Red Hat Ansible Tower Workshop

lightbulb.rhdemo.io

Workshop's Guide
(The Language of DevOps Automation)

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Version:	2.2

INDEX

REVIEW

Change's log

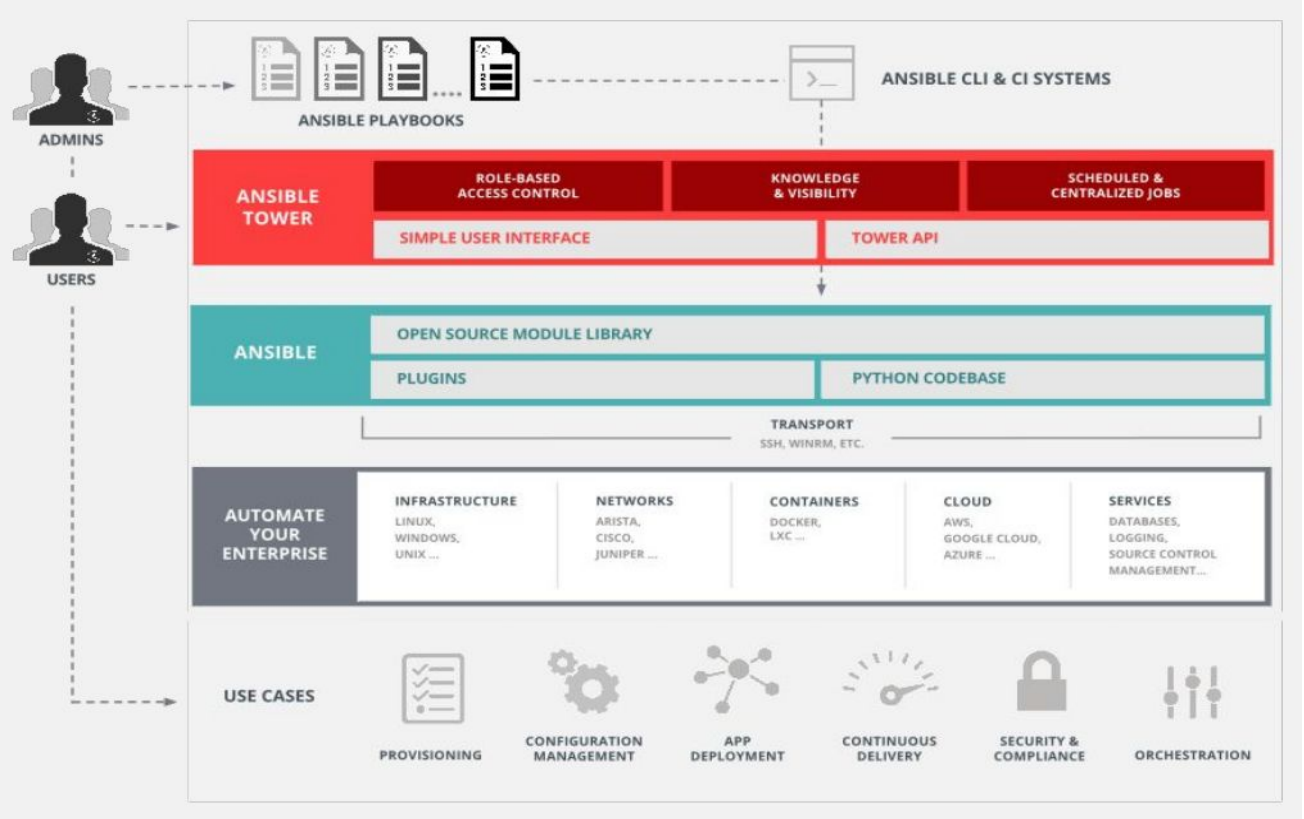
Fecha	Autor	Versión	Referencias
Sep/22/1017	Robert J. Calva	2.1	v2.0
Jan/08(2019	Robert J. Calva	2.2	v2.1

SUMMARY

Business Scenario

Ansible is the first **automation language** that can be read and written across IT. **Ansible** is the only **automation engine** that can automate the entire and continuous **delivery pipeline**.

Workshop's Architecture



Workshop's Design

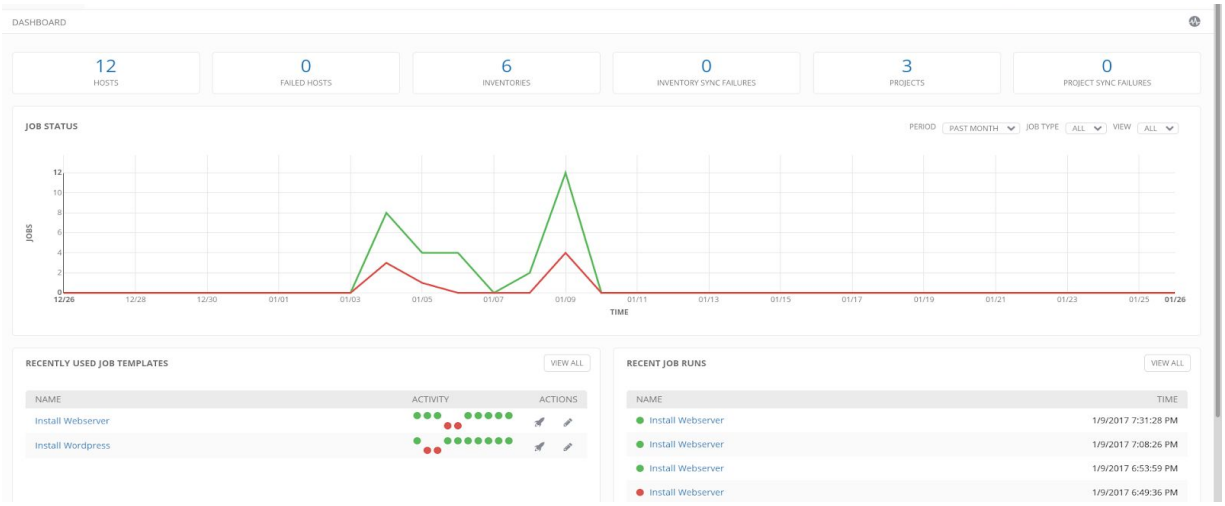
This workshop has hands-on labs and presentations to provide a basic first-hand contact with the product:

- Introductions ~ 30 min
- Ansible Tower General Presentation ~ 30 min
- Exploring the Dashboard and Tower Interface ~ 30 min
- Setting Up Ansible Tower: Credentials **(With Lab)** ~ 40 min
- Creating Ansible Tower Projects, Inventories and Job Templates **(With Lab)** ~ 40 min
- Automating IT Process using Ansible Tower Jobs **(with Lab)** ~ 40 min
- Automating IT Process using Workflows **(with Lab)** ~ 40 min
- Running Ad-Hoc Commands using Ansible Tower **(with Lab)** ~ 40 min
- Automating Windows **(with Lab)** ~ 40 min
- Automating Network Devices **(with Lab)** ~ 40 min

WORKSHOP: RED HAT ANSIBLE TOWER

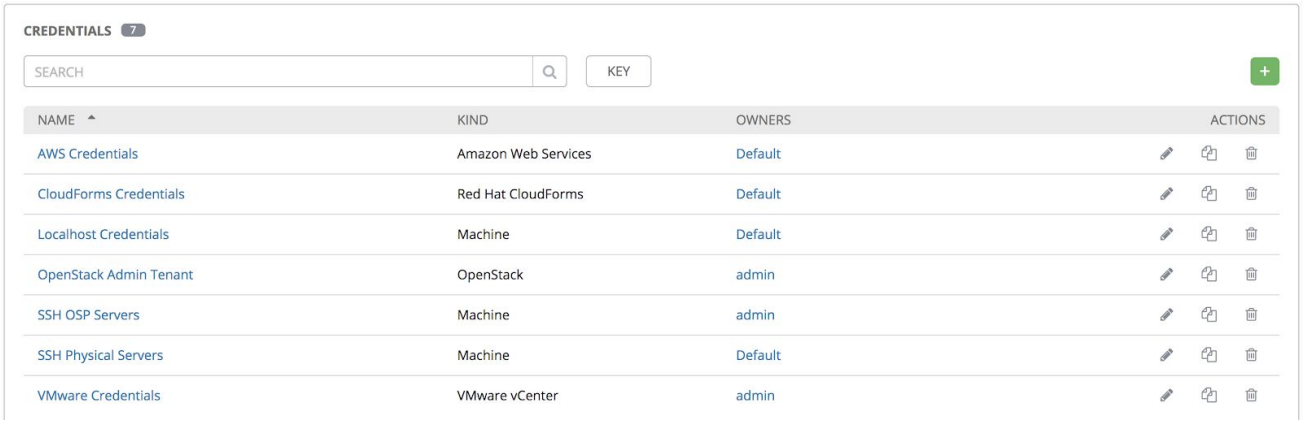
Access to Ansible Tower Web Portal,

User: admin **/ Password:** r3dh4t



1G. Create Credentials:

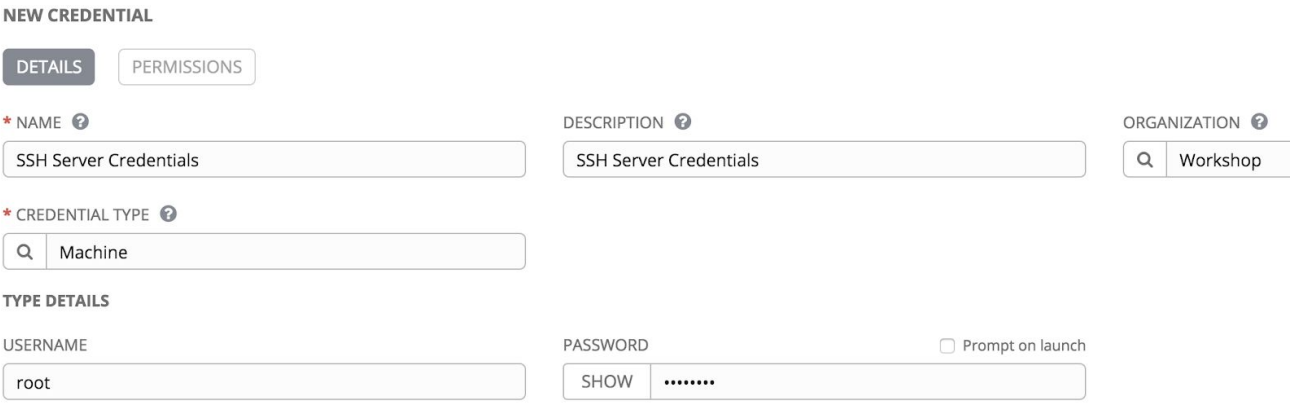
Navigate within the **Ansible Tower Portal** and click on **Credentials** (within RESOURCES Section). Click on + to add new Credentials:



Create the new Credentials as follows:

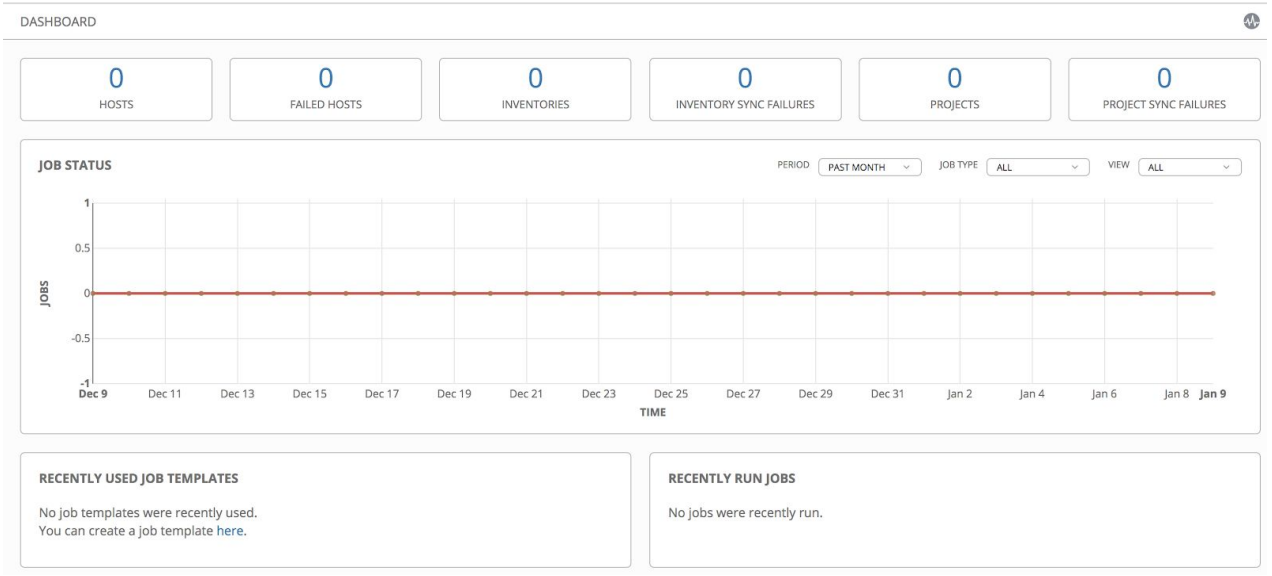
Name: SSH Server Credentials
Description: SSH Server Credentials
Organization: Default
Type: Machine
Username: student# ⇐=(Use your student number here)
Password: r3dh4t

Click on **SAVE** to save the changes.



