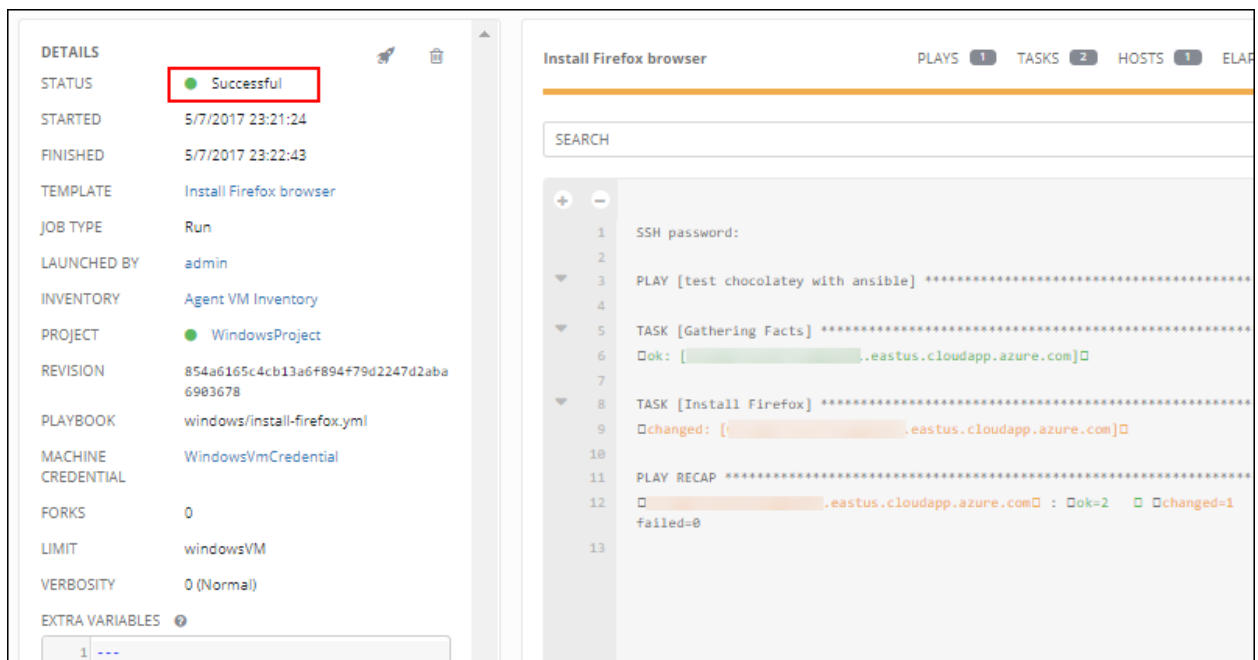
☐ Enable Concurrent Jobs

3. Click on **Save** when done.

You can verify the template is saved when the newly created template appears on the list of templates at the bottom of the screen.



Now, we will launch a Job Template by clicking the launch icon. We will be directed to the Job Results Page. The Jobs page shows details of all the tasks and events for that playbook run.




We can see the status as successful for Job to install Firefox Browser on the windows virtual machine.

