

Agenda

- what is serverless?

- what is λ ?

- Pros & Cons

- Use cases

- demos

- Athena

Serverless - we don't need to think about servers

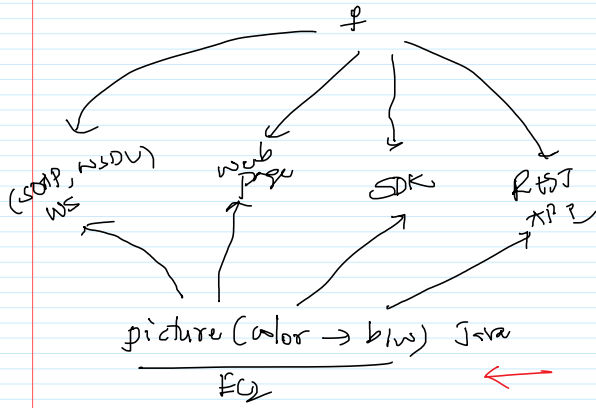
↓
SQS
SNS - Create Q
SES - Put msg
S3 - Got msg
Paragade (K8S - ECS)
↓

SES

Jan
Web } aws sdk → ses

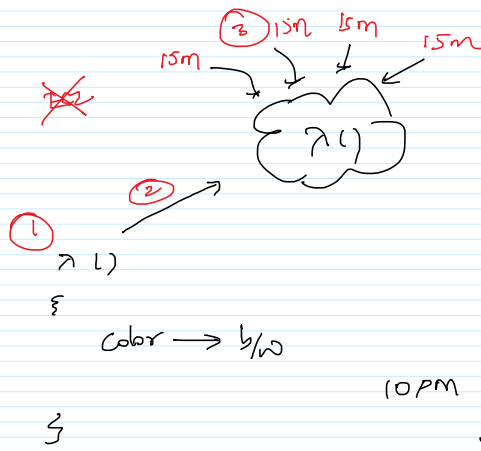
~~- Capacity planning (APR)
- high availability
- scalability (AS)
- Fault Tolerance~~

Foundational



10PM & 6AM → no calls
 \$\$\$

λ (Serverless, FaaS)

