

Simulando sistemas distribuídos com o Docker

Sistemas Distribuídos

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<https://labs.play-with-docker.com>

← → ↻ 🏠 🔒 📄 labs.play-with-docker.com/p/d3im0gk69qi000ahvi8g#d3im0gk6_d3im168l2o9000c49dd0 ⭐ ⬇️ 📁 📱 >> ☰

01:57:46

CLOSE SESSION

Instances 🔧 ⚙️

+ ADD NEW INSTANCE

192.168.0.24
node1

d3im0gk6_d3im168l2o9000c49dd0

IP
192.168.0.24 OPEN PORT

Memory
1.01% (40.33MiB / 3.906GiB) CPU
0.12%

SSH
ssh ip172-18-0-13-d3im0gk69qi000ahvi8g@direct.labs.play-with-docker.com 📄

DELETE EDITOR

```
#####
#                                     #
#                               WARNING!!!!                               #
# This is a sandbox environment. Using personal credentials             #
# is HIGHLY! discouraged. Any consequences of doing so are              #
# completely the user's responsibilities.                                #
#                               #                                         #
# The PWD team.                                                         #
#####
[node1] (local) root@192.168.0.24 ~
$
```

Inicializa

```
[node1] (local) root@192.168.0.24 ~
```

```
$ docker run -dp 80:80 docker/getting-started:pwd
```

```
Unable to find image 'docker/getting-started:pwd' locally
```

```
pwd: Pulling from docker/getting-started
```

```
89d9c30c1d48: Pull complete
```

```
24f1c4f0b2f4: Pull complete
```

```
16542569a10d: Pull complete
```

```
08396939143d: Pull complete
```

```
Digest:
```

```
sha256:9156d395e7e41498d5348e95513d61fc7929db720393448306c5d72  
63d7f2696
```

```
Status: Downloaded newer image for docker/getting-started:pwd
```

```
cd51836c6a6076754663aee075972ea1860c74866a5440c80985936d20f83b  
1e
```

swarm

```
[node1] (local) root@192.168.0.24 ~
```

```
$ docker swarm init --advertise-addr 192.168.0.24
```

Swarm initialized: current node (y57z5m7uc2g1u5ialtvhcswoa) is now a manager.

To add a worker to this swarm, run the following command:

```
docker swarm join --token SWMTKN-1-4eb5w9rbzah58f2p7de0giqukpmf5k9hl7kn57ip91n3qjebpa-ajbulfzr4m64nhx9vcv2yxx84 192.168.0.24:2377
```

To add a manager to this swarm, run 'docker swarm join-token manager' and follow the instructions.

```
[node1] (local) root@192.168.0.24 ~
```

```
$ docker node ls
```

ID	HOSTNAME	STATUS	AVAILABILITY
y57z5m7uc2g1u5ialtvhcswoa	* node1	Ready	Active
Leader	27.3.1		

Criando 3 réplicas

```
[node1] (local) root@192.168.0.24 ~
```

```
$ docker service create --name WEB --publish 85:80 --replicas=3 nginx
```

```
1gzcyslsqt3jfvzc zr45qcaoq
```

```
overall progress: 3 out of 3 tasks
```

```
1/3: running
```

```
[=====  
=====>]
```

```
2/3: running
```

```
[=====  
=====>]
```

```
3/3: running
```

```
[=====  
=====>]
```

```
verify: Service 1gzcyslsqt3jfvzc zr45qcaoq converged
```

- Criamos um serviço Web através do servidor web Nginx, contendo 3 réplicas
- No parâmetro “name” definimos um nome para a execução do serviço (“WEB”)
- Através do parâmetro “publish” definimos uma porta de execução para o Docker (85) e uma para o servidor web Nginx (80)
- Definimos que o serviço terá 3 réplicas e utilizará o Nginx

docker service ps

[node1] (local) root@192.168.0.24 ~

\$ docker service ps WEB

ID	NAME	IMAGE	NODE	DESIRED STATE
CURRENT STATE	ERROR	PORTS		
yclgjf32kvl4	WEB.1	nginx:latest	node1	Running
Running 2 minutes ago				
ke03kzfrrhze	WEB.2	nginx:latest	node1	Running
Running 2 minutes ago				
hb2fpynqx848	WEB.3	nginx:latest	node1	Running
Running 2 minutes ago				

docker node update

```
[node1] (local) root@192.168.0.24 ~
```

```
$ docker node update --availability drain node1
node1
```

```
[node1] (local) root@192.168.0.24 ~
```

```
$ docker service ps WEB
```

