Linux RedHat Certified Engineer (RHCE - EX294)

Ansible Playbook Implementation

Creating First Playbook

- There are online yaml tools you can use to create Playbooks
  - https://onlineyamltools.com/edit-yaml
  - https://codebeautify.org/yaml-editor-online

- Tools to download
  - Notepad++ Windows

- Take a snapshot after installing Ansible software

```
# su - root
# mkdir /etc/ansible/playbooks
# cd /etc/ansible/playbooks
# vim first.yml

---
- name: “My first playbook”
  hosts: localhost

  tasks:
  - name: “test connectivity”
    ping:
```

- Check syntax of playbook

```
# anisble-playbook --syntax-check first.yml
```

Or to do a dry run

```
# anisble-playbook --check first.yml
```

- Run the playbook

```
# anisble-playbook /root/ansible/first.yml
```

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Creating First Playbook

Please note:

- Running ansible without a playbook

```
# ansible
```

- Running ansible with a playbook

```
# ansible-playbook
```

Output Playbook

This playbook will print “Hello World” on localhost

```
# cd /etc/ansible/playbook
# vim helloworld.yml

---
- name: My Second playbook
  hosts: localhost

  tasks:
  - name: Print Hello World
    debug: msg="Hello World"
```

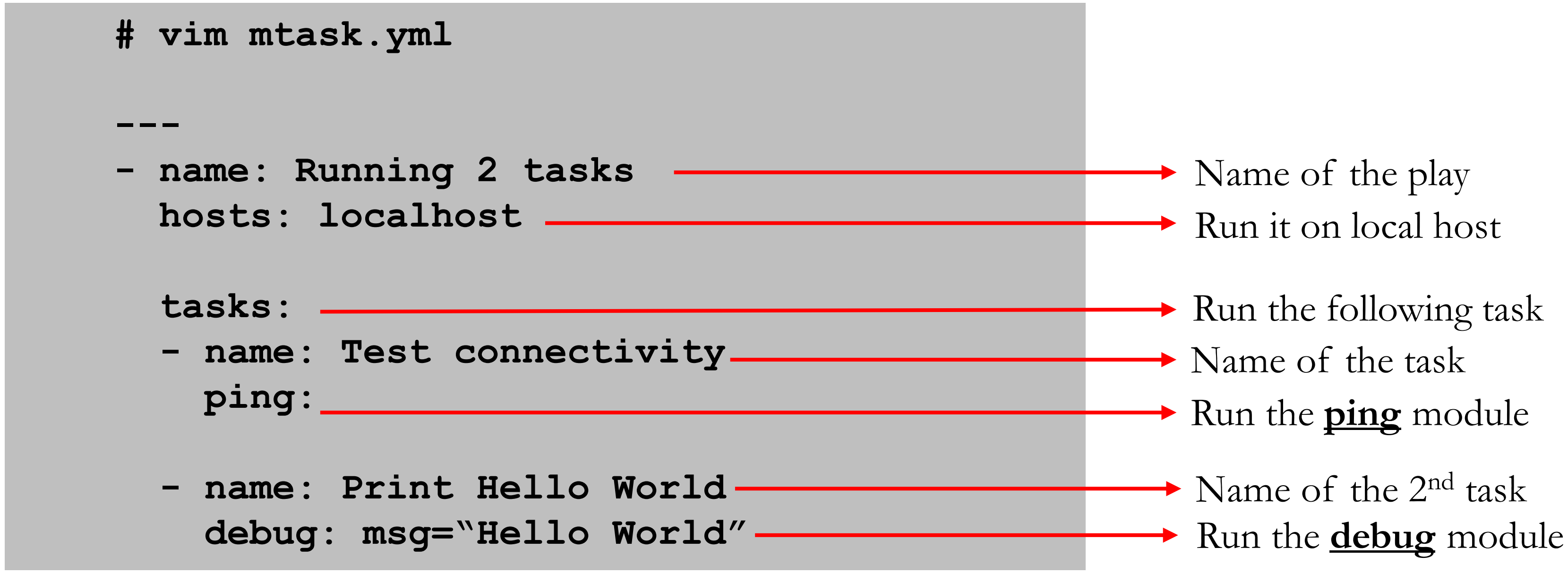
Name of the play or playbook
Run on localhost
Run the following task
Name of the task
Run **debug** module which prints statements during execution

Run the playbook

```
# anisble-playbook helloworld.yml
```

Multiple Tasks Playbook

The playbook will ping localhost and print “Hello World”



```
# vim mtask.yml

---
- name: Running 2 tasks
  hosts: localhost

  tasks:
  - name: Test connectivity
    ping:

  - name: Print Hello World
    debug: msg=“Hello World”
```

Name of the play

Run it on local host

Run the following task

Name of the task

Run the **ping** module

Name of the 2nd task

Run the **debug** module

Run the playbook

```
# anisble-playbook mtask.yml
```

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Installing and Starting a Package

```
# vim packinstall.yml

---
- name: Installing and Running apache
  hosts: localhost

  tasks:
  - name: Install apache
    yum:
     name: httpd
     state: present

  - name: start httpd
    service:
     name: httpd
     state: started
```

