

```
root@master:/home/ubuntu/k8s-helloworld
root@master:/home/ubuntu# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
root@master:/home/ubuntu# git clone https://github.com/AkashChandran/k8s-helloworld.git
Cloning into 'k8s-helloworld'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 9 (delta 2), reused 1 (delta 1), pack-reused 4 (from 1)
Receiving objects: 100% (9/9), done.
Resolving deltas: 100% (2/2), done.
root@master:/home/ubuntu# ls
k8s-helloworld
root@master:/home/ubuntu# cd k8s-helloworld/
root@master:/home/ubuntu/k8s-helloworld# nano Dockerfile
root@master:/home/ubuntu/k8s-helloworld# cat Dockerfile
FROM python:3.12-slim
WORKDIR /app
COPY . /app
RUN pip install --no-cache-dir -r requirements.txt
ENV FLASK_APP=app.py
EXPOSE 5000
ENV FLASK_ENV=production
CMD ["flask", "run", "--host=0.0.0.0", "--port=5000"]
root@master:/home/ubuntu/k8s-helloworld# docker build -t akashchandran/k8s-helloworld
ERROR: docker: 'docker buildx build' requires 1 argument

Usage: docker buildx build [OPTIONS] PATH | URL | -

Run 'docker buildx build --help' for more information
root@master:/home/ubuntu/k8s-helloworld# docker build -t akashchandran/k8s-helloworld .
[+] Building 9.5s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring Dockerfile: 249B
=> [internal] load metadata for docker.io/library/python:3.12-slim
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/4] FROM docker.io/library/python:3.12-slim@sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8af593b1b45b7cb4180f57
=> => resolve docker.io/library/python:3.12-slim@sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8af593b1b45b7cb4180f57
=> => sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8af593b1b45b7cb4180f57 9.13kB / 0.13kB
=> => sha256:a09295c4b19f91ab6bbf02a62f2d70b87a3b7eac79fecf5260228f41dc4aa1c4 1.75kB / 1.75kB
=> => sha256:3d1d8f39b99d1a90422205bfa504475db03aabe1ae4f937fa5d4ed1076ad8d 5.51kB / 5.51kB
=> => sha256:8a628cd7ccc8e90e5a9588bfc0ec24b991141176c515ad101f12d6433e696 28.23MB / 28.23MB
docker: default

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root@master:/var/lib/docker/overlay2
root@master:/var/lib/docker/overlay2#
=> => extracting sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8af593b1b45b7cb4180f57
=> [internal] load build context
=> => transferring context: 37.06kB
=> [2/4] WORKDIR /app
=> [3/4] COPY . /app
=> [4/4] RUN pip install --no-cache-dir -r requirements.txt
=> => exporting to image
=> => exporting layers
=> => writing image sha256:855d038a9a1b61fcd23580ae59deb0cea485e076e789385c724accb746b26b7f
=> => naming to docker.io/akashchandran/k8s-helloworld
root@master:/home/ubuntu/k8s-helloworld# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
root@master:/home/ubuntu/k8s-helloworld# docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
akashchandran/k8s-helloworld   latest             855d038a9a1b       32 seconds ago     137MB
root@master:/home/ubuntu/k8s-helloworld# docker run -dit -p 5000:5000 akashchandran/k8s-helloworld
524c453fa961f35dcece71a31a3cc2357768267f0e9af8130a2f2ab09b29853
root@master:/home/ubuntu/k8s-helloworld# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
524c453fa961       akashchandran/k8s-helloworld   "flask run --host=0.0.0.0"   4 seconds ago      Up 4 seconds        0.0.0.0:5000->5000/tcp, [::]:5000->5000/tcp   competent_gates
root@master:/home/ubuntu/k8s-helloworld# docker exec -it 524c453fa961 bash
root@524c453fa961:/app# ls
Dockerfile  README.md  pycache__  app.py  requirements.txt
root@524c453fa961:/app# exit
exit
root@master:/home/ubuntu/k8s-helloworld# cd /var/lib/docker/
root@master:/var/lib/docker# ls
buildkit  containers  engine-id  image  network  overlay2  plugins  runtimes  swarm  tmp  volumes
root@master:/var/lib/docker# cd containers/
root@master:/var/lib/docker/containers# ls
524c453fa961f35dcece71a31a3cc2357768267f0e9af8130a2f2ab09b29853
root@master:/var/lib/docker/containers# cd ..
root@master:/var/lib/docker# ls
buildkit  containers  engine-id  image  network  overlay2  plugins  runtimes  swarm  tmp  volumes
root@master:/var/lib/docker# cd overlay2/
root@master:/var/lib/docker/overlay2# ls
497d23b18eae7e4b33ce1f8eb0e9097150a28c24d98723c42b971bc3db  ab4873171869ac71446cc9aeaf640fd41f100b546aea0e50b364a735dfe40-init  tx8n2kx0427acf02zhrh34qt
584b09e1f735c36eff8ed5d1e4e557b10a6172f768a7ef9bdfc944aa8a5a  ac305b0yqdxde18osyqyb2qu  vlgfzor5yti1v1l9do524c.un
8ea726412f73b1c2b43e032fe580207108667bed045e87f8a79b899d3b23414  l  w15yqwc2c7039ezcjw91m7jrf
971d827fae0be04181d1a36f6a0fcf4f24ef700343a32bdb1130101e5e408e6  p8auqjrgbl5x08z7w94uatok2
ab4873171869ac71446cc9aeaf640fd41f100b546aea0e50b364a735dfe40  s3f10wcrb2x1lqylel9wb2
root@master:/var/lib/docker/overlay2#
```

FROM python:3.12-slim

WORKDIR /app

COPY . /app

RUN pip install --no-cache-dir -r requirements.txt

ENV FLASK_APP=app.py

EXPOSE 5000

ENV FLASK_ENV=production

CMD ["flask", "run", "--host=0.0.0.0", "--port=5000"]

Docker ps - to show the running container

Docker images -- to see the docker images

Docker build -t akashchandran/k8s-helloworld .

Docker run -dit -p 5000:5000 akashchandran/k8s-helloworld