Build, Publish and Run a Docker Image on Digital Ocean from Bitbucket Pipeline on Push

Dockerfile Frontend api

```
# pull official base image
FROM node:13.12.0-alpine
# add a bash shell to the image
RUN apk add --no-cache bash
# set working directory
WORKDIR /app

# add `/app/node_modules/.bin` to $PATH
ENV PATH /app/node_modules/.bin:$PATH
RUN echo "Path: $PATH"
# install app dependencies
COPY package.json ./
COPY package-lock.json ./
RUN npm install --silent
RUN npm install react-scripts@3.4.1 -g --silent

# add All to app
COPY . ./

# start app
# CMD ["npm", "start"]
# Best-Practice with ENTRYPOINT!
ENTRYPOINT ["npm", "start"]
```

Stage 1: build and run

bitbucket-pipelines.yml

```yaml
# Template docker-push
# This template allows you to build and push your docker image to a Docker Hub account.
# The workflow allows running tests, code linting and security scans on feature branches (as well as master).
# The docker image will be validated and pushed to the docker registry after the code is merged to master.
# Prerequisites: $DOCKERHUB_USERNAME, $DOCKERHUB_PASSWORD setup as deployment variables

image: atlassian/default-image:2

pipelines:
  default:
    - parallel:
        - step:
            name: Build and Test
            script:
              - IMAGE_NAME=$BITBUCKET_REPO_SLUG
              - echo $IMAGE_NAME
              - docker build . --file Dockerfile --tag ${IMAGE_NAME}
            services:
              - docker
            caches:
              - docker
        - step:
            name: Lint the Dockerfile
            image: hadolint/hadolint:latest-debian
            script:
              - hadolint Dockerfile
  branches:
    master:
      - step:
          name: Build and Test
          script:
            - IMAGE_NAME=$BITBUCKET_REPO_SLUG
            - docker build . --file Dockerfile --tag ${IMAGE_NAME}
            - docker save ${IMAGE_NAME} --output "${IMAGE_NAME}.tar"
          services:
            - docker
          caches:
            - docker
          artifacts:
            - "*.tar"
```

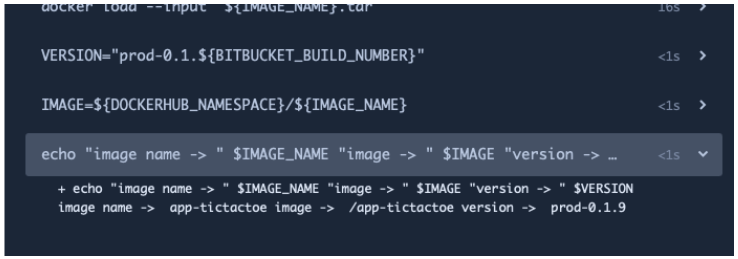
Stage 1: build and Test run parallell set
DOCKER_HUB USERNAME and password as variable
IMAGE_NAME: app-cart
IMAGE: /app-cart
VERSION: prod-0.1.X BB Build Number

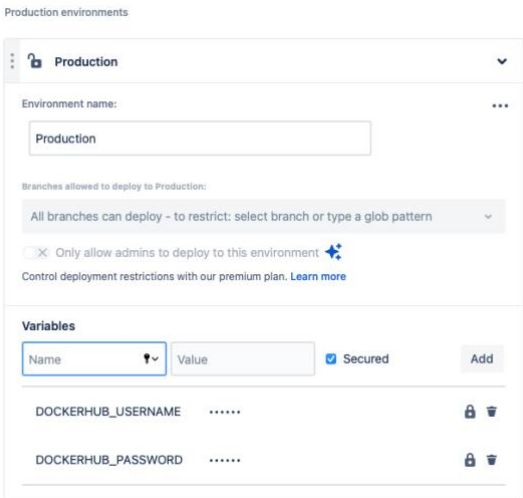
```
docker build . -file Dockerfile --tag app-cart
docker save app-cart -output app-cart.tar
```

```yaml
- step:
    name: Deploy to Production
    deployment: Production
    script:
      - echo ${DOCKERHUB_PASSWORD} | docker login --username "$DOCKERHUB_USERNAME" --password-stdin
      - IMAGE_NAME=$BITBUCKET_REPO_SLUG
      - echo "image name -> " $IMAGE_NAME "image -> " $IMAGE
      - docker load --input "${IMAGE_NAME}.tar"
      - VERSION="prod-0.1.${BITBUCKET_BUILD_NUMBER}"
      - IMAGE=${DOCKERHUB_NAMESPACE}/${IMAGE_NAME}
      - echo "image name -> " $IMAGE_NAME "image -> " $IMAGE "version -> " $VERSION
      - docker tag "${IMAGE_NAME}" "${DOCKERHUB_USERNAME}${IMAGE}:${VERSION}"
      - docker push "${DOCKERHUB_USERNAME}${IMAGE}:${VERSION}"
    services:
      - docker
```

