

Configuration Manual - Automate Provisioning and Orchestration of Cloud Infrastructure using AWX

Setup the AWX host, specifications below

Type	Value
CPU Processor	Intel(R) Core(TM) i7-3520M CPU @ 2.90GHz
No. of Cores	2
Memory	4G
Operating system	Centos 8.4
Ansible Version	2.9.18
AWX Version	17.1.0
Docker Version	20.10.10
Docker Compose	1.29.2

Step 1: Install Centos8 using the OracleVM image and install dependency packages.

```
root@AWX:~  
[root@AWX ~]# uname -a  
Linux AWX 4.18.0-305.25.1.el8_4.x86_64 #1 SMP Wed Nov 3 10:29:07 UTC 2021 x86_64  
x86_64 x86_64 GNU/Linux  
[root@AWX ~]# cat /etc/redhat-release  
CentOS Linux release 8.4.2105  
[root@AWX ~]# yum repolist  
repo id                repo name  
appstream              CentOS Linux 8 - AppStream  
baseos                 CentOS Linux 8 - BaseOS  
extras                 CentOS Linux 8 - Extras  
[root@AWX ~]#
```

```
# dnf install epel-release -y
```

```
[root@AWX ~]# dnf install epel-release -y  
Last metadata expiration check: 7:23:07 ago on Mon 08 Nov 2021 05:04:27 AM EST.  
Dependencies resolved.  
=====
```

Package	Architecture	Version	Repository	Size
Installing:				
epel-release	noarch	8-11.el8	extras	24 k

```
=====
```

```
# dnf install git gcc gcc-c++ ansible nodejs gettext device-mapper-  
persistent-data lvm2 bzip2 python3-pip -y
```

```
[root@AWX ~]# dnf install git gcc gcc-c++ ansible nodejs gettext device-mapper-persistent-data lvm2 bzip2 python3-pip -y
Extra Packages for Enterprise Linux Modular 8 - 532 kB/s | 955 kB      00:01
Extra Packages for Enterprise Linux 8 - x86_64 2.2 MB/s | 11 MB      00:04
```

```
# dnf config-manager --add-repo=https://download.docker.com/linux/centos/docker-ce.repo
```

```
[root@AWX ~]# dnf config-manager --add-repo=https://download.docker.com/linux/centos/docker-ce.repo
Adding repo from: https://download.docker.com/linux/centos/docker-ce.repo
[root@AWX ~]#
```

```
# dnf install docker-ce.x86_64
```

```
[root@AWX ~]# dnf install docker-ce.x86_64
Last metadata expiration check: 0:01:24 ago on Mon 08 Nov 2021 12:33:49 PM EST.
Dependencies resolved.
=====
Package                                Arch    Version                                Repository                                Size
=====
Installing:
docker-ce                               x86_64  3:20.10.10-3.el8                       docker-ce-stable                          22 M
Installing dependencies:
checkpolicy                             x86_64  2.9-1.el8                               baseos                                     348 k
container-selinux                       noarch  2:2.167.0-1.module_el8.4.0+942+d25aada8 appstream                                  52 k
containerd.io                           x86_64  1.4.11-3.1.el8                          docker-ce-stable                          28 M
docker-ce-cli                            x86_64  1:20.10.10-3.el8                         docker-ce-stable                          29 M
docker-ce-rootless-extras              x86_64  20.10.10-3.el8                           docker-ce-stable                          4.6 M
docker-scan-plugin                       x86_64  0.9.0-3.el8                              docker-ce-stable                          3.7 M
fuse-common                              x86_64  3.2.1-12.el8                             baseos                                     21 k
fuse-overlayfs                           x86_64  1.6-1.module_el8.4.0+886+c9a8d9ad       appstream                                  73 k
=====
```

```
[root@AWX ~]# docker --version
Docker version 20.10.10, build b485636
[root@AWX ~]#
```

```
#systemctl start docker
#systemctl enable docker
#systemctl status docker
```

```
root@AWX:~
[root@AWX ~]# systemctl start docker
[root@AWX ~]# systemctl enable docker
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service - /usr/lib/systemd/system/docker.service.
[root@AWX ~]# systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2021-11-08 12:45:31 EST; 2h 54min ago
     Docs: https://docs.docker.com
   Main PID: 7534 (dockerd)
    Tasks: 8
   Memory: 31.3M
   CGroup: /system.slice/docker.service
           └─7534 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/contai
Nov 08 12:45:29 AWX dockerd[7534]: time="2021-11-08T12:45:29.469775671-05:00" 1>
Nov 08 12:45:29 AWX dockerd[7534]: time="2021-11-08T12:45:29.469823077-05:00" 1>
Nov 08 12:45:29 AWX dockerd[7534]: time="2021-11-08T12:45:29.470181182-05:00" 1>
Nov 08 12:45:31 AWX dockerd[7534]: time="2021-11-08T12:45:31.068057886-05:00" 1>
Nov 08 12:45:31 AWX dockerd[7534]: time="2021-11-08T12:45:31.366452237-05:00" 1>
Nov 08 12:45:31 AWX dockerd[7534]: time="2021-11-08T12:45:31.691308375-05:00" 1>
Nov 08 12:45:31 AWX dockerd[7534]: time="2021-11-08T12:45:31.727398182-05:00" 1>
Nov 08 12:45:31 AWX dockerd[7534]: time="2021-11-08T12:45:31.728357739-05:00" 1>
Nov 08 12:45:31 AWX systemd[1]: Started Docker Application Container Engine.
Nov 08 12:45:31 AWX dockerd[7534]: time="2021-11-08T12:45:31.780803881-05:00" 1>
[root@AWX ~]#
```

```
# pip3 install docker-compose
```

```
[root@AWX ~]# pip3 install docker-compose
WARNING: Running pip install with root privileges is generally not a good idea.
Try `pip3 install --user` instead.
Collecting docker-compose
  Downloading https://files.pythonhosted.org/packages/f3/3e/ca05e486d44e38eb495ca60b8ca526b192071717387346ed1031ecf78966/docker_compose-1.29.2-py2.py3-none-any.whl (114kB)
    100% |████████████████████████████████████████| 122kB 1.7MB/s
Collecting cached-property<2,>=1.2.0; python_version < "3.8" (from docker-compose)
  Downloading https://files.pythonhosted.org/packages/48/19/f2090f7dad41e225c7f2326e4cfe6fff49e57dedb5b53636c9551f86b069/cached_property-1.5.2-py2.py3-none-any.whl
Collecting docker[ssh]>=5 (from docker-compose)
  Downloading https://files.pythonhosted.org/packages/54/f3/7af47ead249fbb798d64a0438bad5c26f17ef6ac5cd324d802038eb10d90/docker-5.0.3-py2.py3-none-any.whl (146kB)
    100% |████████████████████████████████████████| 153kB 1.4MB/s
Collecting docopt<1,>=0.6.1 (from docker-compose)
  Downloading https://files.pythonhosted.org/packages/a2/55/8f8cab2afd404cf578136ef2cc5dfb50baa1761b68c9dalfb1e4eed343c9/docopt-0.6.2.tar.gz
Collecting python-dotenv<1,>=0.13.0 (from docker-compose)
```

```
[root@AWX ~]# docker-compose --version
docker-compose version 1.29.2, build unknown
[root@AWX ~]#
```

Step 2: Import AWX packages from git and setup the application packages.

```
# git clone https://github.com/ansible/awx.git
```

```
[root@AWX ~]# git clone -b 17.1.0 https://github.com/ansible/awx.git
Cloning into 'awx'...
remote: Enumerating objects: 292154, done.
remote: Counting objects: 100% (968/968), done.
remote: Compressing objects: 100% (444/444), done.
remote: Total 292154 (delta 530), reused 863 (delta 482), pack-reused 291186
Receiving objects: 100% (292154/292154), 248.70 MiB | 3.79 MiB/s, done.
Resolving deltas: 100% (225187/225187), done.
Note: switching to 'clab815c80cac96508d9779d92bc1280d0347627'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

    git switch -c <new-branch-name>

Or undo this operation with:

    git switch -

Turn off this advice by setting config variable advice.detachedHead to false

[root@AWX ~]#
```

