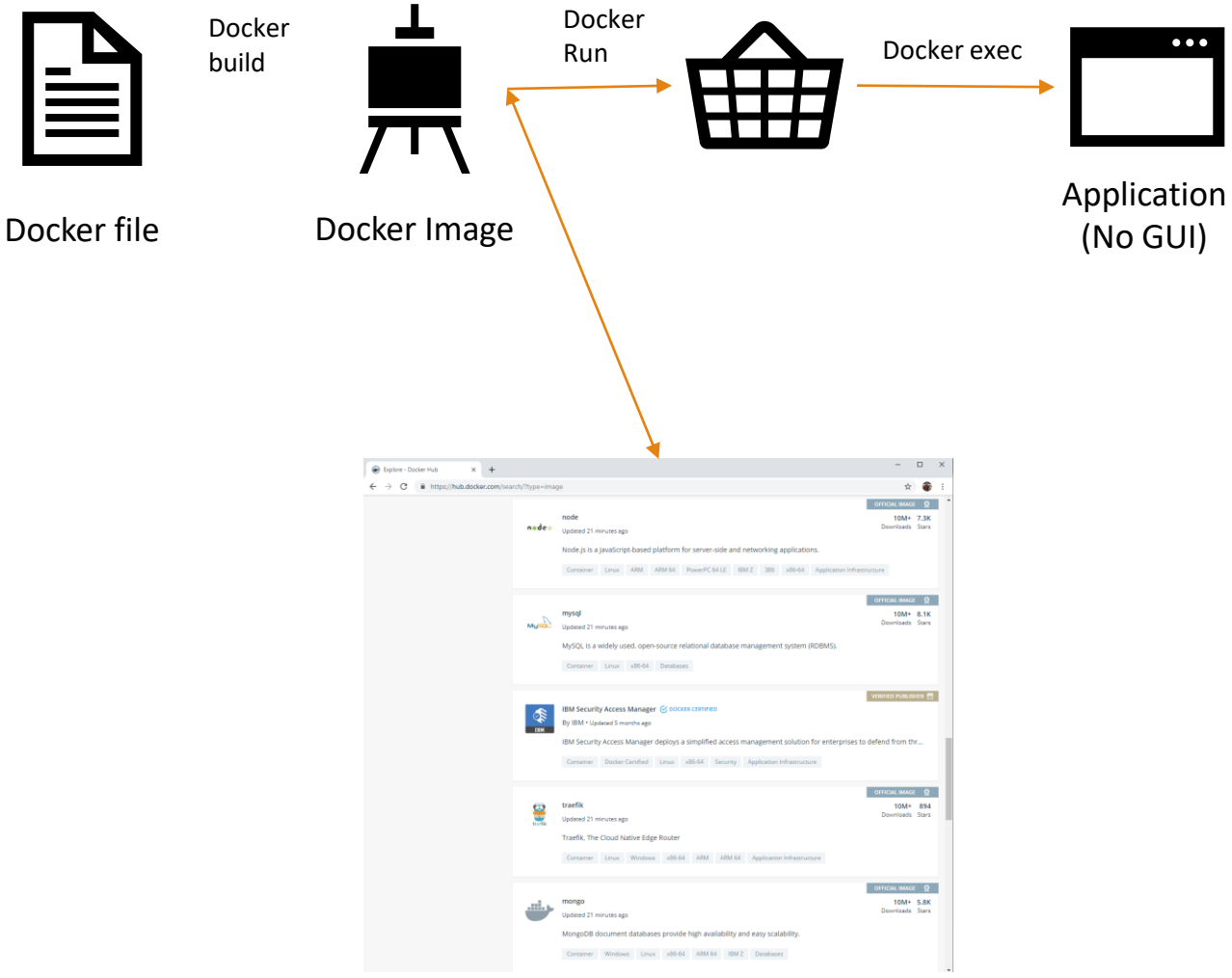
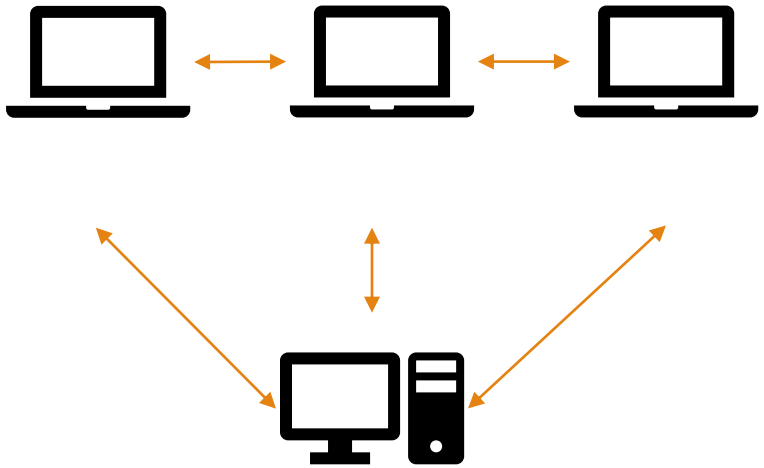
Docker Swarm For Windows

