Task: Build Dockerfile to Docker Image

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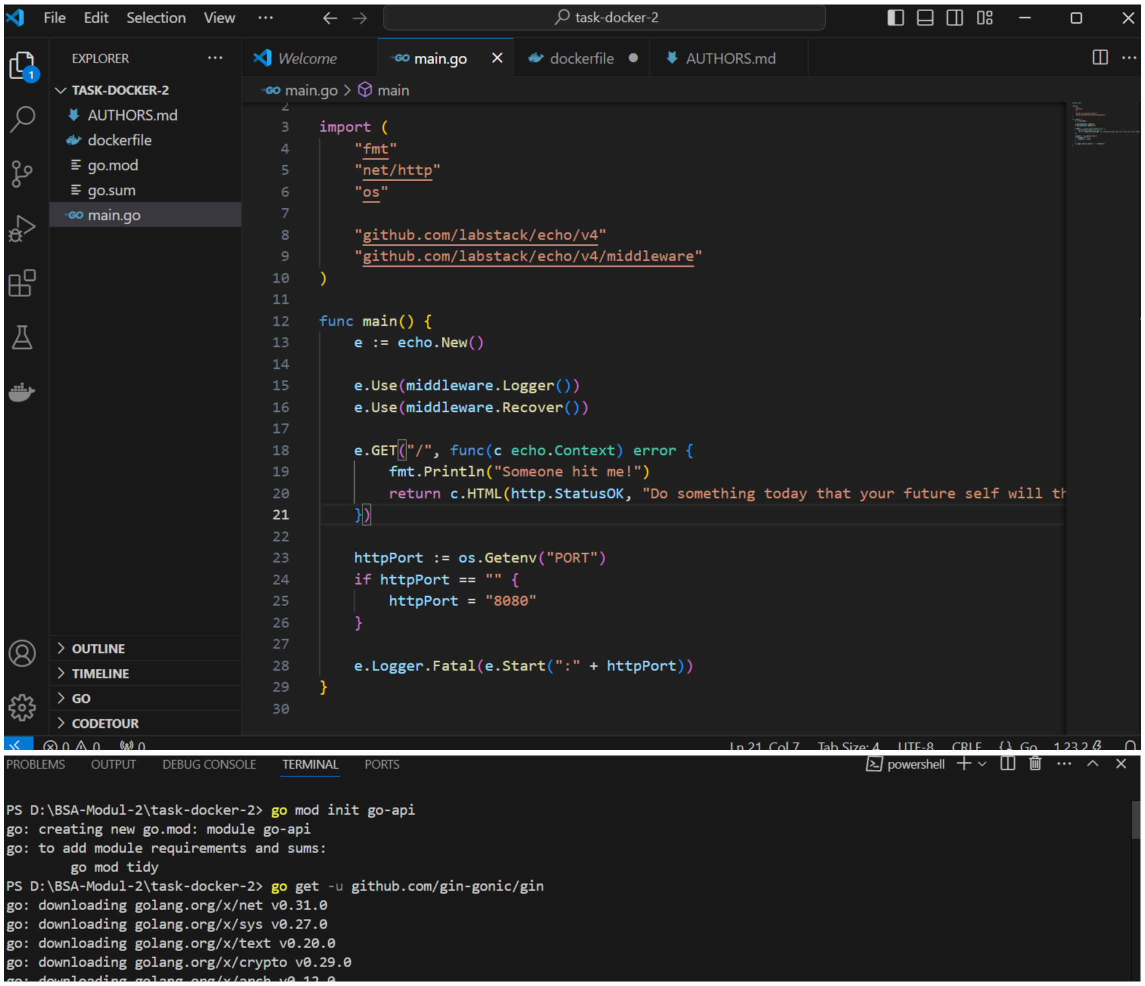
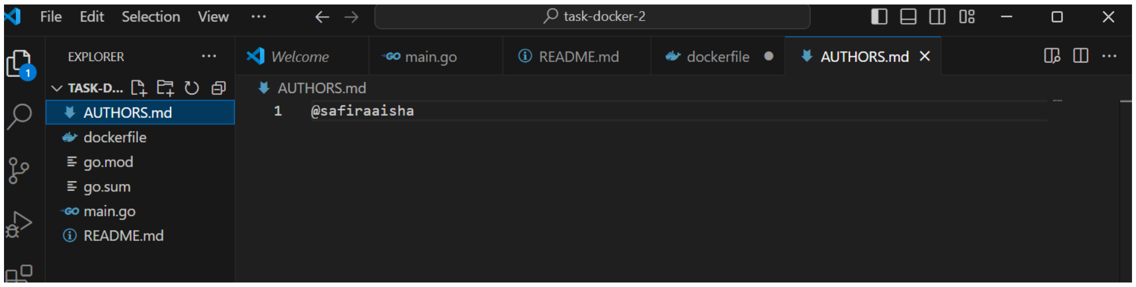
1. Create a simple golang project that serve http



```go
import (
    "fmt"
    "net/http"
    "os"

    "github.com/labstack/echo/v4"
    "github.com/labstack/echo/v4/middleware"
)

func main() {
    e := echo.New()

    e.Use(middleware.Logger())
    e.Use(middleware.Recover())

    e.GET("/", func(c echo.Context) error {
        fmt.Println("Someone hit me!")
        return c.HTML(http.StatusOK, "Do something today that your future self will th
    })

    httpPort := os.Getenv("PORT")
    if httpPort == "" {
        httpPort = "8080"
    }

    e.Logger.Fatal(e.Start(":" + httpPort))
}
```

