Docker Multi-stage

SK

Calculator App:

```
devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-without-multistage$ go run calculator.go
Hi User, I am a calculator app ....
Enter any calculation (Example: 1 + 2 (or) 2 * 5 -> Please maintain spaces as shown in example): 12 * 100
Result: 1200
Enter any calculation (Example: 1 + 2 (or) 2 * 5 -> Please maintain spaces as shown in example): 124 + 246
Result: 370
Enter any calculation (Example: 1 + 2 (or) 2 * 5 -> Please maintain spaces as shown in example):
```

Docker image build without multi-stage:

```
devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-without-multistage$ docker build -t samplecalculato
r .
[+] Building 122.2s (10/10) FINISHED                                                                              docker:default
 => [internal] load build definition from Dockerfile                                                                       0.1s
 => => transferring dockerfile: 317B                                                                                       0.0s
 => [internal] load metadata for docker.io/library/ubuntu:latest                                                          6.4s
 => [auth] library/ubuntu:pull token for registry-1.docker.io                                                             0.0s
 => [internal] load .dockerignore                                                                                         0.1s
 => => transferring context: 2B                                                                                           0.0s
 => [1/4] FROM docker.io/library/ubuntu:latest@sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54    4.1s
 => => resolve docker.io/library/ubuntu:latest@sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54    0.1s
 => => sha256:20043066d3d5c78b45520c5707319835ac7d1f3d7f0dded0138ea0897d6a3188 29.72MB / 29.72MB                          2.1s
 => => extracting sha256:20043066d3d5c78b45520c5707319835ac7d1f3d7f0dded0138ea0897d6a3188                                 1.8s
 => [internal] load build context                                                                                        0.2s
 => => transferring context: 1.81kB                                                                                       0.0s
 => [2/4] RUN apt-get update && apt-get install -y golang-go                                                             59.1s
 => [3/4] COPY . .                                                                                                        0.3s
 => [4/4] RUN CGO_ENABLED=0 go build -o /app .                                                                            6.9s
 => exporting to image                                                                                                   44.7s
 => => exporting layers                                                                                                  34.9s
 => => exporting manifest sha256:b43cd22f4c7a73651d8d9bf147ae8fd4b67b566a9c350edf6b3c52e7d9e091ab                         0.0s
 => => exporting config sha256:df64f1d88ce7ecae9e52bcce2c675b5bbcc2a9fa3b78f40b554d7ed26dff7a16                          0.0s
 => => exporting attestation manifest sha256:46e318295fa3e357035e04c403a66ccddda6cee837b0d863af8139094ff5c451            0.1s
 => => exporting manifest list sha256:4cb8e1273b38652e502515c9358a64136aa52d675ed9a9ee368e273d62bfd686                   0.0s
 => => naming to docker.io/library/samplecalculator:latest                                                               0.0s
 => => unpacking to docker.io/library/samplecalculator:latest                                                            9.6s
devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-without-multistage$
```

