

Q & A

Ansible Demo 3

- **Ansible Demo 1:** Interact with OpenStack API and provisioned two VMs on MRC
- **Ansible Demo 2:** Configure the VMs and deploy a WordPress stack with Docker Compose
- **Ansible Demo 3:** Combine the Demo 1 and Demo 2
 - Combined the *host_vars* and *roles* together
 - Removed some optional roles (*openstack-images* and *openstack-volume-snapshot*)
 - Append the *playbook* file for demo 2 to the *playbook* file for demo 1
 - Modified the *inventory* file

Ansible Demo 3 - Playbook

```
- hosts: localhost
  vars_files:
    - host_vars/nectar.yaml
  gather_facts: true

  roles:
    - role: openstack-common
    - role: openstack-volume
    - role: openstack-security-group
    - role: openstack-instance

- hosts: COMP90024
  vars_files:
    - host_vars/wordpress.yaml
  gather_facts: true

  roles:
    - role: wp-common
    - role: wp-volumes
    - role: wp-docker
    - role: wp-wordpress
```

Ansible Demo 3 - Inventory

Inventory file: *hosts*

[COMP90024]

[COMP90024:vars]

ansible_python_interpreter=/usr/bin/python3

ansible_user=ubuntu

ansible_ssh_private_key_file=<my private key file>

ansible_ssh_common_args='-o StrictHostKeyChecking=no'

} ansible-playbook -u ubuntu --key-file <private key> ...

```
# Add hosts to Ansible in-memory inventory
```

```
- name: Add host
```

```
  add_host:
```

```
    name: '{{ item.openstack.public_v4 }}'
```

```
    groups: COMP90024
```

```
  loop: '{{ os_instance.results }}'
```

```
  when: item.openstack is defined
```

[How to build your inventory](#)

Ansible Quiz

- Retrieve facts about the instance created
 - Create an instance and retrieve facts about that instance
- *Use in-memory inventory to interact with a newly created instance (see demo 3)*
- Attach existing volume(s) to an existing instance
 - Create a new volume
 - Attach the new volume to an existing instance

Hint:

- Go to the [Ansible Documentation](#) and search docs for “os volume”
- Find relevant Ansible module -> [os_server_volume](#)

[os_server_volume](#) – Attach/Detach **Volumes** from OpenStack VM's — Ansible Do...

[os_server_volume](#) – Attach/Detach **Volumes** from OpenStack VM's¶ • Roadmaps Ansible Roadmap >

Ansible Docs » [os_server_volume](#) – Attach/Detach Volumes from OpenStack VM's Edit on GitHub

Ansible Quiz

- Add / remove existing Security Group to existing instance
 - Create a new Security Group
 - Add Security Group Rules
 - Attach the Security Group to an existing instance

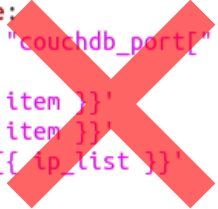
Hint: os_server

Remember to include the existing security groups while adding / removing security groups

Question 1

I am trying to set up a CouchDB cluster, and in order to do that I'd have to modify my security group setting to open up the ports that CouchDB nodes need to use for communication. ... I don't really feel like using a nested loop, ... Just wondering if there is any other way of doing this?

```
- name: Create rules for each security group
  os_security_group_rule:
    security_group: '{{ "couchdb_port[" + item|string + "]" }}'
    protocol: "tcp"
    port_range_min: '{{ item }}'
    port_range_max: '{{ item }}'
    remote_ip_prefix: '{{ ip_list }}'
    state: present
    loop: '{{ db_ports }}'
```



Server A: open 5984, 5986, 4369, 9100 – 9200 to *Server B* and *Server C*

Server B: open 5984, 5986, 4369, 9100 – 9200 to *Server A* and *Server C*

Server C: open 5984, 5986, 4369, 9100 – 9200 to *Server A* and *Server B*

Problem: *remote_ip_prefix* only takes a single CIDR notation.

Solution? A nested loop with “with_nested”? Try and tell me if it works ;p

Solution! Use the security group as the source of the remote in a security rule.

