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Subnets , Gateways and Route table

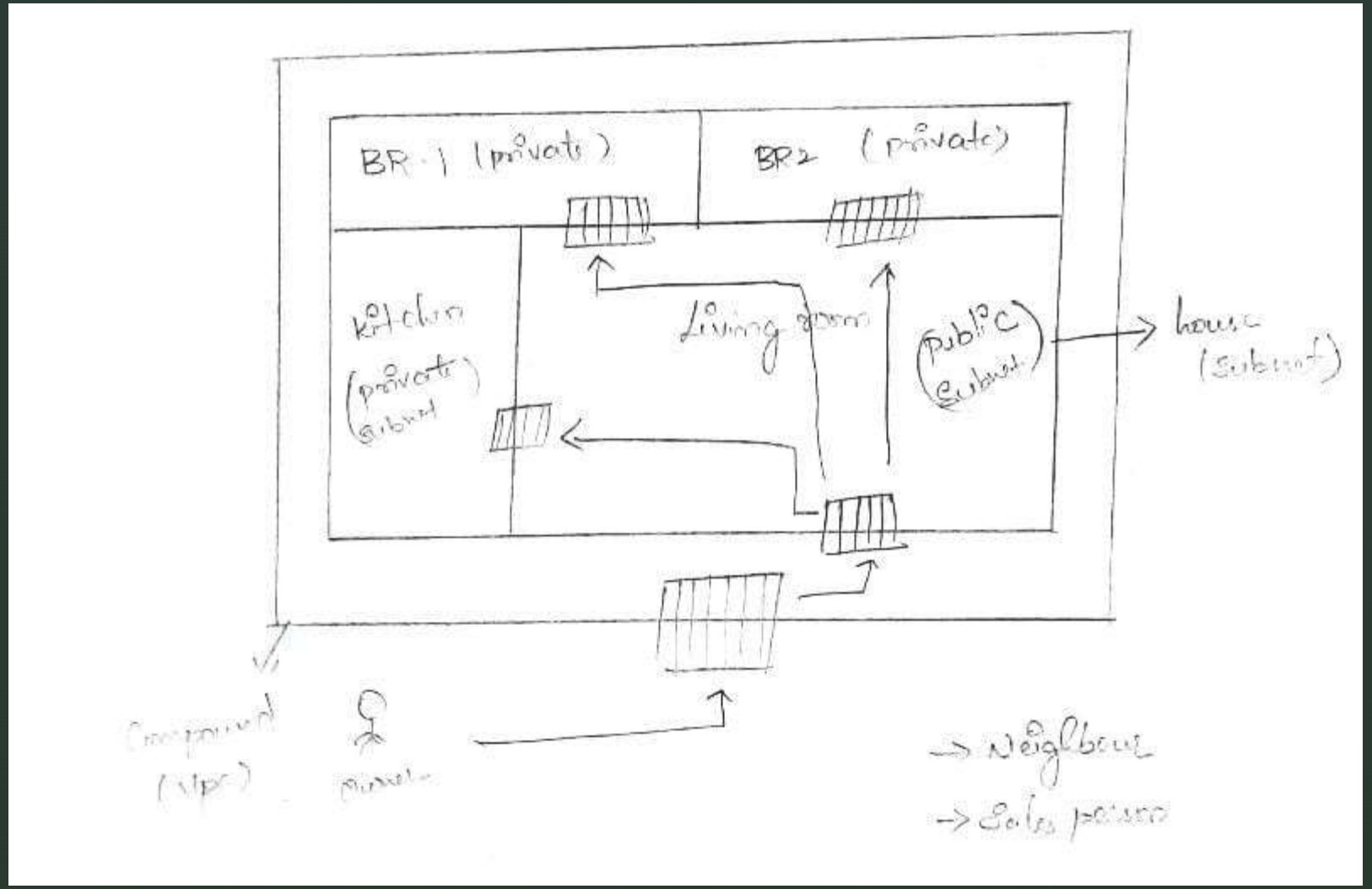
AGENDA

- Subnet
- Gateway
- Internet gateway
- NAT gateway
- Gateway route tables
- Route table
- Summary