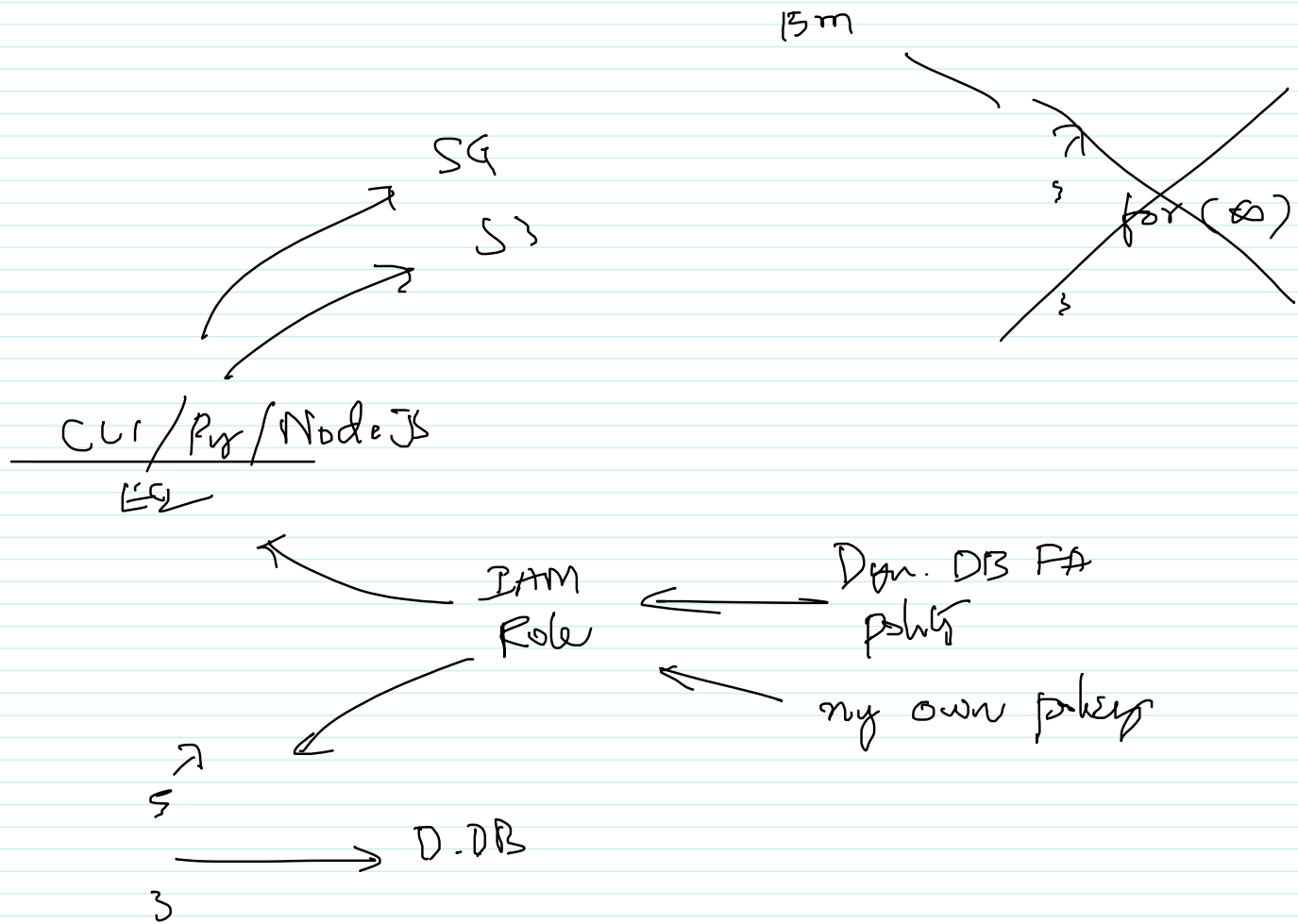


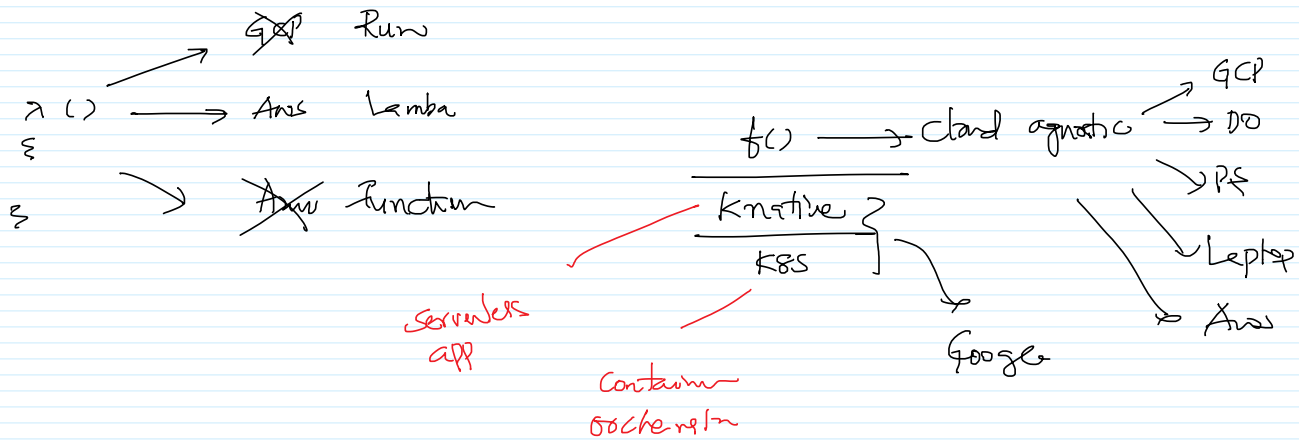
Free tier
 ↳ for over 1 million

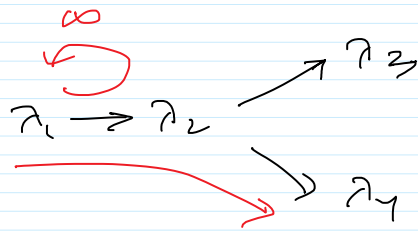
Pricing
 - # of invocations
 - memory (128m to 3GB)
 - execution time (15m)

