

# Tugas 2 Ansible

Disusun oleh:

**Muhammad Amir Al Aqwa**



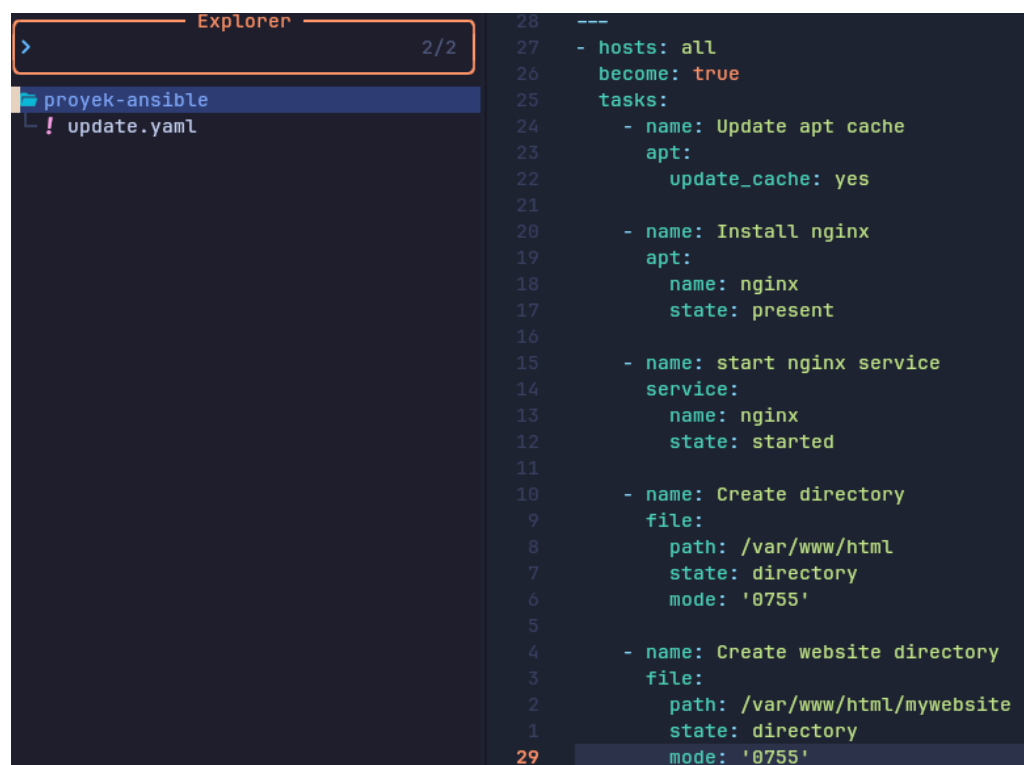
# Pendahuluan

Laporan ini dibuat untuk memenuhi tugas mata kuliah Jaringan Komputer, khususnya pada materi konfigurasi server menggunakan Ansible. Dokumen ini berisi dua bagian utama: (1) pembuatan playbook sederhana untuk menginstal nginx dan membuat direktori, serta (2) implementasi Ansible Roles yang bersifat reusable untuk konfigurasi web server. Setiap tahapan akan dilengkapi dengan screenshot sebagai bukti verifikasi keberhasilan eksekusi.

## Langkah Praktikum

### 1. Pembuatan playbook

1. Pada direktori pengerjaan playbook, buat file playbook dengan nama webserver.yaml dengan isi file sebagai berikut.



```
28 ---
27 - hosts: all
26   become: true
25   tasks:
24     - name: Update apt cache
23       apt:
22         update_cache: yes
21
20     - name: Install nginx
19       apt:
18         name: nginx
17         state: present
16
15     - name: start nginx service
14       service:
13         name: nginx
12         state: started
11
10     - name: Create directory
9       file:
8         path: /var/www/html
7         state: directory
6         mode: '0755'
5
4     - name: Create website directory
3       file:
2         path: /var/www/html/mywebsite
1         state: directory
29         mode: '0755'
```