Calculator app docker image without multi-stage (246MB size):

```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   GITHD                                    wsl  + ∨  ☐  🗑  …  | ⛶ ✕

devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-without-multistage$ docker images
                                                                                                        1  Info →    U   In Use
IMAGE                                                                              ID           DISK USAGE    CONTENT SIZE   EXTRA
gcr.io/k8s-minikube/kicbase:v0.0.48                                                41454ef774d0    1.84GB          512MB
gcr.io/k8s-minikube/kicbase@sha256:7171c97a51623558720f8e5878e4f4637da093e2f2ed589997bedc6c1549b2b1
                                                                                   7171c97a5162    1.84GB          512MB        U
hello-world:latest                                                                 f7931603f70e    25.9kB          9.52kB       U
samplecalculator:latest                                                            4cb8e1273b38    958MB           246MB
devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-without-multistage$ ▮
```
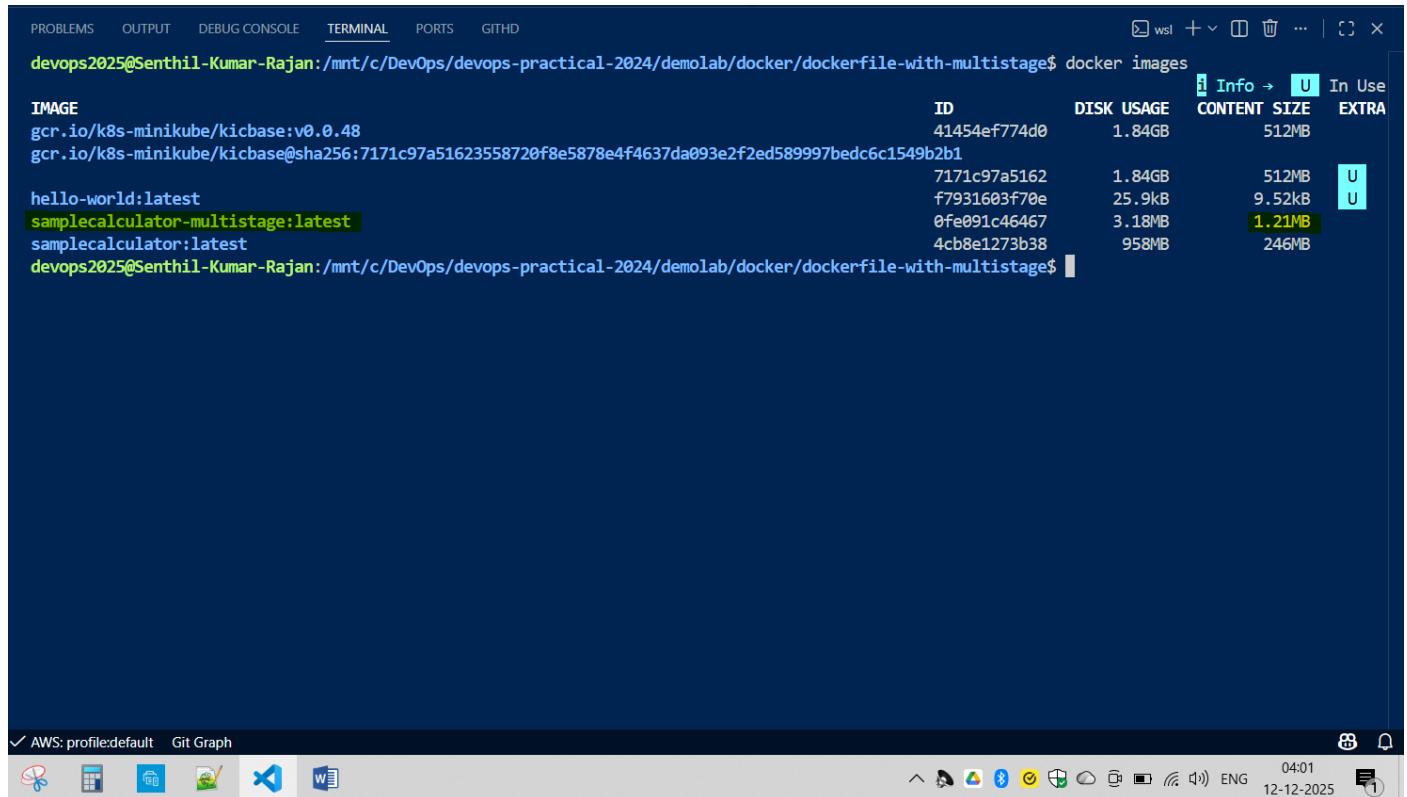
```
✓ AWS: profile:default   Git Graph                                                                              🐙    🔔
```

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Docker image build with multi-stage:

```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   GITHD                                    wsl  + ∨  ☐  🗑  …  | ⛶ ✕

devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-with-multistage$ docker build -t samplecalculator-m
ultistage .
[+] Building 13.2s (11/11) FINISHED                                                                           docker:default
 => [internal] load build definition from Dockerfile                                                               0.1s
 => => transferring dockerfile: 611B                                                                               0.0s
 => [internal] load metadata for docker.io/library/ubuntu:latest                                                  2.8s
 => [auth] library/ubuntu:pull token for registry-1.docker.io                                                     0.0s
 => [internal] load .dockerignore                                                                                 0.1s
 => => transferring context: 2B                                                                                   0.0s
 => [build 1/4] FROM docker.io/library/ubuntu:latest@sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54   0.1s
 => => resolve docker.io/library/ubuntu:latest@sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54         0.0s
 => [internal] load build context                                                                                0.1s
 => => transferring context: 2.10kB                                                                              0.0s
 => CACHED [build 2/4] RUN apt-get update && apt-get install -y golang-go                                        0.0s
 => [build 3/4] COPY . .                                                                                          0.1s
 => [build 4/4] RUN CGO_ENABLED=0 go build -o /app .                                                             7.7s
 => [stage-1 1/1] COPY --from=build /app /app                                                                     0.2s
 => exporting to image                                                                                           0.6s
 => => exporting layers                                                                                          0.3s
 => => exporting manifest sha256:110cf8dafba11bb94e692b22dadb67a4824ecad1a46c9950377c3db59a4ce1d1                0.0s
 => => exporting config sha256:b7430d16a945e03767622bcb2cdfebd0c6475b145780f2c719db412472c02e08                  0.0s
 => => exporting attestation manifest sha256:a029a6c7813a66fc4642c127ef08fc17b6d2f26523373f02bcf8be49624bb326    0.1s
 => => exporting manifest list sha256:0fe091c46467370a3786ad648f9398caa64c3447082049d432a244bf9be0fab0           0.0s
 => => naming to docker.io/library/samplecalculator-multistage:latest                                           0.0s
 => => unpacking to docker.io/library/samplecalculator-multistage:latest                                        0.1s
devops2025@Senthil-Kumar-Rajan:/mnt/c/DevOps/devops-practical-2024/demolab/docker/dockerfile-with-multistage$ ▮
```

```
✓ AWS: profile:default   Git Graph                                                                              🐙    🔔
```

Calculator app docker image with multi-stage (1.21MB size):