10PM & 6AM → no calls

~~\$\$\$~~







DAG

Directed Acylic Graph λ

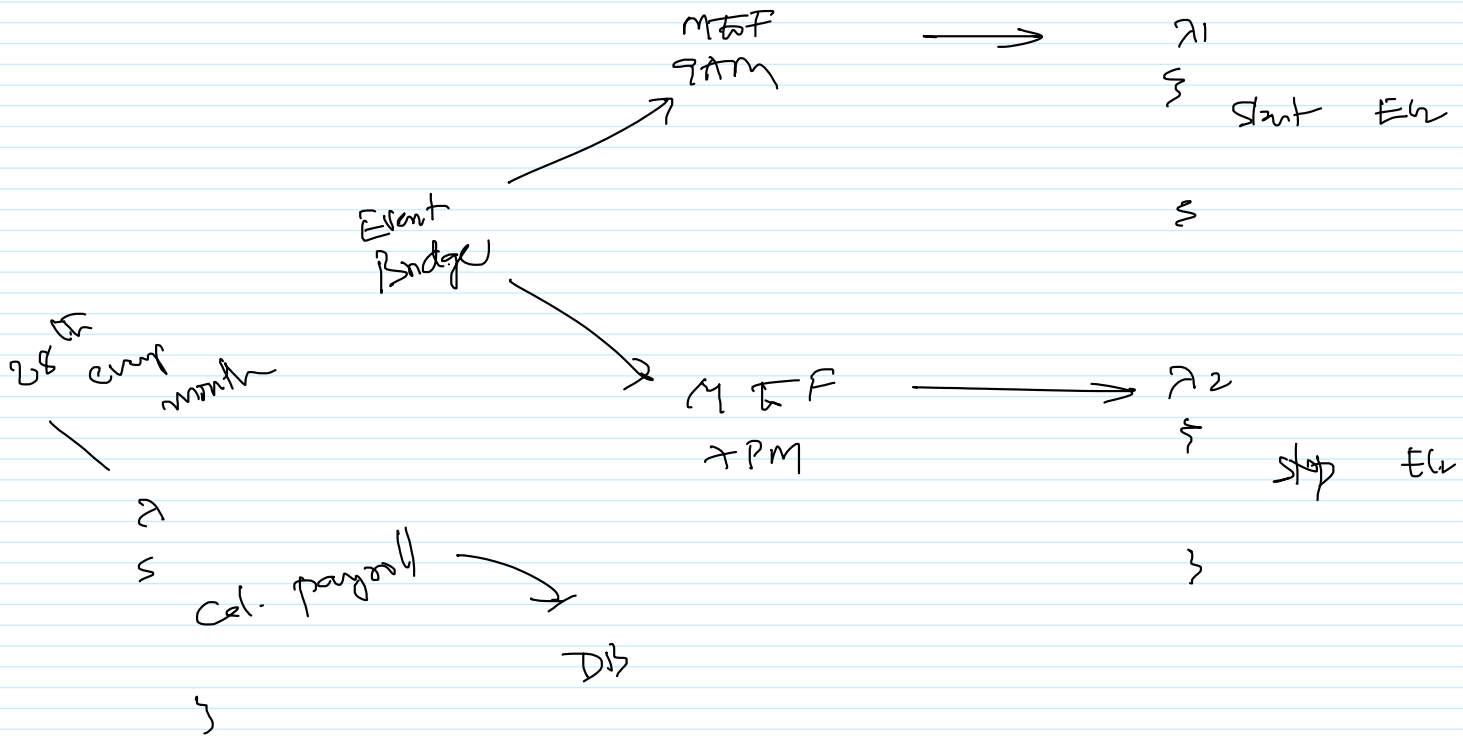
✓ - event driven

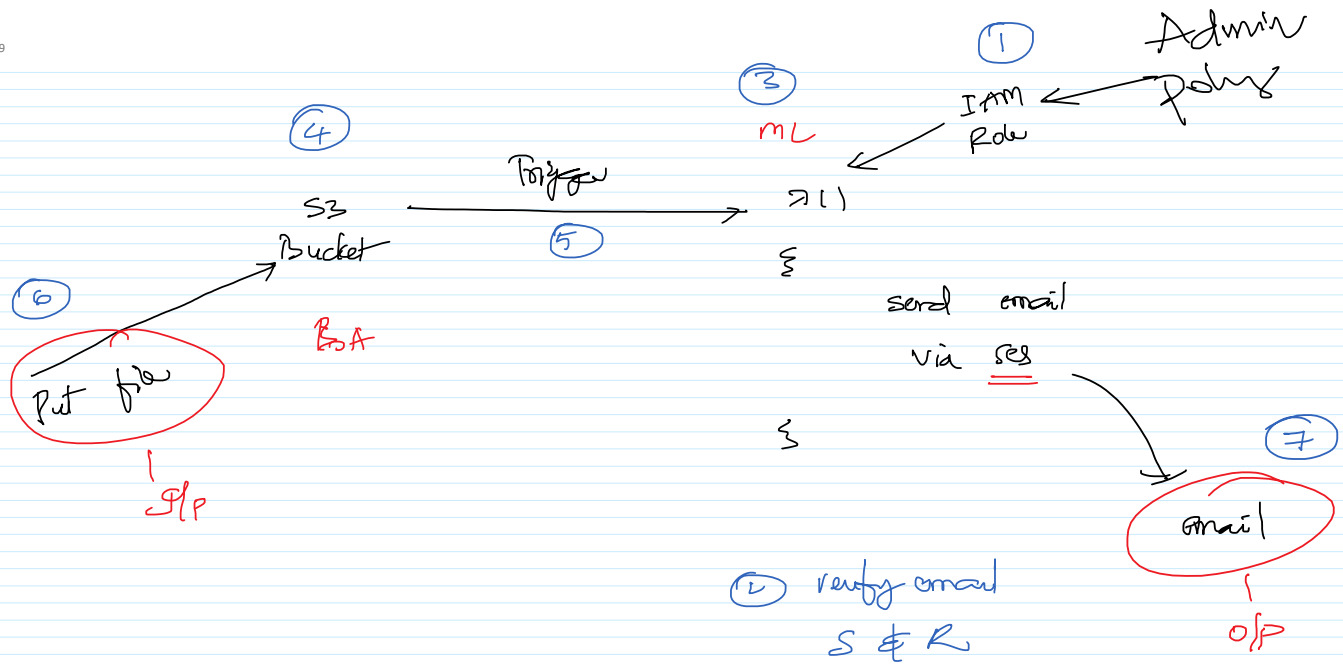
✓ - schedule

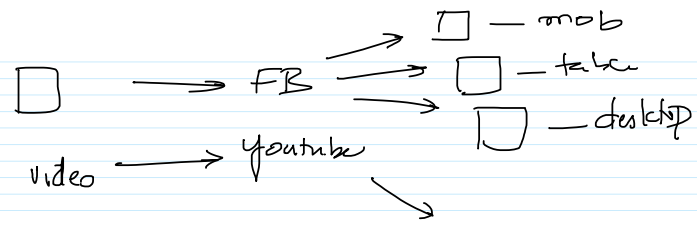
✓ - API Gateway

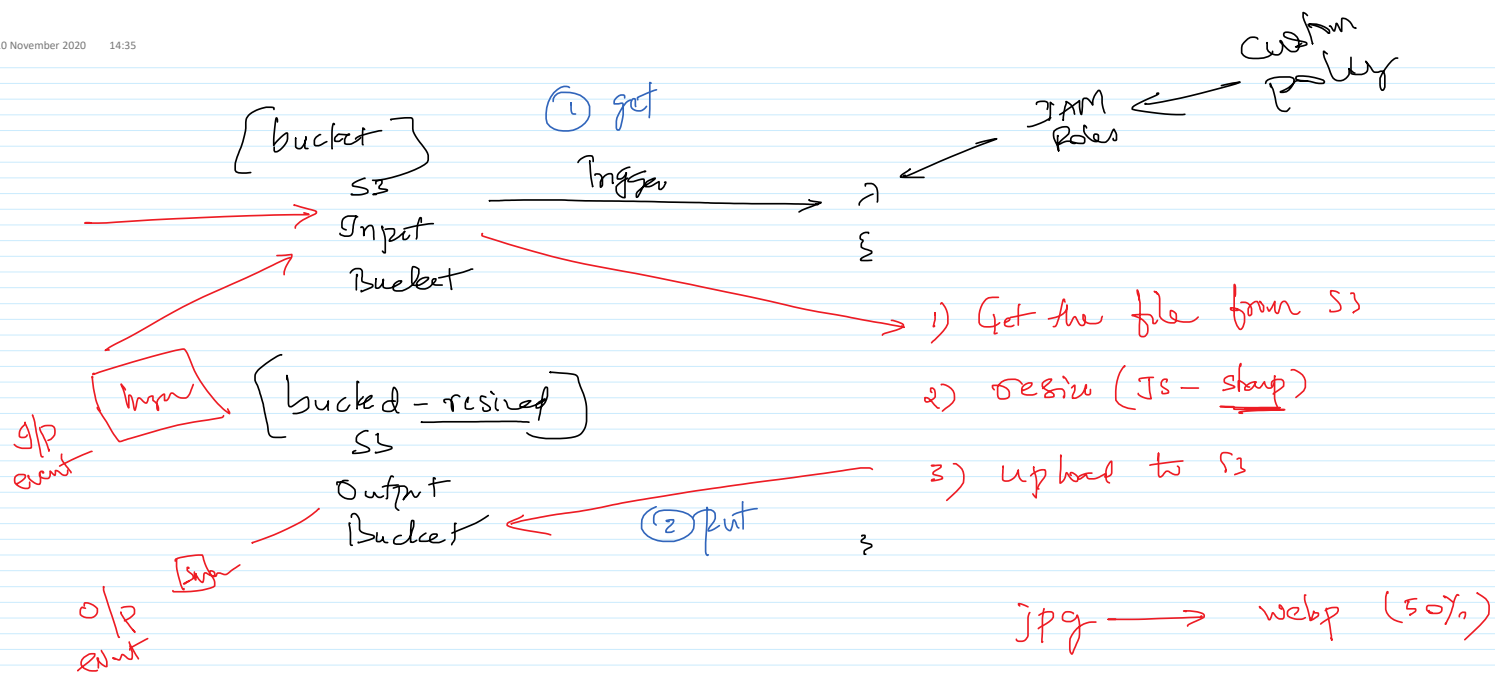
