

Users & Groups Methodology - Creation

Open VMware Workstation:

1. Create a Virtual Machine from a gold image – Ubuntu 16.04 LTS, and call it **Ansible01**,
2. Each VM logs in under the user L00155876, as a super admin with sudo privileges,
3. Open the VM (Ansible 01) and login using the default password **PasswOrd1**,
4. Open the terminal window.
5. To confirm that L00155876 is the user on the VM type in **whoami**
6. The response is **L00155876**
7. From the cli type in the **sudo init 6**, to reboot the vm,
8. From the cli, type in the following **sudo apt-get install open-vm-tools**
This installs the tools need to carry out the install, of which one of the tools is the copy and paste command,
9. Input the sudo password **PasswOrd1**
10. Then on the cli input the following command **sudo apt-get install open-vm-tools-desktop**,
Press enter,
11. From the cli type in the **sudo init 6**, to reboot the VM,
12. Input the sudo password **PasswOrd1**
13. Open the terminal window,
14. To determine what IP address Ansible01 has type in the command **ifconfig**
15. From the output the inet address: is **192.168.191.147**
16. Make a copy of the IP address,
17. Now we need to give Ansible01 a host name, type in the command **hostnamectl set-hostname Ansible01**, Press enter,
18. From the cli type in the **sudo init 6**, to reboot the VM,
19. Open the terminal window,
20. Then in the cli type in **sudo nano /etc/hosts**, Press enter,
21. Input the sudo password **PasswOrd1**
22. Moving into the /etc/hosts folder, remove all the script that is there, and input the following
127.0.0.1 Ansible01
127.0.1.1 Ansible01
192.168.191.147 Ansible01
23. Then accept the changes and write the file to the /etc/hosts folder, returning you to the terminal window,
24. The next step is to get the update, in the cli type in **sudo apt-get update**, Press enter,
25. Then type in **sudo apt-get install openssh-server**, Press enter,
26. Then type into the cli **sudo systemctl restart ssh**, Press enter,
27. Then type into the cli **sudo nano /etc/ssh/sshd_config**, Press enter,
28. Moving into the /etc/ssh/sshd_config folder, got to the following lines of code and make the following changes;
 - (i) **#AuthorizedKeysFile** %h/.ssh/authorized_keys - remove the hash to the front, and again, the same text further down
 - (ii) **#AuthorizedKeysFile** %h/.ssh/authorized_keys - remove the hash to the front, and again, the same text further down
 - (iii) **#PasswordAuthentication** **no** - remove the hash to the front, and change the yes to no

- (iv) Then accept the changes and write the file to the /etc/ssh/sshd_config, returning you to the terminal window,
- 29. Then type into the cli `sudo systemctl restart ssh`, Press enter,
- 30. Then type into the cli `sudo nano /etc/ssh/sshd_config`, Press enter,
- 31. Moving into the /etc/ssh/sshd_config folder, got to the following lines of code and make the following changes under the `PubkeyAuthentication yes` script;
 - (i) `#AuthorizedKeysFile %h/.ssh/authorized_keys` - remove the hash to the front, and again, the same text further down,
- 32. Then accept the changes and write the file to the /etc/ssh/sshd_config folder, returning you to the terminal window,
- 33. Then type into the cli `sudo systemctl restart ssh`, Press enter,
- 34. Then type into the cli `ssh-keygen -t rsa`, Press enter,
- 35. Then type into the cli `ssh-keygen -t rsa`, again, and Press enter,
- 36. Then type into the cli `ssh-copy-id -I ./ssh/ld_rsa.pub l00155876@ansible01`
- 37. Then type into the cli `sudo systemctl restart ssh`
- 38. Then type into the cli `ssh-copy-id -I ./ssh/ld_rsa.pub l00155876@ansible01`, again to get it to run this time.
- 39. Then type into the cli `sudo nano /etc/ssh/sshd_config`, Press enter,
- 40. The type `ssh-agent bash`, Press enter,
- 41. Then type into the cli `ssh-add ./ssh/ld_rsa`, Press enter,
- 42. Then type into the cli `sudo visudo`, Press enter,
- 43. Moving into the /etc/sudoers.tmp folder, go to the following lines of code and make the following changes under the `%sudo ALL=(ALL:ALL) ALL` script;
 - (i) `l00155876 ALL=(ALL:ALL) NOPASSWD:ALL`
- 44. Then accept the changes and write the file to the /etc/ssh/sshd_config folder, returning you to the terminal window,
- 45. Then type into the cli `sudo apt-add-repository ppa:ansible/ansible`, Press enter,
- 46. Then type into the cli `sudo apt install ansible`, Press enter,
- 47. Then type into the cli `sudo nano /etc/ansible/hosts`, Press enter,
- 48. Moving into the /etc/ansible/hosts folder, got to the following lines of code and make the following changes under the `#[webservers]` script; remove


```
#alpha.example.rog
#beta.example.rog
#192/168.1.100
#192.168.1.110
Include #192.168.191.147
Ansible01 ansible_hosts=Ansible01 ansible_user=l00155876
```
- 49. Then type into the cli `sudo mkdir /etc/ansible/hosts_vars`, Press enter,
- 50. Then type into the cli `sudo nano /etc/ansible/host_vars/webservers`, Press enter,
- 51. Moving into the /etc/ansible/host_vars/webservers folder, add the following script;
 - (i) `ansible_host: Ansible01`
 - (ii) `ansible_port: 22`
 - (iii) `ansible_user: l00155876`
 - (iv) `ansible_host: McLeanClient`
 - (v) `ansible_port: 22`
 - (vi) `ansible_user: l00155876`

