Purpose

The purpose of this lab is to illustrate how to deploy a stack (multi services application) against a Swarm using a docker compose file.

## The application

The voting app is a very handy multi containers application often used for demo purposes during meetup and conferences.

It basically allow users to vote between cat and dog (but could be “space” or “tab” too if you feel like it).

This application is available on Github and updated very frequently when new features are developed.

## Init your swarm

There should be two terminals displayed. The first accesses the swarm manager node and the second accesses the swarm worker node once the swarm is created.

Let’s create a Docker Swarm first. Copy the below command into the first terminal.

docker swarm init --advertise-addr $(hostname -i)

From the output above, copy the join command (watch out for newlines) and paste it in the other terminal.

## Show members of swarm

From the first terminal, check the number of nodes in the swarm (running this command from the second terminal worker will fail as swarm related commands need to be issued against a swarm manager).

docker node ls

The above command should output 2 nodes, the first one being the manager, and the second one a worker.

## Clone the voting-app

Let’s retrieve the voting app code from Github and go into the application folder.

Ensure you are in the first terminal and do the below:

git clone https://github.com/docker/example-voting-app

cd example-voting-app

## Deploy a stack

A stack is a group of services that are deployed together. The docker-stack.yml in the current folder will be used to deploy the voting app as a stack.

Ensure you are in the first terminal and do the below:

docker stack deploy --compose-file=docker-stack.yml voting\_stack

Note: being able to create a stack from a docker compose file is a great feature added in Docker 1.13.

Check the stack deployed from the first terminal

docker stack ls

The output should be the following one. It indicates the 6 services of the voting app’s stack (named voting\_stack) have been deployed.

Let’s check the service within the stack

docker stack services voting\_stack

The output should be like the following one (your ID should be different though).

Let’s list the tasks of the vote service.

docker service ps voting\_stack\_vote

You should get an output like the following one where the 2 tasks (replicas) of the service are listed.

From the NODE column, we can see one task is running on each node.

Finally, we can check that our [APP](https://egitim.acikkaynakfikirler.com/) is running, the [RESULT](https://egitim.acikkaynakfikirler.com/) page is also available as well as [SWARM VISUALIZER](https://egitim.acikkaynakfikirler.com/)

## Conclusion

Using only a couple of commands enables to deploy a stack of services on a Docker Swarm using the really great Docker Compose file format.