Run the playbook

```
# anisble-playbook packinstall.yml
```

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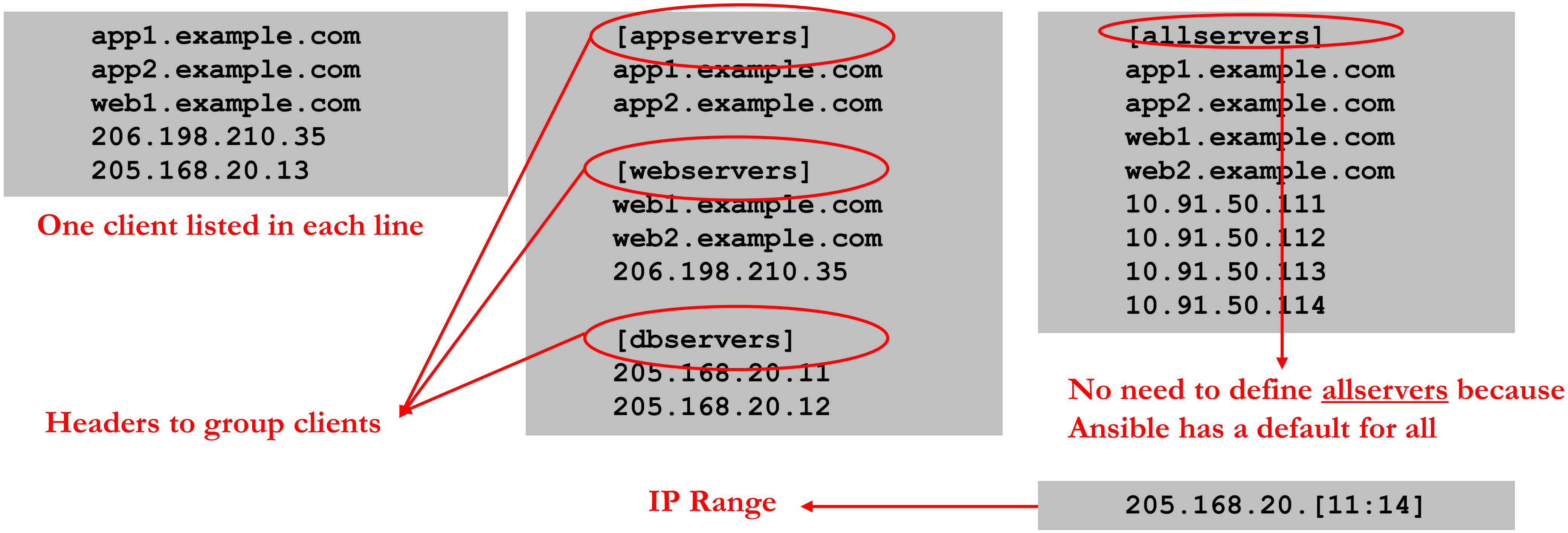
Remote Clients hosts File Syntax

/etc/ansible/hosts

- All remote clients are considered inventory in Ansible
- Ansible keeps its inventory information in host file located: **`/etc/ansible/hosts`**
- The **`hosts`** file is created during Ansible installation



```
app1.example.com
app2.example.com
web1.example.com
206.198.210.35
205.168.20.13
```

One client listed in each line

```
[appservers]
app1.example.com
app2.example.com

[webservers]
web1.example.com
web2.example.com
206.198.210.35

[dbservers]
205.168.20.11
205.168.20.12
```

Headers to group clients

```
[allservers]
app1.example.com
app2.example.com
web1.example.com
web2.example.com
10.91.50.111
10.91.50.112
10.91.50.113
10.91.50.114
```

No need to define allservers because Ansible has a default for all

```
205.168.20.[11:14]
```

IP Range

- You can specify different location of the file

```
# ansible-playbook -i /home/iafzal/ansible/hosts
```

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Remote Clients hosts File Syntax

/etc/ansible/hosts

```
[servers]
server1 ansible_ssh_host=10.91.50.110
server2 ansible_ssh_host=10.91.50.111
server3 ansible_ssh_host=10.91.50.112
server4 ansible_ssh_host=10.91.50.113
server5 ansible_ssh_host=10.91.50.114
server6 ansible_ssh_host=10.91.50.115

[appserver]
server1
server2

[webserver]
server3
server4

[dbservers]
server5
server6
```

Aliases

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Remote Clients hosts File Syntax

/etc/ansible/hosts

- Inventory host file can either be static or dynamic *(using additional plug-ins)*
- Listing host file

```
# ansible-inventory --list
OR
# ansible all --list-hosts
```

Establish Connection to Remote Clients

- Take a snapshot of our Linux client1 and then power it up
- Note down its IP address

- Populate the hosts file with IP or FQDN for our clients:

```
[labclients] = For grouping
10.253.1.18
10.253.1.20
```

- Generate SSH Keys on the control node and copy over to clients for password less SSH connections

```
#  ssh-keygen
# Leave everything default and enter
# ssh-copy-id 10.253.1.18
# ssh-copy-id 10.253.1.20
```

- Now SSH into the clients to test

```
#  ssh 10.253.1.18
```

- Run **Ansible** add-hoc to ping remote nodes *(make sure hosts file has remote clients IPs)*

```
#  ansible all -m ping
```

`# ansible -a “uptime” all` *(To run a command on the remote clients)*

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Check Remote Clients Connectivity

```
# su - root
# cd /etc/ansible/playbooks
# vim clientstatus.yml

---
- name: “Check remote clients connectivity status”
  hosts: all

  tasks:
  - name: Test connectivity
    ping:
```

Run the playbook

```
# anisble-playbook clientstatus.yml
```

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