Update the installer file with (password, and user requirements) and install package using Ansible build playbook to deploy the AWX application.

```
# vi /root/awx/installer/inventory
```

```
[root@AWX installer]# egrep -v ^'(\#|\$)' /root/awx/installer/inventory
localhost ansible_connection=local ansible_python_interpreter="/usr/bin/env pyth
on3"
[all:vars]
dockerhub_base=ansible
awx_task_hostname=awx
awx_web_hostname=awxweb
postgres_data_dir="/var/lib/awx/pgdocker"
host_port=80
host_port_ssl=443
docker_compose_dir="/var/lib/awx/awxcompose"
pg_username=awx
pg_password=postgrespass
pg_database=postgres
pg_port=5432
admin_user=admin
admin_password=Beauty123@
create_preload_data=True
secret_key=GP6XuvmaDbWg9P8wKC1kTvhxclEOMMbPGIp4oNBi
awx_official=true
awx_alternate_dns_servers="8.8.8.8,8.8.4.4"
project_data_dir="/var/lib/awx/projects
[root@AWX installer]#
```

```
[root@AWX installer]# ansible-playbook -i ~/awx/installer/inventory ~/awx/installer/install.yml -v
Using /etc/ansible/ansible.cfg as config file

PLAY [Build and deploy AWX] *****

TASK [Gathering Facts] *****
ok: [localhost]

TASK [check_vars : admin_password should be defined] *****
ok: [localhost] => {
  "changed": false,
  "msg": "All assertions passed"
}

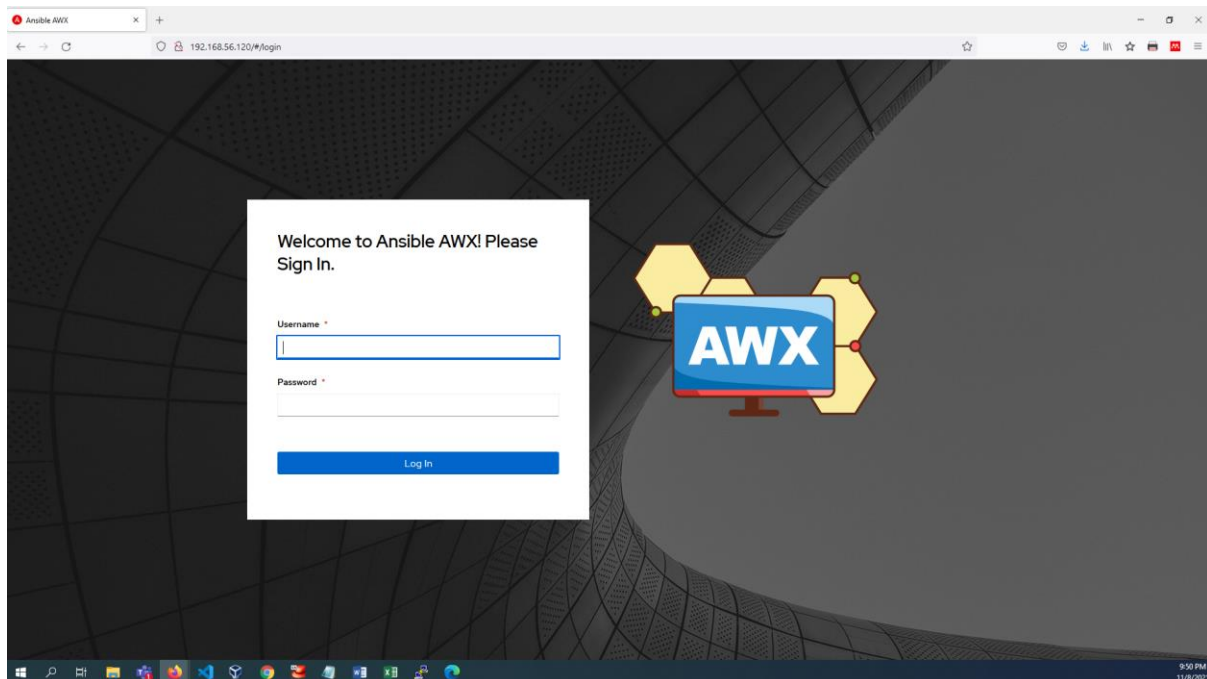
TASK [check_vars : include_tasks] *****
skipping: [localhost] => {"changed": false, "skip_reason": "Conditional result was False"}
```

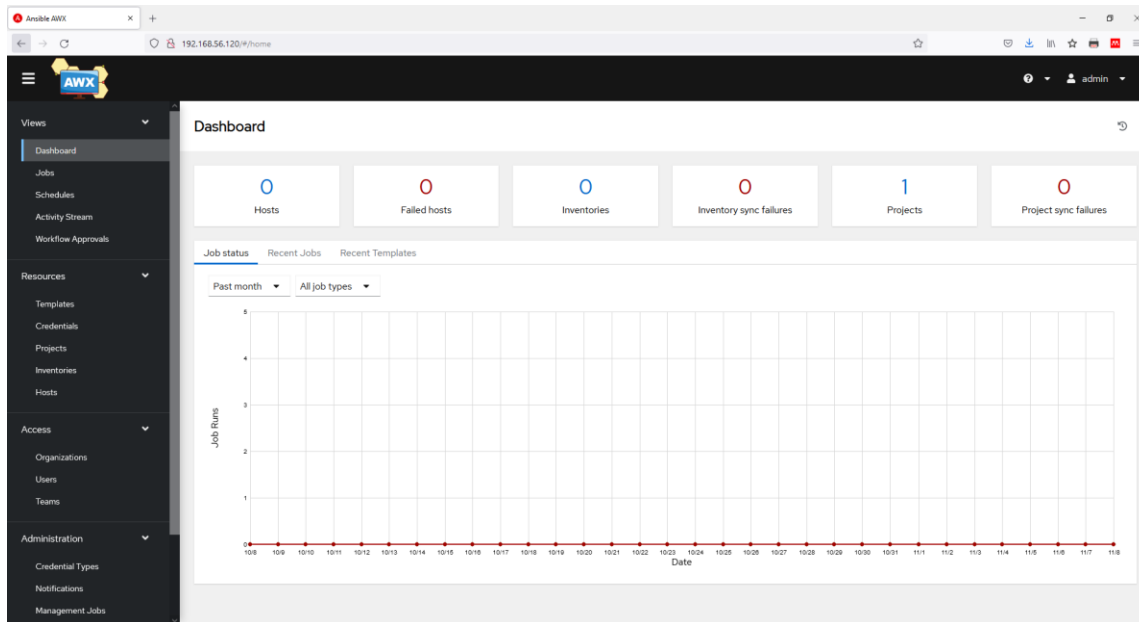
AWX application runs under docker compose, you could see four docker containers awx_web (handle web requests), awx_task(perform the ansible tasks), awx_postgres (maintain database), awx_redis(in-memory caching solution).

```
[root@AWX installer]# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
d3d09dc37544   ansible/awx:17.1.0  "/usr/bin/tini -- /u..."  3 minutes ago  Up 2 minutes  8052/tcp
29c179abe214   ansible/awx:17.1.0  "/usr/bin/tini -- /b..."  9 minutes ago  Up 2 minutes  0.0.0.0:80->8052/tcp, :::80->8052/tcp
e192e3bce0ec   postgres:12      "docker-entrypoint.s..."  9 minutes ago  Up 2 minutes  5432/tcp
f9ea335f5c4    redis            "docker-entrypoint.s..."  9 minutes ago  Up 2 minutes  6379/tcp
[root@AWX installer]#
```

```
[root@AWX installer]# firewall-cmd --zone=public --add-masquerade --permanent
success
[root@AWX installer]# firewall-cmd --permanent --add-service=http
success
[root@AWX installer]# firewall-cmd --permanent --add-service=https
success
[root@AWX installer]# firewall-cmd --reload
success
[root@AWX installer]#
```

Login to the console using the password configured in above section:





Create Organization: Navigate from left side options select Organization under Access.

I have created a Organization with name **Enterprise1**.

The screenshot shows the 'Create New Organization' form in Ansible AWX. The form has the following fields:

- Name:** Enterprise1
- Description:** Organization name
- Instance Groups:** A search field with a magnifying glass icon.
- Galaxy Credentials:** A search field with a magnifying glass icon.

At the bottom of the form, there are two buttons: 'Save' and 'Cancel'.

I Configure AWS credential / GCP credential / Machine credential (on-prem server password)

Below services can be integrated using this tool by configuring its credentials.

- Amazon Web Services
 - Ansible Galaxy/Automation Hub API Token
 - Ansible Tower
 - CyberArk AIM Central Credential Provider Lookup
 - CyberArk Conjur Secret Lookup
 - GitHub Personal Access Token**
 - GitLab Personal Access Token
 - Google Compute Engine
 - HashiCorp Vault Secret Lookup
 - HashiCorp Vault Signed SSH
 - Insights
 - Machine
 - Microsoft Azure Key Vault
 - Microsoft Azure Resource Manager
 - Network
 - OpenShift or Kubernetes API Bearer Token
 - OpenStack
 - Red Hat Satellite 6
 - Red Hat Virtualization
 - Source Control
 - Vault
 - VMware vCenter
- Choose a Credential Type

Create credentials: Navigate from left side options select credentials under Resources column.

Provide Access key and secret access key. For Google cloud provide the JSON token file by uploading it in the credential column.

