

# Red-Hat

## Exam Questions EX294

Red Hat Certified Engineer (RHCE) exam



**NEW QUESTION 1**

- (Exam Topic 2)

Create an Ansible vault to store user passwords as follows:

\* The name of the vault is valut.yml

\* The vault contains two variables as follows:

- dev\_pass with value wakennym

- mgr\_pass with value rocky

\* The password to encrypt and decrypt the vault is atenorth

\* The password is stored in the file /home/admin/ansible/password.txt

A. Mastered

B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
# pwd
```

```
/home/admin/ansible
```

```
# echo "atenorth" >password.txt
```

```
# chmod 0600 password.txt
```

```
# ansible-vault create vault.yml --vault-password-file=password.txt
```

```
--
```

```
- dev_pass: wakennym
```

```
- mgr_pass: rocky wq
```

```
# cat vault.yml
```

```
$ANSIBLE_VAULT;1.1;AES256 36383862376164316436353665343765643331393433373564613762666531313034336438353662
```

```
3464346331346461306337633632393563643531376139610a343531326130663266613533633562
```

```
38623439316631306463623761343939373263333134353264333834353264343934373765643737
```

```
3535303630626666370a643663366634383863393338616661666632353139306436316430616334
```

```
65386134393363643133363738656130636532346431376265613066326162643437643064313863
```

```
6633333537303334333437646163343666666132316639376531
```

```
# ansible-vault view vault.yml password:*****
```

```
--
```

```
- dev_pass: wakennym
```

```
- mgr_pass: rocky
```

**NEW QUESTION 2**

- (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 webserver 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: firewalld http_srv: httpd firewall_srv: firewalld 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 firewalld:
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 3

- (Exam Topic 2)  
Modify file content.

-----

Create a playbook called /home/admin/ansible/modify.yml as follows:

\* The playbook runs on all inventory hosts

\* The playbook replaces the contents of /etc/issue with a single line of text as follows:

--> On hosts in the dev host group, the line reads: "Development"

--> On hosts in the test host group, the line reads: "Test"

--> On hosts in the prod host group, the line reads: "Production"

A. Mastered  
B. Not Mastered

**Answer:** A

#### Explanation:

Solution as:

```
# pwd
/home/admin/ansible
# vim modify.yml
--
- name: hosts: all tasks:
- name: copy:
content: "Development" dest: /etc/issue
when: inventory_hostname in groups['dev']
- name: copy:
content: "Test" dest: /etc/issue
when: inventory_hostname in groups['test']
- name: copy:
content: "Production" dest: /etc/issue
when: inventory_hostname in groups['prod'] wq
# ansible-playbook modify.yml --syntax-check
# ansible-playbook modify.yml
```

### NEW QUESTION 4

- (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 webserver's 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 [webserver: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 5**

- (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 6**

- (Exam Topic 2)

Use Ansible Galaxy with a requirements file called /home/admin/ansible/roles/ install.yml to download and install roles to /home/admin/ansible/roles from the following URLs:

<http://classroom.example.com/role1.tar.gz> The name of this role should be balancer  
<http://classroom.example.com/role2.tar.gz> The name of this role should be phphello

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
# pwd
/home/admin/ansible/roles
# vim install.yml
--
src: http://classroom.example.com/role1.tar.gz name: balancer
src: http://classroom.example.com/role2.tar.gz name: phphello
wq!
# pwd
/home/admin/ansible
# ansible-galaxy install -r roles/install.yml -p roles
```

**NEW QUESTION 7**

- (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 8**

- (Exam Topic 1)

Create a playbook that changes the default target on all nodes to multi-user tarqet. Do this in playbook file called target.yml in /home/sandy/ansible

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

- name: change default target hosts: all

tasks:

- name: change target file:

src: /usr/lib/systemd/system/multi-user.target dest: /etc/systemd/system/default.target state: link

**NEW QUESTION 9**

- (Exam Topic 1)

Create a playbook called regulartasks.yml which has the system that append the date to /root/datefile every day at noon. Name is job 'datejob'

