

Topic :- Ansible Playbook

STEP 2 :- Now write below yaml file in playbook. Also run it using below command **ansible-playbook playbook1.yaml -b**

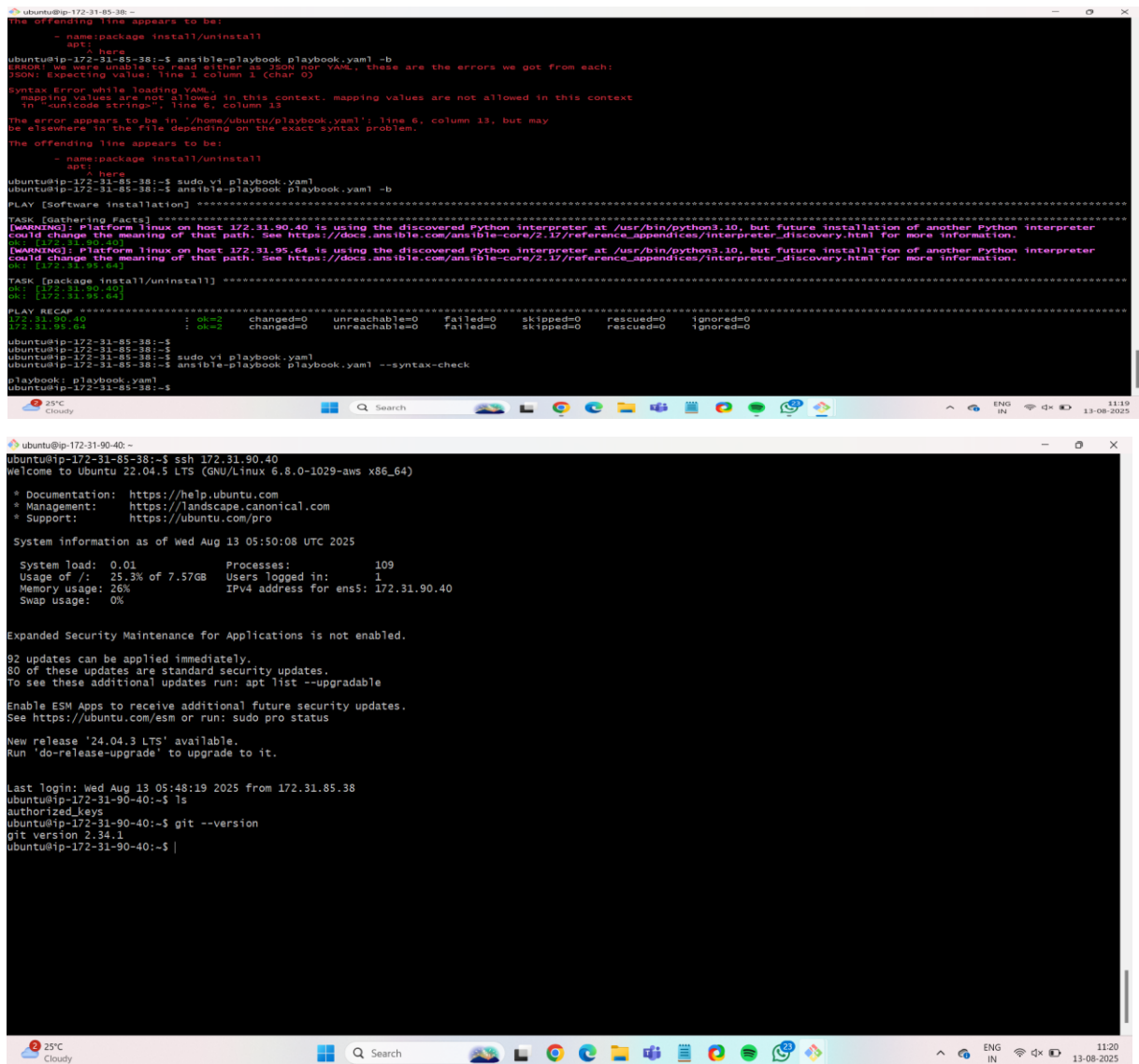
```
ubuntu@ip-172-31-85-38: ~$ cat playbook.yml
- name: Software installation
  hosts: all
  tasks:
    - name: package install/uninstall
      apt:
        name: git
        state: present
...

ubuntu@ip-172-31-85-38: ~$ ansible-playbook playbook.yml
PLAY [all hosts]
TASK [Software installation]
[WARNING]: Platform linux on host 172.31.90.40 is using the discovered python interpreter at /usr/bin/python3.10, but future installation of another python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
[WARNING]: Platform linux on host 172.31.95.64 is using the discovered python interpreter at /usr/bin/python3.10, but future installation of another python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
TASK [package install/uninstall]
ok: [172.31.95.64]

PLAY RECAP *****
172.31.90.40 : ok=2  changed=0  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0
172.31.95.64 : ok=2  changed=0  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0

ubuntu@ip-172-31-85-38: ~$
```