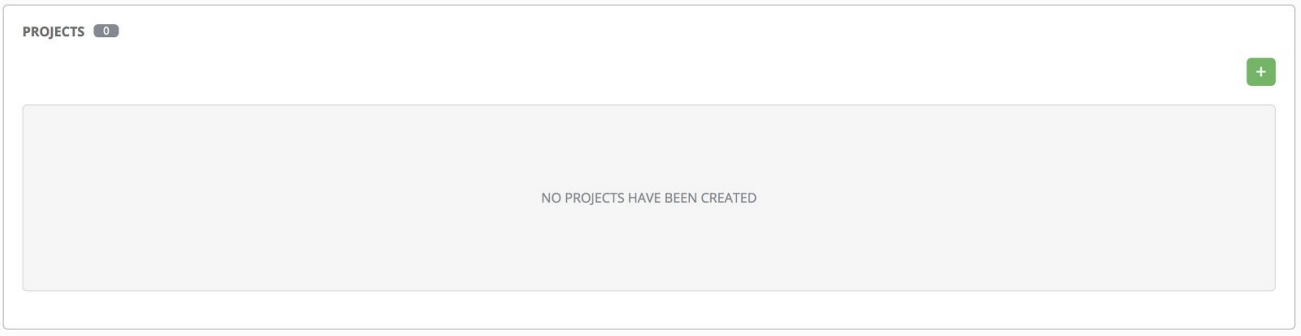
Lab 2: Creating Ansible Tower Projects, Inventories and Job Templates

Provisioning refers to the capacity an infrastructure has to deliver a resource and manage its life-cycle.



NOTE: You can see that you have no hosts, no projects, no Inventories, etc. because we are working within our new ***Default Organization***.

2B. Create 2 new Projects:



Click on **Projects** (within RESOURCES Section) and then click on + button. Create the new App Server Project using next information:

NAME: App Project
DESCRIPTION: An Application Server Project
ORGANIZATION: Default
SCM TYPE: Git
SOURCE DETAILS (SCM URL): https://github.com/leerich/ansible-examples.git
SCM UPDATE OPTIONS:

- [ ] Clean
- [ ] Delete on Update
- [x] Update Revision on Launch

Click on **SAVE** to create the App Server Project.

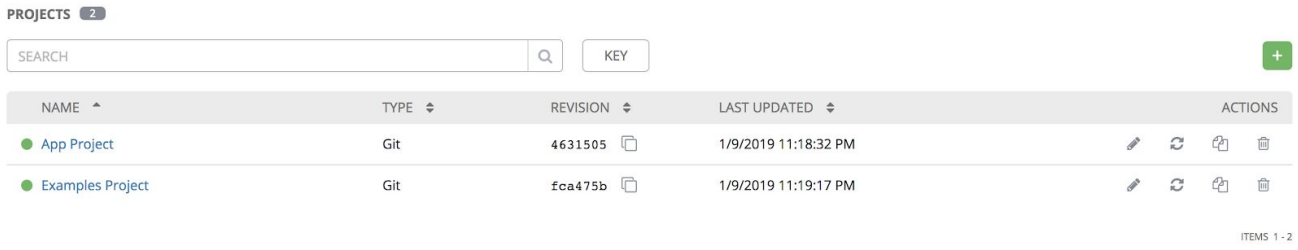
Click on **Projects** (within RESOURCES Section) and then click on + button. Create the new Examples Project using next information:

NAME: Examples Project
DESCRIPTION: A Project with many examples
ORGANIZATION: Default
SCM TYPE: Git
SOURCE DETAILS (SCM URL): https://github.com/leerich/ansible-examples.git
SCM UPDATE OPTIONS:

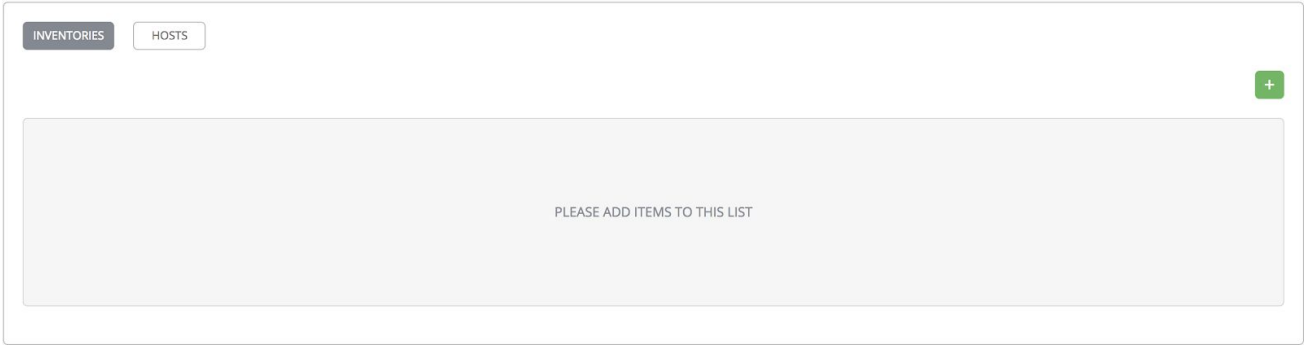
- [ ] Clean
- [ ] Delete on Update
- [x] Update Revision on Launch

Click on **SAVE** to create the Examples Project.

Click on **Projects** (within RESOURCES Section). You will see your two new projects:



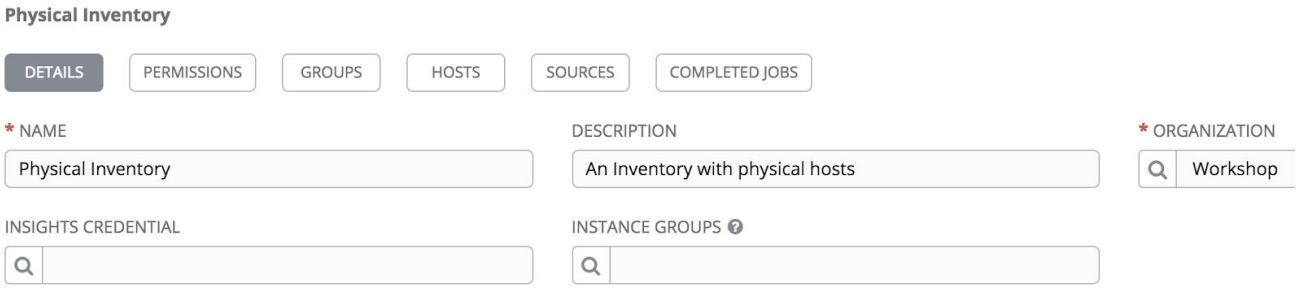
2C. Create a new Inventory:



Click on **Inventories** (within RESOURCES Section) and then click on + button and select “Inventory” (not “Smart Inventory”). Create the new Inventory using next information:

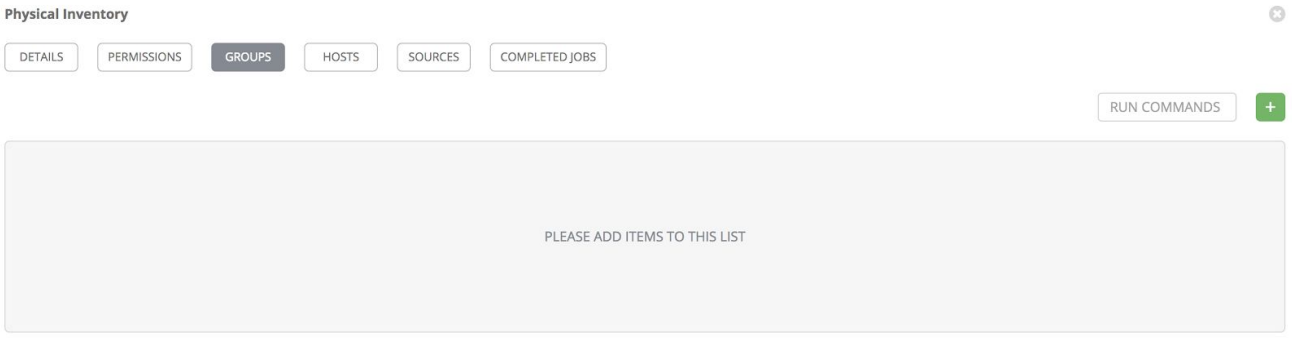
NAME: Physical Inventory
DESCRIPTION: An Inventory with physical hosts
ORGANIZATION: Default

Click on **SAVE** to create the new Inventory.



2D. Create 3 new Groups within Physical Inventory:

Within our recently created **Physical Inventory**, click on **GROUPS**:

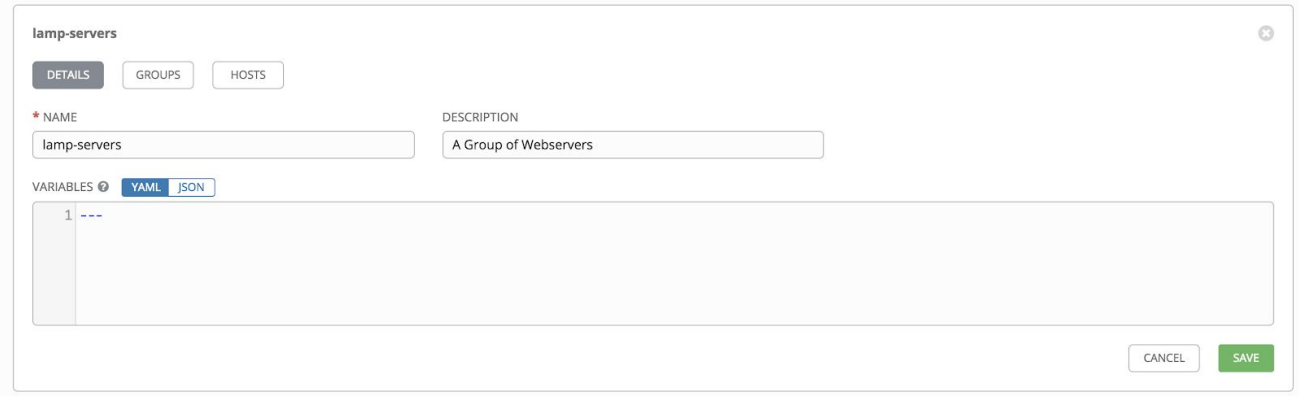


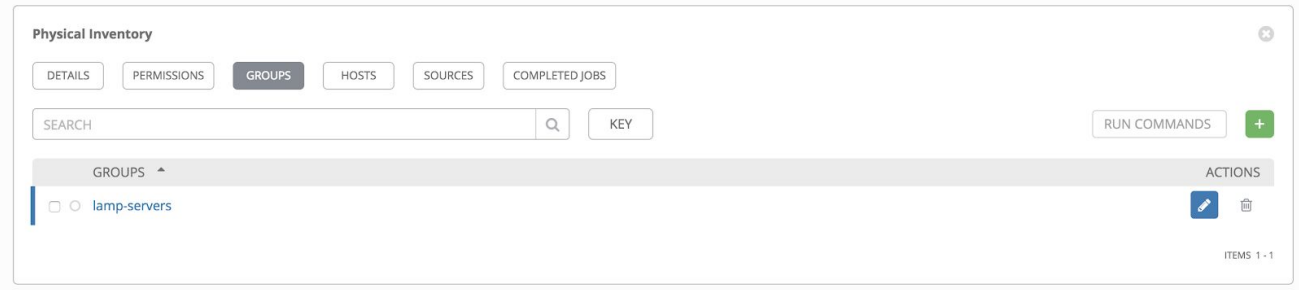
Now we need to **add three groups** as follows:

Click on + button to create new group **lamp-servers**:

NAME: lamp-servers
DESCRIPTION: A Group of Webservers

Click on **SAVE** to create the new group.