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
- name: Creates a cron file under /etc/cron.d
cron:
  name: datejob
  hour: "12"
  user: root
  job: "date >> /root/ datefile"
```

#### NEW QUESTION 10

- (Exam Topic 1)

Install and configure ansible

User sandy has been created on your control node with the appropriate permissions already, do not change or modify ssh keys. Install the necessary packages to run ansible on the control node. Configure ansible.cfg to be in folder /home/sandy/ansible/ansible.cfg and configure to access remote machines via the sandy user. All roles should be in the path /home/sandy/ansible/roles. The inventory path should be in /home/sandy/ansible/invenlory.

Configure these nodes to be in an inventory file where node l is a member of group dev. nodc2 is a member of group test, node3 is a member of group proxy, nodc4 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]

[proxy]

node3 .example.com [prod] node4.example.com node5 .example.com [webservers:children] prod

#### NEW QUESTION 10

- (Exam Topic 1)

Create a file called packages.yml in /home/sandy/ansible to install some packages for the following hosts. On dev, prod and webservers install packages httpd, mod\_ssl, and mariadb. On dev only install the development tools package. Also, on dev host update all the packages to the latest.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
---
- name: install pack
  hosts: dev,test,webservers
  become: true
  tasks:
    - name: install on all hosts in this play
      yum:
        name:
          - httpd
          - mod_ssl
          - mariadb
        state: latest
    - name: install on dev only
      yum:
        name:
          - '@Development tools'
        state: latest
      when: "dev" in group_names
```

\*\* NOTE 1 a more acceptable answer is likely 'present' since it's not asking to install the latest

state: present

\*\* NOTE 2 need to update the development node

- name: update all packages on development node yum:

name:

state: latest

#### NEW QUESTION 14

- (Exam Topic 1)

Create an empty encrypted file called myvault.yml in /home/sandy/ansible and set the password to notsafepw. Rekey the password to iwej2221. See the

A. Mastered

B. Not Mastered

**Answer:** A

#### Explanation:

ansible-vault create myvault.yml

Create new password: notsafepw Confirm password: notsafepw ansible-vault rekey myvault.yml

Current password: notsafepw New password: iwej2221 Confirm password: iwej2221

#### NEW QUESTION 17

- (Exam Topic 1)

Create a playbook called issue.yml in /home/sandy/ansible which changes the file /etc/issue on all managed nodes: If host is a member of (lev then write "Development" If host is a member of test then write "Test" If host is a member of prod then write "Production"

A. Mastered

B. Not Mastered

**Answer:** A

#### Explanation:

Solution as:

```

---
- name: issue file
  hosts: dev,test,prod
  tasks:
    - name: edit development node
      copy:
        content: Development
        dest: /etc/issue
        when: "dev" in group_names
    - name: edit test node
      copy:
        content: Test
        dest: /etc/issue
        when: "test" in group_names
    - name: edit development node
      copy:
        content: Production
        dest: /etc/issue
        when: "prod" in group_names
...

```

#### NEW QUESTION 19

- (Exam Topic 1)

Create the users in the file usersjist.yml file provided. Do this in a playbook called users.yml located at /home/sandy/ansible. The passwords for these users should be set using the lock.yml file from TASK7. When running the playbook, the lock.yml file should be unlocked with secret.txt file from TASK 7.

All users with the job of 'developer' should be created on the dev hosts, add them to the group devops, their password should be set using the pw\_dev variable. Likewise create users with the job of 'manager' on the proxy host and add the users to the group 'managers', their password should be set using the pw\_mgr variable.

users\_list.yml

```

users:
  - username: bill
    job: developer
  - username: chris
    job: manager
  - username: dave
    job: test
  - username: ethan
    job: developer

