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208 HW2

Becuase I used golang in HW1, during this time, I just install a golang docker image and reuse my code.

Also, I just use `docker inspect` on the host to determine the 2 dockers' IP instead of using *iptables* forward.

1. Manual Work

1. pull image

```
lq@ubuntu:~/Desktop/CS208/hw2$ sudo docker pull golang
[sudo] password for lq:
Using default tag: latest
latest: Pulling from library/golang
.....................
Status: Downloaded newer image for golang:latest
docker.io/library/golang:latest
```

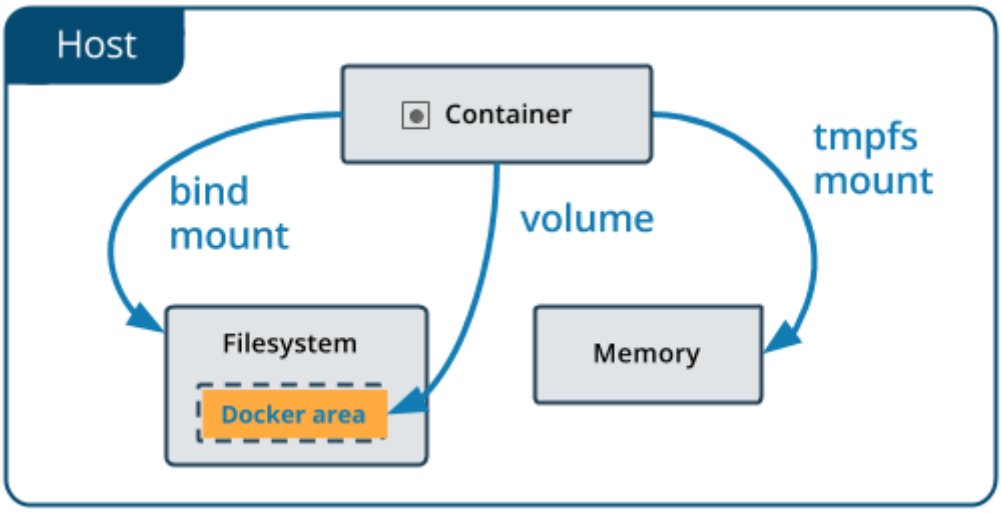
2. run 2 dockers and mount directory

```
root@ubuntu:/home/lq/Desktop/CS208# docker images
REPOSITORY           TAG             IMAGE ID       CREATED         SIZE
golang               latest          8b86bf336a01   12 days ago     941MB
fixel/zeek-cluster   manager         f53849641adb   2 years ago     694MB

root@ubuntu:/home/lq/Desktop/CS208# docker run --name goClient -itd -v
/home/lq/Desktop/CS208/hw2/client_persistent_storage:/go/client_storage golang
/bin/bash
6bd9c97286f0f2d4be9dba69d0faa087bab5d7f9962f9df40415b94be2be1d29

root@ubuntu:/home/lq/Desktop/CS208# docker run --name goServer -itd -v
/home/lq/Desktop/CS208/hw2/server_persistent_storage:/go/server_storage golang
/bin/bash
44bc869249c1a89738a86c6f08aa945f6b6dfcf6cc6f8ee35ad40da9bd04ba73
```

As above, I directly map the host's directory to the docker's.



docker mount fig from offical docs

3. get IP Addr for dockers ; change hardcoded IP to cmd Args and run go codes on both the receiver docker and the sender docker

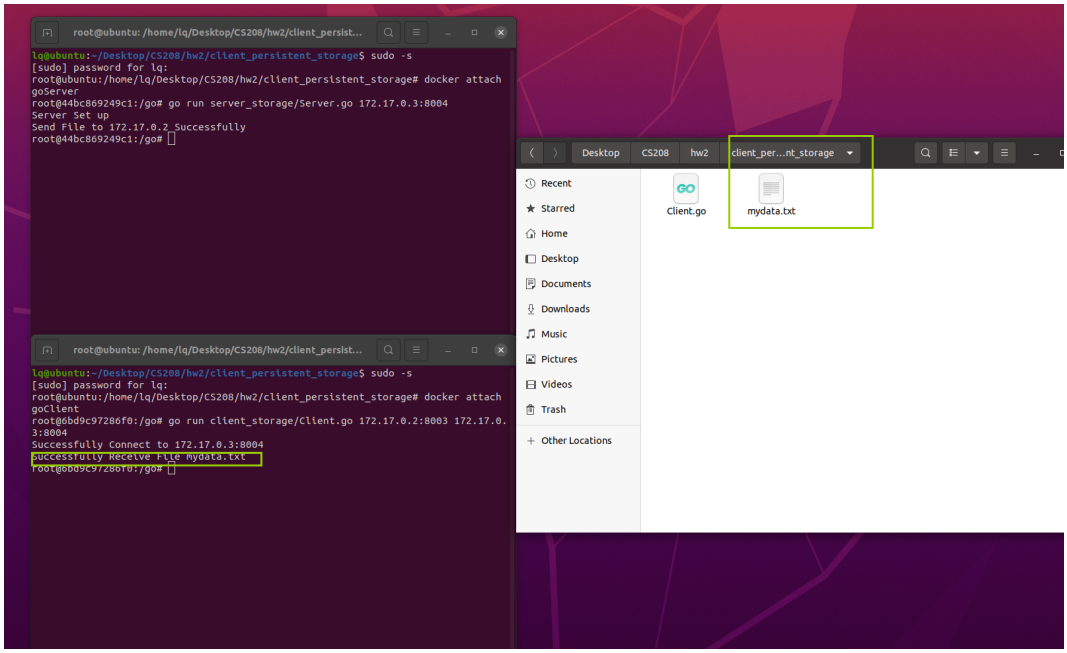
docker inspect [Docker-ID] | grep IPAddress

```
root@ubuntu:/home/lq/Desktop/CS208# docker inspect goClient | grep IPAddress
            "SecondaryIPAddresses": null,
            "IPAddress": "172.17.0.2",
                    "IPAddress": "172.17.0.2",
root@ubuntu:/home/lq/Desktop/CS208# docker inspect goServer | grep IPAddress
            "SecondaryIPAddresses": null,
            "IPAddress": "172.17.0.3",
                    "IPAddress": "172.17.0.3",
```

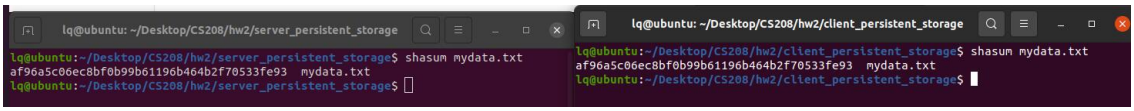
docker attach and go run

```
docker attach [Server-Docker]
go run [Server.go] [Server IP:Listen Port]

docker attach [Client-Docker]
go run [Client.go] [Client IP:Port] [Server IP:Port]
```



4. test the checksum



2. Script

Since our 2 dockers works well, we can simply write the instructions above into two shell scripts. (Maybe using dockerfile and docker compose is a better choice?)

```
docker exec [docker] bash -c "go run [Parameters...]"
```