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Docker Linking

Run a container in detached mode with name "db" from image "training/postgres"

```
$ docker run -it -d --name db training/postgres
```

Run another container in detached mode with name "web" from image "training/webapp", link container "db" with alias "mydb" to this container and finally pass an inline command "python app.py" while running container.

```
$ docker run -it -d --name web --link db:mydb  training/webapp
```

```
$ docker run -it -d --name db training/postgres
Unable to find image 'training/postgres:latest' locally
latest: Pulling from training/postgres
a3ed95caeb02: Pull complete
6e71c809542e: Pull complete
2978d9af87ba: Pull complete
e1bca35b062f: Pull complete
500b6decf741: Pull complete
74b14ef2151f: Pull complete
7afd5ed3826e: Pull complete
3c69bb244f5e: Pull complete
d86f9ec5aedf: Pull complete
010fabf20157: Pull complete
Digest: sha256:a945dc6dcfbc8d009c3d972931608344b76c2870ce796da00a827bd50791907e
Status: Downloaded newer image for training/postgres:latest
80a64145f0b581e5d74d23901f0a02fe32552d3494988188be2f24a7e4089004
$ docker ps
CONTAINER ID      IMAGE            COMMAND            CREATED           STATUS
            NAMES
80a64145f0b5         training/postgres    "su postgres -c '/us…"  5 seconds ago       Up 3 seconds
p          db
$ docker run -it -d --name web --link db:mydb training/webapp
Unable to find image 'training/webapp:latest' locally
latest: Pulling from training/webapp
e190868d63f8: Pull complete
909cd34c6fd7: Pull complete
0b9bfabab7c1: Pull complete
a3ed95caeb02: Pull complete
10bbbc0fc0ff: Pull complete
fca59b508e9f: Pull complete
e7ae2541b15b: Pull complete
9dd97ef58ce9: Pull complete
a4c1b0cb7af7: Pull complete
Digest: sha256:06e9c1983bd6d5db5fba376ccd63bfa529e8d02f23d5079b8f74a616308fb11d
```

```
$ docker ps
CONTAINER ID    IMAGE            COMMAND            CREATED         STATUS          PORTS        NAMES
10da0b50bf7d    training/webapp      "python app.py"      About a minute ago  Up About a minute  5000/tcp    web
31ee1f16dd7c    training/postgres    "su postgres -c '/us…"  2 minutes ago      Up 2 minutes      5432/tcp    db
```

Take a bash terminal in "web" container and Test container linking by doing a ping to "mydb"

```
$ docker exec -it web bash
```

And then run

```
# ping mydb
```

```
[node1] (local) root@192.168.0.28 ~
$ docker exec -it web bash
root@10da0b50bf7d:/opt/webapp# ping mydb
PING mydb (172.17.0.2) 56(84) bytes of data.
64 bytes from mydb (172.17.0.2): icmp_seq=1 ttl=64 time=0.106 ms
64 bytes from mydb (172.17.0.2): icmp_seq=2 ttl=64 time=0.091 ms
64 bytes from mydb (172.17.0.2): icmp_seq=3 ttl=64 time=0.069 ms
64 bytes from mydb (172.17.0.2): icmp_seq=4 ttl=64 time=0.086 ms
64 bytes from mydb (172.17.0.2): icmp_seq=5 ttl=64 time=0.063 ms
64 bytes from mydb (172.17.0.2): icmp_seq=6 ttl=64 time=0.054 ms
64 bytes from mydb (172.17.0.2): icmp_seq=7 ttl=64 time=0.089 ms
64 bytes from mydb (172.17.0.2): icmp_seq=8 ttl=64 time=0.057 ms
64 bytes from mydb (172.17.0.2): icmp_seq=9 ttl=64 time=0.065 ms
64 bytes from mydb (172.17.0.2): icmp_seq=10 ttl=64 time=0.078 ms
^C
--- mydb ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9002ms
rtt min/avg/max/mdev = 0.054/0.075/0.106/0.019 ms
root@10da0b50bf7d:/opt/webapp#
```

Create Swarm

```
$ docker swarm init --advertise-addr 192.168.99.100
Swarm initialized: current node (an116adgukgohpybwp3da28hn) is now a manager.

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

    docker swarm join --token SWMTKN-1-2hikgxpf2w7itq6vhtommzn805kk45qifrtzoo0skmgr8w58k5-5x3nxjch87lq38
0i8 192.168.99.100:2377

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

```
$ docker info
Containers: 0
 Running: 0
 Paused: 0
 Stopped: 0
Images: 4
Server Version: 18.03.1-ce
Storage Driver: overlay
 Backing Filesystem: extfs
 Supports d_type: true
Logging Driver: json-file
Cgroup Driver: cgroupfs
Plugins:
 Volume: local
 Network: bridge host macvlan null overlay
 Log: awslogs fluentd gcplogs gelf journald json-file logentries splunk syslo
Swarm: active
 NodeID: an116adgukgohpybwp3da28hn
 Is Manager: true
 ClusterID: nghk1xlzt9eal73hrx0kt33d2
 Managers: 1
 Nodes: 1
 Orchestration:
  Task History Retention Limit: 5
 Raft:
```

```
$ docker node ls
ID                            HOSTNAME      STATUS      AVAILABILITY      MANAGER STATUS
GINE VERSION
an116adgukgohpybwp3da28hn *   host01        Ready       Active            Leader
.03.1-ce
$
```