✓ - Step Functions

Schedule





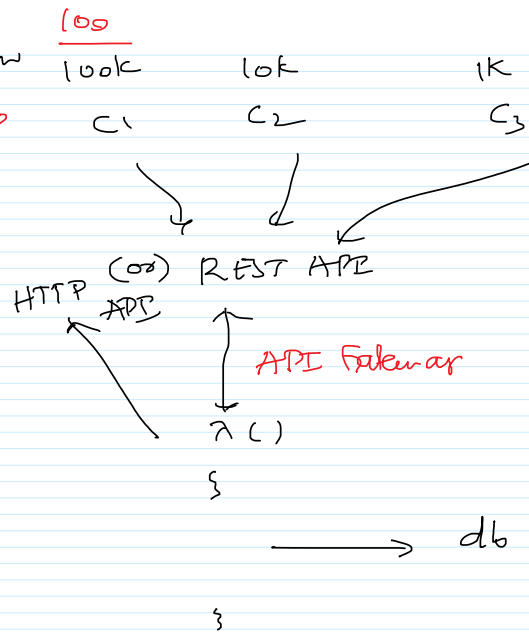




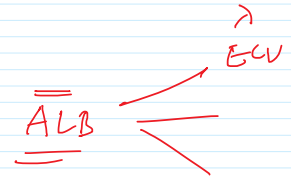
API Gateway

10 November 2020 14:45

- expose REST service
- authentication
- metering
- throttling



SAML (AD)
IPM Authentication
Social (FB, Google...)



