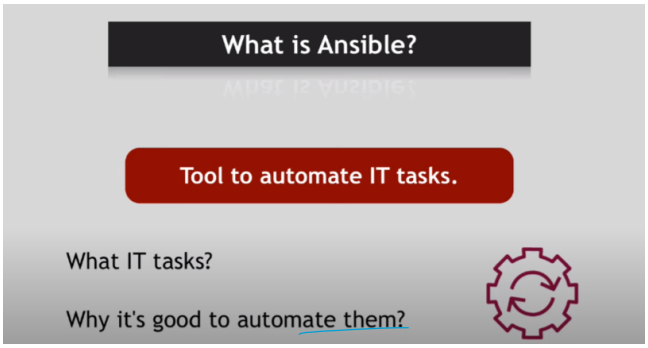
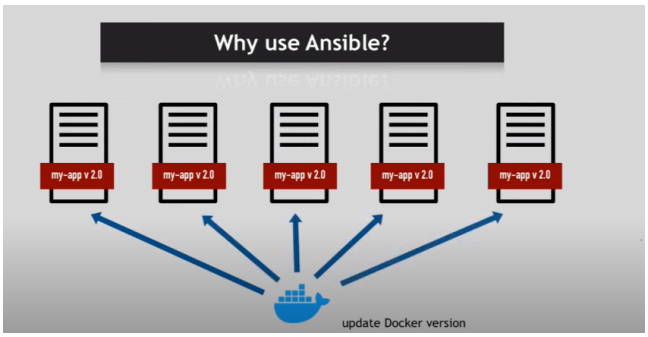
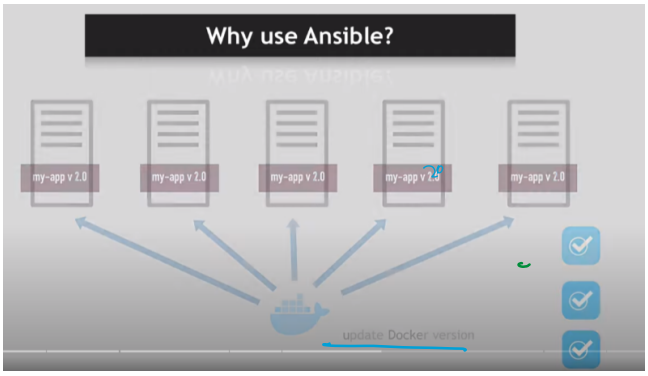
Ansible

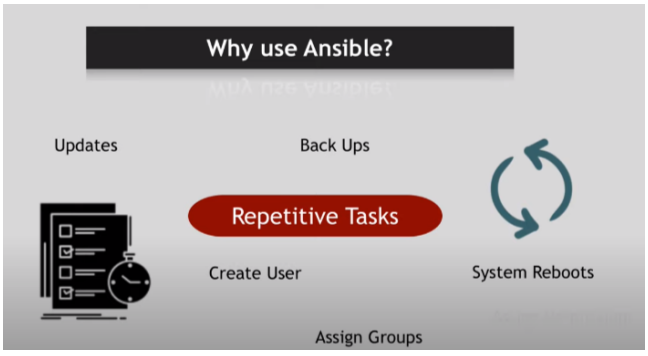
08:51 AM

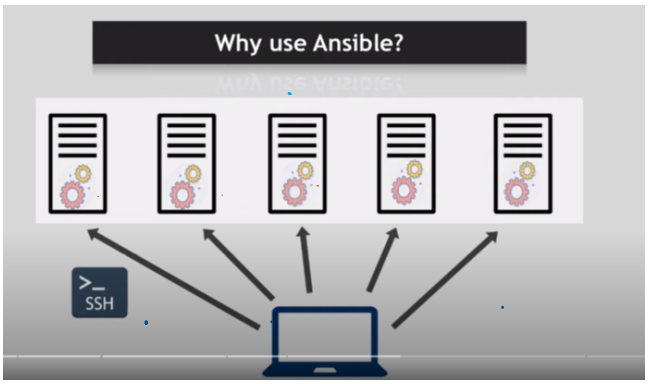
https://docs.ansible.com/ansible/2.8/modules/modules_by_category.html

