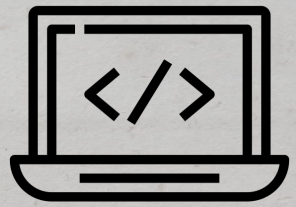
A Lightning Tour
of DevOps

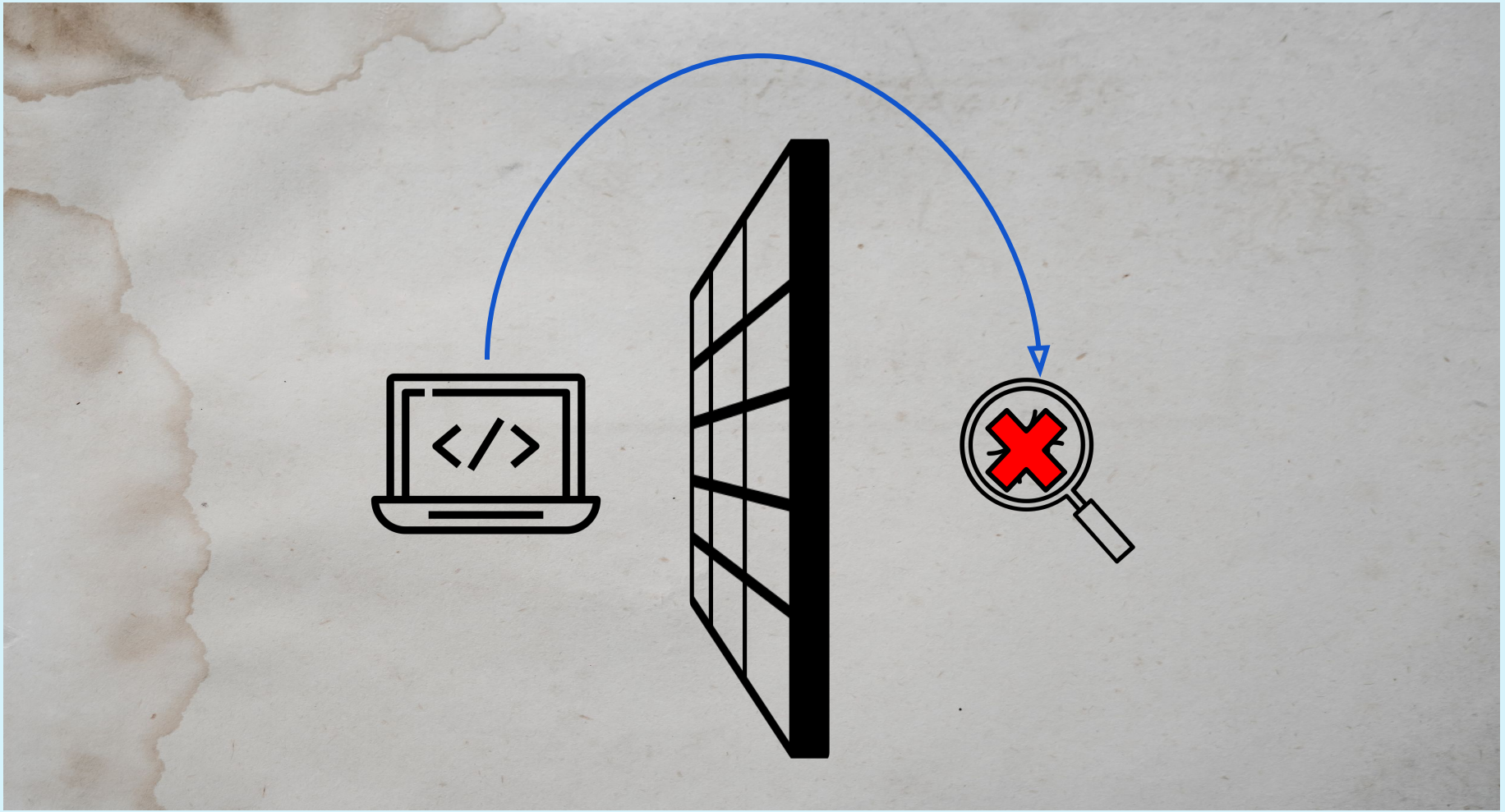
Agenda ✨

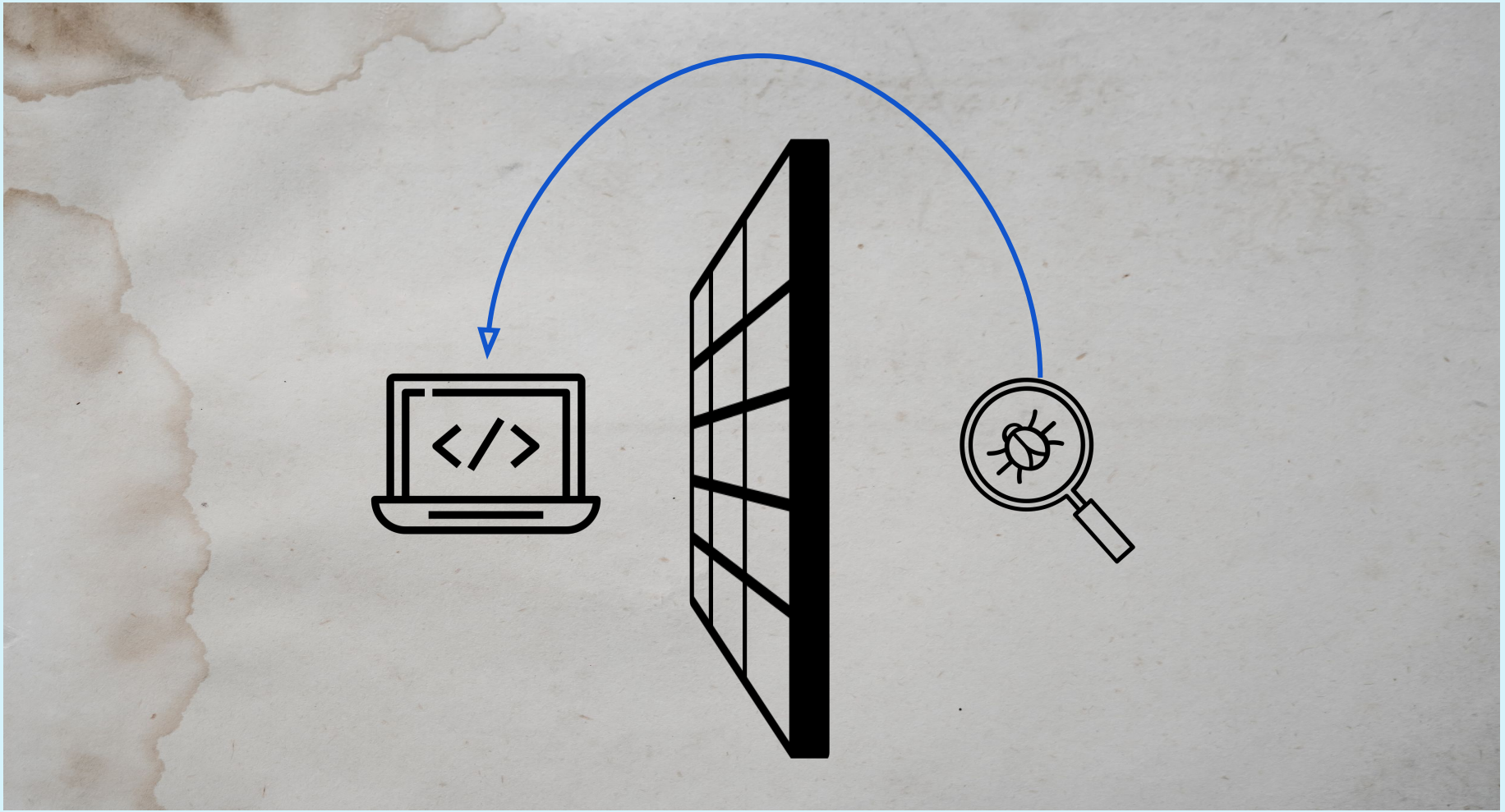
- A short history lesson
- DevOps beyond the buzzwords
- How to start DevOps-ing

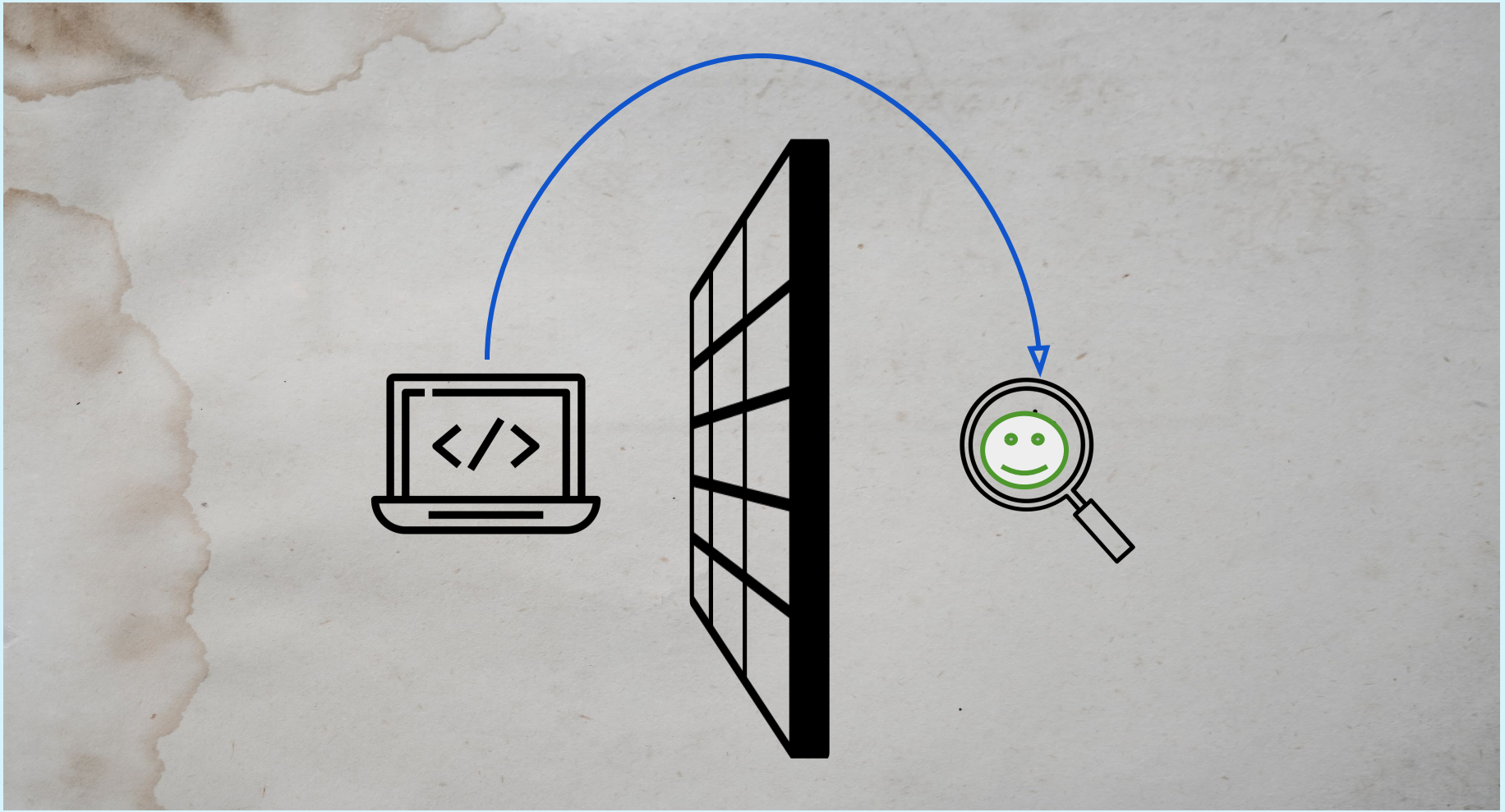
A Short History Lesson...