SUBNETS

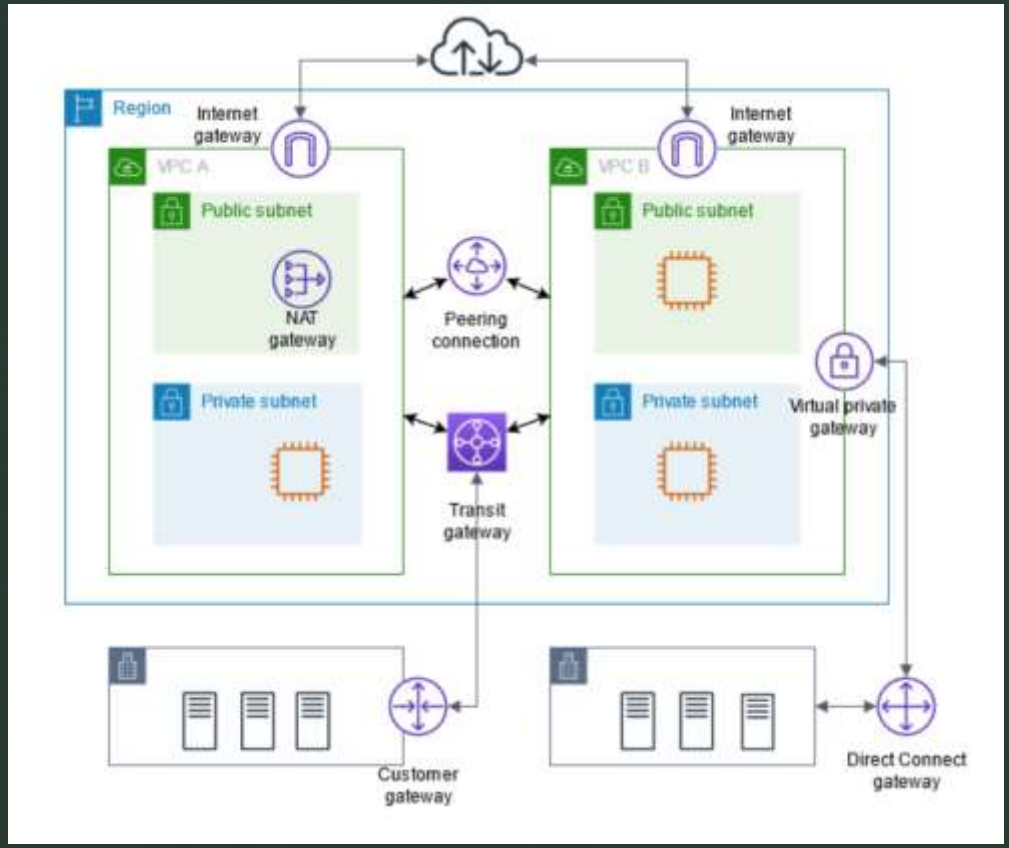
- A subnet is a range of IP addresses in your VPC. You can launch AWS resources into a specified subnet. Use a public subnet for resources that must be connected to the internet, and a private subnet for resources that won't be connected to the internet.
- To protect the AWS resources in each subnet, you can use multiple layers of security, including security groups and network access control lists

SUBNETS


BR 1 (private)
BR2 (private)
Kitchen
(private
subnet
Living room
(public
subnet
house
(Subnet
(compound
(vpc)
person
-> Neighbour
-> Sales person

