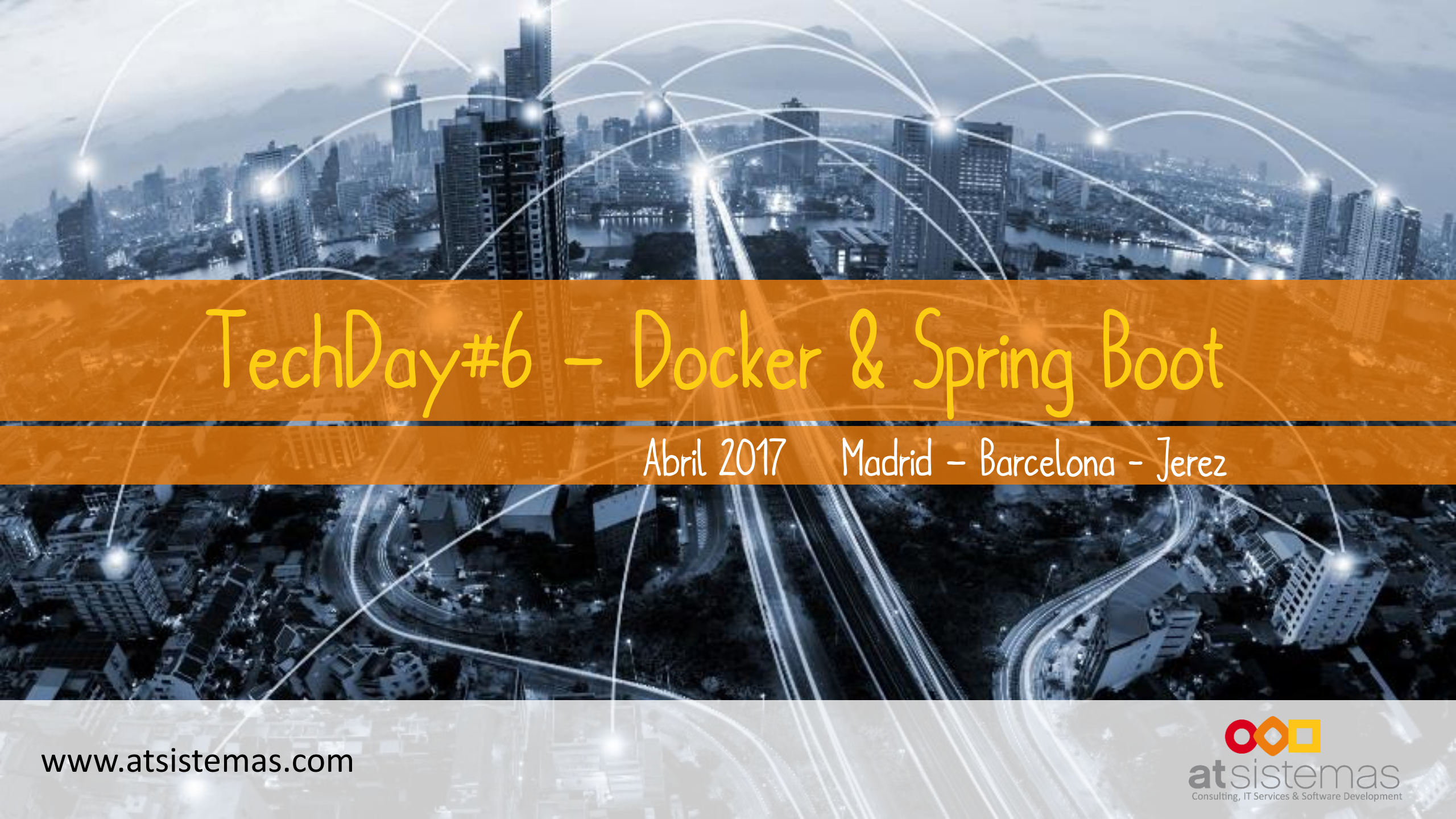

TechDay#6 – Docker & Spring Boot

Abril 2017 Madrid – Barcelona - Jerez

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Contenido de la Sesión

- Introducción a Spring Boot (30 min.)
- Introducción a Docker (30 min.)
- Desarrollo de un servicio con Spring Boot.
- Encapsulación y ejecución del servicio desarrollado en un contenedor Docker.