52. Then accept the changes and write the file to the `/etc/ansible/host_vars/webrowsers` folder, returning you to the terminal window,
53. Then type into the cli `sudo nano /etc/ansible/hosts`, Press enter,
54. Moving into the `/etc/ansible/hosts` folder, got to the following lines of code and confirm their status remains the same under the `#[webrowsers]` script;

```
#192.168.191.147
Ansible01 ansible_hosts=Ansible01 ansible_user=l00155876
```
55. Then type into the cli `sudo nano /etc/ansible/inventory`, Press enter,
56. Moving into the `/etc/ansible/inventory` folder, add the following script

```
(i) [Ansible]
(ii) 192.168.191.147
```
57. Then accept the changes and write the file to the `/etc/ansible/inventory` folder, returning you to the terminal window,
58. Then type into the cli `sudo nano /etc/ansible/inventory`, Press enter,
59. Moving into the `/etc/ansible/inventory` folder, add the following script

```
(iii) [Ansible]
(iv) 192.168.191.147
(v) [Ansible01:vars]
(vi) Admin_group=sudo
```
60. Then accept the changes and write the file to the `/etc/ansible/inventory` folder, returning you to the terminal window,
61. From the cli type in the `sudo init 6`, to reboot the VM,

That concludes the initial build of the Host VM

In order to complete the build, we need to create the second VM

~~~~~

Now we create the second VM from our gold image. This machine shall be referred to as **McLeanClient**,

1. Again, each VM logs in under the user L00155876, as a super admin with sudo privileges,
2. Open the VM (McLeanClient) and login using the default password `PasswOrd1`,
3. Open the terminal window.
4. From the cli, type in the following `sudo apt-get install open-vm-tools`, press enter,  
This installs the tools need to carry out the install, of which one of the tools is the copy and paste command,
5. From the cli, type in the following `hostnamectl set-hostname McLeanClient`, press enter,
6. From the cli type in the `sudo init 6`, to reboot the vm,
7. Input the sudo password `PasswOrd1`
8. Open the terminal window,
9. From the cli, type in the following `sudo apt-get install open-vm-tools`, press enter,
10. Then on the cli input the following command `sudo apt-get install open-vm-tools-desktop`, Press enter,
11. To determine what IP address McLeanClient has type in the command `ifconfig`,
12. From the output the inet address: is `192.168.191.148`
13. Make a copy of the IP address,
14. From the cli, type `sudo nano /etc/hosts`, to reset the host file on this client VM, and you will have to do the same on the host VM aswell.

15. Moving into the /etc/hosts folder, remove all the script that is there, and input the following  
     127.0.0.1 McLeanClient  
     127.0.1.1 McLeanClient  
     192.168.191.148 McLeanClient  
     192.168.191.147 Ansible01

16. Then accept the changes and write the file to the /etc/hosts folder, returning you to the terminal window,

One thing I should have done at the start was to turn of the lock, so that each machine did not automatically log out after a period of time.

#### 17. Now back to the Host (Ansible01),

18. Open the terminal window,
19. From the cli, type in the following `sudo nano /etc/hosts`, press enter,
20. Moving into the /etc/hosts folder, add to the script that is already there, and input the following;  
     127.0.0.1 Ansible01  
     127.0.1.1 Ansible01  
     192.168.191.147 Ansible01  
     192.168.191.148 McLeanClient
21. Then accept the changes and write the file to the /etc/hosts folder, returning you to the terminal window,

#### 22. Now back to the client server (McLeanClient),

23. From the cli, type in the following `sudo nano /etc/hosts`, press enter,
24. From the cli, type in the following `sudo apt-get update`, press enter,
25. From the cli, type in the following `sudo apt-get install openssh-server`, press enter,