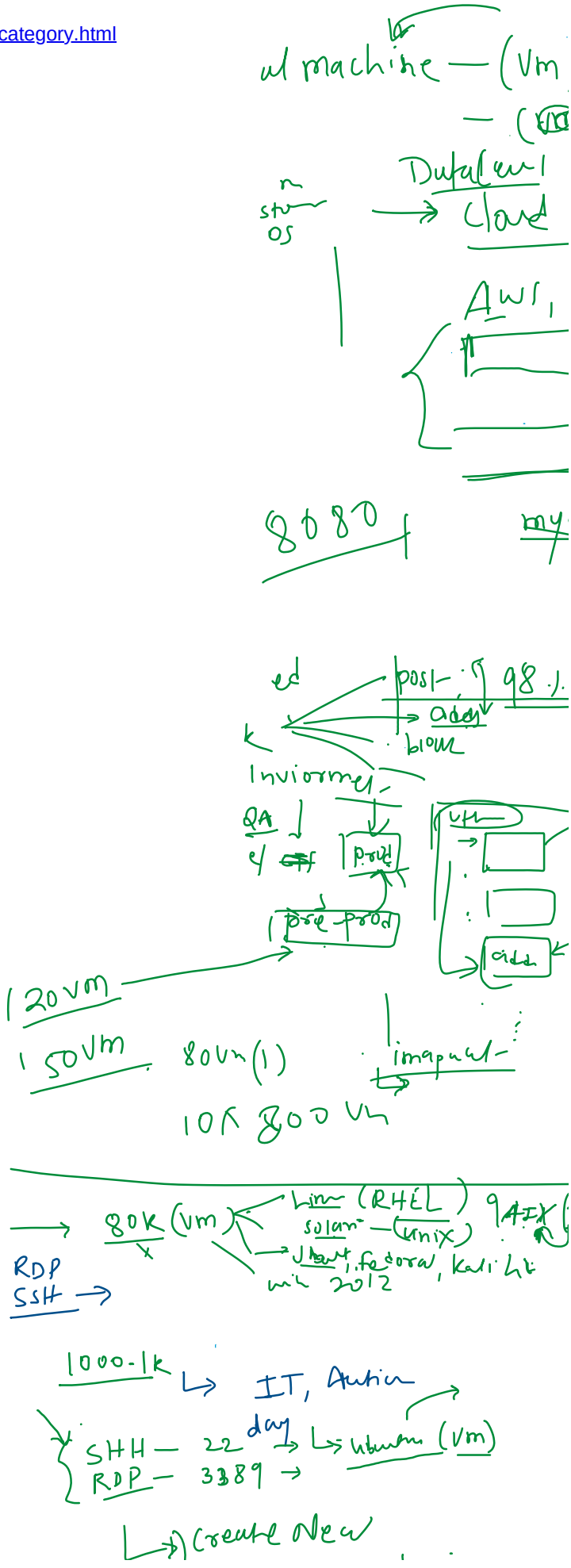




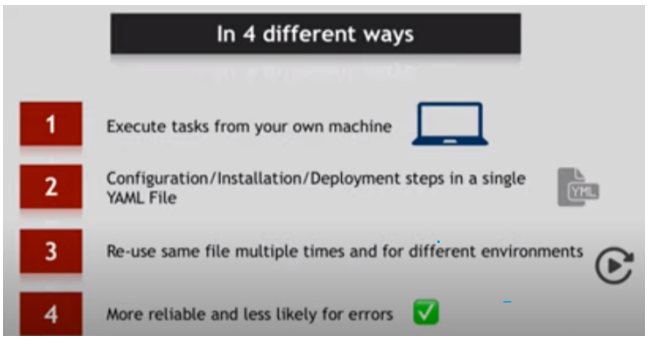




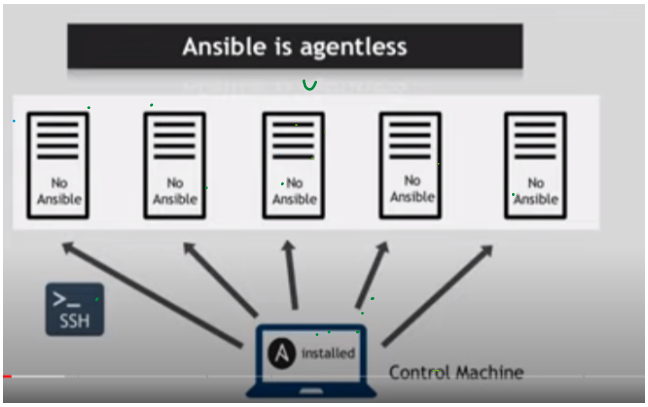


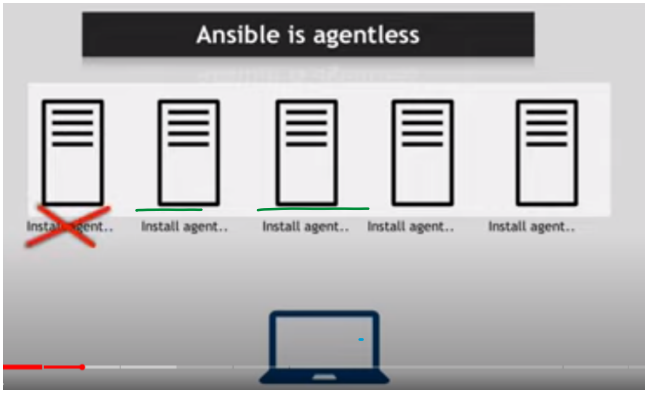


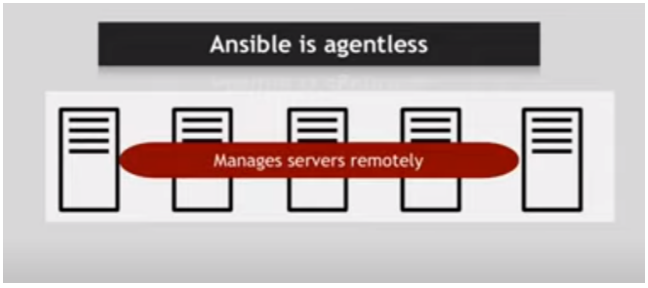

Why use Ansible?
ANSIBLE
more efficient
less time consuming


In 4 different ways
1
Execute tasks from your own machine
2
Configuration/Installation/Deployment steps in a single YAML File
3
Re-use same file multiple times and for different environments
4
More reliable and less likely for errors