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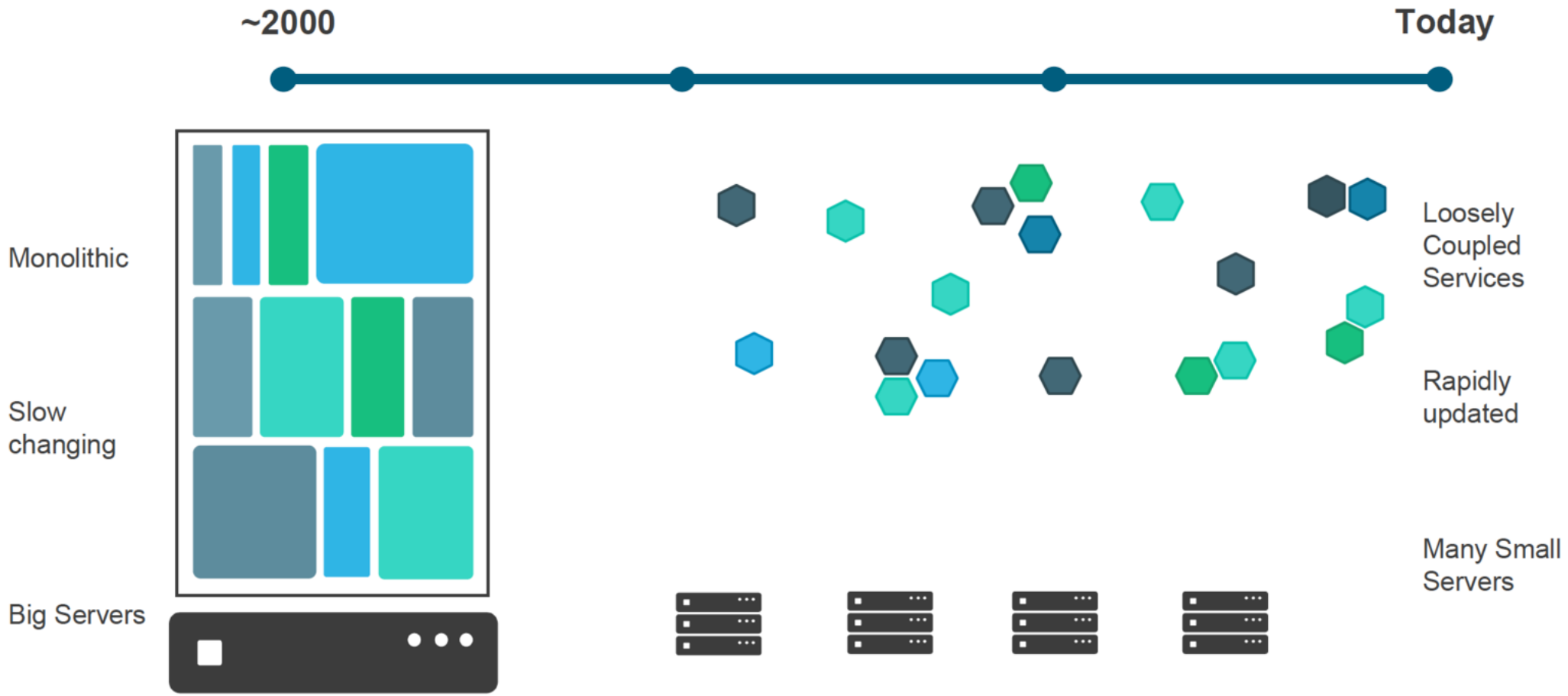