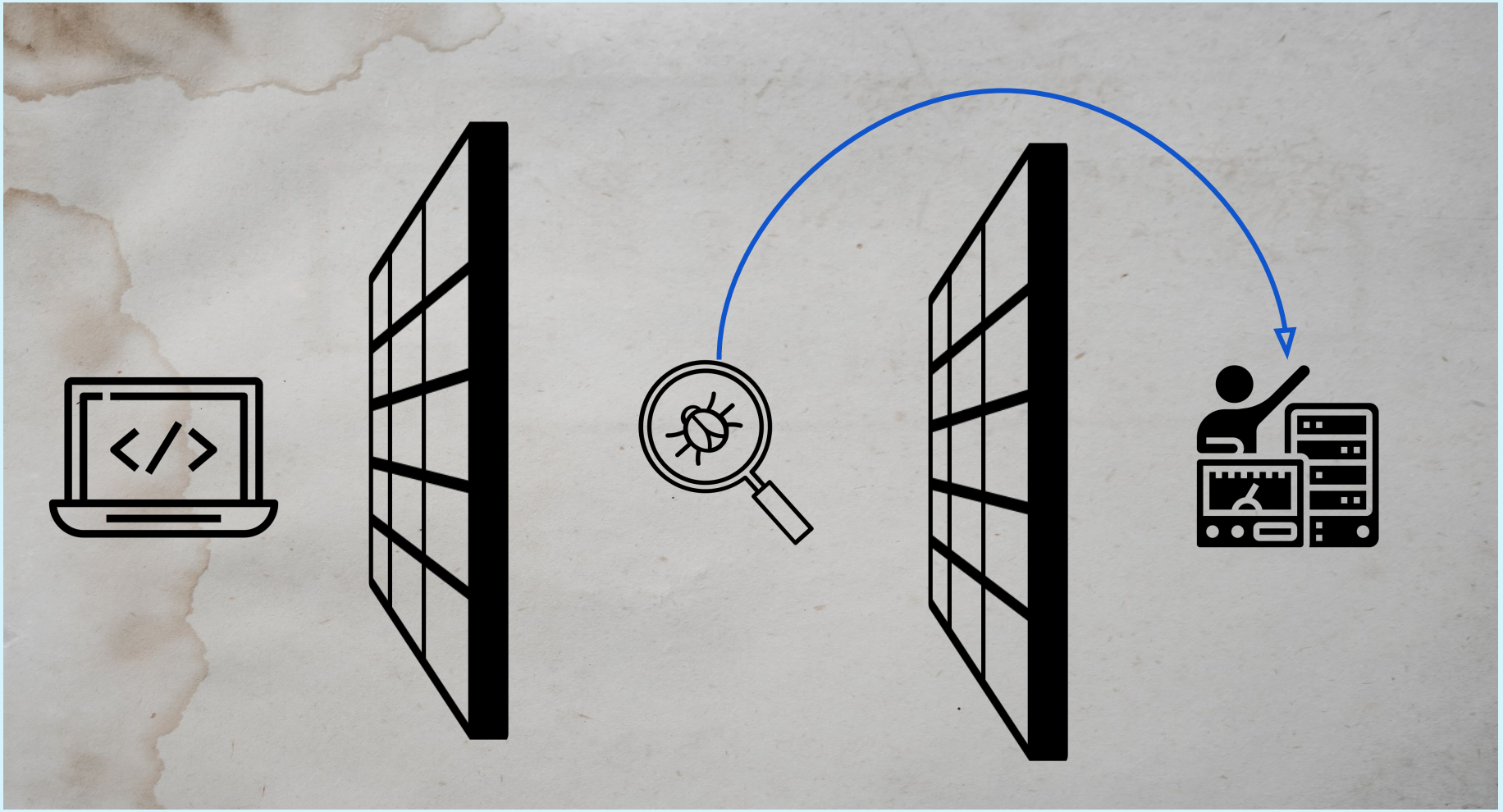
Ye olde software delivery practices

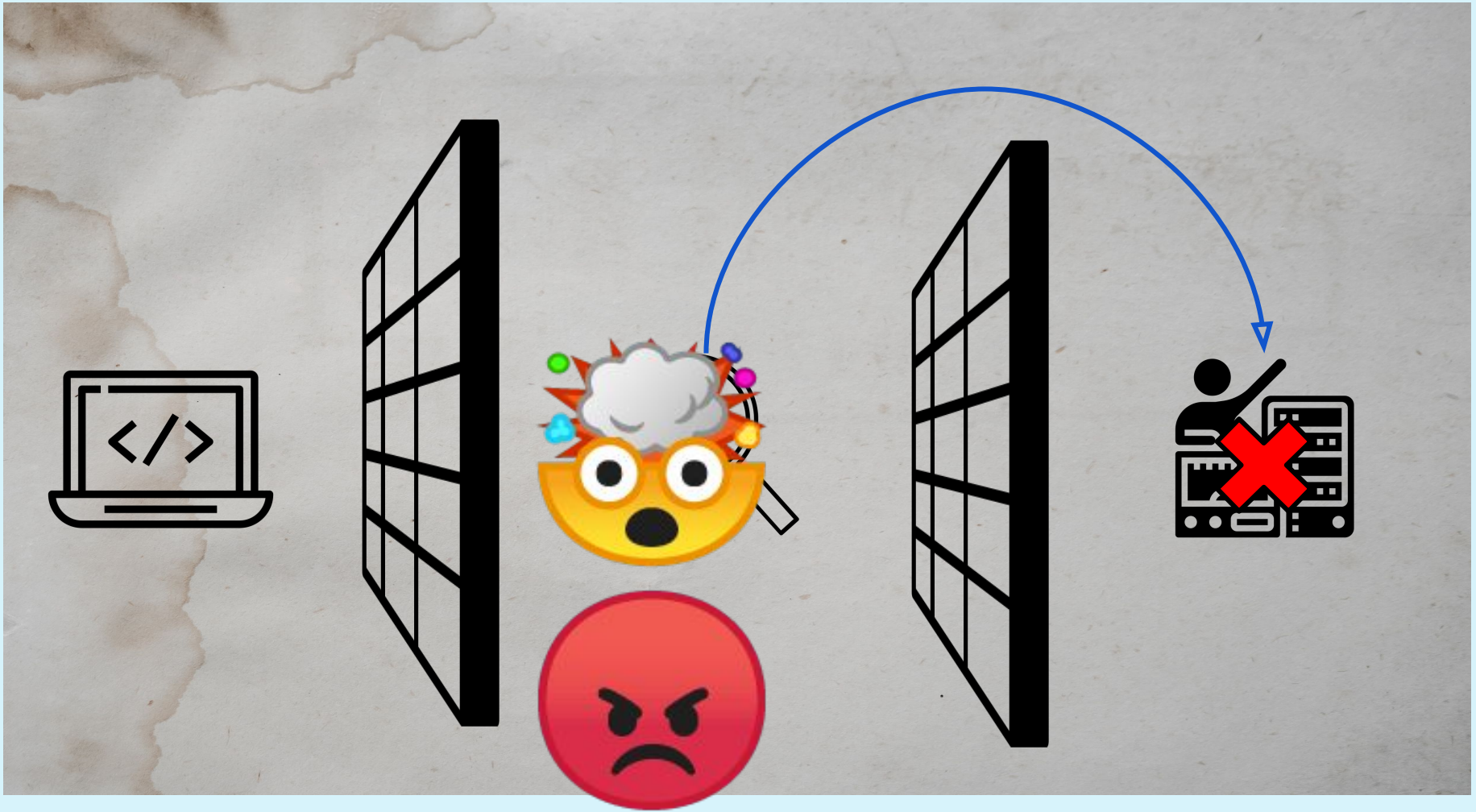












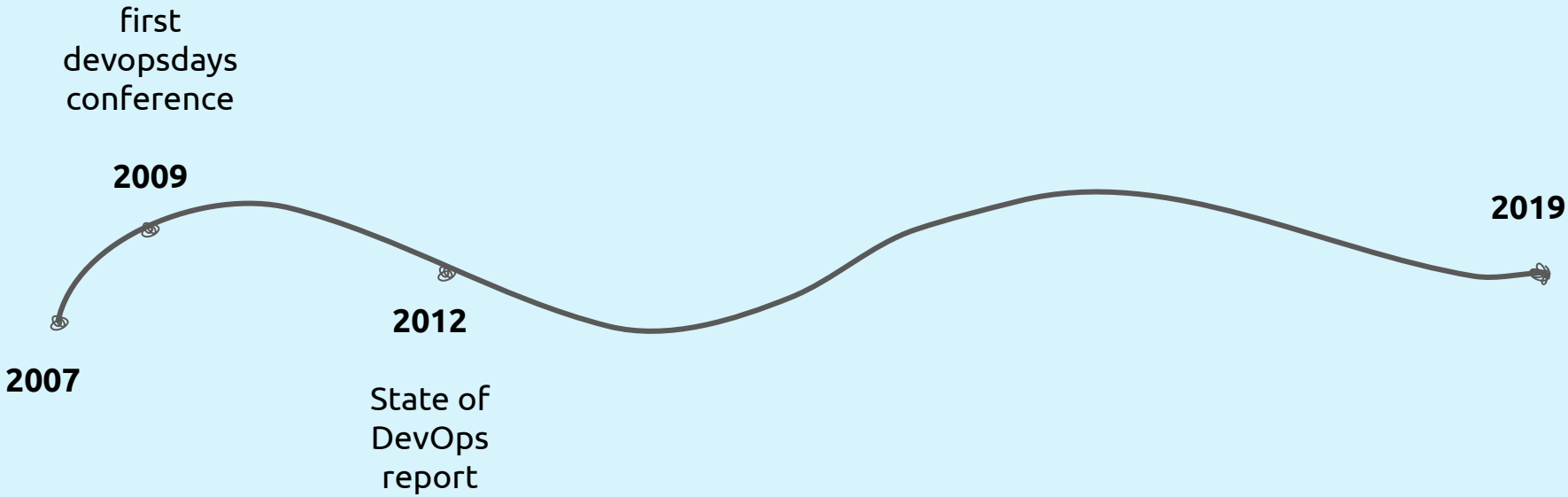
What was the problem?