26. From the cli, type in the following `sudo systemctl restart ssh`, press enter,
27. From the cli, type in the following `sudo nano /etc/ssh/sshd_config`, press enter,

#### 28. Now back to the Host (Ansible01),

29. From the cli, type in the following `ssh-copy-id -i ~/.ssh/id_rsa.pub l00155876@McLeanClient`, press enter,

#### 30. Now back to the client server (McLeanClient),

31. Moving into the /etc/ssh/sshd\_config folder, got to the following lines of code and make the following changes;
  - (v) `#AuthorizedkeysFile %h/.ssh/authorized_keys` - remove the hash to the front, and again, the same text further down
  - (vi) `#AuthorizedkeysFile %h/.ssh/authorized_keys` - remove the hash to the front, and again, the same text further down
  - (vii) `#PasswordAuthentication no` - remove the hash to the front, and change the yes to no
  - (viii) Then accept the changes and write the file to the /etc/ssh/sshd\_config, returning you to the terminal window,
32. Then type into the cli `sudo systemctl restart ssh`, Press enter,
33. Then type into the `sudo visudo`, Press enter,
34. Moving into the /etc/sudoers,tmp folder, got to the following lines of code and make the following changes;

35.

36. following changes under the `%sudo ALL=(ALL:ALL) ALL` script;

(ii) `I00155876 ALL=(ALL:ALL) NOPASSWD:ALL`

Then accept the changes and write the file to the `/etc/ssh/sshd_config` folder, returning you to the terminal window,

37. Now back to the Host (Ansible01),

38. Then type into the cli `sudo nano /etc/ansible/hosts`, Press enter,

Then under `#192.168.191.147`

`Ansible01 ansible_hosts=Ansible01 ansible_user=I00155876`

Include `#192.168.191.148`

`Ansible01 ansible_hosts=McLeanClient ansible_user=I00155876`

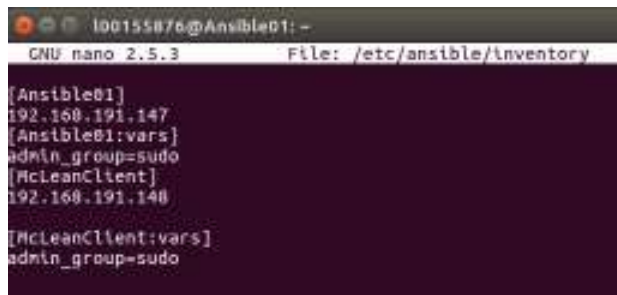
39. Then accept the changes and write the file to the `/etc/ansible/hosts`, returning you to the terminal window,

40. Then type into the cli `sudo nano /etc/ansible/inventory`, Press enter,

41. Moving into the `/etc/ansible/inventory` folder, add the following script below the black text;

```
[Ansible]
192.168.191.147
[Ansible01:vars]
Admin_group=sudo
[McLeanClient]
192.168.191.148

[McLeanClient:vars]
Admin_group=sudo
```



```
GNU nano 2.5.3 File: /etc/ansible/inventory

[Ansible01]
192.168.191.147
[Ansible01:vars]
admin_group=sudo
[McLeanClient]
192.168.191.148
[McLeanClient:vars]
admin_group=sudo
```

42. Then accept the changes and write the file to the `/etc/ansible/inventory` folder, returning you to the terminal window,

43. Then type into the cli `sudo apt install python-pip`, Press enter,

44. Then type into the cli `pip install ansible-lint`, Press enter,

With the entire pre-configuration now done for both the Ansible-01 & McLeanClient Servers we can now create a user.

I am still in the Host (Ansible01),

45. Then type into the cli `sudo nano /user1.yaml`, Press enter,

46. Moving into the File: `user1.yaml` folder, and add the following script;

```
uid:2001
group: SYSAdmin'
state: Present
shell: /bin/bash
System: no
createhome: yes
home: /home/MarkMcLean
generate_ssh_keys: yes
ssh_key_bits: 2048
ssh_key_file: .ssh/id_rsa.pub
```



```
GNU nano 2.5.3 File: user1.yaml

uid: 2001
group: SYSAdmin
state: present
shell: /bin/bash
system: no
createhome: yes
home: /home/MarkMcLean
generate_ssh_key: yes
ssh_key_bits: 2048
ssh_key_file: .ssh/id_rsa.pub
```

47. Then accept the changes and write the file to the File: `user1.yaml` folder, returning you to the terminal window,

48. Then type into the cli `ansible-lint user1.yaml -v`, Press enter,
49. With the Ansible script having been run some errors were found, (see screenshot below); the result identified what the error was [201] Trailing whitespace, and the line where the error was made, `user1.yaml:5` and `user1.yaml:22` from within the `user1.yaml` playbook.

