**File module**

--------------

This is used to create files and folder on managed nodes

ansible all -m file -a 'name=/tmp/file5 state=touch'

To check the file which is create

$ ssh 172.31.12.239

$ cd /tmp

$ ls

$ exit

TO create a directory

ansible all -m file -a 'name=/tmp/dir1 state=directory'

To check the directory

$ ssh 172.31.39.33

$ cd /tmp

$ ls

$ exit

To delete the file

ansible all -m file -a 'name=/tmp/file5 state=absent'

++++++++++++++++++++++++

Notes:

Command to create a file on all managed nodes

ansible all -m file -a 'name=/tmp/file1 state=touch'

state=touch is to create files

state=directory is to create directory

state=absent is for deleting file/directory

++++++++++++++++++++

Now,

To know the current user

$ whoami

$ ansible all -m file -a 'name=file1 state=touch'

Now go to managed nodes and check the permission of the file

$ ssh 172.31.12.239

$ ls -l file1

Observe the permissions are rw-rw-r--

Now, I want to change the permissions from controller

$ exit ( will come back to controller )

$ ansible all -m file -a 'name=file1 state=touch owner=Anu group=Ravi mode=700' -b

The above command will execute only if Anu user and Ravi group is available in all nodes.

Notes:

File module can be used to change the ownership, group ownership and permissions on the file.

**Copy Module**

---------------

This is used for copying the files from controller into managed nodes.

We know in the file /etc/passwd we have all the information about users

Now I want to copy the file into all nodes

$ ansible all -m copy -a 'src=/etc/passwd dest=/tmp'

To check the file which is copies

$ ssh 172.31.12.239

$ cd /tmp

$ ls

$ exit

++++++++++++++

Scenario:

I want to create tomcat users file in controller and copy the file in all the nodes

$ sudo vim tomcat-users.xml

Go to Insert mode

<tomcat-users>

<user username="training" password="freefree" roles="manager-script"/>

<tomcat-users>

:wq

$ ansible all -m copy -a 'src=tomcat-users.xml dest=/etc/tomcat9' -b

To check the file

--------------------

$ ssh 172.31.12.239

$ cd /etc/tomcat8

$ ls

Open that file to check the contents

$ sudo cat tomcat-users.xml

+++++++++++++++++++++++++++++++

Ansible command to copy /etc/passwd file to all the managed nodes

$ ansible all -m copy -a 'src=/etc/passwd dest=/tmp'

+++++++++++++++++++++

Create a tomcat-users.xml file on controller and copy it into all managed nodes into default location of tomcat ie /etc/tomcat8

$ sudo vim tomcat-users.xml

Go to Insert mode

<tomcat-users>

<user username="training" password="freefree" roles="manager-script"/>

<tomcat-users>

:wq

$ ansible all -m copy -a 'src=tomcat-users.xml dest=/etc/tomcat9' -b

++++++++++++++++++++++++++++++++++++

Create a file on the controller machine

$ cat > newfile1

aaaa

bbbbb

ccccc

ddddd

Ctrl+d

$ ls -l newfile1

we get the permissions

rw-rw-r--

When we copy the file we have the same permissions

$ ansible all -m copy -a 'src=newfile1 dest=/home/ubuntu'

To got managed node and check the permissions on the file. It remains the same

$ ssh 172.31.39.33

$ ls -l newfile1

$ exit

Command to copy with changes permissions

$ ansible all -m copy -a 'src=newfile1 dest=/home/ubuntu owner=root group=root mode=760' -b

Now, go to node and check the permissions

$ ssh 172.31.35.79

$ ls -l newfile1

$ exit

Notes:

Copy module is used to change the ownership, group ownership and permissions of the files that are copied to managed nodes.

$ ansible all -m copy -a 'src=newfile1 dest=/home/ubuntu owner=root group=root mode=760' -b

+++++++++++++++++++++++++++++++++++++

To copy the file , by replacing the old content with new content

$ ansible all -m copy -a 'content="sunil\n" dest=newfile1' -b

TO to managed node and check the content

$ ssh 172.31.11.96

$ sudo cat newfile1

$ exit

Notes: Copy module can also send content into the file

$ ansible all -m copy -a 'content="sunil\n" dest=newfile1' -b

++++++++++++++++++++++

**Fetch Module** ( opposite of copy module )

-----------------------------

Go to managed node

$ ssh 172-31-35-79

$ cd /etc/tomcat8

$ ls

There is server.xml file

I want to get the file ( server.xml) from node to controller

$ exit ( come back to controller )

$ ansible all -m fetch -a 'src=/etc/tomcat8/server.xml dest=/tmp' -b

Now to got tmp folder

$ cd /tmp

$ ls

You will find three folders. The names of the folers are IP address of managed nodes

$ cd 172.31.35.102

$ ls

$ cd etc

$ ls

$ cd tomcat8

$ ls

Notes:

Fetch module is used to copy files from managed nodes to controller.

Command to copy tomcat-server.xml file from all managed nodes into /tmp folder on the controller.

