

# Red-Hat

## Exam Questions EX294

Red Hat Certified Engineer (RHCE) exam



### NEW QUESTION 1

- (Exam Topic 2)

Create user accounts

-----  
 --> A list of users to be created can be found in the file called user\_list.yml which you should download from [http://classroom.example.com/user\\_list.yml](http://classroom.example.com/user_list.yml) and save to /home/admin/ansible/  
 --> Using the password vault created elsewhere in this exam, create a playbook called create\_user.yml that creates user accounts as follows:  
 --> Users with a job description of developer should be:  
 --> created on managed nodes in the "dev" and "test" host groups assigned the password from the "dev\_pass" variable and these user should be member of supplementary group "devops".  
 --> Users with a job description of manager should be:  
 --> created on managed nodes in the "prod" host group assigned the password from the "mgr\_pass" variable and these user should be member of supplementary group "opsmgr"  
 --> Passwords should use the "SHA512" hash format. Your playbook should work using the vault password file created elsewhere in this exam. while practising you to create these file hear. But in exam have to download as per question.

user\_list.yml file consist:

```
--
user:
- name: user1 job: developer
- name: user2 job: manager
```

- A. Mastered
- B. Not Mastered

**Answer: A**

#### Explanation:

Solution as:

```
# pwd
/home/admin/ansible
#
wget http://classroom.example.com/user_list.yml
# cat user_list.yml
# vim create_user.yml
--
- name: hosts: all vars_files:
- ./user_list.yml
- ./vault.yml tasks:
- name: creating groups group:
name: "{{ item }}" state: present
loop:
- devops
- opsmgr
- name: creating user user:
name: "{{ item.name }}" state: present
groups: devops
password: "{{ dev_pass|password_hash ('sha512') }}" loop: "{{ user }}"
when: (inventory_hostname in groups['dev'] or inventory_hostname in groups['test']) and item.job == "developer"
- name: creating user user:
name: "{{ item.name }}" state: present
groups: opsmgr
password: "{{ mgr_pass|password_hash ('sha512') }}" loop: "{{ user }}"
when: inventory_hostname in groups['prod'] and item.job == "manager" wq!
# ansible-playbook create_user.yml --vault-password-file=password.txt --syntax-check
# ansible-playbook create_user.yml --vault-password-file=password.txt
```

### NEW QUESTION 2

- (Exam Topic 2)

Create a playbook called web.yml as follows:

- \* The playbook runs on managed nodes in the "dev" host group
- \* Create the directory /webdev with the following requirements:  
 --> membership in the apache group  
 --> regular permissions: owner=r+w+execute, group=r+w+execute, other=r+execute s.p=set group-id
- \* Symbolically link /var/www/html/webdev to /webdev
- \* Create the file /webdev/index.html with a single line of text that reads: "Development"

-->  
 it should be available on <http://servera.lab.example.com/webdev/index.html>

- A. Mastered
- B. Not Mastered

**Answer: A**

#### Explanation:

Solution as:

```
# pwd
/home/admin/ansible/
# vim web.yml
```

```
--
- name: hosts: dev tasks:
- name: create group yum:
name: httpd state: latest
- name: create group group:
name: apache state: present
- name: creating directory file:
path: /webdev state: directory mode: '2775' group: apache
- sefcontext:
target: '/webdev/index.html' setype: httpd_sys_content_t state: present
- name: Apply new SELinux file context to filesystem command: restorecon -irv
- name: creating symbolic link file:
src: /webdev
dest: /var/www/html/webdev state: link
force: yes
- name: creating file file:
path: /webdev/index.html
sate: touch
- name: Adding content to index.html file copy:
dest: /webdev/index.html content: "Development"
- name: add service to the firewall firewallld:
service: http permanent: yes state: enabled immediate: yes
- name: active http service service:
name: httpd state: restarted enabled: yes wq
# ansible-playbook web.yml --syntax-check
# ansible-playbook web.yml
```

### NEW QUESTION 3

- (Exam Topic 2)

Create a role called apache in "/home/admin/ansible/roles" with the following requirements:

--> The httpd package is installed, enabled on boot, and started.

--> The firewall is enabled and running with a rule to allow access to the web server.

