



**ABDUR ROFI**

ORGANIZER DEVOPS SEMARANG

# Dockerizing GO-lang

**From  
Development to Deployment**



**Gedung D.2.B Udinus**



**Sabtu, 28 Oktober 2023**

09:00 - End

**Collaboration With**



**DevOps Semarang**



Google Developer Student Clubs  
Universitas Dian Nuswantoro





- DevOps Engineer at **MTARGET**
- Organizer **Google Developers Group Semarang**
- Organizer **DevOps Semarang**



# Dockerizing Golang: From Development to Deployment

# Why you must learn Docker?



<https://survey.stackoverflow.co/2023/#section-most-popular-technologies-other-tools>

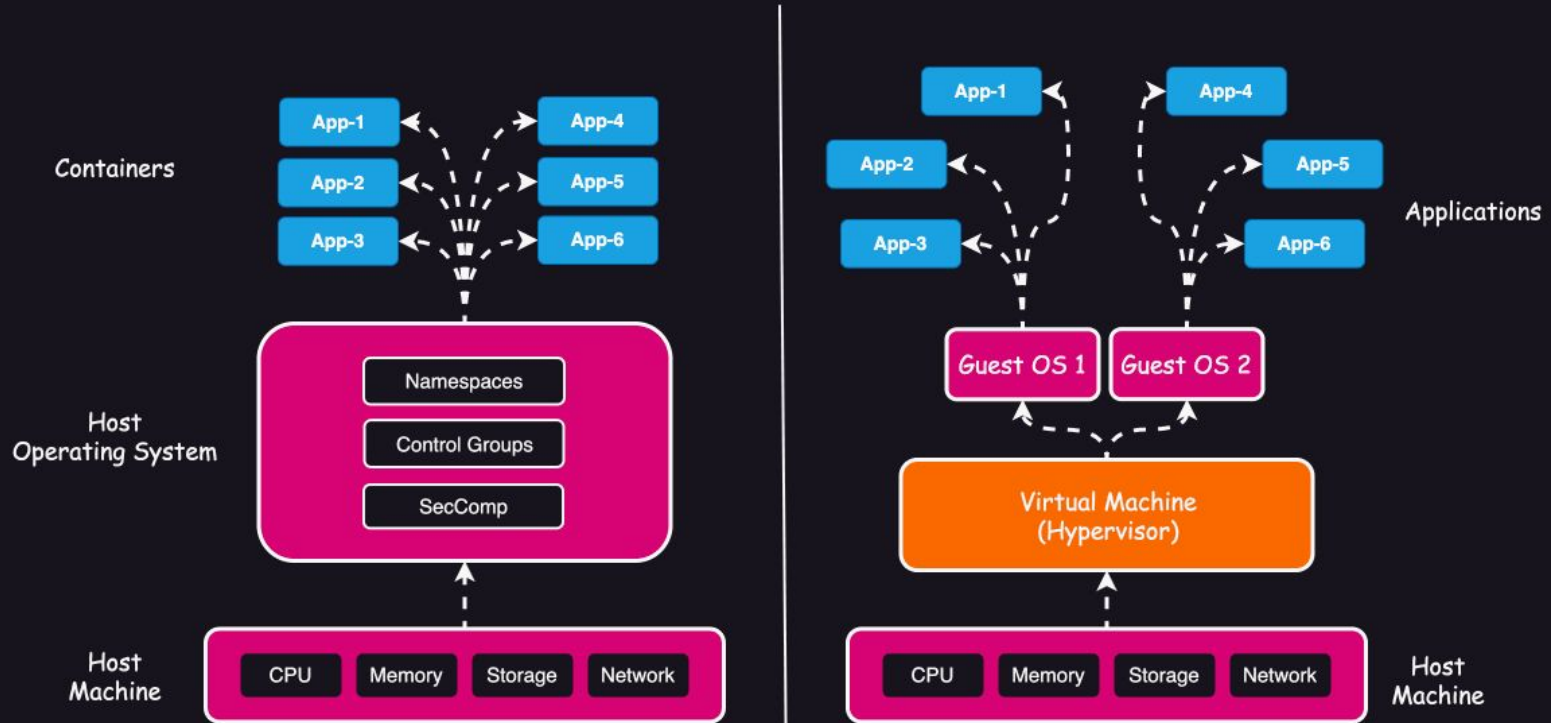
- Experienced in using Git, Linux
- Working knowledge of Python/Golang/Ruby/PHP or ability to learn them quickly.
- Possess experience with web applications, databases and distributed systems (deployment).
- Understanding mobile development is a plus.
- Create documentation for API and Code.
- Possess experience creating RESTful and Mock API.
- Understanding how to use Docker.
- Knowledge of data migration, transformation, deployment and scripting/automation.
- Understanding CI/CD
- Exceptional analytical thinking and problem-solving skills with effective communication abilities

