# LAPORAN INSTALASI DAN KONFIGURASI NGINX, GOLANG, DAN PENGUJIAN API



**Disusun Oleh:** 

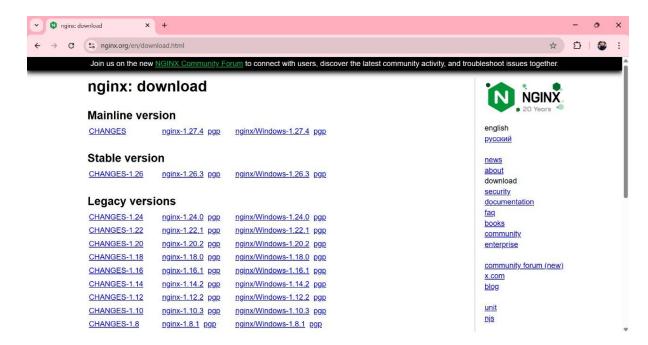
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**TOPIK KHUSUS** 

PRODI TEKNOLOGI REKAYASA PERANGKAT LUNAK
JURUSAN TEKNOLOGI INFORMASI
POLITEKNIK NEGERI PADANG
2025

### 1. DOWNLOAD DAN INSTALL NGINX

a. Unduh NGINX dengan versi windows dengan klik nginx/Windowa-1.27.4



b. Extract file yang telah di unduh, buka CMD lalu ketik start nginx.



c. Buka Chrome, lalu akses localhost. NGINX sudah bisa diakses pada localhost.



## 2. ATUR KONFIGURASI NGINX

- a. Edit file konfigurasi nginx pada file nginx.conf
- b. Tambahkan konfigurasi, berikut kodingannya.

```
X File Edit Selection View Go Run ...
                                                                                                    O nginx-1.27.4
                                                                                                                                                                       □ ...
                                   a nainx.conf X
0
        EXPLORER
       ∨ NGINX-1.27.4
                                   conf > # nginx.conf
        ∨ conf
0
                                     17 http {

    fastcgi_params

                                    110
                                                      location / {
  root html;
  index index.html index.htm;
         fastcgi.conf
 go
                                    112
                                    113
          ≡ koi-win
$
                                    114
115
         mime.types
        nginx.conf
upstream golang_backend {
          scgi_params
          uwsgi_params
                                    118
119
                                                     server 127.0.0.1:8081;
server 127.0.0.1:8082;

    win-utf

                                    120
                                           server 127.0.0.1:8083;
         > contrib
                                    121
122
         > docs
                                    123
         > logs
                                    124
125
                                                     listen 8080;
server_name localhost;
         > temp
         nginx.exe
                                                          proxy_pass http://golang_backend;
proxy_set_header Host $host;
proxy_set_header X-Real-IP $remote_addr;
proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
                                    128
                                    130
                                    131
                                    132
8
                                    134
135
       > OUTLINE
                                    136
       > TIMELINE
                                                                                                                                          Ln 120, Col 31 Spaces: 4 UTF-8 CRLF Properties ⊘ Prettier 🕻
```

c. Selanjutnya, restart nginx.

# 3. INSTALASI GOLANG DI WINDOWS

- a. Download Golang di website berikut <a href="https://go.dev/doc/install">https://go.dev/doc/install</a>
- b. Install aplikasi seperti biasa.
- c. Setelah berhasil di install, check versi golang pada CMD.

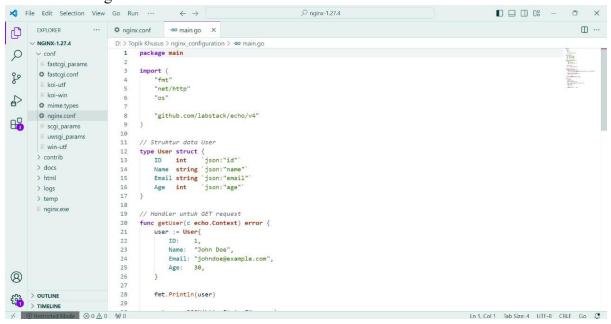
```
Microsoft Windows [Version 10.0.26100.3194]
(c) Microsoft Corporation. All rights reserved.

C:\Users\desya>go version
go version go1.24.1 windows/amd64

C:\Users\desya>
```

## 4. JALANKAN APLIKASI GOLANG

a. Buka file main.go



- b. Jalankan file main.go di terminal untuk port berikut:
  - PORT "8081"

```
	imes File Edit Selection View Go Run \cdots \leftarrow \rightarrow

    □ nginx_configuration

                               ∞ main.go ×
     EXPLORER
0
      ∨ NGINX_CONFIGURATION
                                 49 func main() {
 0
     ♦ .gitignore
                                           // Define routes
go
                                 52
                                          e.GET("/user", getUser)
e.POST("/user/create", createUser)
       image1.png
                                 53
                                54
55
56
57
       o main.go
                                         // Ambil port dari environment variable, default ke 8080
port := os. Getenv("PORT")
if port == "" {
    port = "8080"
}
d
S
       ① README.md
6
                                 58
59
•
                                 60
61
                                 62
                                           // Jalankan server
 (
                                 63
64
                                           e.Logger.Fatal(e.Start(":" + port))
                                 65
                                PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE
                                                                                                                                                    ≥ go + ~ □ 🛍 …

    PS D:\Topik Khusus\nginx_configuration> $env:PORT = "8081"
    PS D:\Topik Khusus\nginx_configuration> go run main.go

                                8
> OUTLINE > TIMELINE
× $º main → ⊗ 0 <u>∧</u> 0
                                                                                                                       Ln 1, Col 1 Tab Size: 4 UTF-8 CRLF Go ⊘ Pretti
```