Question 1

Add Rule

Rule *

Custom TCP Rule

Description ?

Direction

Ingress

Open Port *

Port Range

From Port *

9100

To Port ?

9200

Remote ?

Security Group

Security Group

Demo_Q1 (current)

Ether Type

IPv4

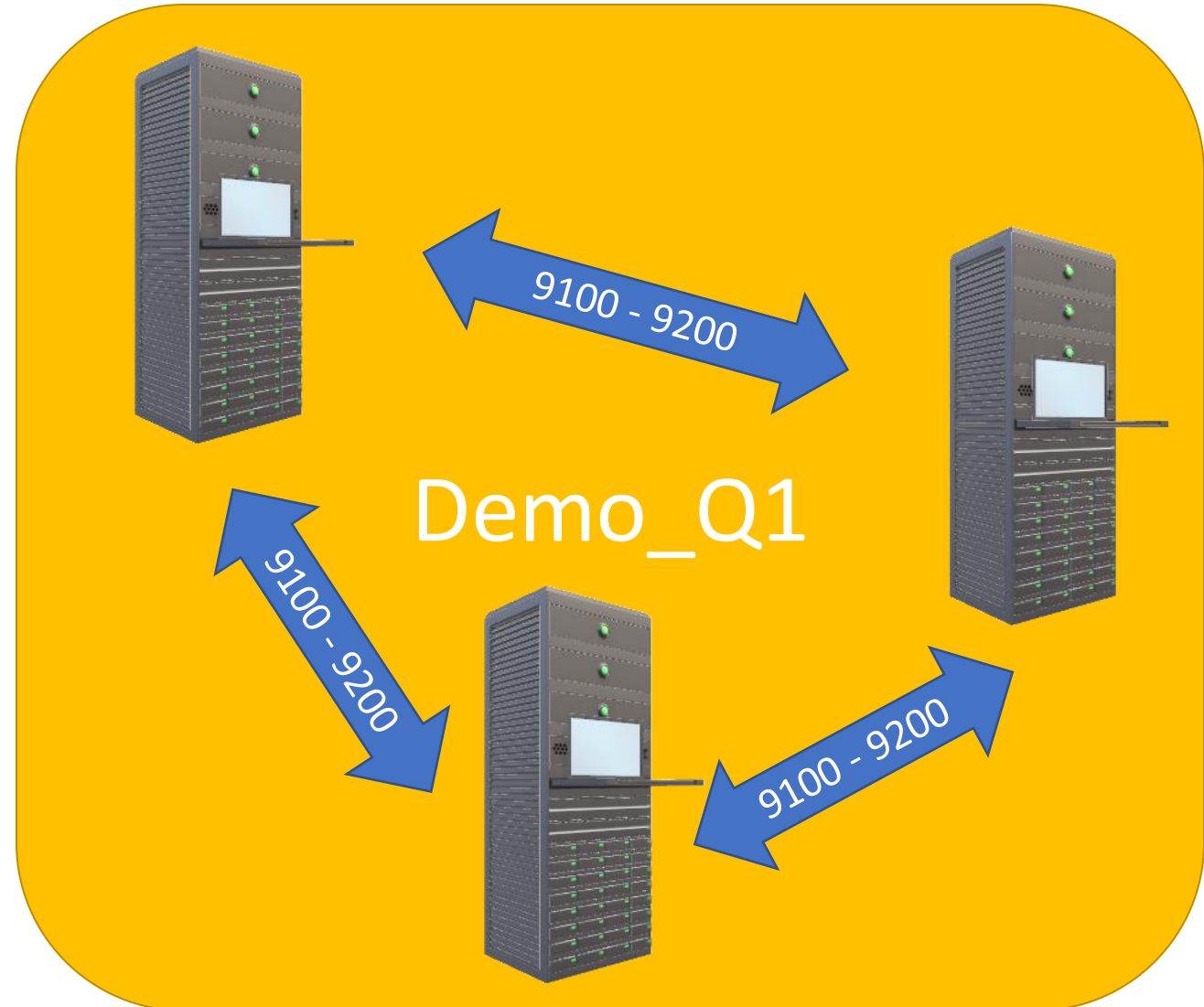
Description:

Rules define which traffic is allowed to instances assigned to the security group. A security group rule consists of three main parts:

Rule: You can specify the desired rule template or use custom rules, the options are Custom TCP Rule, Custom UDP Rule, or Custom ICMP Rule.

