

Kafka →

Why Kafka

What is Kafka

Use Kafka to send Welcome Email as soon as person signs up.



Youtube server

Copyright
Right

Adult Scenes/
Content

Community
Guidelines

When a user upload a video on YouTube, there will be check for Copyright, Adult scenes, etc

So let's say you are uploading a YouTube video, can get a response, whether you have checked all the criteria like copyright or all, -> this response is an HTTP response

→ HTTP Req Response Model

There may be different scenarios

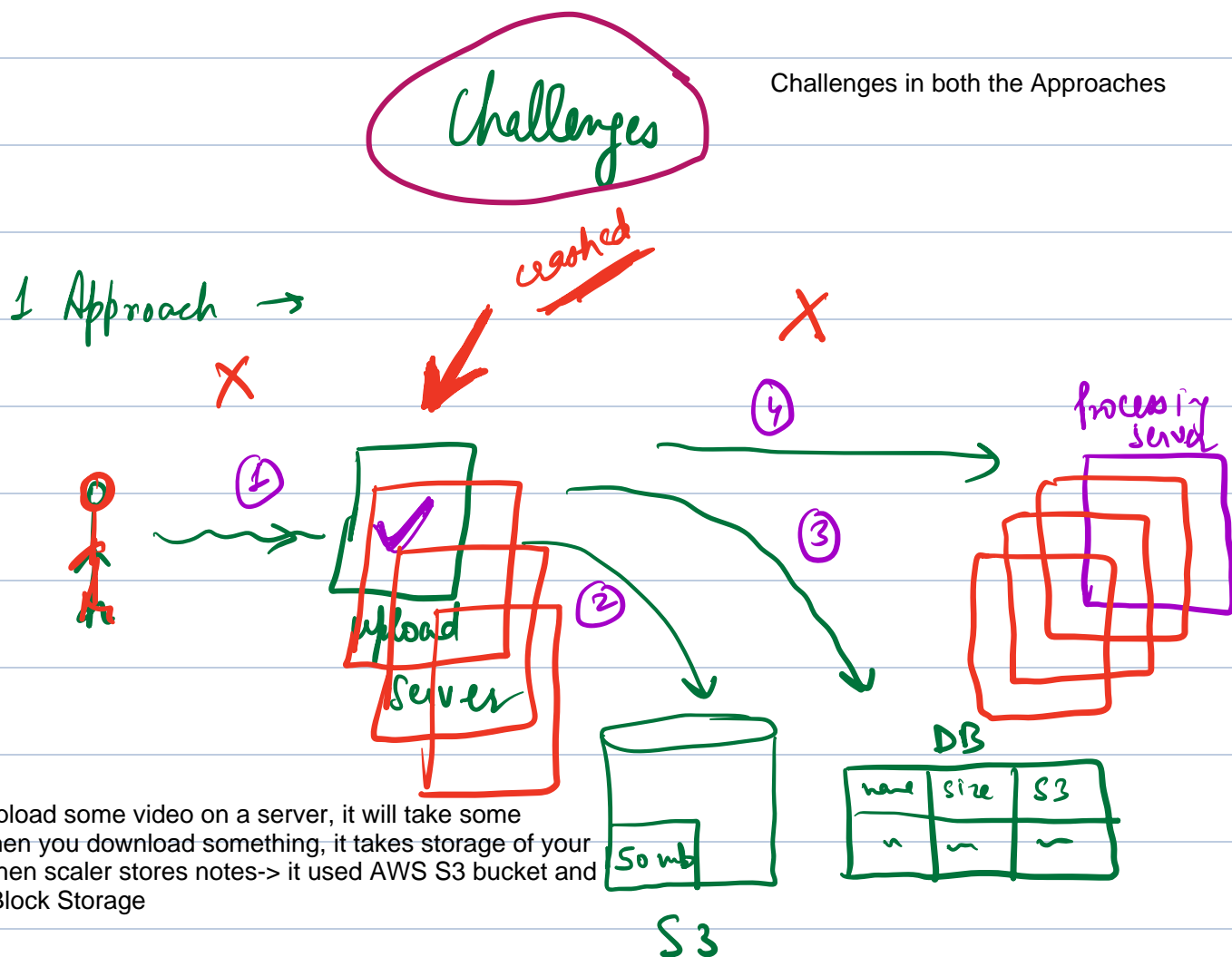
Scenarios

1

- you upload a video
- All processing happens
Conversion to different Resolutions happening
Response → pass

