Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

Loop over a list of packages and install the latest versions.

```yaml
lab3-playbook-task1.yaml
1   - name: lab3 playbook - Ziad
2     hosts: all
3     gather_facts: false
4
5     tasks:
6       - name: Install several packages
7         apt:
8           name: "{{item}}"
9           state: latest
10        loop:
11          - nginx
12          - mariadb-server
13          - curl
```

```
ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$ ansible-playbook lab3-playbook-task1.yaml
BECOME password:

PLAY [lab3 playbook - Ziad] *********************************************************************

TASK [Install several packages] ****************************************************************
ok: [172.17.0.2] => (item=nginx)
changed: [172.17.0.2] => (item=mariadb-server)
changed: [172.17.0.2] => (item=curl)

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

ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$
```

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

```yaml
lab3-playbook-task1dict.yaml
1   - name: lab3 playbook - Ziad
2     hosts: all
3     gather_facts: false
4
5     tasks:
6       - name: Install and remove packages using loop
7         apt:
8           name: "{{ item.package }}"
9           state: "{{ item.state }}"
10        loop:
11          - { package: "nginx", state: "present" }
12          - { package: "mariadb-server", state: "latest" }
13          - { package: "curl", state: "absent" }
14
```

```
BECOME password:

PLAY [lab3 playbook - Ziad] *********************************************************************

TASK [Install and remove packages using loop] ************************************************
ok: [172.17.0.2] => (item={'package': 'nginx', 'state': 'present'})
ok: [172.17.0.2] => (item={'package': 'mariadb-server', 'state': 'latest'})
changed: [172.17.0.2] => (item={'package': 'curl', 'state': 'absent'})

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

ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$
```

Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

Install nginx or httpd depending on distribution
Restart nginx service if distribution is ubuntu.
Restart httpd service if distribution is centos.

```yaml
≡ lab3-playbook-task2.yaml
1    - name: lab3 playbook - Ziad
2      hosts: all
3
4      tasks:
5        - name: Install Nginx
6          package:
7            name: nginx
8            state: latest
9          when: "'ubuntu' in ansible_facts.distribution.lower()"
10
11       - name: Install httpd (Apache)
12         package:
13           name: httpd
14           state: latest
15         when: "'centos' in ansible_facts.distribution.lower()"
16
17       - name: Restart Nginx
18         sysvinit:
19           name: nginx
20           state: restarted
21         when: "'ubuntu' in ansible_facts.distribution.lower()"
22
23       - name: Restart httpd (Apache)
24         service:
25           name: httpd
26           state: restarted
27         when: "'centos' in ansible_facts.distribution.lower()"
```

```
≡ lab3-playbook-task2.yaml
1    - name: lab3 playbook - Ziad
2      hosts: all
3
4      tasks:
5        - name: Install Nginx
6          package:
7            name: nginx

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$ ansible-playbook lab3-playbook-task2.yaml
BECOME password:

PLAY [lab3 playbook - Ziad] ********************************************************************

TASK [Gathering Facts] ************************************************************************
ok: [172.17.0.2]

TASK [Install Nginx] **************************************************************************
ok: [172.17.0.2]

TASK [Install httpd (Apache)] *****************************************************************
skipping: [172.17.0.2]

TASK [Restart Nginx] **************************************************************************
changed: [172.17.0.2]

TASK [Restart httpd (Apache)] *****************************************************************
skipping: [172.17.0.2]

Ln 25, Col 20   Spaces: 2   UTF-8   LF   Ansible   ⚠ 2.15.4   Python 3.10.12
```

Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

View the value of your register variable using debug module

```yaml
≡ lab3-playbook-task3.yaml
1  - name: lab3 playbook - Ziad
2    hosts: all
3
4    tasks:
5      - name: Install Nginx
6        package:
7          name: nginx
8          state: latest
9        when: "'ubuntu' in ansible_facts.distribution.lower()"
10       register: my_res_nginx
11
12     - name: Install httpd (Apache)
13       package:
14         name: httpd
15         state: latest
16       when: "'centos' in ansible_facts.distribution.lower()"
17       register: my_res_httpd
18
19     - name: print message with register data
20       debug:
21         var: my_res_nginx, my_res_httpd
22
```

```
≡ lab3-playbook-task3.yaml
1    - name: lab3 playbook - Ziad
2      hosts: all

PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

● ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$ ansible-playbook lab3-playbook-task3.yaml
  BECOME password:

  PLAY [lab3 playbook - Ziad] ********************************************************************

  TASK [Gathering Facts] ************************************************************************
  ok: [172.17.0.2]

  TASK [Install Nginx] **************************************************************************
  ok: [172.17.0.2]

  TASK [Install httpd (Apache)] *****************************************************************
  skipping: [172.17.0.2]

  TASK [print message with register data] ******************************************************
  ok: [172.17.0.2] => {
      "my_res_nginx, my_res_httpd": "({'changed': False, 'cache_updated': False, 'cache_update_time': 1694852130, 'failed': False}, {'changed': False
  , 'skipped': True, 'skip_reason': 'Conditional result was False', 'false_condition': \"'centos' in ansible_facts.distribution.lower()\"})"
  }

  PLAY RECAP ************************************************************************************
  172.17.0.2                 : ok=3    changed=0    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0

○ ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$
```

Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

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

```yaml
lab3-playbook-task3.yaml
  4    tasks:
  5      - name: Install Nginx
  6        package:
  7          name: nginx
  8          state: latest
  9        when: "'ubuntu' in ansible_facts.distribution.lower()"
 10        register: my_res_nginx
 11
 12      - name: Install httpd (Apache)
 13        package:
 14          name: httpd
 15          state: latest
 16        when: "'centos' in ansible_facts.distribution.lower()"
 17        register: my_res_httpd
 18
 19      - name: print message with register data
 20        debug:
 21          var: my_res_nginx, my_res_httpd
 22
 23      - name: Restart Nginx
 24        sysvinit:
 25          name: nginx
 26          state: restarted
 27        when:
 28          - "'ubuntu' in ansible_facts.distribution.lower()"
 29          - my_res_nginx.changed == True or my_res_nginx.failed == False
 30
 31      - name: Restart httpd (Apache)
 32        service:
 33          name: httpd
 34          state: restarted
 35        when:
 36          - "'centos' in ansible_facts.distribution.lower()"
 37          - my_res_httpd.changed == True or my_res_httpd.failed == False
```

```
ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$ ansible-playbook lab3-playbook-task3.yaml
BECOME password:

PLAY [lab3 playbook - Ziad] ************************************************************************************

TASK [Gathering Facts] ****************************************************************************************
ok: [172.17.0.2]

TASK [Install Nginx] ******************************************************************************************
ok: [172.17.0.2]

TASK [Install httpd (Apache)] *********************************************************************************
skipping: [172.17.0.2]

TASK [print message with register data] ***********************************************************************
ok: [172.17.0.2] => {
    "my_res_nginx, my_res_httpd": "({'changed': False, 'cache_updated': False, 'cache_update_time': 1694852130, 'failed': False}, {'changed': False, 'skipped': True, 'skip_reason': 'Conditional result was False', 'fal
se_condition': \"'centos' in ansible_facts.distribution.lower()\"})"
}

TASK [Restart Nginx] ******************************************************************************************
changed: [172.17.0.2]

TASK [Restart httpd (Apache)] *********************************************************************************
skipping: [172.17.0.2]

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

ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$
```

Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

Install a package *(get the package name from vars)*
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)*