STEP 3 :- Fetch below command just to check the syntax. **ansible-playbook** **playbook1.yaml --syntax-check**



The first terminal screenshot shows a user attempting to run an Ansible playbook. It displays a syntax error in the YAML file 'playbook1.yaml' at line 6, column 13, where a mapping value is not allowed in the context of a 'unicode string'. The error message is: 'SyntaxError while loading YAML: mapping values are not allowed in this context. mapping values are not allowed in this context in "unicode string", line 6, column 13'. The user then runs the command 'ansible-playbook playbook1.yaml --syntax-check', which returns 'playbook: playbook.yaml'.

The second terminal screenshot shows a user connecting to a remote host via SSH. The output displays system information for Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1029-aws x86_64). The system information includes: System load: 0.01, Processes: 109, Usage of /: 25.3% of 7.57GB, Users logged in: 1, Memory usage: 26%, IPv4 address for ens5: 172.31.90.40, and Swap usage: 0%. The user also runs 'ls' and 'git --version', which returns 'git version 2.34.1'.

STEP 4 :- Now fetch below command to create user by writing **playbook2**. Also check it in any one instance.

[illegible]

```
ubuntu@ip-172-31-90-40: ~
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lpr:x:7:7:lpr:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mail List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:nonexistent:/usr/sbin/nologin
tss:x:106:112:TPM software stack,,:/var/lib/tpm:/bin/false
uuidd:x:107:113:/run/uuidd:/usr/sbin/nologin
tcpdump:x:108:114:nonexistent:/usr/sbin/nologin
sshd:x:109:65534:/run/sshd:/usr/sbin/nologin
pollinate:x:110:1:/var/cache/pollinate:/bin/false
landscape:x:111:116:/var/lib/landscape:/usr/sbin/nologin
fwupd-refresh:x:112:117:fwupd-refresh user,,:/run/systemd:/usr/sbin/nologin
ec2-instance-connect:x:113:65534:nonexistent:/usr/sbin/nologin
chrony:x:114:121:Chrony daemon,,:/var/lib/chrony:/usr/sbin/nologin
ubuntu:x:1000:1000:Ubuntu:/home/ubuntu:/bin/bash
lxd:x:999:100:/var/snap/lxd/common/lxd:/bin/false
laxmi:x:3319:3319:/home/ubuntu/laxmi:/bin/sh

"/etc/passwd" 36L, 1946B

1,1 A11
```