S_3
(1) $\longrightarrow \lambda$

S_3
(2) \nearrow
 \checkmark

S_3
 $\nearrow \lambda_1$
 $\searrow \lambda_2 \checkmark$

$S_3 \longrightarrow \lambda$
 $\nearrow \lambda_1$
 $\searrow \lambda_2$

X

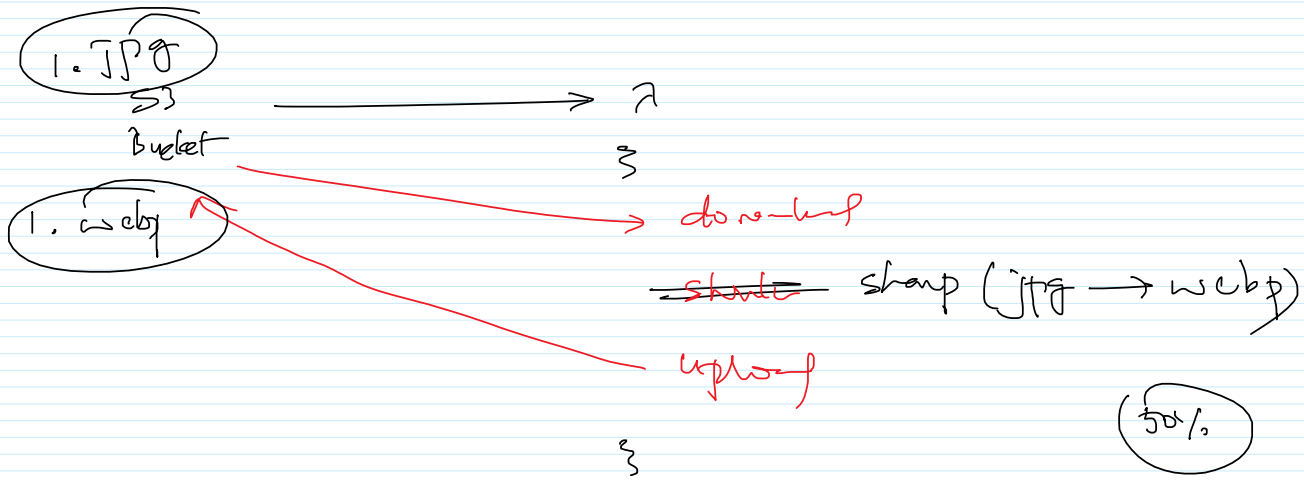
Step function

Javar \rightarrow jaw \rightarrow upland

\uparrow 1000 — concurrent cells
Quota

1000 — ~~EC2~~
fair usage policy

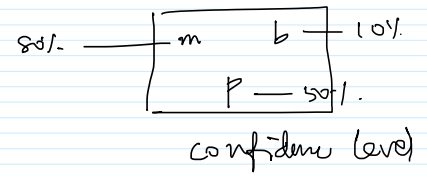
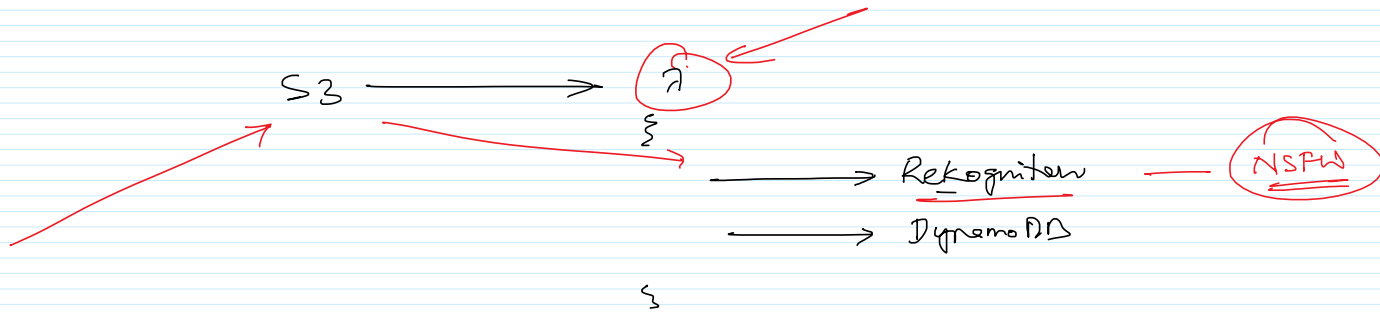
- Create input & output buckets in S3
- Create IAM policy with the required permissions.
Go create IAM Role for λ with the ~~same~~ policy
- Create a λ with the zip file from Github.
- Attach the Role to the λ .
- Integrate the input S3 bucket with λ via Trigger
- Put image in the i/p S3 Bucket
- Notice the smaller image in the o/p S3 Bucket