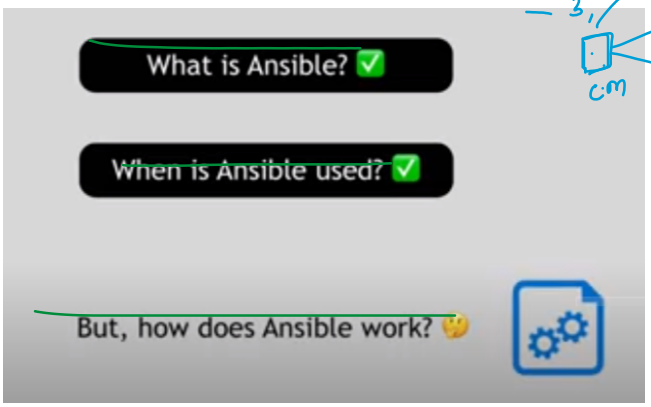

Supporting all infrastructure
From operating systems..
..to Cloud Provider

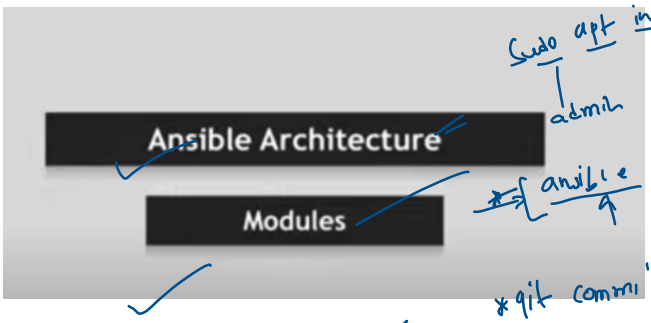

Ansible is agentless
No Ansible
No Ansible
No Ansible
No Ansible
No Ansible
SSH
installed
Control Machine


Ansible is agentless
Install agent..
Install agent..
Install agent..
Install agent..
Install agent..

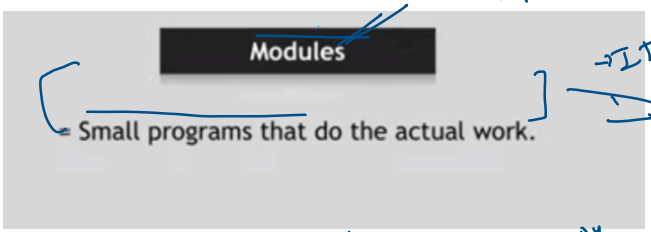


sudo apt install ansible
sudo apt install git
3, cm
node1
node2
yum RHEL
sudo yum install

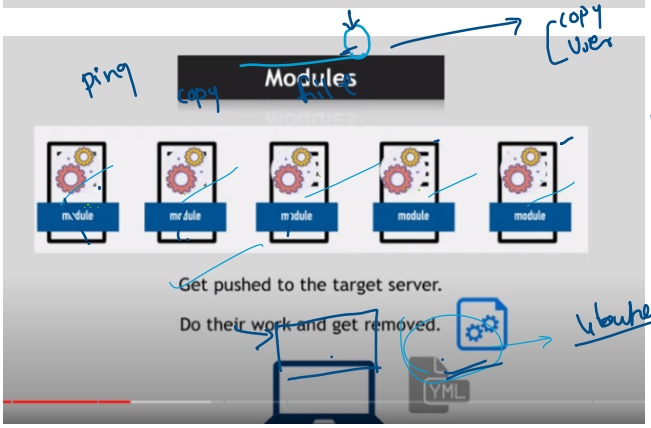




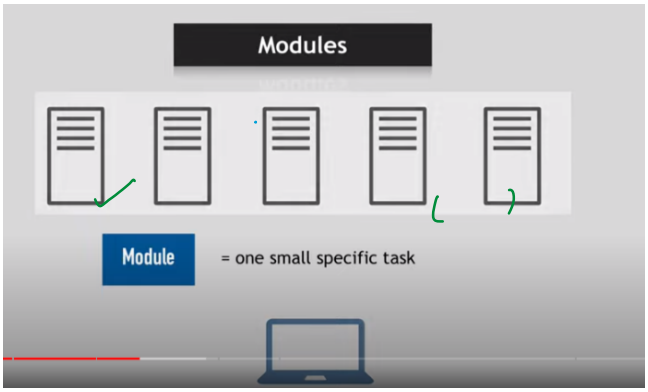
sudo apt install ansible
admin
ansible
name
-copy
-file
-user
-setup
all -m ping
node
module
git commit -m "message"
IT auto