TASK :- Create some group by following below commands

- **cd /etc/ansible**
- **sudo vi hosts**

Modify the IP in two group **web-server-worker1** and **app-server-worker2**

Now create one playbook and create one html link and run it for only **web-server Instance IP** . Hit the public IP and check the content.

```
ubuntu@ip-172-31-85-38:/etc/ansible
[web-server-worker1]
172.31.90.40
[app-server-worker2]
172.31.95.64

# This is the default ansible 'hosts' file.
#
# It should live in /etc/ansible/hosts
#
# - Comments begin with the '#' character
# - Blank lines are ignored
# - Groups of hosts are delimited by [header] elements
# - You can enter hostnames or ip addresses
# - A hostname/ip can be a member of multiple groups
#
# Ex 1: Ungrouped hosts, specify before any group headers:
##
## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10
#
# Ex 2: A collection of hosts belonging to the 'webservers' group:
## [webservers]
## alpha.example.org
## beta.example.org
## 192.168.1.100
## 192.168.1.110
#
# If you have multiple hosts following a pattern, you can specify
# them like this:
## www[001:006].example.com
#
# You can also use ranges for multiple hosts:
## db-[99:101]-node.example.com
#
# Ex 3: A collection of database servers in the 'dbservers' group:
## [dbservers]
##
## db01.intranet.mydomain.net
## db02.intranet.mydomain.net
## 10.25.1.56
## 10.25.1.57
-- INSERT --

3,5 Top
```

The screenshot shows a terminal window with the following output:

```

name: web page hosting
hosts: web-server-worker1
tasks:
  - name: installing apache package
    apt:
      name: git
      state: present
  - name: ensure web root directory exists
    file:
      path: /var/www/html
      state: directory
  - name: content hosting
    copy:
      content: "our page"
      dest: /var/www/html/index.html
...

```

At the bottom of the terminal, the command `playbook3.yaml` is shown with its exit code `18L, 443B`. The terminal window is titled `ubuntu@ip-172-31-85-38: ~`.

```
ubuntu@ip-172-31-85-38: ~  
state: present  
- name: ensure web root directory exists  
  A here  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook3.yaml  
ubuntu@ip-172-31-85-38:~$ ansible-playbook playbook3.yaml -b  
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details  
PLAY [web page hosting] *****  
TASK [Gathering Facts] *****  
[WARNING]: Platform linux on host 172.31.90.40 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter  
could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.  
ok: [172.31.90.40]  
TASK [installing apache package] *****  
ok: [172.31.90.40]  
TASK [ensure web root directory exists] *****  
changed: [172.31.90.40]  
TASK [content hosting] *****  
changed: [172.31.90.40]  
PLAY RECAP *****  
172.31.90.40 : ok=4 changed=2 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0  
ubuntu@ip-172-31-85-38:~$ ssh 172.31.90.40  
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1029-aws x86_64)  
  
 * Documentation:  https://help.ubuntu.com  
 * Management:    https://landscape.canonical.com  
 * Support:       https://ubuntu.com/pro  
  
System information as of Wed Aug 13 06:23:52 UTC 2025  
  
System load:  0.02          Processes:      106  
Usage of /:   30.5% of 7.57GB Users logged in: 1  
Memory usage: 28%          IPv4 address for ens5: 172.31.90.40  
Swap usage:   0%  
  
 * Ubuntu Pro delivers the most comprehensive open source security and  
  compliance features.  
  
  https://ubuntu.com/aws/pro  
  
Expanded Security Maintenance for Applications is not enabled.  
  
12 updates can be applied immediately.
```

```
26°C  
Mostly cloudy  
12:00  
13-08-2025  
ubuntu@ip-172-31-85-38: ~  
Memory usage: 28%          IPv4 address for ens5: 172.31.90.40  
Swap usage:   0%  
  
 * Ubuntu Pro delivers the most comprehensive open source security and  
  compliance features.  
  
  https://ubuntu.com/aws/pro  
  
Expanded Security Maintenance for Applications is not enabled.  
  
12 updates can be applied immediately.  
To see these additional updates run: apt list --upgradable  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
New release '24.04.3 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
*** System restart required ***  
Last login: Wed Aug 13 06:23:52 2025 from 172.31.85.38  
ubuntu@ip-172-31-90-40:~$ ls -la  
total 40  
drwxr-xr-x 6 ubuntu ubuntu 4096 Aug 13 05:54 .  
drwxr-xr-x 3 root   root   4096 Aug 13 05:04 ..  
drwx----- 3 ubuntu ubuntu 4096 Aug 13 05:48 .ansible  
-rw----- 1 ubuntu ubuntu 304 Aug 13 06:24 .bash_history  
-rw-r--r-- 1 ubuntu ubuntu 220 Jan 6 2022 .bash_logout  
-rw-r--r-- 1 ubuntu ubuntu 3771 Jan 6 2022 .bashrc  
drwx----- 2 ubuntu ubuntu 4096 Aug 13 05:09 .cache  
-rw-r--r-- 1 ubuntu ubuntu 807 Jan 6 2022 .profile  
drwx----- 2 ubuntu ubuntu 4096 Aug 13 05:37 .ssh  
-rw-r--r-- 1 ubuntu ubuntu 0 Aug 13 05:09 .sudo_as_admin_successful  
-rw-r--r-- 1 root   root   0 Aug 13 05:31 authorized_keys  
drwxr-xr-x 2 l1am1 l1am1 4096 Aug 13 05:54 l1am1  
ubuntu@ip-172-31-90-40:~$ cd /var/www/html  
ubuntu@ip-172-31-90-40:/var/www/html$ ls  
index.html  
ubuntu@ip-172-31-90-40:/var/www/html$ cat index.html  
Our pageubuntu@ip-172-31-90-40:/var/www/html$  
ubuntu@ip-172-31-90-40:/var/www/html$ cd index.html  
-bash: cd: index.html: Not a directory  
ubuntu@ip-172-31-90-40:/var/www/html$ cd  
ubuntu@ip-172-31-90-40:~$ exit  
logout  
Connection to 172.31.90.40 closed.  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook3.yaml  
ubuntu@ip-172-31-85-38:~$
```