```

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

ansible-playbook users.yml --vault-password-file=secret.txt

```
- name: create users
hosts: all
vars_files:
  - users_list.yml
  - lock.yml
tasks:
  - name: create devops group nodes1
    group:
      name: devops
    when: ('dev' in group_names)
  - name: create manager group nodes45
    group:
      name: manager
    when: ('prod' in group_names)
  - name: create devs should happen on node1
    user:
      name: "{{item.username}}"
      groups: devops
      password: "{{ pw_dev | password_hash('sha512') }}"
    when: ('dev' in group_names) and ('developer' in item.job)
    loop: "{{users}}"
  - name: create managers on node45
    user:
      name: "{{item.username}}"
      groups: manager
      password: "{{ pw_mgr | password_hash('sha512') }}"
    when: ('prod' in group_names) and ('manager' in item.job)
    loop: "{{users}}"
```

#### NEW QUESTION 24

- (Exam Topic 1)

Create a file called requirements.yml in /home/sandy/ansible/roles a file called role.yml in /home/sandy/ansible/. The haproxy-role should be used on the proxy host. And when you curl <http://node3.example.com> it should display "Welcome to node4.example.com" and when you curl again "Welcome to node5.example.com" The php-role should be used on the prod host.

- A. Mastered
- B. Not Mastered

Answer: A

#### Explanation:

Solution as:

```
- name: install haproxy and php roles
hosts: all
vars:
  haproxy_backend_servers:
    - name: web1
      address: node4.example.com
    - name: web2
      address: node5.example.com
tasks:
  - name: import haproxy
    include_role: haproxy-role
    when: "proxy" in group_names
  - name: import php
    include_role: php-role
    when: "prod" in group_names
```

Check the proxy host by curl <http://node3.example.com>

#### NEW QUESTION 29

- (Exam Topic 1)

Create a playbook called webdev.yml in 'home/sandy/ansible'. The playbook will create a directory Avcbdev on dev host. The permission of the directory are 2755 and owner is webdev. Create a symbolic link from /Webdev to /var/www/html/webdev. Serve a file from Avebdev7index.html which displays the text "Development" Curl <http://node1.example.com/webdev/index.html> to test

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
- name: webdev
hosts: dev
tasks:
  - name: create webdev user
    user:
      name: webdev
      state: present
  - name: create a directory
    file:
      mode: '2755'
      path: /webdev
      state: directory
  - name: create symbolic link
    file:
      src: /webdev
      path: /var/www/html/webdev
      state: link
  - name: create index.html
    copy:
      content: Development
      dest: /webdev/ index.html
  - name: Install selinux policies
    yum:
      name: python3-policycoreutils
      state: present
  - name: allow httpd from this directory
    sefcontext:
      target: '/webdev(/.*)?'
      setype: httpd_sys_content_t
      state: present
  - name: restore the context
    shell: restorecon -vR /webdev
```

### NEW QUESTION 33

- (Exam Topic 1)

Create a jinja template in /home/sandy/ansible/ and name it hosts.j2. Edit this file so it looks like the one below. The order of the nodes doesn't matter. Then create a playbook in /home/sandy/ansible called hosts.yml and install the template on dev node at /root/myhosts

```
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1      localhost localhost.localdomain localhost6 localhost6.localdomain6

10.0.2.1      node1.example.com    node1
10.0.2.2      node2.example.com    node2
10.0.2.3      node3.example.com    node3
10.0.2.4      node4.example.com    node4
10.0.2.5      node5.example.com    node5
```

- A. Mastered

B. Not Mastered

**Answer:** A

**Explanation:**

Solution as:

```
in /home/sandy/ansible/hosts.j2
```

```
{%for host in groups['all']%}
{{hostvars[host]['ansible_default_ipv4']['address']}} {{hostvars[host]['ansible_fqdn']}}
{{hostvars[host]['ansible_hostname']}}
{%endfor%}
```

```
in /home/sandy/ansible/hosts.yml
```

```
---
```

```
- name: use template
```

```
  hosts: all
```

```
  template:
```

```
    src: hosts.j2
```

```
    dest: /root/myhosts
```

```
  when: "dev" in group_names
```

#### NEW QUESTION 38

- (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 42**

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