1-why do we use both Ip addresses and mac address in the (TCP/IP) protocol?

When you send a packet you add the real IP address for both source and destination in the network layer.

But the real IP address is unique for the router that connects you to the internet, inside the network there are a lot of devices that send and receive packets using the same Real IP address.

so, whenever you send data when it reaches the destination it broadcasts to match with the added mac address (which is added in the datalink layer) which is unique for each device to know which device is receiving the date and stores it in the ARP table (stores private IP address with its mac address) till the session ends

-Also, datalink layer has many protocols some of which use mac address only and some don't Like switches are used in the datalink layer and they use mac address to send and receive frames they don't care about Ip addresses in this layer.

Still, you can't use only mac address to send and receive data because it doesn't connect your device to the internet it needs a real IP address (location for your mac address in the world).

So, in general TCP/IP knows your location by the source and destination real IP addresses

And send the data to your device using the mac address because its unique not like that private IP.

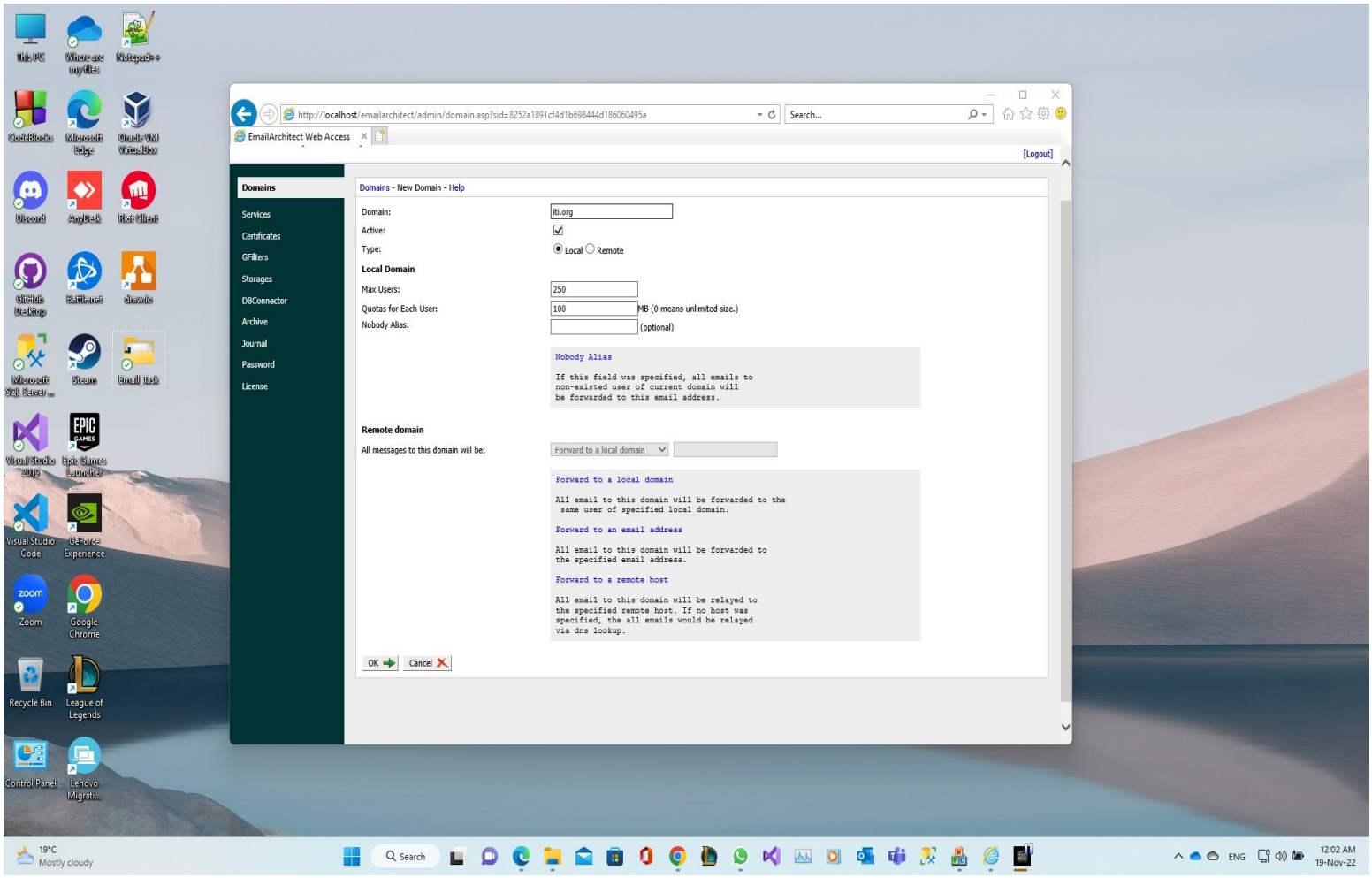
2-why do we get only one IP address for google.com when we use nslookup command?