- Teams working in silos

- Teams working in silos
- Sequential workflows

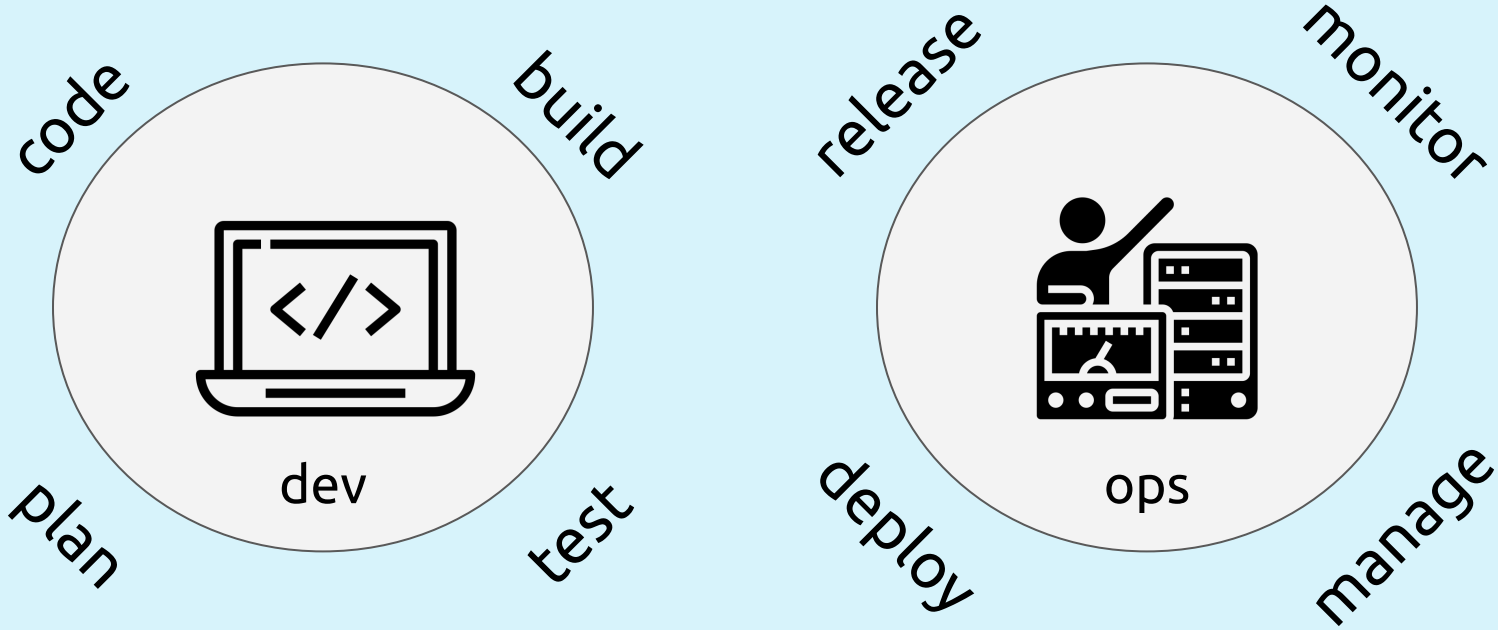
- Teams working in silos
- Sequential workflows
- Inflexible processes

Enter: DevOps


first
devopsdays
conference
2009
2019
2012
2007
State of
DevOps
report

DevOps, beyond the buzzwords

Cultural shift towards sharing ownership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release
monitor
deploy
manage
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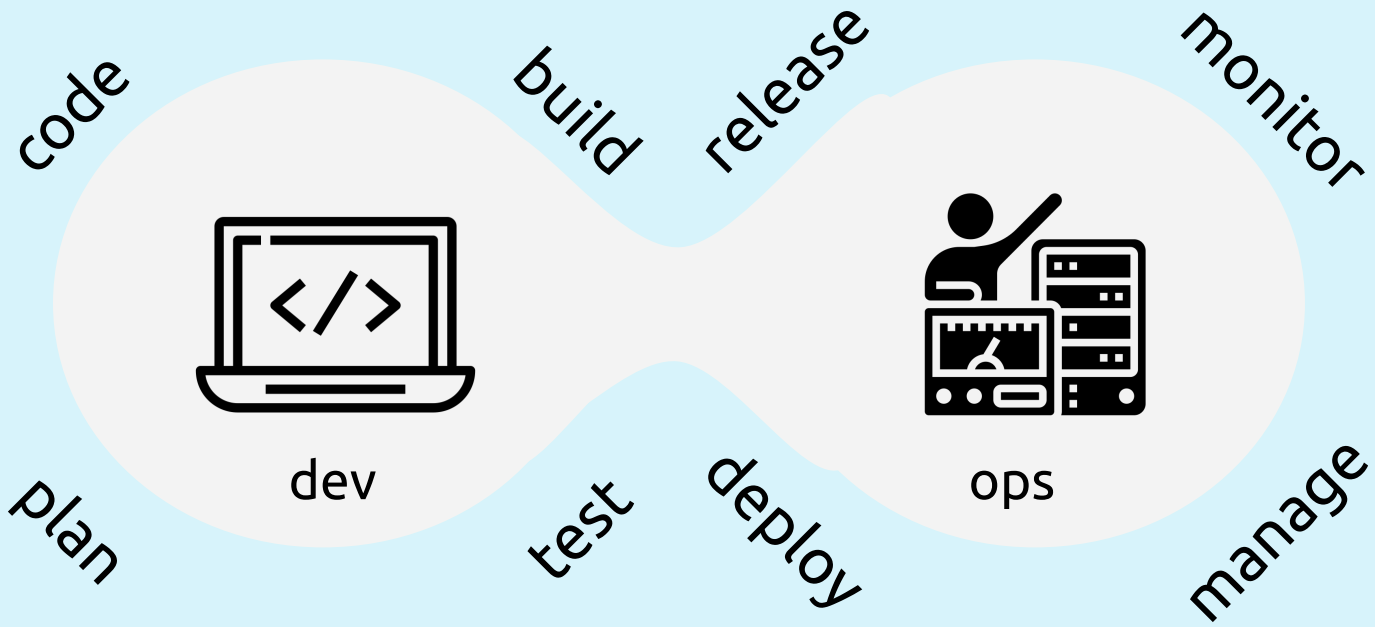
code
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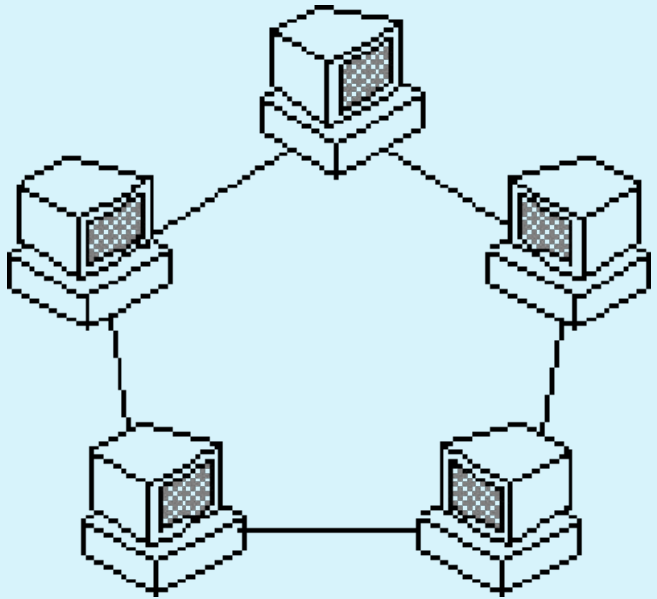
It’s not just tooling



Infrastructure as Code

Containerization

Agile methodologies

technical + cultural + process

Orchestration

Cloud technologies

Observability

CI/CD

Outcomes

Outcomes

Better communication

Outcomes

Better communication

Faster delivery

Outcomes

Better communication

Faster delivery

Stability

Outcomes

Better communication

Faster delivery

Stability

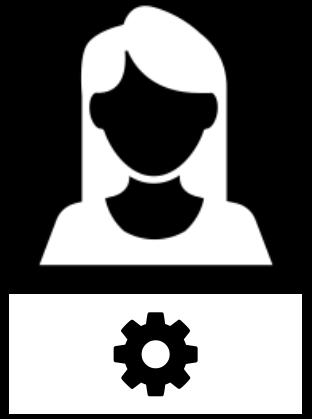
Happier teams and users

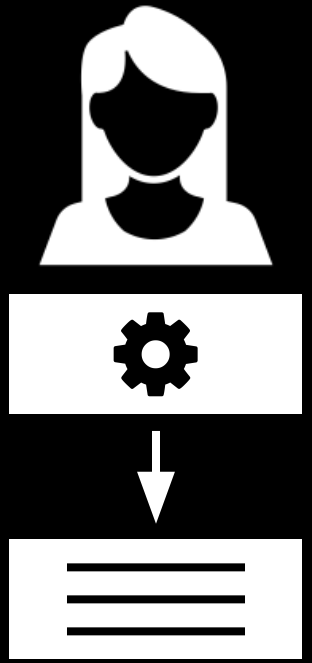
How to start DevOps-ing

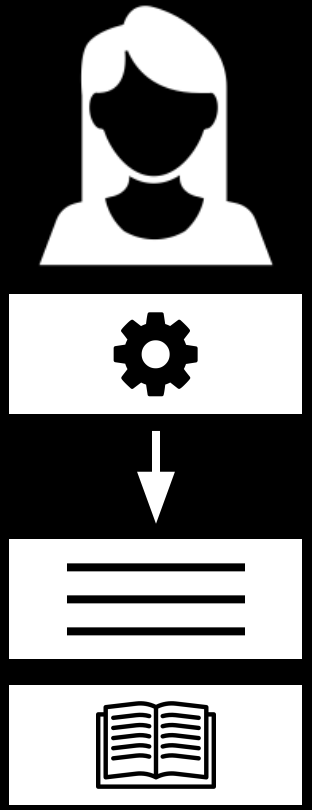
Can I be a “DevOps Engineer”?