The screenshot shows the 'Create New Credential' form in the AWX interface. The left sidebar is expanded to 'Resources' > 'Credentials'. The form fields are as follows:

- Name:** ansible
- Description:** ts/vab23 AWS account
- Organization:** Enterprise X
- Credential Type:** Amazon Web Services
- Type Details:**
 - Access Key:** AKIATGENIVMYRY74MTKB
 - Secret Key:** [Redacted]
 - STS Token:** [Redacted]

Buttons for 'Save' and 'Cancel' are visible at the bottom.

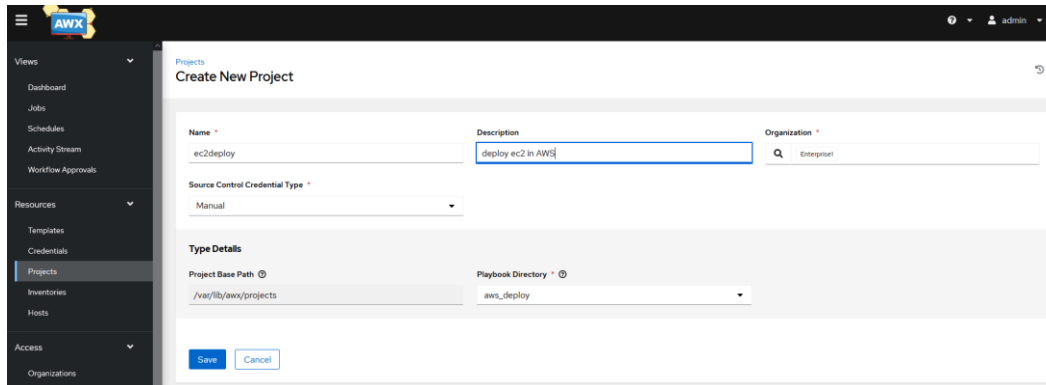
The screenshot shows the 'Create New Credential' form in the AWX interface. The left sidebar is expanded to 'Resources' > 'Credentials'. The form fields are as follows:

- Name:** s/v_poweruser
- Description:** ts/vab23 AWS account poweruser
- Organization:** Enterprise X
- Credential Type:** Amazon Web Services
- Type Details:**
 - Access Key:** AKIATGENIVMYVHEMSBFA
 - Secret Key:** [Redacted]
 - STS Token:** [Redacted]

Buttons for 'Save' and 'Cancel' are visible at the bottom.

Create Project : Name project and map the playbook.

Default project location in server is under (/var/lib/awx/projects) folder, playbooks hosted as separate folder init.

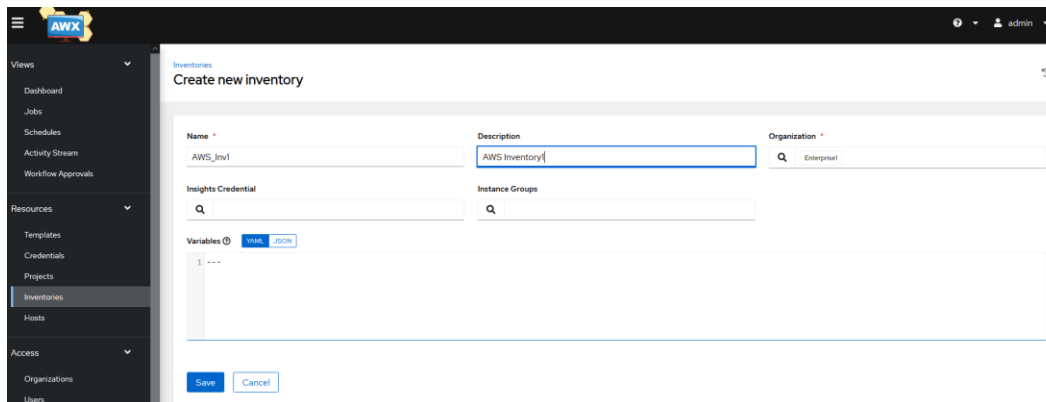


The screenshot shows the 'Create New Project' form in the AWX interface. The form is divided into several sections:

- Name:** ec2deploy
- Description:** deploy ec2 in AWS
- Organization:** Enterprise1
- Source Control Credential Type:** Manual
- Type Details:**
 - Project Base Path:** /var/lib/awx/projects
 - Playbook Directory:** aws_deploy

At the bottom of the form, there are 'Save' and 'Cancel' buttons.

Create inventory: Under Resources >> inventories



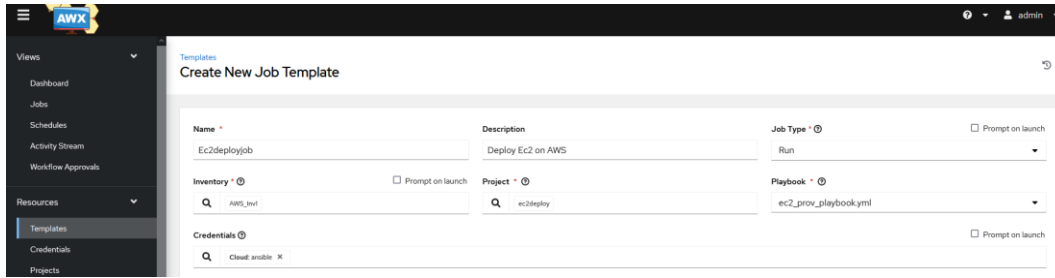
The screenshot shows the 'Create new inventory' form in the AWX interface. The form is divided into several sections:

- Name:** AWS_inv1
- Description:** AWS Inventory
- Organization:** Enterprise1
- Insights Credential:** (empty search field)
- Instance Groups:** (empty search field)
- Variables:** (empty text area with a 'JSON' button)

At the bottom of the form, there are 'Save' and 'Cancel' buttons.

Create playbooks for server and cluster deployment (playbook codes are attached as separate file to the project submission source code folder.

Create Job template: Map the master playbook from the project folder, tag the Inventory group and EC2 credential as this job is to deploy EC2 instances

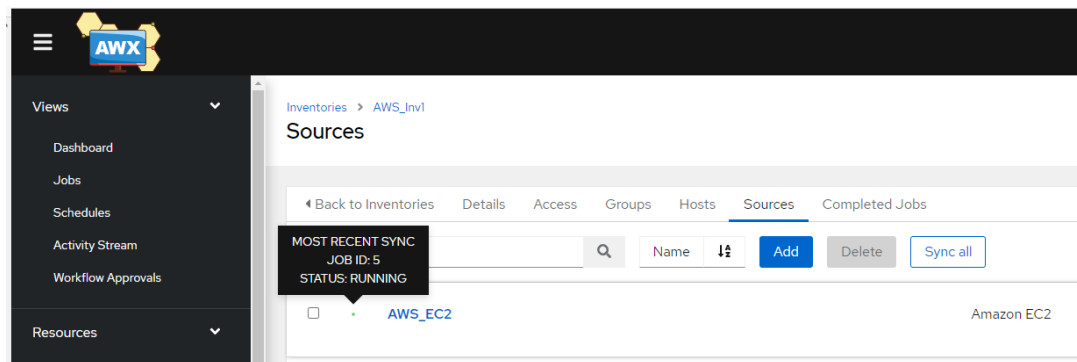
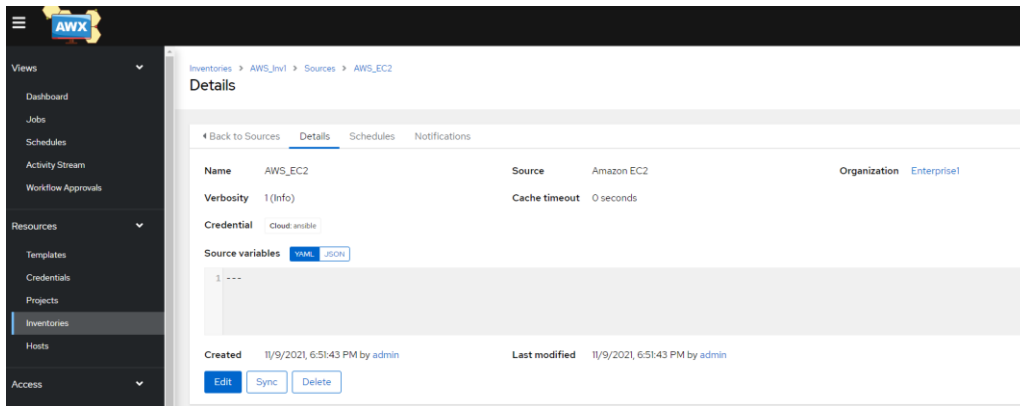
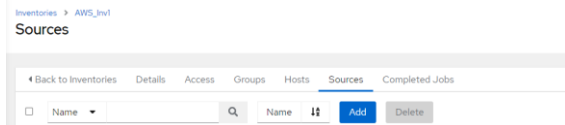