```
L00155876@Ansible01:~$ ansible-lint user1.yaml -v
Examining user1.yaml of type playbook
[201] Trailing whitespace
user1.yaml:5
vars_files:
[201] Trailing whitespace
user1.yaml:22
group: SYSAdmin
L00155876@Ansible01:~$
```

50. Then type into the cli `sudo nano /user1.yaml`, Press enter,
51. Moving into the File: `user1.yaml` folder, amend the following script;
- 52.

```
GNU nano 2.5.3 File: user1.yaml
---
- name: Create Ansible01 Linux User
  hosts: Ansible01
  become: true
  vars_files:
    - /etc/ansible/vars_files/pwd_mark.yaml

  tasks:
    - name: Add group SYSAdmin to Ansible01 server
      group:
        name: SYSAdmin
        gid: 2010
        state: present

    - name: "Add user MarkMcLean to Ansible01"
      user:
        name: MarkMcLean
        password: "({{ pwd_mark | password_hash('sha512') }}"
        Read 30 lines ]
```

53. Then moving down to line 22 I can see more white spaces present
- 54.

```
GNU nano 2.5.3 File: user1.yaml

      group:
        name: SYSAdmin
        gid: 2010
        state: present

    - name: "Add user MarkMcLean to Ansible01"
      user:
        name: MarkMcLean
        password: "({{ pwd_mark | password_hash('sha512') }}"
        comment: MarkMcLean
        uid: 2001
        group: SYSAdmin
        state: present
        shell: /bin/bash
        system: no
        createhome: yes
        home: /home/MarkMcLean
        generate_ssh_key: yes
        ssh_key_bits: 2048

^G Get Help ^O Write Out ^M Where Is ^K Cut Text ^J Justify
^X Exit ^R Read File ^I Replace ^U Uncut Text ^T To Spell
```

55. Then type into the cli `ansible-lint user1.yaml -v`, Press enter,
56. The command line returned is `Examining user-1.yaml of type playbook`  
`L00155876@Ansible01:~$`

## Check Mode ("Dry Run")

57. Then type into the cli `ansible-playbook user1.yaml --check`, Press enter,



```
l00155876@Ansible01:~$ ansible-playbook user1.yaml --check
[WARNING]: Could not find '/etc/ansible/vars_files/pwd_mark.yaml': file not found
Could not find path for the missing component:
If you are using a module and expect the file to exist on the remote, see the
remote_option option:
l00155876@Ansible01:~$
```

- 58.
59. Having run check mode it found that /etc/ansible/vars\_files/pwd\_mark.yaml was not yet created.
60. Then type into the cli `sudo nano /user1.yaml`, Press enter,

```
61. GNU nano 2.5.3 File: user1.yaml

'''
name: Create Ansible01 Linux User
hosts: Ansible01
become: true
vars_files:
  - /etc/ansible/vars_files/pwd_mark.yaml

tasks:

  - name: Add group SYSAdmin to Ansible01 server
    group:
      name: SYSAdmin
      gid: 2810
      state: present

  - name: "Add user MarkMcLean to Ansible01"
    user:
      name: MarkMcLean
      password: "[[ pwd_mark | password hash('sha512') ]]"

^G Get Help ^O Write Out ^M Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

62. Then accept the changes and write the file to the /etc/ansible/inventory folder, returning you to the terminal window,
63. Then type into the cli `sudo mkdir /etc/ansible/vars_files/`, Press enter,
64. This folder has now been created
65. Then type into the cli `sudo mkdir /etc/ansible/vars_files/pwd_mark`, Press enter,
66. Then type into the cli `sudo nano pwd_mark.yaml` Press enter,

```
l00155876@Ansible01: /etc/ansible/vars_files
GNU nano 2.5.3 File: pwd_mark.yaml Modified

pwd_mark: College
```

- 67.
68. Then accept the changes and write the file to the /etc/ansible/inventory folder, returning you to the terminal window,
69. Then type into the cli `cd home/l00155876`, Press enter,
70. You have been returned to the home directory of l00155876

