AWS Compute and network services

Essentials of Cloud computing
AWS services overview
AWS compute and network services
AWS storage, Database and migration services
AWS authentication, automation and integration services
AWS API Serverless Computing and DevOps
AWS microservices and Containers
CPW -> AWS Developer Associate

Day 2:
Compute Services
Elastic Beanstalk
Network services
VPC
CloudFront
Route53

VPC: Virtual Private Cloud
Virtual network -> logically isolated network
CIDR -> **Classless inter-domain routing**
10.0.0.0**/24 -> mask value**
10.0.0.0 to 10.0.0.255
00001010.00000000.00000000.00000000
to
00001010.00000000.00000000.11111111

Explore subnet sizing heading in this site to explore about reserves IPs.

Reserved IPs -> First 4 IPs and the last 1 IP
First 4 Ips -> 10.0.0.0, 10.0.0.1, 10.0.0.2, 10.0.0.3
Last 1 Ip -> 10.0.0.255

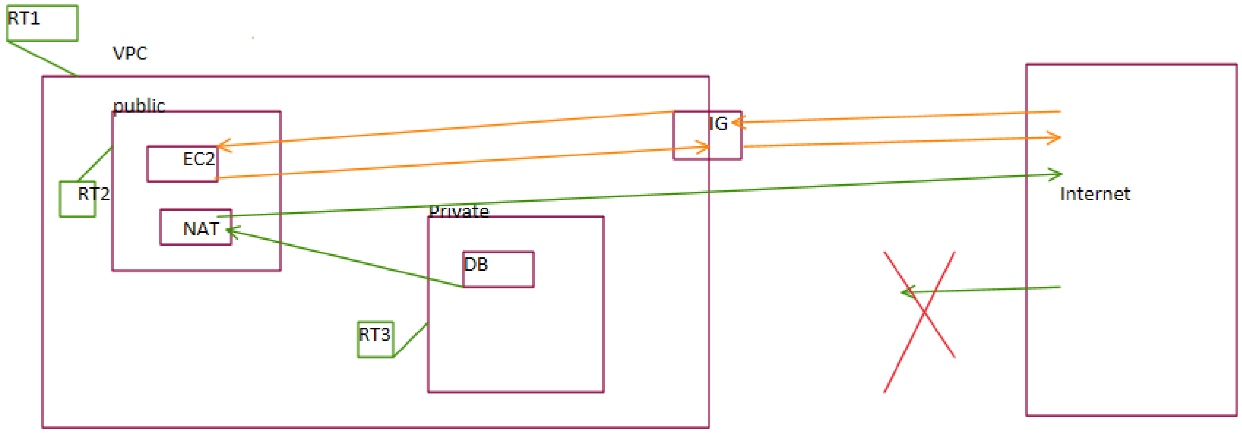
Components:
Subnet:
Ip range of your subnet it should be within the Ip range of your VPC
Small networks within your VPC

Public subnet: 2 way communication -> internet facing resources
Resources they can speak with internet, and internet can also interact with the resources
Private subnet: 1 way communication -> internal facing resources
Resources can speak with internet, the other way is not allowed

Deployed your application on 2 diff Azs -> 1a, 1b
Creating subnet -> specify the AZ -> public subnet 1 : 1a, public subnet 2 : 1b

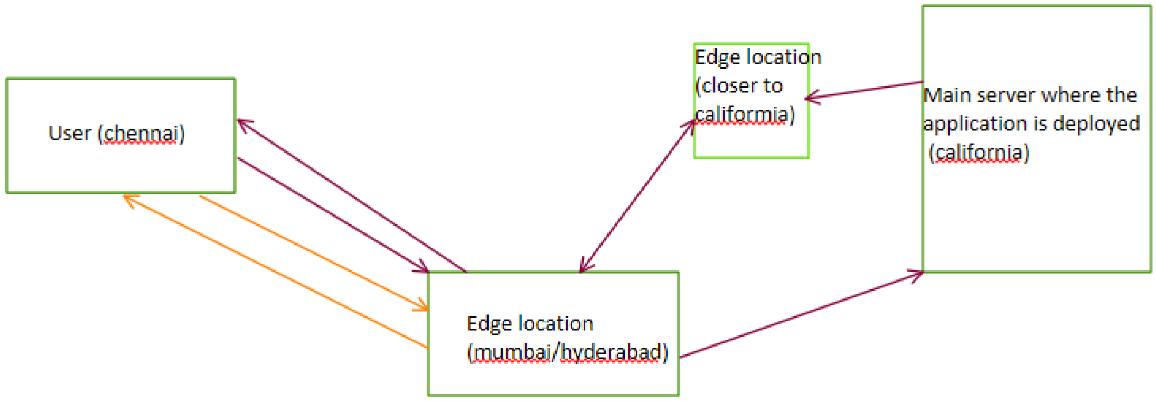
Gateways:
Enables communication between resources and subnet
Internet gateway -> 2 way communication
NAT -> 1 way communication