2. Jalankan playbook dengan perintah sebagai berikut.

```
ansible-playbook -i /etc/ansible/hosts webserver.yaml --ask-become-pass
```

3. Berikut tanda kalau sudah berhasil.

```

< PLAY RECAP >
-----
      \   ^__^
       (oo)\_______
        (__)\       )\/\
           ||----w |
           ||     ||

100.109.201.60      : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=0    ignored=0
192.168.100.215    : ok=1    changed=0    unreachable=0    failed=1    skipped=0    rescued=0    ignored=0

```

```

minkwaq@minkwaq-thinkpad ~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Wed 2025-09-24 13:17:33 WIB; 10s ago
     Invocation: 1ab520dcf04544e7a973fbcbb1dbbba3e
       Docs: man:nginx(8)
    Process: 86283 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0)
    Process: 86285 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0)
   Main PID: 86354 (nginx)
      Tasks: 5 (limit: 8580)
     Memory: 4.5M (peak: 11.1M)
        CPU: 61ms
      CGroup: /system.slice/nginx.service
              └─86354 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
                 └─86356 "nginx: worker process"
                    └─86357 "nginx: worker process"
                       └─86358 "nginx: worker process"
                          └─86359 "nginx: worker process"

Sep 24 13:17:33 minkwaq-thinkpad systemd[1]: Starting nginx.service - A high performance web server.
Sep 24 13:17:33 minkwaq-thinkpad systemd[1]: Started nginx.service - A high performance web server.
lines 1-20/20 (END)

```

## 2. Implementasi ansible roles

1. Pada control nodes, buat folder kerja baru dan buat juga file dengan struktur berikut.

```

0s ~ $ mkdir -p /Kuliah/SIB/8#/proyek-ansible/roles/nginx/{tasks,handlers,templates,files,vars,meta,defaults}
0s ~ $ tree roles/
roles/
└── nginx
    ├── defaults
    ├── files
    ├── handlers
    ├── meta
    ├── tasks
    ├── templates
    └── vars

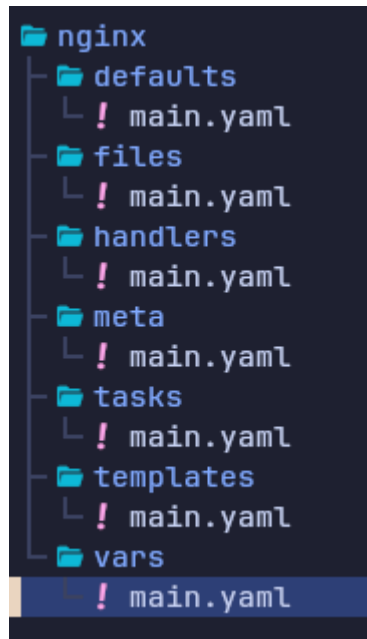
```