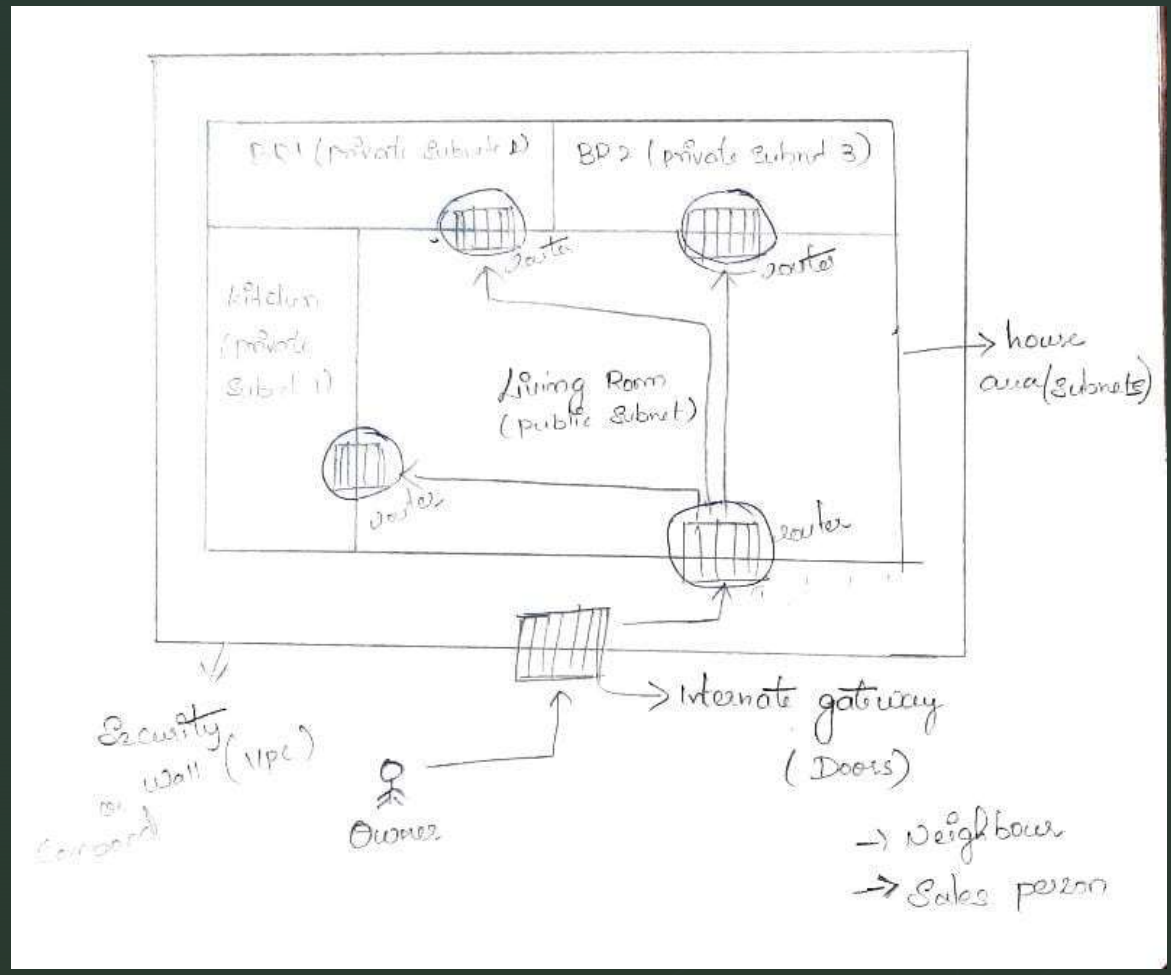
GATEWAYS

You can connect your virtual private cloud (VPC) to other networks. For example, other VPCs, the internet, or your on-premises network.