ID	NAME	IMAGE	NODE	DESIRED STATE	CURRENT STATE	ERROR	PORTS
amhwyp6xznc	WEB.1	nginx:latest		Running	Pending 8 seconds ago	"no suitable node (1 node not ..."	
yclgjf32kvl4	_ WEB.1	nginx:latest	node1	Shutdown	Shutdown 4 seconds ago		
q4jios8hjp0d	WEB.2	nginx:latest		Running	Pending 8 seconds ago	"no suitable node (1 node not ..."	
ke03kzfrhze	_ WEB.2	nginx:latest	node1	Shutdown	Shutdown 4 seconds ago		
d25p6ff6sadi	WEB.3	nginx:latest		Running	Pending 8 seconds ago	"no suitable node (1 node not ..."	
hb2fpynqx848	_ WEB.3	nginx:latest	node1	Shutdown	Shutdown 4 seconds ago		

docker system prune

```
$ docker system prune --all
```

WARNING! This will remove:

- all stopped containers
- all networks not used by at least one container
- all images without at least one container associated to them
- all build cache

Are you sure you want to continue? [y/N] y

Deleted Containers:

```
8ec2e4321406c6f932cc38a18f7f3df96e4c2c2941cfba14f4ee1bb70c95184f  
06d66dc0a6c92df1aa365064b1f87fcf0e47be88e7be46b5bd71abd7ed7ae656  
8e4f67d18d1161d5c980d806b10ae44b241e6705c438fb47f5b8fd949148b236
```

Deleted Images:

untagged:

```
nginx@sha256:8adbdcb969e2676478ee2c7ad333956f0c8e0e4c5a7463f4611d7a2e7a7ff5dc  
deleted: sha256:203ad09fc1566a329c1d2af8d1f219b28fd2c00b69e743bd572b7f662365432d  
deleted: sha256:a2d93a3b0194dbe86680b99ab30f521a9fa4de8843ee27213b23123d0dbae7ea  
deleted: sha256:b426570453c6490acac1f45f4032cf2dc658af43febbf00b6654b8abf17d38bd
```

...

Apache em cluster

- Nova instância

```
docker run -dp 80:80 docker/getting-started:pwd
```

```
docker swarm init --advertise-addr 192.168.0.34  
(define o nó como manager do cluster)
```

```
docker service create --name WEB --publish 80:80 --replicas=5 httpd
```

```
jeurjd61tp6xxnovxrcrxws3o
```

```
overall progress: 5 out of 5 tasks
```

```
1/5: running [=====>]
```

```
2/5: running [=====>]
```

```
3/5: running [=====>]
```

```
4/5: running [=====>]
```

```
5/5: running [=====>]
```

```
verify: Service jeurjd61tp6xxnovxrcrxws3o converged
```

docker service ps WEB

[node1] (local) root@192.168.0.34 ~

\$ docker service ps WEB

ID	NAME	IMAGE	NODE	DESIRED STATE
CURRENT STATE	ERROR	PORTS		
xampgd6hok22	WEB.1	httpd:latest	node1	Running
Running 52 seconds ago				
pb21oo93htum	WEB.2	httpd:latest	node1	Running
Running 52 seconds ago				
stbhb7nvan49	WEB.3	httpd:latest	node1	Running
Running 52 seconds ago				
shp0j6zmqrhw	WEB.4	httpd:latest	node1	Running
Running 52 seconds ago				
j2hm1m8x7xos	WEB.5	httpd:latest	node1	Running
Running 52 seconds ago				