NG QI MING

How docker works



Docker Swarm



Technique to create and maintain a cluster

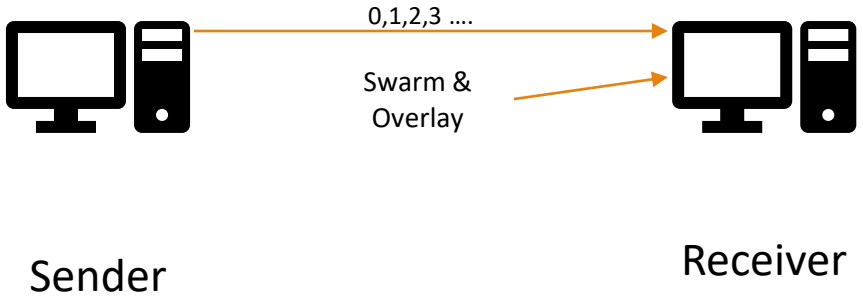
Manage a cluster of nodes

Docker Network Drivers

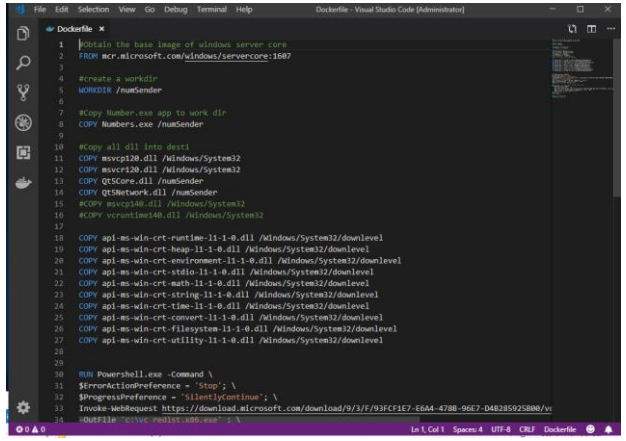
Nat Driver

- Overlay Network (TCP/UDP)
  - Transparent (physical)

Example: Sender and receiver test application (UDP)



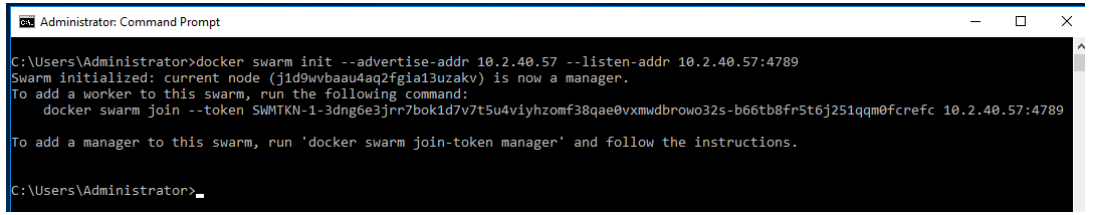
Flow Diagram (Sender)



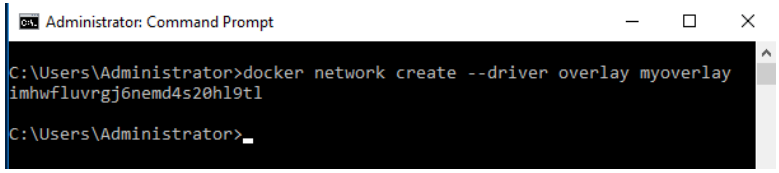
Docker file

Build

```
C:\>docker image ls
REPOSITORY                          TAG                 IMAGE ID            CREATED             SIZE
numreceiverimage                    latest              d1edb3365c52        4 hours ago         11.1GB
numsenderimage                      latest              864e04358d65        4 hours ago         11.1GB
mcr.microsoft.com/windows/servercore 1607               fdb7406d4a70        3 weeks ago         11GB
```