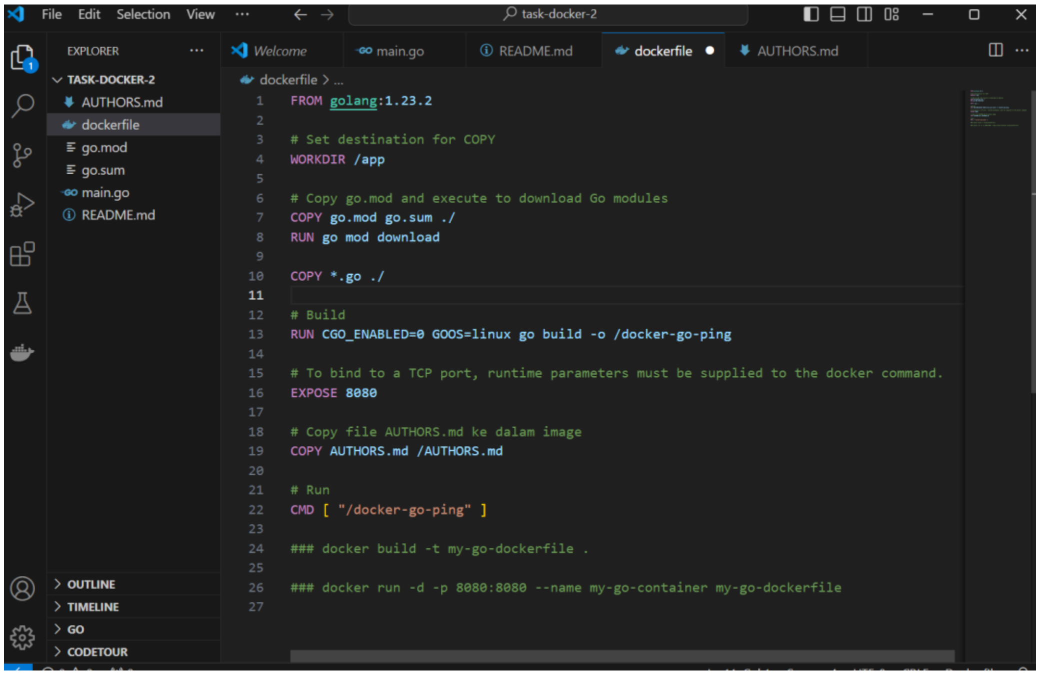
```
PS D:\BSA-Modul-2\task-docker-2> go mod init go-api
go: creating new go.mod: module go-api
go: to add module requirements and sums:
        go mod tidy
PS D:\BSA-Modul-2\task-docker-2> go get -u github.com/gin-gonic/gin
go: downloading golang.org/x/net v0.31.0
go: downloading golang.org/x/sys v0.27.0
go: downloading golang.org/x/text v0.20.0
go: downloading golang.org/x/crypto v0.29.0
```