## Now to check that the Playbook runs, again a dry run;

71. Then type into the cli `ansible-playbook user1.yaml --check`, Press enter,

```
l00155876@Ansible01:~$
PLAY [Create Ansible01 Linux User] *****

TASK [Gathering Facts] *****
[DEPRECATION WARNING]: Distribution Ubuntu 18.04 on host Ansible01 should use
/usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the
discovered platform python for this host. See https://docs.ansible.com/ansible/
2.9/reference_appendices/interpreter_discovery.html for more information. This
feature will be removed in version 2.12. Deprecation warnings can be disabled
by setting deprecation_warnings=False in ansible.cfg.
ok: [Ansible01]

TASK [Add group SYSAdmin to Ansible01 server] *****
changed: [Ansible01]

TASK [Add user MarkMcLean to Ansible01] *****
changed: [Ansible01]

PLAY RECAP *****
Ansible01 : ok=3 changed=2 unreachable=0 failed=0 s
kipped=0 rescued=0 ignored=0

l00155876@Ansible01:~$
```

72. l00155876@Ansible01:~\$

## Now to run the playbook for real;

73. Then type into the cli `ansible-playbook user1.yaml`, Press enter,

```
l00155876@Ansible01:~$
PLAY [Create Ansible01 Linux User] *****

TASK [Gathering Facts] *****
[DEPRECATION WARNING]: Distribution Ubuntu 18.04 on host Ansible01 should use
/usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the
discovered platform python for this host. See https://docs.ansible.com/ansible/
2.9/reference_appendices/interpreter_discovery.html for more information. This
feature will be removed in version 2.12. Deprecation warnings can be disabled
by setting deprecation_warnings=False in ansible.cfg.
ok: [Ansible01]

TASK [Add group SYSAdmin to Ansible01 server] *****
changed: [Ansible01]

TASK [Add user MarkMcLean to Ansible01] *****
fatal: [Ansible01]: FAILED! => ("changed": false, "msg": "Group 'SYSAdmin' does
not exist!")

PLAY RECAP *****
Ansible01 : ok=2 changed=1 unreachable=0 failed=1 s
kipped=0 rescued=0 ignored=0

l00155876@Ansible01:~$
```

75. Then type into the cli `Sudo nano user1.yaml`, Press enter,

```
l00155876@Ansible01:~$
GNU nano 2.5.3 File: user1.yaml Modified

group:
  name: SYSAdmin
  gid: 2810
  state: present

- name: "Add user MarkMcLean to Ansible01"
  user:
    name: MarkMcLean
    password: "({{ pwd_mark | password_hash('sha512') }}"
    comment: MarkMcLean
    uid: 2801
    group: SYSAdmin
    state: present
    shell: /bin/bash
    system: no
    createhome: yes
    home: /home/MarkMcLean
    generate_ssh_key: yes
    ssh_key_bits: 2048

^G Get Help ^O Write Out ^M Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^U Replace ^L Uncut Text ^T To Spell ^_ Go To Line
```

77. So, running the command again, type into the cli `ansible-playbook user1.yaml`, Press enter,



```
78. 100155876@Ansible01:~$
PLAY [Create Ansible01 Linux User] *****

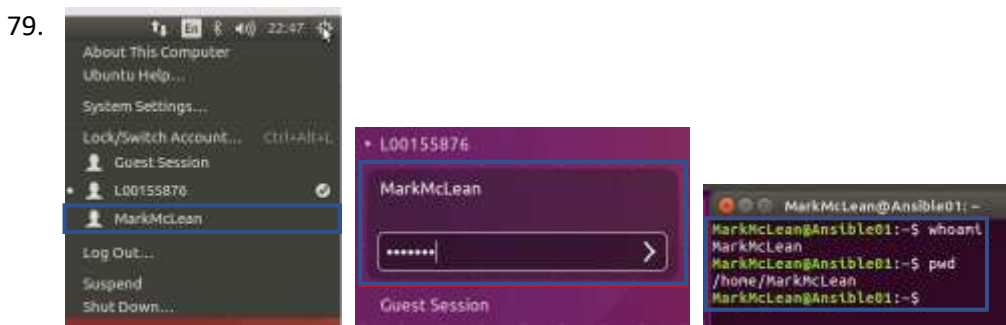
TASK [Gathering Facts] *****
[DEPRECATION WARNING]: Distribution Ubuntu 18.04 on host Ansible01 should use
/usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the
discovered platform python for this host. See https://docs.ansible.com/ansible/
2.9/reference_appendices/interpreter_discovery.html for more information. This
feature will be removed in version 2.12. Deprecation warnings can be disabled
by setting deprecation_warnings=False in ansible.cfg.
ok: [Ansible01]

TASK [Add group SYSAdmin to Ansible01 server] *****
ok: [Ansible01]

TASK [Add user MarkMcLean to Ansible01] *****
changed: [Ansible01]

PLAY RECAP *****
Ansible01 : ok=3 changed=1 unreachable=0 failed=0 s
kipped=0 rescued=0 ignored=0

100155876@Ansible01:~$
```