We get only one IP address because of google load balancer which connects each client/user

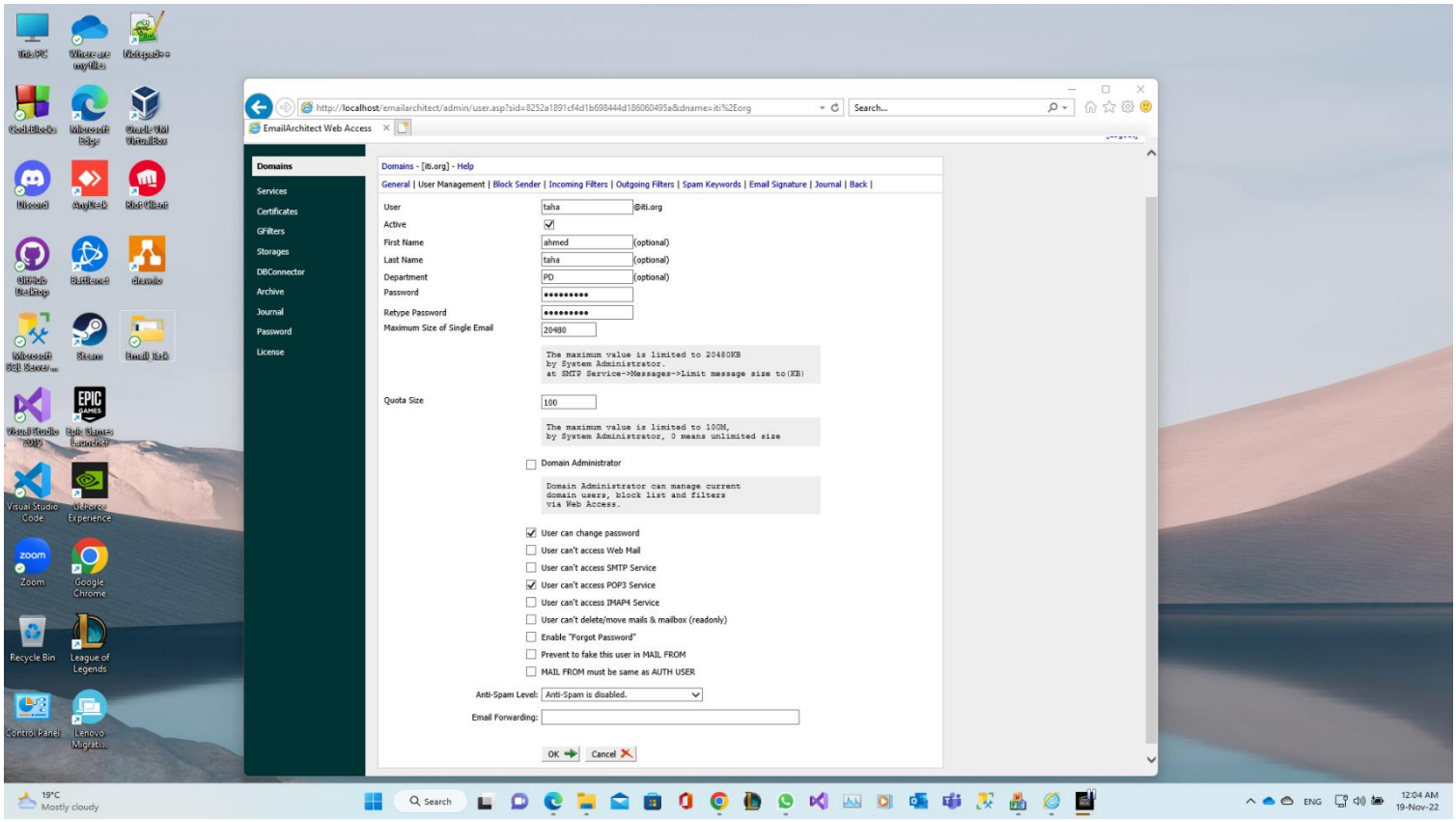
With google server in its geographical region to enhance the performance.