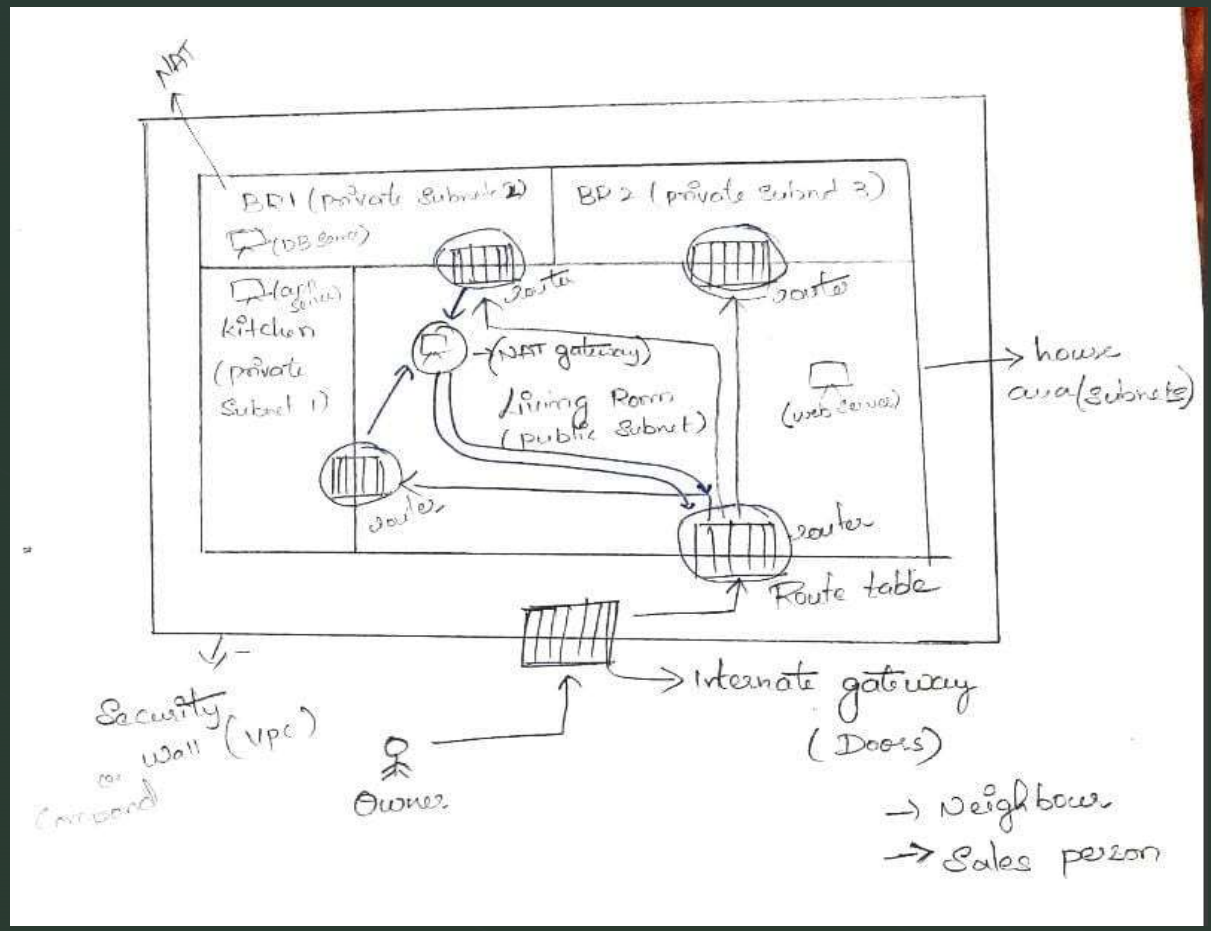
GATEWAYS

- An internet gateway is a horizontally scaled, redundant, and highly available VPC component that allows communication between your VPC and the internet. An internet gateway enables resources in your public subnets to connect to the internet if the resource has a public IPv4 address or an IPv6 address.
- Similarly, resources on the internet can initiate a connection to resources in your subnet using the public IPv4 address or IPv6 address.



GATEWAYS

- A NAT gateway is a Network Address Translation (NAT) service. You can use a NAT gateway so that instances in a private subnet can connect to services outside your VPC but external services cannot initiate a connection with those instances.