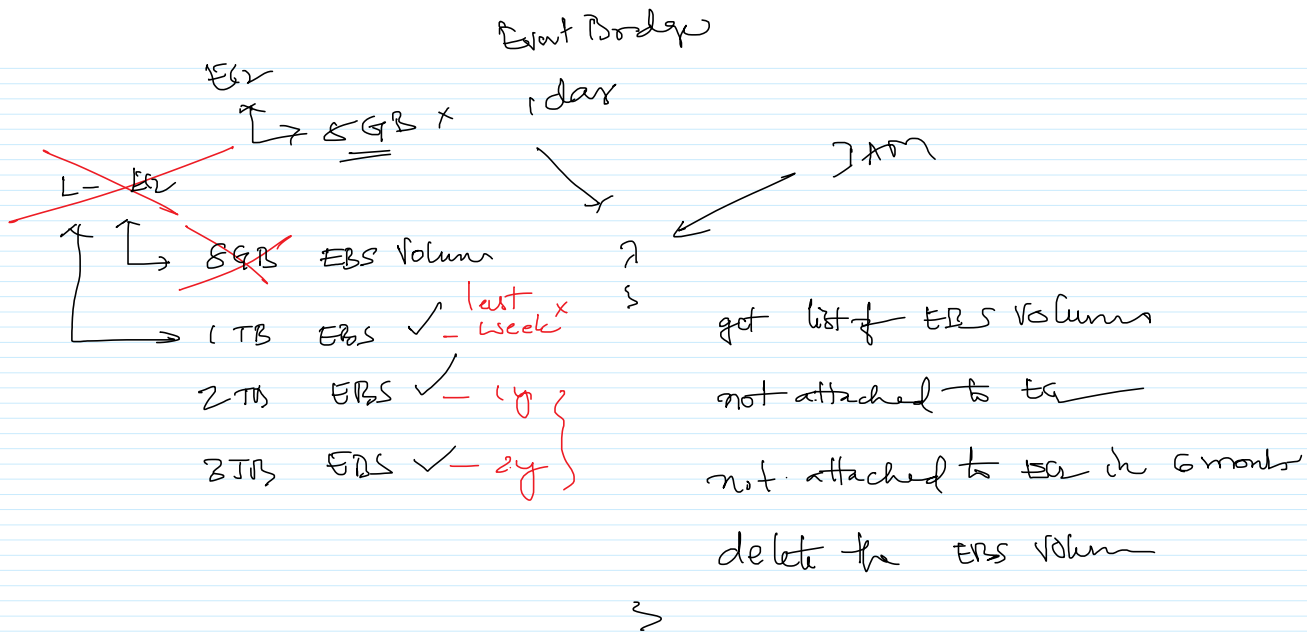


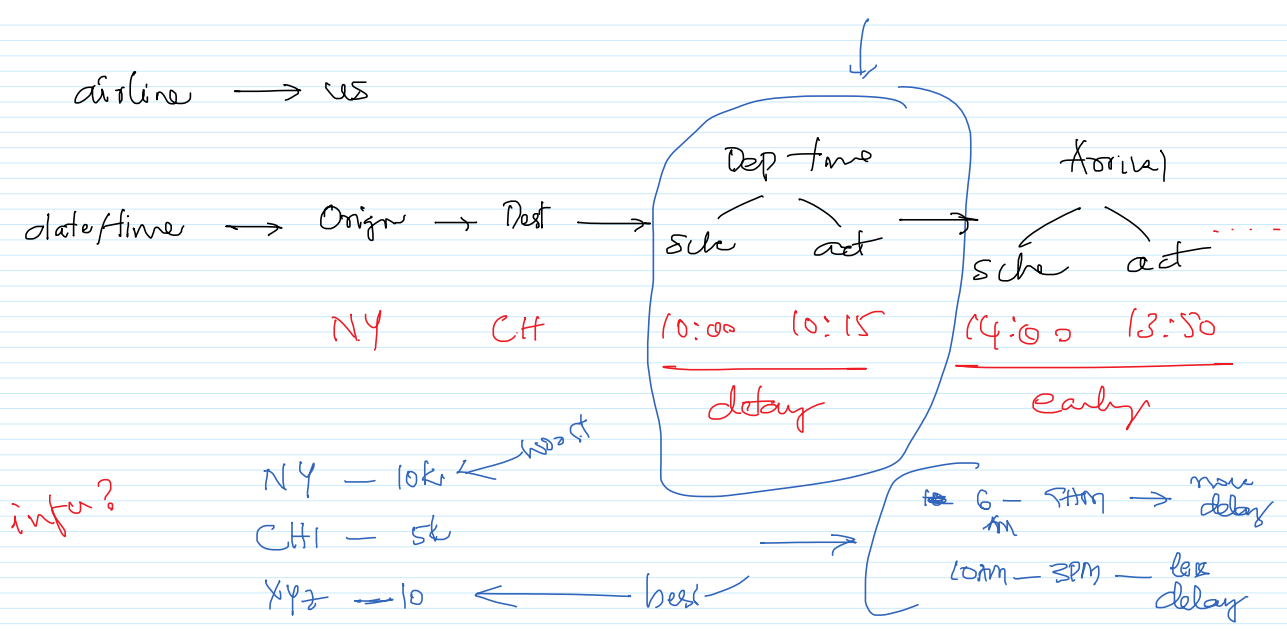
jpg -> webp
(google)

