

Multi-Stage Build and Build Mount With Docker

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Agenda

Working with Dockerfile

Cutting the Size of Image

Multi-Stage Build

Build Mount

How Dockerfile Works

```
FROM alpine:3.10
RUN apk --no-cache add ca-certificates

WORKDIR /root/

COPY vendor vendor
COPY app .

CMD ["./app"]
```

```
Sending build context to Docker daemon 7.834MB
Step 1/6 : FROM alpine:3.10
--> 965ea09ff2eb
Step 2/6 : RUN apk --no-cache add ca-certificates
--> Running in 5ed31699e137
fetch http://dl-cdn.alpinelinux.org/alpine/v3.10/main/x86_64/APKINDEX.tar.gz
fetch http://dl-cdn.alpinelinux.org/alpine/v3.10/community/x86_64/APKINDEX.tar.gz
(1/1) Installing ca-certificates (20190108-r0)
Executing busybox-1.30.1-r2.trigger
Executing ca-certificates-20190108-r0.trigger
OK: 6 MiB in 15 packages
Removing intermediate container 5ed31699e137
--> b30580c14e5b
Step 3/6 : WORKDIR /root/
--> Running in ab22d33b3630
Removing intermediate container ab22d33b3630
--> 85c38f79a518
Step 4/6 : COPY vendor vendor
--> 22f48f22d76c
Step 5/6 : COPY app .
--> 232220838ef8
Step 6/6 : CMD ["./app"]
--> Running in 5587b4c5ee92
Removing intermediate container 5587b4c5ee92
--> 66a84b863888
Successfully built 66a84b863888
```

Sliming Image

```
root@ppa141:/opt/cuse/m121-countdown# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
demo	latest	665e8c8d1704	About a minute ago	13.7MB
demo	build	c4423ba422f8	2 days ago	838MB

Why Multi-Stage Build

- Cutting down the image size
- Using of multiple Dockerfile into One
- Use of caching and layering

Multi-Build with Dockerfile



How to use Multi-Stage Build with Dockerfile

```
FROM buildkit-export AS buildkit-buildkitd.oci_only
COPY --from=buildkitd.oci_only ARG BUILD_VERSION=1
COPY --from=buildctl /usr/bin/ FROM alpine AS base
ENTRYPOINT ["buildkitd.oci_onl
RUN ...
# Copy together all binaries
FROM base AS branch-version-1
RUN touch version1
FROM buildkit-export AS buildk
COPY --from=runc /usr/bin/runc FROM base AS branch-version-2
COPY --from=buildkitd.containe
COPY --from=buildctl /usr/bin/
RUN touch version2
ENTRYPOINT ["buildkitd.contain
FROM branch-version- $\{BUILD\_VERSION\}$  AS after-condition
FROM after-condition
FROM alpine AS containerd-runt
RUN ...
COPY --from=runc /usr/bin/runc /usr/bin/
COPY --from=containerd /go/src/github.com/containerd/containerd/bin/containerd* /usr/bin/
COPY --from=containerd /go/src/github.com/containerd/containerd/bin/ctr /usr/bin/
VOLUME /var/lib/containerd
VOLUME /run/containerd
REPOSITORY TAG IMAGE ID CREATED SIZE
demo latest 665e8c8d1704 About a minute ago 13.7MB
demo build c4423ba422f8 2 days ago 838MB
FROM buildkit- $\{BUILDKIT\_TARGET\}$ 
```

Why Build Mount

Build Mounts

Cach'e

Ssh

Secret ``

```
FROM alpine
```

```
RUN --mount=type=secret,id=mysite.key
```

Thank You

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Docker and Kubernetes Enthusiast

SRE @ Vuclip, Pune.

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