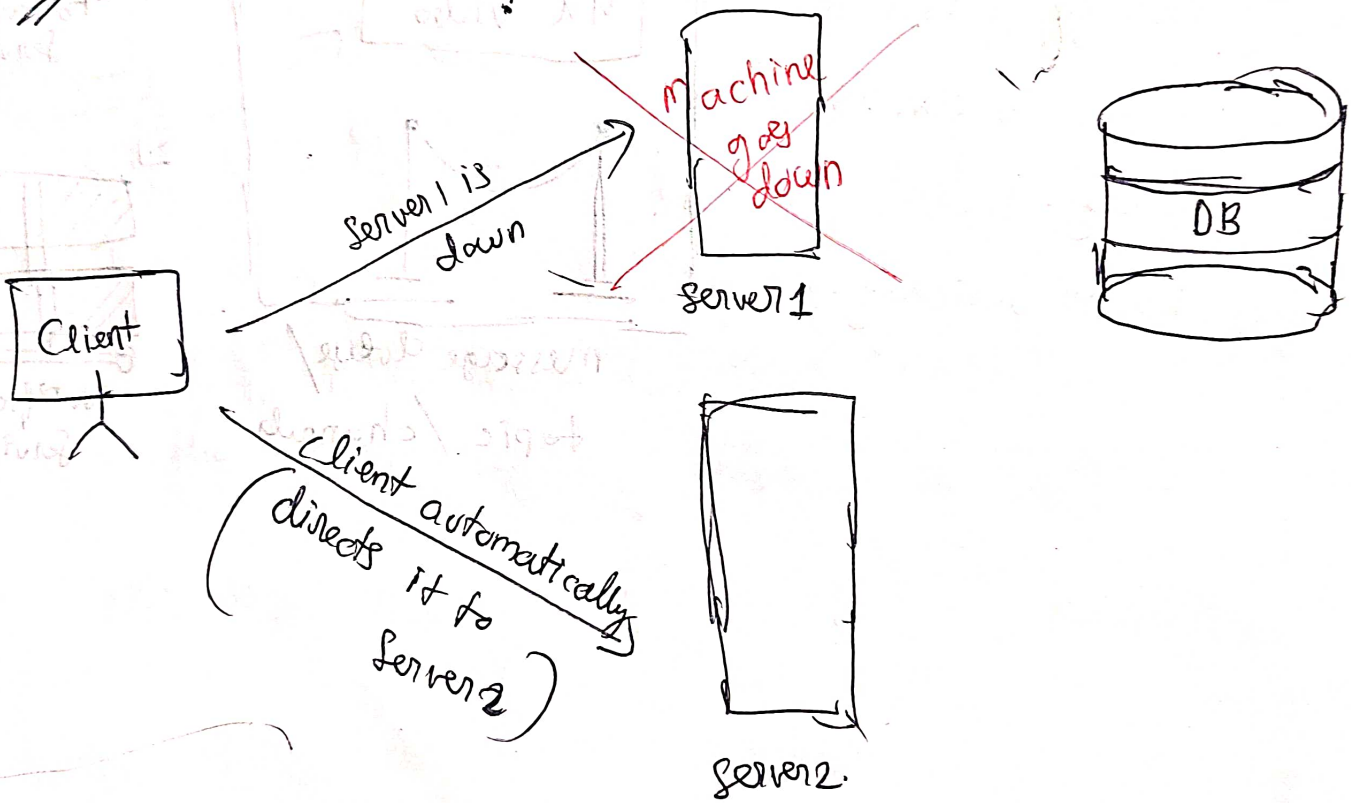
# Network Engineering