# Docker vs Virtual Machine





## Containers vs Virtual Machines



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# Docker Benefits



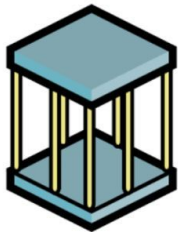
Consistency



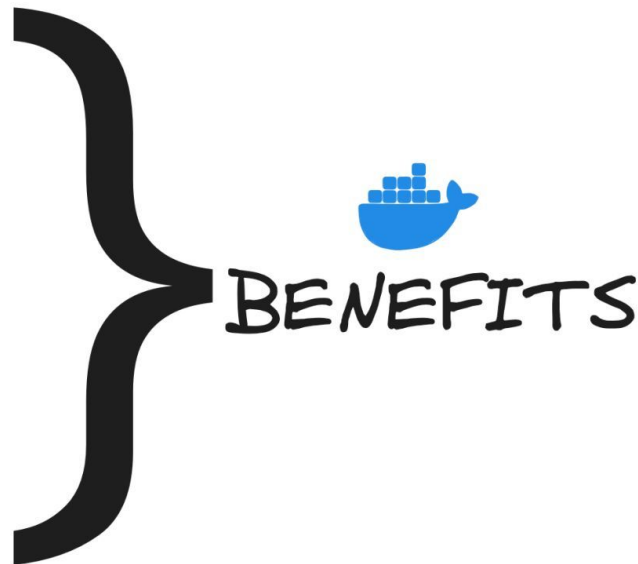
Portability



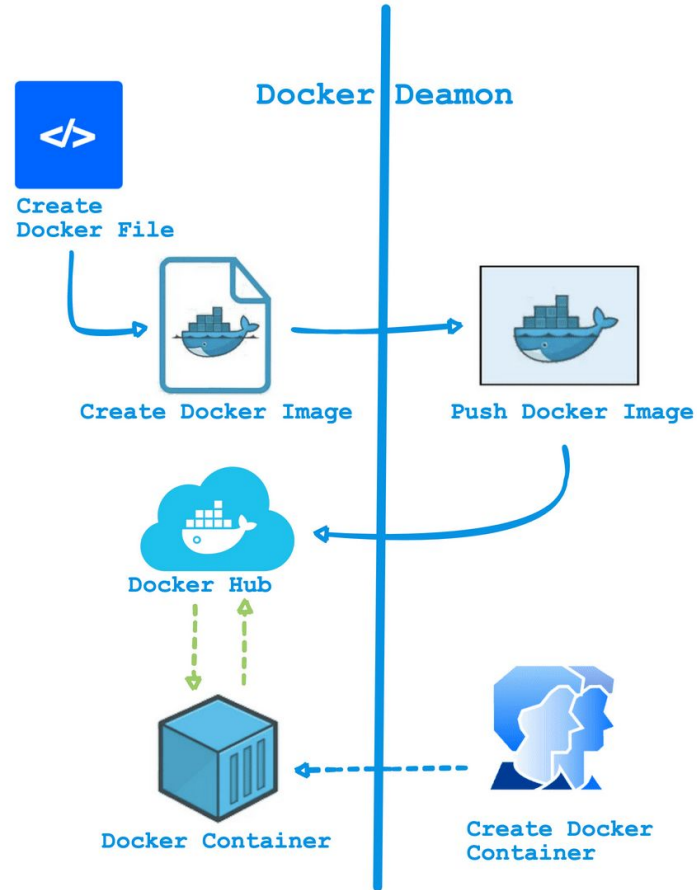
Security & Isolation



Resource Boundaries



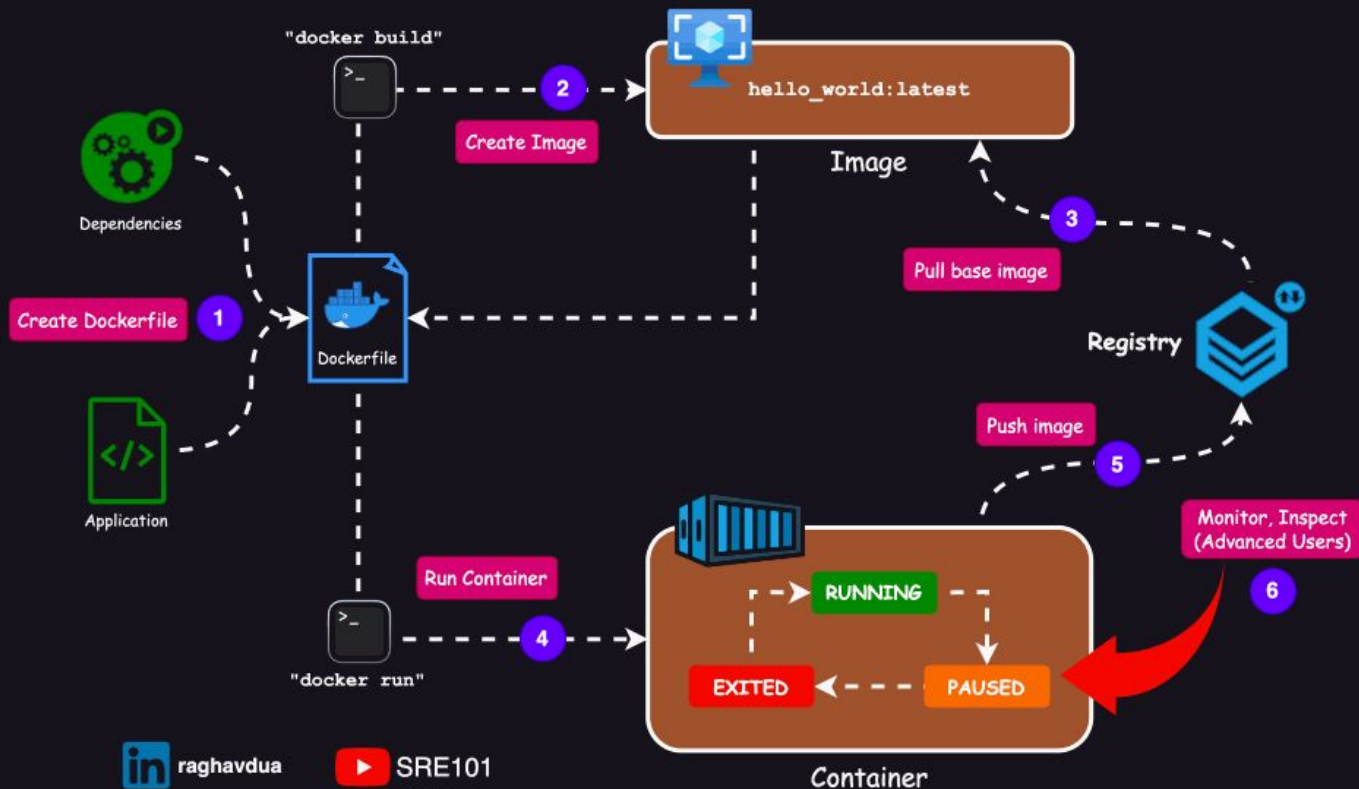
## Container Creation Process





# Docker Workflow

in a **Nutshell**



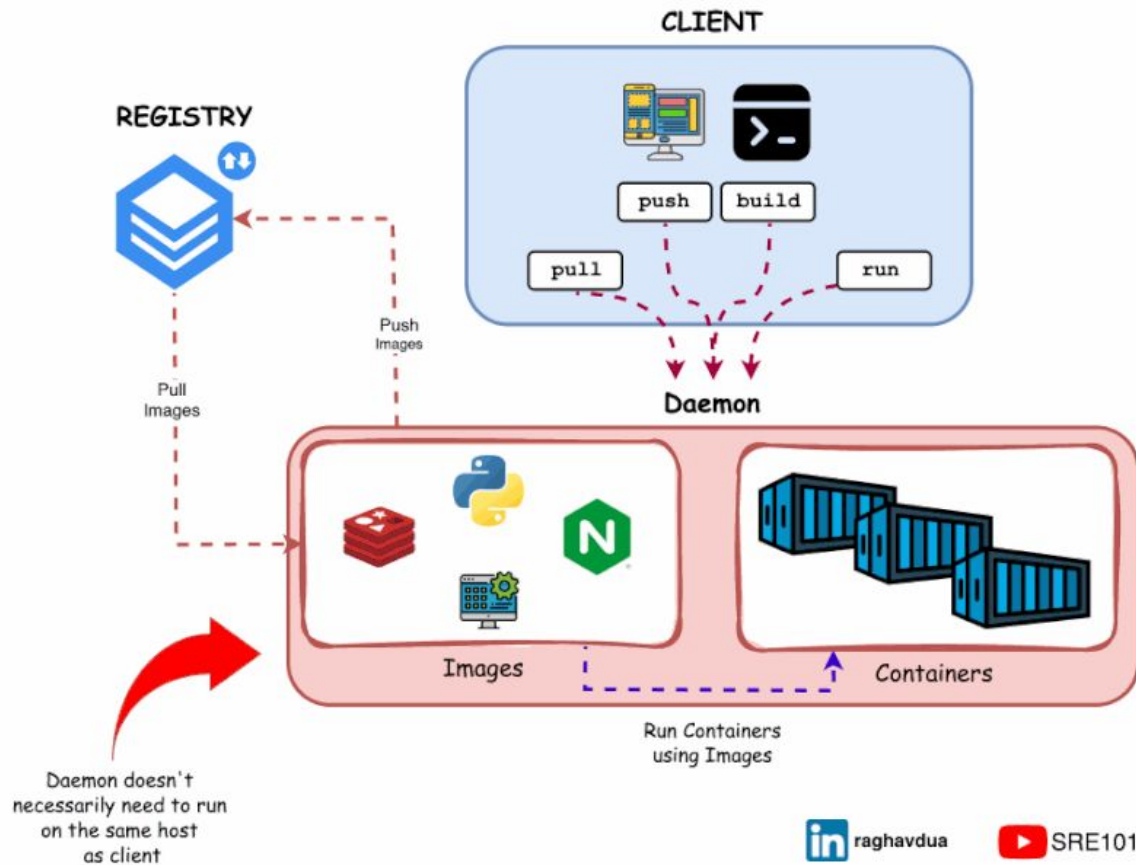
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## Docker's Architecture



# Let's go to code!



**<https://github.com/devops-semarang/dockerize-golang>**





## dockerize-golang

Public

Edit Pins ▾

Watch 1 ▾

Fork 0 ▾

Star 0 ▾

main ▾

1 branch

0 tags

Go to file

Add file ▾

&lt;&gt; Code ▾

About



Abdur Rofi first commit

026c0d9 now 2 commits



.github/workflows

first commit

now



bin

first commit

10 minutes ago



.env

first commit

10 minutes ago



.gitignore

first commit

10 minutes ago



Dockerfile

first commit

10 minutes ago



README.md

first commit

10 minutes ago



docker-compose.yaml

first commit

10 minutes ago



go.mod

first commit

10 minutes ago



go.sum

first commit

10 minutes ago



main.go

first commit

10 minutes ago



README.md



## Dockerize Go-Lang Application

No description, website, or topics provided.

Readme

Activity

0 stars

1 watching

0 forks

Report repository

## Releases

No releases published

[Create a new release](#)

## Packages

No packages published

[Publish your first package](#)

## Languages





## Create a new fork

A *fork* is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project.

Required fields are marked with an asterisk (\*).