2. Create a new file “AUTHORS.md” in your golang project and fill with your github username @safiraaisha



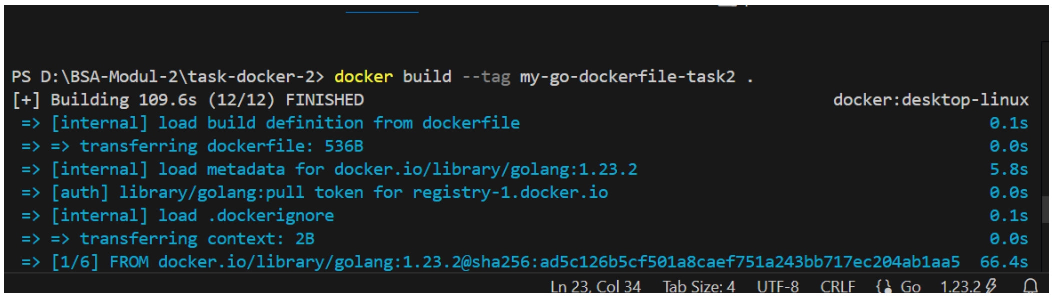
```
@safiraaisha
```

3. Create a Dockerfile to build and run your golang project



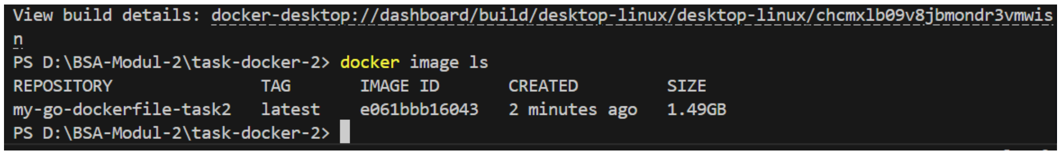
```dockerfile
FROM golang:1.23.2

# Set destination for COPY
WORKDIR /app

# Copy go.mod and execute to download Go modules
COPY go.mod go.sum ./
RUN go mod download

COPY *.go ./

# Build
RUN CGO_ENABLED=0 GOOS=linux go build -o /docker-go-ping

# To bind to a TCP port, runtime parameters must be supplied to the docker command.
EXPOSE 8080

# Copy file AUTHORS.md ke dalam image
COPY AUTHORS.md /AUTHORS.md

# Run
CMD [ "/docker-go-ping" ]

### docker build -t my-go-dockerfile .

### docker run -d -p 8080:8080 --name my-go-container my-go-dockerfile
```

4. Run the image into container with name “my-go-dockerfile-task2” and expose to host port 8080

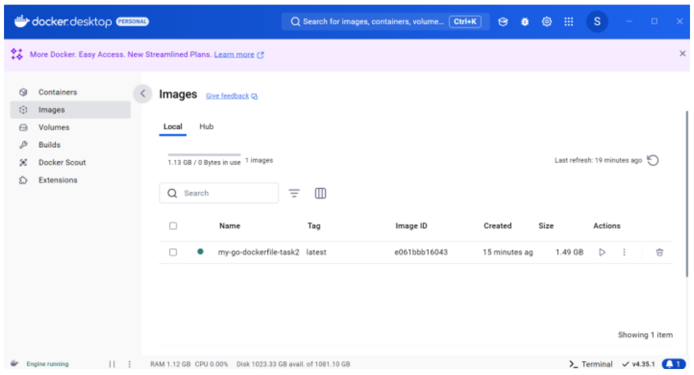


```
PS D:\BSA-Modul-2\task-docker-2> docker build --tag my-go-dockerfile-task2 .
[+] Building 109.6s (12/12) FINISHED                                     docker:desktop-linux
 => [internal] load build definition from dockerfile                                     0.1s
 => => transferring dockerfile: 536B                                                     0.0s
 => [internal] load metadata for docker.io/library/golang:1.23.2                         5.8s
 => [auth] library/golang:pull token for registry-1.docker.io                            0.0s
 => [internal] load .dockerignore                                                        0.1s
 => => transferring context: 2B                                                          0.0s
 => [1/6] FROM docker.io/library/golang:1.23.2@sha256:ad5c126b5cf501a8caef751a243bb717ec204ab1aa5  66.4s
```

5. Verified the image was successfully added : docker image ls



```
View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/chcmxlb09v8jbmondr3vmwis
n
PS D:\BSA-Modul-2\task-docker-2> docker image ls
REPOSITORY               TAG       IMAGE ID       CREATED         SIZE
my-go-dockerfile-task2   latest    e061bbb16043   2 minutes ago   1.49GB
PS D:\BSA-Modul-2\task-docker-2>
```



