

LOOP OVER A LIST OF PACKAGES AND INSTALL LATEST VERSIONS.

```
iti-playbook-lab3.yml
1  - name: lab3
2    gather_facts: false
3    hosts: web_servers
4    tasks:
5      - name: install a web server
6        apt:
7          name: "{{ item }}"
8        loop:
9          - nginx
10         - curl
11         - sudo
12         - ssh
```

```
● mohamedamr@mohamedamr:~/ansible$ ansible-playbook iti-playbook-lab3.yml

PLAY [lab3] *****

TASK [install a web server] *****
ok: [52.56.166.196] => (item=nginx)
ok: [52.56.166.196] => (item=curl)
ok: [52.56.166.196] => (item=sudo)
changed: [52.56.166.196] => (item=ssh)

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

○ mohamedamr@mohamedamr:~/ansible$
```

LOOP OVER A LIST OF PACKAGES AND USE DIFFERENT STATES AS PER INPUT.

```
iti-playbook-lab3.yml
1  - name: lab3
2    gather_facts: false
3    hosts: web_servers
4    tasks:
5      - name: install a web server
6        apt:
7          name: "{{ item.package_name }}"
8          state : "{{item.package_state}}"
9        loop:
10         - {package_name : nginx ,package_state: latest}
11         - {package_name : vim ,package_state: absent}
12         - {package_name : curl ,package_state: latest}
```

```

● mohamedamr@mohamedamr:~/ansible$ ansible-playbook iti-playbook-lab3.yml

PLAY [lab3] *****

TASK [install a web server] *****
ok: [52.56.166.196] => (item={'package_name': 'nginx', 'package_state': 'latest'})
changed: [52.56.166.196] => (item={'package_name': 'vim', 'package_state': 'absent'})
ok: [52.56.166.196] => (item={'package_name': 'curl', 'package_state': 'latest'})

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

```

INSTALL NGINX OR HTTPD DEPENDING ON DISTRIBUTION

```

- name: install nginx (Ubuntu)
  apt:
    name: nginx
    state: latest
  when: ansible_facts['distribution'] == 'Ubuntu'

- name: install httpd (CentOS)
  yum:
    name: httpd
    state: latest
  when: ansible_facts['distribution'] == 'CentOS'

```

RESTART NGINX SERVICE IF DISTRIBUTION IS UBUNTU.

```

- name: restarting nginx (Ubuntu)
  service:
    name: nginx
    state: restarted
  when: ansible_facts['distribution'] == 'Ubuntu'

```

RESTART HTTPD SERVICE IF DISTRIBUTION IS CENTOS.

```

- name: restarting httpd (CentOS)
  service:
    name: httpd
    state: restarted
  when: ansible_facts['distribution'] == 'CentOS'

```

```

● mohamedamr@mohamedamr:~/ansible$ ansible-playbook iti-playbook-lab3.yml

PLAY [lab3] *****

TASK [Gathering Facts] *****
ok: [52.56.166.196]

TASK [install nginx (Ubuntu)] *****
ok: [52.56.166.196]

TASK [install httpd (CentOS)] *****
skipping: [52.56.166.196]

TASK [restarting nginx (Ubuntu)] *****
changed: [52.56.166.196]

TASK [restarting httpd (CentOS)] *****
skipping: [52.56.166.196]

PLAY RECAP *****
52.56.166.196      : ok=3    changed=1    unreachable=0    failed=0    skipped=2    rescued=0    ignored=0

```

VIEW THE VALUE OF YOUR REGISTER VARIABLE USING DEBUG MODULE

```
- name: lab3
gather_facts: true
hosts: web_servers
tasks:
  - name: install a web server
    apt:
      name: "{{ item.package_name }}"
      state: "{{ item.package_state }}"
    loop:
      - { package_name: nginx, package_state: latest }
      - { package_name: vim, package_state: absent }
      - { package_name: curl, package_state: latest }
    register: x

  - name: debug message
    debug:
      msg: "{{ x }}"
```

```
● mohamedamr@mohamedamr:~/ansible$ ansible-playbook iti-playbook-lab3.yml
```

```
PLAY [lab3] *****
```

```
TASK [Gathering Facts] *****
ok: [52.56.166.196]
```

```
TASK [install a web server] *****
ok: [52.56.166.196] => (item={'package_name': 'nginx', 'package_state': 'latest'})
ok: [52.56.166.196] => (item={'package_name': 'vim', 'package_state': 'absent'})
ok: [52.56.166.196] => (item={'package_name': 'curl', 'package_state': 'latest'})
```

```
TASK [debug message] *****
ok: [52.56.166.196] => {
  "msg": {
    "changed": false,
    "msg": "All items completed",
    "results": [
```

RESTART SERVICE IF THE INSTALLATION TASK WAS CHANGED OR WAS NOT FAILED

```
- name: install nginx (Ubuntu)
  apt:
    name: nginx
    state: latest
    update_cache: yes
    register: y

- name: restart service
  service:
    name: nginx
    state: restarted
  when: y.changed or not y.failed
```