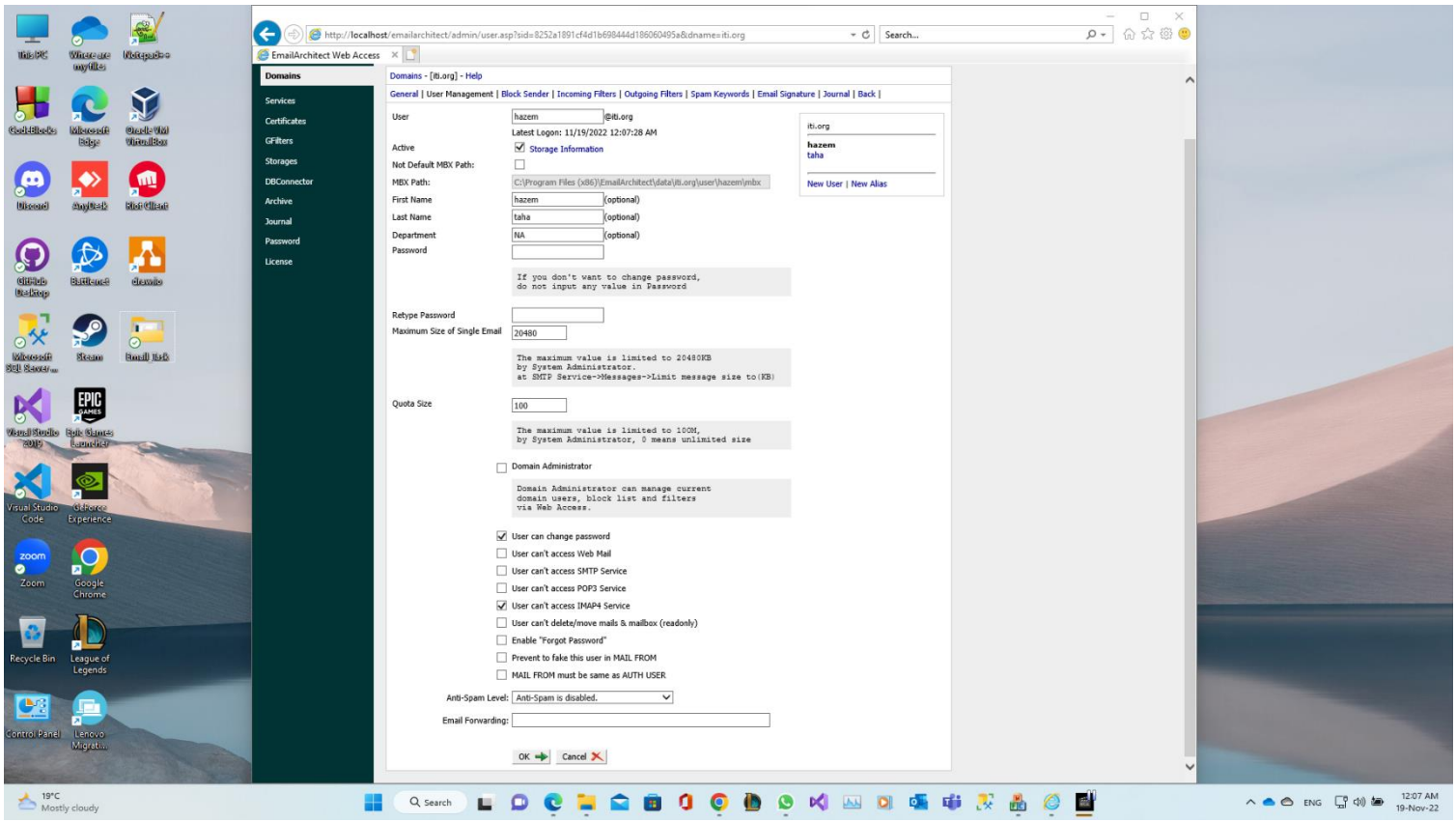
Email server assignment:

