LAPORAN PRAKTEK TOPIK KHUSUS

INSTALASI & KONFIGURASI NGINX, GOLANG, PENGUJIAN API

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TEKNOLOGI INFORMASI

TEKNOLOGI REKAYASA PERANGKAT LUNAK

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Langkah Kerja

1. Instalasi dan Konfigurasi

   -Instalasi Echo Framework

```
khairul@ASUS:~/nginx_configuration$ go install github.com/labstack/echo/v4@latest
go: downloading github.com/labstack/echo/v4 v4.13.3
go: downloading github.com/labstack/echo v3.3.10+incompatible
go: downloading github.com/labstack/gommon v0.4.2
go: downloading golang.org/x/crypto v0.31.0
go: downloading golang.org/x/net v0.33.0
go: downloading github.com/mattn/go-colorable v0.1.13
go: downloading github.com/mattn/go-isatty v0.0.20
go: downloading github.com/valyala/fasttemplate v1.2.2
go: downloading golang.org/x/text v0.21.0
go: downloading golang.org/x/sys v0.28.0
go: downloading github.com/valyala/bytebufferpool v1.0.0
package github.com/labstack/echo/v4 is not a main package
```

- Lalu lakukan git clone untuk menjalankan kode dari repository github ke local

```
khairul@ASUS: ~/nginx_confi
Setting up libheif-plugin-libde265:amd64 (1.17.6-1ubuntu4.1) ...
Setting up libheif-plugin-aomenc:amd64 (1.17.6-1ubuntu4.1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...
Processing triggers for man-db (2.12.0-4build2) ...
khairul@ASUS:~$ echo 'export GOPATH=$HOME/go' >> ~/.profile
echo 'export PATH=$PATH:$GOPATH/bin' >> ~/.profile
source ~/.profile
khairul@ASUS:~$ git clone https://github.com/kusnadi8605/nginx_configuration
cd nginx_configuration
Cloning into 'nginx_configuration'...
remote: Enumerating objects: 32, done.
remote: Counting objects: 100% (32/32), done.
remote: Compressing objects: 100% (22/22), done.
remote: Total 32 (delta 8), reused 28 (delta 7), pack-reused 0 (from 0)
Receiving objects: 100% (32/32), 372.84 KiB | 408.00 KiB/s, done.
Resolving deltas: 100% (8/8), done.
khairul@ASUS:~/nginx_configuration$ go get -u github.com/labstack/echo/v4
go: go.mod file not found in current directory or any parent directory.
        'go get' is no longer supported outside a module.
        To build and install a command, use 'go install' with a version,
        like 'go install example.com/cmd@latest'
        For more information, see https://golang.org/doc/go-get-install-deprecation
        or run 'go help get' or 'go help install'.
khairul@ASUS:~/nginx_configuration$ go get -u github.com/labstack/echo/v4
go: go.mod file not found in current directory or any parent directory.
        'go get' is no longer supported outside a module.
        To build and install a command, use 'go install' with a version,
        like 'go install example.com/cmd@latest'
        For more information, see https://golang.org/doc/go-get-install-deprecation
        or run 'go help get' or 'go help install'.
```

- Selanjutnya melakukan inisialisasi untuk modul golang

```
khairul@ASUS:~/nginx_configuration$ go mod init nginx_configuration
go mod tidy
go mod vendor
go: creating new go.mod: module nginx_configuration
go: to add module requirements and sums:
        go mod tidy
go: finding module for package github.com/labstack/echo/v4
go: found github.com/labstack/echo/v4 in github.com/labstack/echo/v4 v4.13.3
go: downloading github.com/stretchr/testify v1.10.0
go: downloading gopkg.in/yaml.v3 v3.0.1
go: downloading github.com/davecgh/go-spew v1.1.1
go: downloading github.com/pmezard/go-difflib v1.0.0
khairul@ASUS:~/nginx_configuration$ PORT=8081 go run main.go
```