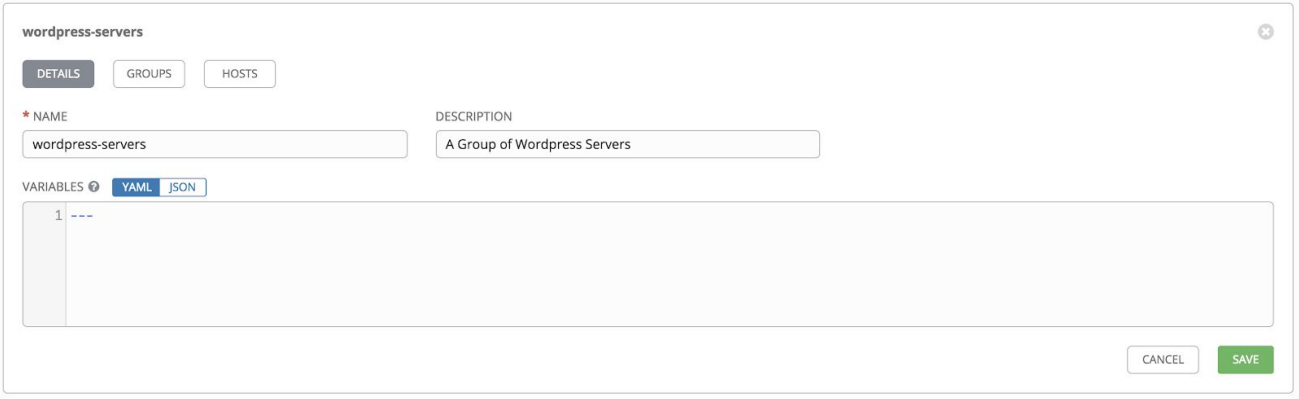


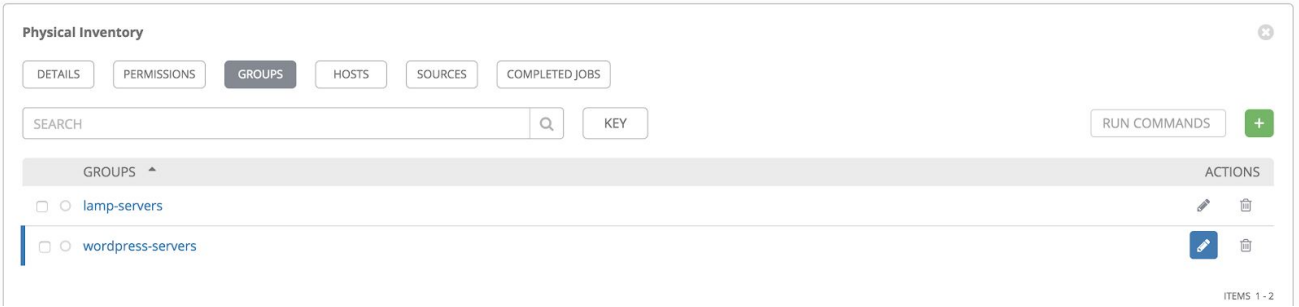


Click on  button again to create new group **wordpress-servers** (Physical Inventory will appear below the page):

NAME: wordpress-servers
DESCRIPTION: A Group of Wordpress Servers

Click on **SAVE** to create the new group.

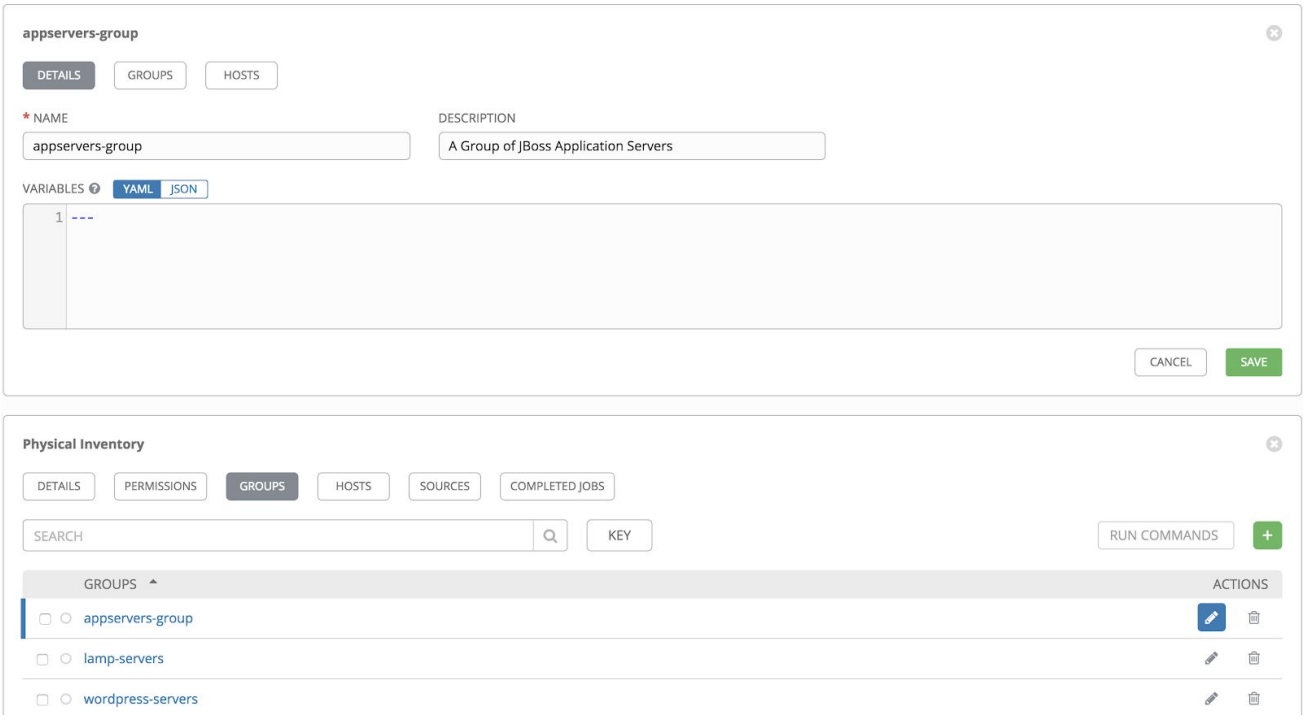




Click on  button again to create the new group **appservers-group** (Physical Inventory will appear below the page):

NAME: appservers-group
DESCRIPTION: A Group of JBoss Application Servers

Click on **SAVE** to create the new group.



2E. Create 3 new Hosts, each one within the corresponding Group:

Click on **Inventories** → **Physical Inventory** → **GROUPS** → **lamp-servers** and then click on **HOSTS**. After that, click on + button *(*selecting *New Host)* and add one host as follows:

HOST NAME: <workshop name>-student#-node1.rhdemo.io
DESCRIPTION: Web Server

Click on **SAVE** to create the new host.

Click on **Inventories** → **Physical Inventory** → **GROUPS** → **wordpress-servers** and then click on **HOSTS**. After that, click on + button *(*selecting *New Host)* and add one host as follows:

HOST NAME: <workshop name>-student#-node2.rhdemo.io
DESCRIPTION: Wordpress Server

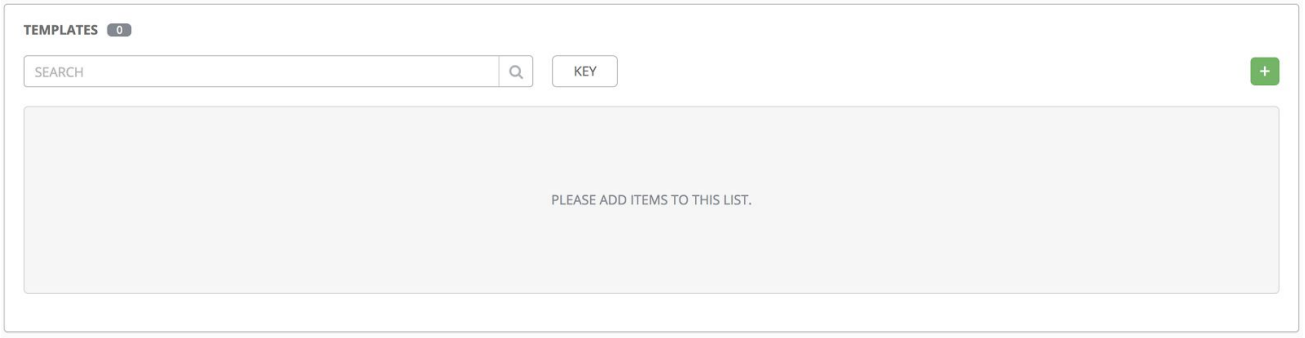
Click on **SAVE** to create the new host.

Click on **Inventories** → **Physical Inventory** → **GROUPS** → **appservers-group** and then click on **HOSTS**. After that, click on + button *(*selecting *New Host)* and add one host as follows:

HOST NAME: <workshop name>-student#-node3.rhdemo.io
DESCRIPTION: JBoss Application Server

Click on **SAVE** to create the new host.

