

Lab.3 ansible

Fady Atef Ata

loops

Loop over a list of packages and install latest versions.

Loop over a list of packages and use different states as per input.

```
! simple-playbook.yml
1  - name: my plays
2    hosts: webserver
3    become: true
4    gather_facts: false
5    vars:
6      package_name: curl
7      package_version: latest
8    tasks:
9      - name: Update packages
10        apt:
11          name: "{{ item }}"
12        loop:
13          - nginx
14          - apache2
15          - python3
16
17      - name: task2
18        ping:
19
20
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

fady@fady-PC:~/ans$ ansible-playbook simple-playbook.yml --ask-become-pass
BECOME password:

PLAY [my plays] *****

TASK [Update packages] *****
changed: [13.53.38.116] => (item=nginx)
changed: [13.53.38.116] => (item=apache2)
ok: [13.53.38.116] => (item=python3)

TASK [task2] *****
ok: [13.53.38.116]

PLAY RECAP *****
13.53.38.116      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

fady@fady-PC:~/ans$
```

```

! simple-playbook.yml
1  - name: my plays
2    hosts: webserver
3    become: true
4    gather_facts: false
5    vars:
6      package_name: curl
7      package_version: latest
8    tasks:
9      - name: Update packages
10        apt:
11          name: "{{ item.package_name }}"
12          state: "{{ item.package_stats }}"
13        loop:
14          - { package_name: "nginx" , package_stats: "present" }
15          - { package_name: "vim" , package_stats: "latest" }
16          - { package_name: "apache2" , package_stats: "present" }
17
18      - name: task2
19        ping:
20
21

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```

fady@fady-PC:~/ans$ ansible-playbook simple-playbook.yml --ask-become-pass
BECOME password:

```

```

PLAY [my plays] *****

TASK [Update packages] *****
ok: [13.53.38.116] => (item={'package_name': 'nginx', 'package_stats': 'present'})
changed: [13.53.38.116] => (item={'package_name': 'vim', 'package_stats': 'latest'})
ok: [13.53.38.116] => (item={'package_name': 'apache2', 'package_stats': 'present'})

TASK [task2] *****
ok: [13.53.38.116]

PLAY RECAP *****
13.53.38.116      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

fady@fady-PC:~/ans$

```

When

Install nginx or httpd depending on distribution 📌

Restart nginx service if distribution is ubuntu. 📌

Restart httpd service if distribution is centos.

```
! simple-playbook.yml
1 package_name: nginx
2 package_version: latest
3 tasks:
4
5 - name: Install nginx
6   apt:
7     name: nginx
8     state: present
9     when: ansible_facts['distribution'] == "Ubuntu"
10    register: destination_ubuntu
11
12 - name: Install httpd
13   yum:
14     name: httpd
15     state: present
16     when: ansible_facts['distribution'] == "centOS"
17    register: destination_centOS
18
19 - name: restart httpd
20   service:
21     name: httpd
22     state: restarted
23     when: ansible_facts['distribution'] == "centOS"
24
25 - name: restart nginx
26   service:
27     name: nginx
28     state: restarted
29     when: ansible_facts['distribution'] == "Ubuntu"
30
31
32
33
34
35
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
TASK [Install nginx] *****
ok: [13.53.38.116]

TASK [Install httpd] *****
skipping: [13.53.38.116]

TASK [restart httpd] *****
skipping: [13.53.38.116]

TASK [restart nginx] *****
changed: [13.53.38.116]

TASK [task ping] *****
ok: [13.53.38.116]

PLAY RECAP *****
13.53.38.116 : ok=4 changed=1 unreachable=0 failed=0 skipped=2 rescued=0 ignored=0

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```

When & register

View the value of your register variable using debug module 

Restart service if the installation task was changed or was not failed

```
22     yum:
23         name: apache2
24         state: present
25         when: ansible_facts['distribution'] == "centOS"
26         register: destination_centOS
27
28     - name: reg1
29       debug:
30         var: destination_centOS
31
32     - name: restart apache2
33       service:
34         name: apache2
35         state: restarted
36       when: destination_centOS.changed or not destination_centOS.failed
37
38     - name: restart nginx
39       service:
40         name: nginx
41         state: restarted
42       when: destination_ubuntu.changed or not destination_ubuntu.failed
43
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
}
}

