Deploying a private Registry

Private registry

A local Docker registry can be useful in many situations

- images contain private data or informations
- need to test specific applications
- speed and reliability
- other applications require the service

Private registry

A local Docker registry can be useful in many situations

- images contain private data or informations
  - passwords
  - user names
  - network configurations
  - mount points
- need to test specific applications
- speed and reliability
- other applications require the service

Private registry

A local Docker registry can be useful in many situations

- images contain private data or informations
- need to test specific applications
- speed and reliability
  - good internet connection
  - not limited by number of images or containers
  - lots of disk space
- other applications require the service

Private registry

A local Docker registry can be useful in many situations

- images contain private data or informations
- need to test specific applications
- speed and reliability
- other applications require the service
  - workflow managers may use Docker container for running the pipelines
  - other container technologies depends on custom Docker images

Docker Registry: run

Run an insecure registry

```
$ docker run -d -p 5000:5000 \
           --restart=always \
           --name registry registry:2
```

!!! WARNING !!! this is an insecure registry.

Docker Registry: run

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This registry runs on the localhost

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Docker Registry: run

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This registry runs on the localhost

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is INSECURE but it's OK for testing.

Docker Registry: run

Check if the registry is running

```
$docker ps
CONTAINER ID  IMAGE       COMMAND
d37dd351dd30  registry:2 "/entrypoint.sh /e..."

CREATED     STATUS     PORTS
15 min ago Up 15 min 0.0.0.0:5000->5000/tcp

NAMES
registry
```

Docker Registry: load an image

Get an image from the net

```
$ docker pull ubuntu:18.04
```

Docker Registry: load an image

Tag the image with a proper name

```
$ docker tag ubuntu:18.04 \
    localhost:5000/user/mydistro:18.04
```

Docker Registry: load an image

Push the image to the local repository

```
$ docker push \
  localhost:5000/user/mydistro:18.04
```

Docker Registry: list images

Docker works with HTTP API (v2)

```
$ curl -v http://localhost:5000/v2/_catalog
```

documentation

Docker Registry: list images

```
< HTTP/1.1 200 OK
< Content-Type: application/json; charset=utf-8
< Docker-Distribution-Api-Version: registry/2.0
< X-Content-Type-Options: nosniff
< Date: Tue, 25 Sep 2018 13:36:04 GMT
< Content-Length: 52
<
{"repositories":["gianluca/ubuntu","raoul/ubuntu"]}
* Connection #0 to host localhost left intact
```

Docker Registry: get tags

```
$ curl http://localhost:5000/raoul/ubuntu/tags/list
{"name":"raoul/ubuntu","tags":["18.04"]}
```

Docker Registry: get details

```
$ curl http://localhost:5000/raoul/ubuntu/manifests/18.04
```