Creating new domain:

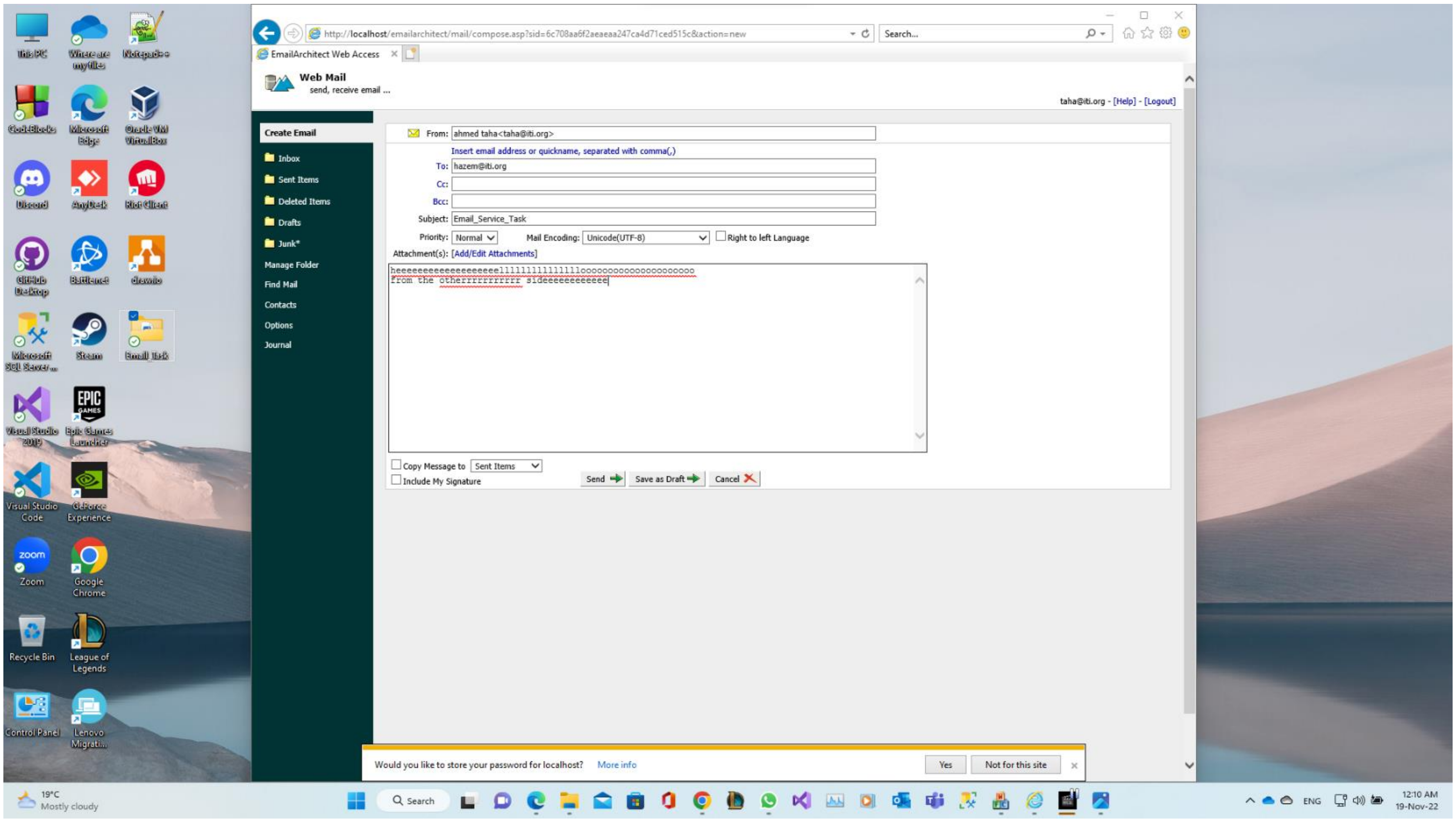


Creating user1(taha@iti.org) (can’t user pop3 service) & user2(hazem@iti.org) (can’t use imap4 service)