Restart the service of the installed package
- *(will be defined as Handler)*
- *(will be triggered by step 2)*

```yaml
lab3-playbook-task4.yaml
1    - name: lab3 playbook - Ziad
2      hosts: all
3
4      vars:
5        package: "nginx"
6        file_names:
7          - ./index.html
8          - ./file.css
9          - ./file.js
10
11     tasks:
12       - name: Install the Package
13         apt:
14           name: "{{ package }}"
15           state: latest
16         notify: Copy Files
17
18     handlers:
19       - name: Copy Files
20         copy:
21           src: "{{ item }}"
22           dest: "/var/www/html/{{ item }}"
23         loop: "{{ file_names }}"
24         notify: Restart Service
25
26       - name: Restart Service
27         sysvinit:
28           name: "{{ package }}"
29           state: restarted
```

```
ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$ ansible-playbook lab3-playbook-task4.yaml
BECOME password:

PLAY [lab3 playbook - Ziad] ************************************************************************

TASK [Gathering Facts] ****************************************************************************
ok: [172.17.0.2]

TASK [Install the Package] ************************************************************************
changed: [172.17.0.2]

RUNNING HANDLER [Copy Files] **********************************************************************
changed: [172.17.0.2] => (item=./index.html)
changed: [172.17.0.2] => (item=./file.css)
changed: [172.17.0.2] => (item=./file.js)

RUNNING HANDLER [Restart Service] *****************************************************************
changed: [172.17.0.2]

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

ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$
```
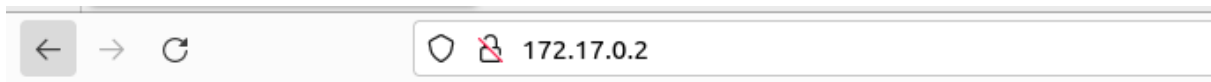
Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

← → C   ○ 🔓 172.17.0.2

Hello from ITI || Ansible-Lab-3

Ziad Tawfik

Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

Installing a package *(get the package name from vars)*
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)*

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)*

Restart the service of the installed package
- *(will be defined as Handler)*
- *(will be triggered by step 3)*

```yaml
# lab3-playbook-task5.yaml
1   - name: lab3 playbook - Ziad
2     hosts: all
3     vars:
4       package: "nginx"
5       template_name: ./index.html.j2
6       template_msg: "This is the task 5 in ansible lab 3"
7       file_names:
8         - ./file.css
9         - ./file.js
10
11     tasks:
12       - name: Install the Package
13         apt:
14           name: "{{ package }}"
15           state: latest
16         notify: Copy Files
17
18       - name: Copy index.html Template
19         template:
20           src: "{{ template_name }}"
21           dest: "/var/www/html/index.html"
22         notify: Restart Service
23
24     handlers:
25       - name: Copy Files
26         copy:
27           src: "{{ item }}"
28           dest: "/var/www/html/{{ item }}"
29         loop: "{{ file_names }}"
30         notify: Restart Service
31
32       - name: Restart Service
33         sysvinit:
34           name: "{{ package }}"
35           state: restarted
```

```jinja
# index.html.j2
1   <h1>Hello from ITI || Ansible-Lab-3 </h1>
2   <h2> {{ template_msg }} </h2>
3   <h2>Ziad Tawfik</h2>
```

Name: Zyad Mohamed Tawfik
Track: DevOps SV
Course: Ansible - Lab3

```
ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$ ansible-playbook lab3-playbook-task5.yaml
BECOME password:

PLAY [lab3 playbook - Ziad] ************************************************************************************

TASK [Gathering Facts] ****************************************************************************************
ok: [172.17.0.2]

TASK [Install the Package] ************************************************************************************
changed: [172.17.0.2]

TASK [Copy index.html Template] *******************************************************************************
changed: [172.17.0.2]

RUNNING HANDLER [Copy Files] **********************************************************************************
changed: [172.17.0.2] => (item=./file.css)
changed: [172.17.0.2] => (item=./file.js)

RUNNING HANDLER [Restart Service] *****************************************************************************
changed: [172.17.0.2]

PLAY RECAP ****************************************************************************************************
172.17.0.2                 : ok=5    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ztawfik@ztawfik:~/Desktop/ITI/Ansible/Ansible-Labs/Lab3$
```

172.17.0.2

Hello from ITI || Ansible-Lab-3

This is the task 5 in ansible lab 3

Ziad Tawfik