Docker Hub: public registry

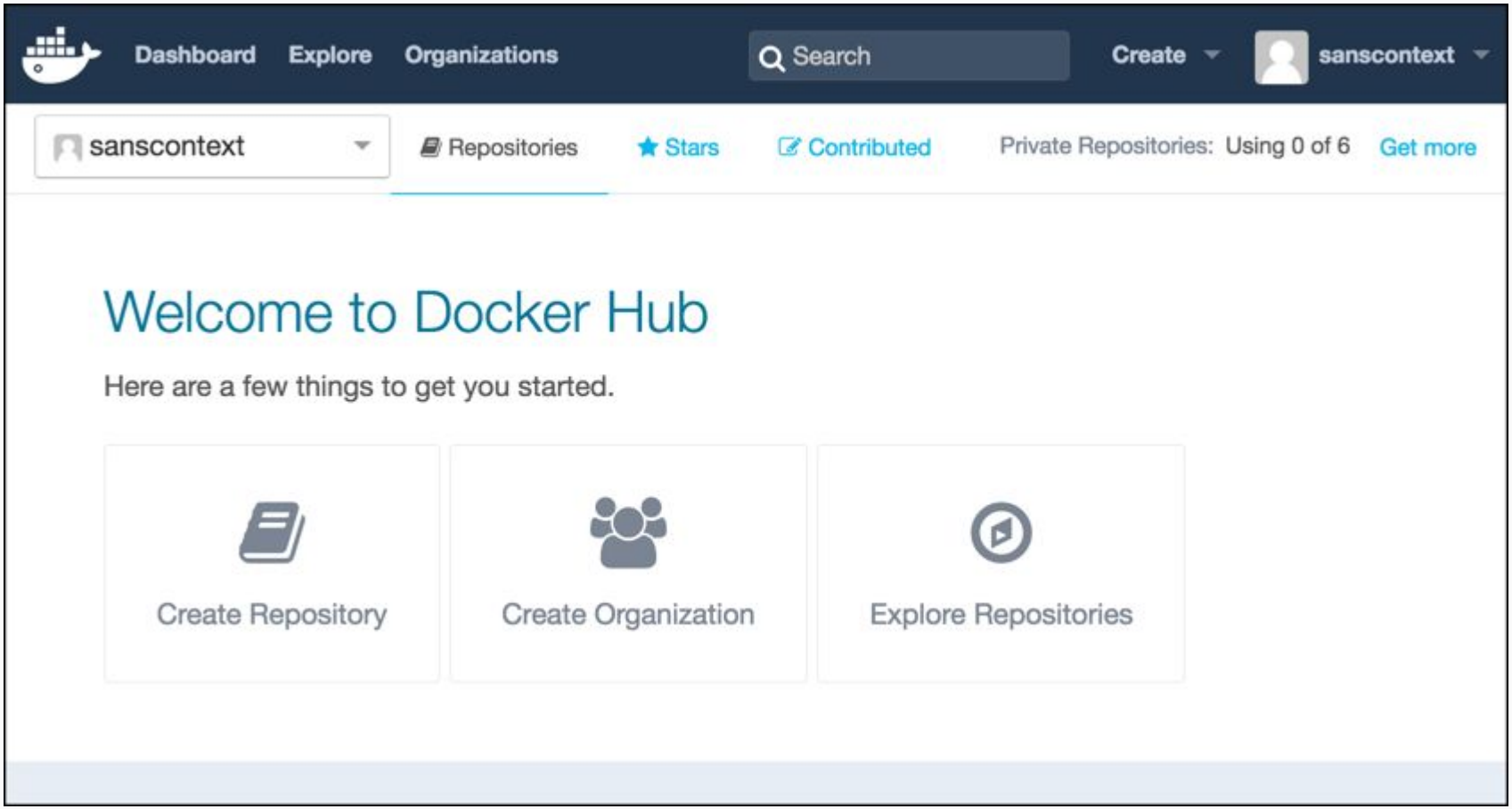
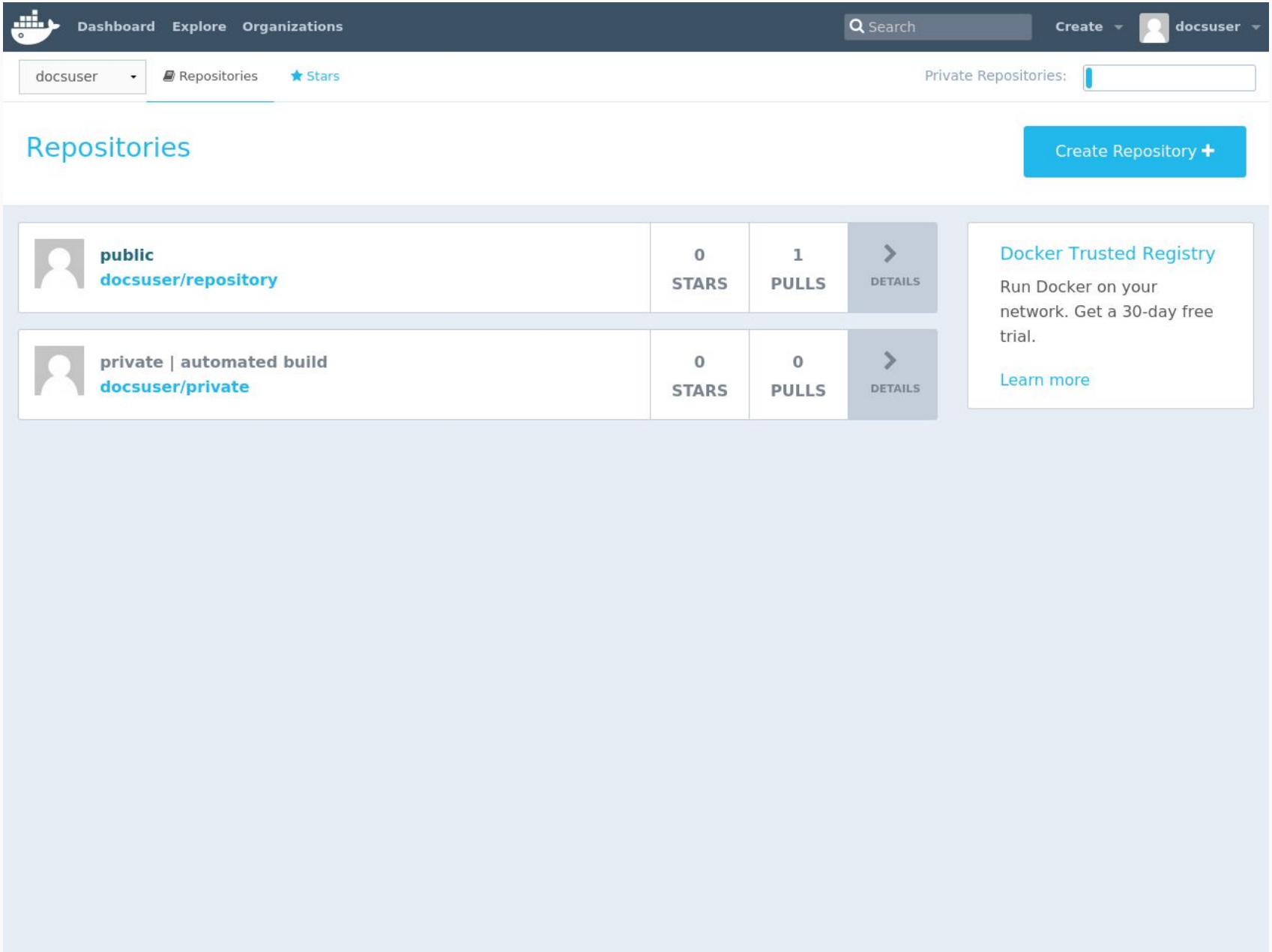


Figure 2: Docker Hub

Docker Hub: public registry



Docker Hub: public registry

- register a new user to Docker Hub
- `export DOCKER_ID_USER="username"`
- `docker login`
- `docker tag imageX $DOCKER_ID_USER/imageX`
- `docker push $DOCKER_ID_USER/imageX`