Transfer token to receiver

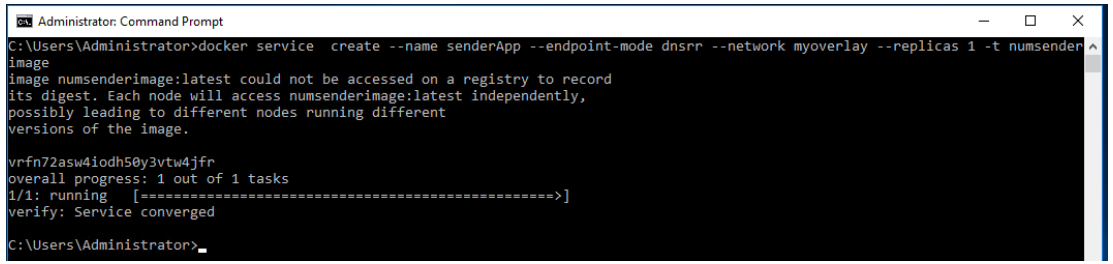


Network create

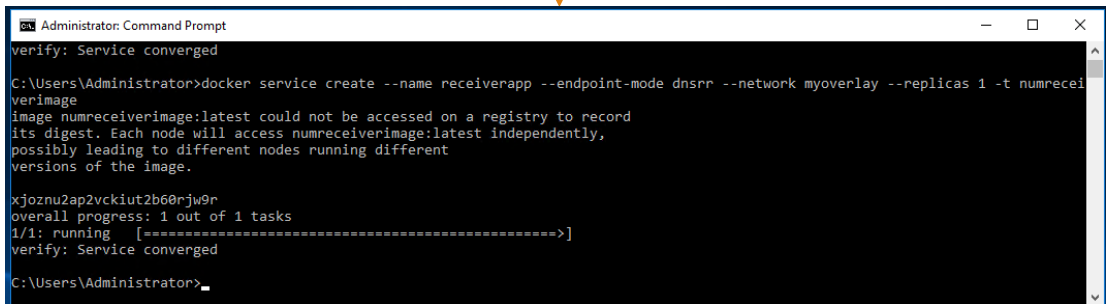
Continue to next slide

Flow Diagram (Sender)

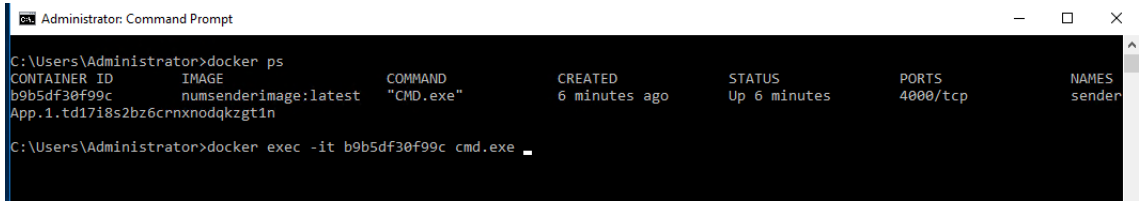
From previous slide



Create sender service

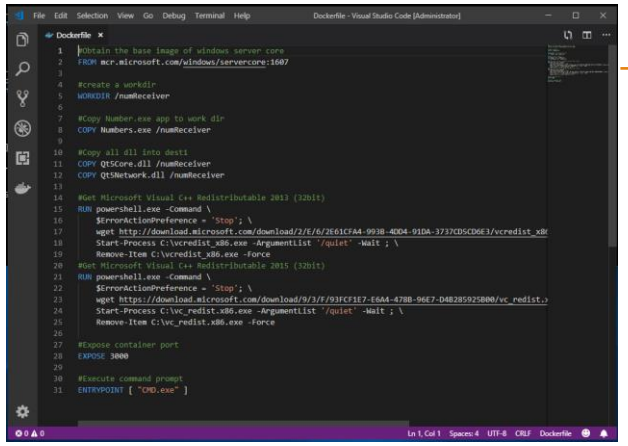


Create receiver service



Execute sender application

Flow Diagram (Receiver)



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numsenderimage                      latest              864e04358d65        4 hours ago         11.1GB
mcr.microsoft.com/windows/servercore 1607               fdb7406d4a70        3 weeks ago         11GB
```

Docker image

Token from sender

```
Administrator: Command Prompt
C:\Users\Administrator>docker swarm leave -f
Node left the swarm.