TASK [Install httpd] *****
skipping: [13.53.38.116]

TASK [reg1] *****
ok: [13.53.38.116] => {
  "destination_centOS": {
    "changed": false,
    "false_condition": "ansible_facts['distribution'] == \"centOS\"",
    "skip_reason": "Conditional result was False",
    "skipped": true
  }
}

TASK [restart apache2] *****
skipping: [13.53.38.116]

TASK [restart nginx] *****
changed: [13.53.38.116]

PLAY RECAP *****
13.53.38.116      : ok=5    changed=1    unreachable=0    failed=0    skipped=2    rescued=0    ignored=0

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```

1. install a package
(get the package name from vars)
2. copy a list of files (index.html & file.css & file.js) from controller to host using loop
(get the list of file names from vars)
(the actual files will be stored in ./your_current_directory)
(will be defined as Handler)
(will be triggered by step 1)
3. Restart the service of the installed package
(will be defined as Handler)
(will be triggered by step 2)

```
1 ---
2 - name: Playbook
3   hosts: webservers
4   gather_facts: yes
5   become: true
6   vars:
7     package_name: nginx
8     file_list:
9       - index.html
10      - file.css
11      - file.js
12   tasks:
13     - name: Install package
14       apt:
15         name: "{{ package_name }}"
16         state: present
17         notify: Copy files to host
18         changed_when: true
19
20     handlers:
21       - name: Copy files to host
22         copy:
23           src: "{{ item }}"
24           dest: "/var/www/html/{{ item }}"
25           with_items: "{{ file_list }}"
26           notify: Restart service
27           changed_when: true
28
29     - name: Restart service
30       service:
31         name: "{{ package_name }}"
32         state: restarted
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

TASK [Install package] *****
changed: [13.53.38.116]

RUNNING HANDLER [Copy files to host] *****
changed: [13.53.38.116] => (item=index.html)
changed: [13.53.38.116] => (item=file.css)
changed: [13.53.38.116] => (item=file.js)

RUNNING HANDLER [Restart service] *****
changed: [13.53.38.116]

PLAY RECAP *****
13.53.38.116 : ok=4 changed=3 unreachable=0 failed=0 skipped=0 rescued=0 ignored=

fady@fady-PC:~/ans\$

1. installing a package
(get the package name from vars)
2. Copying index.html from controller to host using **template**
(get the template name & template message from vars)
(the actual template file will be stored in ./your_current_directory)
(will trigger step 4)
3. copying a list of files (file.css & file.js) from controller to host using loop
(get the list of file names from vars)
(the actual files will be stored in ./your_current_directory)
(will be defined as Handler)
(will be triggered by step 1)
4. Restart the service of the installed package
(will be defined as Handler)
(will be triggered by step 3)

```
! pb.yml  ! first-playbook.yml  index.html.j2

! pb.yml
1  - name: Example template playbook
2    hosts: webserver
3    become: true
4    vars:
5      package_name: nginx
6      template_name: ./index.html.j2
7      template_message: Hello, world!
8      file_list:
9        - file.css
10       - file.js
11
12    tasks:
13      - name: Install package
14        apt:
15          name: "{{ package_name }}"
16          state: present
17          changed_when: true
18          notify:
19            - Copy files using loop
20
21      - name: Copy index.html using template
22        template:
23          src: "{{ template_name }}"
24          dest: /var/www/html/index.html
25          changed_when: true
26          notify:
27            - Restart service
28
29    handlers:
30      - name: Restart service
31        service:
32          name: "{{ package_name }}"
33          state: restarted
34
35      - name: Copy files using loop
36        copy:
37          src: "{{ item }}"
38          dest: "/var/www/html/{{ item }}"
39          loop: "{{ file_list }}"
40          notify:
41            - Restart service
```

```
PLAY [Example template playbook] *****
TASK [Gathering Facts] *****
ok: [13.53.38.116]

TASK [Install package] *****
changed: [13.53.38.116]

TASK [Copy index.html using template] *****
changed: [13.53.38.116]

RUNNING HANDLER [Restart service] *****
changed: [13.53.38.116]

RUNNING HANDLER [Copy files using loop] *****
ok: [13.53.38.116] => (item=file.css)
ok: [13.53.38.116] => (item=file.js)

PLAY RECAP *****
13.53.38.116 : ok=5    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

fady@fady-PC:~/ans$
```