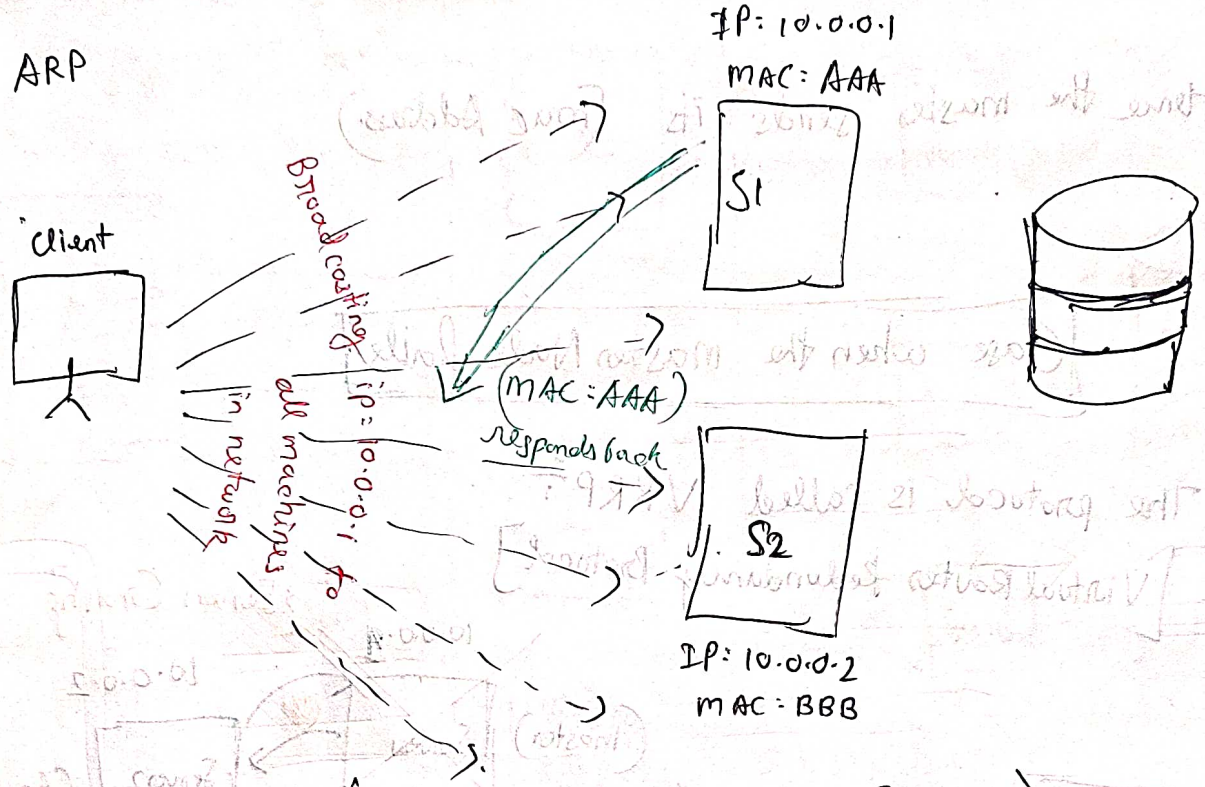
## 1. (Fail-Over and High Availability)

Q) What is FailOver?