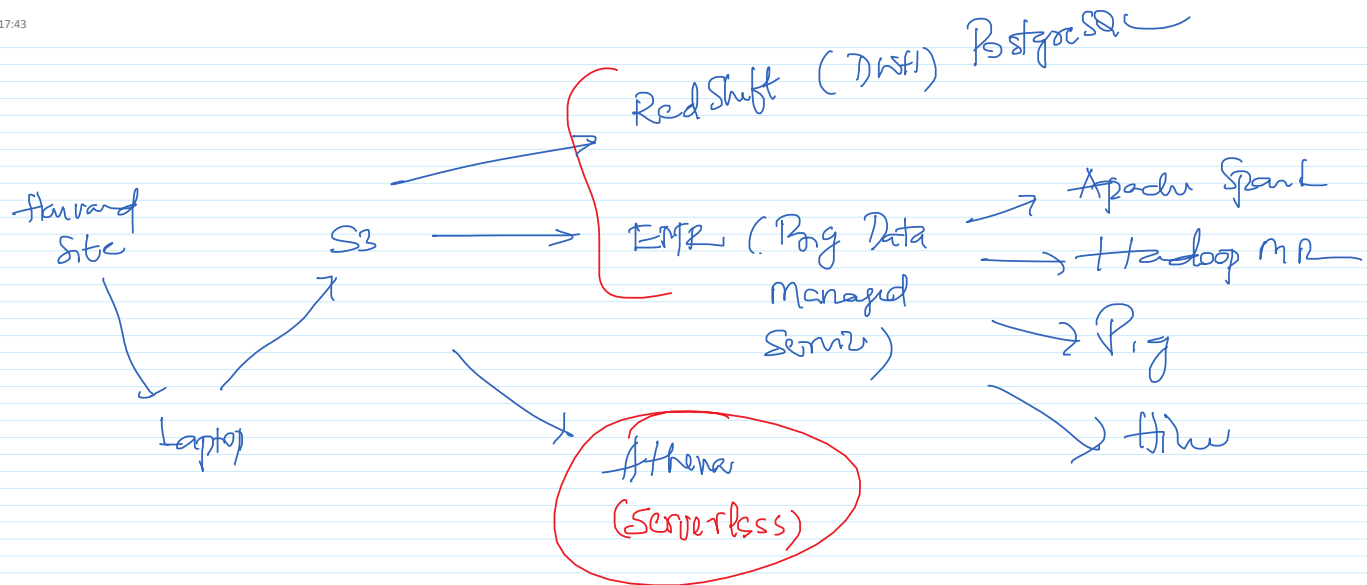
λ - # of invocations ↑
amount of memory ↑ ↓
execution time ↓ ↑