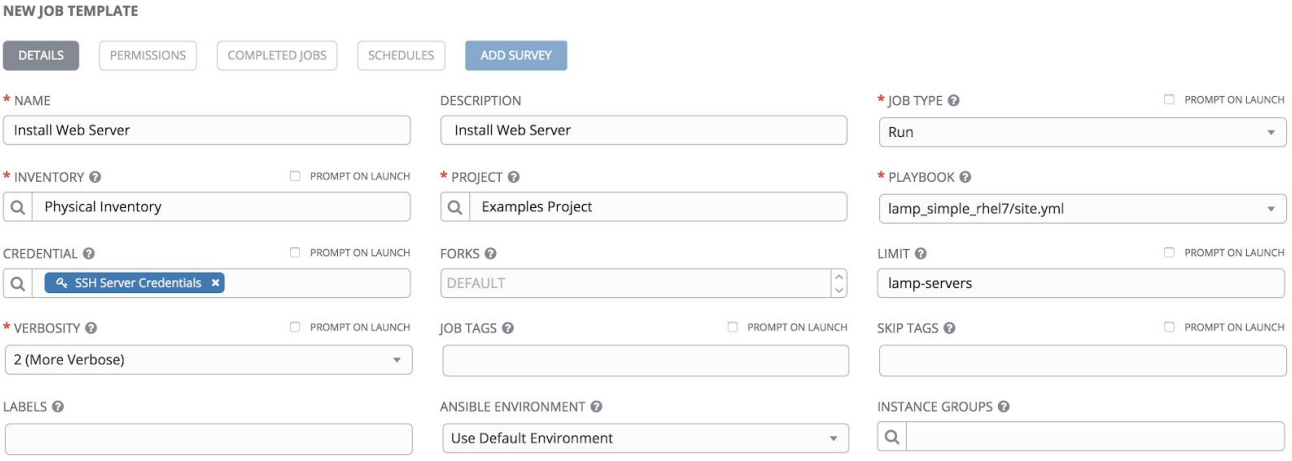
2F. Create 3 new Job Templates:



Click on **Templates** (within RESOURCES Section) and then click on + button *(*selecting *Job Template)* to create a new Job Template as follows:

NAME: Install Web Server
DESCRIPTION: Install Web Server
JOB TYPE: Run
INVENTORY: Physical Inventory
PROJECT: Examples Project
PLAYBOOK: lamp_simple_rhel7/site.yml
MACHINE CREDENTIAL: SSH Server Credentials
LIMIT: lamp-servers
VERBOSITY: 2 (More Verbose)
Enable Privilege Escalation: Checked

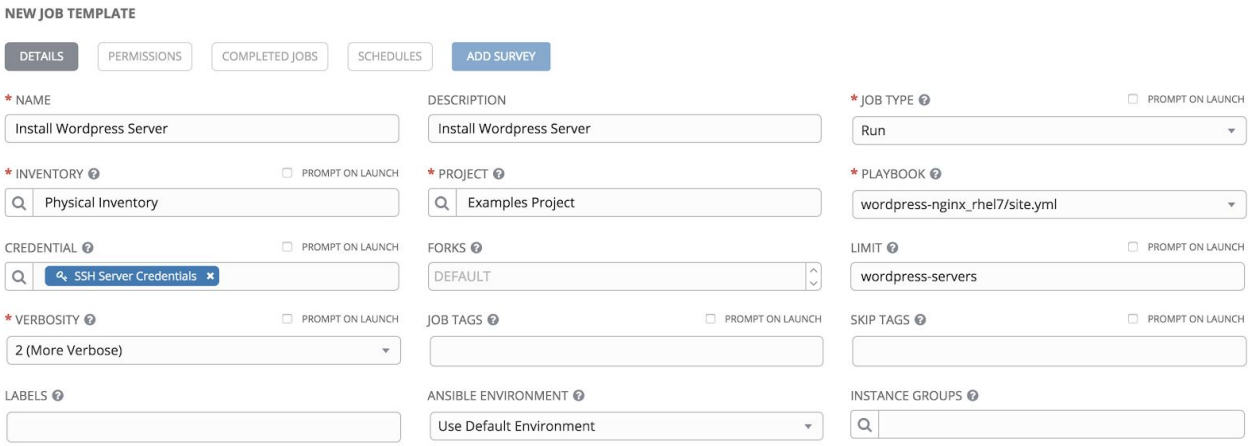
Click on **SAVE** to create the new Job Template



Click again on **Templates** and then click on + button *(*selecting *Job Template)* to create another Job Template as follows:

NAME: Install Wordpress Server
DESCRIPTION: Install Wordpress Server
JOB TYPE: Run
INVENTORY: Physical Inventory
PROJECT: Examples Project
PLAYBOOK: wordpress_nginx_rhel7/site.yml
MACHINE CREDENTIAL: SSH Server Credentials
LIMIT: wordpress-servers
VERBOSITY: 2 (More Verbose)
Enable Privilege Escalation: Checked

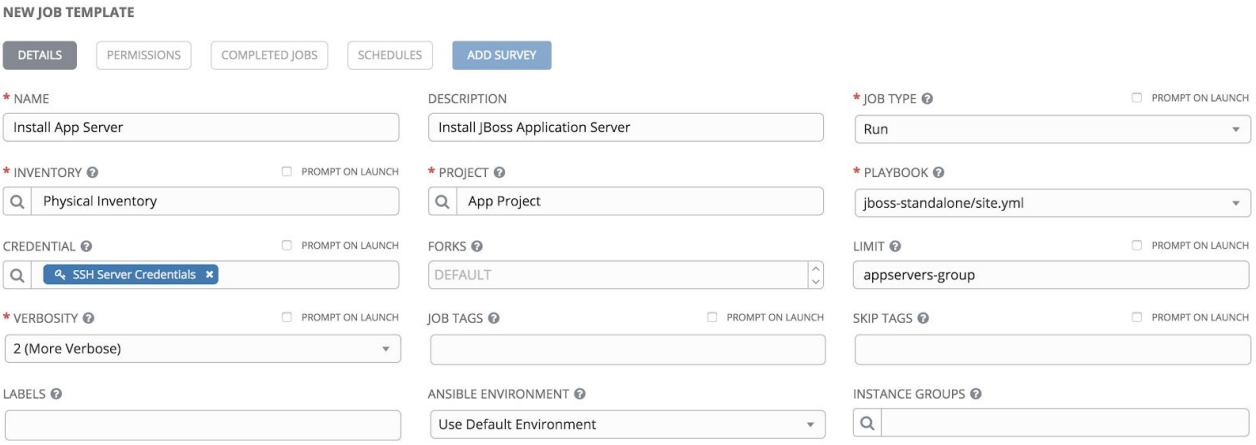
Click on **SAVE** to create the new Job Template



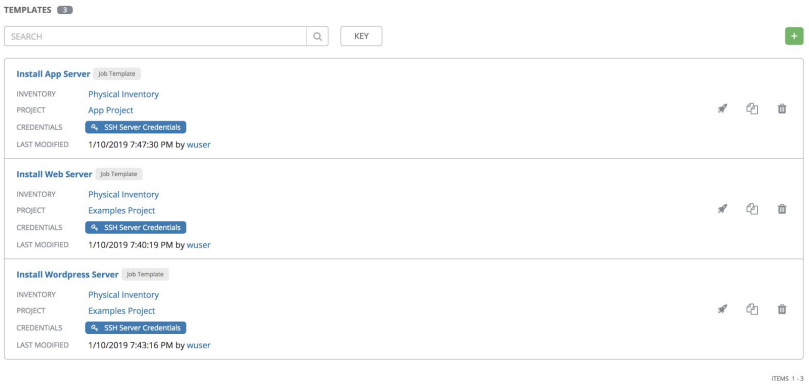
Click again on **Templates** and then click on  button ***(***selecting *Job Template)* to create another Job Template as follows:

NAME: Install App Server
DESCRIPTION: Install JBoss Application Server
JOB TYPE: Run
INVENTORY: Physical Inventory
PROJECT: App Project
PLAYBOOK: jboss-standalone/site.yml
MACHINE CREDENTIAL: SSH Server Credentials
LIMIT: appservers-group
VERBOSITY: 2 (More Verbose)
Enable Privilege Escalation: Checked

Click on **SAVE** to create the new Job Template



Click again on **Templates**. You will see three Job Templates as follows:



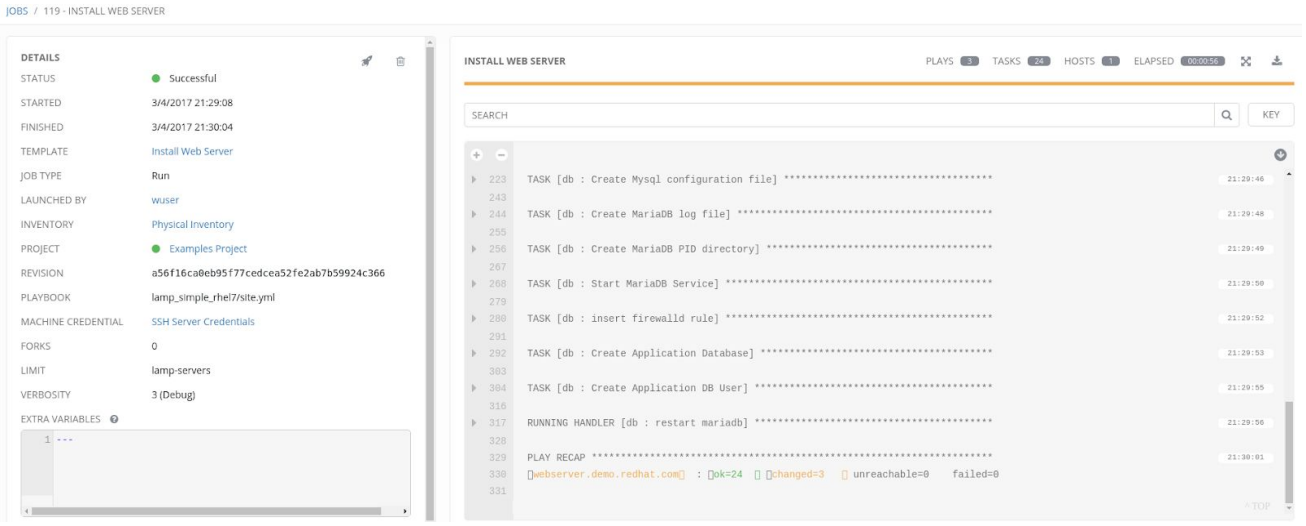
Lab 3: Automating IT Process using Ansible Tower Jobs

3A. Create new Apache Webserver via Job Template:

First, click on your **Web Server URL** to be sure it's not installed.

Then, access to Ansible Tower. Click on **Templates** and find the "**Install Web Server**" Job Template. Click  on to start a job creation using this template.

This Action will launch the **Install Web Server** Job Template, starting the Webserver installation. You will be redirected to a dynamic Job Output page:



You will see the Status of the Job, Started / Finished Time, Tasks, etc.

If your **Job** finished **Ok**, with Status **Successful**, go to your **Web Server URL** and make sure your Web Server is Up & Running.

We will be taking a look at the Ansible Playbook we are using for this Job Template, following this link:

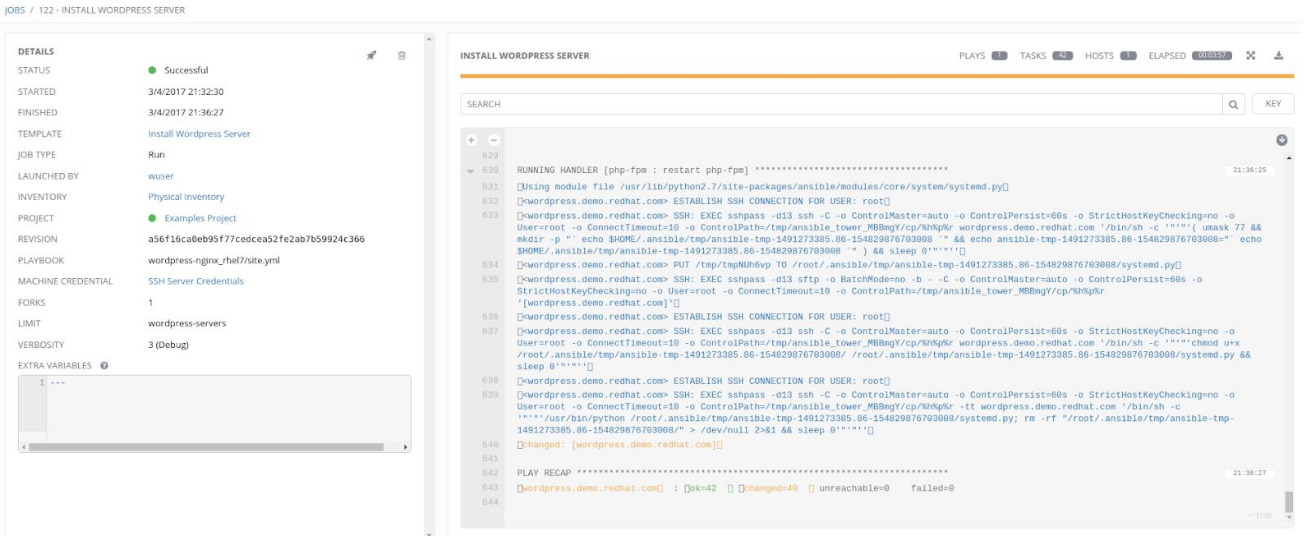
https://github.com/leerich/ansible-examples/blob/master/lamp_simple_rhel7/site.yml

3B. Create new Wordpress Website via Job Template:

First, click on your **Wordpress Server URL** to be sure it's not installed.