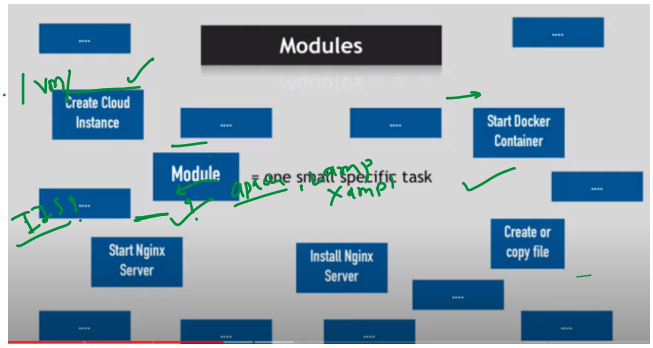


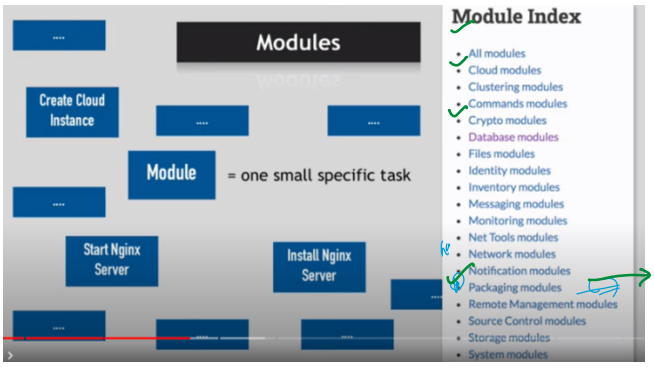
IT instru automate tool
task
clean
backup
10000
delete
copy

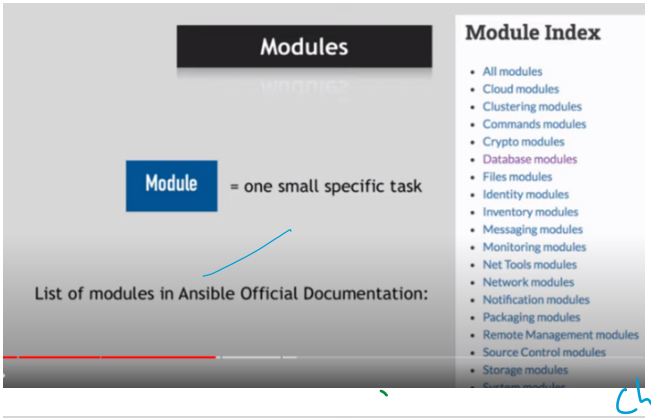


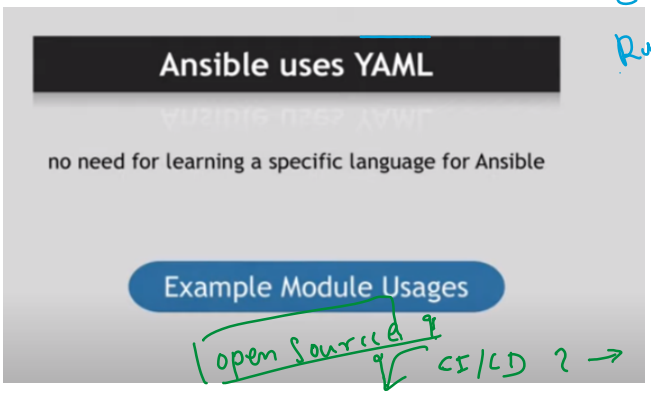
ping
copy
file
copy
user
root
Ubuntu


Modules
Module
= one small specific task

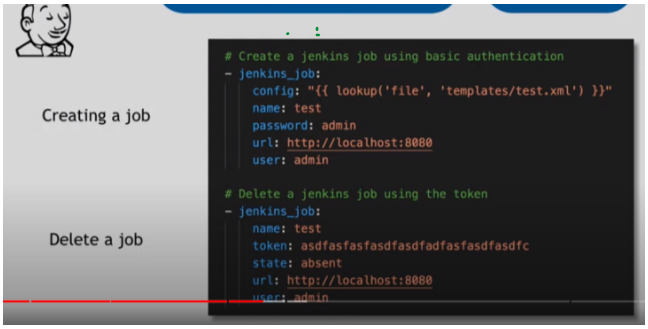

Modules
Create Cloud Instance
Start Docker Container
Module
= one small specific task
Start Nginx Server
Install Nginx Server
Create or copy file

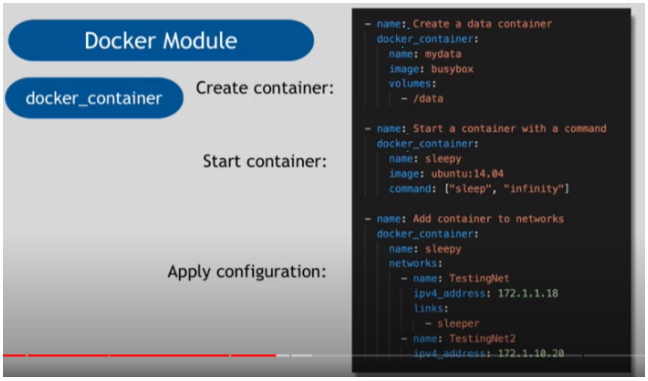

Modules
Module Index
Create Cloud Instance
Module
= one small specific task
Start Nginx Server
Install Nginx Server
All modules
Cloud modules
Clustering modules
Commands modules
Crypto modules
Database modules
Files modules
Identity modules
Inventory modules
Messaging modules
Monitoring modules
Net Tools modules
Network modules
Notification modules
Packaging modules
Remote Management modules
Source Control modules
Storage modules
System modules