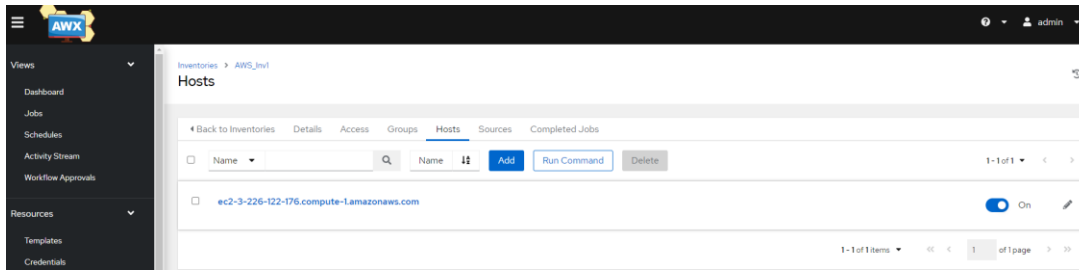
A) 1st Project (Deploy Ec2 instance)

- 1) Create keypair - aws-awk-key-us-east-1 on the region.
- 2) Once the playbook ran it will deploy the ec2 and sg and vpc etc

Create dynamic inventory: Under Resources >> inventories >> sources

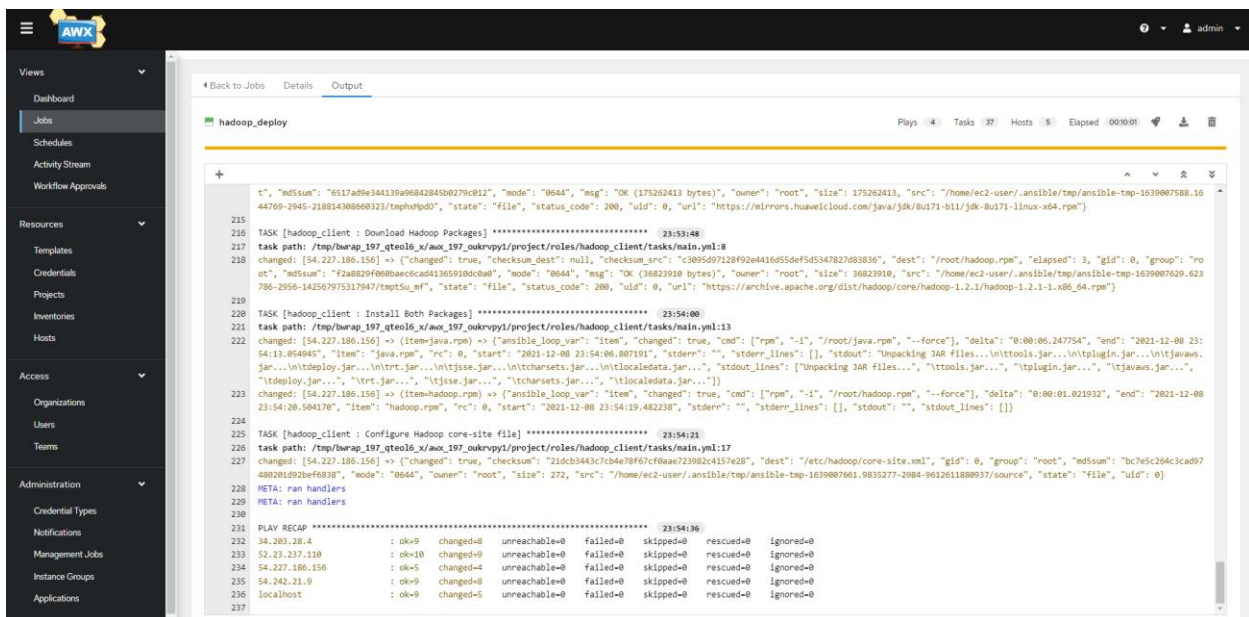
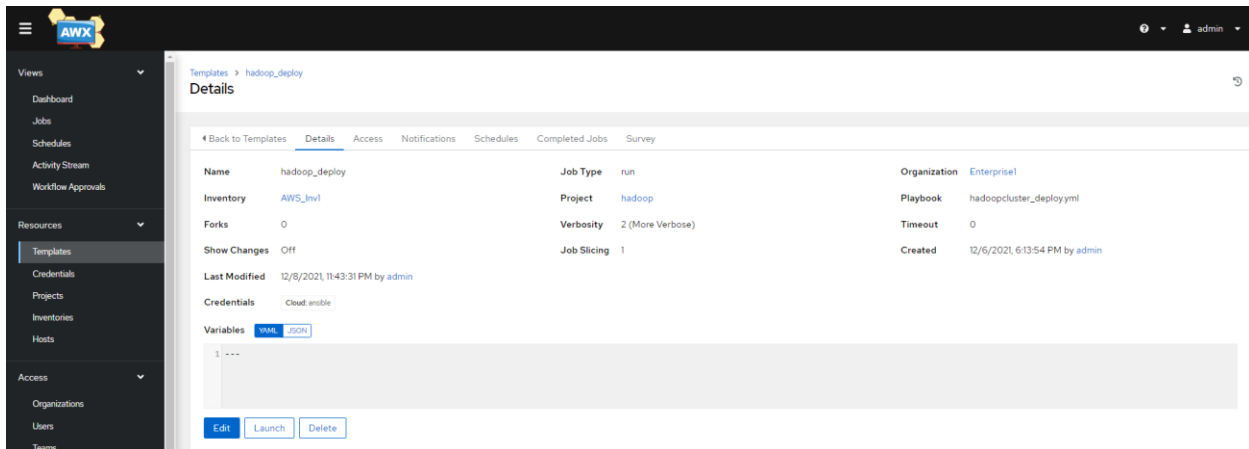
Add AWS credential to enable sync, this help automatic inventory capture every time it syncs.

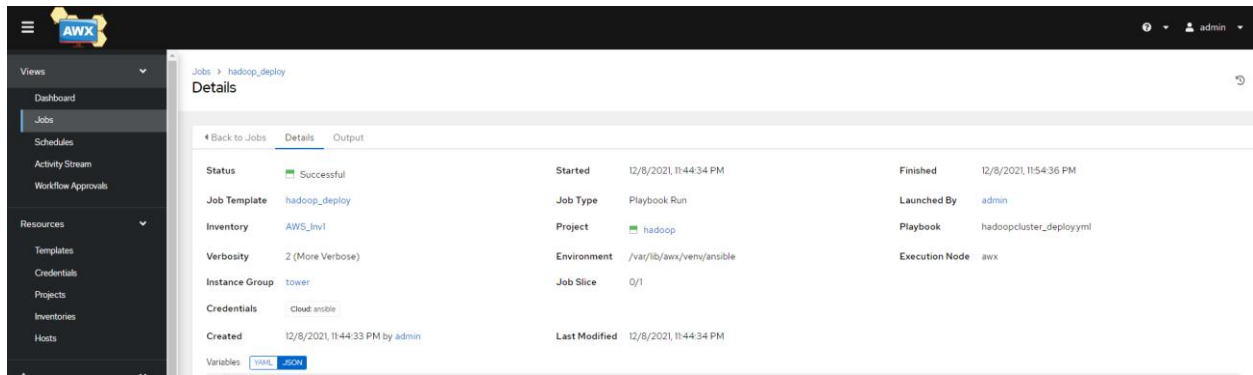




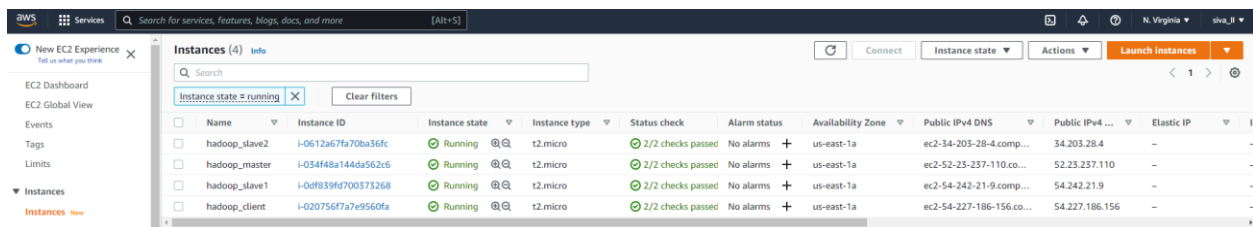
Hadoop Cluster Implementation:

Create the Hadoop deploy Project and the Template.