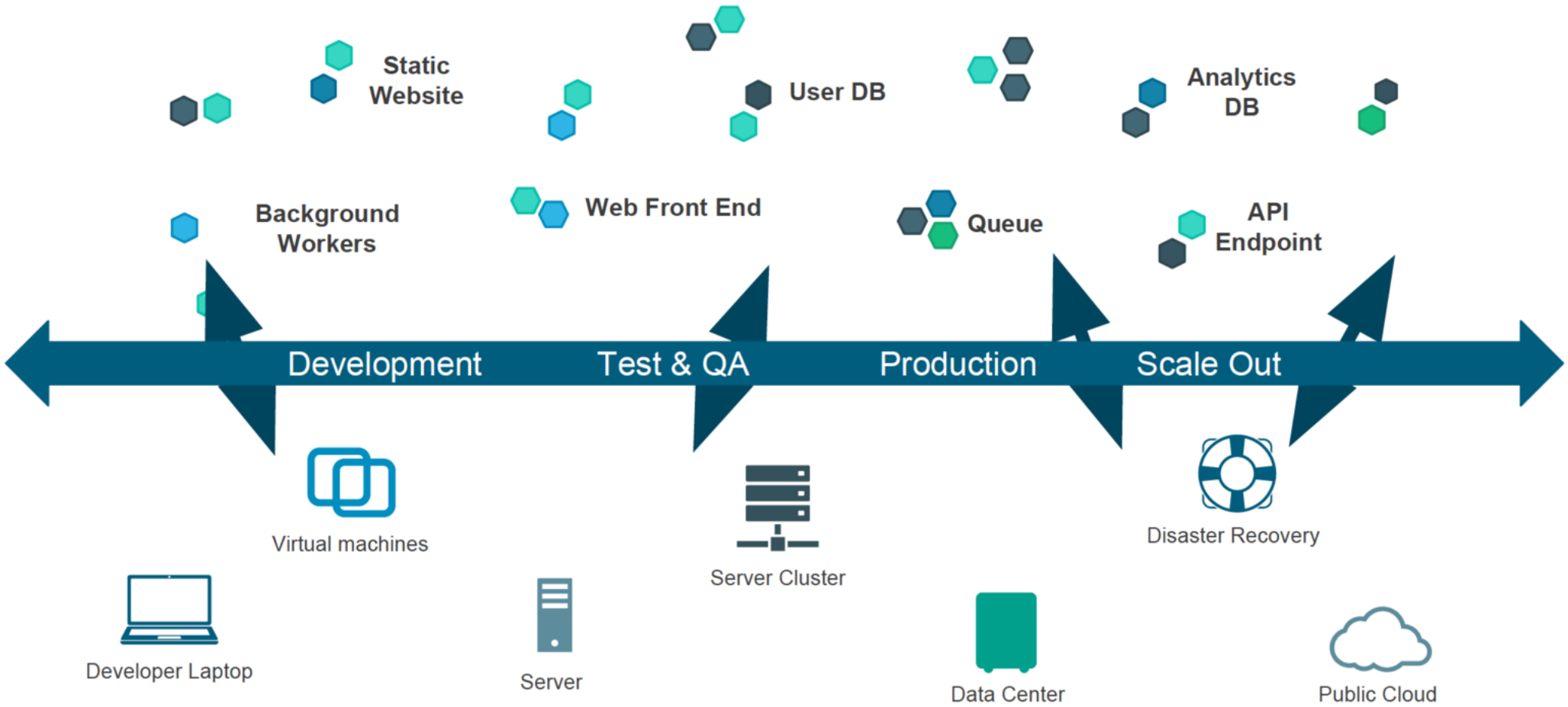
WELCOME ABOARD
docker
JS
Laurel