2. Lalu buat file seperti ini

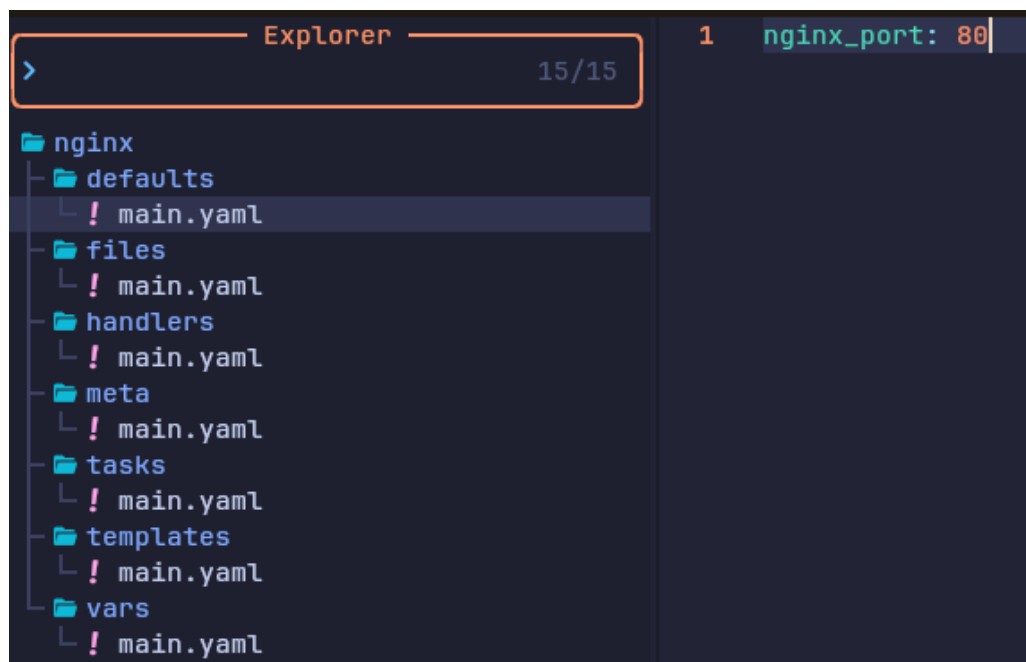
```

0s ~ $ touch roles/nginx/tasks/main.yml roles/nginx/handlers/main.yml roles/nginx/templates/main.yml roles/nginx/meta/main.yml

```



3. Isi file main.yaml pada folder defaults,



4. Folder templates, nginx.conf.j2,

```
22 worker_processes auto;
21
20 events {
19     worker_connections 1024;
18 }
17
16 http {
15     include mime.types;
14     default_type application/octet-stream;
13     ---
12     sendfile on;
11     keepalive_timeout 65;
10     ---
9     server {
8         listen 80;
7         server_name localhost;
6         ---
5         location / {
4             root html;
3             index index.html index.htm;
2         }
1     }
23 }
```

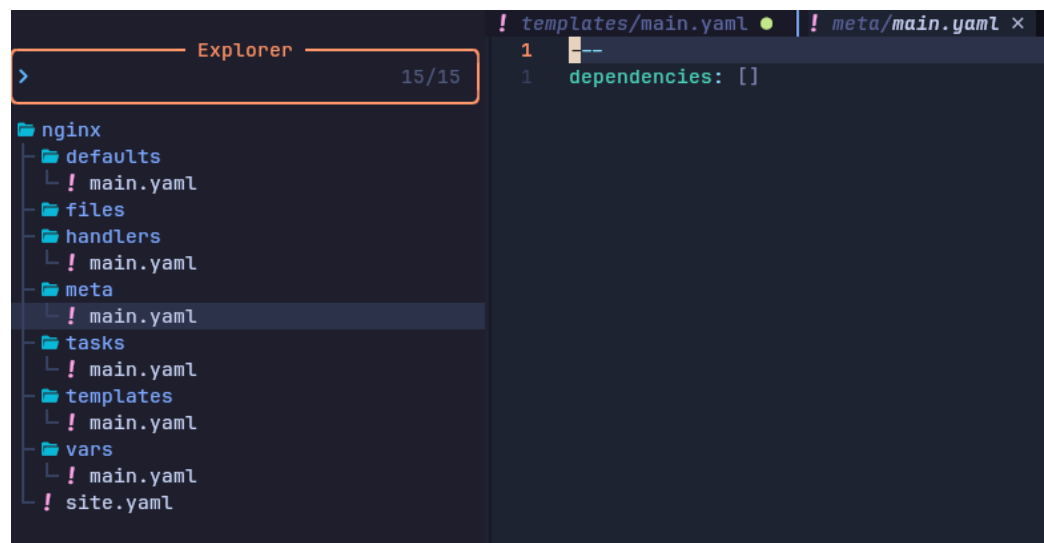
## 5. Folder tasks,

```
! templates/main.yaml ● | ! tasks/main.yaml x
9 - name: Install Nginx
8   apt:
7     name: nginx
6     state: present
5
4 - name: Copy Nginx configuration files
3   template:
2     src: nginx.conf.j2
1     dest: /etc/nginx/nginx.conf
10  notify: Restart Nginx
```