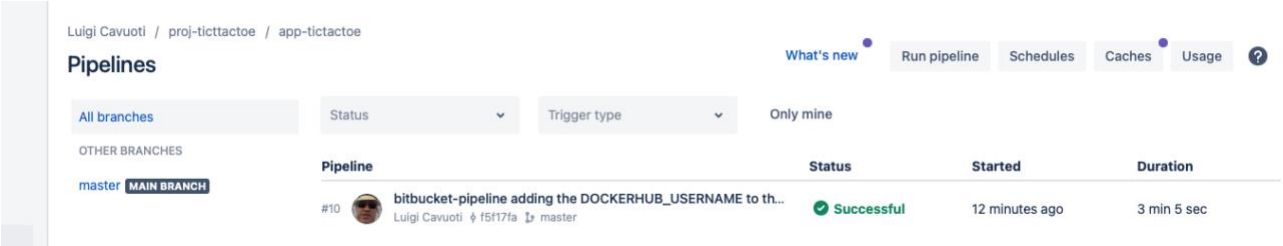
Stage 1: Deploy to Production
docker push to docker - hub

echo to console ->



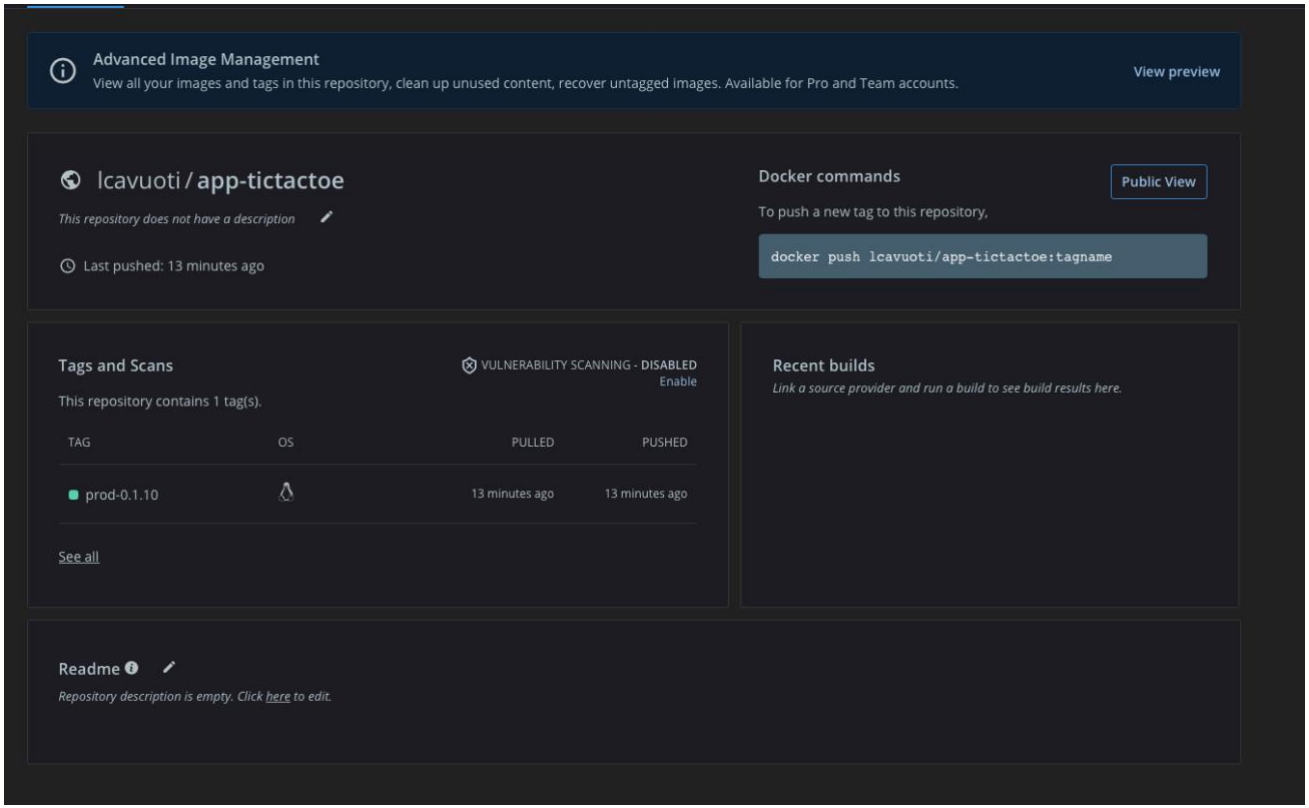


it functions now:



docker push
-t tag: lcavuoti
($DOCKERHUB_USERNAME)
cart -> name of the app ($IMAGE)
tag: latest | 1 | etc. ($VERSION)