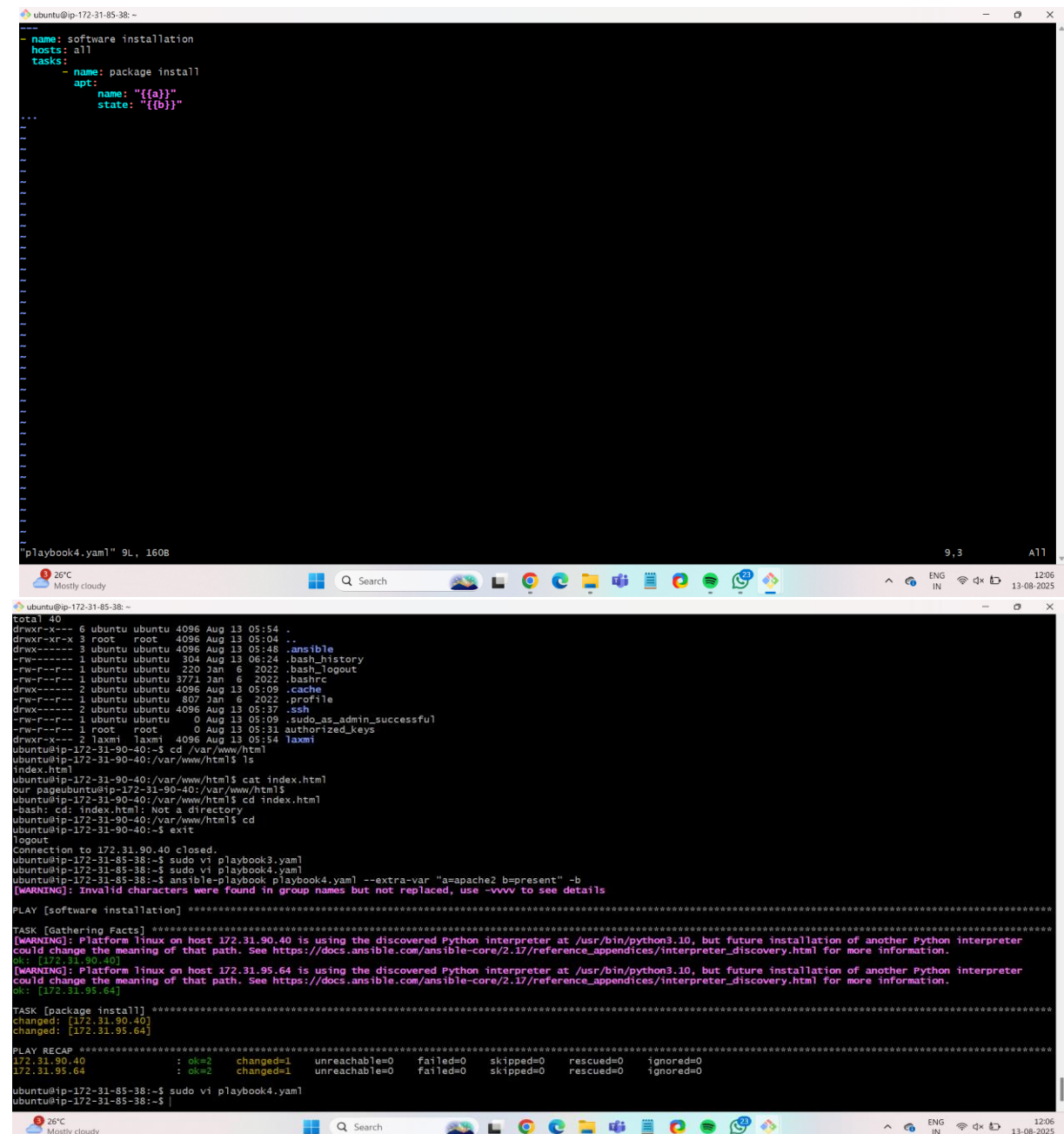
Our Web Page

TASK :- Create playbook and specify global scope variable and play scope variable.

STEP 1 :- Write below yaml file in one of the playbook.

FOR GLOBAL SCOPE VARIABLE

Fetch this command after writing yaml file **ansible-playbook playbook4.yaml -extra-var "a=git b=absent" -b**



```
ubuntu@ip-172-31-85-38: ~  
- name: software installation  
  hosts: all  
  tasks:  
    - name: package install  
      apt:  
        name: "{{a}}"  
        state: "{{b}}"  
...  
"playbook4.yaml" 9L, 160B  
9,3 A11  
26°C Mostly cloudy  
1206 13-08-2025  
total 40  
drwxr-xr-x 6 ubuntu ubuntu 4096 Aug 13 05:54 .  
drwxr-xr-x 3 root root 4096 Aug 13 05:04 ..  
drwx----- 3 ubuntu ubuntu 4096 Aug 13 05:48 .ansible  
-rw----- 1 ubuntu ubuntu 304 Aug 13 06:24 .bash_history  
-rw-r--r-- 1 ubuntu ubuntu 220 Jan 6 2022 .bash_logout  
-rw-r--r-- 1 ubuntu ubuntu 3771 Jan 6 2022 .bashrc  
drwx----- 2 ubuntu ubuntu 4096 Aug 13 05:09 .cache  
-rw-r--r-- 1 ubuntu ubuntu 807 Jan 6 2022 .profile  
drwx----- 2 ubuntu ubuntu 4096 Aug 13 05:37 .ssh  
-rw-r--r-- 1 ubuntu ubuntu 0 Aug 13 05:09 sudo_as_admin_successful  
-rw-r--r-- 1 root root 0 Aug 13 05:31 authorized_keys  
drwxr-xr-x 2 laxmi laxmi 4096 Aug 13 05:54 laxmi  
ubuntu@ip-172-31-90-40:~$ cd /var/www/html  
