

Title: docker-compose swarm: force containers to run on specific hosts

Post Body:

Trying to run cluster application on different virtual machines with use of Swarm stand alone and docker-compose version '2'. Overlay network is set. But want to force certain containers to run on specific hosts.

In documentation there is following advice, but with this parameter I was not able to start any container at all:

```
environment:  - 'constraint:node==node-1'  ERROR: for elasticsearch1  Cannot create container for service elasticsearch1: Unavailable
```

Should we register hosts as node-1 node-2... or it is done by default.

```
[root@ux-test14 ~]# docker node ls Error response from daemon: 404 page not found [root@ux-test14 ~]# docker run swarm list [root@ux-test14 ~]#
```

Accepted Answer:

My first answer is about 'swarm mode'. You'd since clarified that you're using legacy Swarm and added more info, so here:

The constraint you list assumes that you have a host named `node-1`. Your hosts are named `ux-test16.rs` and `ux-test17.rs`. Just use that instead of `node-1` in your constraint. Eg:

```
environment:  - 'constraint:node==ux-test16.rs'
```

Highest Rated Answer:

The **environment variable** `constraint` is only valid for the legacy (stand alone) version of Swarm. The newer 'Swarm Mode' uses either `mode` or `constraints` options (not environment variables).

To enforce one and only one task (container) per node, use `mode=global`.

```
docker service create --name proxy --mode global nginx
```

The default mode is `replicated` which means that the swarm manager will create tasks (containers) across all available nodes to meet the number specified in the `--replicas` option. Eg:

```
docker service create --name proxy --replicas 5 nginx
```

To enforce other constraints based on hostname (node), label, role, id's use the `--constraint` option. Eg:

```
docker service create --name proxy --constraint 'node.hostname!=node01' nginx
```

See https://docs.docker.com/engine/reference/commandline/service_create/#/specify-service-constraints

EDIT sept 2016:

Something else. `docker-compose` is not currently supported in 'swarm mode'. Swarm mode understands the new [dab](#) format instead. There is a way to convert docker-compose files to dab but it's experimental and not to be relied on at this point. It's better to create a bash script that calls all the `docker service create ...` directly.

EDIT March 2017:

As of docker 1.13 (17.03), docker-compose can now be used to provision swarm environments directly without having to deal with the dab step.