### • Port "8082"

```
★ File Edit Selection View Go Run ··· ← →

    □ nginx_configuration

0
                                ∞ main.go ×
      ∨ NGINX_CONFIGURATION
                                 oo main.go
0
                                         func getUser(c echo.Context) error {
       .gitignore
                                       user := User{
}
                                   21
go
       □ image1.png
                                  fmt.Println(user)

fmt.Println(user)

return c.JSON(http.StatusOK, user)

}

// HandLer untuk POST request
     co main.go
C<sub>B</sub>
       ① README.md
6
                                  34
35
                                        func createUser(c echo.Context) error {
4
                                            if err := c.Bind(&user); err != nil {
    return c.JSON(http.StatusBadRequest, map[string|string{"error": "Invalid JSON data"})
}
                                             var user User
                                   36
37
0
                                   38
39
                                            response := map[string]interface{}{
   "message": "User created successfully",
                                   40
                                  41
                                 PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE
                                                                                                                                                            ≥ go + ~ □ 🛍 ···
                                • PS D:\Topik Khusus\nginx_configuration> $env:PORT = "8082"

• PS D:\Topik Khusus\nginx_configuration> go run main.go
                                  8
> outline > timeline
```

• Port "8083"

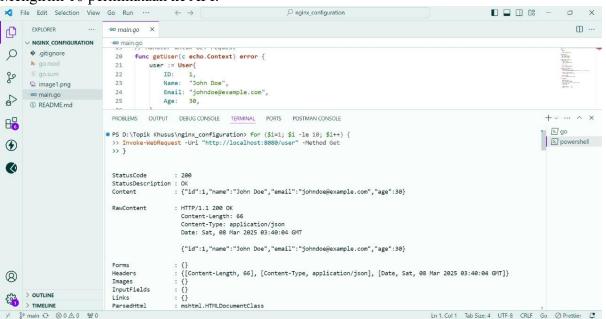
```
	imes File Edit Selection View Go Run \cdots \longleftrightarrow

    □ nginx_configuration

                            o main.go ×
0
      EXPLORER
       NGINX_CONFIGURATION
0
                                    func getUser(c echo.Context) error {
       .gitignore
                              21
26
27
                                   user := User{
go
      image1.png
                              28
29
                                       fmt.Println(user)
d >
      ① README.md
                              30
31 }
                                      return c.JSON(http.StatusOK, user)
6
                              32
                                   // Handler untuk POST request
                                   func createUser(c echo.Context) error {
•
                                       var user User
if err := c.Bind(&user); err != nil {
                              35
0
                                           return c.JSON(http.StatusBadRequest, map[string]string{"error": "Invalid JSON data"})
                              37
                             PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE
                                                                                                                                          ≥ go + ∨ □ 🛍 …
                            PS D:\Topik Khusus\nginx_configuration> $env:PORT = "8083"
PS D:\Topik Khusus\nginx_configuration> go run main.go
                              /_/__/__/ v4.13.3
High performance, minimalist Go web framework
                              https://echo.labstack.com
8
                             ⇒ http server started on [::]:8083
     > OUTLINE
     > TIMELINE
Ln 1, Col 1 Tab Size: 4 UTF-8 CRLF Go ⊘ Pretti
```

## 5. MENGGUNAKAN POWERSHELL UNTUK PENGUJIAN API

a. Mengirim 10 perminataan ke API.



b. Mengirim 10 permintaan POST ke api.

```
	imes File Edit Selection View Go Run \cdots \longleftrightarrow
                                                                                                                                                                                                                           □ □ □ □ · · · · ×

∠ nginx_configuration

                                              -so main.go ×
                                                                                                                                                                                                                                                                □ ...
0
         EXPLORER
                                               func getUser(c echo.context) error {

1     user := User(

21     ID: 1,

23     Name: "John Doe",

24     Email: "johndoe@example.com",

25     Age: 30,

∨ NGINX_CONFIGURATION

0

    gitignore

 go
           image1.png
         ● main.go

③ README.md
 $
                                                                                                                                                                                                                                                   +~ ··· ^ ×
                                                PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE
₽
                                                                                                                                                                                                                                                  ■ ≥ go
                                               PS D:\Topik Khusus\nginx_configuration> for ($i=1; $i -le 10; $i++) {

>> $jsonData = @{

id = $i

>> id = $i

>> name = "Alice$i"

>> email = "alice$i@example.com"

age = 25

>> } | ConvertTo-Json -Compress

>> Invoke-WebRequest -Uri "http://localhost:8080/user/create"

>> -Method Post

>> -Headers @{"Content-Type"="application/json"}

>> -Body $jsonData
 •
 0
                                                         Invoke-WebRequest -Uri "http://localhost:8080/user/create" `
-Method Post `
-Headers @{"Content-Type"="application/json"} `
-Body $jsonData
                                                                                                                                                                                                                                                  ı
                                                StatusCode : 201
StatusDescription : Created
Content : {"message":"User created
successfully","user":{"id":1,"name":"Alice1","email":"alice1@example.com","age":25}}
8
> OUTLINE > TIMELINE
                                                                                                                                                                 Ln 1, Col 1 Tab Size: 4 UTF-8 CRLF Go ⊘ Prettier 🗗
>< % main → ⊗ 0 △ 0 % 0
```