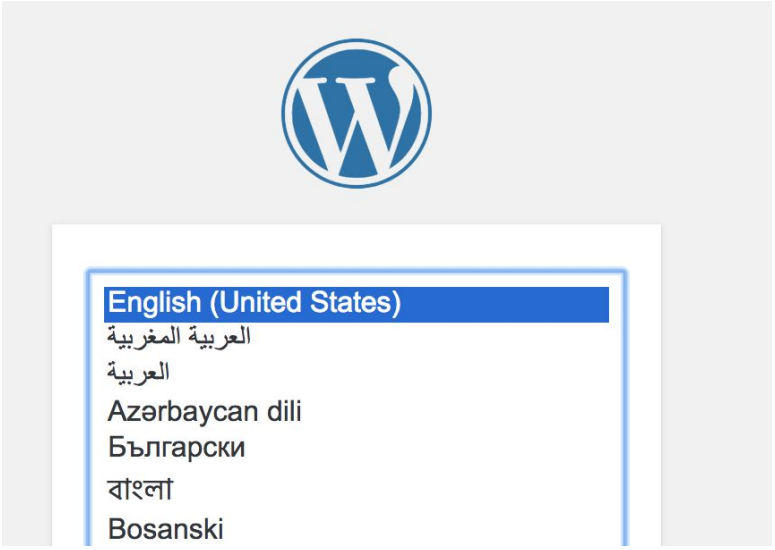
Then, access to Ansible Tower. Click on **Templates** and find the "**Install Wordpress Server**" Job Template. Click on to start a job creation using this template.

This Action will launch the **Install Wordpress Server** Job Template, starting the Website installation. You will be redirected to a dynamic Job Output page:



You will see the Status of the Job, Started / Finished Time, Tasks, etc.

If your **Job** finished **Ok**, with Status **Successful**, go to your **Wordpress Server URL** and make sure your Wordpress Server is Up & Running. **Play a moment with your new Wordpress!**



We will be taking a look at the Ansible Playbook we are using for this Job Template, following this link:

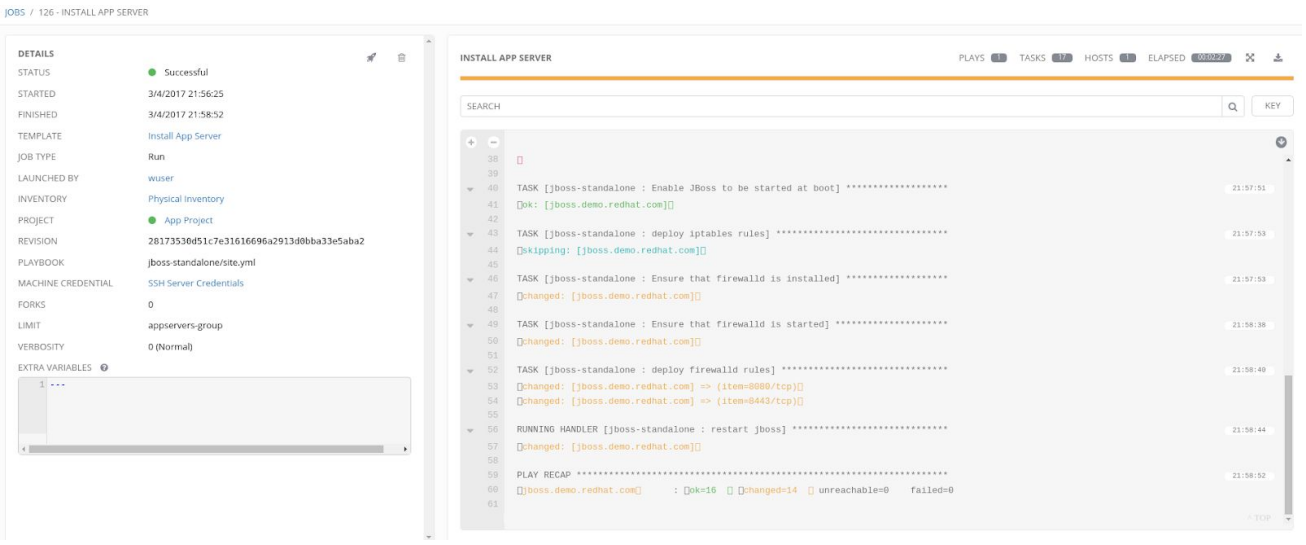
https://github.com/leerich/ansible-examples/blob/master/wordpress-nginx_rhel7/site.yml

3C Create new JBoss Application Server via Job Template:

First, click on your **JBoss Application Server URL** to be sure it's not installed.

Then, access to Ansible Tower. Click on **Templates** and find the "**Install App Server**" Job Template. Click  on to start a job creation using this template.

This Action will launch the **Install App Server** Job Template, starting the JBoss App Server installation. You will be redirected to a dynamic Job Output page:

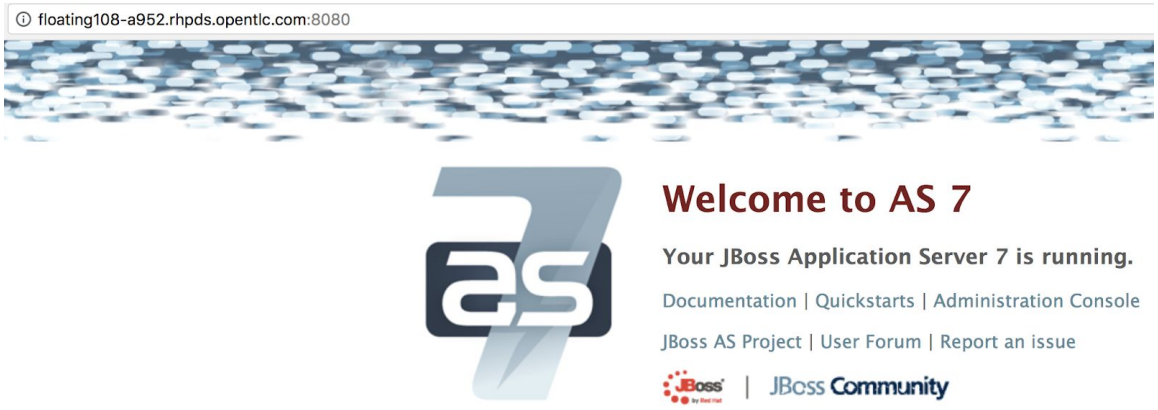


You will see the Status of the Job, Started / Finished Time, Tasks, etc.

If your **Job** finished **Ok**, with Status **Successful**, go to your **JBoss Application Server URL** **http://<node3 IP address>:8080** and make sure your App Server is Up & Running, **accessing via :8080 Port!**

Click on **Administration Console** link. You can access to the **JBoss Administration Console**:

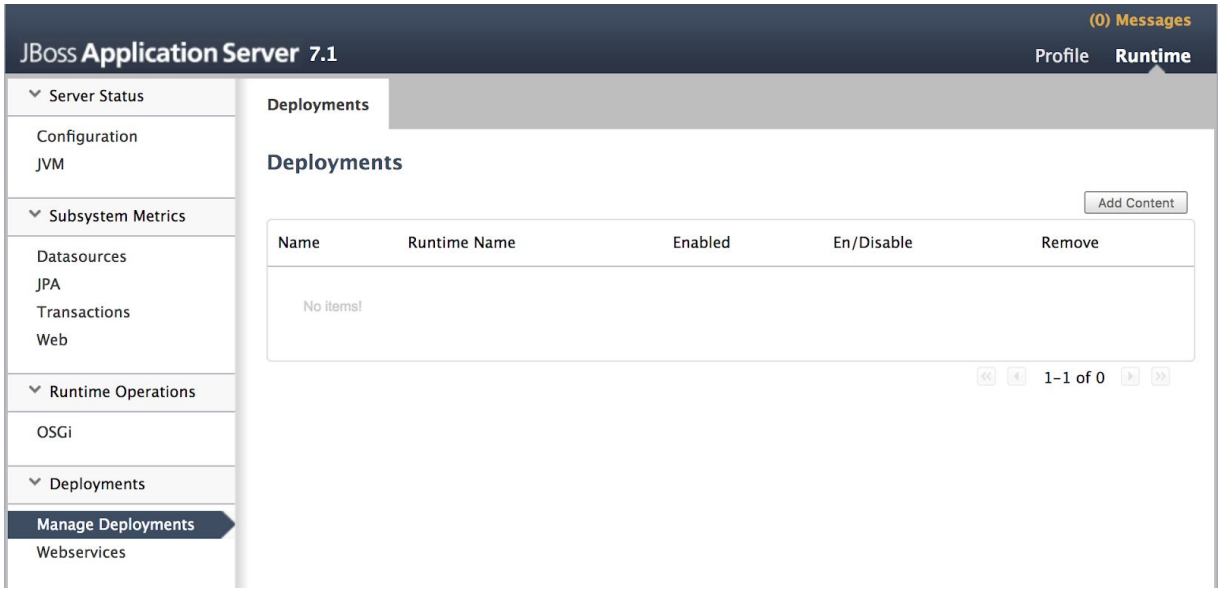
User: admin / **Password:** r3dh4t



We will be taking a look at the Ansible Playbook we are using for this Job Template, following this link:

https://github.com/leerich/ansible-examples/blob/master/jboss-standalone/site.yml

Now click on **Deployments** → **Manage Deployments**. You will see that we have no deployments yet. We will be creating a workflow template to deploy two new Java Applications on JBoss in Lab 4.