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1 images
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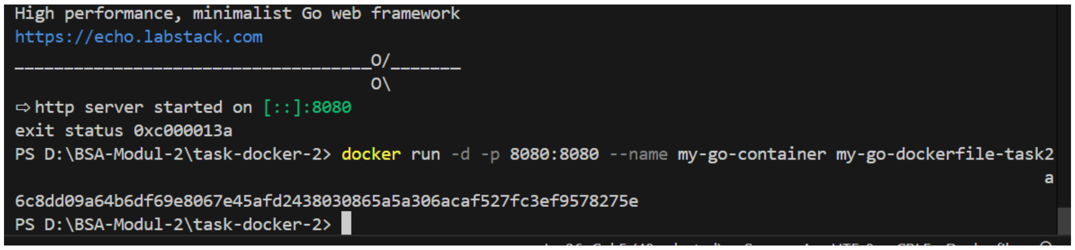
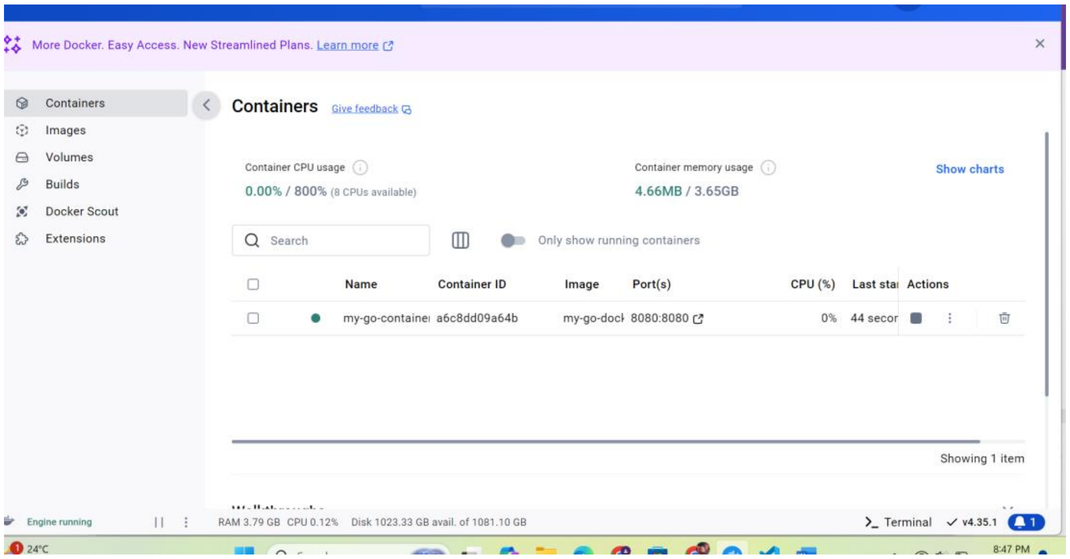
Search
Showing 1 item
Engine running
RAM 1.12 GB CPU 0.00% Disk 1023.33 GB avail. of 1081.10 GB
Terminal
v4.35.1

	Name	Tag	Image ID	Created	Size	Actions
●	my-go-dockerfile-task2	latest	e061bbb16043	15 minutes ag	1.49 GB	

6. Run the Docker container using the docker run command, where we will name the container and connect it to the appropriate port.



```
High performance, minimalist Go web framework
https://echo.labstack.com
____________________________________O/_______
                                    O\
⇨ http server started on [::]:8080
exit status 0xc000013a
PS D:\BSA-Modul-2\task-docker-2> docker run -d -p 8080:8080 --name my-go-container my-go-dockerfile-task2
                                                                                                        a
6c8dd09a64b6df69e8067e45afd2438030865a5a306acaf527fc3ef9578275e
PS D:\BSA-Modul-2\task-docker-2> 
```



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Container CPU usage 0.00% / 800% (8 CPUs available)

Container memory usage 4.66MB / 3.65GB

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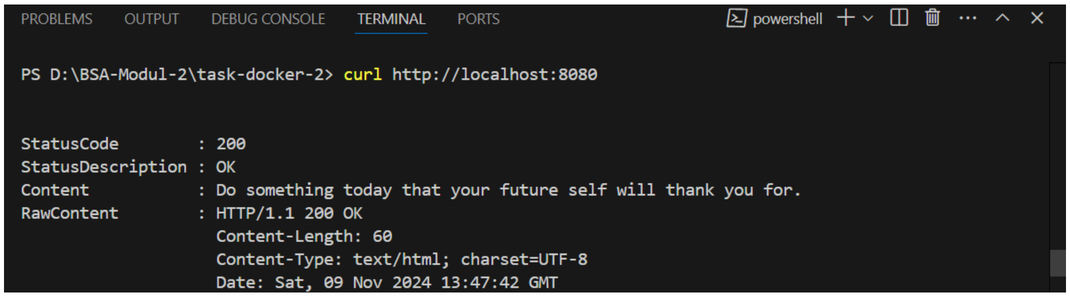
		Name	Container ID	Image	Port(s)	CPU (%)	Last sta	Actions
☐	●	my-go-containe	a6c8dd09a64b	my-go-docl	8080:8080	0%	44 secor	