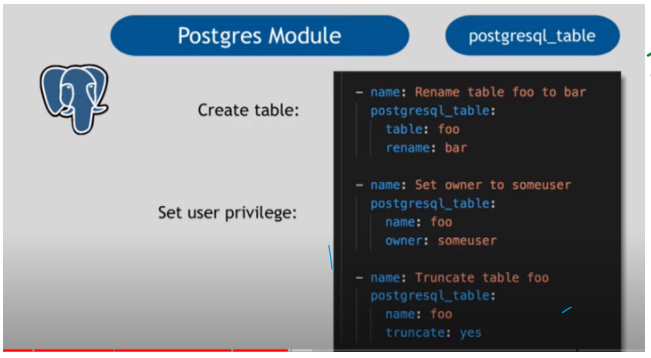

Modules
Module Index
Module
= one small specific task
List of modules in Ansible Official Documentation:
All modules
Cloud modules
Clustering modules
Commands modules
Crypto modules
Database modules
Files modules
Identity modules
Inventory modules
Messaging modules
Monitoring modules
Net Tools modules
Network modules
Notification modules
Packaging modules
Remote Management modules
Source Control modules
Storage modules

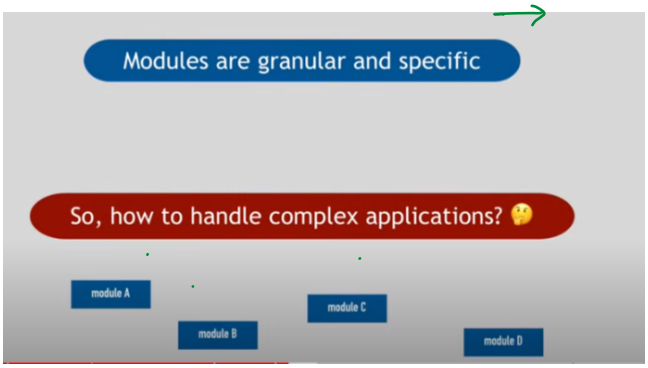

Ansible uses YAML
no need for learning a specific language for Ansible
Example Module Usages

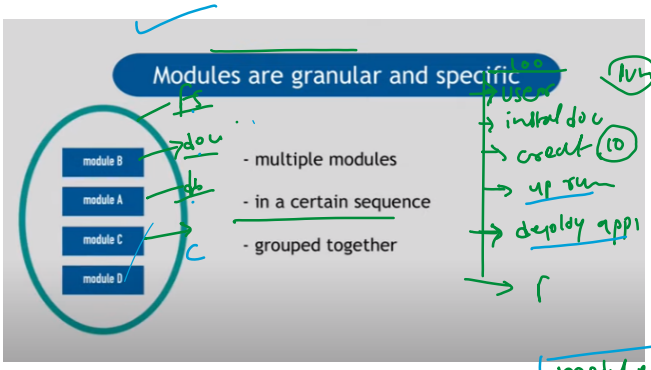

Jenkins Module
jenkins_job

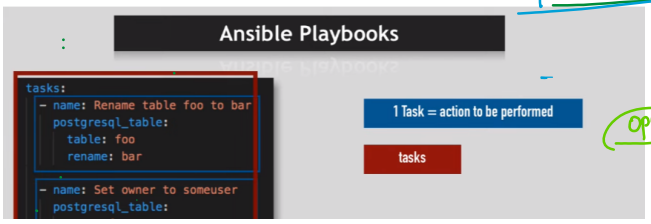

Creating a job
Delete a job
Create a jenkins job using basic authentication
- jenkins_job:
config: "{{ lookup('file', 'templates/test.xml') }}"
name: test
password: admin
url: http://localhost:8080
user: admin
Delete a jenkins job using the token
- jenkins_job:
name: test
token: asdfasfasfasdfasdfadfasfasdfasdfc
state: absent
url: http://localhost:8080
user: admin

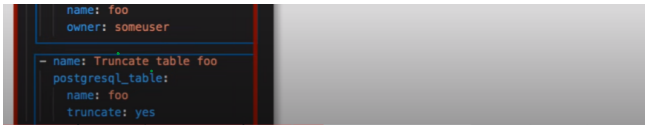

Docker Module
docker_container
Create container:
Start container:
Apply configuration:
- name: Create a data container
docker_container:
name: mydata
image: busybox
volumes:
- /data
- name: Start a container with a command
docker_container:
name: sleepy
image: ubuntu:14.04
command: ["sleep", "infinity"]
- name: Add container to networks
docker_container:
name: sleepy
networks:
- name: TestingNet
ipv4_address: 172.1.1.18
links:
- sleeper
- name: TestingNet2
ipv4_address: 172.1.10.20