--> template file index.html.j2 is used to create the file /var/www/html/index.html with the output:

Welcome to HOSTNAME on IPADDRESS

--> Where HOSTNAME is the fqdn of the managed node and IPADDRESS is the IP-Address of the managed node.

note: you have to create index.html.j2 file.

--> Create a playbook called httpd.yml that uses this role and the playbook runs on hosts in the webservers host group.

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Solution as:

```
-----
# pwd
/home/admin/ansible/roles/
# ansible-galaxy init apache
# vim apache/vars/main.yml
--
# vars file for apache http_pkg: httpd firewall_pkg: firewallld http_srv: httpd firewall_srv: firewallld rule: http
webpage: /var/www/html/index.html template: index.html.j2
wq!
# vim apache/tasks/package.yml
--
- name: Installing packages yum:
name:
- "{{http_pkg}}"
- "{{firewall_pkg}}" state: latest
wq!
# vim apache/tasks/service.yml
--
- name: start and enable http service service:
name: "{{http_srv}}"
enabled: true state: started
- name: start and enable firewall service service:
name: "{{firewall_srv}}" enabled: true
state: started wq!
# vim apache/tasks/firewall.yml
--
- name: Adding http service to firewall firewallld:
service: "{{rule}}" state: enabled permanent: true immediate: true wq!
# vim apache/tasks/webpage.yml
--
- name: creating template file template:
src: "{{template}}"
dest: "{{webpage}}" notify: restart_httpd
!wq
# vim apache/tasks/main.yml
# tasks file for apache
- import_tasks: package.yml
```

```
- import_tasks: service.yml
- import_tasks: firewall.yml
- import_tasks: webpage.yml wq!
# vim apache/templates/index.html.j2
Welcome to {{ ansible_facts.fqdn }} on {{ ansible_facts.default_ipv4.address }}
# vim apache/handlers/main.yml
--
# handlers file for apache
- name: restart_httpd service:
name: httpd state: restarted wq!
# cd ..
# pwd
/home/admin/ansible/
# vim httpd.yml
--
- name: Including apache role hosts: webservers
pre_tasks:
- name: pretask message
debug:
msg: 'Ensure webserver configuration' roles:
- ./roles/apache post_tasks:
- name: Check webserver uri:
url: "http://{{ ansible_facts.default_ipv4.address }}"
return_content: yes status_code: 200 wq!
# ansible-playbook httpd.yml --syntax-check
# ansible-playbook httpd.yml
#
curl http://serverx
```

#### NEW QUESTION 4

- (Exam Topic 2)  
 Create Logical volumes with lvm.yml in all nodes according to following requirements.

```
-----
* Create a new Logical volume named as 'data'
* LV should be the member of 'research' Volume Group
* LV size should be 1500M
* It should be formatted with ext4 file-system.
--> If Volume Group does not exist then it should print the message "VG Not found"
--> If the VG can not accommodate 1500M size then it should print "LV Can not be created with
following size", then the LV should be created with 800M of size.
--> Do not perform any mounting for this LV.
```

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Solution as:

```
# pwd
/home/admin/ansible
# vim lvm.yml
--
- name: hosts: all
ignore_errors: yes tasks:
- name: lvol: lv: data
vg: research size: "1500"
- debug:
msg: "VG Not found"
when: ansible_lvm.vgs.research is not defined
- debug:
msg: "LV Can not be created with following size" when: ansible_lvm.vgs.research.size_g < "1.5"
- name: lvol: lv: data
vg: research size: "800"
when: ansible_lvm.vgs.research.size_g < "1.5"
- name:
filesystem: fstype: ext4
dev: /dev/research/data wq!
# ansible-playbook lvm.yml --syntax-check
# ansible-playbook lvm.yml
```

#### NEW QUESTION 5

- (Exam Topic 2)  
 Install and configure Ansible on the control-node control.realmX.example.com as follows:

```
-----
--> Install the required packages
--> Create a static inventory file called /home/admin/ansible/inventory as follows: node1.realmX.example.com is a member of the dev host group
node2.realmX.example.com is a member of the test host group node3.realmX.example.com & node4.realmX.example.com are members of the prod host group
node5.realmX.example.com is a member of the balancers host group. prod group is a member of the webservers host group
--> Create a configuration file called ansible.cfg as follows:
--> The host inventory file /home/admin/ansible/inventory is defined
```