Applications are changing



The challenge: new matrix from hell

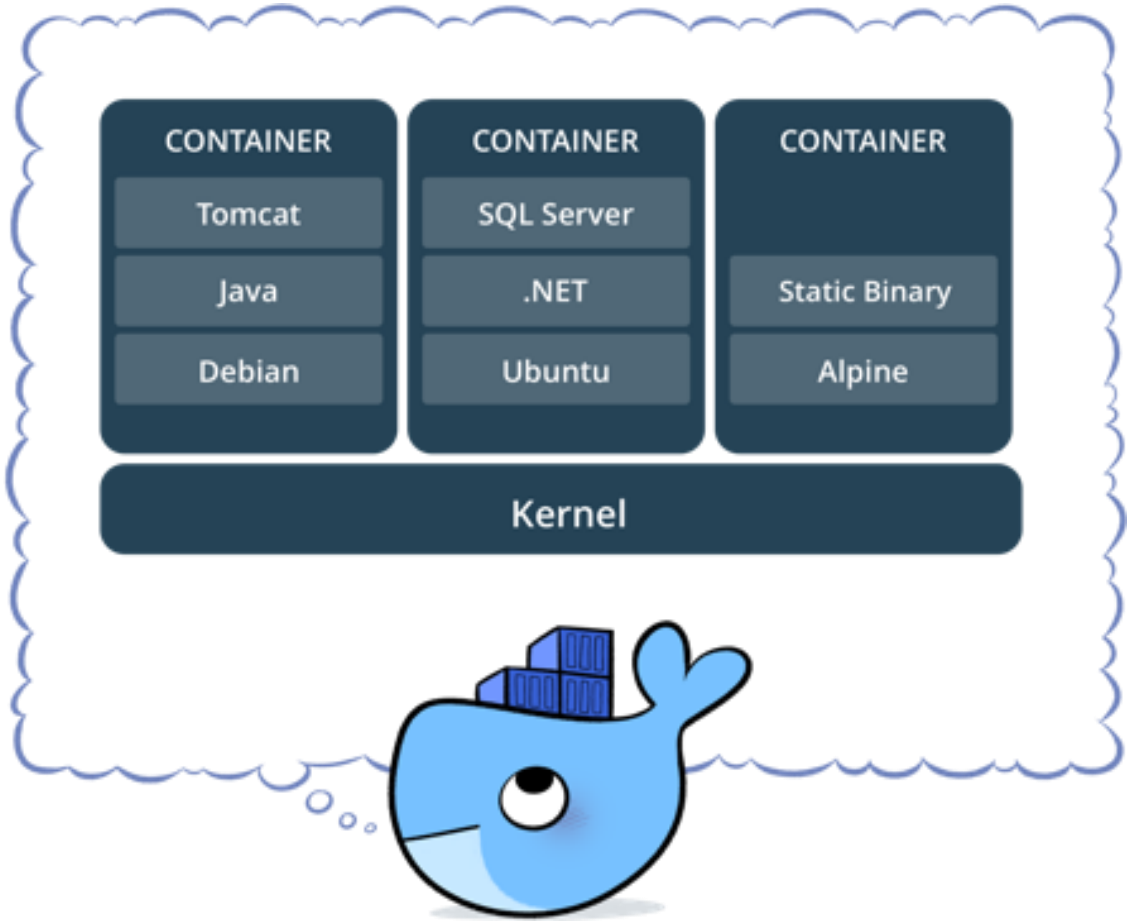


Linux Containers

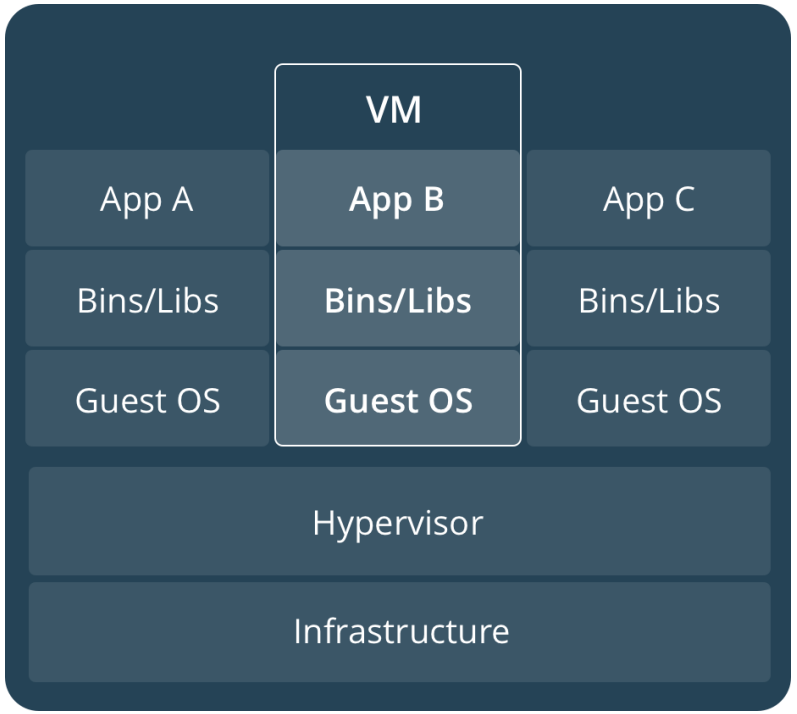
Docker is based on **LXC** (Linux Containers) which allows it to isolate containers from each other.