ubuntu@ip-172-31-90-40:/var/www/html$ ls  
index.html  
ubuntu@ip-172-31-90-40:/var/www/html$ cat index.html  
our pageubuntu@ip-172-31-90-40:/var/www/html$  
ubuntu@ip-172-31-90-40:/var/www/html$ cd index.html  
-bash: cd: index.html: Not a directory  
ubuntu@ip-172-31-90-40:/var/www/html$ cd  
ubuntu@ip-172-31-90-40:~$ exit  
logout  
Connection to 172.31.90.40 closed.  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook3.yaml  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook4.yaml  
ubuntu@ip-172-31-85-38:~$ ansible-playbook playbook4.yaml --extra-var "a=apache2 b=present" -b  
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details  
PLAY [software installation] *****  
TASK [Gathering Facts] *****  
[WARNING]: Platform linux on host 172.31.90.40 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.  
ok: [172.31.90.40]  
[WARNING]: Platform linux on host 172.31.95.64 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.  
ok: [172.31.95.64]  
TASK [package install] *****  
changed: [172.31.90.40]  
changed: [172.31.95.64]  
PLAY RECAP *****  
172.31.90.40 : ok=2 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0  
172.31.95.64 : ok=2 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook4.yaml  
ubuntu@ip-172-31-85-38:~$
```