→ fail

2. {
- you uploaded a video
 - person has got notification, that he will be notified about result
 - later on processing happens



6 pm - 9 pm

Cons

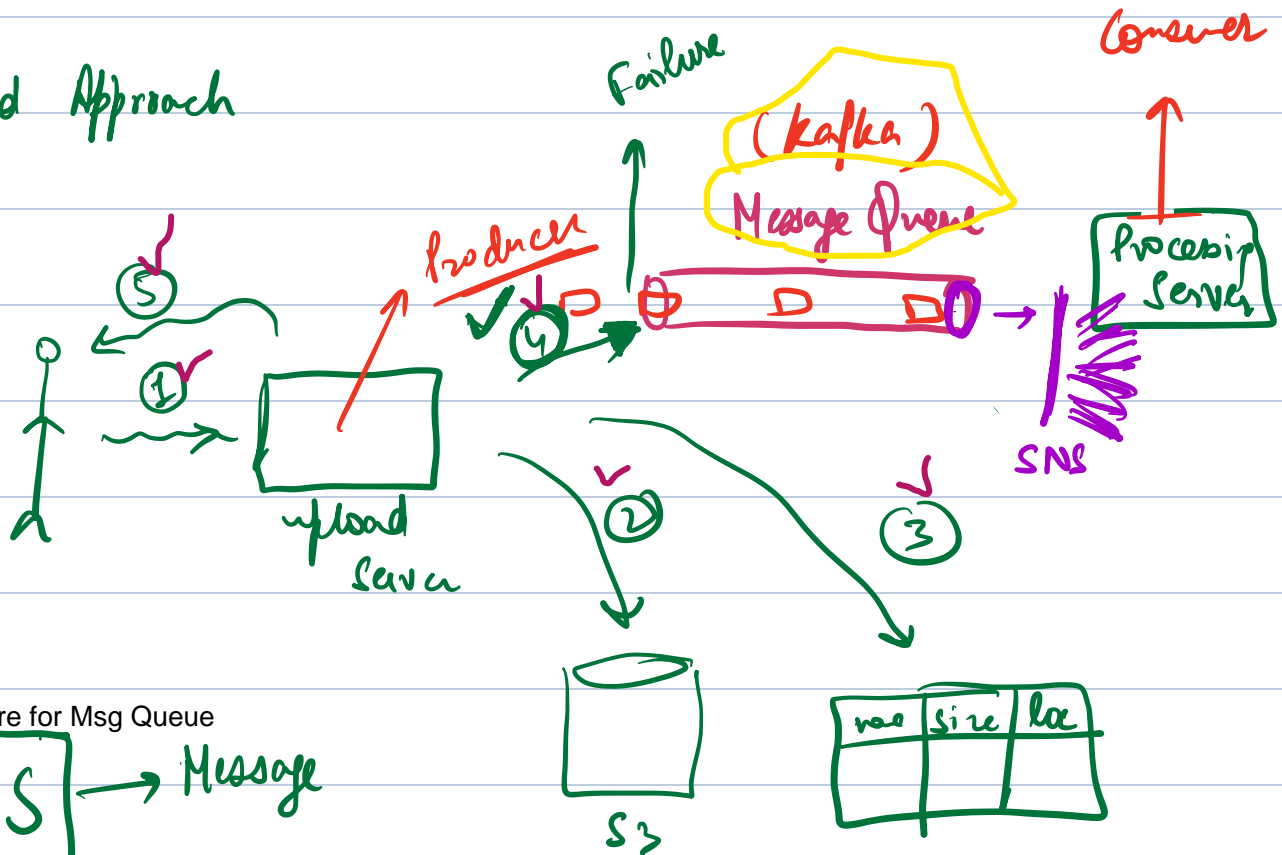
- In case of load / Traffic I need to scale both upload & processing servers

Due to heavy traffic hours -> I have to scale, have multiple servers for uploading and processing servers as well.

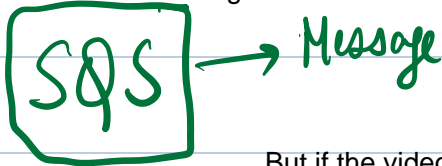
- Single point of failure if something bad happens with upload server

So when processing server is doing its job, uploading server is waiting for response from processing server whether my video is processed or not. And user also waiting for response from upload server but if uploading server is crashed there is no way to get the response, this was the central entity

✓ 2nd Approach



In AWS, SQS is there for Msg Queue



But if the video is uploaded in S3 -> issue of single problem of failure(SPOF) has gone.