Validate the AWS console:



Validate the Cluster by login into the Master (Namenode) using command # `hadoop dfsadmin -report`

```
root@ip-172-31-21-177:~
[root@AWX aws_hadoop]# ssh -i "ansible.pem" ec2-user@ec2-52-23-237-110.compute-1.amazonaws.com
The authenticity of host 'ec2-52-23-237-110.compute-1.amazonaws.com (52.23.237.110)' can't be est
ECDSA key fingerprint is SHA256:rV/eWyNj3HPOMGnjXXluLP9OCH9W+vXjI9uoTjTL6Aw.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-52-23-237-110.compute-1.amazonaws.com,52.23.237.110' (ECDSA) to t
Last login: Wed Dec  8 23:50:30 2021 from 202.21.43.2

      _|_  ( _|_  )
      _|_  /
      _|\__|__|
                Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-21-177 ~]$ sudo su -
[root@ip-172-31-21-177 ~]# hadoop dfsadmin -report
Configured Capacity: 17154662400 (15.98 GB)
Present Capacity: 12682379264 (11.81 GB)
DFS Remaining: 12682362880 (11.81 GB)
DFS Used: 16384 (16 KB)
DFS Used%: 0%
Under replicated blocks: 0
Blocks with corrupt replicas: 0
Missing blocks: 0

-----
Datanodes available: 2 (2 total, 0 dead)

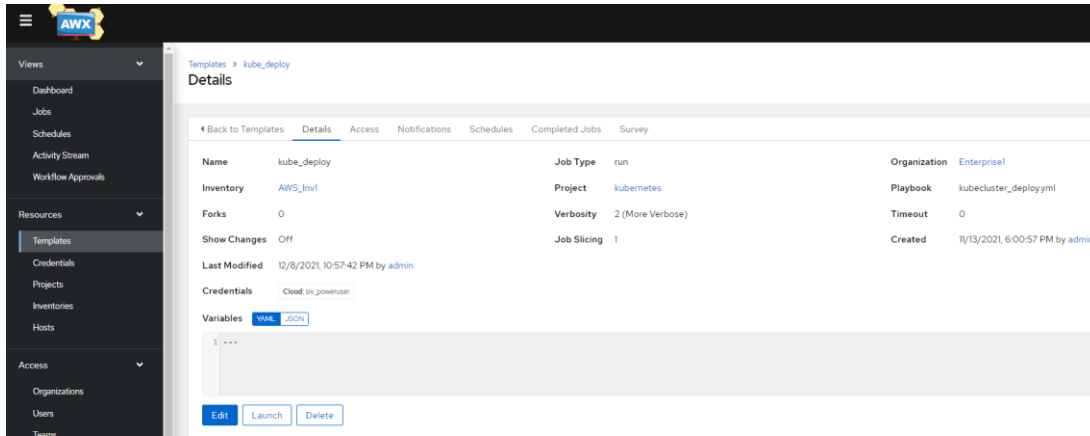
Name: 172.31.20.114:50010
Decommission Status : Normal
Configured Capacity: 8577331200 (7.99 GB)
DFS Used: 8192 (8 KB)
Non DFS Used: 2236203008 (2.08 GB)
DFS Remaining: 6341120000(5.91 GB)
DFS Used%: 0%
DFS Remaining%: 73.93%
Last contact: Thu Dec 09 00:04:18 UTC 2021

Name: 172.31.31.31:50010
Decommission Status : Normal
Configured Capacity: 8577331200 (7.99 GB)
DFS Used: 8192 (8 KB)
Non DFS Used: 2236080128 (2.08 GB)
DFS Remaining: 6341242880(5.91 GB)
DFS Used%: 0%
DFS Remaining%: 73.93%
Last contact: Thu Dec 09 00:04:18 UTC 2021

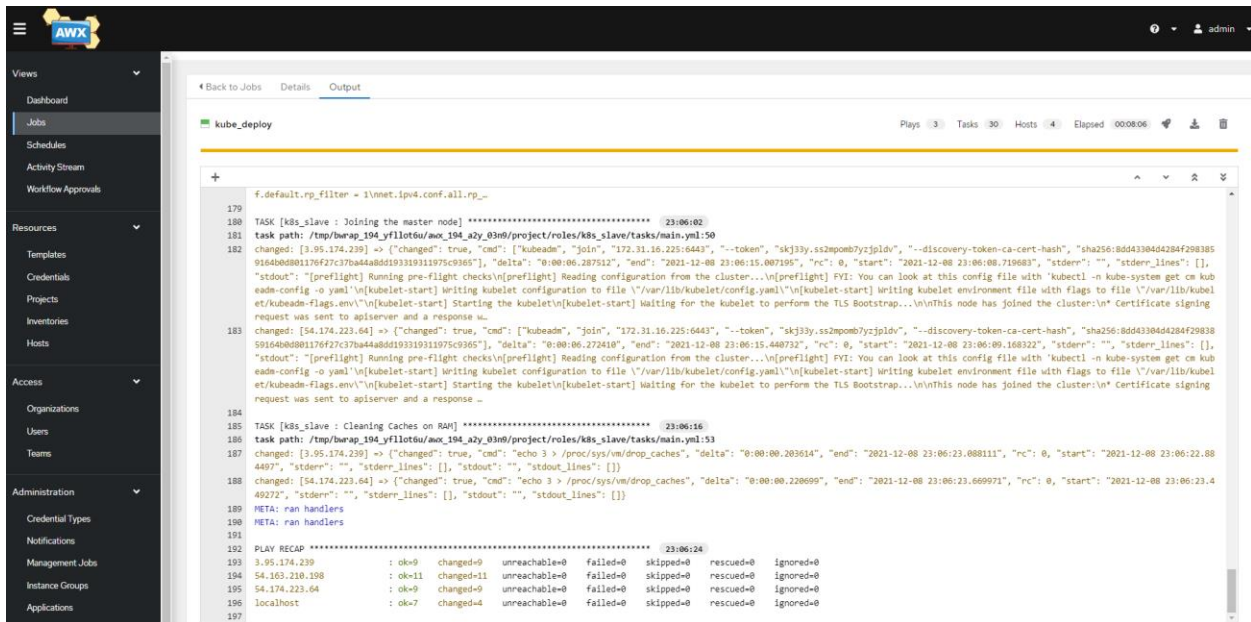
[root@ip-172-31-21-177 ~]# █
```

Kubernetes Cluster Implementation:

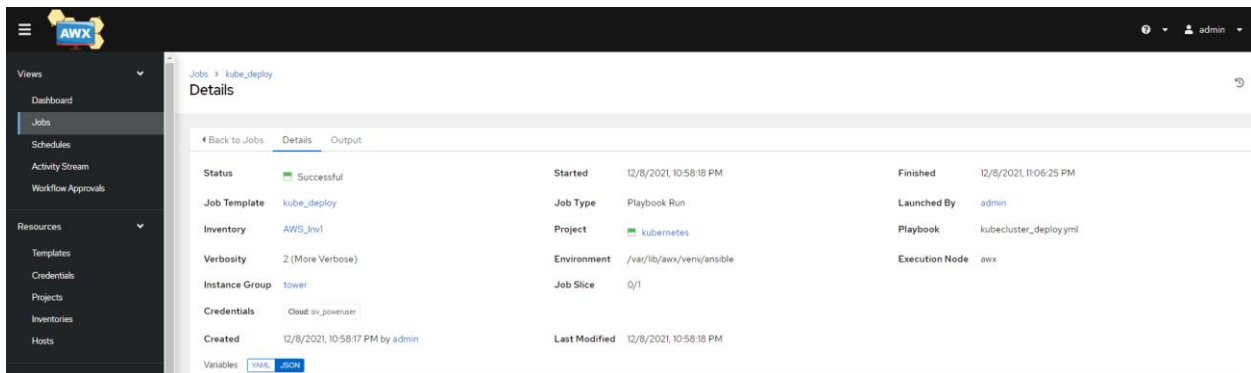
Create Kubernetes Projects, Project Template in awx console.



Executing Kubernetes deploy playbook from awx console.



Job Validation from AWX side:



Job Validation from AWS console and Server side:

The screenshot shows the AWS Management Console with the 'Instances (3)' page. Three instances are listed: 'master', 'slave2', and 'slave1', all in a 'Running' state. A terminal window is open on the 'slave2' instance, showing the output of 'kubectl get nodes' and 'kubectl get namespace'. The terminal output shows a single node 'ip-172-31-16-225.ec2.internal' in a 'Ready' state and a namespace 'kubernetes'.

Terminate the AWS servers if not in use:

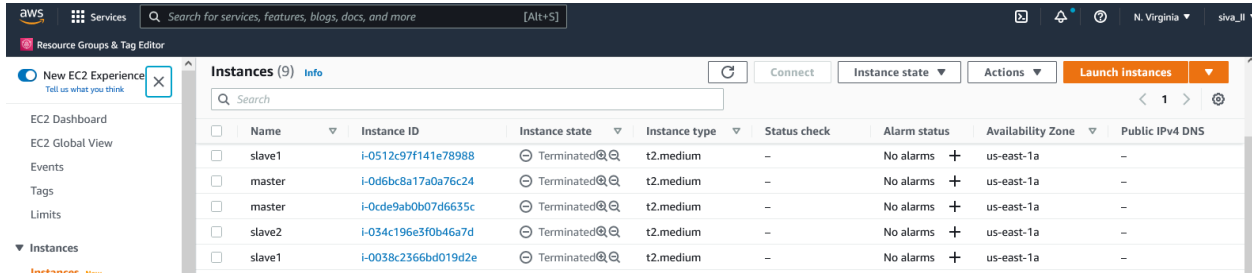
Job Execution from AWX Console:

The screenshot shows the AWX console interface. The 'Jobs' section is selected, and the 'Ec2terminal' job is highlighted. The 'Output' tab is active, displaying a log of the job's execution. The log shows the job starting on 12/8/2021 at 12:32:01 AM and finishing at 12:34:31 AM. The job is successful, and the output shows the termination of three EC2 instances: 'master', 'slave2', and 'slave1'.