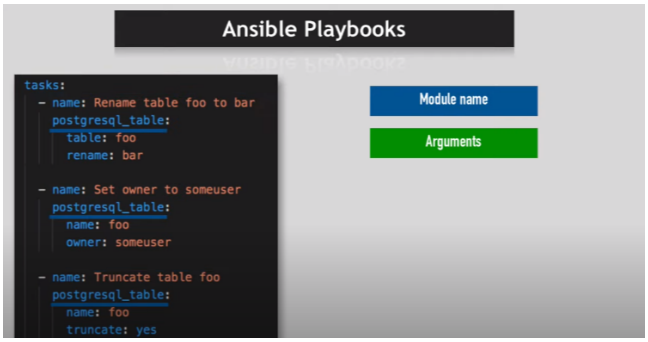

Postgres Module
postgresql_table
Create table:
Set user privilege:
- name: Rename table foo to bar
postgresql_table:
table: foo
rename: bar
- name: Set owner to someuser
postgresql_table:
name: foo
owner: someuser
- name: Truncate table foo
postgresql_table:
name: foo
truncate: yes


Modules are granular and specific
So, how to handle complex applications?
module A
module B
module C
module D


Modules are granular and specific
module B
module A
module C
module D
- multiple modules
- in a certain sequence
- grouped together


Ansible Playbooks
tasks:
- name: Rename table foo to bar
postgresql_table:
table: foo
rename: bar
- name: Set owner to someuser
postgresql_table:
1 Task = action to be performed
tasks


name: foo
owner: someuser
- name: Truncate table foo
postgresql_table:
name: foo
truncate: yes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truncate: yes
Module name
Arguments

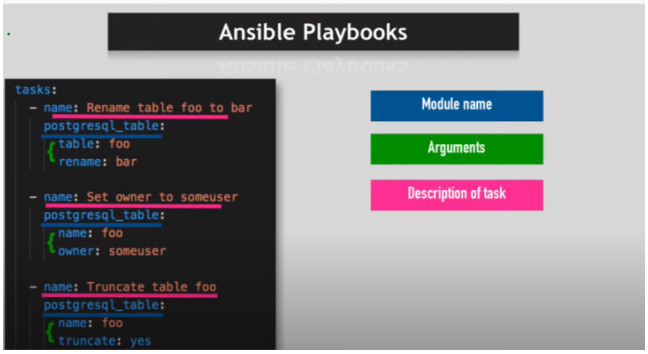
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table: foo
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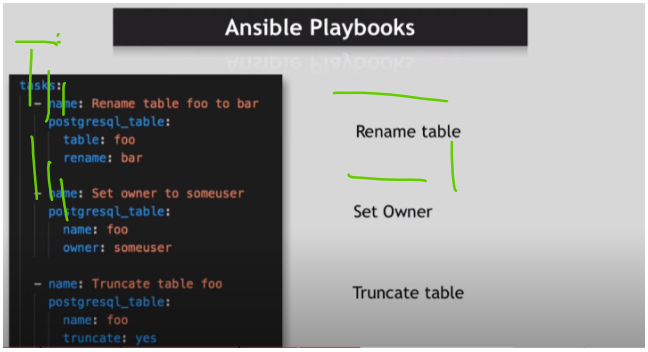
name: foo
owner: someuser
- name: Truncate table foo
postgresql_table:
name: foo
truncate: yes
Module name
Arguments
Description of task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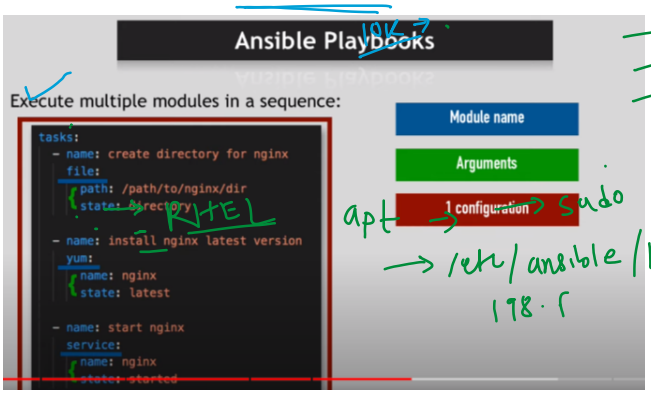
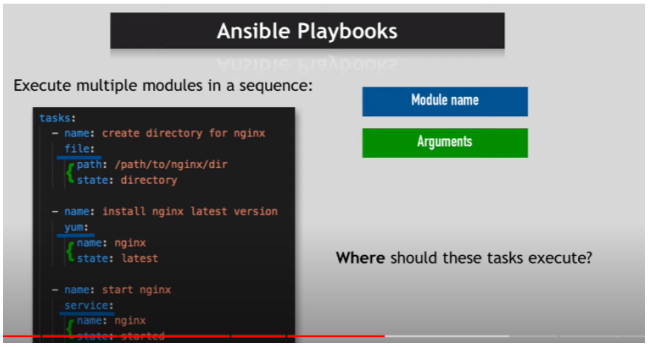
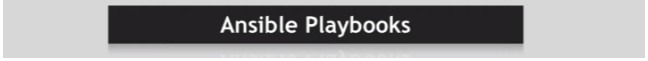
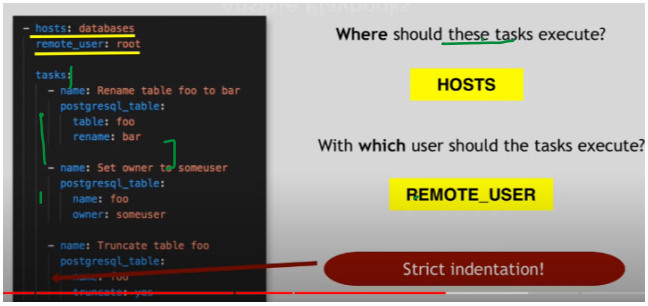
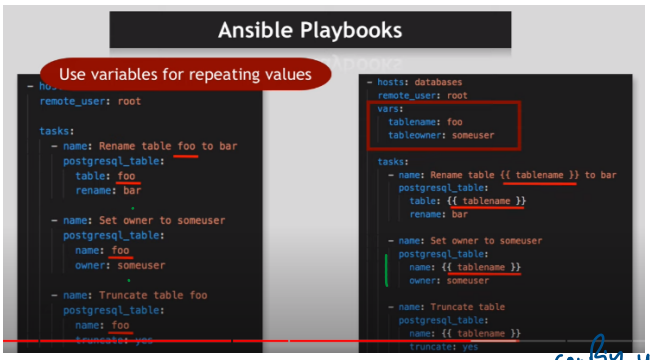
- name: Rename table foo to bar
postgresql_table:
table: foo
rename: bar
- name: Set owner to someuser
postgresql_table:
name: foo
owner: someuser
- name: Truncate table foo
postgresql_table:
name: foo
truncate: yes
Rename table
Set Owner
Truncate table