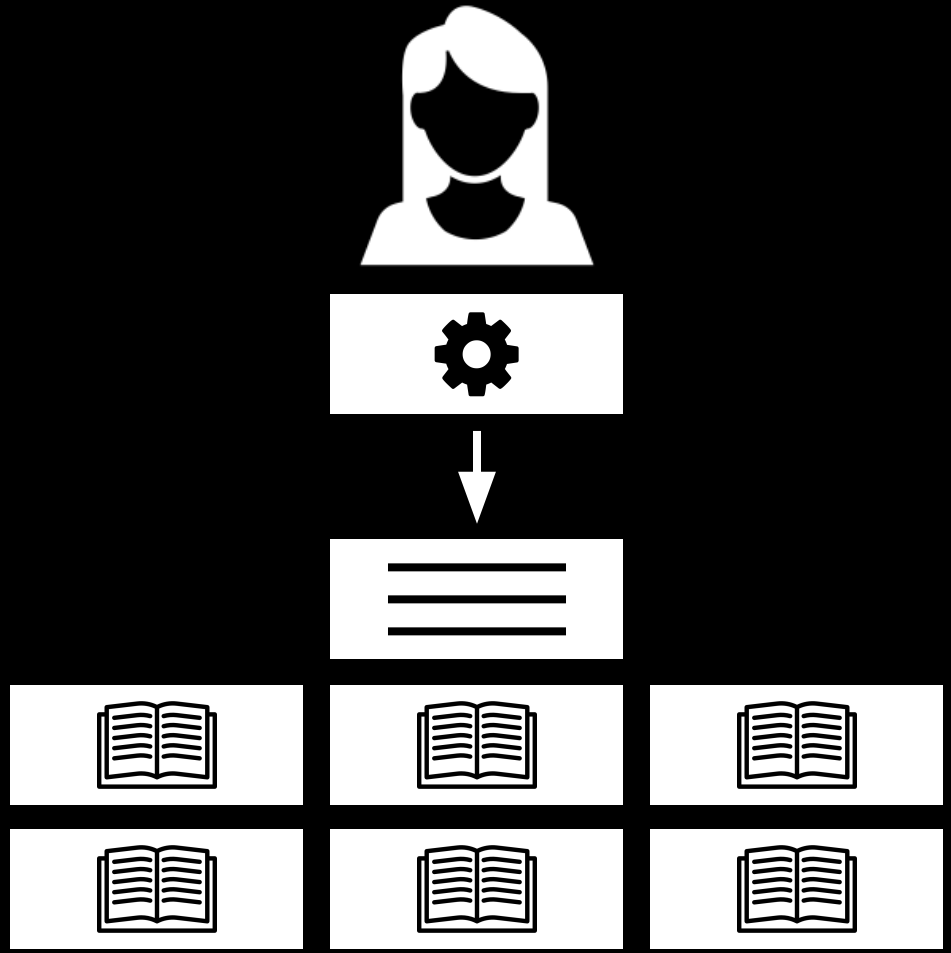
Thank you :)