Lab 4: Automating IT Process Using Ansible Tower Workflows

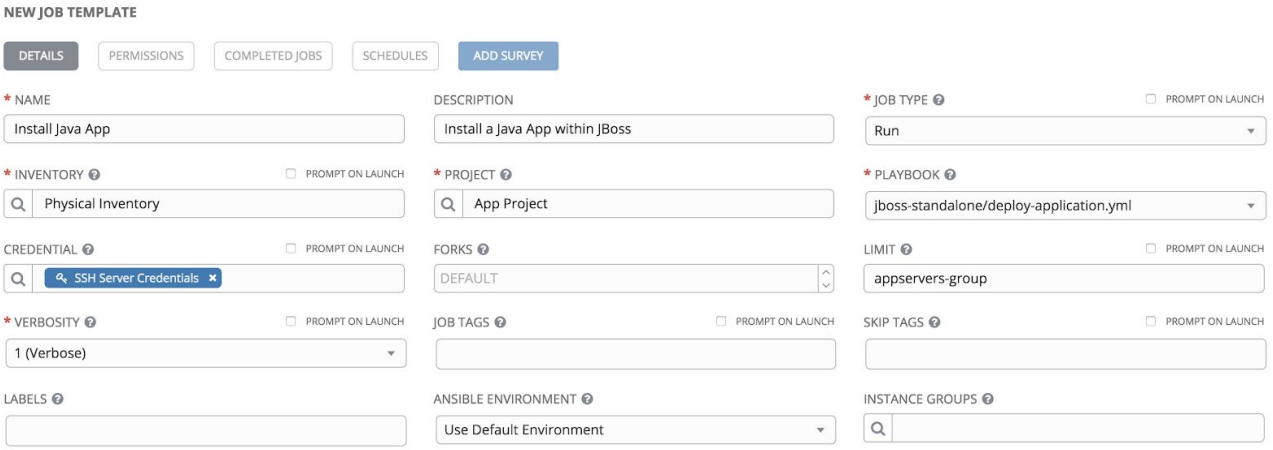
First as **wuser**, we need to create another Ansible Tower Job to deploy a Java Application within our JBoss App Server:

Click on **Templates** and then click on  button *(*selecting *Job Template)*→ **Job Template** to create a new Job Template as follows:

NAME: Install Java App
DESCRIPTION: Install a Java App within JBoss
JOB TYPE: Run
INVENTORY: Physical Inventory
PROJECT: App Project

PLAYBOOK: jboss-standalone/deploy-application.yml
MACHINE CREDENTIAL: SSH Server Credentials
LIMIT: appservers-group
VERBOSITY: 2 (More Verbose)
Enable Privilege Escalation: Checked

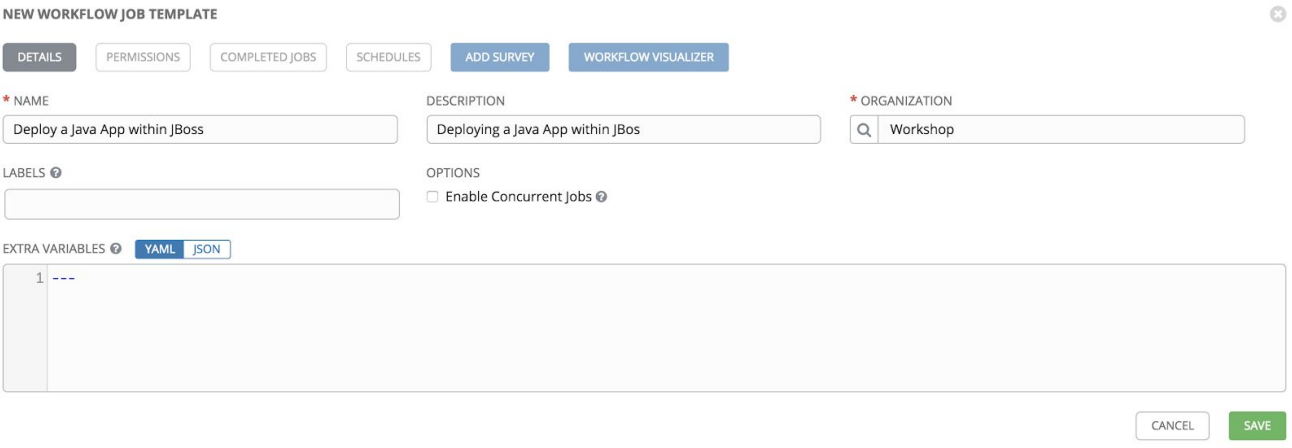
Click on **SAVE** to create the new Job Template



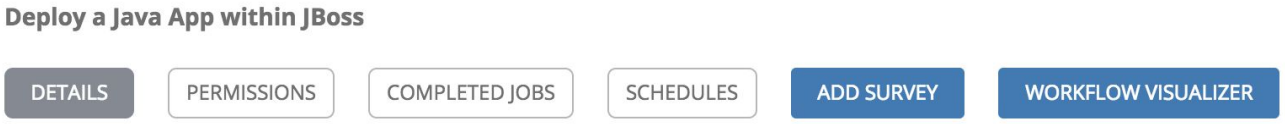
Then, we need to create a new **Workflow Job Template**, so we can later create a workflow of Job Templates:

Click on **Templates** and then click on  button *(*selecting *Workflow Template)*→ **Workflow Template** to create a new Workflow Template as follows:

NAME: Deploy a Java App within JBoss
DESCRIPTION: Deploying a Java App within JBoss
ORGANIZATION: Default



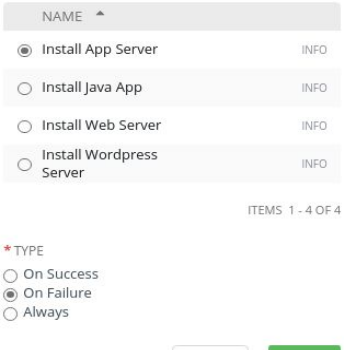
Click on **SAVE.** Then, create a workflow within our new Workflow Job Template, so click on **WORKFLOW VISUALIZER**:



Next, click on **START** button: 

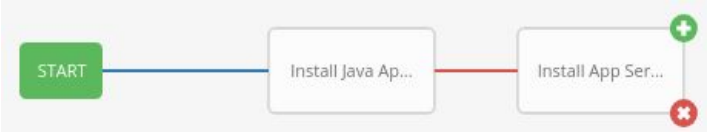
We can now select our first initial Job Template. Select **Install Java App** Job Template and click on **SELECT**.
Now click on **Install Java App** Job box:

Click on **Green Plus** to add a sequential Job Template. Select **Install App Server** Job Template and select **On Failure** as **TYPE**. This Job will run if our first Job *Install Java App* has a ***failed status***, so *Install App Server* Job will ensure to have all the necessary JBoss App Server infrastructure.

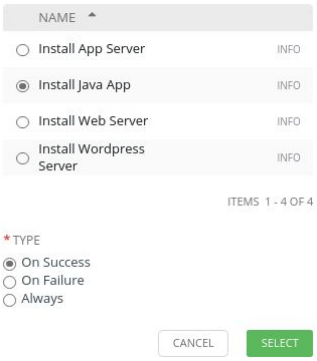


Click on **SELECT** to select the Job Template.

Now click on on **Install App Server** Job box:



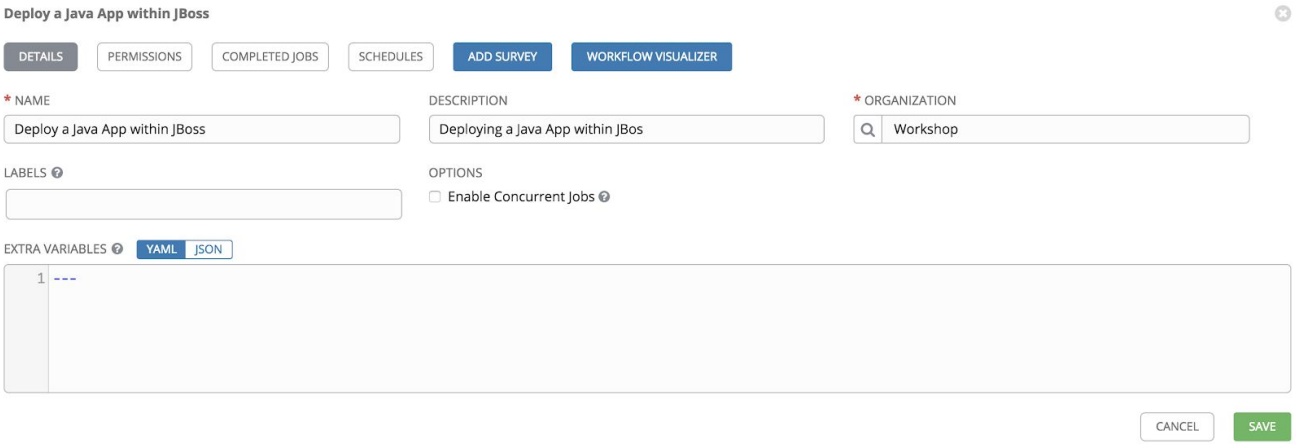
Click on **Green Plus** to add a sequential Job Template. Select **Install Java App** Job Template and select **On Sucess** as **TYPE**. This Job will run if our *Install App Server Job* has a ***successful status***, so *Install Java App* Job will install the Java Application on our JBoss App Server infrastructure.



Click on **SELECT** to select the Job Template.

You will have something like this:

Then click on **SAVE** to create the new Workflow. You will be coming back to the main **workflow template** screen:

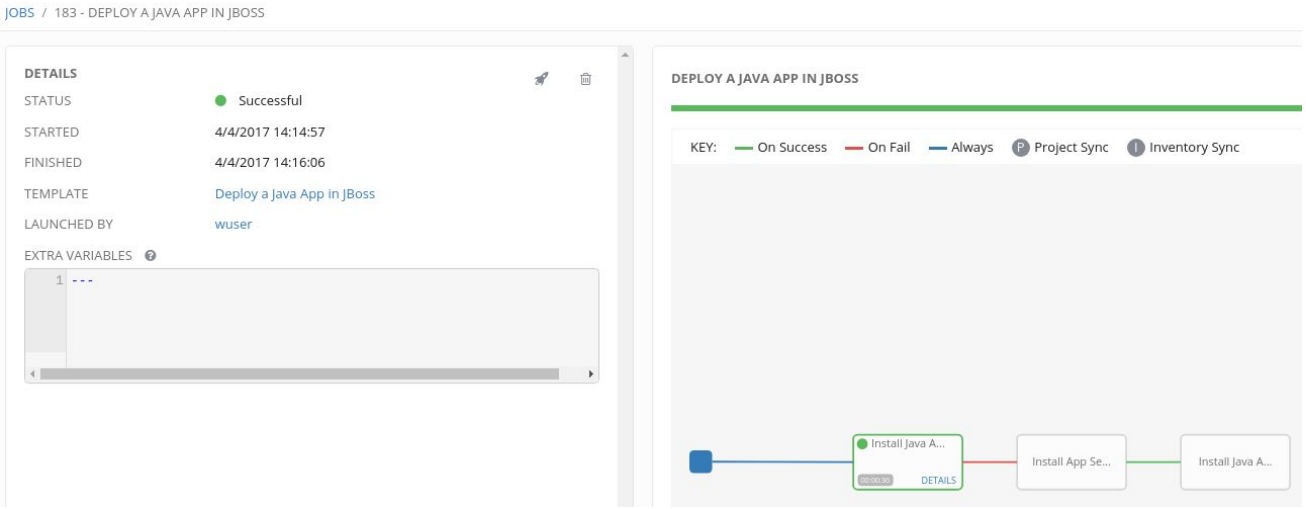


Now, click on **SAVE** to save **Deploy a Java App within JBoss** again.

NOTE: Make sure your **JBoss Java Application URL** is not available (***HTTP Status 404 - :8080/ticket-monster***) **before starting you workflow! → Access your URL using :8080 Port!**

Now Click on **Templates** and find the "**Deploy a Java App in JBoss**" Workflow Template. Click  on to start a Workflow Job creation using this workflow template.

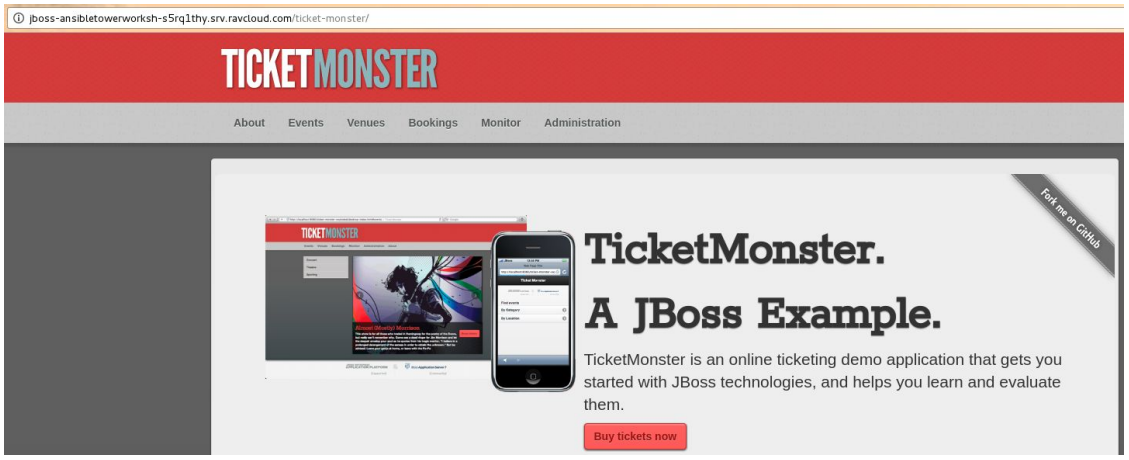
This Action will launch the **Install Java App** Job Template, starting the Java App Server installation. You will be redirected to a dynamic Workflow Job Output page:



If our first Job Template has a ***Succesful status***, Workflow finishes, but if it has a ***Failure status***, workflow will continue until finishes.