C:\Users\Administrator>docker swarm join --token SWMTKN-1-3dng6e3jrr7bok1d7v7t5u4viyhzomf38qae0vxmwdbrowo32s-b66tb8fr5t6j2
51qqm0fcrefc 10.2.40.57:4789
This node joined a swarm as a worker.

C:\Users\Administrator>docker ps
CONTAINER ID        IMAGE                     COMMAND             CREATED             STATUS              PORTS
    NAMES
49ff81204f53        numreceiverimage:latest   "CMD.exe"           15 seconds ago      Up 11 seconds       3000/tcp
    receiverapp.1.grubgv3odgkofbx6mxv9jh7hy

C:\Users\Administrator>docker exec -it 49ff81204f53
```

Join swarm

After creating receiver service


```
Administrator: Command Prompt
C:\Users\Administrator>docker swarm leave -f
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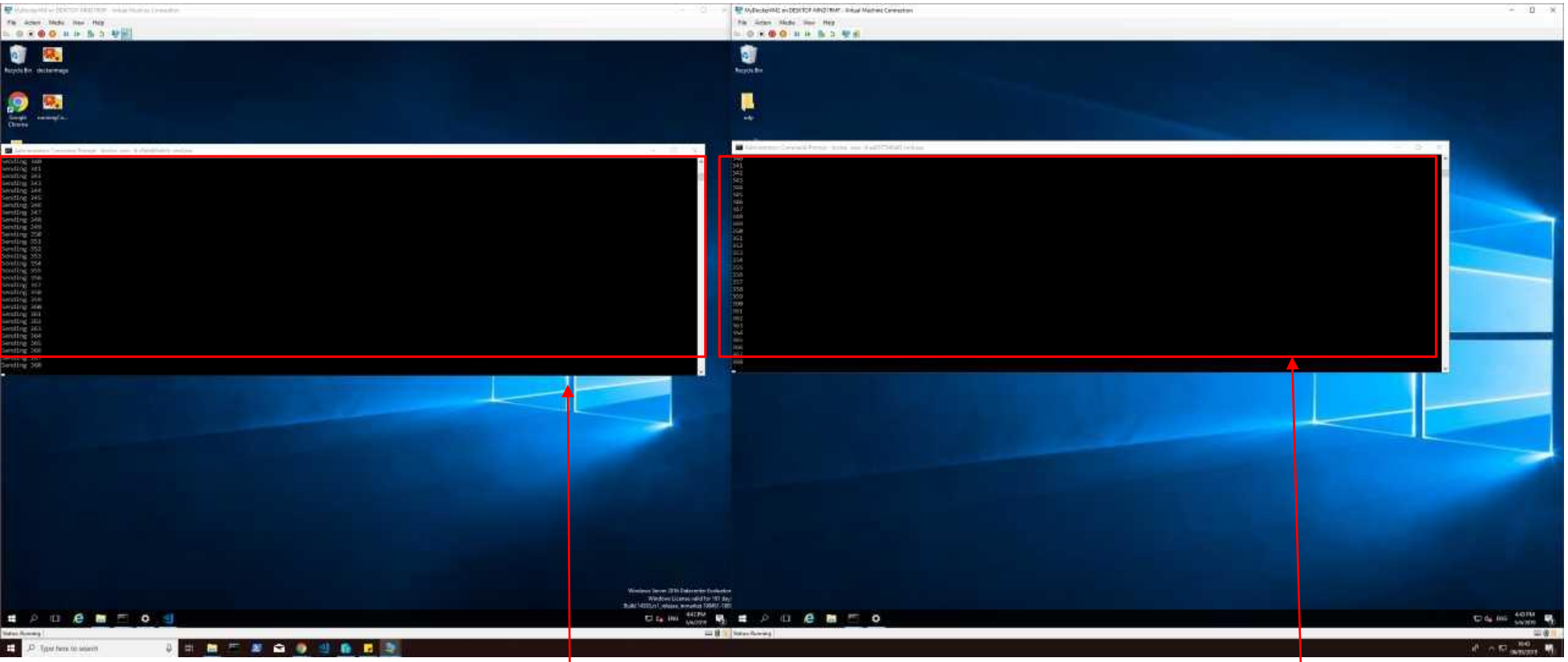
    receiverapp.1.grubgv3odgkofbx6mxv9jh7hy

C:\Users\Administrator>docker exec -it 49ff81204f53
```


Execute receiver application

Result



Sender

Receiver