Route tables:
Guide your incoming and outgoing traffic



RT1 -> default RT -> allow all the internal communication between various subnets within VPC
RT2 -> public subnet -> IG
RT3 -> private subnet -> NAT

Cloud Front:
CDN service provided by AWS
Edge locations -> cache memory -> faster access to freq accessed data
How long a data can be retained in edge location -> TTL (Time To Live)


User (chennai)
Edge location (closer to california)
Main server where the application is deployed (california)
Edge location (mumbai/hyderabad)

Updating content:

Demo.txt

Using the same name:

old version file will be replaced by the new version -> only in main server
Edge location -> still be serving the stale data until it expires
It is not in use currently -> not recommended

Using a diff file name with common prefix/suffix:

Whenever you map any data to your cloud front service -> you will be appending the file name
You can just edit the file name in mapping -> instantly the file will be updated in your edge location

Demo:

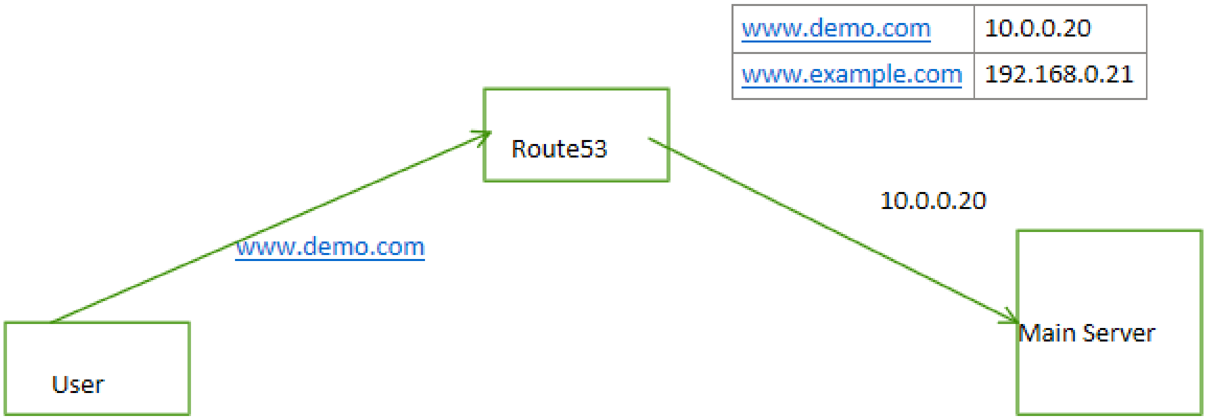
1. Create an S3 bucket -> upload an image into it -> make it as public
2. Creating a distribution in Cloudfront console
3. Linking your object with cloudfront distribution

How long data will be there in edge location?

Amazon Qwiklabs demo on Cloudfront

Route53:

Global Service
DNS -> Domain Name Service
Create/register your own custom domain names (name should be globally unique)
Map that domain name with the respective IP addresses



www.demo.com	10.0.0.20
www.example.com	192.168.0.21

Additional references:

[Complete certification preparation journey for external AWS and GCP certificates - Blog]

[AWS Skill Builder]

[AWS Pricing calculator]

[AWS Certification details]

[AWS cloud practitioner course – Skill Builder]

[Get Certification Voucher] -> Works only when connected to VPN

[Cloud Channel | Lex (infosysapps.com)] -> For AWS and GCP full stacks and internal certification links

[A cloud services cheat sheet for AWS, Azure and Google Cloud | TechTarget]