AWS :

1. VPC : Amazon virtual private cloud is a service
that ~~requires~~ lets you launch AWS resources in a logically
isolated virtual network that you define. You have complete
control over your virtual networking environment, including
selection of your IP address range, creation of subnets and
configuration of route tables and network gateways. You can
use both IPV4 & IPV6 for most resources in your virtual
Private cloud, helping to ensure secure and easy access to
resources and applications.

As one of AWS foundational service, Amazon VPC makes it
easy for customize your VPC's network configuration. You
can create a public-facing subnet for your servers that
have access to the internet. It alone lets you place your
backend system, such as database or application servers in a
private-facing subnets with no internet access.

2. Subnets : A subnet is the range of IP addresses your VPC
After creating a VPC, you can add one or more subnets in each
availability zone. Subnet is a key component in VPC. A VPC
can contain all public subnets (or) public / private subnets
communication. Private subnet is a subnet which doesn't
have a route to the internet gateway. A subnet can be
configured as a VPN-only subnet by routing traffic via
virtual private gateway. It is the part of the network
or In other words, Part of entire availability zone.
Each subnet must reside entirely coming one availability
zone and cannot span zones.

3. Route tables: Your VPC has a route table with a
set of rules, called routes, that are used to determine
where network traffic from your subnet or gateway is
directed. You use route tables to control where network
traffic is directed. Each subnet in your VPC must be
associated with a routetable, which controls the routing
for the subnets. You can replicity associate a subnet
with a particularly route table. Otherwise the subnet with
a particular is implicity associated with main route table.
A subnet can only be associated with the ~~main~~ route table
at a time, but you can associate multiple subnets with the
same subnet route table.

You can optionally associate a route table with an internet
gateway or a virtual private gateway. This enables you to
specify routing rules for inbound traffic that enters your VPC
through the gateway.

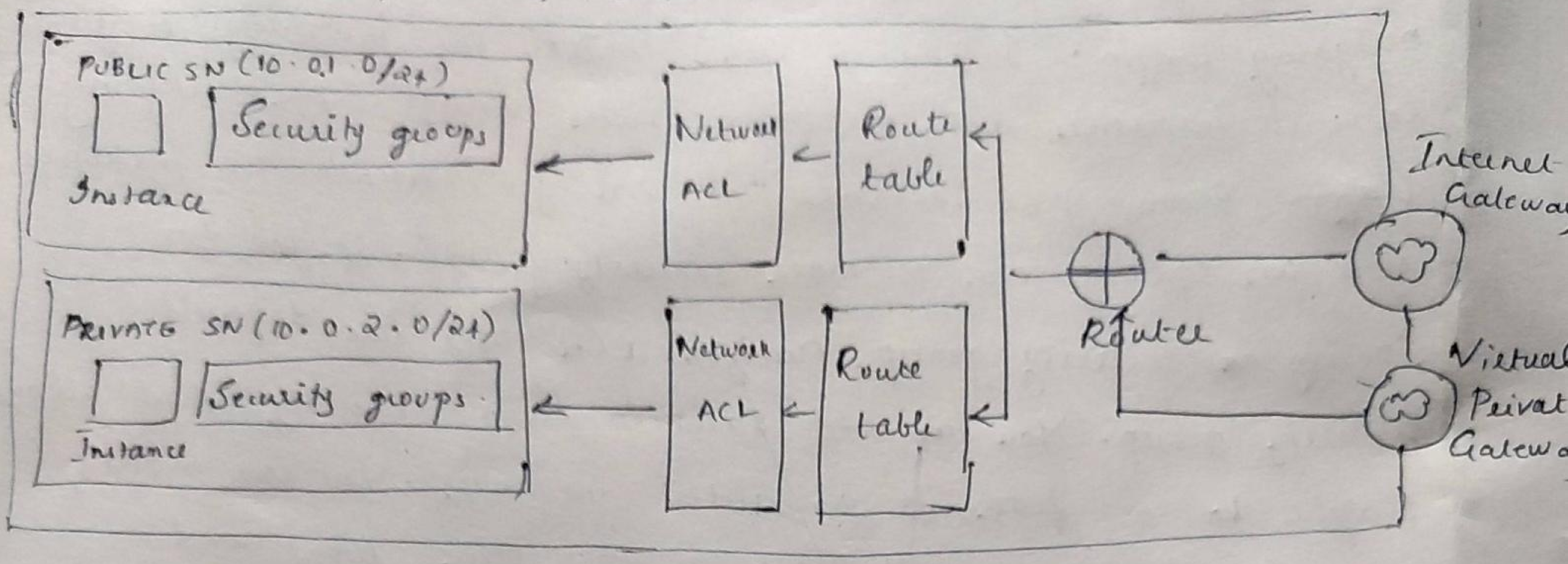
4. Internet gateway: An internet gateway is a horizontally
scaled, redundant and highly available VPC component
that allows communication between your VPC and the
internet.

An internet gateway serve 2 purposes: to produce a target
in your VPC route table for internet to route traffic
and to perform network address translation (NAT) for
instances that have been assigned public IPV4 address.
A gate way supports IPV4 and IPV6 traffic. It doesnot
cause availability risk or bandwidth constraints to your
network traffic. There's no additional change for having
an internet gateway in your account.

5. Security groups : A security group acts as a virtual firewall for your EC2 instances to control incoming and outgoing traffic. Inbound rules control the incoming traffic to your instances and outbound rules control the outgoing traffic from your instance. When you launch an instance, you can specify one or more security groups. If you don't specify an security group, Amazon EC2 uses the default security group. You can add rules to each security that allow traffic to or from its associated instances. You can modify the rules for a security group at any time. New and modified rules are automatically applied to all instances that are associated with the group. When Amazon EC2 decides whether to allow traffic to reach an instance, it evaluates all of the rules from all of the security groups that are associated with the instance.

6. Network ACL's : A network access control list is an optional layer of security for your VPC that acts as a firewall for controlling traffic in and out of one or more subnets. You might set up network ACL's with rules similar to your security groups in order to add an additional layer of security to your VPC.

VPC with Public & Peirate Subnet(s)


PUBLIC SN (10·0.1·0/24)
Security groups
Instance
Network ACL
Route table
PRIVATE SN (10·0·2·0/24)
Security groups
Instance
Network ACL
Route table
Router
Internet
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