Datetime App – Dockerized Go Web Application(screenshots in the end of the page)

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🔨 Objective

To create a simple web application in Go that returns the current datetime, containerize it using Docker, and run it locally on port 8080.

🛠️ Project Structure

```
datetime-app/
├── main.go
├── go.mod
├── Dockerfile
└── .dockerignore
```

1️⃣ Go Application Code

main.go

```go
package main

import (
        "fmt"
        "net/http"
        "time"
)

func handler(w http.ResponseWriter, r *http.Request) {
        currentTime := time.Now().Format("2006-01-02 15:04:05")
```

```go
        fmt.Fprintf(w, "Current DateTime: %s", currentTime)
}

func main() {
        http.HandleFunc("/", handler)
        fmt.Println("Starting server on :8080...")
        http.ListenAndServe(":8080", nil)
}
```

2 Initialize Go Module

Open terminal and run:
go mod init datetime-app
go mod tidy

3 Create Dockerfile

Dockerfile

```dockerfile
FROM golang:1.20

WORKDIR /app
COPY . .
RUN go build -o app

EXPOSE 8080
CMD ["./app"]
```

4 Create .dockerignore

.dockerignore

```
Dockerfile
*.md
```

5️⃣ Build Docker Image

docker build -t danish0/datetime-app:latest .

✅ This compiles the Go app and packages it in a container.

6️⃣ Run Docker Container

docker run -p 8080:8080 danish0/datetime-app:latest

🌐 Open browser and go to: http://localhost:8080
You should see the current date and time printed.

📋 Optional: Push to Docker Hub

docker login
docker push danish0/datetime-app:latest

Others can run it via:
docker run -p 8080:8080 danish0/datetime-app:latest

☑️ Conclusion

This project demonstrates how to:
- Write a simple web server in Go.
- Use Go modules.
- Build and run Go code in a Docker container.
- Expose services via Docker ports.

Directory:

Name	Date modified	Type	Size
Dockerfile	5/23/2025 12:30 AM	File	1 KB
go	5/23/2025 12:47 AM	File	0 KB
go	5/23/2025 12:52 AM	MOD File	1 KB
main	5/23/2025 12:29 AM	Go Source File	1 KB

Application output:

http://localhost:8080

Current date and time: 2025-05-22 19:25:38