

Overlay network commands

1. This command can be used to create an overlay network

`docker network create --driver overlay < network name >`

```
root@ip-172-31-32-116:/home/ubuntu# docker network create --driver overlay overlay-net
903x3e1ns2fep9dd185aph416
root@ip-172-31-32-116:/home/ubuntu#
```

i-01f2abdbdb0d592e12 (Manager)

PublicIPs: 18.179.178.175 PrivateIPs: 172.31.32.116

Check in networks

`docker network ls`

```
root@ip-172-31-32-116:/home/ubuntu# docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
aa4954a2e1d3        bridge              bridge              local
e3cc09e064c0        bridge-net          bridge              local
e9c8bdda68ec        docker_gwbridge     bridge              local
174394cf6e9c        host                host                local
tqjyxdouwobe        ingress             overlay             swarm
4754405da1a8        none                null                local
903x3e1ns2fe        overlay-net         overlay             swarm
root@ip-172-31-32-116:/home/ubuntu#
```

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2. This command can be used to start a service using the overlay network

```
docker service create --name <service_name> --replicas 3 --network
<network_name> <image_name>
```

```
root@ip-172-31-32-116:/home/ubuntu# docker service create --name my-ol-service --replicas 3 --network overlay-net nginx:latest
thwy0y7d5z3y9jilv7vupm0tt
overall progress: 3 out of 3 tasks
1/3: running [=====>]
2/3: running [=====>]
3/3: running [=====>]
verify: Service converged
root@ip-172-31-32-116:/home/ubuntu#
```

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docker ps

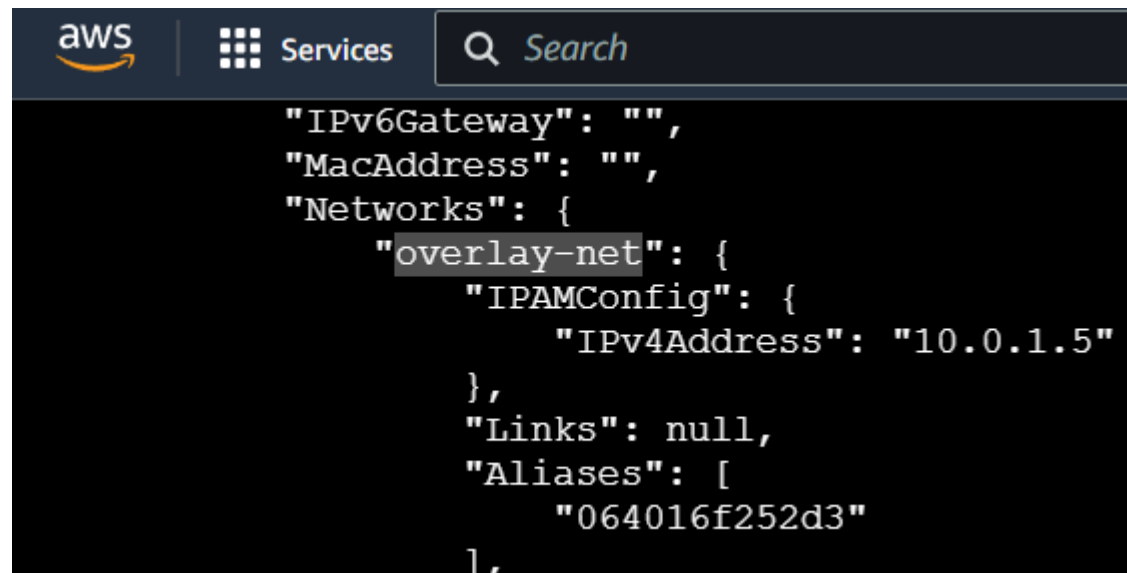
```
root@ip-172-31-32-116:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
064016f252d3   nginx:latest   "/docker-entrypoint..." 37 seconds ago Up 35 seconds 80/tcp         my-ol-service.3.ylk4zo2f65ulghcgs8jze2mtt
a61fc41656c7   nginx:latest   "/docker-entrypoint..." 37 seconds ago Up 35 seconds 80/tcp         my-ol-service.2.vyoblhxafpci9ykiizvgatfrx
f07da6a254f2   nginx:latest   "/docker-entrypoint..." 37 seconds ago Up 35 seconds 80/tcp         my-ol-service.1.sjaul0z5zkou3z7525nfeswgc
root@ip-172-31-32-116:/home/ubuntu#
```

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And if we inspect container (it is connected to our overlay network)

```
docker inspect <container_id>
```



```
{
  "IPv6Gateway": "",
  "MacAddress": "",
  "Networks": {
    "overlay-net": {
      "IPAMConfig": {
        "IPv4Address": "10.0.1.5"
      },
      "Links": null,
      "Aliases": [
        "064016f252d3"
      ]
    }
  }
}
```

3. This command can be used to remove the service.

`docker service rm <service name>`

```
root@ip-172-31-32-116:/home/ubuntu# docker service rm my-ol-service
my-ol-service
root@ip-172-31-32-116:/home/ubuntu#
```

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Let's check if our my-ol-service is still there or not