- 1.INSTALL A PACKAGE
- 2.COPY A LIST OF FILES (INDEX.HTML & FILE.CSS & FILE.JS) FROM CONTROLLER TO HOST USING LOOP
- 3.RESTART THE SERVICE OF THE INSTALLED PACKAGE

iti-playbook-lab3.yml

```
50 - name: Install Latest Nginx, Copy Files, and Restart Service
51   hosts: web_servers
52   gather_facts: true
53   vars:
54     package_name: "nginx"
55     file_list:
56       - index.html
57       - style.css
58       - script.js
59   tasks:
60     - name: Install Latest Nginx
61       package:
62         name: "{{ package_name }}"
63         state: latest
64       notify: copy_files
65       changed_when: true
66
67   handlers:
68     - name: Copy files from controller to host
69       copy:
70         src: "~/ansible/{{ item }}"
71         dest: "/usr/share/nginx/html/{{ item }}"
72         loop: "{{ file_list }}"
73         notify: Restart Nginx
74         listen: copy_files
75
76     - name: Restart Nginx
77       service:
78         name: "{{ package_name }}"
79         state: restarted
```

```

● mohamedamr@mohamedamr:~/ansible$ ansible-playbook iti-playbook-lab3.yml

PLAY [Install Latest Nginx, Copy Files, and Restart Service] *****

TASK [Gathering Facts] *****
ok: [52.56.166.196]

TASK [Install Latest Nginx] *****
ok: [52.56.166.196]

TASK [Copy files from controller to host] *****
changed: [52.56.166.196] => (item=index.html)
changed: [52.56.166.196] => (item=style.css)
changed: [52.56.166.196] => (item=script.js)

RUNNING HANDLER [Restart Nginx] *****
changed: [52.56.166.196]

PLAY RECAP *****
52.56.166.196          : ok=4    changed=2    unreachable=0    failed=0

```

```

● mohamedamr@mohamedamr:~/ansible$ curl 52.56.166.196
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>HELLO FROM EC2 -ANSIBLE LAB 2</title>

  <!-- Link to your CSS file -->
  <link rel="stylesheet" type="text/css" href="style.css">

  <!-- Include your JavaScript file -->
  <script src="script.js"></script>
</head>
<body>
  <h1>Hello from EC2 - Ansible Lab 2</h1>

  <p>This is a simple HTML page with linked CSS and JavaScript files.</p>
</body>
</html>
● mohamedamr@mohamedamr:~/ansible$

```

← → ↻ ⚠ Not secure | 52.56.166.196

Hello from EC2 - Ansible Lab 3

This is a simple HTML page with linked CSS and JavaScript files.

1. installing a package
2. Copying index.html from controller to host using template
3. copying a list of files (file.css & file.js) from controller to host using loop
4. Restart the service of the installed package

```
- name: Install Latest Apache, Copy Files, and Restart Service
hosts: web_servers
gather_facts: true
vars:
  package_name: "apache2"
  file_list:
    - style.css
    - script.js
  myMessage: "Hello world - Lab 3"
tasks:
  - name: Install Latest Apache
    package:
      name: "{{ package_name }}"
      state: latest
    notify: templatingHtml
    changed_when: true
handlers:
  - name: templatingHtml
    template:
      src: index.html.j2
      dest: "/var/www/html/index.html"
    notify: CopyingCSS-JStoHost

  - name: CopyingCSS-JStoHost
    copy:
      src: "~/ansible/{{ item }}"
      dest: "/var/www/html/{{ item }}"
    notify: Restart Apache

  - name: Restart Apache
    service:
      name: "{{ package_name }}"
      state: restarted
```

```

● mohamedamr@mohamedamr:~/ansible$ ansible-playbook iti-playbook-lab3.yml

PLAY [Install Latest Apache, Copy Files, and Restart Service] *****

TASK [Gathering Facts] *****
ok: [52.56.166.196]

TASK [Install Latest Apache] *****
changed: [52.56.166.196]

RUNNING HANDLER [templatingHtml] *****
changed: [52.56.166.196]

RUNNING HANDLER [CopyingCSS-JStoHost] *****
ok: [52.56.166.196] => (item=style.css)
ok: [52.56.166.196] => (item=script.js)

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

○ mohamedamr@mohamedamr:~/ansible$

```

```

❏ index.html.j2
 1  <!DOCTYPE html>
 2  <html lang="en">
 3  <head>
 4      <meta charset="UTF-8">
 5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
 6      <title>HELLO FROM EC2 -ANSIBLE LAB 3</title>
 7
 8      <!-- Link to your CSS file -->
 9      <link rel="stylesheet" type="text/css" href="style.css">
10
11      <!-- Include your JavaScript file -->
12      <script src="script.js"></script>
13  </head>
14  <body>
15      <h1>{{myMessage}}</h1>
16  </body>
17  </html>

```

← → ↺ ⚠ Not secure | 52.56.166.196

Hello world - Lab 3