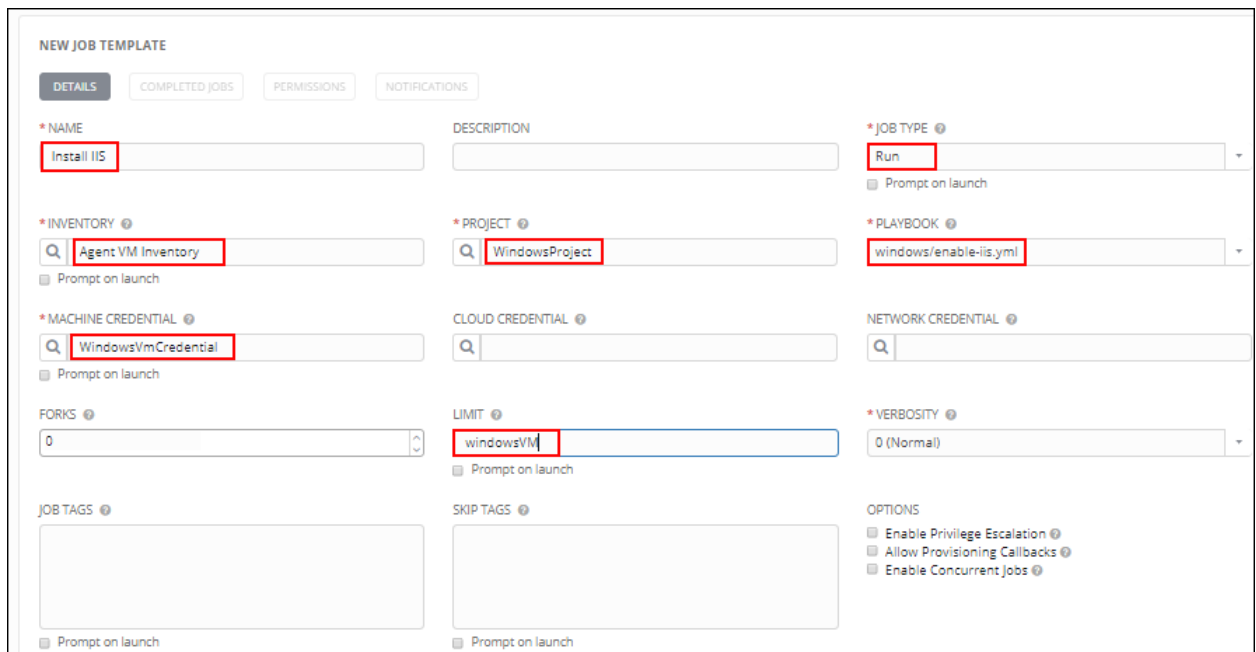
Now to verify that Firefox is installed on the Windows Virtual Machine, we will log in to the VM.

<TO DO>

## Deploy IIS Web Server

Now, we will create a new template for deploying IIS Web Server by first clicking on TEMPLATES on top of the dashboard menu:

1. Then, click the  button, then select Job Template from the menu list.
2. Enter the given details into the following fields:
  - **NAME:** **Install IIS**
  - **JOB TYPE:** **Run**
  - **INVENTORY:** **Agent VM Inventory**
  - **PROJECT:** **WindowsProject**
  - **PLAYBOOK:** **windows/enable -iis.yml**
  - **MACHINE CREDENTIAL:** **WindowsVmCredential**
  - **LIMIT:** **windowsVM**



**NEW JOB TEMPLATE**

DETAILS | COMPLETED JOBS | PERMISSIONS | NOTIFICATIONS

\* NAME:  DESCRIPTION:

\* JOB TYPE:    
 ☐ Prompt on launch

\* INVENTORY:  \* PROJECT:  \* PLAYBOOK:    
 ☐ Prompt on launch

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

FORKS:  LIMIT:  \* VERBOSITY:    
 ☐ Prompt on launch

JOB TAGS:  SKIP TAGS:    
 ☐ Prompt on launch

OPTIONS   
 ☐ Enable Privilege Escalation   
 ☐ Allow Provisioning Callbacks   
 ☐ Enable Concurrent Jobs

3. Click on **Save** when done.

You can verify the template is saved when the newly created template appears on the list of templates at the bottom of the screen.

TEMPLATES <span>7</span>	
SEARCH	
NAME ^	TYPE v
Create User	Job Template
Demo Job Template	Job Template
Install Apache	Job Template
Install Firefox browser	Job Template
Install IIS	Job Template
Install Nginx	Job Template
Remove Nginx	Job Template

Now, we will launch a Job Template by clicking the launch icon. We will be directed to the Job Results Page. The Jobs page shows details of all the tasks and events for that playbook run.

### DETAILS

STATUS Successful

STARTED 6/7/2017 00:22:58

FINISHED 6/7/2017 00:23:14

TEMPLATE Install IIS

JOB TYPE Run

LAUNCHED BY admin

INVENTORY Agent VM Inventory

PROJECT WindowsProject

REVISION 7a7db27d00ed98097549ef1a1873182a10704ee0

PLAYBOOK windows/enable-iis.yml

MACHINE CREDENTIAL WindowsVmCredential

FORKS 0

LIMIT windowsVM

VERBOSITY 0 (Normal)