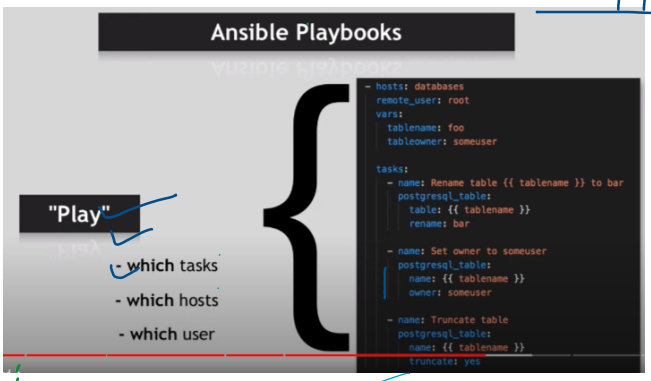

Ansible Playbooks
Execute multiple modules in a sequence:
tasks:
- name: create directory for nginx
file:
path: /path/to/nginx/dir
state: directory
- name: install nginx latest version
yum:
name: nginx
state: latest
- name: start nginx
service:
name: nginx
state: started
Module name
Arguments
1 configuration

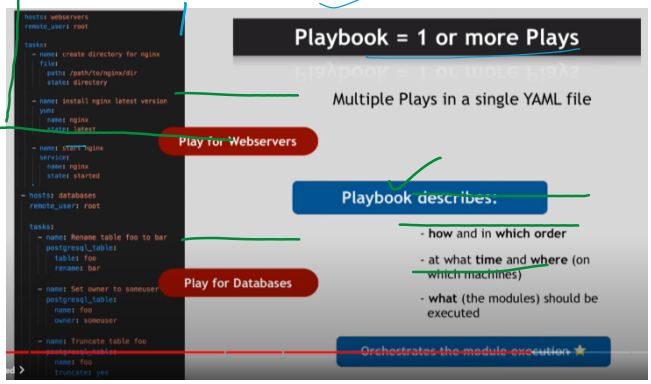

Ansible Playbooks
Execute multiple modules in a sequence:
tasks:
- name: create directory for nginx
file:
path: /path/to/nginx/dir
state: directory
- name: install nginx latest version
yum:
name: nginx
state: latest
- name: start nginx
service:
name: nginx
state: started
Module name
Arguments
Where should these tasks execute?

