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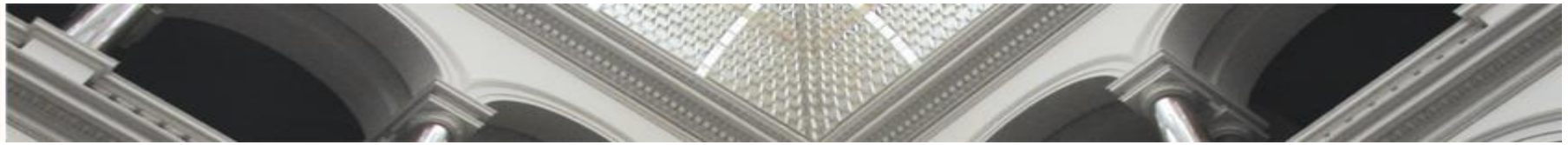
Introduction to Docker



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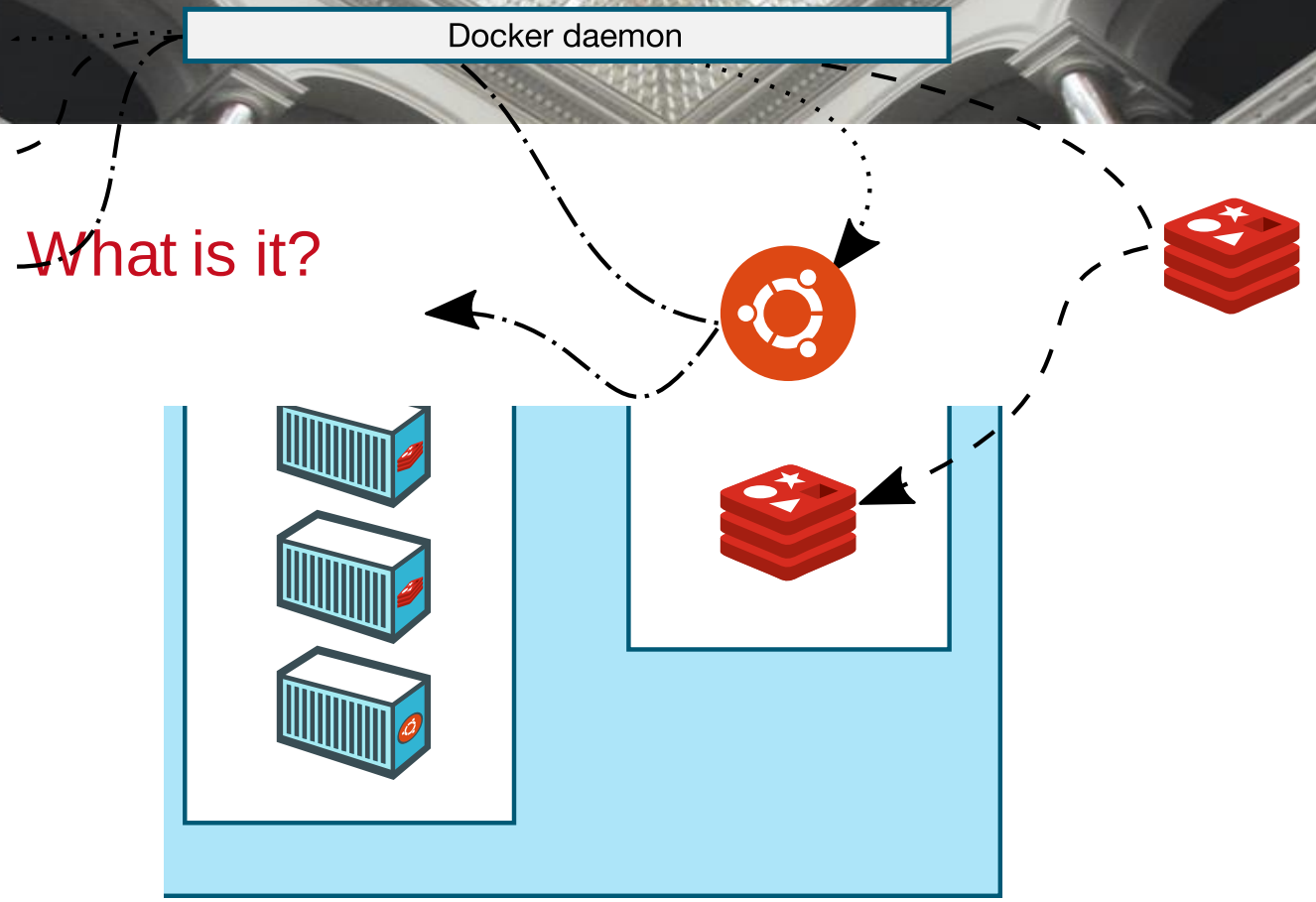
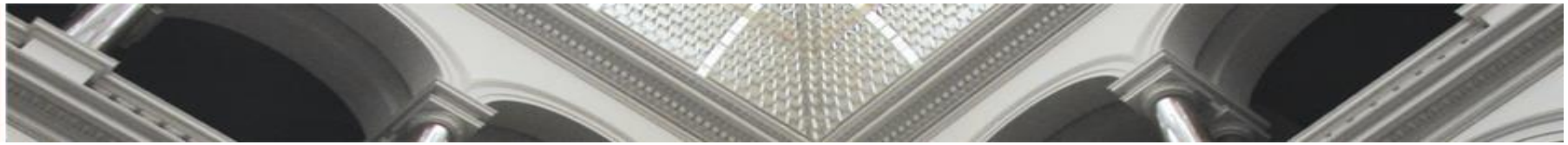
Why we need it ?