--> The location of roles used in playbooks is defined as /home/admin/ansible/ roles

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

Through physical host, login to workstation.lab.example.com with user root.

```
# ssh root@workstation.lab.example.com
# hostname workstation.lab.example.com
# yum install platform-python*
# su - admin
# pwd
/home/admin/
# vim .vimrc
# mkdir -p ansible/roles
# cd ansible
# vim inventory [dev]
servera.lab.example.com [test] serverb.example.com [prod] serverc.example.com serverd.example.com [balancer] serverd.lab.example.com [webservers:children]
prod
!wq
# vim ansible.cfg [defaults]
inventory = ./inventory
role_path = ./roles remote_user = admin ask_pass = false [privilege_escalation] become = true become_method = sudo become_user = root become_ask_pass =
false
!wq
# ansible all --list-hosts
```

**NEW QUESTION 6**

- (Exam Topic 2)

Install the RHEL system roles package and create a playbook called timesync.yml that:

--> Runs over all managed hosts.

--> Uses the timesync role.

--> Configures the role to use the time server 192.168.10.254 ( Hear in redhat lab use "classroom.example.com" )

--> Configures the role to set the iburst parameter as enabled.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
# pwd home/admin/ansible/
# sudo yum install rhel-system-roles.noarch -y
# cd roles/
# ansible-galaxy list
# cp -r /usr/share/ansible/roles/rhelsystem-roles.timesync .
# vim timesync.yml
--
- name: timesynchronization hosts: all
vars:
timesync_ntp_provider: chrony timesync_ntp_servers:
- hostname: classroom.example.com _ in exam its ip-address iburst: yes
timezone: Asia/Kolkata roles:
- rhel-system-roles.timesync tasks:
- name: set timezone timezone:
name: "{{ timezone }}" wq!
timedatectl list-timezones | grep india
# ansible-playbook timesync.yml --syntax-check
# ansible-playbook timesync.yml
# ansible all -m shell -a 'chronyc sources -v'
# ansible all -m shell -a 'timedatectl'
# ansible all -m shell -a 'systemctl is-enabled chronyd'
```

**NEW QUESTION 7**

- (Exam Topic 2)

Generate a hosts file:

```
*
Download an initial template file hosts.j2 from http://classroom.example.com/ hosts.j2 to
/home/admin/ansible/ Complete the template so that it can be used to generate a file with a
line for each inventory host in the same format as /etc/hosts: 172.25.250.9 workstation.lab.example.com workstation
* Create a playbook called gen_hosts.yml that uses this template to generate the file
/etc/myhosts on hosts in the dev host group.
* When completed, the file /etc/myhosts on hosts in the dev host group should have a line for
each managed host:
* 127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
* 172.25.250.10 serevra.lab.example.com servera
```

```
* 172.25.250.11 serevrblab.example.com serverb
* 172.25.250.12 serevrclab.example.com serverc
* 172.25.250.13 serevrldlab.example.com serverd
```

while practising you to create these file hear. But in exam have to download as per question.

```
hosts.j2 file consists.
localhost localhost.localdomain localhost4 localhost4.localdomain4
::1
localhost localhost.localdomain localhost6 localhost6.localdomain6
```

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
# pwd
/home/admin/ansible
#
wget http://classroom.example.com/hosts.j2
# vim hosts.j2
* 127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4 ::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
{% for host in groups['all'] %}
{{ hostvars[host]['ansible_facts']['default_ipv4']['address'] }} {{ hostvars[host]['ansible_facts']['fqdn'] }} {{ hostvars[host]['ansible_facts']['hostname'] }}
{% endfor %} wq!
# vim gen_hosts.yml
--
- name: collecting all host information hosts: all
tasks:
- name: template: src: hosts.j2
dest: /etc/myhosts
when: inventory_hostname in groups['dev'] wq
# ansible-playbook gen_hosts.yml --syntax-check
# ansible-playbook gen_hosts.yml
```

**NEW QUESTION 8**

- (Exam Topic 2)

Create and run an Ansible ad-hoc command.

--> As a system administrator, you will need to install software on the managed nodes.