Open Port/Port Range: For TCP and UDP rules you may choose to open either a single port or a range of ports. Selecting the "Port Range" option will provide you with space to provide both the starting and ending ports for the range. For ICMP rules you instead specify an ICMP type and code in the spaces provided.

Remote: You must specify the source of the traffic to be allowed via this rule. You may do so either in the form of an IP address block (CIDR) or via a source group (Security Group). Selecting a security group as the source will allow any other instance in that security group access to any other instance via this rule.



Cancel

Add

Question 2

Q: Random errors, even when run simple “hello world” playbook or the playbooks used in demo.

```
TASK [wordpress : Run docker compose] *****
fatal: [172.26.38.146]: FAILED! => {"changed": false, "msg": "Cannot have both the docker-py and docker python modules installed together as they use the same namespace and cause a corrupt installation. Please uninstall both packages, and re-install only the docker-py or docker python module. It is recommended to install the docker module if no support for Python 2.6 is required. Please note that simply uninstalling one of the modules can leave the other module in a broken state."}
```

A: Check Ansible version and make sure the latest Ansible has been installed.

ansible --version

Question 3

Q: Cannot SSH to the server just created on NeCTAR / MRC


```
- name: Wait for connection
  wait_for:
    host: "{{ item.openstack.public_v4 }}"
    port: 22
    timeout: 120
    search_regex: OpenSSH
  loop: '{{ os_instance.results }}'
  when: item.openstack is defined
```


A: The servers are not ready. Use [wait_for](#) module to wait until the servers are ready.


Question 4

Q: I created an instance on MRC and the status showing “Error”

<input type="checkbox"/>	Instance Name	Image Name	IP Address	Flavour	Key Pair	Status	Availability Zone	Task	Power State	Age	Actions
<input type="checkbox"/>						Error	melbourne-qh2-uom	None	Running	1 week, 1 day	Create Snapshot
<input type="checkbox"/>						Active	melbourne-qh2-uom	None	Running	1 month	Create Snapshot
<input type="checkbox"/>							melbourne-				
<input type="checkbox"/>											
<input type="checkbox"/>											


Terms and Conditions


Contact Research Computing Services


Submit Ticket

A: Welcome to the FREE cloud. It happens, try to delete the instance if you can. Otherwise Submit a Ticket and the MRC staff will help you out.

Question 5

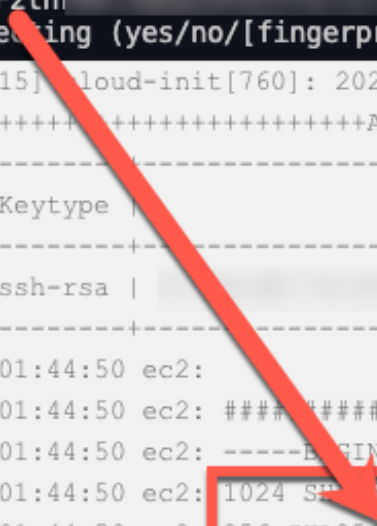
Q: How to check the host key fingerprint?

[Overview](#) [Interfaces](#) [Log](#) [Console](#) [Action Log](#)

Log Length [Go](#) [View Full Log](#)

