

# Red-Hat

## Exam Questions EX294

Red Hat Certified Engineer (RHCE) exam



### NEW QUESTION 1

- (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 firewalld:
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 2

- (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 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: 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 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)  
 Create a playbook called packages.yml that:

```
-----
--> Installs the php and mariadb packages on hosts in the dev, test, and prod host groups.
--> Installs the Development Tools package group on hosts in the dev host group.
--> Updates all packages to the latest version on hosts in the dev host group.
```

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Solution as:

```
# pwd home/admin/ansible/
# vim packages.yml
--
- name: Install the packages hosts: dev,test,prod
vars:
- php_pkg: php
- mariadb_pkg: mariadb tasks:
- name: install the packages yum:
name:
- "{{ php_pkg }}"
- "{{ mariadb_pkg }}"
state: latest
- name: install the devops tool packages hosts: dev
tasks:
- name: install development tools yum:
name: "@Development Tools" state: latest
```

```
- name: upgrade all the packages yum:
name: "*" state: latest
exclude: kernel*
!wq
# ansible-playbook package.yml --syntax-check
# ansible-playbook package.yml
```

#### NEW QUESTION 6

- (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 7

- (Exam Topic 2)  
Create a playbook called hwreport.yml that produces an output file called /root/ hwreport.txt on all managed nodes with the following information:

-----  
--> Inventory host name  
--> Total memory in MB  
--> BIOS version  
--> Size of disk device vda  
--> Size of disk device vdb  
Each line of the output file contains a single key-value pair.  
\* Your playbook should:  
-->  
Download the file hwreport.empty from the URL <http://classroom.example.com/hwreport.empty> and save it as /root/hwreport.txt  
--> Modify with the correct values.  
note: If a hardware item does not exist, the associated value should be set to NONE

-----  
while practising you to create these file hear. But in exam have to download as per questation.  
hwreport.txt file consists. my\_sys=hostname  
my\_BIOS=biosversion my\_MEMORY=memory my\_vda=vdasize my\_vdb=vdbsize

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Solution as:  
# pwd  
/home/admin/ansible  
# vim hwreport.yml  
- name: hosts: all  
ignore\_errors: yes tasks:  
- name: download file get\_url:  
url: <http://classroom.example.com/content/ex407/hwreport.empty> dest: /root/hwreport.txt  
- name: vdasize replace:  
regexp: "vdasize"  
replace: "{{ ansible\_facts.devices.vda.size }}" dest: /root/hwreport.txt  
register: op1

```
- debug:
var: op1
- name: none replace:
regexp: "vdasize" replace: NONE
dest: /root/hwreport.txt when:
op1.failed == true
- name: vdbsize replace:
regexp: "vdbsize"
replace: "{{ ansible_facts.devices.vdb.size }}" dest: /root/hwreport.txt
register: op2
- debug: var: op2
- name: none replace:
regexp: "vdbsize" replace: NONE
dest: /root/hwreport.txt when:
op2.failed == true
- name: sysinfo replace:
regexp: "{{item.src}}"
replace: "{{item.dest}}" dest: /root/hwreport.txt loop:
- src: "hostname"
dest: "{{ ansible_facts.fqdn }}"
- src: "biosversion"
dest: "{{ ansible_facts.bios_version }}"
- src: "memory"
dest: "{{ ansible_facts.memtotal_mb }}" wq!
# ansible-playbook hwreport.yml --syntax-check
# ansible-playbook hwreport.yml
```

### NEW QUESTION 8

- (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 9

- (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 10

- (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)

Create a playbook that changes the default target on all nodes to multi-user target. 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 14

- (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 16

- (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/inventory.

Configure these nodes to be in an inventory file where node 1 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]
[proxy]
node3 .example.com [prod] node4.example.com node5 .example.com [webservers:children] prod
```

### NEW QUESTION 21

- (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 23

- (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 27

- (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 30

- (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 33

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