Validate Job status from AWX Console:

The screenshot shows the AWX console interface with the 'Details' tab selected for the 'Ec2terminal' job. The job status is 'Successful', and the execution time is 12/8/2021, 12:34:31 AM. The job was launched by 'admin' and completed on 12/8/2021, 12:31:59 AM. The job type is 'Playbook Run', and the project is 'Ec2Jobs'. The job was executed on the 'aux' node.

Validate the server removal status from AWS Cloud console:

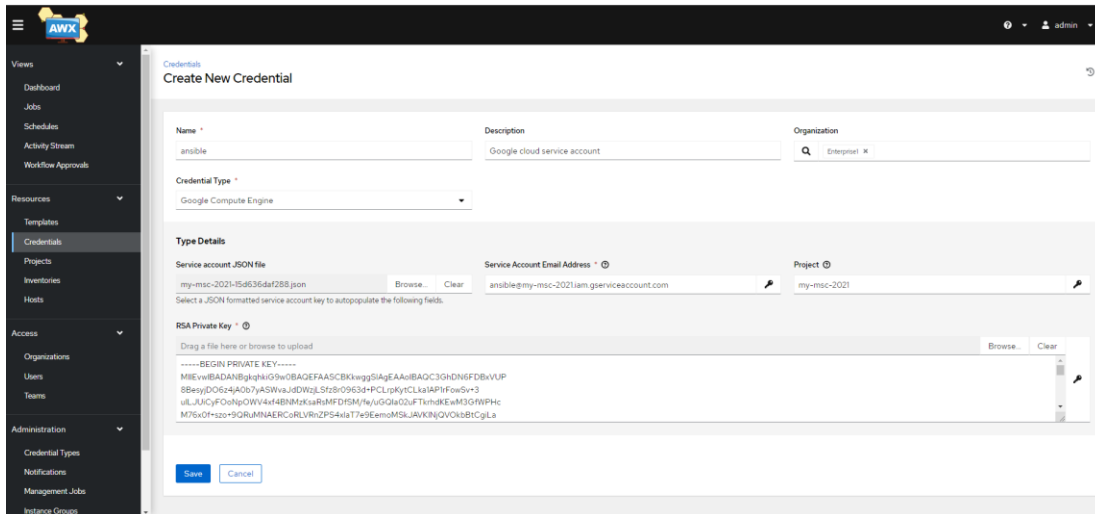


The screenshot shows the AWS Cloud console interface. The top navigation bar includes the AWS logo, 'Services', a search bar, and the user's location 'N. Virginia'. The main content area is titled 'Instances (9) Info'. On the left, there is a sidebar with navigation options like 'EC2 Dashboard', 'Events', 'Tags', 'Limits', and 'Instances'. The main table lists five EC2 instances, all of which are in the 'Terminated' state. The columns include Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4 DNS.

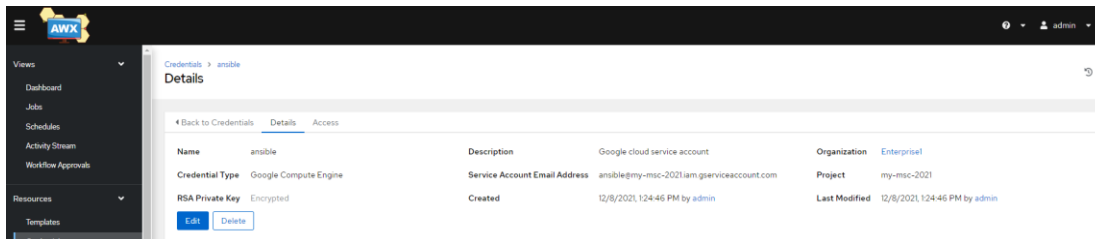
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
slave1	i-0512c97f14e78988	Terminated	t2.medium	-	No alarms	us-east-1a	-
master	i-0d6bc8a17a0a76c24	Terminated	t2.medium	-	No alarms	us-east-1a	-
master	i-0cde9ab0b07d6635c	Terminated	t2.medium	-	No alarms	us-east-1a	-
slave2	i-034c196e3f0b46a7d	Terminated	t2.medium	-	No alarms	us-east-1a	-
slave1	i-0038c2366bd019d2e	Terminated	t2.medium	-	No alarms	us-east-1a	-

Create Google Cloud resources using Ansible and AWX:

Adding GCP service account to AWX-



The screenshot shows the 'Create New Credential' form in the AWX interface. The form is for creating a 'Google cloud service account' credential. The 'Name' field is 'ansible', the 'Description' is 'Google cloud service account', and the 'Organization' is 'Enterprise'. The 'Credential Type' is 'Google Compute Engine'. Under 'Type Details', the 'Service account JSON file' is 'my-misc-2021-15d636daf288.json', the 'Service Account Email Address' is 'ansible@my-misc-2021.iam.gserviceaccount.com', and the 'Project' is 'my-misc-2021'. The 'RSA Private Key' field contains a long string of characters. There are 'Save' and 'Cancel' buttons at the bottom.



The screenshot shows the 'Details' page for the 'ansible' credential in the AWX interface. The page displays the following information:

Name	Description	Organization
ansible	Google cloud service account	Enterprise

Credential Type	Service Account Email Address	Project
Google Compute Engine	ansible@my-misc-2021.iam.gserviceaccount.com	my-misc-2021

RSA Private Key	Created	Last Modified
Encrypted	12/8/2021, 1:24:46 PM by admin	12/8/2021, 1:24:46 PM by admin

Create Project for GCP

Create New Project

Name: Description: Organization:

Source Control Credential Type:

Type Details

Project Base Path: Playbook Directory:

Details

← Back to Templates | Details | Access | Notifications | Schedules | Completed Jobs | Survey

Name	gcp_compute	Description	Deploy a gcp compute instance	Job Type	run
Organization	Enterprise	Inventory	AWS_Invt	Project	Google_Cloud_Project
Playbook	gcp_deploy.yml	Forks	0	Verbosity	2 (More Verbose)
Timeout	0	Show Changes	Off	Job Slicing	1
Created	12/8/2021 1:38:43 PM by admin	Last Modified	12/8/2021 9:38:25 PM by admin		

Credentials: [Cloud enable](#)

Variables: [yaml](#), [json](#)

1 ---

Deploy compute instance deploy job

gcp_compute

← Back to Jobs | Details | Output

```

16 skipping callback 'null', as we already have a stdout callback.
17 skipping callback 'online', as we already have a stdout callback.
18 skipping callback 'selective', as we already have a stdout callback.
19 skipping callback 'skippy', as we already have a stdout callback.
20 skipping callback 'stderr', as we already have a stdout callback.
21 skipping callback 'only', as we already have a stdout callback.
22 skipping callback 'yaml', as we already have a stdout callback.
23
24 PLAYBOOK: gcp_deploy.yml *****
25 1 plays in gcp_deploy.yml
26
27 PLAY [localhost] ***** 21:39:11
28
29 TASK [Gathering Facts] ***** 21:39:12
30 task path: /tmp/brap_186_4991tool/awx_186_ga3dfngt/project/gcp_deploy.yml:2
31 ok: [localhost]
32 META: ran handlers
33
34 TASK [creating instance] ***** 21:39:14
35 task path: /tmp/brap_186_4991tool/awx_186_ga3dfngt/project/gcp_deploy.yml:7
36 changed: [localhost] => [{"changed": true, "cpuPlatform": "Intel Broadwell", "creationTimestamp": "2021-12-08T13:39:19.312-08:00", "deletionProtection": false, "disks": [{"autoDelete": true, "boot": true, "deviceName": "persistent-disk-0", "diskSizeGB": "70GB", "guestOsFeatures": [{"type": "SERIAL_PORT_FORWARDING"}], "index": 0, "interface": "SCSI", "kind": "compute-attachedDisk", "licenses": [{"https://www.googleapis.com/compute/projects/centos-image/labels/licenses/centos-7}], "mode": "READ_WRITE", "source": "https://www.googleapis.com/compute/projects/aw-esc-2021-zones/us-central1-a/disk-images/centos-trials-a/disk-image", "type": "PERSISTENT"}, {"fingerPrint": "5666a4a4e4", "kind": "computeInstance", "labelFingerPrint": "42a668898", "lastStartTimestamp": "2021-12-08T13:39:29.812-08:00", "machineType": "https://www.googleapis.com/compute/v1/projects/aw-esc-2021-zones/us-central1-a/machineTypes/g2-micro", "metadata": {}, "name": "webserver", "networkInterfaces": [{"accessConfig": [{"kind": ""}]}]}]
37 META: ran handlers
38 META: ran handlers
39
40 PLAY RECAP ***** 21:39:30
41 localhost : ok=2 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
42

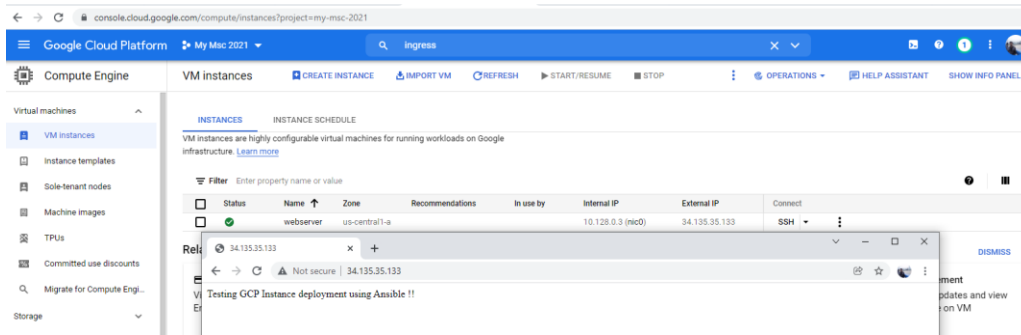
```