Owner \*



mrofisr ▾

Repository name \*

dockerize-golang

✔ dockerize-golang is available.

By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further.

Description (optional)

☒ Copy the `main` branch only

Contribute back to devops-semarang/dockerize-golang by adding your own branch. [Learn more.](#)

You are creating a fork in your personal account.

Create fork



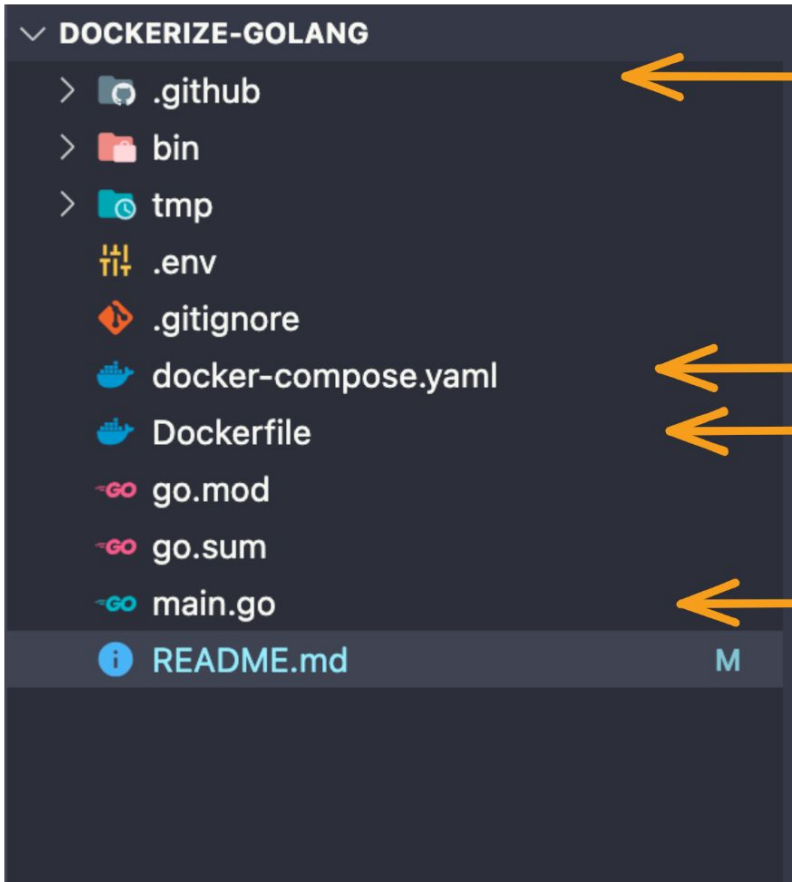
```
$ git clone https://github.com/mrofisr/dockerize-golang
```



```
$ docker ps
```

```
$ docker login ghcr.io -u USERNAME --password-stdin
```





← GitHub Actions Script

← docker-compose.yaml

← Dockerfile

← main.go

```
1 FROM alpine:latest
2 ENV USER=appuser
  ENV UID=10001
3 RUN adduser \
    --disabled-password \
    --gecos "" \
    --home "/nonexistent" \
    --shell "/sbin/nologin" \
    --no-create-home \
    --uid "${UID}" \
    "${USER}"
4 WORKDIR /app
5 COPY ./bin/main /app/main
6 RUN chmod -R 755 /app && chown -R appuser:appuser /app
7 USER appuser:appuser
8 CMD [ "/app/main" ]
```

1. Base Image: merupakan komponen dasar pada pembuatan Dockerfiles, biasanya berisikan library atau dependencies yang kita butuhkan.
2. Environment Variable
3. Perintah untuk membuat user baru.
4. Menentukan direktori kerja kita.
5. Copy binary golang kedalam docker image
6. Mengubah akses pada direktori kerja.
7. Mengubah user docker image
8. Menjalankan binary golang

# Thank ü

*<https://github.com/devops-semarang>*

Let's connect with me!



@mrofisr



[linkedin.com/in/mrofisr](https://www.linkedin.com/in/mrofisr)



[@devops.semarang](https://www.instagram.com/devops.semarang)