Showing 1 item

Engine running RAM 3.79 GB CPU 0.12% Disk 1023.33 GB avail. of 1081.10 GB Terminal v4.35.1

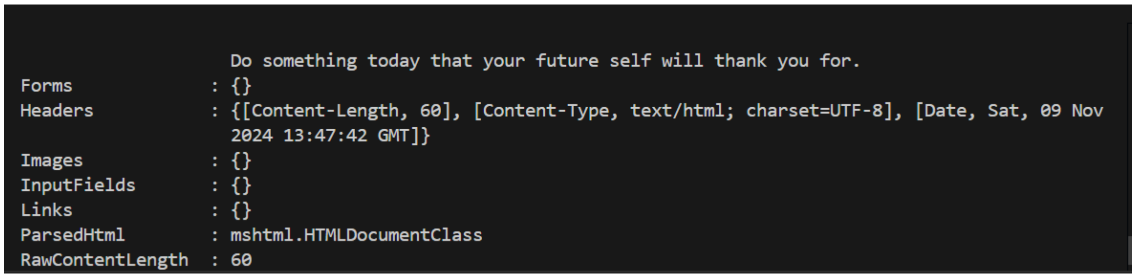
24°C 8:47 PM

7. test the application by accessing http://localhost:8080 in a browser or using curl in the terminal:

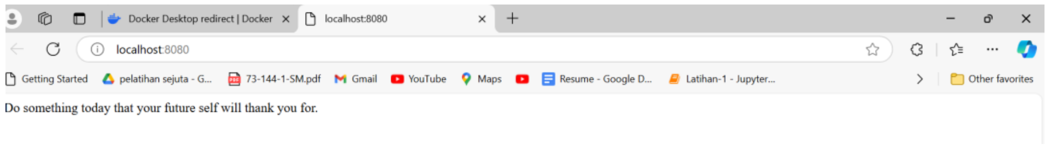


```
PS D:\BSA-Modul-2\task-docker-2> curl http://localhost:8080


StatusCode        : 200
StatusDescription : OK
Content           : Do something today that your future self will thank you for.
RawContent        : HTTP/1.1 200 OK
                    Content-Length: 60
                    Content-Type: text/html; charset=UTF-8
                    Date: Sat, 09 Nov 2024 13:47:42 GMT
```

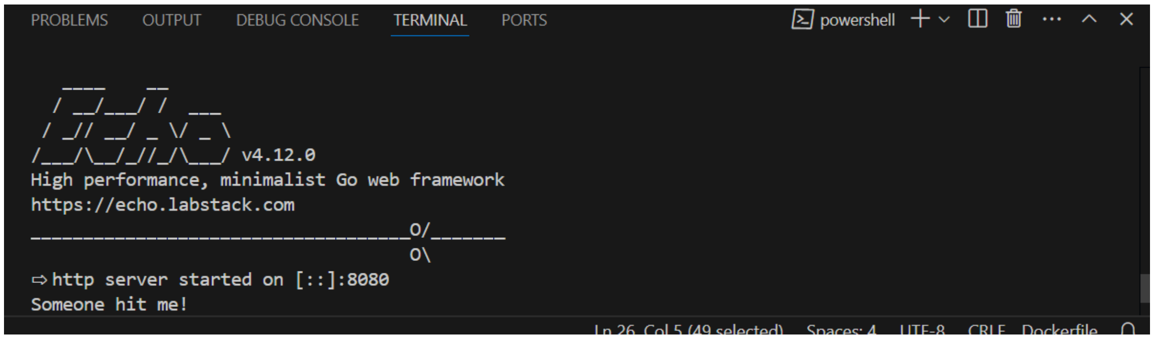


```
                    Do something today that your future self will thank you for.
Forms             : {}
Headers           : {[Content-Length, 60], [Content-Type, text/html; charset=UTF-8], [Date, Sat, 09 Nov
                    2024 13:47:42 GMT]}
Images            : {}
InputFields       : {}
Links             : {}
ParsedHtml        : mshtml.HTMLDocumentClass
RawContentLength  : 60
```



Do something today that your future self will thank you for.

8. View Logs from Container



```
   ____    __
  / __/___/ /  ___
 / _// __/ _ \/ _ \
/___/\__/_//_/\___/ v4.12.0
High performance, minimalist Go web framework
https://echo.labstack.com
____________________________________O/_______
                                    O\
⇨ http server started on [::]:8080
Someone hit me!
```