80. So, for now the user **MarkMcLean** only exists on this host machine.

**So, the user MarkMcLean now only exists on this machine the host machine, so the next step would be to create the user on the second machine the McLeanClient client machine**

**81. Now back to the client server (McLeanClient)**

82. A check to confirm you don't exist would be to go the McLean Client client machine

83. Then type into the cli **Sudo nano /etc/sudoers.tmp**, Press enter,

```
100155876@McLeanClient:~$
GNU nano 2.5.3 File: /etc/sudoers.tmp

# Members of the admin group may gain root privileges
%admin ALL=(ALL) ALL

# Allow members of group sudo to execute any command
%sudo ALL=(ALL:ALL) ALL
100155876 ALL=(ALL:ALL) NOPASSWD:ALL
# See sudoers(5) for more information on "#include" directives:
#include /etc/sudoers.d
```

**So, making sure to be logged in as the Host (Ansible01), and as the Super user L00155876**

84. Create the second user on the client machine with the following commands

85. Then type into the cli **Sudo nano user2.yaml**, Press enter,

```
GNU nano 2.5.3 File: user2.yaml Modified

  regexp: ^%sudo
  insertafter: "%sudo ALL=(ALL) NOPASSWD: ALL"
  line: "MarkMcLean ALL=(ALL) NOPASSWD: ALL"

- name: Allow authorised keys
  lineinfile:
    path: /etc/ssh/sshd_config
    state: present
    regexp: ^PasswordAuthentication
    line: PasswordAuthentication no

- name: Disable Password Authentication
  lineinfile:
    path: /etc/ssh/sshd_config
    state: present
    regexp: ^AuthorizedKeysFile
    line: AuthorizedKeysFile      %h/.ssh/authorized_keys

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^I Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

- 86.
87. Then accept the changes and write the file to the `user2.yaml`, returning you to the terminal window,
88. Then type into the cli `ansible-lint user2.yaml -v`, Press enter,

```
l00155876@Ansible01:~$ ansible-lint user2.yaml -v
Examining user2.yaml of type playbook
[201] trailing whitespace
user2.yaml:15
  vars_files:
    - /etc/ansible/vars_files/pwd_mark.yaml

[201] trailing whitespace
user2.yaml:18
  tasks:

[502] All tasks should be named
user2.yaml:31
Task/Handler: authorized_key __file__=user2.yaml __line__=32 state=present what=
MarkMcLean key=[ lookup('file', '/home/l00155876/.ssh/id_rsa.pub') ] __manage_dir
__=True

l00155876@Ansible01:~$
```

- 89.

- 90.

```
GNU nano 2.5.3 File: user2.yaml Modified

---
- name: "Create Remote Linux User"
  hosts: "client1_l00155876"
  become: "true"
  vars_files:
    - /etc/ansible/vars_files/pwd_mark.yaml

  tasks:

    - name: Add group SYSAdmin to remote server
      group:
        name: SYSAdmin
        gid: 2010
        state: present

    - name: Add user MarkMcLean to remote server
      user:
        name: MarkMcLean

Read 57 lines
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^I Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

91. Then type into the cli `ansible-lint user2.yaml -v`, Press enter,

```
l00155876@Ansible01:~$ ansible-lint user2.yaml -v
Examining user2.yaml of type playbook
[WARNING]: All tasks should be named
user2.yaml:13:
Task/handler: authorized_key __file__=user2.yaml __line__=12 state=present user=
MarkMcLean key=([ lookup('file', '/home/l00155876/.ssh/id_rsa.pub') ]) manage_dir
=True
```

92. `l00155876@Ansible01:~$`

```
- authorized key:
  user: MarkMcLean
  state: present
  manage_dir: yes
  key: "([ lookup('file', '/home/l00155876/.ssh/id_rsa.pub') ])"

- name: "Allow admin users to sudo without a password"
  lineinfile:
    path: /etc/sudoers
```

- 93.

```
- name: "key transfer"
  authorized_key:
    user: MarkMcLean
    state: present
    manage_dir: yes
    key: "([ lookup('file', '/home/l00155876/.ssh/id_rsa.pub') ])"

- name: "Allow admin users to sudo without a password"
  lineinfile:
```

- 94.

95. Then accept the changes and write the file to the `user2.yaml`, returning you to the terminal window,

96. Then type into the cli `ansible-lint user2.yaml -v`, Press enter,

```
l00155876@Ansible01:~$ sudo nano user2.yaml
l00155876@Ansible01:~$ ansible-lint user2.yaml -v
Examining user2.yaml of type playbook
l00155876@Ansible01:~$
```

- 97.

