### Simple Swarm Setup

#### Prerequisites

* You will need two machines, ideally on the same network or subnet, which can connect to each other.
* Both the machines must have Docker installed on them.
* If you are using a cloud service, call one swarm-master and the other swarm-worker

#### Initilising the Swarm

We need to create our first node in the Swarm which will serve as a Manager node.  
On the first machine you have, run the follow command:

docker swarm init

#### Adding a Worker Node

At this point the cluster is now setup and you may start creating services, however we will add a worker node first.

Upon initilising the Swarm, Docker would have likely prompted you with a command that allows you to join a worker node to the swarm.  
Once you have obtained the join command, you can simply run it on the second machine that you have.

The command will look similar to the one below, however the token and IP address will be different for yours, be sure to use the private address of the VM.

Log on to the **worker** node and run the join command similiar to below:

# docker swarm join --token [TOKEN] [IP\_ADDRESS]:[PORT]

docker swarm join --token SWMTKN-1-4y5lnvp7h7l7pt2qusvykiyk8p0hn0yywq3gk47ogau8pl64f9-15hstsq0lahr72cz6dppex0i6 swarm-master:2377

Also take a moment here to notice which port the workers are connecting from; 2377.  
This will be important to allow on locked down networks.

##### Retrieving the Join Command

If you can’t obtain the join command anymore, you can use the join-token command while on the **master** node to get it back:

docker swarm join-token worker

#### Create Your First Swarm Service

When managing Swarm services, ensure that you are first on the manager node.  
Here we will create a simple NGINX service and use the curl CLI tool to access it.

# docker service create --name [NAME] --publish [HOST\_PORT]:[CONTAINER\_PORT] [IMAGE]:[TAG]

docker service create --name nginx --publish 80:80 nginx:latest

Once you have created the service, it will be accessible on the private IP address of the machine, not the loopback interface (localhost).  
To access the NGINX service for this example, the curl command below can be used, the NGINX service will be available from both the worker and master node:

# curl http://[PRIVATE\_IP\_ADDRESS]

curl http://swarm-master

curl http://swarm-worker

#### Delete Your First Swarm Service

Let's remove the service that we created:

docker service rm nginx