AWS:

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

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

2) Subnets - A subnet is a range of IP address in 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 subnet, combination. Private subnet 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 a virtual private gateway. It is "a part of the network", or in other words, part of entire availability zone.

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Each subnet must reside entirely within 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 route table, which controls the routing for the subnets. You can explicitly associate a subnet with a particular route table. Otherwise, the subnet is implicitly associated with the main route table. A subnet can only be associated with one 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 two purpose: to provide a target in your VPC route table for internet-routable traffic, and to perform network address translation (NAT) for instances that have been assigned public IPV4 address.
A gateway supports IPV4 and IPV6 traffic. It does

not cause availability risk or bandwidth constraints on your network traffic. There's no additional charge 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 instance, 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 a 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 instances.

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~~ 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.

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VPC with Public & Private subnets :