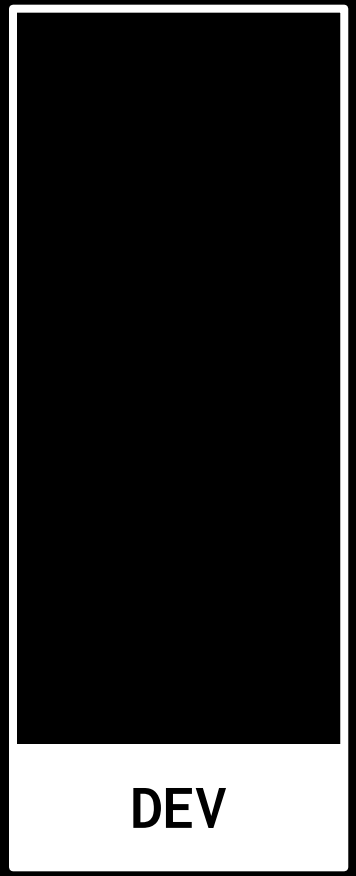
A BRIEF HISTORY OF CONTAINERS







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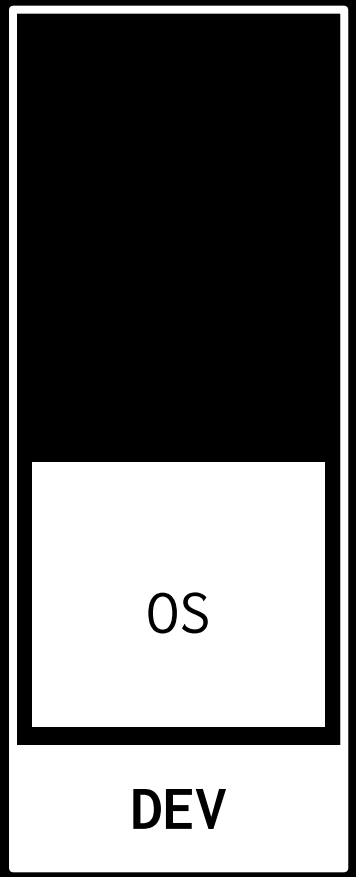
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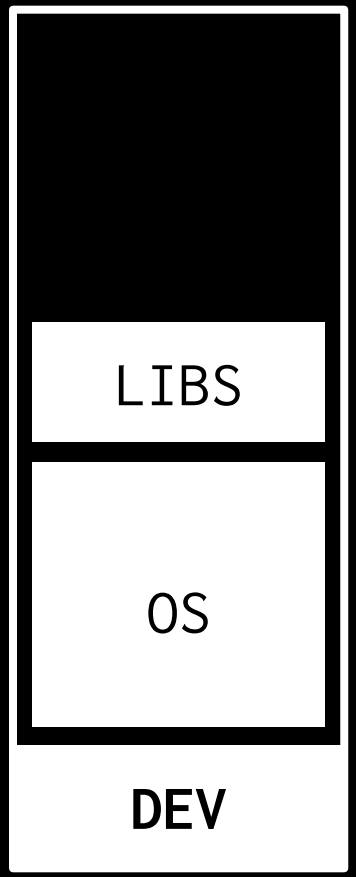
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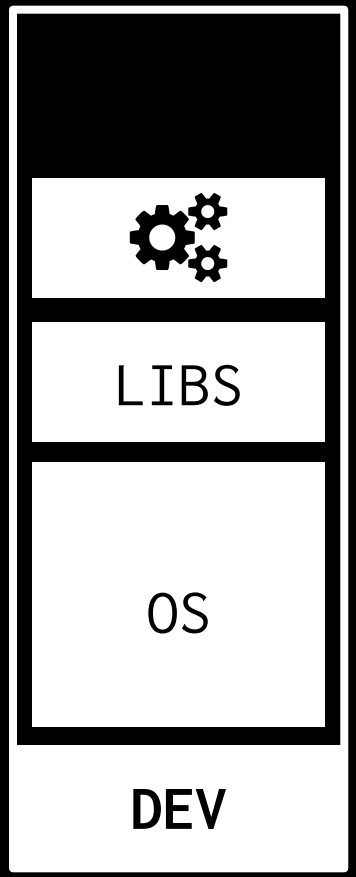
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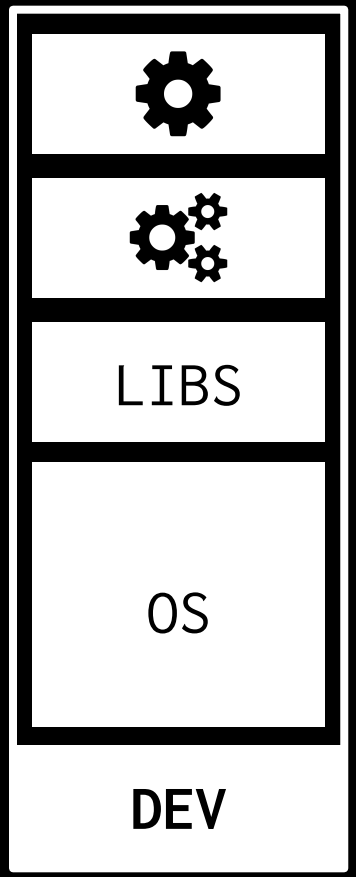
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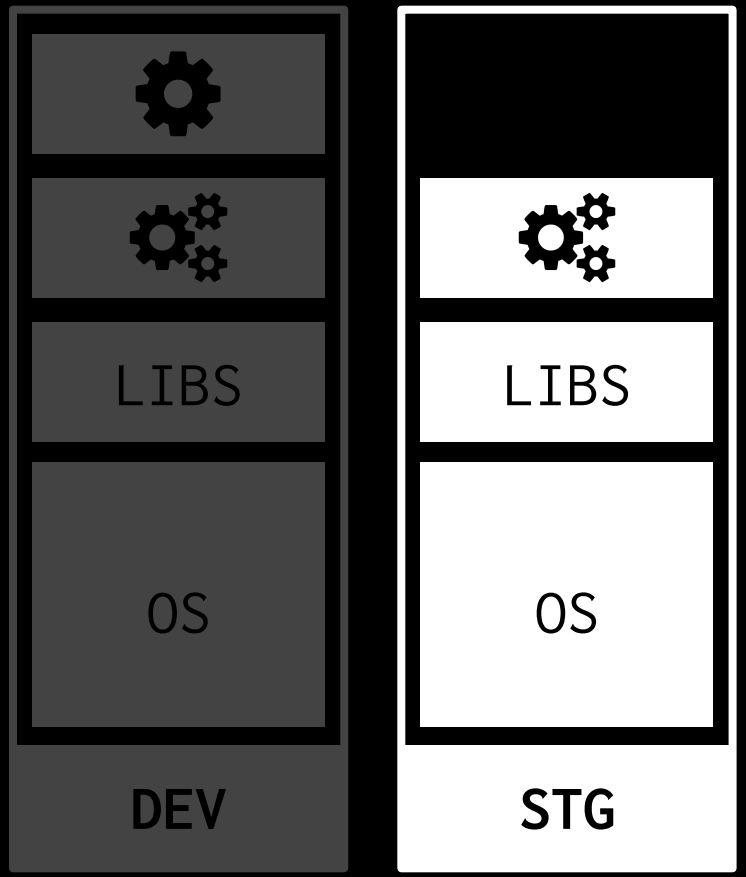
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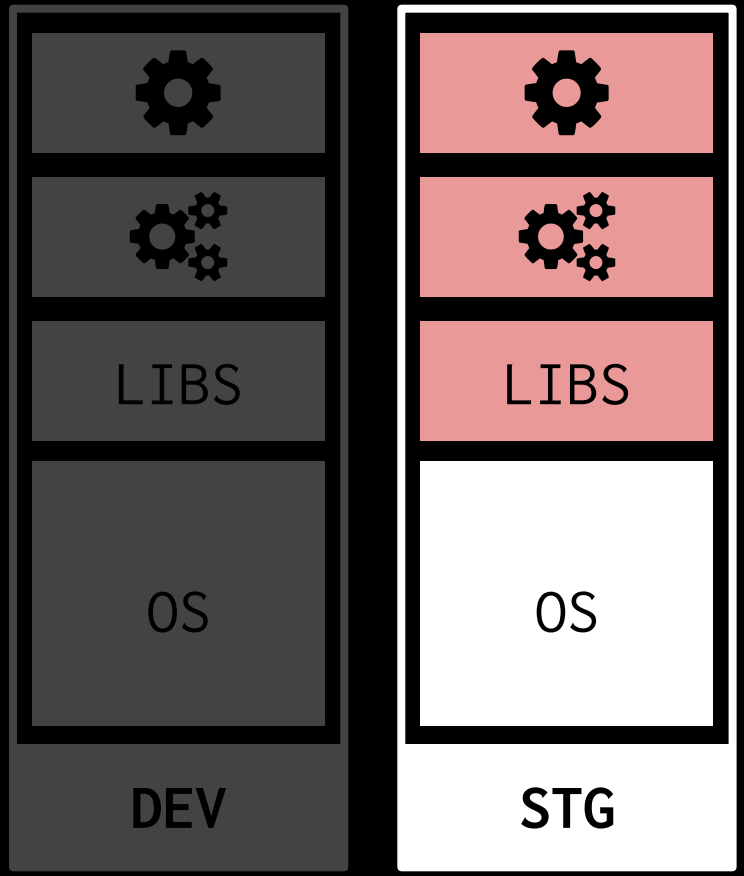
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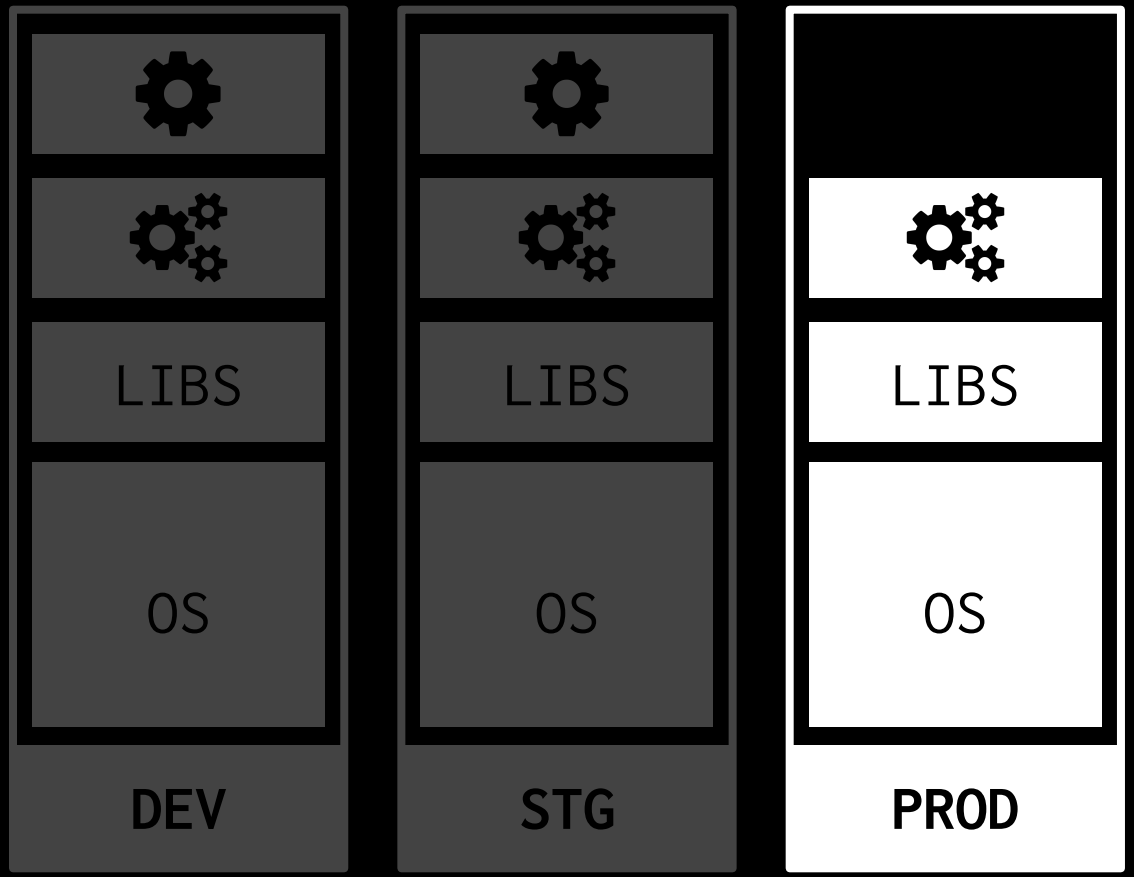
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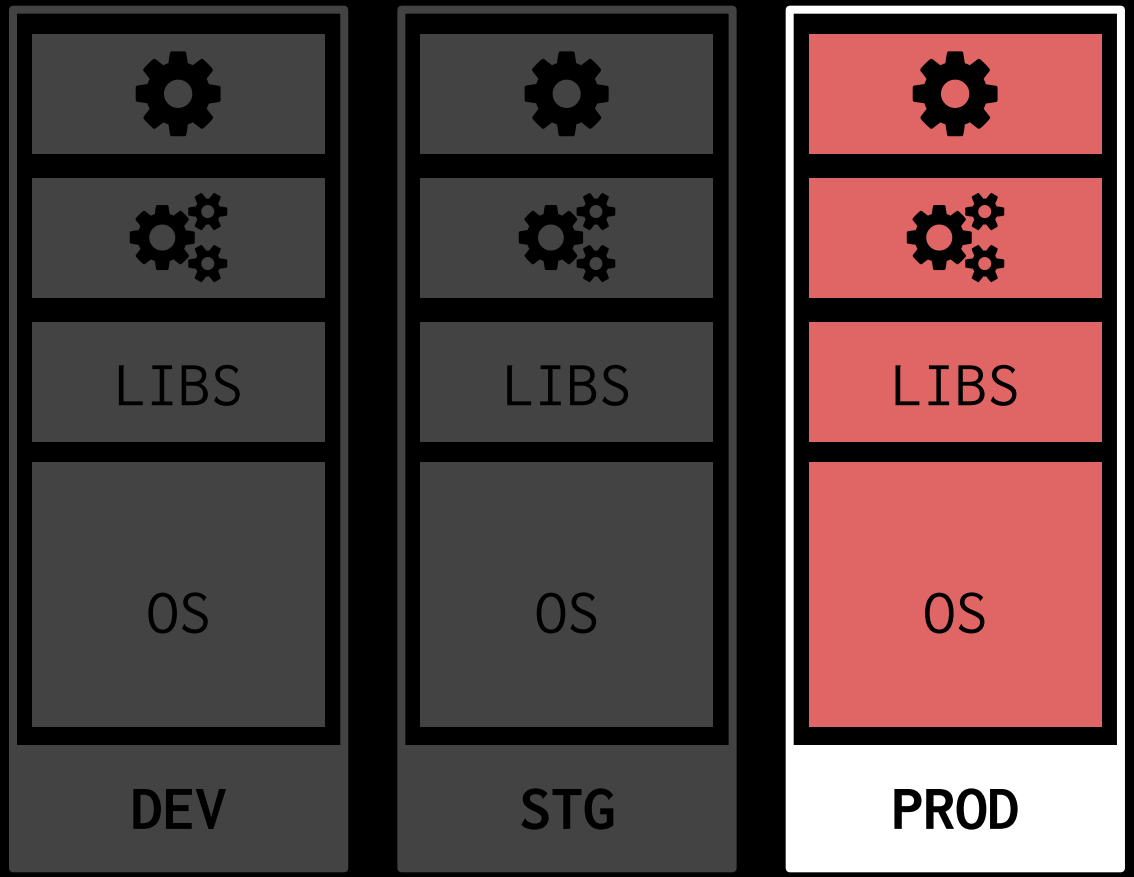
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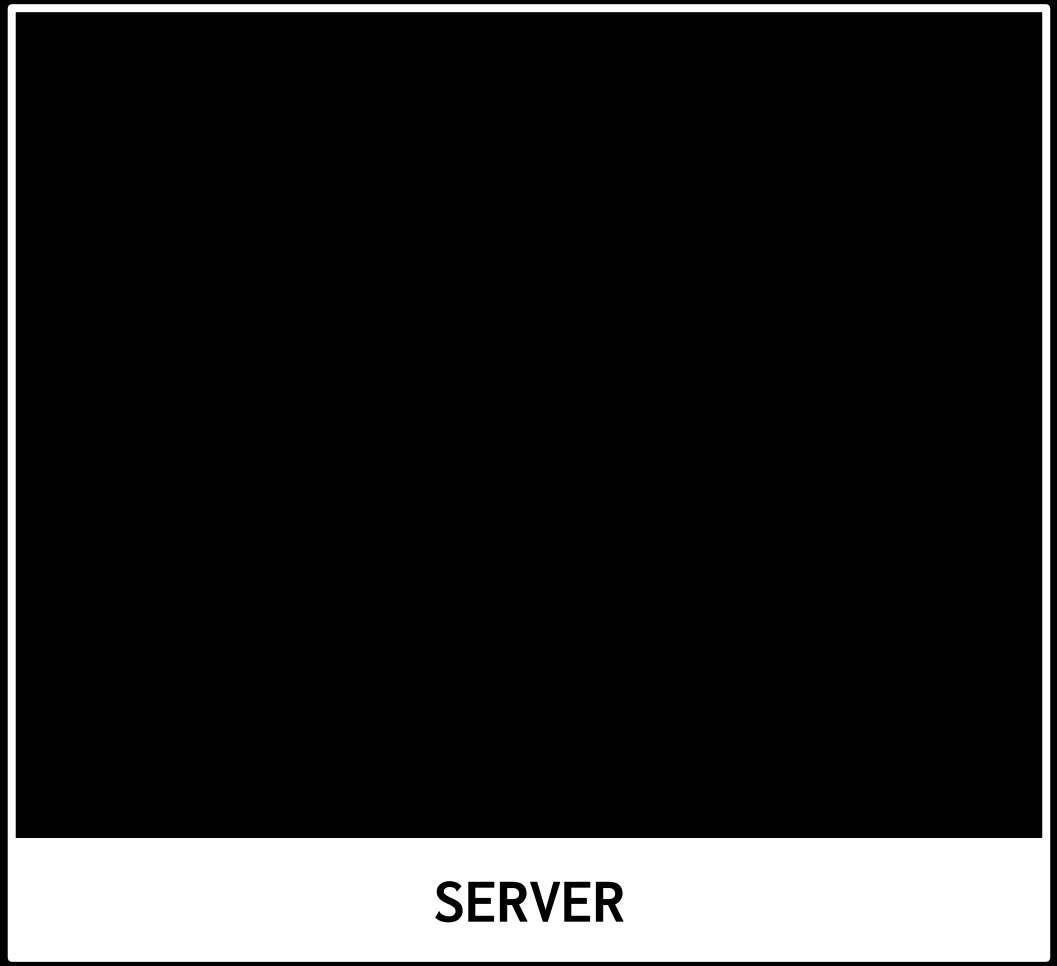
How do we encapsulate dependencies?