gcp_compute

← Back to Jobs | Details | Output

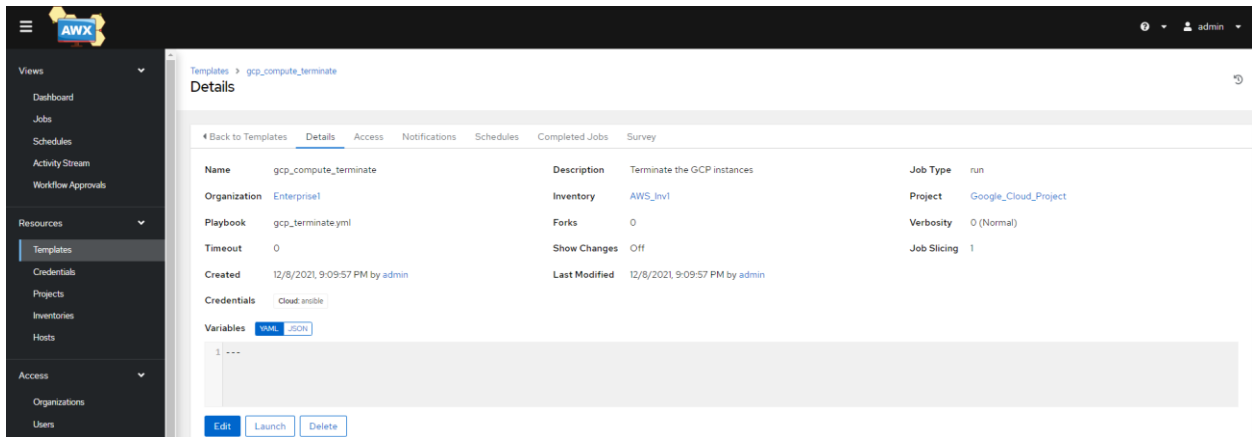
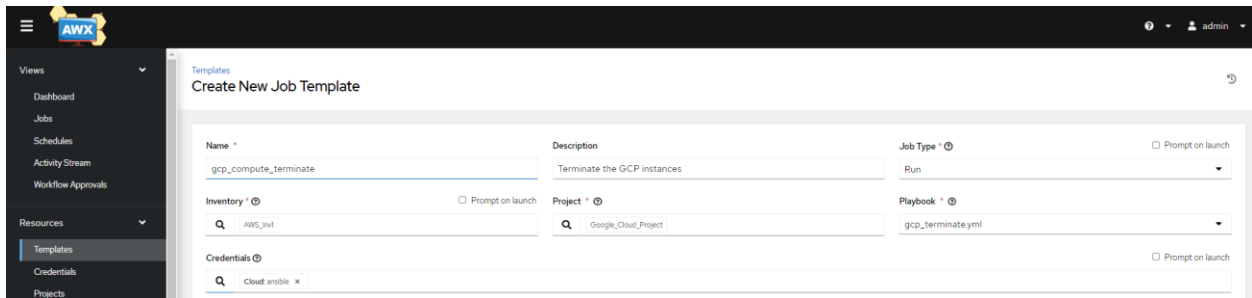
Status	Successful	Started	12/8/2021 9:39:07 PM	Finished	12/8/2021 9:39:31 PM
Job Template	gcp_compute	Job Type	Playbook Run	Launched By	admin
Inventory	AWS_Invt	Project	Google_Cloud_Project	Playbook	gcp_deploy.yml
Verbosity	2 (More Verbose)	Environment	/var/lib/awx/venv/ansible	Execution Node	awx
Instance Group	tower	Job Slice	0/1		
Credentials	Cloud enable				
Created	12/8/2021 9:39:06 PM by admin	Last Modified	12/8/2021 9:39:07 PM		

Validate the server status and validate weburl for webservice GCP console:



Terminate the GCP Instance:

Update the Terminate yaml file on project folder and create Job template.



The screenshot shows the 'Output' tab of a job named 'gcp_compute_terminate'. The output text is as follows:

```

0 [DEPRECATION WARNING]: gce is kept for backwards compatibility but usage is
1 discouraged. The module documentation details page may explain more about this
2 rationale.. This feature will be removed in a future release. Deprecation
3 warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
4
5 PLAY [Delete Instance(s)] ***** 21:45:52
6
7 TASK [Destroy Instances] ***** 21:45:52
8 changed: [localhost]
9
10 PLAY RECAP ***** 21:46:17
11 localhost : ok=1 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

```

The screenshot shows the 'Details' tab of the job 'gcp_compute_terminate'. The job status is 'Successful'. The following table summarizes the job details:

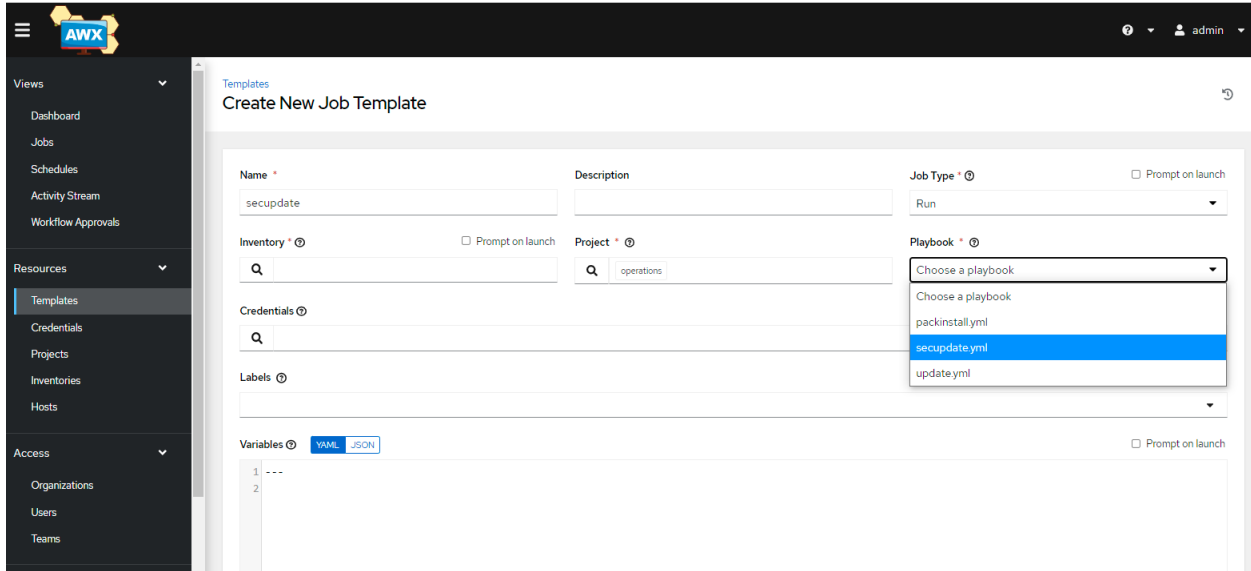
Status	Successful	Started	12/8/2021, 9:45:48 PM	Finished	12/8/2021, 9:46:17 PM
Job Template	gcp_compute_terminate	Job Type	Playbook Run	Launched By	admin
Inventory	AWS_lhv1	Project	Google_Cloud_Project	Playbook	gcp_terminate.yml
Verbosity	0 (Normal)	Environment	/var/lib/awx/venv/ansible	Execution Node	awx
Instance Group	tower	Job Slice	0/1		
Credentials	Cloud_aws				
Created	12/8/2021, 9:45:47 PM by admin	Last Modified	12/8/2021, 9:45:48 PM		

