**Negotiating networking:**

1. Amazon VPC:
   - Define and provision an isolated network for your AWS resources

2. AWS Transit Gateway:
   - Connect VPCs and on-premises networks-

3. AWS Privatelink
   - Provide private connectivity between VPCs and on-premises applications

4. Amazon Route53:
   - Host your own managed DNS

IP Addressing:

- Network interface is the bridge between your computer and the technology used to connect to other computer
- To configure network you need IP address range which will be configured on your computer and other computer on same network
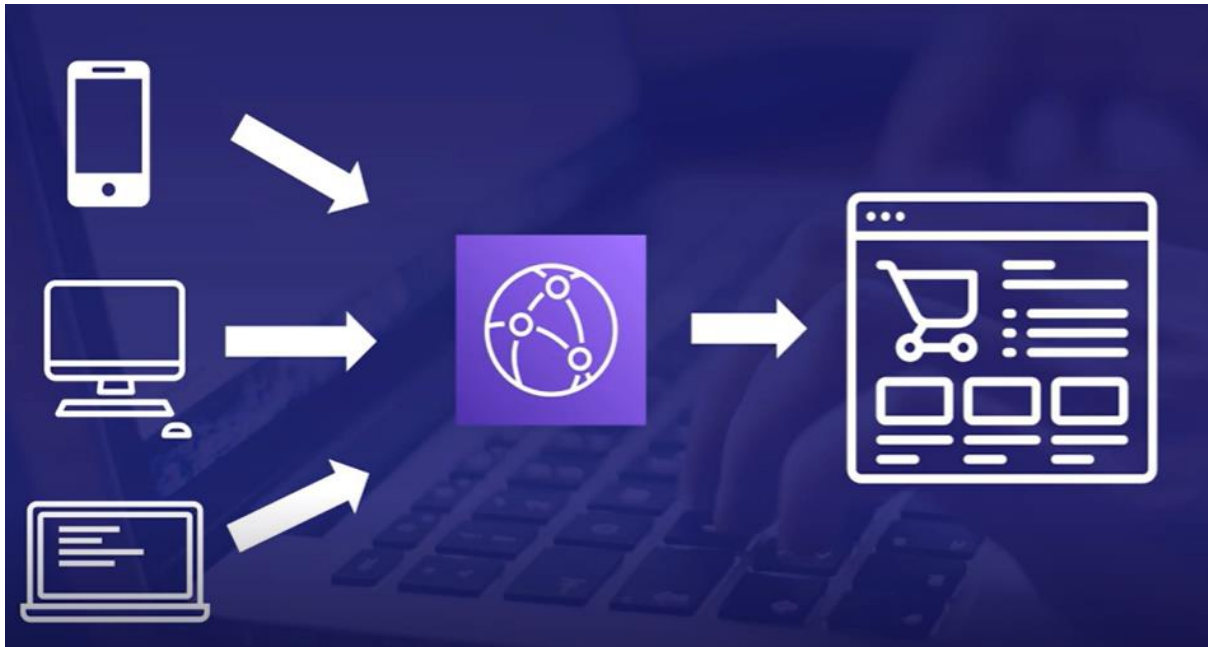- Local guided community

Example:


```
x.x.x.x
10.0.0.1
172.16.0.1
192.168.0.1

10.0.0.0 to 10.0.0.255
10.0.0.0/24
```
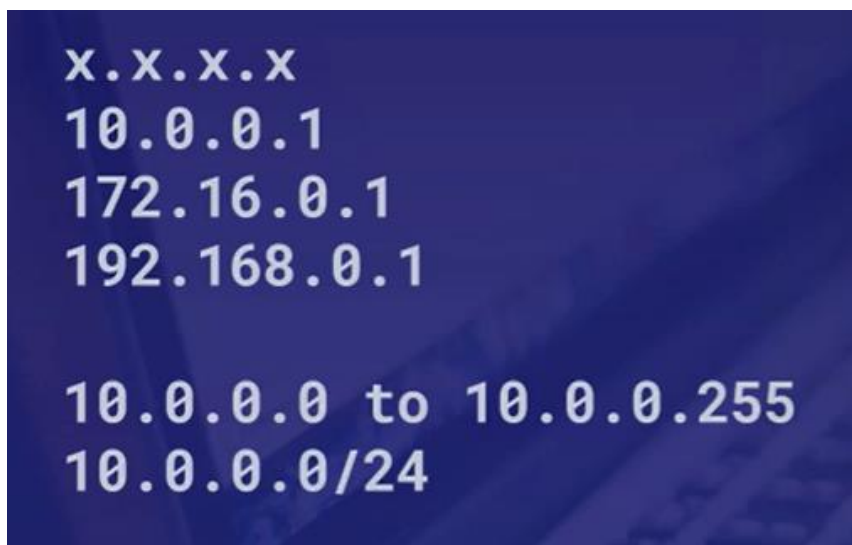
VPC:

1. NAT gateway
2. Internet gateway
3. NACLs

Choosing CloudFront:

- Content Delivery Network
- Increases security
- Traffic spike protection
- lambda@edge

Edge Locations:

Revising route53:

- to convert URL into IP address we use DNS

acloud.guru -> 52.206.213.112

- Simple routing:
  - With simple routing, you typically route traffic to a single resource, for example, to a web server for your website.

- Weighted policy:
  - Weighted routing lets you associate multiple resources with a single domain name (example.com) or subdomain name (acme.example.com) and choose how much traffic is routed to each resource.
  - This can be useful for a variety of purposes, including load balancing and testing new versions of software.

- Latency policy:
  - To use latency-based routing, you create latency records for your resources in multiple AWS Regions.
  - When Route 53 receives a DNS query for your domain or subdomain (example.com or acme.example.com), it determines which AWS Regions you've created latency records for, determines which region gives the user the lowest latency, and then selects a latency record for that region.
  - Route 53 responds with the value from the selected record, such as the IP address for a web server.

- Geolocation policy:
  - Geolocation routing lets you choose the resources that serve your traffic based on the geographic location of your users, meaning the location that DNS queries originate from.
  - For example, you might want all queries from Europe to be routed to an ELB load balancer in the Frankfurt region.

- Failover policy:
  - Failover routing lets you route traffic to a resource when the resource is healthy or to a different resource when the first resource is unhealthy.
  - The primary and secondary records can route traffic to anything from an Amazon S3 bucket that is configured as a website to a complex tree of records.

- Multivalue answer policy:
  - Multivalue answer routing lets you configure Amazon Route 53 to return multiple values, such as IP addresses for your web servers, in response to DNS queries.

- You can specify multiple values for almost any record, but multivalue answer routing also lets you check the health of each resource, so Route 53 returns only values for healthy resources.
- It's not a substitute for a load balancer, but the ability to return multiple health-checkable IP addresses is a way to use DNS to improve availability and load balancing.