--> Create a shell script called yum-pack.sh that runs an Ansible ad-hoc command to create yum-repository on each of the managed nodes as follows:

--> repository1

```
-----
* 1. The name of the repository is EX407
* 2. The description is "Ex407 Description"
* 3. The base URL is http://content.example.com/rhel8.0/x86_64/dvd/BaseOS/
* 4. GPG signature checking is enabled
* 5. The GPG key URL is http://content.example.com/rhel8.0/x86_64/dvd/RPM-GPG-KEYredhat- release
* 6. The repository is enabled
--> repository2
```

```
-----
* 1. The name of the repository is EXX407
* 2. The description is "Exx407 Description"
* 3. The base URL is http://content.example.com/rhel8.0/x86_64/dvd/AppStream/
* 4. GPG signature checking is enabled
* 5. The GPG key URL is http://content.example.com/rhel8.0/x86_64/dvd/ RPM-GPG-KEYredhat- release
* 6. The repository is enabled
```

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
# pwd
/home/admin/ansible
# vim yum-pack.sh
#!/bin/bash
ansible all -m yum_repository -a 'name=EX407 description="Ex407 Description"
baseurl=http://content.example.com/rhel8.0/x86_64/dvd/BaseOS/
gpgcheck=yes
gpgkey=http://content.example.com/rhel8.0/x86_64/dvd/RPM-GPG-KEY-redhat-release
enabled=yes'
ansible all -m yum_repository -a 'name=EXX407 description="Exx407 Description"
baseurl=http://content.example.com/rhel8.0/x86_64/dvd/AppStream/
gpgcheck=yes
gpgkey=http://content.example.com/rhel8.0/x86_64/dvd/RPM-GPG-KEY-redhat-release
enabled=yes'
!wq
# chmod +x yum-pack.sh
```

```
# bash yum-pack.sh
# ansible all -m command -a 'yum repolist all'
```

### NEW QUESTION 9

- (Exam Topic 1)

Create a Shell script /root/program:

The shell script will come back to "user" parameter when you are entering "kernel" parameter.

The shell script will come back to "kernel" when you are entering "user" parameter.

It will output the standard error when this script "usage:/root/program kernel|user" don't input any parameter or the parameter you inputted is entered as the requirements.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

```
[root@server1 virtual]# cat /root/program
#!/bin/bash
param1="$1"
if [ "$param1" == "kernel" ]; then
echo "user"
elif [ "$param1" == "user" ]; then
echo "kernel"
else
echo "usage:/root/program kernel|user"
if
[root@server1 ~]# chmod +x /root/program
```

### NEW QUESTION 10

- (Exam Topic 1)

Install and configure ansible

User bob has been created on your control node. Give him the appropriate permissions on the control node. Install the necessary packages to run ansible on the control node.

Create a configuration file /home/bob/ansible/ansible.cfg to meet the following requirements:

- The roles path should include /home/bob/ansible/roles, as well as any other path that may be required for the course of the sample exam.
- The inventory file path is /home/bob/ansible/inventory.
- Ansible should be able to manage 10 hosts at a single time.
- Ansible should connect to all managed nodes using the bob user. Create an inventory file for the following five nodes: node1.example.com node2.example.com node3.example.com node4.example.com node5.example.com

Configure these nodes to be in an inventory file where node1 is a member of group dev, node2 is a member of group test, node3 is a member of group proxy, node4 and node 5 are members of group prod. Also, prod is a member of group webservers.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

```
In /home/sandy/ansible/ansible.cfg
[defaults]
inventory=/home/sandy/ansible/inventory
roles_path=/home/sandy/ansible/roles
remote_user= sandy
host_key_checking=false
[privilegeescalation]
become=true
become_user=root
become_method=sudo
become_ask_pass=false
In /home/sandy/ansible/inventory
[dev]
node 1.example.com
[test]
node2.example.com
[proxy]
node3 .example.com
[prod]
node4.example.com
node5 .example.com
[webservers:children]
prod
```

### NEW QUESTION 10

- (Exam Topic 1)

Create a role called sample-apache in /home/sandy/ansible/roles that enables and starts httpd, enables and starts the firewall and allows the webserver service. Create a template called index.html.j2 which creates and serves a message from /var/www/html/index.html Whenever the content of the file changes, restart the webserver service.

Welcome to [FQDN] on [IP]

Replace the FQDN with the fully qualified domain name and IP with the ip address of the node using ansible facts. Lastly, create a playbook in /home/sandy/ansible/ called apache.yml and use the role to serve the index file on webserver hosts.

- A. Mastered
- B. Not Mastered

Answer: A

#### Explanation:

/home/sandy/ansible/apache.yml