Now when the video is uploaded, someone needs to tell Processing server that there is some video which needs to be processed -> Message Queue or kafka

- Now SPOF has gone out of picture

}

event-type : "video upload"

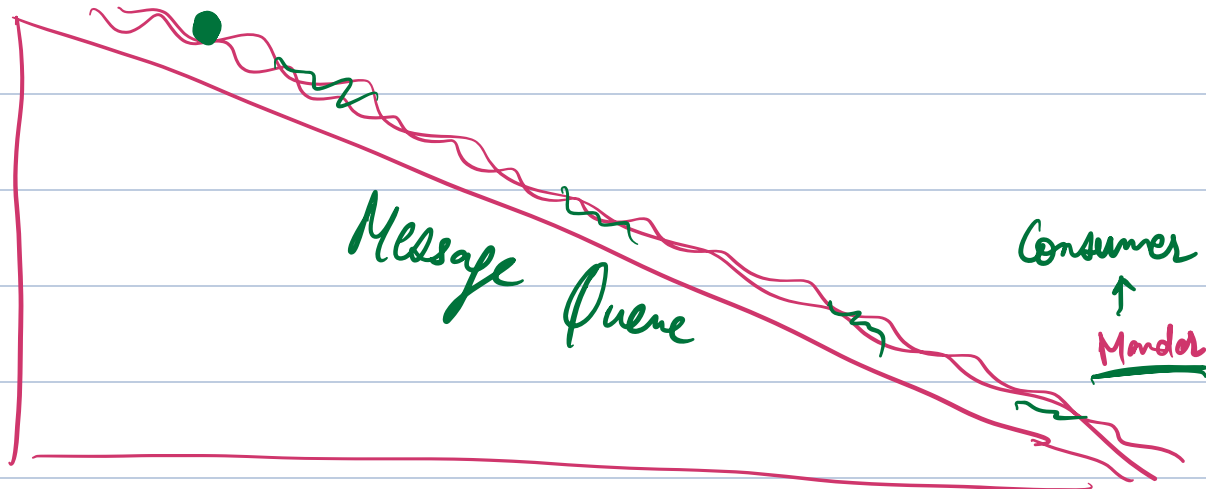
name : "Sheela ki Jawani"

S3 : "S3://~ / ~"

Message Queue



(Producer)
Prem



If there is a ball coming from hill top to bottom, there are ppl bottom of the hill who might or might not be interested to take the ball.

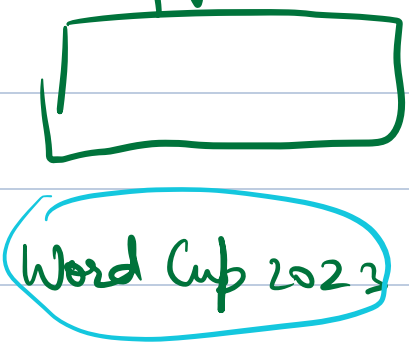
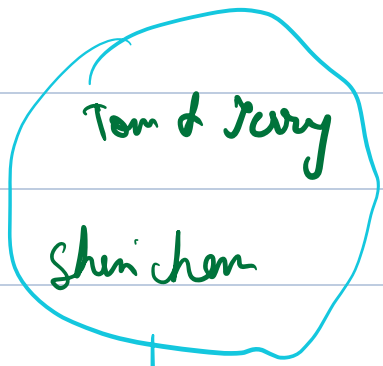
Topic / EventType

EventType -> ppl interested in certain topic

Suppose children will be interested in Tom & Jerry

Mens are interested in WorldCup

Womens are interested in daily soaps they may subscribe to such content



kids

Teenager
or
Men

Ladies
or
Girls

{ Topic : "Cartoon" }

{ Topic: "News" }
 "Cricket"
 "WWE"
 { Topic: "Starlin" }

So our upload server is Producer, if my producer will sent a message in queue and if my processing server will be interested in the event, it will be awake and take the msg

{ Topic: "Song" }

Event Type: Video uploaded
 If you need to broadcast to multiple consumers, we need SNS

Signup API → we are checking if user already exists
 If not exists we are creating an entry into db.

we will send Message into MQ

now before sending the response, we will send msg into msg queue (MQ) or Kafka
 and who will be reading that msg -> Email service

Email service will be Listening to all message of this type and will be sending Welcome email to user who has signed up

history to Message of this type
 ↑
 { Topic: "Song" }

Email
Service

Send Welcome Email to
user who has
signed up.

10:01

at

10:02