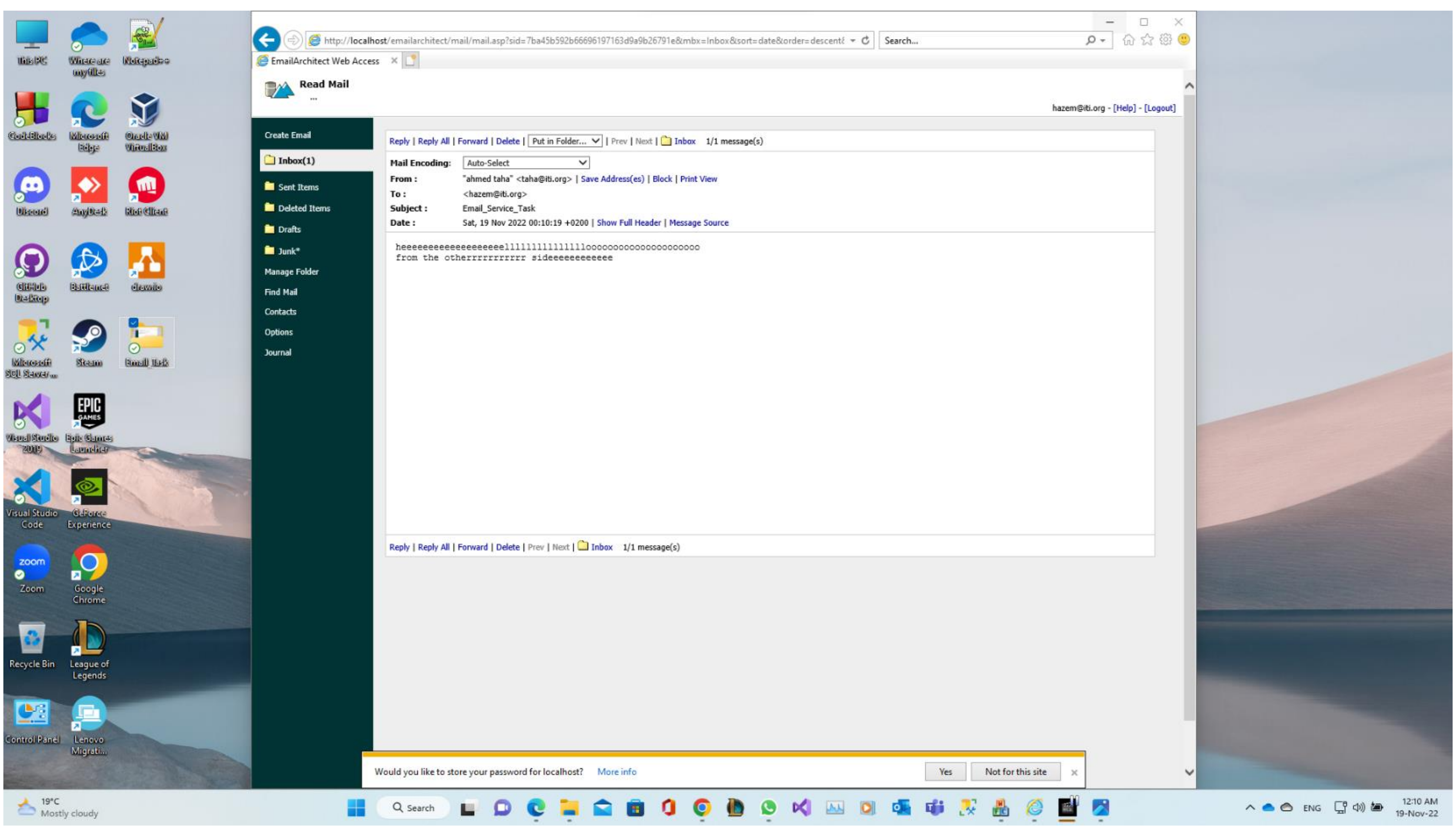




Sending Mail from taha@iti.org to hazem@iti.org



Receiving Mail from taha@iti.org



Repeating the process again but sending mail from hazem@iti.org to taha@iti.org