$ ansible all -m fetch -a 'src=/etc/tomcat8/server.xml dest=/tmp' -b

**Git Modules**

------------

This is used to perform git version controlling on the managed nodes.

ansible all -m git -a 'repo=https://github.com/sunildevops77/repo1.git dest=/tmp/mygit' -b

The above command will download the files in all managed nodes.

Go to managed node and check

$ ssh 172.31.35.79

$ cd /tmp

$ ls

$ cd mygit

$ ls

$ exit

Notes:

Ansible command to clone remote git repository into all managed nodes

ansible all -m git -a 'repo=https://github.com/sunildevops77/rep1.git dest=/tmp/mygit' -b

++++++++++++++++++

**Service Module**

---------------------

This is used for starting/ stoping / restarting the services.

Ansible command to restart tomcat8 on all managed nodes

$ ansible all -m service -a 'name=tomcat8 state=restarted' -b

state=restarted is for restarting a service

state=stopped is for stopping a running service

state=started is for starting a stopped service

**Replace module**

-----------------

Go to managed node

$ ssh 172.31.36.52

$ cd /etc/tomcat8/

$ ls

$ sudo vim server.xml

Look for connector port , to see the port number in which it is running. ( line 74)

Now, we want to change the port number on all managed nodes, in this scenario

we use replace module.

Quit the server.xml file

$ exit ( to come back to controller )

$ ansible all -m replace -a 'regexp=8080 replace=9090 path=/etc/tomcat8/server.xml' -b

Lets check tomcat is respoding on 9090 port in managed node

Get public DNS from aws

ec2-13-251-114-207.ap-southeast-1.compute.amazonaws.com

ec2-13-234-48-168.ap-south-1.compute.amazonaws.com

Open Browser

URL --- ec2-13-251-114-207.ap-southeast-1.compute.amazonaws.com:9090

We will not get the page, becuase we need to restart the service

$ ansible all -m service -a 'name=tomcat8 state=restarted' -b

Now, try the above URL --- it Works!!

**replace module**

--------------

This is used for replacing a specific string with other string.

Ex:

Ansible command to change the port number of tomcat from 8080 to 9090

$ ansible all -m replace -a 'regexp=8080 replace=9090 path=/etc/tomcat8/server.xml' -b

**uri module**

-------------------

I want to check facebook is reachable for not in all managed nodes.

$ ansible all -m uri -a 'url=http://facebook.com'

In the output ( green color ) status - 200

Give a invalid url , we get status as -1

Ex:

$ ansible all -m uri -a 'url=http://hgyi9cb.com'

Now, I want to stop tomcat in all managed nodes ( Just repeat )

$ ansible all -m service -a 'name=tomcat8 state=stopped' -b

Notes:

urI module is used to check if the url is reachable or not.

Command to check if facebook.com is reachable on all managed nodes.

$ ansible all -m uri -a 'url=http://facebook.com status=200'

++++++++++++++++++++++++++++++++++++

Lets have an example of all modules

Requirement: I want to install tomcat all manages nodes , then i want to copy users.xml in all managed nodes,

I want to change port number of tomcat , then i want to restart the service, finally i want to check

url is reachable or not.

1st we need to unintall tomcat in all managed nodes.

$ ansible all -m apt -a 'name=tomcat8 state=absent purge=yes' -b

--------------

$ ansible all -m apt -a 'name=tomcat8 state=present' -b

$ ansible all -m copy -a 'src=tomcat-users.xml dest=/etc/tomcat8' -b

$ ansible all -m replace -a 'regexp=8080 replace=9090 path=/etc/tomcat8/server.xml' -b

$ ansible all -m service -a 'name=tomcat8 state=restarted' -b

To check tomcat is running individually on all servers,

take the private ip of all nodes

172.31.11.96

172.31.6.207

172.31.12.138

$ ansible all -m uri -a 'url=http://172.31.11.96:9090'

It returns status as 200

Similarly check the other two nodes

$ ansible all -m uri -a 'url=http://172.31.6.207:9090'

$ ansible all -m uri -a 'url=http://172.31.12.138:9090'

+++++++++++++++++++++

Notes:

Requirement.

I want to install tomcat all modules. Copy tomcat-users.xml in all managed nodes.

Change port number of tomcat from 8080 to 9090. Restart the tomcat8 service.

Finally i want to check url is reachable or not.

$ ansible all -m apt -a 'name=tomcat8 state=present' -b

$ ansible all -m copy -a 'src=tomcat-users.xml dest=/etc/tomcat8' -b

$ ansible all -m replace -a 'regexp=8080 replace=9090 path=/etc/tomcat8/server.xml' -b

$ ansible all -m service -a 'name=tomcat8 state=restarted' -b

To check tomcat is running individually on all servers,

take the private ip of all nodes

172.31.11.96

172.31.6.207

172.31.12.138

$ ansible all -m uri -a 'url=http://172.31.11.96:9090 status=200'

It returns status as 200

Similarly check the other two nodes

$ ansible all -m uri -a 'url=http://172.31.6.207:9090 status=200'

$ ansible all -m uri -a 'url=http://172.31.12.138:9090 status=200'