98. Another check needs to be carried out using the command

## Check Mode ("Dry Run")

99. Then type into the cli `ansible-playbook user2.yaml --check`, Press enter,

```
l00155876@Ansible01:~$ ansible-playbook user2.yaml --check
[WARNING]: Could not match supplied host pattern, ignoring: client1_l00155876

PLAY [Create Remote Linux User] *****
skipping: No hosts matched

PLAY RECAP *****

l00155876@Ansible01:~$
```

- 100.

101. So, by returning to `sudo nano user2.yaml`

```
GNU nano 2.5.3 File: user2.yaml
---
- name: "Create Remote Linux User"
  hosts: "client1 100155876"
  become: "true"
  vars_files:
    - /etc/ansible/vars_files/pwd_mark.yaml
```

102.

103. We can see that we did not change the name of the host on the second machine

```
GNU nano 2.5.3 File: user2.yaml Modified
---
- name: "Create Remote Linux User"
  hosts: "McLeanClient"
  become: "true"
  vars_files:
    - /etc/ansible/vars_files/pwd_mark.yaml
```

104.

105. Then accept the changes and write the file to the `user2.yaml`, returning you to the terminal window,

106. Now we need to run the playbook to

```
100155876@Ansible01:~$ ansible-playbook user2.yaml
```

107.

108.

```
100155876@Ansible01:~$ ansible-playbook user2.yaml

TASK [Add group SYSAdmin to remote server] *****
changed: [McLeanClient]

TASK [Add user MarkMcLean to remote server] *****
changed: [McLeanClient]

TASK [key transfer] *****
changed: [McLeanClient]

TASK [Allow admin users to sudo without a password] *****
changed: [McLeanClient]

TASK [Allow authorised keys] *****
ok: [McLeanClient]

TASK [Disable Password Authentication] *****
changed: [McLeanClient]

PLAY RECAP *****
McLeanClient      : ok=7  changed=5  unreachable=0  failed=0  s
kipped=0  rescued=0  ignored=0

100155876@Ansible01:~$ ansible-playbook user2.yaml
```