`docker service ls`

```
root@ip-172-31-32-116:/home/ubuntu# docker service ls
ID                NAME          MODE          REPLICAS  IMAGE          PORTS
qe9jizkorpi7     placement     replicated    6/6        nginx:latest
root@ip-172-31-32-116:/home/ubuntu#
```

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4. This command can be used to remove the network

`docker network rm <network_name>`

```
root@ip-172-31-32-116:/home/ubuntu# docker network rm overlay-net
overlay-net
root@ip-172-31-32-116:/home/ubuntu#
```

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Let's check in networks now (overlay-net has been removed)

docker network ls

```
root@ip-172-31-32-116:/home/ubuntu# docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
aa4954a2e1d3        bridge              bridge              local
e3cc09e064c0        bridge-net          bridge              local
e9c8bdda68ec        docker_gwbridge     bridge              local
174394cf6e9c        host                host                local
tqjyxdouwobe        ingress             overlay             swarm
4754405da1a8        none                null                local
root@ip-172-31-32-116:/home/ubuntu#
```

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5. To connect stand-alone containers to the network, --attachable flag has to be used.

docker network create --driver overlay --attachable <network_name>

```
root@ip-172-31-32-116:/home/ubuntu# docker network create --driver overlay --attachable tes-overlay
ffli5hdvtm5qi8qkn6haa6a9f
root@ip-172-31-32-116:/home/ubuntu#
```

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docker network ls

```
root@ip-172-31-32-116:/home/ubuntu# docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
aa4954a2e1d3        bridge              bridge              local
e3cc09e064c0        bridge-net          bridge              local
e9c8bdda68ec        docker_gwbridge     bridge              local
174394cf6e9c        host                host                local
tqjyxdouwobe        ingress             overlay             swarm
4754405da1a8        none                null                local
ffli5hdvtm5q        tes-overlay         overlay             swarm
root@ip-172-31-32-116:/home/ubuntu#
```

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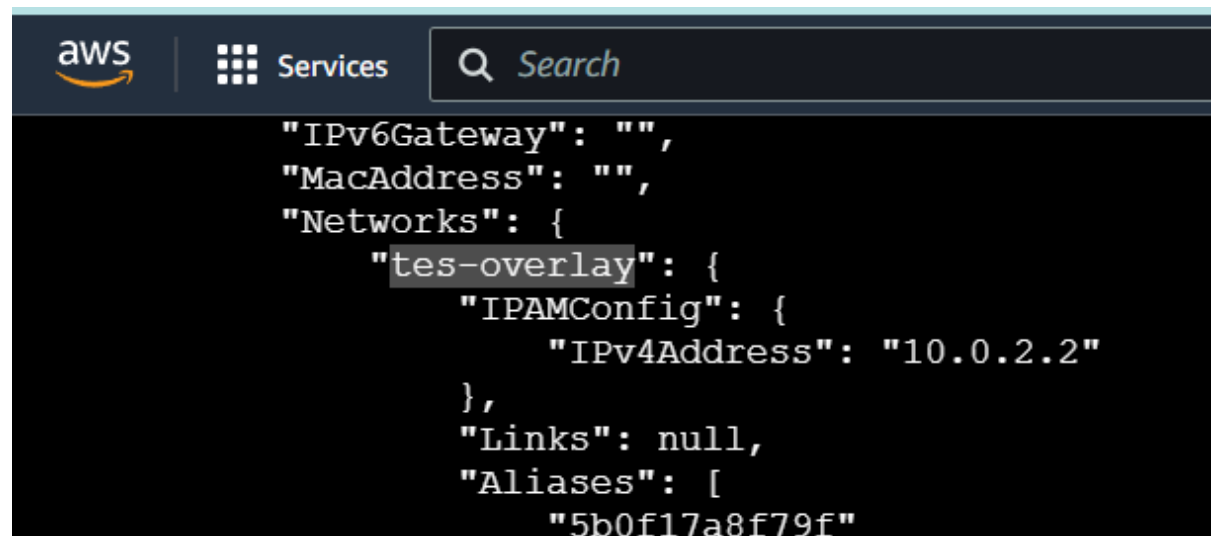
```
docker run -it -d --name <container_name> --network <network_name>
<image_name>
```

```
root@ip-172-31-32-116:/home/ubuntu# docker run -it -d --name container --network tes-overlay nginx
5b0f17a8f79ff4bbf5cccea2762fb6312e6c2169ddf2a49b0fe0daecb3e7a95d
root@ip-172-31-32-116:/home/ubuntu#
```

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```
docker inspect <container_id or Name>
```

The image shows a screenshot of the AWS CLI interface. At the top, there is a header bar with the AWS logo, a 'Services' menu, and a search bar. Below the header, the output of the 'docker inspect' command is displayed in a dark-themed terminal window. The output is a JSON object showing network configuration details for a container named 'tes-overlay'. The 'Networks' section is expanded, showing the 'tes-overlay' network with its IPAM configuration, IP address, links, and aliases.

```
aws | Services | Search
{
  "IPv6Gateway": "",
  "MacAddress": "",
  "Networks": {
    "tes-overlay": {
      "IPAMConfig": {
        "IPv4Address": "10.0.2.2"
      },
      "Links": null,
      "Aliases": [
        "5b0f17a8f79f"
      ]
    }
  }
}
```