- Hassle of environment setup
- Hassle of managing dependencies for different projects
- Conflicts caused by different operating systems/environments/dependencies
- very lightweight compared to virtual machines

What is it?





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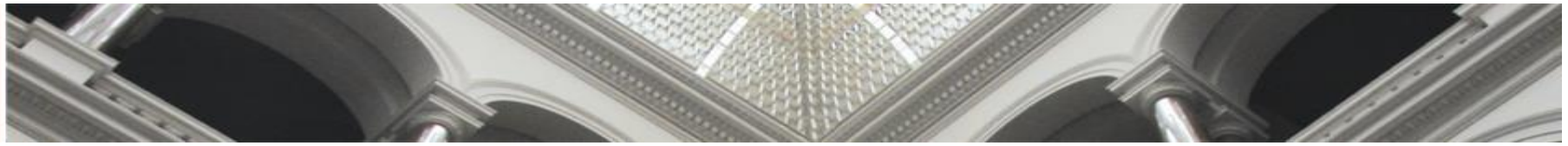
Docker file/image/container



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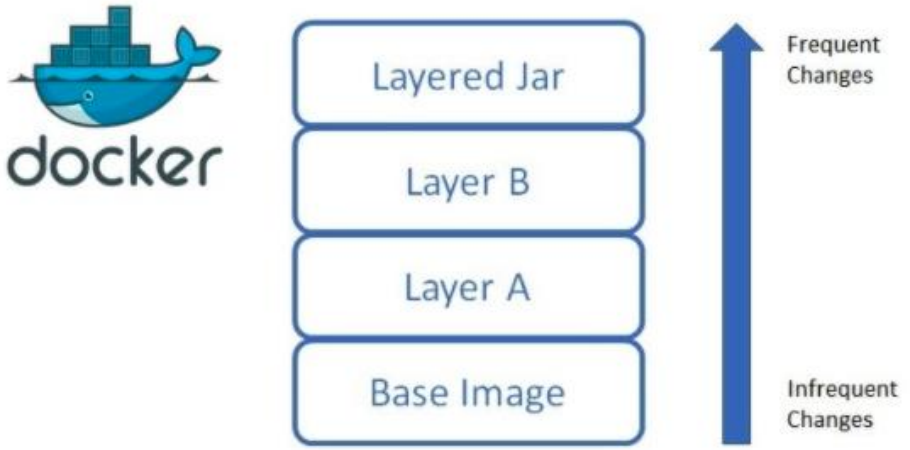
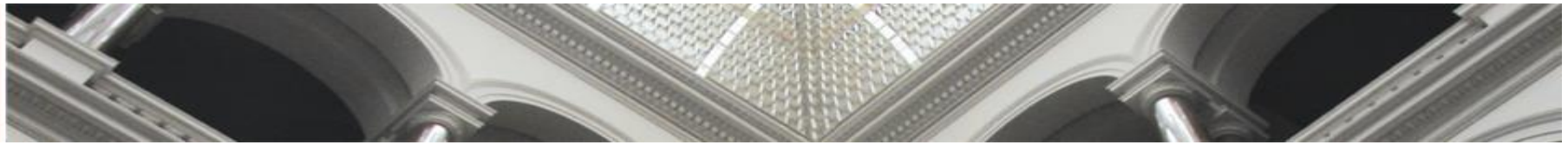
Dockerfile anatomy

```
FROM python:3.7-slim      You, 17 hours ag
WORKDIR /source
COPY . /source/
RUN pip install --upgrade pip
RUN pip install -r requirements.txt
EXPOSE 5001
CMD ["python", "app.py"]
```

Each line corresponds to a layer.