FOR PLAY SCOPE VARIABLE

Mention variables in playbook itself.

And run command **ansible-playbook playbook5.yaml -b**

```
ubuntu@ip-172-31-85-38: ~  
- name: software installation  
  hosts: all  
  vars:  
    a: git  
    b: absent  
  tasks:  
    - name: package install  
      apt:  
        name: "{{a}}"  
        state: "{{b}}"  
...  
playbook5.yaml! 12L, 1968  
11,17  A11  
500312 +1.53%  
ubuntu@ip-172-31-85-38: ~  
- name: software installation  
  hosts: all  
  vars:  
    a: git  
    b: absent  
  tasks:  
    - name: package install  
      apt:  
        name: "{{a}}"  
        state: "{{b}}"  
...  
ubuntu@ip-172-31-85-38:~$ cat playbook5.yaml  
- name: software installation  
  hosts: all  
  vars:  
    a: git  
    b: absent  
  tasks:  
    - name: package install  
      apt:  
        name: "{{a}}"  
        state: "{{b}}"  
...  
ubuntu@ip-172-31-85-38:~$ ansible-playbook playbook5.yaml -b  
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details  
PLAY [software installation] *****  
TASK [Gathering Facts] *****  
[WARNING]: Platform linux on host 172.31.90.40 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.  
[WARNING]: Platform linux on host 172.31.95.64 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.  
ok: [172.31.95.64]  
TASK [package install] *****  
changed: [172.31.90.40]  
changed: [172.31.95.64]  
PLAY RECAP *****  
172.31.90.40 : ok=2 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0  
172.31.95.64 : ok=2 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook5.yaml  
ubuntu@ip-172-31-85-38:~$
```



```
ubuntu@ip-172-31-95-64: ~  
TASK [package install] *****  
changed: [172.31.90.40]  
changed: [172.31.95.64]  
PLAY RECAP *****  
172.31.90.40      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0  
172.31.95.64      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0  
ubuntu@ip-172-31-85-38:~$ sudo vi playbook5.yaml  
ubuntu@ip-172-31-85-38:~$ ssh 172.31.95.64  
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1029-aws x86_64)  
  
 * Documentation:  https://help.ubuntu.com  
 * Management:    https://landscape.canonical.com  
 * Support:        https://ubuntu.com/pro  
  
System information as of Wed Aug 13 06:45:12 UTC 2025  
  
System load:  0.02          Processes:            111  
Usage of /:   25.2% of 7.57GB Users logged in:          1  
Memory usage: 26%          IPv4 address for ens5: 172.31.95.64  
Swap usage:   0%  
  
 * Ubuntu Pro delivers the most comprehensive open source security and  
  compliance features.  
  https://ubuntu.com/aws/pro  
  
Expanded Security Maintenance for Applications is not enabled.  
  
91 updates can be applied immediately.  
79 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
New release '24.04.3 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Last login: Wed Aug 13 06:43:53 2025 from 172.31.85.38  
ubuntu@ip-172-31-95-64:~$ ls  
laxmi  
ubuntu@ip-172-31-95-64:~$ git --version  
Command 'git' not found, but can be installed with:  
sudo apt install git  
ubuntu@ip-172-31-95-64:~$ |
```