```
---
- name: http
  hosts: webservers
  roles:
    - sample-apache
```

/home/sandy/ansible/roles/sample-apache/tasks/main.yml

```
---
# tasks file for sample-apache
- name: enable httpd
  service:
    name: httpd
    state: started
    enabled: true
- name: enable firewall
  service:
    name: firewalld
    state: started
    enabled: true
- name: firewall http service
  firewalld:
    service: http
    state: enabled
    permanent: yes
    immediate: yes
- name: index
  template:
    src: templates/index.html.j2
    dest: /var/www/html/index.html
  notify:
    - restart
```

/home/sandy/ansible/roles/sample-apache/templates/index.html.j2

```
Welcome to ({{ansible_fqdn}}) ({{ansible_default_ipv4.address}})
```

In /home/sandy/ansible/roles/sample-apache/handlers/main.yml

```
- name: restart
  service:
    name: httpd
    state: restarted
```

### NEW QUESTION 13

- (Exam Topic 1)

Create a file called requirements.yml in /home/sandy/ansible/roles to install two roles. The source for the first role is geerlingguy.haproxy and geerlingguy.php. Name the first haproxy-role and the second php-role. The roles should be installed in /home/sandy/ansible/roles.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

in /home/sandy/ansible/roles vim requirements.yml

```
- src: geerlingguy.haproxy
  name: haproxy-role
- src: geerlingguy.php_role
  name: php_role
```

Run the requirements file from the roles directory:

```
ansible-galaxy install -r requirements.yml -p /home/sandy/ansible/roles
```

**NEW QUESTION 16**

- (Exam Topic 1)

Create a playbook called timesync.yml in /home/sandy/ansible using rhel system role timesync. Set the time to use currently configured ntp with the server 0.uk.pool.ntp.org. Enable burst. Do this on all hosts.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
- name: use rhel system role
  hosts: all
  roles:
    - rhel-system-roles.timesync
  timesync_ntp_servers:
    - hostname: 0.uk.pool.ntp.org
  iburst: yes
```

**NEW QUESTION 21**

- (Exam Topic 1)

In /home/sandy/ansible/ create a playbook called logvol.yml. In the play create a logical volume called lv0 and make it of size 1500MiB on volume group vg0. If there is not enough space in the volume group print a message "Not enough space for logical volume" and then make a 800MiB lv0 instead. If the volume group still doesn't exist, create a message "Volume group doesn't exist" Create an xfs filesystem on all lv0 logical volumes. Don't mount the logical volume.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
- name: hosts
hosts: all
tasks:
- name: create partition
  parted:
    device: /dev/vdb
    number: 1
    flags: [ lvm ]
    state: present
- name: create vg
  lvg:
    vg: vg0
    pvs: /dev/vdb1
    when: ansible_devices.vdb.partitions.vdb1 is defined
- name: create logical volume
  lvol:
    vg: vg0
    lv: lv0
    size: 1500m
    when: ansible_lvm.vgs.vg0 is defined and ( (ansible_lvm.vgs.vg0.size_g | float ) > 1.5)
- name: send message if volume group not large enough
  debug:
    msg: Not enough space for logical volume
    when: ansible_lvm.vgs.vg0 is defined and ( (ansible_lvm.vgs.vg0.size_g | float ) < 1.5)
- name: create a smaller logical volume
  lvol:
    vg: vg0
    lv: lv0
    size: 1500m
    when: ansible_lvm.vgs.vg0 is defined and ( (ansible_lvm.vgs.vg0.size_g | float ) < 1.5)
- name: create fs
  filesystem:
    dev: /dev/vg0/lv0
    fstype: xfs
    when: ansible_lvm.vgs.vg0 is defined
```

**NEW QUESTION 25**

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