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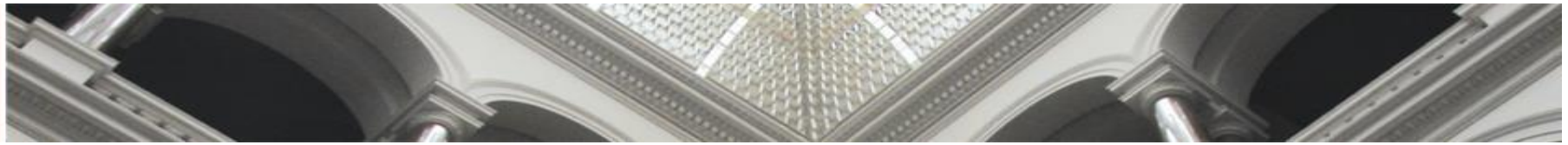
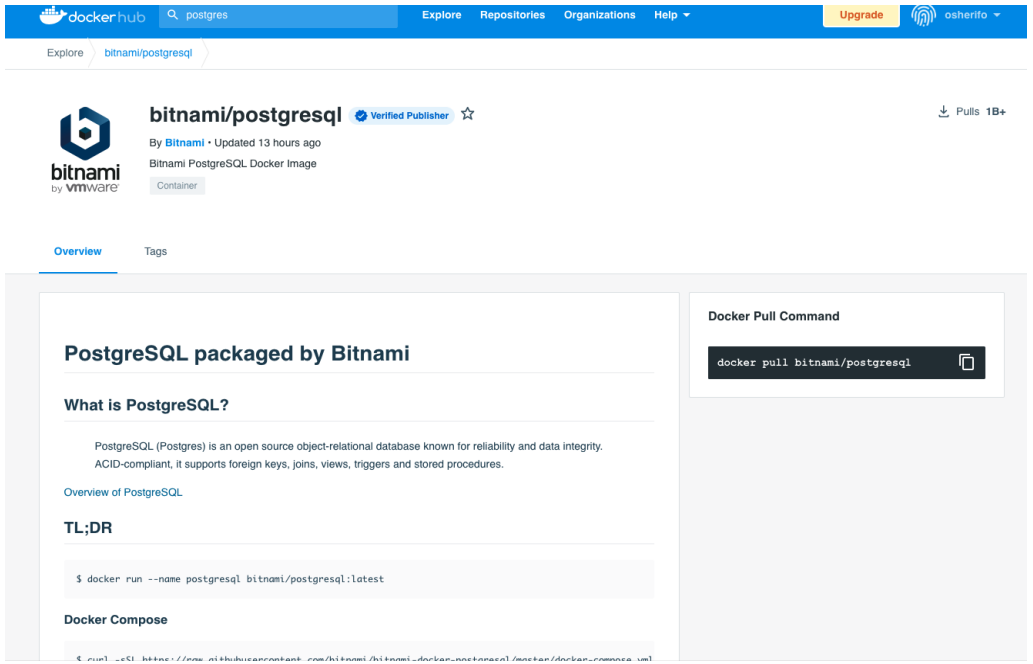
List of important commands

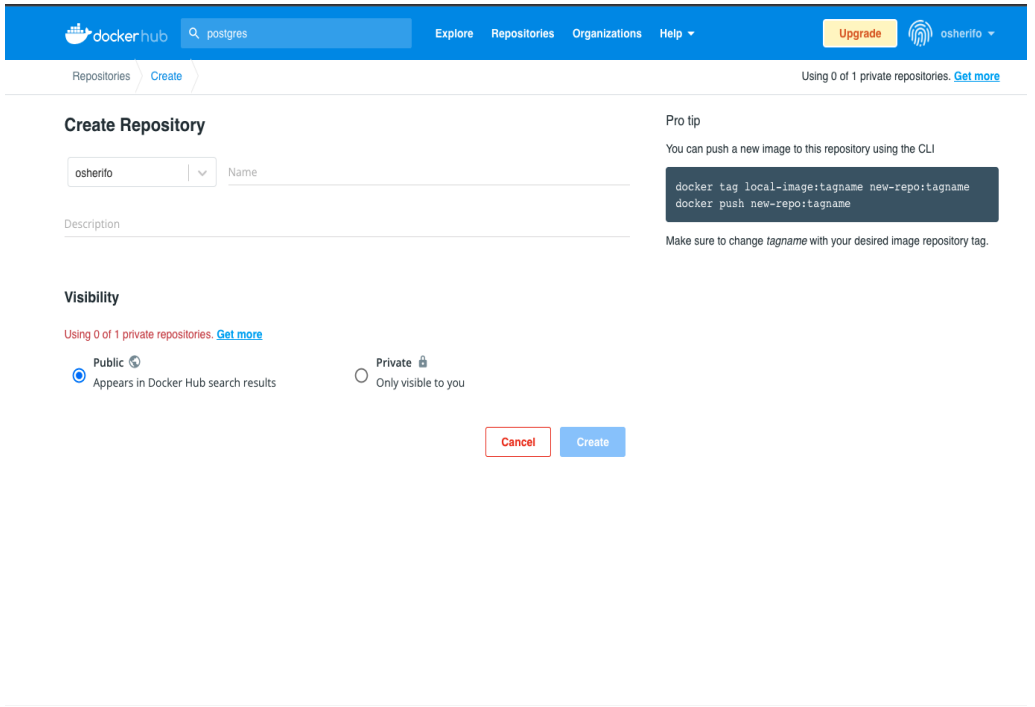
docker run – Runs a command in a new container.
docker start – Starts one or more stopped containers
docker stop – Stops one or more running containers
docker build – Builds an image form a Docker file
docker pull – Pulls an image or a repository from a registry
docker push – Pushes an image or a repository to a registry
docker exec – Runs a command in a run-time container
docker search – Searches the Docker Hub for images
docker ps – list all running containers