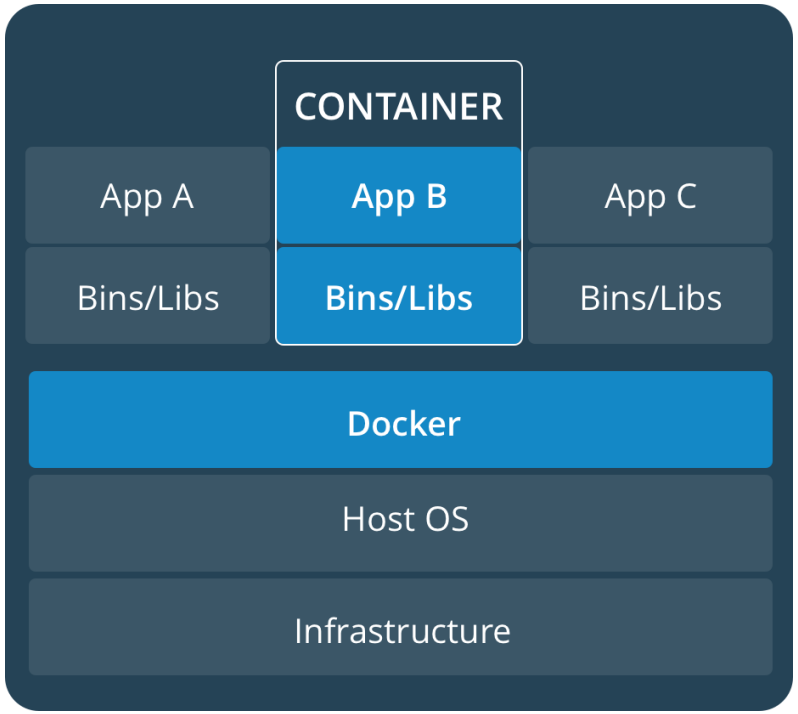
LXC use mainly two **Linux Kernel** features to achieve it :

- Namespaces (Isolation of resources)
- Cgroups (Isolation of resource usage, as CPU/RAM)



Virtual Machines vs Containers





Virtual Machines vs Containers (II)

Containers share resources with the host OS, which makes them an order of magnitude more efficient.

Containers can be started and stopped in a fraction of a second.

Applications running in containers incur little to no overhead to applications running natively on the host OS.

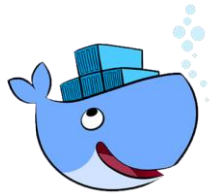
The portability of containers has the potential to eliminate a whole class of bugs caused by subtle changes in the running environment and missing libraries

—it could even put an end to the age-old developer refrain of
"but it works on my local machine!"