Instance Console Log

```
[ 21.135514] cloud-init[684]: Cloud-init v. 19.4-33-gbb4131a2-0ubuntu1~18.04.1 running 'modules:config' at Tue, 3
[ 23.063115] cloud-init[760]: 2020-03-31 01:44:50,694 - stages.py[WARNING]: Could not find module named cc_snap
TASK [Install Python2] *****
The authenticity of host [redacted] can't be established.
ECDSA key fingerprint is SHA256:RlCrnUF2th[redacted] NYfSAJc.
Are you sure you want to continue connecting (yes/no/[fingerprint])? [redacted]
[ 23.063115] cloud-init[760]: 2020-03-31 01:44:50,694 - stages.py[WARNING]: Could not find module named cc_snap
ci-info: +-----+Authorized keys from /home/ubuntu/.ssh/authorized_keys for user ubuntu+-----+
ci-info: +-----+-----+-----+-----+
ci-info: | Keytype | Fingerprint (md5) | Options | Comment |
ci-info: +-----+-----+-----+-----+
ci-info: | ssh-rsa | [redacted] | [redacted] | [redacted] |
ci-info: +-----+-----+-----+-----+
<14>Mar 31 01:44:50 ec2:
<14>Mar 31 01:44:50 ec2: #####
<14>Mar 31 01:44:50 ec2: -----BEGIN SSH HOST KEY FINGERPRINTS-----
<14>Mar 31 01:44:50 ec2: 1024 SHA256:QgTUdoMcU1Of2 [redacted] root@cv19 (DSA)
<14>Mar 31 01:44:50 ec2: 256 SHA256:RlCrnUF2thrMw+ [redacted] root@cv19 (ECDSA)
<14>Mar 31 01:44:50 ec2: 256 SHA256:lujs9nMr8OWkNV [redacted] root@cv19 (ED25519)
<14>Mar 31 01:44:50 ec2: 2048 SHA256:d/Aaio4N+al/s [redacted] root@cv19 (RSA)
<14>Mar 31 01:44:50 ec2: -----END SSH HOST KEY FINGERPRINTS-----
```



Question 6

Q: Ansible keeps prompting host key confirmation, sometimes type “yes” only works for the first host.

```
TASK [Install Python2] *****
The authenticity of host [redacted] can't be established.
ECDSA key fingerprint is [redacted]
Are you sure you want to continue connecting (yes/no/[fingerprint])?
The authenticity of host [redacted] can't be established.
ECDSA key fingerprint is [redacted]
Are you sure you want to continue connecting (yes/no/[fingerprint])?
The authenticity of host [redacted] can't be established.
ECDSA key fingerprint is [redacted]
Are you sure you want to continue connecting (yes/no/[fingerprint])?
The authenticity of host [redacted] can't be established.
ECDSA key fingerprint is [redacted]
Are you sure you want to continue connecting (yes/no/[fingerprint])? ■
```

Question 6

A: SSH with “-o StrictHostKeyChecking=no” option

[COMP90024]

[COMP90024:vars]

ansible_python_interpreter=/usr/bin/python3

ansible_user=ubuntu

ansible_ssh_private_key_file=<some private key>

ansible_ssh_common_args='-o StrictHostKeyChecking=no'

Question 7

Q: How to safely store the Ansible variables for credentials in a Git repo?

A: Don't push it or use [Ansible Vault](#).

To encrypt a file: *ansible-vault encrypt file.yaml*

To decrypt a file: *ansible-vault decrypt file.yaml*

To view an encrypted file: *ansible-vault view file.yaml*

To run an encrypted playbook file:

ansible-playbook --vault-id @prompt file.yaml

Question 8

Q: How to create an instance with a specific network provider (e.g. qh2-uom-internal)?

A: Use “network” in “os_server”

```
- name: Create an instance with specific network provider (qh2-uom-internal)
  os_server:
    name: '{{ instance_name }}'
    image: '{{ instance_image }}'
    key_name: '{{ instance_key_name }}'
    flavor: '{{ instance_flavor }}'
    availability_zone: '{{ instance_az }}'
    network: qh2-uom-internal
    timeout: 600
    state: present
```


Question 9

Q: What can we do if we want multiple instances to access data stored in a volume? Can we do this by Ansible?

A: Yes and No.

Yes: OpenStack supports [multi-attach](#) since Cinder version 3.50.

Warning

It is the responsibility of the user to ensure that a multiattach or clustered file system is used on the volumes. Otherwise there may be a high probability of data corruption.

No: NeCTAR / MRC does not support multi-attach

Question 10

Q: How to use Ansible to add the proxy?

A: [reboot](#)
[blockinfile](#)