



# Diet **Docker**

CRAFTING LIGHTWEIGHT  
CONTAINERS WITH MULTI-STAGE  
BUILDS

# **Agenda**

ABOUT  
THE PLATFORM  
THE BASE  
THE FILE  
THE CONTENTS  
QUESTIONS

# Hello from Grand Rapids!

I'm Victor Frye

Your friendly neighborhood developer

Unchallenged #1 Clippy fan

Love internet culture and content

- [victorfrye.com/blog](https://victorfrye.com/blog)
- [microsoftgraveyard.com](https://microsoftgraveyard.com)
- [shrugman.com](https://shrugman.com)

Passion for .NET, React, Azure, Xbox

DevOps specialist at Leading EDJE

Building with Microsoft solutions



# About **Leading EDJE**

Technology consultancy and services

- Strategists, innovators, partners
- Craft **bespoke solutions**
- **Positive disruption** of business norm

Real. Fun. Geeks.

**FREE** lunch and learns

Expert talent

- **Cloud infrastructure**
- **Digital and app innovation**
- Data and AI
- Project management



The background features a light blue gradient with several 3D-rendered spheres in shades of blue and purple. Some spheres are large and prominent, while others are small and scattered. At the bottom, there are larger, more complex shapes that resemble liquid droplets or clouds, also in blue and purple tones.

# **The Platform**

DOCKER AND CONTAINERIZATION




# Abstracting the machine

## Virtualization

Virtualize the hardware  
Abstract compute and storage  
Runs multiple apps  
Can only run one OS at a time  
Slow to spin up  
Best for complete control

## Containerization

Virtualize the OS  
Abstract OS and infrastructure  
Bundles single app and deps  
Lightweight solution  
Can spin up quickly\*  
Best for portability and perf



# The Docker platform

A **containerization** tool

A daemon and a client

Objects include:

- **Images**: read-only templates with instructions for creating a container
- **Containers**: a runnable instance that can start, stop, or move
- **Registries**: A package store for container images



# Alternatives and compliments

Podman

containerd + nerdctl

Buildah

Runc

Kubernetes

Red Hat OpenShift

Azure Container Apps

Amazon ECS

# Container app lifecycle



```
FROM mcr.microsoft.com/dotnet/sdk:10.0
WORKDIR /app

COPY . .
RUN dotnet publish ./MyApp.csproj -c Release -o /out

ENTRYPOINT ["dotnet", "/out/MyApp.dll"]
```

## **EXAMPLE DOCKERFILE FOR A .NET APPLICATION (1.25 GB)**

The background is a light blue gradient with various abstract elements. There are several spheres of different sizes in shades of blue and purple. At the bottom, there are larger, more complex organic shapes in similar colors, resembling liquid or soft clay. The overall aesthetic is clean, modern, and artistic.

# **The Base**

WHERE ARE YOU FROM?

# All about **Linux**



# Choose your **distro**

## **Debian-based**

Debian or Ubuntu

- Debian: Toy Story (bookworm, trixie)
- Ubuntu: alphabetical (jammy, noble)

Uses glibc for C library

Includes common utils

Large base image sizes

## **Alpine**

Just Alpine

Uses musl instead of glibc

Includes BusyBox for utils

No tzdata

Very minimal out-of-the-box

Small base image size

The background features a light blue gradient with several translucent, 3D-style bubbles in shades of blue and purple. A dark blue rounded rectangle is centered on the page, containing the text.

**Why does  
size matter?**

The background features a light blue gradient with various abstract elements. There are several spheres of different sizes in shades of blue and purple. At the bottom, there are larger, more complex organic shapes in similar colors, resembling liquid or soft blobs. The overall aesthetic is clean and modern.

# **The File**

READ THE INSTRUCTIONS ALREADY

The background features a light blue gradient with several abstract, 3D-rendered shapes. On the left side, there are large, overlapping, rounded blobs in shades of blue and purple. Scattered across the right side are several smaller, solid blue spheres of varying sizes. The overall aesthetic is clean and modern.

# **Dockerfiles**

DEMONSTRATION

The background is a light blue gradient with various abstract elements. There are several spheres of different sizes in shades of blue and purple. At the bottom, there are larger, more complex organic shapes in similar colors, resembling liquid or soft clay. The overall aesthetic is clean and modern.

# **The Contents**

SIZE MATTERS, BUT SO DOES HOW YOU USE IT

# Go **distroless**

GOOGLE PIONEERED OPTION

HARDEN IMAGE BY:

- REMOVING UTILITIES
- REMOVING PACKAGE MANAGERS
- REMOVING THE DISTRO ITSELF\*

GOOGLE DISTROLESS

AZURE LINUX

DOCKER HARDENED IMAGES

The background features several abstract, 3D-rendered shapes in shades of blue and purple. On the left side, there are larger, more complex blobs and spheres. On the right side, there are smaller, simpler spheres. The overall aesthetic is clean and modern.

# **Distroless**

DEMONSTRATION

The background features a light blue gradient with several abstract, soft-edged shapes in shades of blue and purple. These shapes resemble clouds or large, inflated balloons, scattered across the frame. Smaller, solid-colored spheres in matching hues are also present, adding to the abstract composition.

# **Syft images**

DEMONSTRATION

# Thank you

Provide feedback



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