

TASK -2

Assuming we are using following Technologies:

- JAVA spring
 - SpringBoot
 - JPA
 - REST API
- JMS(QUEUE) [Balancing Huge Traffic]
- Mysql DB
- Configuration File [Threshold Values are defined]

Algorithm Steps:

Step 1: Make a Transection (transection method)

Data Structure:

LinkedList InklstTrn ← Data retrieve from User Input FORM
int SyndicateID
double Amount

//Save to DB

InklstTrn => Save to DB

Step 2: Function sending alert for Amount exceed the certain threshold.

Algorithm Techniques (Technology)

Spring AOP

JMS

Configuration

double threshholdValue ← Retrieve Threshold value from Configuration file for
Huge Amount

Data Structure:

AOP [Asynchronous Triggering]

JMS jmsTemplate [QUEUE]

HashMap mapMSG; [Hashing & Map]

Algorithm (Logic):

AOP Configure/Attach with Transection Metod -> Step 1

- Transection_amount ← retrieve From Step1 method

Spring AOP (Before Advice):

IF Transection_amount >=0 && Transection_amount !=null &&
Type (Transection_amount) == Type.of(double)

if Transection_amount >= threshholdValue

```

        mapMSG.put("syndicate_id", "Alerting:: Huge Amount
        for this particular transection")
    ELSE
        EXIT
    Send JMS:
        jmsTemplate.convertAndsend(mapMSG);
JMS listener:
    HashMap mapSend = Getting message from JMS and convert to
    HashMap
    mapSend → Email or SMS
    Error Sending:
        • IF Wrong Email or SMS
        • Others Error

```

Step 3: Function-> Hourly Threshold function, [Background Job for finding certain amount per hour what exceed the threshold]

Algorithm Techniques (Technology)

JMS

SQL Query

Configuration

variable hourlyThTrnVlm ← Retrieve Threshold value from Configuration file for
Huge Transection

Data Structure:

LinkedList InkLstTrn [Link List]

JMS jmsTemplate [QUEUE]

HashMap mapMSG; ; [Hashing & Map]

Algorithm:

- InkLstTrn ← Find Last Hour Transections volume [using sql query]

IF InkLstTrn >=0

int countLastHourtrn= SUM(InkLstTrn)

if countLastHourtrn >= hourlyThTrnVlm

Send JMS:

mapMSG.put("Aletring:: Huge Transection last hour")

jmsTemplate.convertAndsend(mapMSG);

ELSE

Exit

JMS listener:

HashMap mapSend = Getting message from JMS and convert to
HashMap

mapSend → Email or SMS