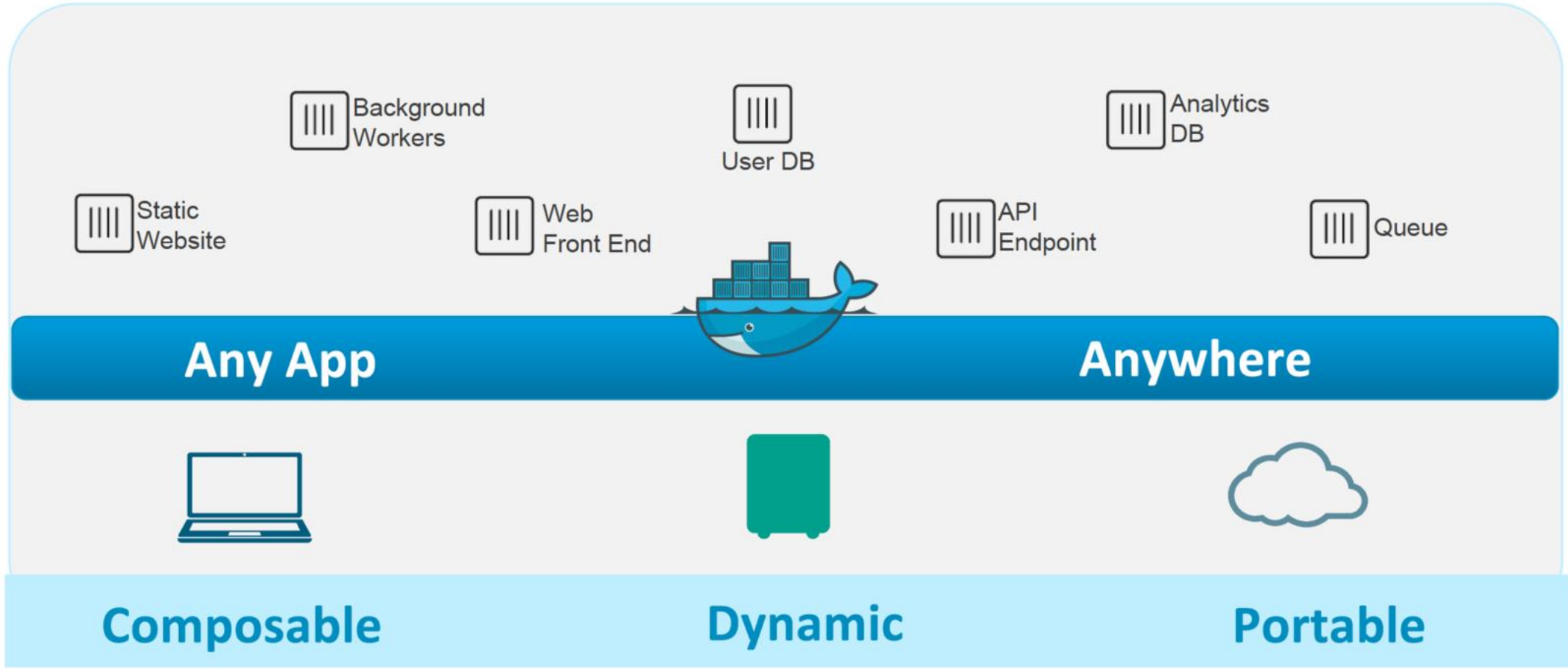
WHY DO DEVELOPERS CARE?

Build once...(finally) run anywhere

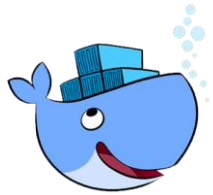
- A clean, safe and portable runtime environment for your app.
- No worries about missing dependencies, packages and other pain points during subsequent deployments.
- Automate testing, integration, packaging...anything you can script.
- Cheap, zero-penalty containers to deploy services.
- Instant replay and reset of image snapshots.