## 6. Folder handlers,

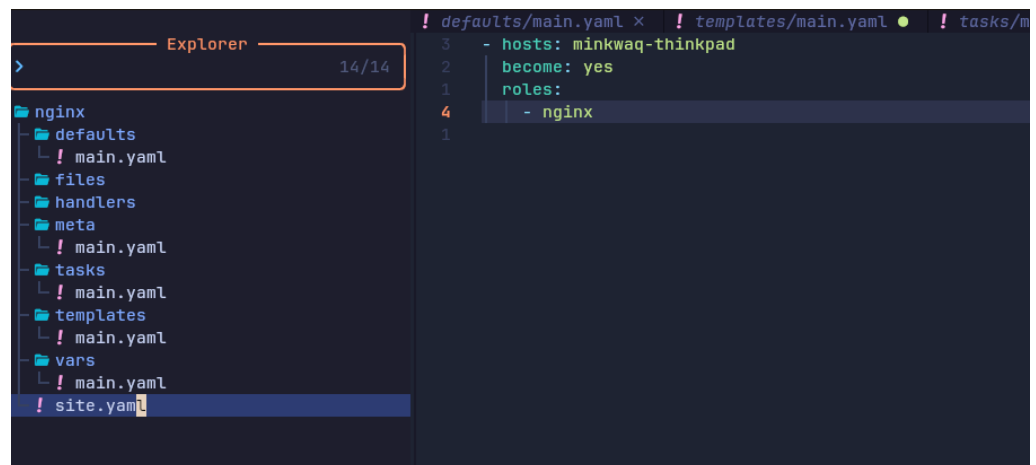
```
! defaults/main.yaml x | ! templates/main.yaml ● | ! handlers/main.yaml x
8 - name: Restart Nginx
7   service:
6     name: nginx
5     state: restarted
4
3 - name: Start Nginx
2   service:
1     name: nginx
9     state: started
```

## 7. Folder meta,



```
! templates/main.yaml | ! meta/main.yaml x
1  --
1  dependencies: []
```

## 8. Selanjutnya buat playbook dengan isi seperti ini.



```
! defaults/main.yaml x | ! templates/main.yaml | ! tasks/m
3  - hosts: minkwaq-thinkpad
2  |   become: yes
1  |   roles:
4  |     - nginx
1
```

```
• ► tree
.
├── roles
│   └── nginx
│       ├── defaults
│       │   └── main.yaml
│       ├── files
│       ├── handlers
│       │   └── main.yaml
│       ├── meta
│       │   └── main.yaml
│       ├── tasks
│       │   └── main.yaml
│       ├── templates
│       │   └── nginx.conf.j2
│       └── vars
│           └── main.yaml
├── site.yaml
├── update.yaml
└── webserver.yaml
```

9. Lalu jalankan playbook.

```
• ► ansible-playbook -i /etc/ansible/hosts site.yaml --ask-become-pass
BECOME password:

100.109.201.60      : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=
=0    ignored=0
192.168.100.215    : ok=4    changed=2    unreachable=0    failed=0    skipped=0    rescued=
=0    ignored=0
```

10. Lakukan perintah berikut untuk verifikasi.

```
minkwaq@minkwaq-thinkpad ~$ curl http://localhost
<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
html { color-scheme: light dark; }
body { width: 35em; margin: 0 auto;
font-family: Tahoma, Verdana, Arial, sans-serif; }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
minkwaq@minkwaq-thinkpad ~$ |
```

## Penutup

Dengan demikian, laporan ini telah berhasil mendemonstrasikan kemampuan Ansible dalam mengotomatisasi konfigurasi server, mulai dari playbook sederhana hingga penggunaan Ansible Roles untuk pengelolaan yang lebih terstruktur dan efisien. Seluruh task yang diberikan telah berhasil dieksekusi dengan baik, sebagaimana dibuktikan oleh screenshot yang disertakan.