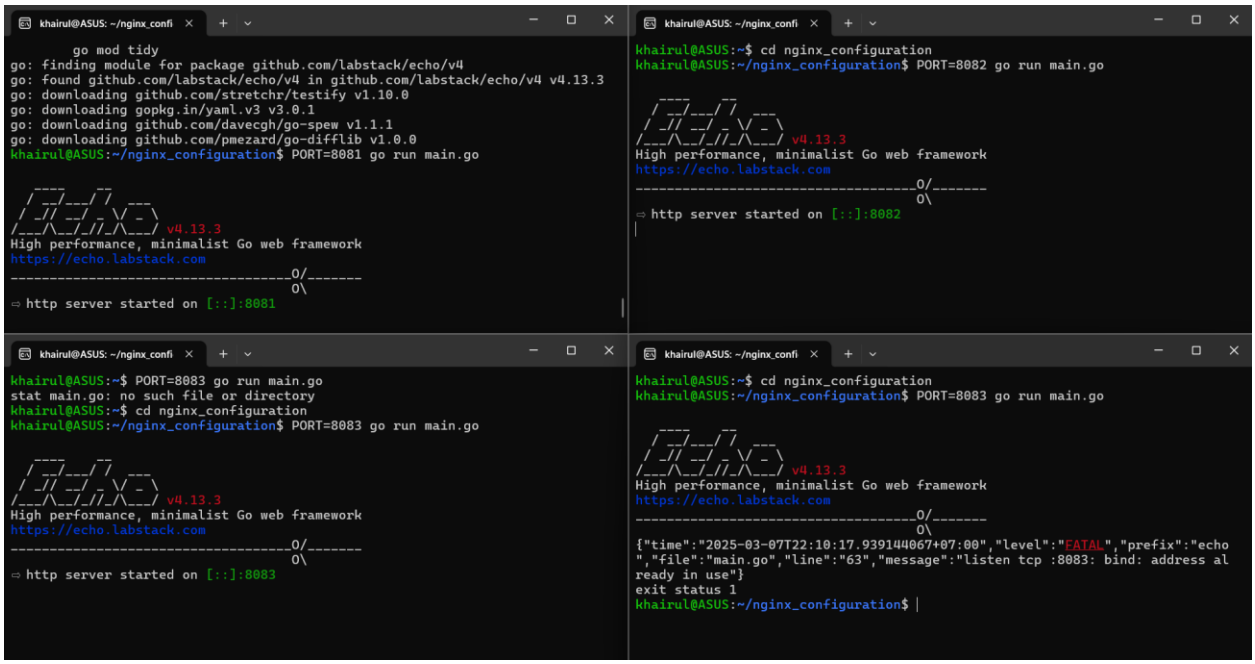
2. Jalankan Aplikasi Golang

   - Setelah melakukan instalasi dan konfigurasi sekarang file main.go sudah siap dijalankan pada tiga port sekaligus.

   - Port: 8081

   - Port: 8082

   - Port: 8083



   - Semua port berhasil dijalankan dengan sukses.

3. Pengujian API

- Mengirim request 10 kali dengan curl

```
khairul@ASUS:~/nginx_configuration$ for i in {1..10}; do curl -X GET http://localhost:8080/user; done
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
khairul@ASUS:~/nginx_configuration$ for i in {1..10}; do
  curl -X POST http://localhost:8080/user/create \
       -H "Content-Type: application/json" \
       -d "{\"id\": $i, \"name\": \"Alice$i\", \"email\": \"alice$i@example.com\", \"age\": 25}"
done
{"message":"User created successfully","user":{"id":1,"name":"Alice1","email":"alice1@example.com","age":25}}
{"message":"User created successfully","user":{"id":2,"name":"Alice2","email":"alice2@example.com","age":25}}
{"message":"User created successfully","user":{"id":3,"name":"Alice3","email":"alice3@example.com","age":25}}
{"message":"User created successfully","user":{"id":4,"name":"Alice4","email":"alice4@example.com","age":25}}
{"message":"User created successfully","user":{"id":5,"name":"Alice5","email":"alice5@example.com","age":25}}
{"message":"User created successfully","user":{"id":6,"name":"Alice6","email":"alice6@example.com","age":25}}
{"message":"User created successfully","user":{"id":7,"name":"Alice7","email":"alice7@example.com","age":25}}
{"message":"User created successfully","user":{"id":8,"name":"Alice8","email":"alice8@example.com","age":25}}
{"message":"User created successfully","user":{"id":9,"name":"Alice9","email":"alice9@example.com","age":25}}
{"message":"User created successfully","user":{"id":10,"name":"Alice10","email":"alice10@example.com","age":25}}
khairul@ASUS:~/nginx_configuration$ |
```

-Testing API GET dan POST menggunakan Curl

```
khairul@ASUS: ~/nginx_confi
khairul@ASUS:~$ cd nginx_configuration
khairul@ASUS:~/nginx_configuration$ curl -X GET http://localhost:8080/user
{"id":1,"name":"John Doe","email":"johndoe@example.com","age":30}
khairul@ASUS:~/nginx_configuration$ curl -X POST http://localhost:8080/user/create \
     -H "Content-Type: application/json" \
     -d '{"id": 2, "name": "Alice", "email": "alice@example.com", "age": 25}'
{"message":"User created successfully","user":{"id":2,"name":"Alice","email":"alice@example.com","age":25}}
khairul@ASUS:~/nginx_configuration$ |
```