Virtual Machine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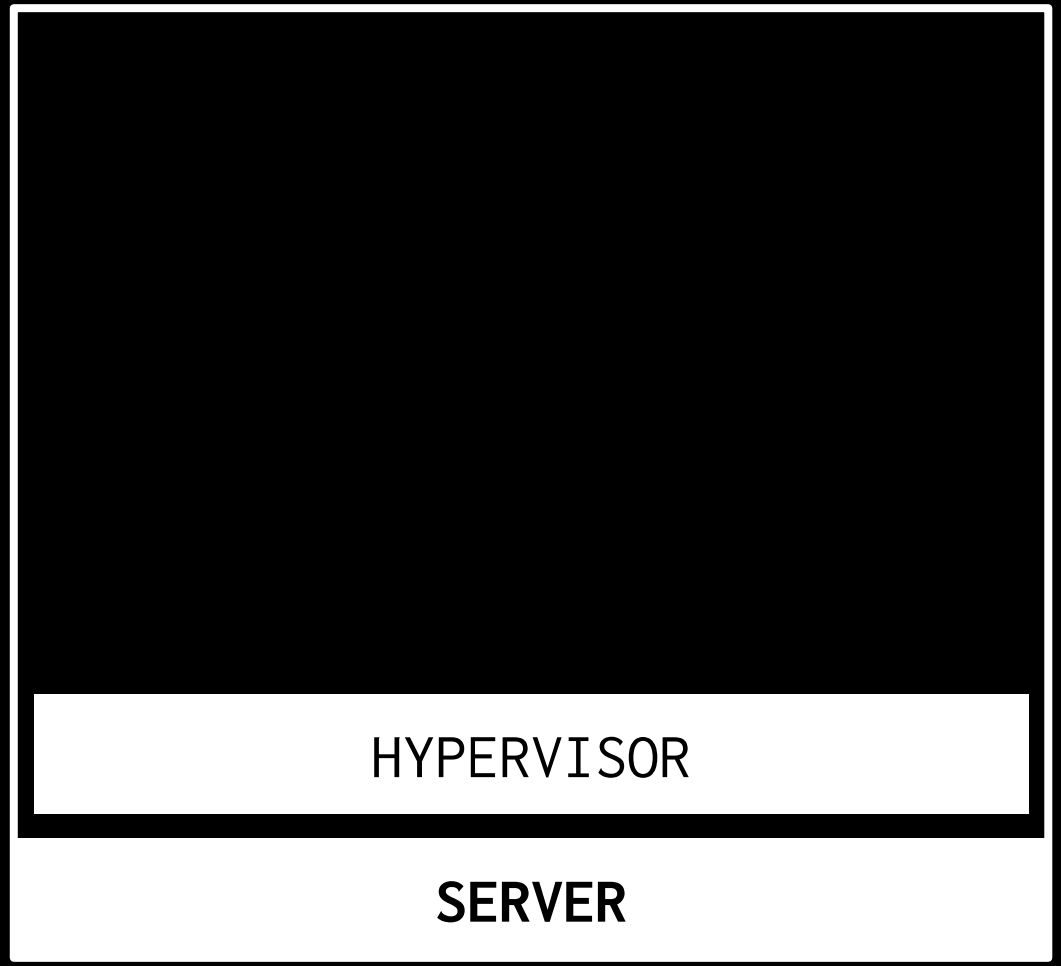
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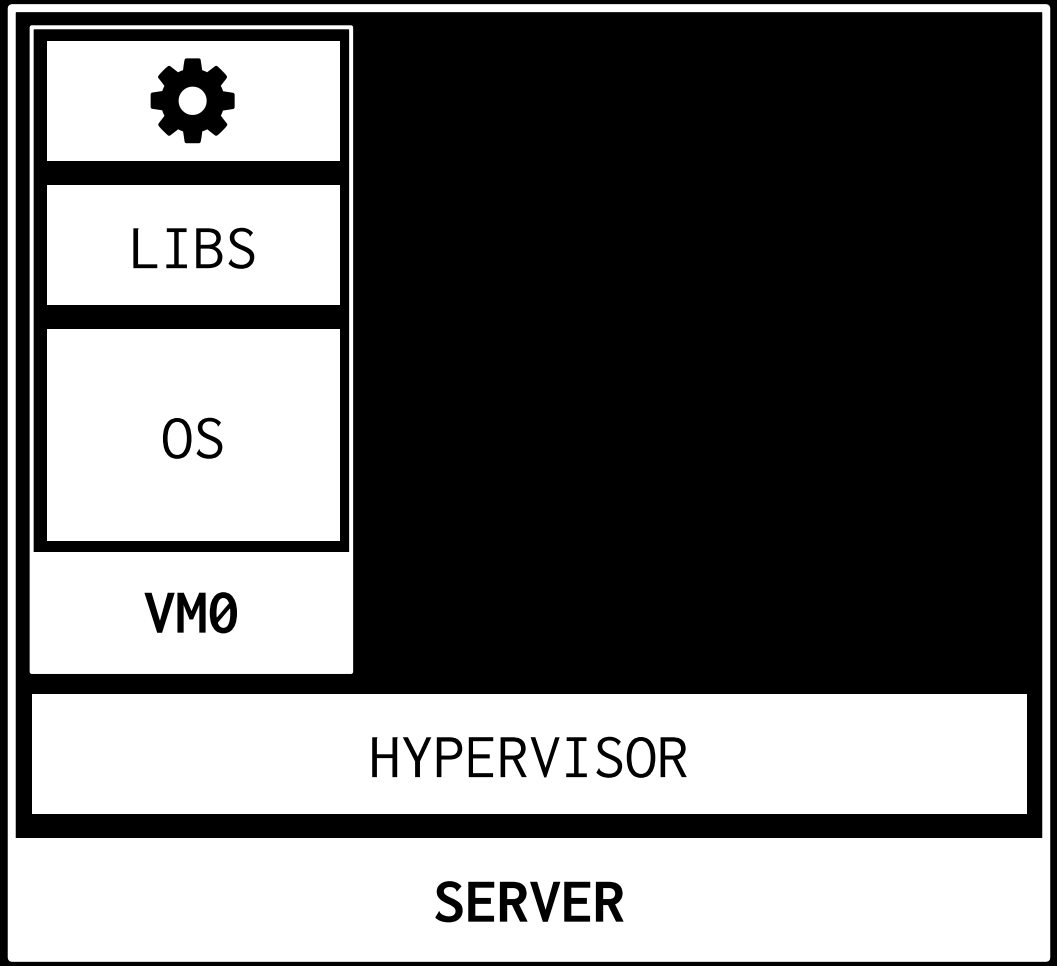
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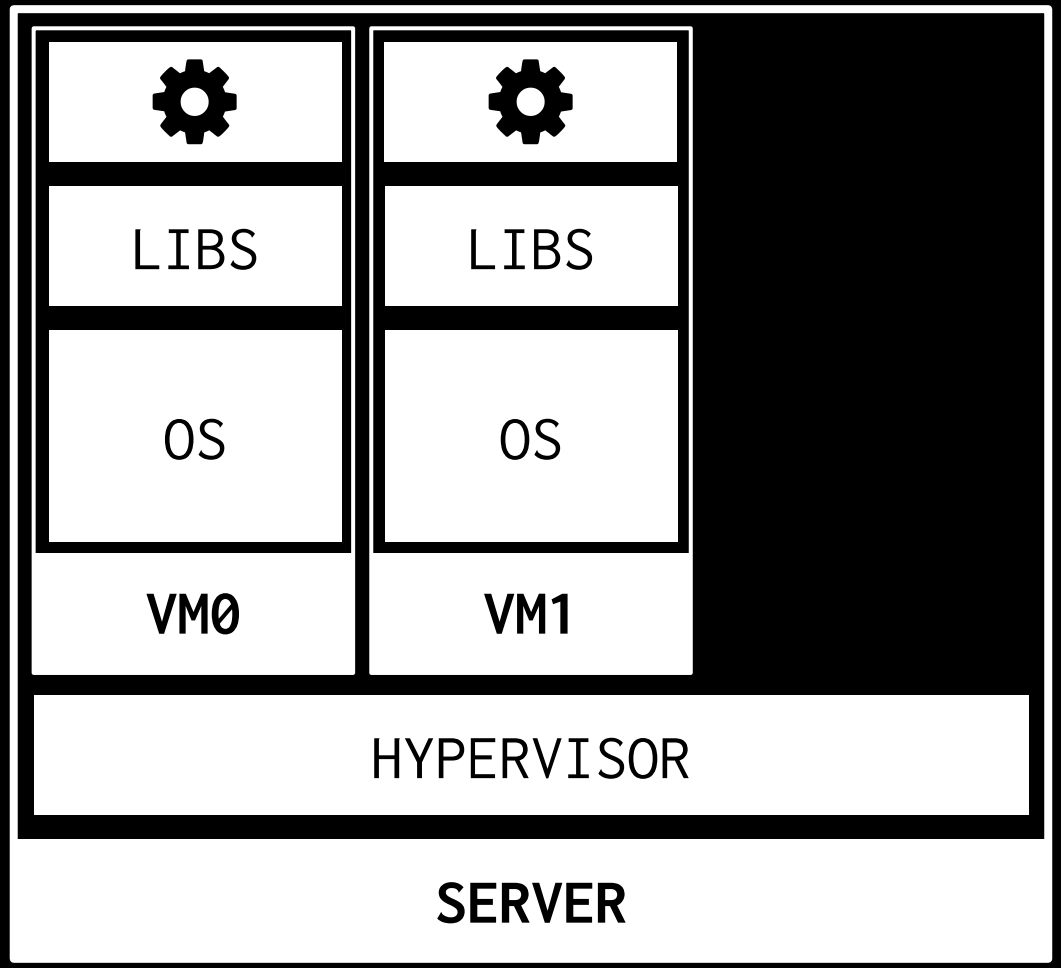
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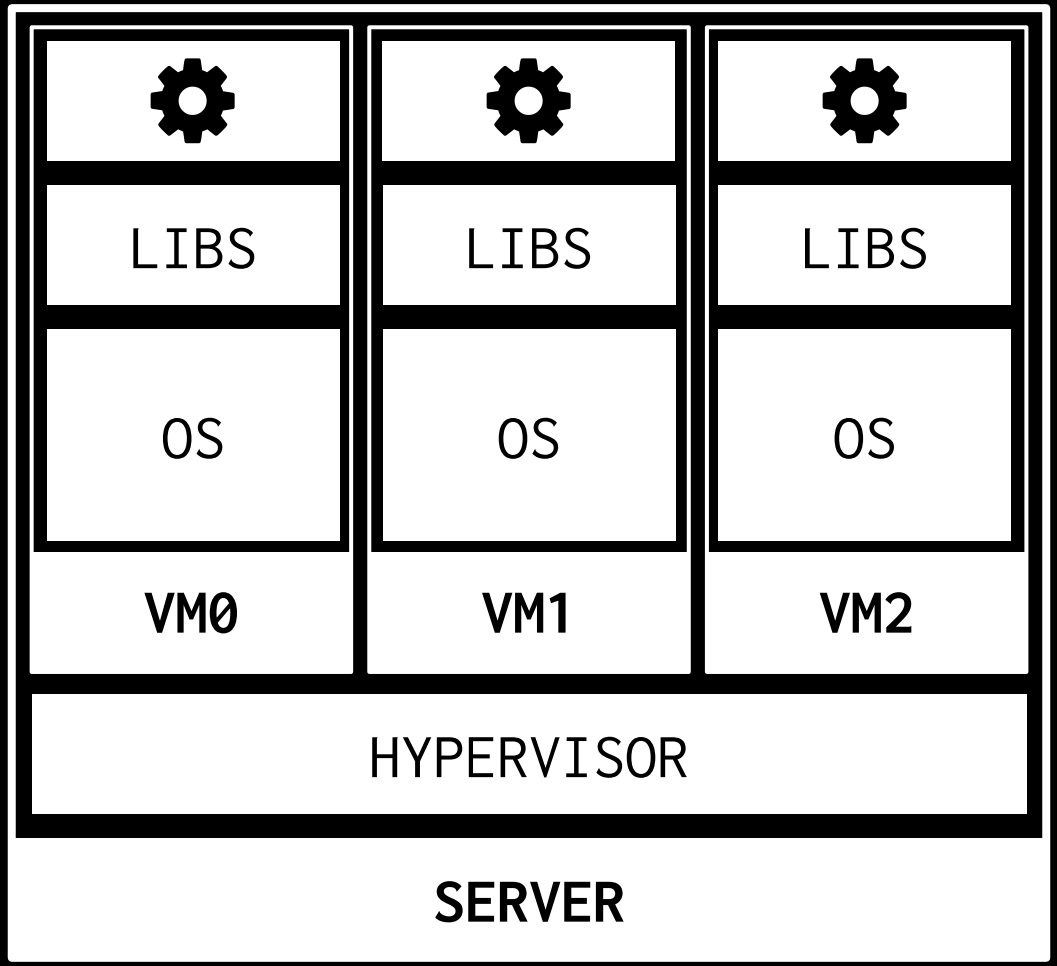
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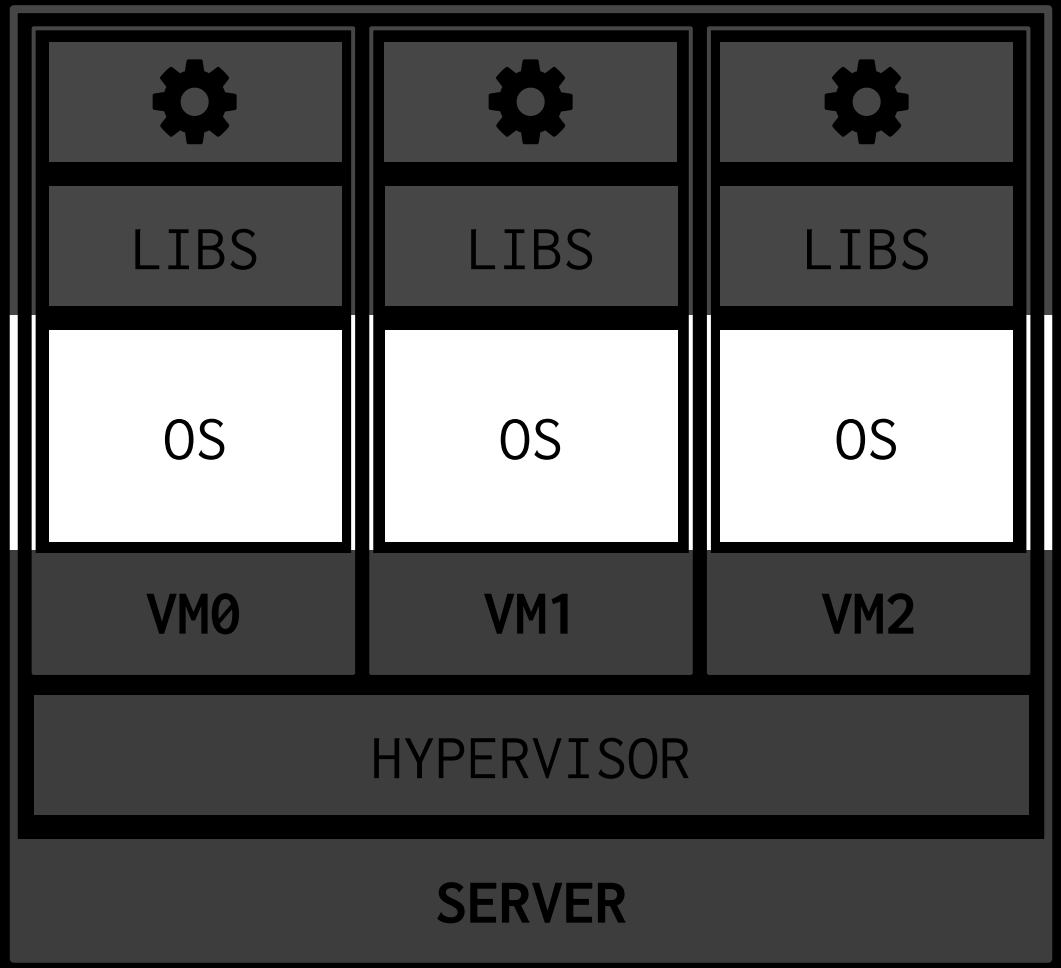
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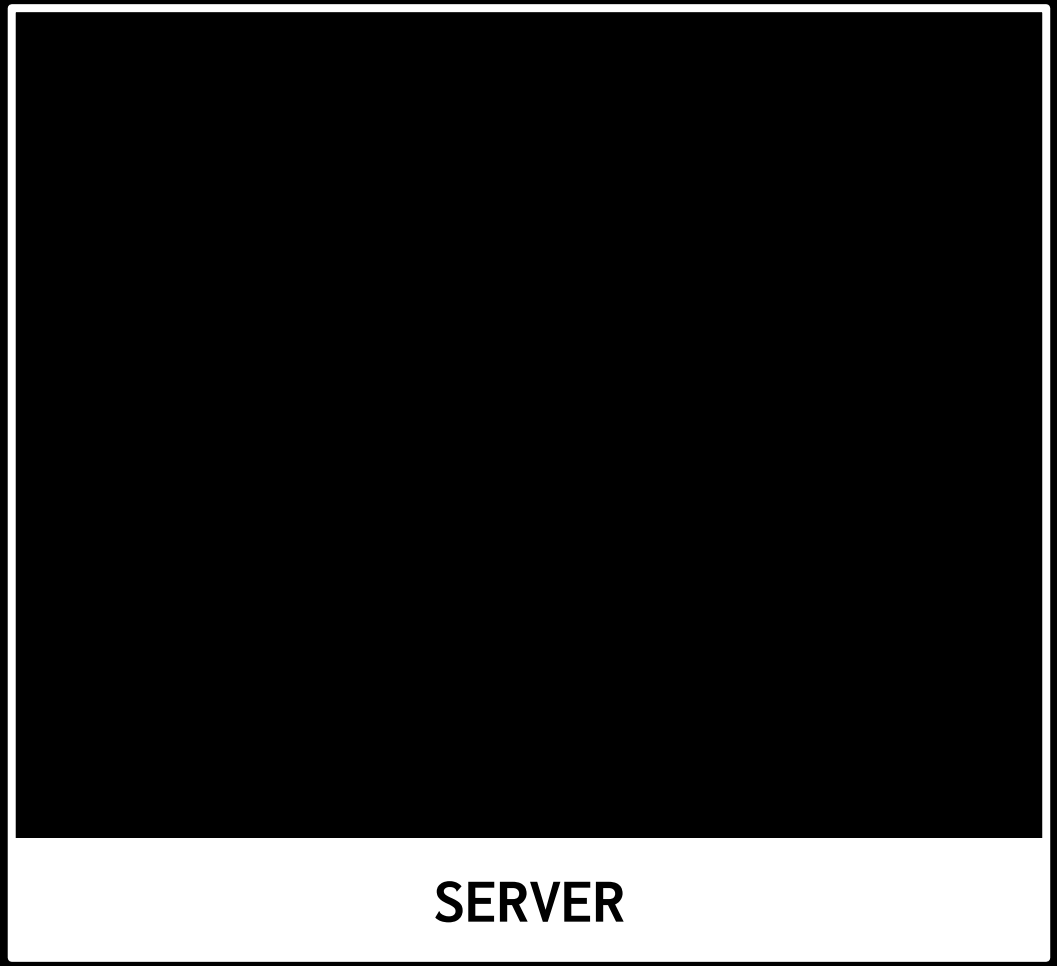
How do we reduce this large footprint?