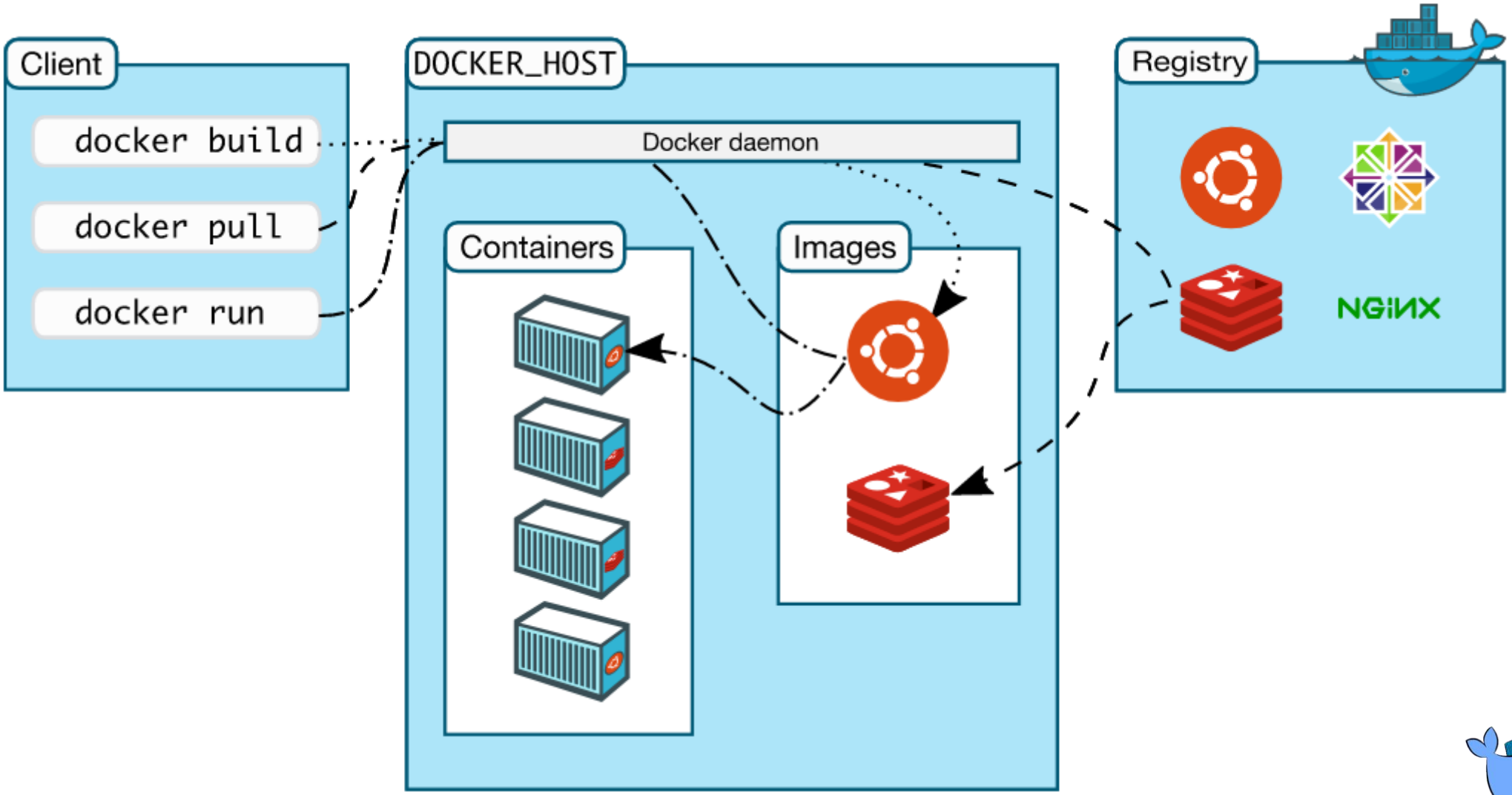
Dockerized ecosystem



Docker Ecosystem



The Docker Architecture

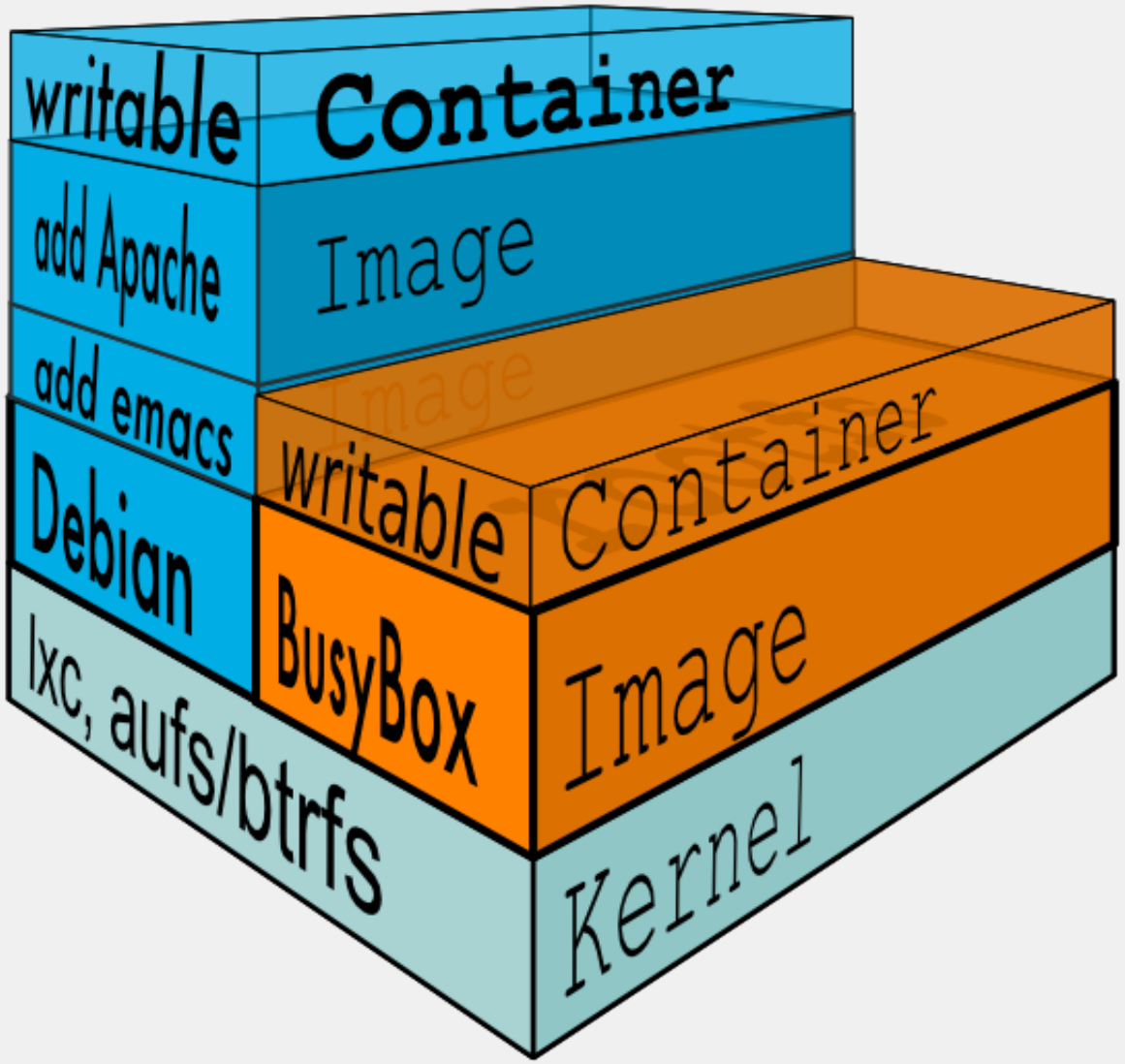


Anatomy of a Dockerfile

An image is built from a Dockerfile. A file describing how the image is supposed to behave, what it extends from, ...

```
FROM java:8-jre

ENV CATALINA_HOME /usr/local/tomcat
ENV PATH $CATALINA_HOME/bin:$PATH
RUN mkdir -p "$CATALINA_HOME"
WORKDIR $CATALINA_HOME

ENV TOMCAT_TGZ_URL https://www.apache.org/tomcat/tomcat-latest.tar.gz

RUN set -x \
        && curl -fSL "$TOMCAT_TGZ_URL" -o tomcat.tar.gz \
        && tar -xvf tomcat.tar.gz \
        && rm tomcat.tar.gz*

EXPOSE 8080

CMD ["catalina.sh", "run"]
```

How images get built



Workshop time!!

GRACIAS

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