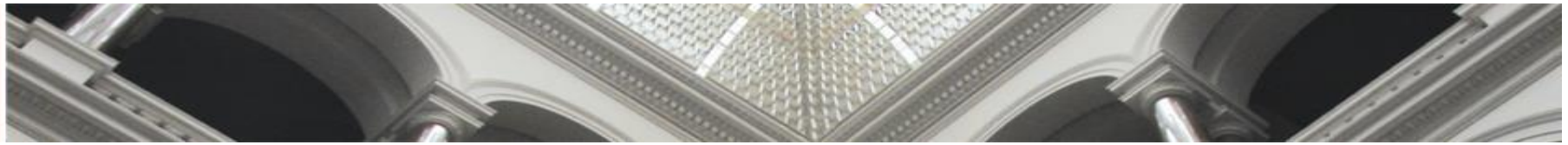


Docker Registry (Docker Hub)

Registery for housing docker images
https://hub.docker.com







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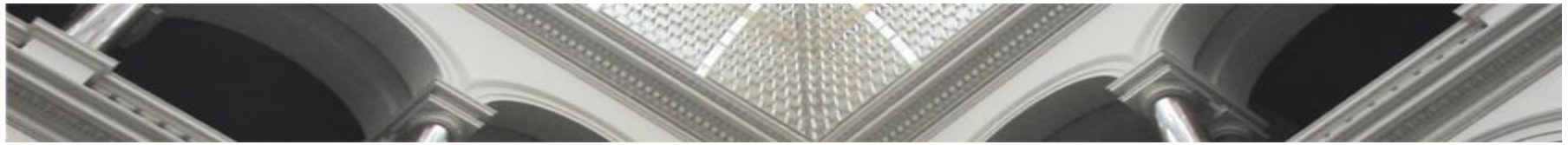
Docker-compose

```yaml
version: "3.9"
services:
  backend:
    container_name: sbe-backend
    build: ./backend
    ports:
      - 5001:5001
    volumes:
      - ./backend:/source
  database:
    container_name: sbe-database
    image: postgres:latest
    env_file: db.conf
    ports:
      - 5432:5432
    volumes:
      - postgres_data:/var/lib/postgresql
  # frontend:
  camunda:
      container_name: sbe-camunda
    # TODO :replace with our own
      image: camunda/camunda-bpm-platform:latest
      ports:
        - 8080:8080
  # camunda-simulator

volumes:
  postgres_data:
```

Docker-compose.yaml



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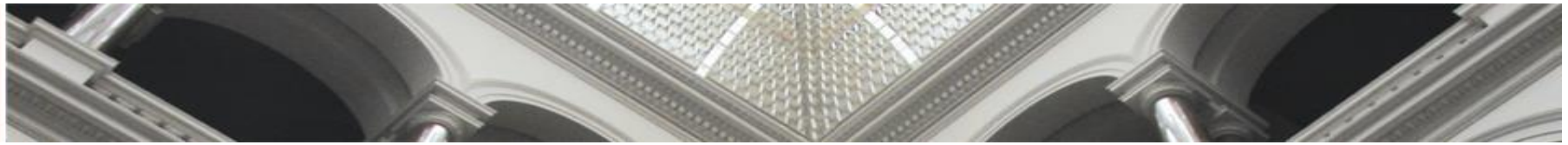
cheat sheet

https://dockerlabs.collabnix.com/docker/cheatsheet/



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Questions?