Additional system administration tasks playbook configured under operations folder:

The screenshot shows the 'Details' tab of a project named 'operations'. The project is located under the 'operations' folder. The following table summarizes the project details:

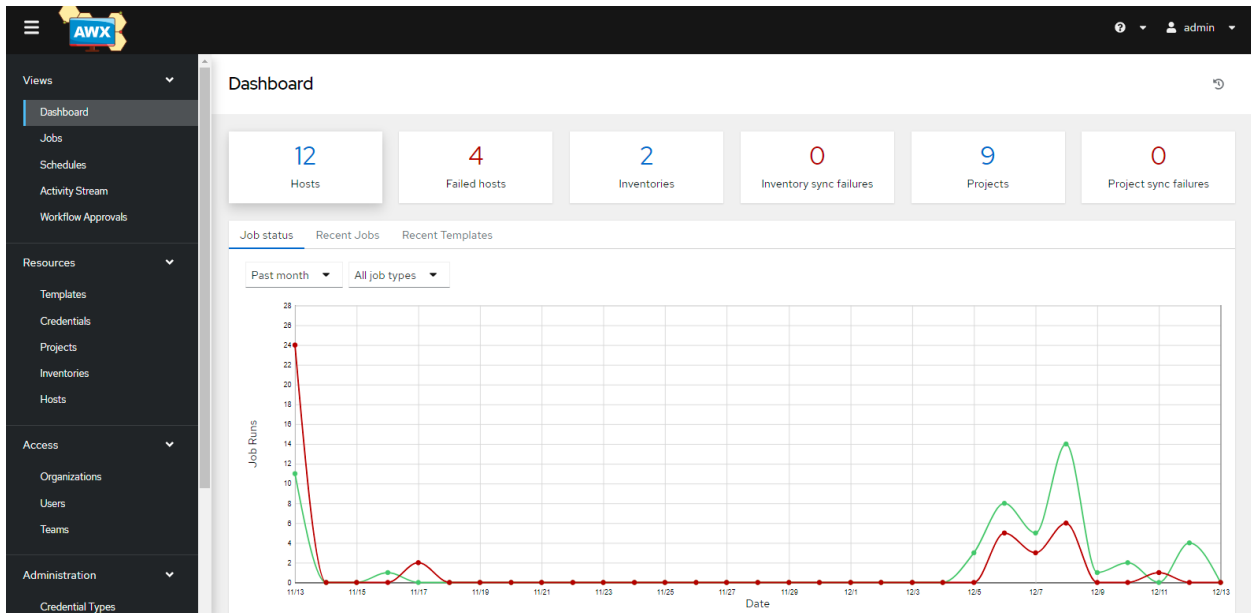
Name	operations	Organization	Enterprise1	Source Control Type	Manual
Cache Timeout	0 Seconds	Project Base Path	/var/lib/awx/projects	Playbook Directory	operations
Created	12/6/2021, 9:57:20 PM by admin	Last Modified	12/6/2021, 9:57:20 PM by admin		

Buttons for 'Edit' and 'Delete' are visible below the table.



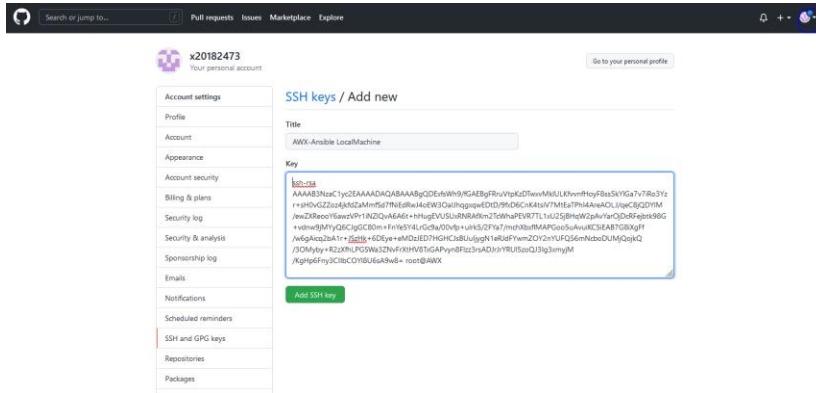
Monitor and control all the jobs using Centralized dashboard:

You can view Hosts, Failed Hosts, Inventories, Projects and Git project sync failures on Dashboard for better centralized control of overall tasks.



Additional work tried to enable GIT and openstack implementation but couldn't make it work. Kindly ignore below logs:

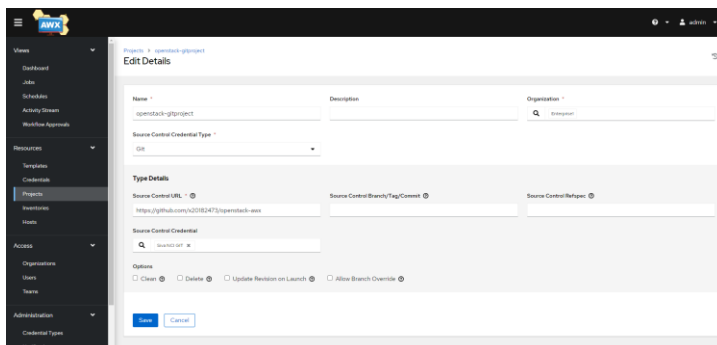
Enable GIT Passwordless Authentication:

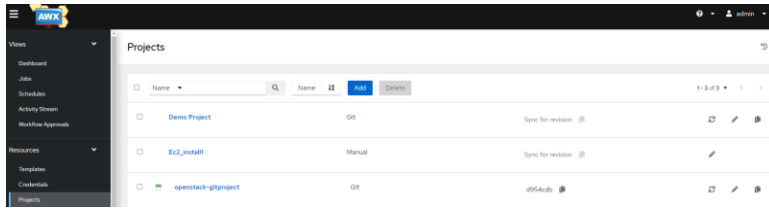


Git Code commit:

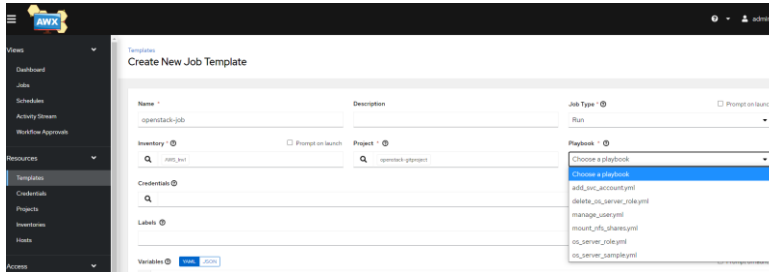
```
root@AWX:/var/lib/awx/git/openstack-awx
[root@AWX openstack-awx]# git config --global user.email "x20182473@student.ncirl.ie"
[root@AWX openstack-awx]# git config --global user.name "SivaraJ Thiyagarajan"
[root@AWX openstack-awx]# git add .
[root@AWX openstack-awx]# git commit -m "Openstack Automation 1st commit"
[master (root-commit) d954c0b] Openstack Automation 1st commit
15 files changed, 936 insertions(+)
create mode 100644 README.md
create mode 100644 add_aws_account.yml
create mode 100644 delete_os_server_role.yml
create mode 100644 delete_os_server_role/tasks/main.yml
create mode 120000 delete_os_server_role/vars/main.yml
create mode 100644 manage_user.yml
create mode 100644 manage_user/tasks/main.yml
create mode 100644 manage_user/vars/main.yml
create mode 100644 mount_nfs_shares.yml
create mode 100644 name_vars_generator.sh
create mode 100644 names.csv
create mode 100644 os_server_role.yml
create mode 100644 os_server_role/tasks/main.yml
create mode 100644 os_server_role/vars/main.yml
create mode 100644 os_server_sample.yml
[root@AWX openstack-awx]# git push
Enumerating objects: 26, done.
Counting objects: 100% (26/26), done.
Delta compression using up to 2 threads
Compressing objects: 100% (19/19), done.
Writing objects: 100% (26/26), 7.15 KiB | 814.00 KiB/s, done.
Total 26 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), done.
To github.com:x20182473/openstack-awx.git
 * [new branch] master -> master
[root@AWX openstack-awx]#
[root@AWX openstack-awx]#
[root@AWX openstack-awx]#
[root@AWX openstack-awx]#
```

- 1) Credential
- 2) Project





3) Template



Git hub personal access token:

ghp_pgV6l152zjjNslTaV2TGC8OKhhaG1f3uzYZs