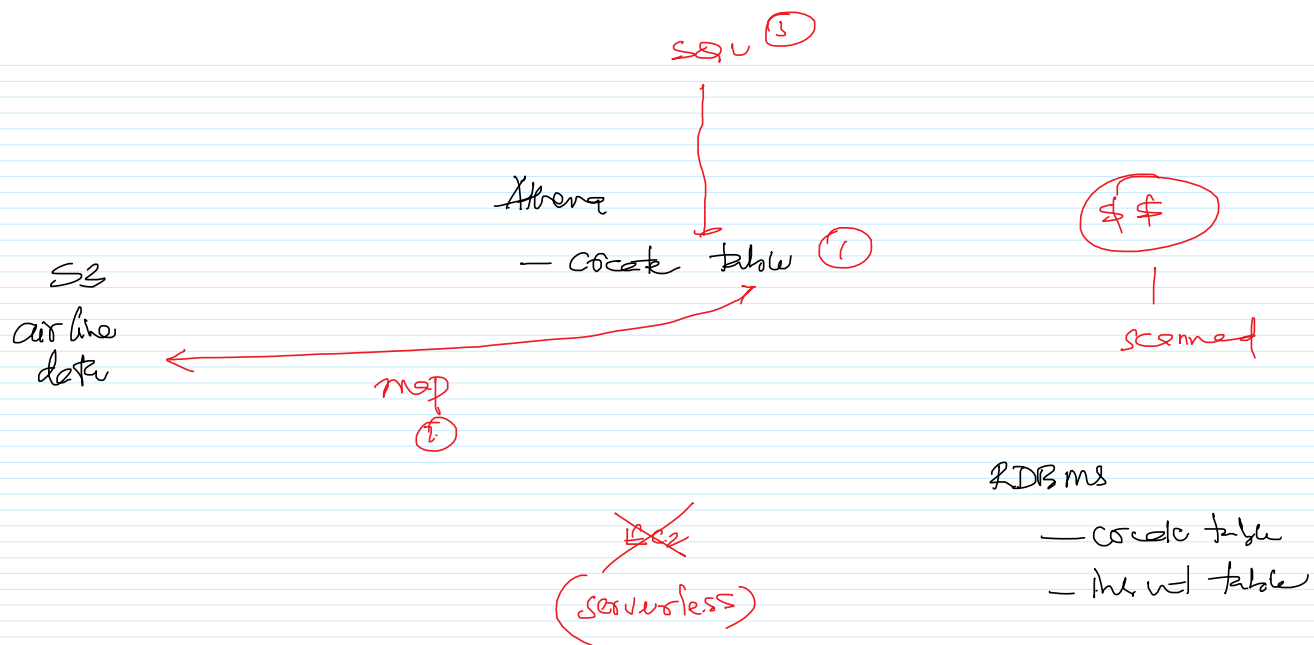
128m → 8GB
→ memory ↑ ↓
→ timeout ↓ ↑ → cheap
3s → 15m











Row Format
3.5 GB

Column Format
300 MB

↓

pooreen, 35, India
Ravi, 40, India

Sam, 25, US

3.5 GB

low
cardinality

pooreen, ravi, Sam
35, 40, 25

Pooja, India, US

high
cardinality

Pooja - 1
US - 4

1, 1, 4

processing
unit

memory

P(2), U(1)