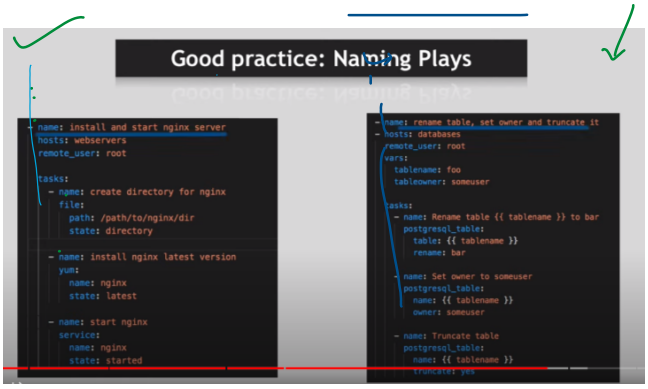

Ansible Playbooks

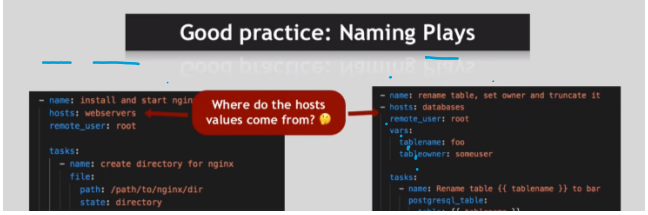






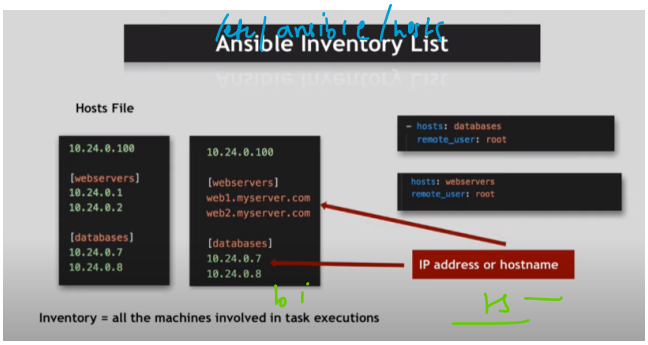


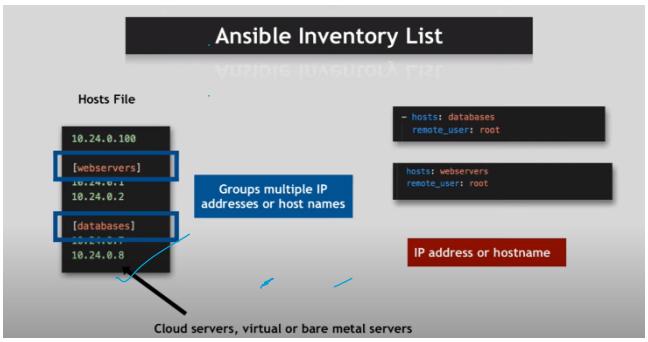


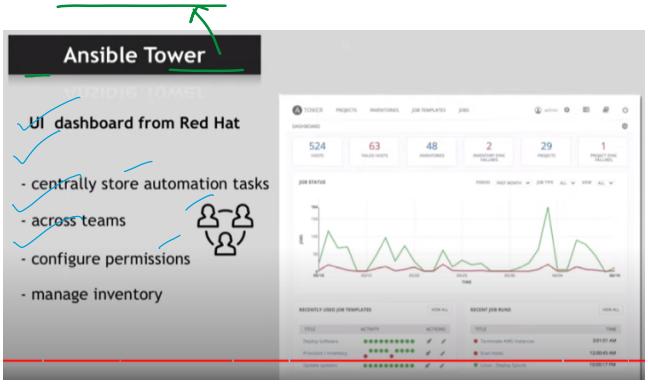


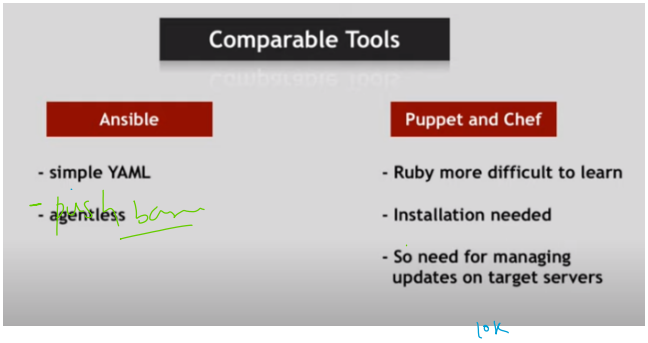
$ ansible atlanta -m copy -a "src=/etc/hosts dest=

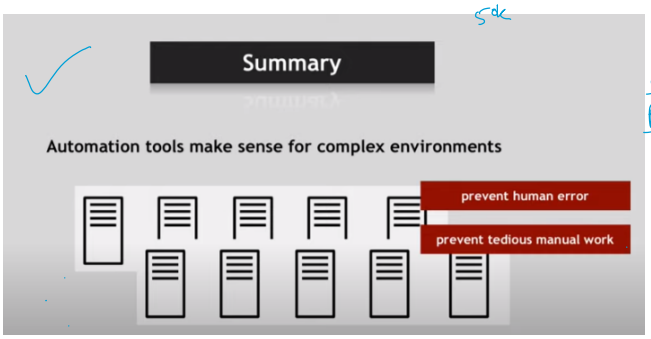
- Name : copy file from host and add in tmp copy





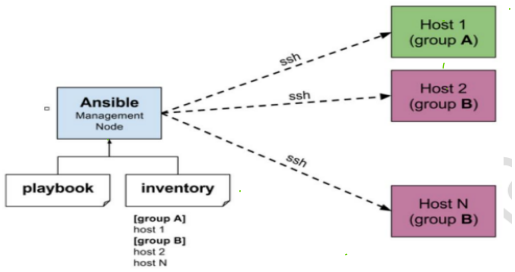






sudo apt install openssh-server

Npam ip -p 22
sudo apt install net-tools
nmap <ip> -p 22



ansible all -i inventory --list-host

ansible-inventory all -i inventory --graph

https://docs.ansible.com/ansible/2.9/modules/modules_by_category.html

https://youtu.be/lOwlnpWPuj0

https://www.linuxtechi.com/install-kubernetes-k8s-on-ubuntu-20-04/