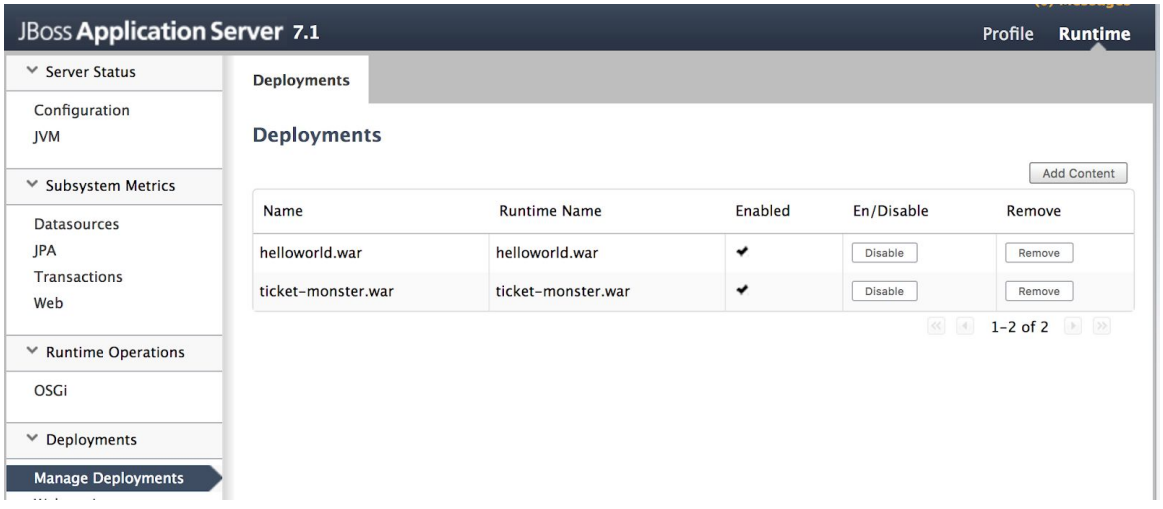
If everything finishes **Ok**, you can access to your **JBoss Java Application URL** (with **:8080*/ticket-monster*** context root and then try with **:8080*/helloworld***)

You can access to ***TicketMonster Web Application Server*** to buy some tickets:



Just play a moment with your new Java Application!

Now come back to your **Administration Console** link. Then click on **Deployments** → **Manage Deployments**. Refresh page if necessary. You will see your new deployments:



Lab 5: Running Ad-Hoc Commands Using Ansible Tower

Scenario

An **Ad-Hoc command** is something that you might type in to do something really quick, but don't want to save for later. We will use ***Ansible Tower*** to run some **Ad-Hoc commands**, such as **date**, **last**, **whoami** ans so on, into some different servers at the same time.

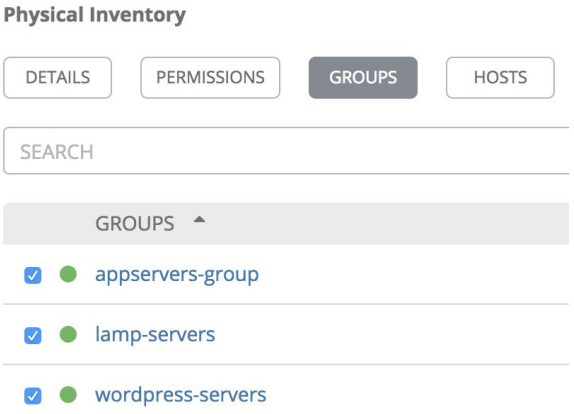
Tasks

Using our servers in **Physical Inventory**, run some commands using different **Ansible Modules**.

Access to **Ansible Tower Portal**, using our new **Workshop User**:

User: wuser / Password: r3dh4t

Click on **Inventories** and then click on **Physical Inventory → GROUPS**. Then select (**check**) our 3 different Groups: **appservers-group**, **lamp-servers** and **wordpress-servers**:



After that, click on **RUN COMMANDS** button:

5A. Using Command Module:

Within **EXECUTE COMMAND** section, run **date** command as follows:

MODULE: command
MACHINE CREDENTIAL: SSH Server Credentials
ARGUMENTS: date
LIMIT: appservers-group:lamp-servers:wordpress-servers ←**(keep it as is)**

Click on **LAUNCH** to run the command. Observe the results.

You will observe within **STANDARD OUT** section something like this:

```
webserver.demo.redhat.com | CHANGED | rc=0 >>
Sat Jan 12 01:35:27 UTC 2019

jboss.demo.redhat.com | CHANGED | rc=0 >>
Sat Jan 12 01:35:27 UTC 2019

wordpress.demo.redhat.com | CHANGED | rc=0 >>
Sat Jan 12 01:35:27 UTC 2019
```

NOTE: ***You can click on*** **Download Output** ***to download the results.***

Click on **Inventories** and then click on **Physical Inventory → GROUPS**. Select the same Groups and click on **RUN COMMANDS** again.

Within **EXECUTE COMMAND** section, run **last** command as follows:

MODULE: command

MACHINE CREDENTIAL: SSH Server Credentials
ARGUMENTS: last
LIMIT: appservers-group:lamp-servers:wordpress-servers ←**(keep it as is)**

Click on **LAUNCH** to run the command. Observe the results.

You will observe within **STANDARD OUT** section something like this:

```
jboss.demo.redhat.com | CHANGED | rc=0 >>
root      pts/0        ansible.demo.red Sat Jan 12 01:37   still logged in
root      pts/0        ansible.demo.red Sat Jan 12 01:35 - 01:35  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:19  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)
root      pts/0        ansible.demo.red Sat Jan 12 01:18 - 01:18  (00:00)…
```

5B. Using Yum Module:

Click on **Inventories** and then click on **Physical Inventory → GROUPS**. Select the same Groups and click on **RUN COMMANDS** again.

Within **EXECUTE COMMAND** section, using **yum module**, install **telnet** package as follows:

MODULE: yum

MACHINE CREDENTIAL: SSH Server Credentials
ARGUMENTS: name=telnet **state=**latest
LIMIT: appservers-group:lamp-servers:wordpress-servers ←**(keep it as is)**
Privilege Escalation: Make sure this is checked.

Click on **LAUNCH** to run the command. Observe the results.

You will observe within **STANDARD OUT** section something like that:

```
SSH password:
jboss.demo.redhat.com | SUCCESS => {
    "changed": true,
    "msg": "",
    "rc": 0,
    "results": [
        "Loaded plugins: fastestmirror\nLoading mirror speeds from cached hostfile\n * base: mirror.cogentco.com\n * extras: mirror.netdepot.com\n * updates: mirror.vcu.edu\nResolving Dependencies\n--> Running transaction check\n---> Package telnet.x86_64 1:0.17-60.el7 will be installed\n--> Finished Dependency Resolution\n\nDependencies Resolved\n\n================================================================================\n Package          Arch
Version                 Repository      Size\n================================================================================\nInstalling:\n telnet
x86_64          1:0.17-60.el7          base            63 k\n\nTransaction
Summary\n================================================================================\nInstall  1 Package\n\nTotal download size: 63 k\nInstalled size: 113 k\nDownloading packages:\nRunning transaction check\nRunning transaction test\nTransaction test succeeded\nRunning transaction\n  Installing : 1:telnet-0.17-60.el7.x86_64                                 1/1 \n  Verifying  : 1:telnet-0.17-60.el7.x86_64                                 1/1 \n\nInstalled:\n telnet.x86_64 1:0.17-60.el7                                              \n\nComplete!\n"
    ]
```

5C. Using User Module:

Click on **Inventories** and then click on **Physical Inventory → GROUPS**. Select the same Groups and click on **RUN COMMANDS** again.

Within **EXECUTE COMMAND** section, using **User module**, create **demo** user as follows:

MODULE: user
MACHINE CREDENTIAL: SSH Server Credentials
ARGUMENTS: **name=**demo **comment=**"Demo User" **password=**1ctRQ8kmb$PMF.2YAjQrdjiDGFuE4uw0 ←**(needs to be crypted)**
LIMIT: appservers-group:lamp-servers:wordpress-servers ←**(keep it as is)**
Privilege Escalation: Make sure this is checked.

Click on **LAUNCH** to run the command. Observe the results.

You will observe within **STANDARD OUT** section something like that:

```
SSH password:
webserver.demo.redhat.com | SUCCESS => {
    "changed": true,
    "comment": "Demo User",
    "createhome": true,
    "group": 1001,
    "home": "/home/demo",
    "name": "demo",
    "password": "NOT_LOGGING_PASSWORD",
    "shell": "/bin/bash",
    "state": "present",
    "system": false,
    "uid": 1001
}
```

5D. Using Ping Module:

Click on **Inventories** and then click on **Physical Inventory → GROUPS**. Select the same Groups and click on **RUN COMMANDS** again.

Within **EXECUTE COMMAND** section, using **Ping module**, **ping** hosts in Groups as follows:

MODULE: ping
MACHINE CREDENTIAL: SSH Server Credentials
ARGUMENTS:
LIMIT: appservers-group:lamp-servers:wordpress-servers ←**(keep it as is)**

Click on **LAUNCH** to run the command. Observe the results.

You will observe within **STANDARD OUT** section something like that:

```
SSH password:
wordpress.demo.redhat.com | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
webserver.demo.redhat.com | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
jboss.demo.redhat.com | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
```

Lab 6: Automating Windows

Ansible knew that the key was to bring the same simple, agentless paradigm to managing Windows, while still feeling native to Windows administrators. Ansible's native **Windows support** uses Windows PowerShell remoting to manage Windows like Windows in the same Ansible agentless way that Ansible manages Linux like Linux.

Plus, with Ansible's easy extensibility, you can write your own modules in **PowerShell** and extend Ansible for whatever other functionality you need. Ansible users have written modules for managing filesystem ACLs, managing Windows Firewall, and managing hostname and domain membership, and more.

In this lab we will be automating many tasks (such as creating users, copying files, configuring services, etc.) within a **Windows 2012 Server.**

Access to Ansible Tower as **wuser** and follow next steps:

6A. Create Windows Credentials:

Navigate within the **Ansible Tower Portal** and click on **Credentials** (within RESOURCES Section). Click on  to add new Windows Credentials as follows:

Name: Windows Credentials
Description: Windows Credentials
Organization: Workshop
Type: Machine
Username: Administrator
Password: r3dh4t

Click on **SAVE** to save the changes.