Containers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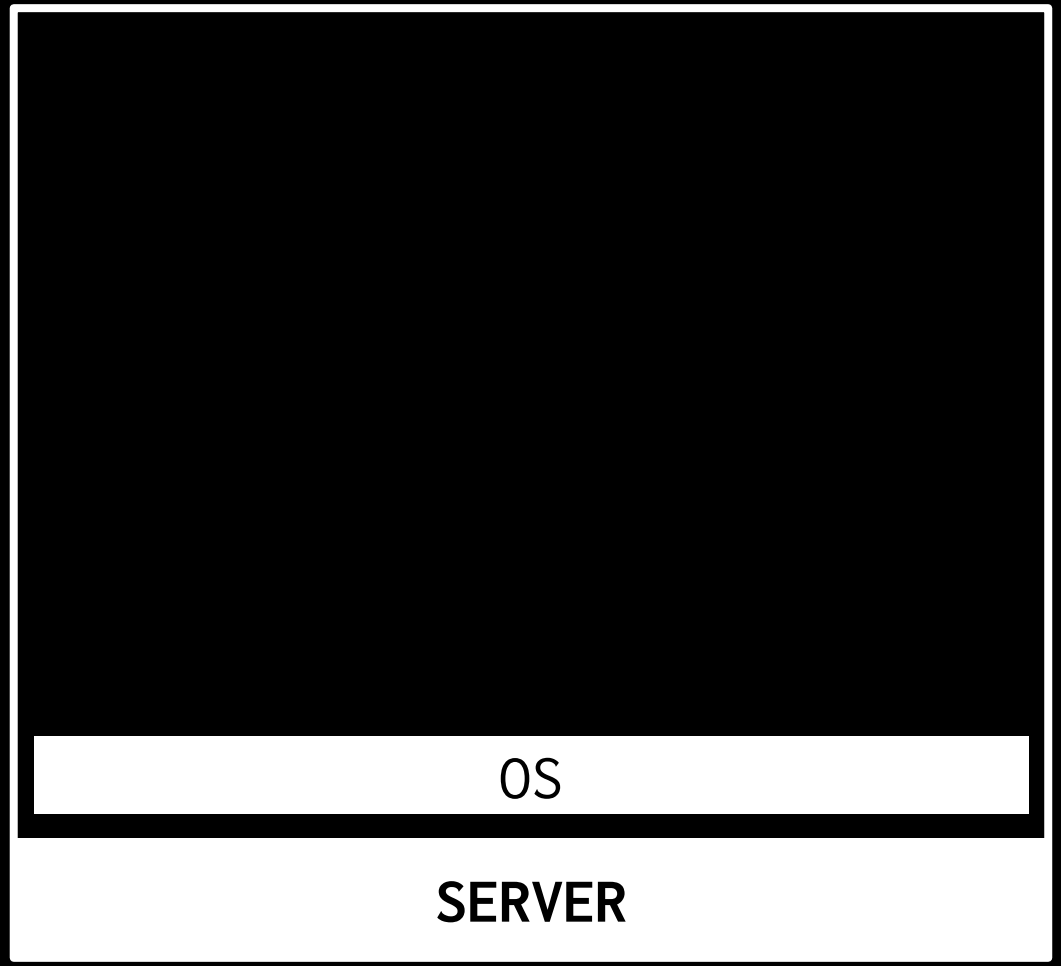
OS
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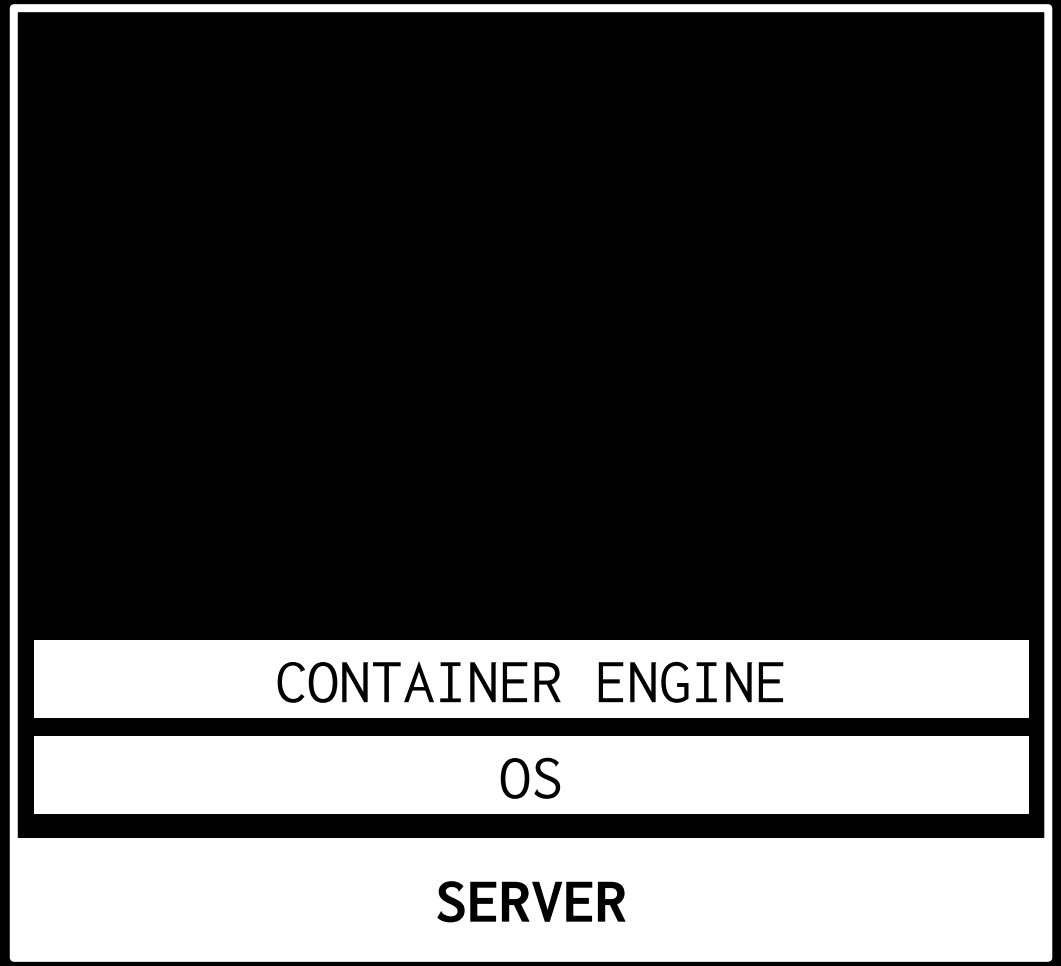
CONTAINER ENGINE
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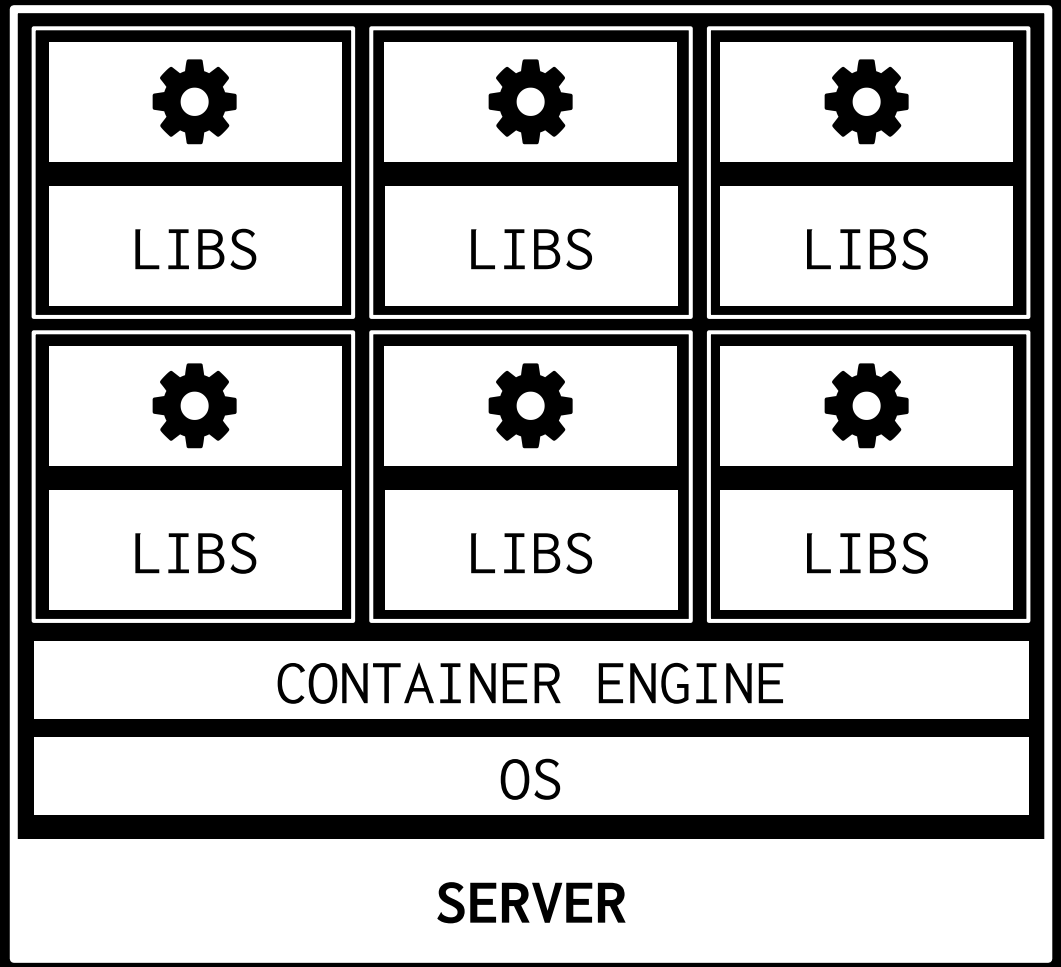
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CONTAINER ENGINE
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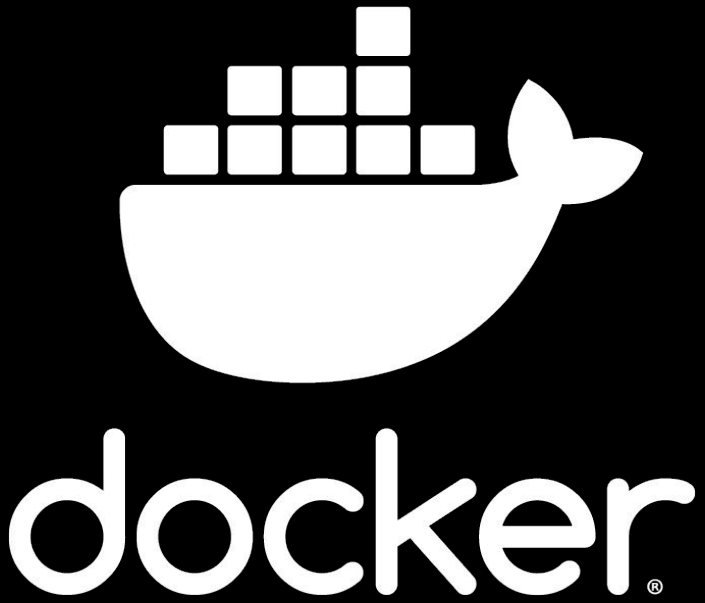
SERVER