Docker-Hub new Image on git – Push (bitbucket)



Docker credentials https://docs.docker.com/engine/reference/commandline/login/

```
code $HOME/.docker/config.json
```

```
{
  "auths": {
    "registry.heroku.com": {},
    "https://index.docker.io/v1/": {}
  },
  "credsStore": "desktop",
  "stackOrchestrator": "swarm",
  "experimental": "disabled"
}
```

bitbucket-pipelines.yml-manually

```yaml
# Template docker-push
# This template allows you to build and push your docker image to a Docker Hub account.
# The workflow allows running tests, code linting and security scans on feature branches (as well as master).
# The docker image will be validated and pushed to the docker registry after the code is merged to master.
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              - docker
        - step:
            name: Lint the Dockerfile
            image: hadolint/hadolint:latest-debian
            script:
              - hadolint Dockerfile
  branches:
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          name: Build and Test
          script:
            - IMAGE_NAME=$BITBUCKET_REPO_SLUG
            - docker build . --file Dockerfile --tag ${IMAGE_NAME}
            - docker save ${IMAGE_NAME} --output "${IMAGE_NAME}.tar"
          services:
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          caches:
            - docker
          artifacts:
            - "*.tar"
```

Stage 1: build and Test run parallell set
DOCKER_HUB USERNAME and password as variable
IMAGE_NAME: app-cart
IMAGE: /app-cart
VERSION: prod-0.1.X BB Build Number

```
-- make an image and than a .tar file
docker build . --file Dockerfile --tag app-cart
docker save app-cart --output app-cart.tar
```

```yaml
- step:
    name: Deploy to Production
    deployment: Production
    script:
      - echo ${DOCKERHUB_PASSWORD} | docker login --username "$DOCKERHUB_USERNAME" --password-stdin
      - IMAGE_NAME=$BITBUCKET_REPO_SLUG
      - echo "image name -> " $IMAGE_NAME "image -> " $IMAGE
      - docker load --input "${IMAGE_NAME}.tar". // load the image from a tar file
      - VERSION="prod-0.1.${BITBUCKET_BUILD_NUMBER}"
      - IMAGE=${DOCKERHUB_NAMESPACE}/${IMAGE_NAME}
      - echo "image name -> " $IMAGE_NAME "image -> " $IMAGE "version -> " $VERSION
      - docker tag "${IMAGE_NAME}" "${DOCKERHUB_USERNAME}${IMAGE}:${VERSION}" // make a new image with the full tag
      - docker push "${DOCKERHUB_USERNAME}${IMAGE}:${VERSION}". // push to docker-hub
    services:
      - docker
```

Stage 1: Deploy to Production
docker push to docker - hub

echo to console ->

1. build the image

```
docker build . --file Dockerfile --tag app-cart
```

```
$ docker images
REPOSITORY          TAG          IMAGE ID       CREATED          SIZE
app-cart            latest       705f2dbf7711   20 minutes ago   25MB
```

2. save image to a tar file

```
docker save app-cart --output app-cart.tar
$ ls *.tar
app-cart.tar
```

3. Production -> new Context (load the image from the .tar file)

```
$ docker load –-input app-cart.tar
$ docker images
REPOSITORY          TAG          IMAGE ID       CREATED          SIZE
app-cart            latest       705f2dbf7711   24 minutes ago   25MB
```

4. make a new tag

```
$ docker tag app-cart lcavuoti/app-cart:prod-0.1.10
$ docker images
REPOSITORY          TAG           IMAGE ID       CREATED          SIZE
lcavuoti/app-cart   prod-0.1.1    705f2dbf7711   26 minutes ago   25MB
lcavuoti/app-cart   prod-0.1.10   705f2dbf7711   26 minutes ago   25MB
app-cart            latest        705f2dbf7711   26 minutes ago   25MB
```

5. push to docker hub

```
$ docker push lcavuoti/app-cart:prod-0.1.10
The push refers to repository [docker.io/lcavuoti/app-cart]
d3c0b545f7e1: Layer already exists
3810cc0c140f: Layer already exists
3e207b409db3: Layer already exists
prod-0.1.10: digest: sha256:36432601d79f3200c8ab83fbfa3b93605405227d54a8cf445ee9f43ce50cc654 size: 950
```

lcavuoti / app-cart

This repository does not have a description

Last pushed: a minute ago

Docker comm

To push a new ta

```
docker push
```

Tags and Scans

VULNERABILITY SCANNING - **DISABLED**
Enable

This repository contains 6 tag(s).

TAG	OS	PULLED	PUSHED
prod-0.1.10		17 minutes ago	a minute ago

Recent build

Link a source pr