6B. Create Windows Project:

Click on **Projects** (within RESOURCES Section). Click on  button. Create the new **Windows Project** using next information:

NAME: Windows Project
DESCRIPTION: Windows Project
ORGANIZATION: Workshop
SCM TYPE: Git
SOURCE DETAILS (SCM URL): https://github.com/leerich/windows-ansible.git
SCM UPDATE OPTIONS:

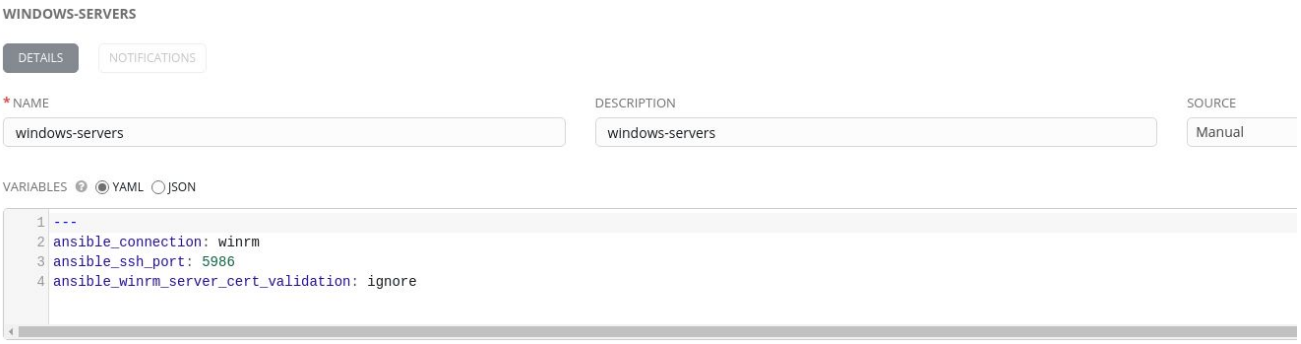
Click on **SAVE** to create the new Project.

6C. Create windows-servers Group:

Click on **Inventories** → **Physical Inventory** → **GROUPS** and then click on  to add **windows-servers** group as follows:

NAME: windows-servers
DESCRIPTION: Windows Servers Group
VARIABLES (YAML):
---
ansible_connection: winrm
ansible_ssh_port: 5986
ansible_winrm_server_cert_validation: ignore

Click on **SAVE** to create the new group.



6D. Add a new host to windows-servers Group:

Click on **Inventories** → **Physical Inventory** → **GROUPS** → **windows-servers** and then click on **HOSTS**. Now click on + (select *New Host*) to add one host as follows:

HOST NAME: windows.demo.redhat.com
DESCRIPTION: Windows 2012

Click on **SAVE** to create the new host.

6E. Create a Windows Job Template:

Click on **Templates** and then click on + button *(*selecting *Job Template)* to create a new Job Template as follows:

NAME: Automating Windows
DESCRIPTION: Automating Windows
JOB TYPE: run
INVENTORY: Physical Inventory
PROJECT: Windows Project
PLAYBOOK: tower-ansible-automating-windows.yml
MACHINE CREDENTIAL: Windows Credentials
LIMIT: windows-servers
VERBOSITY: 0 (Normal)

Click on **SAVE** to create the new Job Template

6F. First, verify that our Windows 2012 has not been yet automated:

Access to **Windows 2012** via RDP:

Username: Administrator / **Domain:** local / **Password:** r3dh4t

TASK: Verify that **Telnet Client** and **IIS Web-Server** has **not** been yet installed:

- Click on **Server Manager** → **Add roles and features**.
- Then click on **Server Selection** and then click on **Server Roles**. Verify that **Web Server IIS** has **not** been yet installed.
- Then click on **Features** and verify that **Telnet Client** has **not** been yet installed

TASK: Verify that **Ansible User** has **not** been yet created:

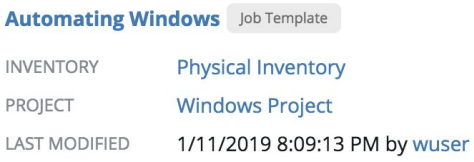
- Click on **Control Panel** → **User Accounts** → **User Accounts** → **Manage Another Account**. Verify that **Ansible User** has **not** been yet created

TASK: Verify that **nerd.jpg** image does **not** exist:

- Click on **File Explorer** and then click on **Downloads**. Verify that **nerd.jpg** image does **not** exist.

6G. Run the Windows Job Template:

Click on **Templates** and find the "**Automating Windows**" Job Template. Click on to start a job creation using this template.

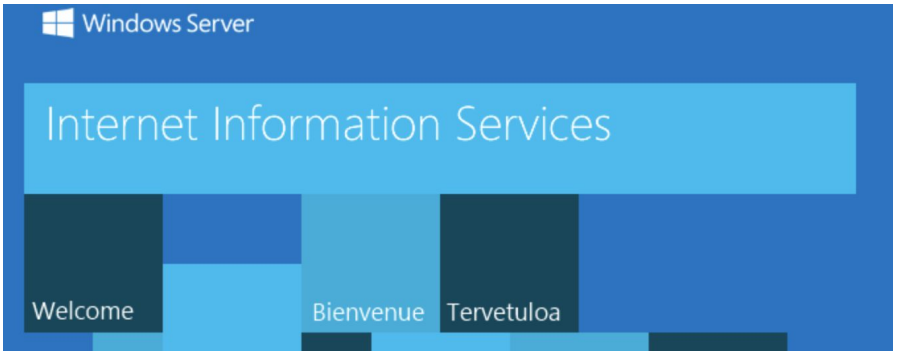


This Action **will automate** some tasks on **Windows 2012**, such as:

- Add a Windows Admin User (Ansible User)
- Install Software (Telnet and IIS Server)
- Copy a JPG archive (neerdd.jpg as nerd.jpg)
- Run a PowerShell script (Hello World)
- Run some Windows commands (ipconfig)
- Check Status of file win.in

If your **Job Template** ran **successfully**, verify again steps in **6F** section, but now you will find that **Windows 2012** has been automated!

Access to **Windows 2012** URL but now via **Web Browser**, just to make sure **Web Server IIS** is **Up** and **Running**!



Now just take a look at the Ansible Playbook:

https://github.com/leerich/windows-ansible/blob/master/tower-ansible-automating-windows.yml

Lab 7: Automating Network Devices

7a. Create VyOS Credentials:

Navigate within the **Ansible Tower Portal** and click on **Credentials** (within RESOURCES Section). Click on  to add new Network Credentials as follows:

NAME: VyOS Credentials
DESCRIPTION: VyOS Credentials
ORGANIZATION: Workshop
TYPE: Network
USERNAME: vyos
PASSWORD: r3dh4t

Click on **SAVE** to save the changes.

7B. Create VyOS Project:

Click on **Projects** (within RESOURCES Section). Click on  button. Create the new **VyOS Project** using next information:

NAME: VyOS Project
DESCRIPTION: a VyOS Project
ORGANIZATION: Workshop
SCM TYPE: Git
SCM_URL: https://github.com/leerich/vyos-ansible
SCM UPDATE OPTIONS:

Click on **SAVE** to create the new Project.
7C. Create vyos-servers group:

Click on **Inventories** → **Physical Inventory** → **GROUPS**. Now click on  to add **vyos-servers** group as follows:

NAME: vyos-servers
DESCRIPTION: VyOS Servers Group

Click on **SAVE** to create the new group.

7D. Add a new host to vyos-servers group:

Click on **Inventories** → **Physical Inventory** → **GROUPS** → **vyos-servers** and then click on **HOSTS**. Now click on  button (selecting *New Host*) to add one host as follows:

HOST NAME: vyos.demo.redhat.com
DESCRIPTION: VyOS Network Appliance

Click on **SAVE** to create the new host.

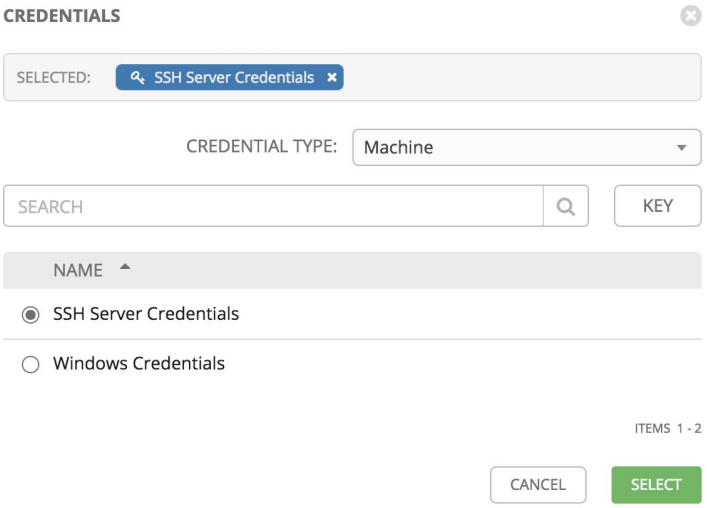
7E. Create a VyOs Job Template:

Click on **Templates** and then click on  button ***(***selecting *Job Template)* to create a new Job Template as follows:

NAME: Automating VyOS
DESCRIPTION: Automating VyOS
JOB TYPE: run
INVENTORY: Physical Inventory
PROJECT: VyOS Project
PLAYBOOK: tower-ansible-automating-vyos.yml
MACHINE CREDENTIAL: SSH Server Credentials
NETWORK CREDENTIAL: VyOS Credentials
LIMIT: vyos-servers
VERBOSITY: 0 (Normal)

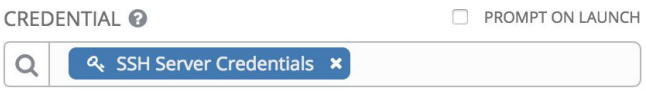
TIP: Selecting Machine Credential: just click on  icon within **CREDENTIAL** field:

Select **Machine** as **CREDENTIAL TYPE** and now select **SSH Server Credentials**:

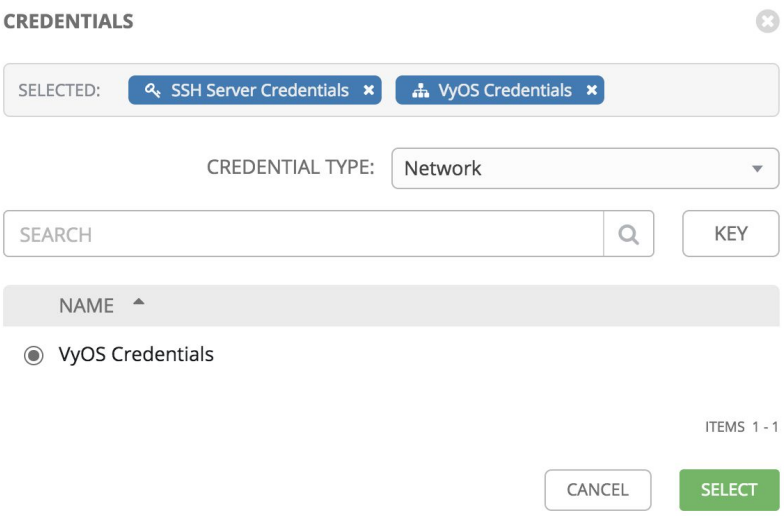


Finally click on **SELECT** button.

TIP: Selecting Network Credential: just click again on  icon within **CREDENTIAL** field:

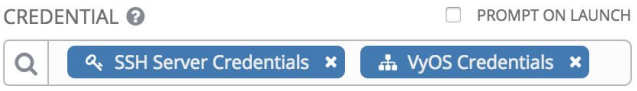


Select **Network** as **CREDENTIAL TYPE** and now select **VyOS Credentials**:



Finally click on **SELECT** button.

You will have your CREDENTIAL field as follows:



Click on **SAVE** to create the new Job Template

7F. Run the "Automating VyOS" Job Template:

Click on **Templates** and find the "**Automating VyOS**" Job Template. Click on to start a job creation using this template.

This Action **will automate** some tasks on **VyOS Network Virtual Appliance**, providing a **NAT Gateway** for this device with two interfaces, as described within the VyOS Quick Start Guide:

https://wiki.vyos.net/wiki/User_Guide#Quick_Start_Guide

If your **Job Template** ran **successfully**, just click on some tasks to verify that **your VyOS has been automated!**

Now take a look at the Ansible Playbook:
https://github.com/leerich/vyos-ansible/blob/master/tower-ansible-automating-vyos.yml

If you finished the Workshop, please answer this Survey:

Select **Ansible Tower Automation** as **Test Drive Name:**
https://docs.google.com/forms/d/e/1FAIpQLSdauHtguNMYICRE5x1nrE0Y11ASfDNnptSEqbLZi_TCsNgb2g/viewform