Consistent runtime environment for applications

Application Sandboxing

Small physical size

Small resource overhead


docker

DOCKER FILE ANATOMY

Start with a base.

```
FROM python:3.7

ADD requirements.txt .
ADD mypython.py

RUN pip install -r requirements.txt

EXPOSE 5000
LABEL maintainer="pyladies-berlin"

ENTRYPOINT ["python", "mypython.py"]
```

Add in your project files.

```
FROM python:3.7

ADD requirements.txt requirements.txt
ADD mypython.py mypython.py
```

Install your project dependencies.

```
FROM python:3.7

ADD requirements.txt requirements.txt
ADD mypython.py mypython.py

RUN pip install -r requirements.txt
```

Add metadata.

```
FROM python:3.7

ADD requirements.txt requirements.txt
ADD mypython.py mypython.py

RUN pip install -r requirements.txt

EXPOSE 5000
LABEL maintainer=”pyladies-berlin”
```

Run your project.

EXAMPLE DOCKER FILE

```
FROM python:3.7

ADD requirements.txt requirements.txt
ADD mypython.py mypython.py

RUN pip install -r requirements.txt

EXPOSE 5000
LABEL maintainer=”pyladies-berlin”

ENTRYPOINT [“python”, “mypython.py”]
```

```
$ docker build . -t myimage:latest
```

https://github.com/emilywoods/pyladies-docker-workshop

COMMON DOCKER COMMANDS

```
docker pull grafana/grafana:6.4.4
```

```
docker run
    -d
    --name=grafana
    -p 9000:3000
    grafana/grafana:6.4.4
```

```
docker run
-d
--name=grafana
-p 9000:3000
grafana/grafana:6.4.4
```

```
docker run
    -d
    --name=grafana
    -p 9000:3000
    grafana/grafana:6.4.4
```

```
docker run
    -d
    --name=grafana
    -p 9000:3000
    grafana/grafana:6.4.4
```

```
docker run
    -d
    --name=grafana
    -p 9000:3000
    grafana/grafana:6.4.4
```

localhost:9000

```
docker ps
```

```
NAME     grafana
IMAGE    grafana/grafana:6.4.4
STATUS   Up 2 minutes
PORTS    0.0.0.0:9000->3000/tcp
```

```
docker logs grafana
```

```
docker stop grafana
```