EXTRA VARIABLES

1 ---

### Install IIS

PLAYS 1 TASKS 2 HOSTS 1 ELAP

SEARCH

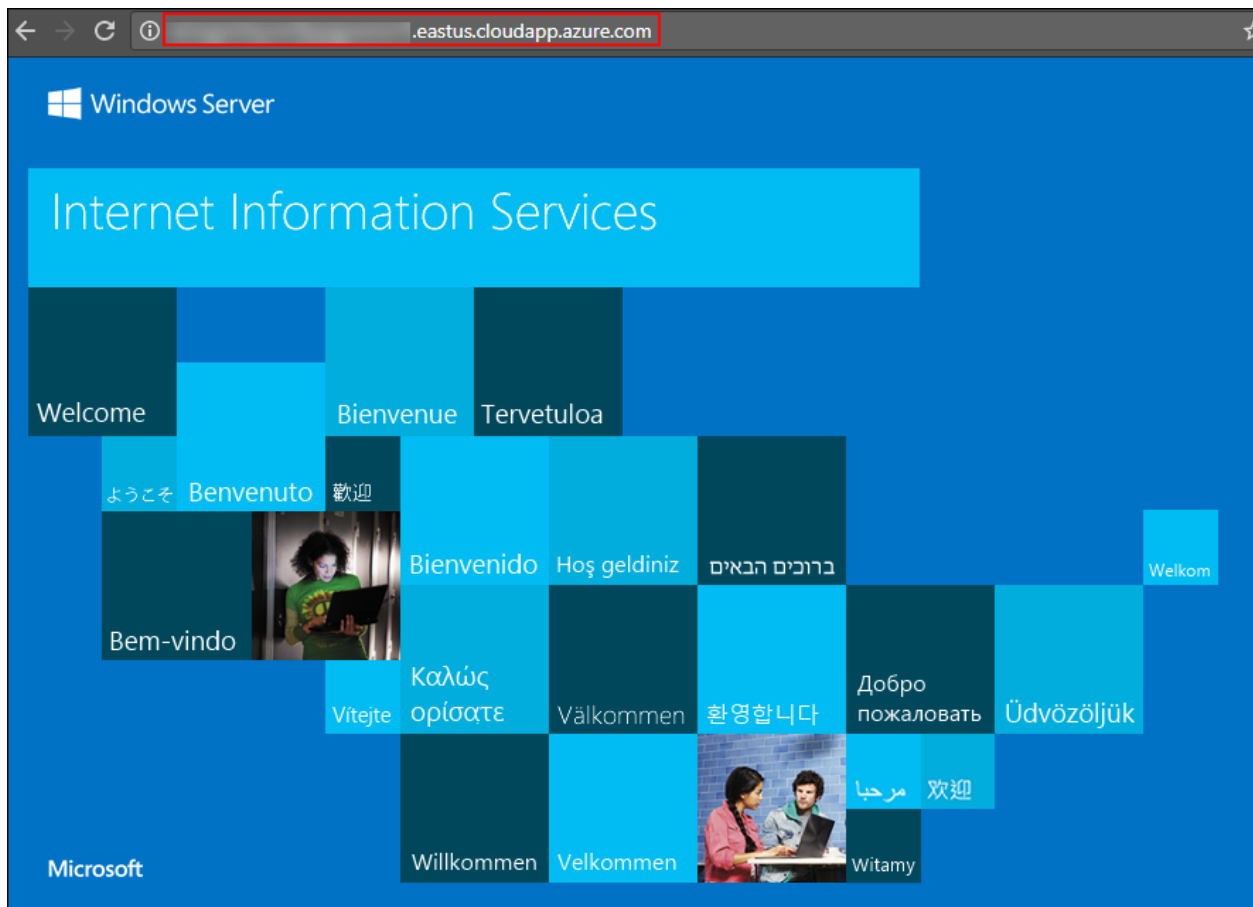
```

1  SSH password:
2
3  PLAY [installIIServer] *****
4
5  TASK [Gathering Facts] *****
6  Ok: [eastus.cloudapp.azure.com]
7
8  TASK [Install IIS Web-Server with sub features and management tools] *****
9  Ok: [eastus.cloudapp.azure.com]
10
11 PLAY RECAP *****
12 [eastus.cloudapp.azure.com] : Ok=2  changed=0
13 failed=0

```

We can see the status as successful for Job to deploy IIS Web Server in Linux VM.

Now to verify that apache is installed on Windows Virtual Machine and is accessible through Public DNS Name, we will open a browser and navigate to the Windows VM DNS name and check if the IIS Server default page is coming up as shown below.



## END OF LAB

Thank You for following the test drive.

\*\*\*\*\*