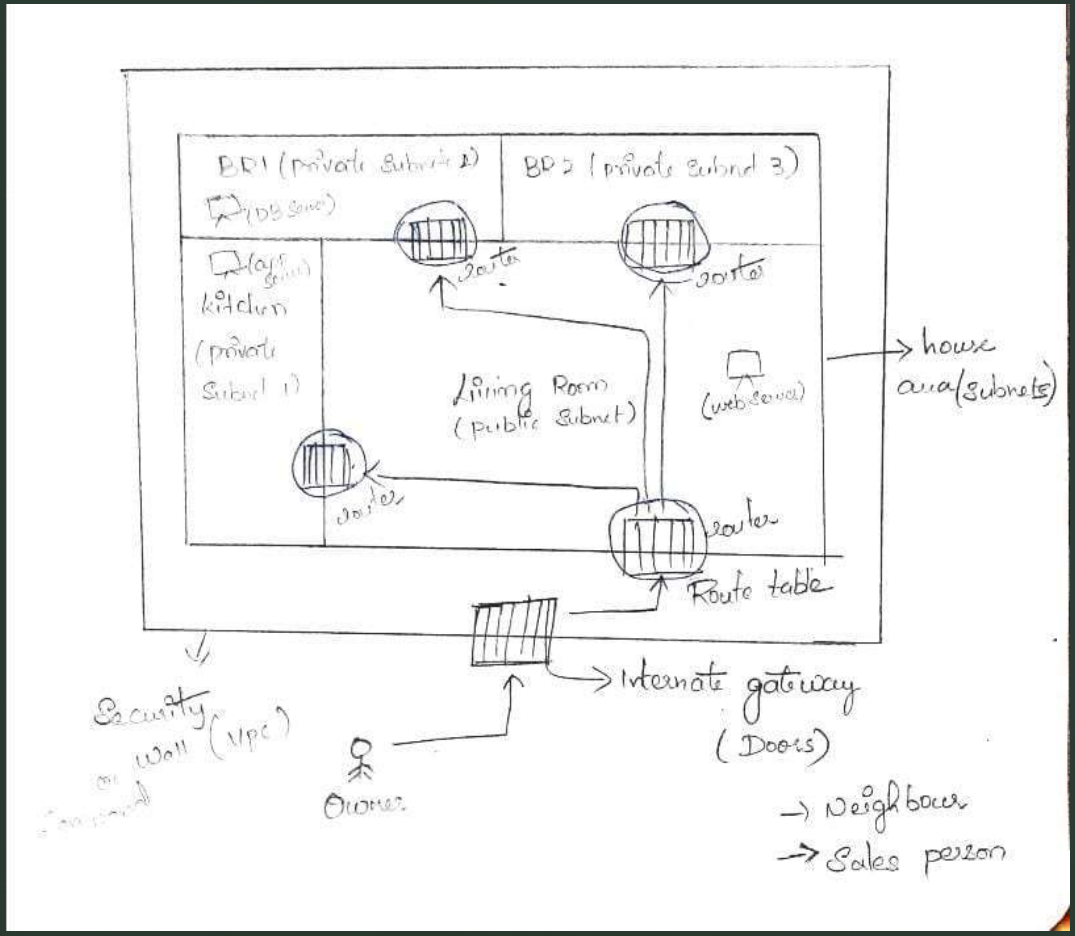


GATEWAYS

- **Gateway route tables :** You can associate a route table with an internet gateway or a virtual private gateway. When a route table is associated with a gateway, it's referred to as a *gateway route table*.
- You can create a gateway route table for fine-grain control over the routing path of traffic entering your VPC.
- For example, you can intercept the traffic that enters your VPC through an internet gateway by redirecting that traffic to a middlebox appliance (such as a security appliance) in your VPC.

ROUTE TABLES

- A route table contains a set of rules, called *routes*, that determine where network traffic from your subnet or gateway is directed.
- **Route priority :** In general, we direct traffic using the most specific route that matches the traffic. This is known as the longest prefix match. If your route table has overlapping or matching routes, additional rules apply.



Summary

- Subnets : Tied to an AZ, network partition of the VPC
- Internet Gateway : at the VPC level,provide Internet Access
- NAT Gateway : give internet access to private subnets
- Route table : routes are used to determine where network traffic from your subnet or gateway is directed

Thank you