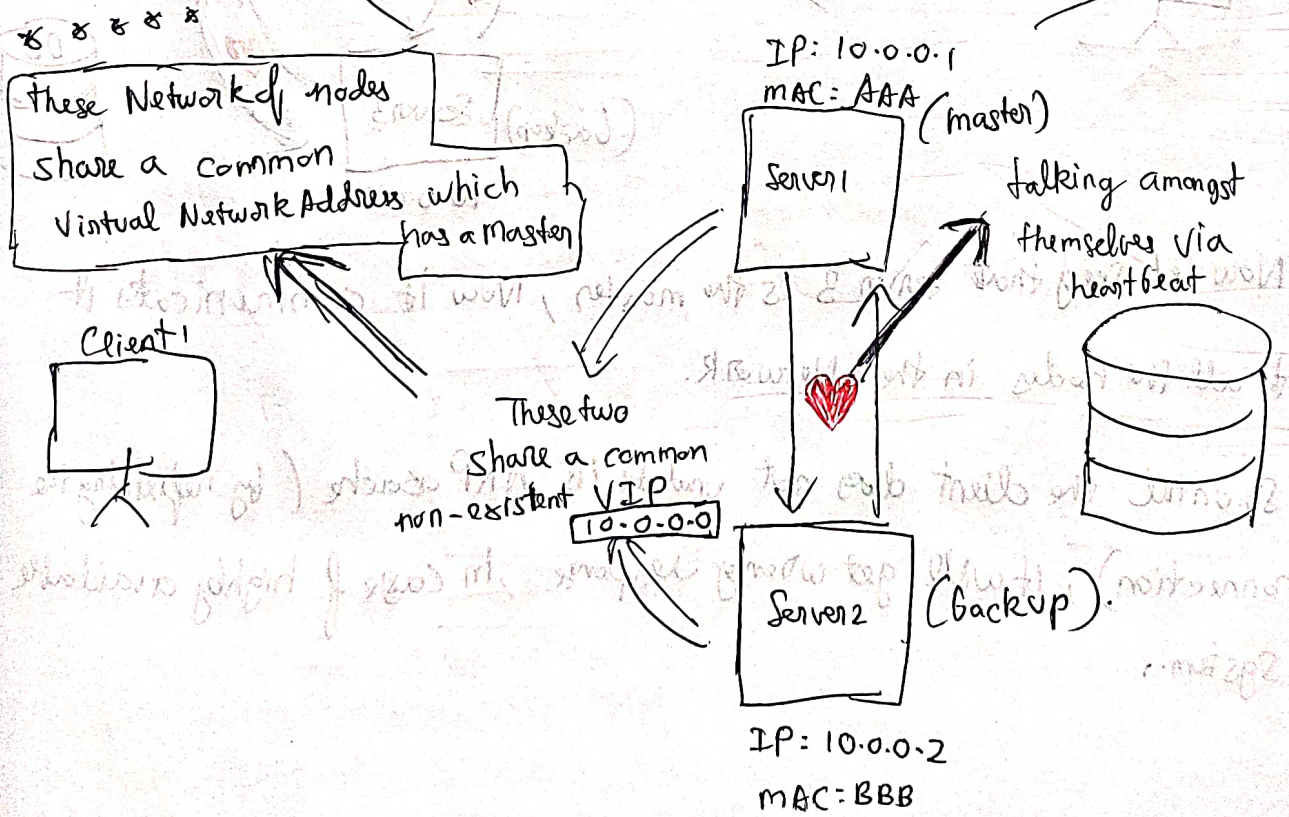


if we Recall ARP. It deals with Mac Addresses.

The sender broadcasts its (IP Address) destination IP address and whichever machine has that IP address, Responds back with that MAC Address.




Virtual ~~Addr~~ IP Address (VIP)

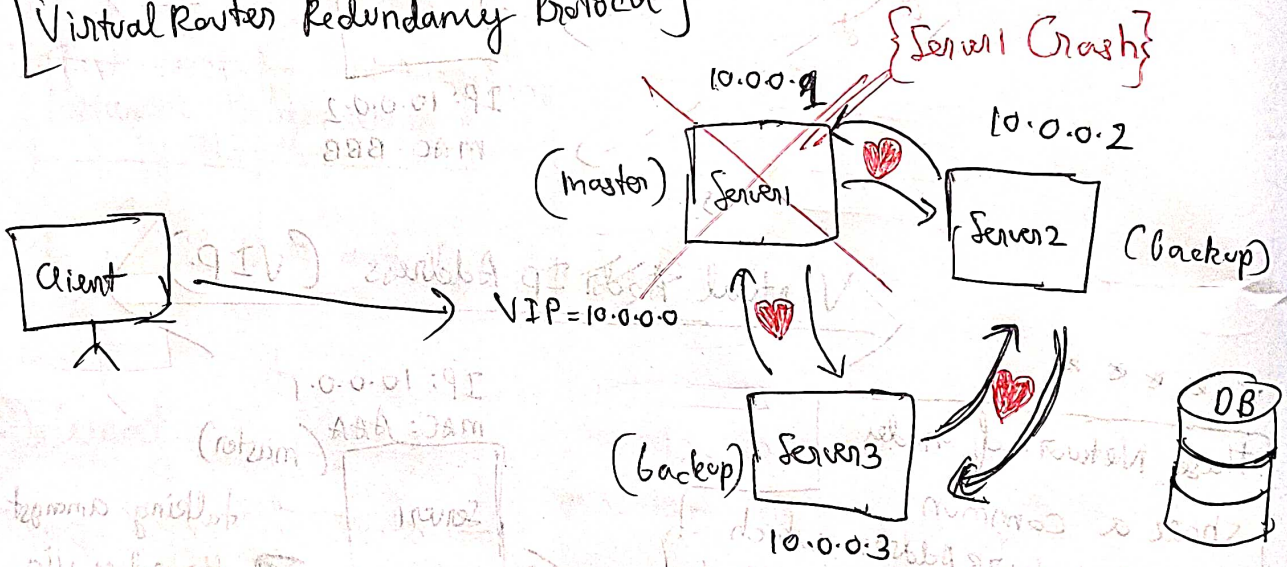


So now the ARP request might go to the backup, but the backup sees that it is not the master, Hence master picks up the request and serves it.

Hence the master sends its (mac Address)

## Case when the master Node fails

The protocol is called VRRP :-
[Virtual Router Redundancy Protocol]




Now Lets say that server 3 is the master, Now it communicates it to all the nodes in the Network.

So until the client does not update its ARP cache (by refreshing the connection), it will get wrong response, in case of highly available systems.

## (Showing with Example)

In the example above, we saw only master node servicing the requests, and in case of failover, master election happens and master node is changed,