109. Then type into the cli `ansible-playbook user2.yaml --check`, Press enter,

110.

```
100155876@Ansible01:~$ ansible-playbook user2.yaml --check

TASK [Add group SYSAdmin to remote server] *****
ok: [McLeanClient]

TASK [Add user MarkMcLean to remote server] *****
changed: [McLeanClient]

TASK [key transfer] *****
ok: [McLeanClient]

TASK [Allow admin users to sudo without a password] *****
ok: [McLeanClient]

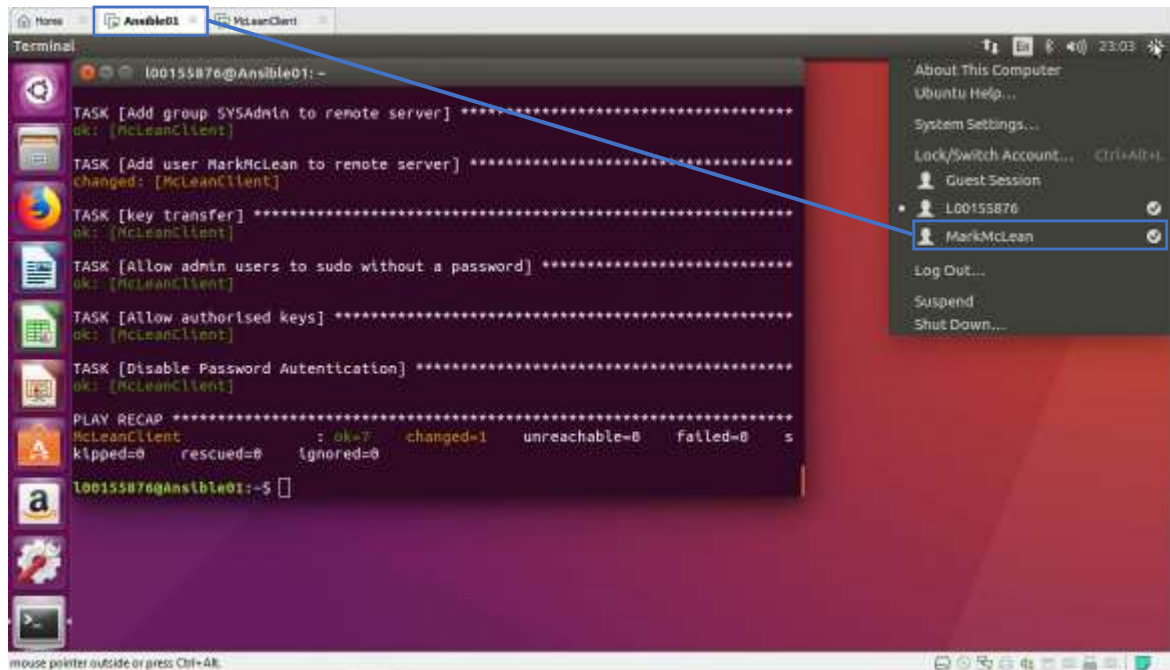
TASK [Allow authorised keys] *****
ok: [McLeanClient]

TASK [Disable Password Authentication] *****
ok: [McLeanClient]

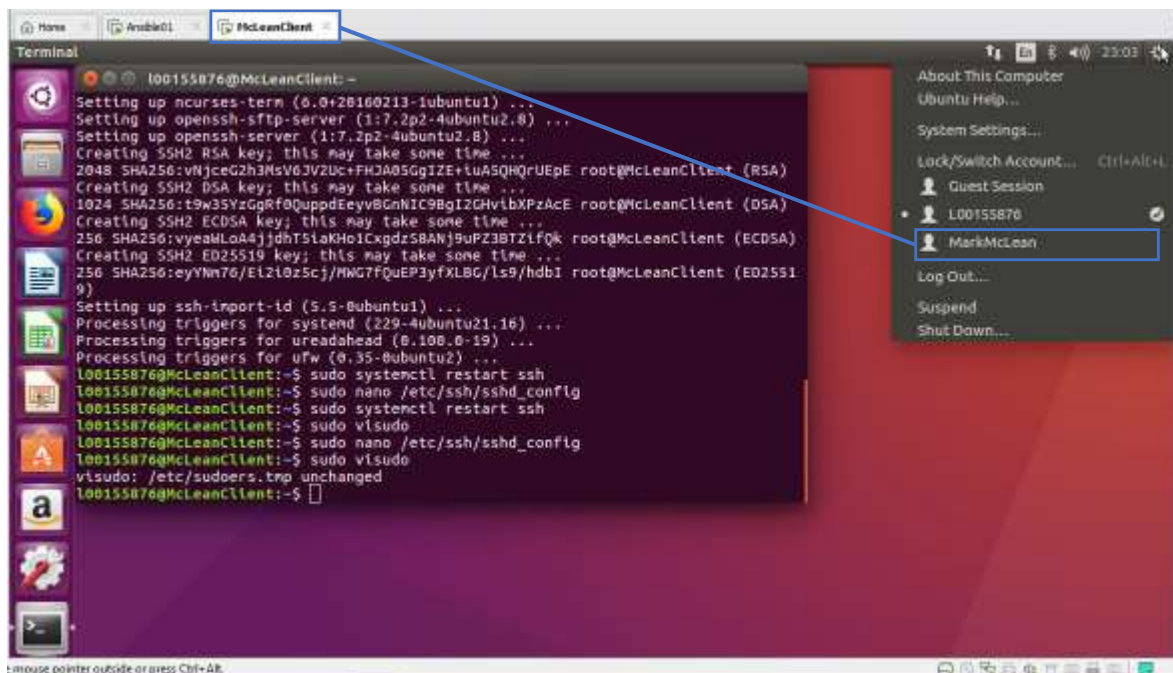
PLAY RECAP *****
McLeanClient      : ok=7  changed=1  unreachable=0  failed=0  s
kipped=0  rescued=0  ignored=0

100155876@Ansible01:~$
```

111. Screenshot taken of Ansible01 VM and new user.



112. Screenshot taken of McLeanClient VM and new user.



```

- name: Allow authorised keys
  lineinfile:
    path: /etc/ssh/sshd_config
    state: present
    regexp: ^PasswordAuthentication
    line: PasswordAuthentication no

- name: Disable Password Authentication
  lineinfile:
    path: /etc/ssh/sshd_config
    state: present
    regexp: ^AuthorizedKeysFile
    line: AuthorizedKeysFile %h/.ssh/authorized_keys
  
```



113. New Admin user MarkMcLean shown added to McLeanClient

```
GNU nano 2.5.3 File: /etc/sudoers.trp

# Members of the admin group may gain root privileges
#admin ALL=(ALL) ALL

# Allow members of group sudo to execute any command
MarkMcLean ALL=(ALL) NOPASSWD: ALL
100155876 ALL=(ALL:ALL) NOPASSWD:ALL

# See sudoers(5) for more information on "#include" directives:

#includedir /etc/sudoers.d
```

Final period/duration of build equated to 1hr and fifteen minutes

[illegible]

End.....