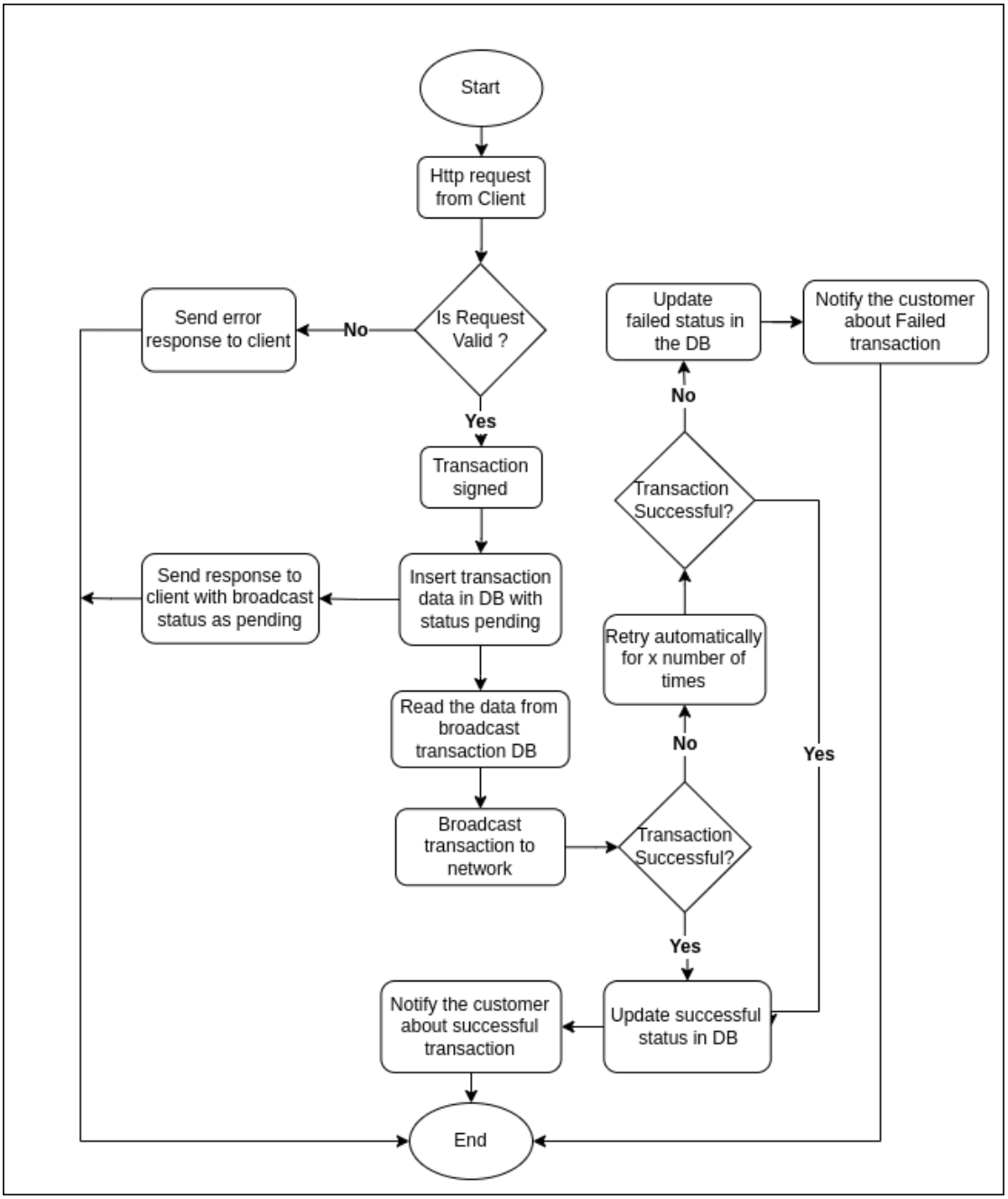
Transaction Broadcaster Service

Introduction

This is a system designing document for transaction broadcaster service. The broadcaster service signs the transaction data and send the response with signed transaction. Next it broadcast the transaction in the blockchain network. There is 96% success ratio for a successful transaction.

Flow diagram



Solution

- The client sends a http request for signing and broadcasting a transaction in blockchain network.
- The request data is validated first and if the data is not valid an error response is send back to the client application.
- If the request data is valid the transaction is signed and a entry is made in DB with status as pending.
- Later a background service reads pending transaction in a sequence and add them in a queue (Could be Kafka or RabbitMQ).
- All the signed transaction are read one by one from the queue and transaction is broadcasted to the EVM compatible blockchain network.
- If the transaction is failed it adds it back in the queue in this way it retries for a given number of times.
- After last try if the transaction is still failing it will update the status as failed in the DB and further not activity will be performed.
- If the transaction is successful a success status is updated in the DB.
- The customer is notify about the transaction status.

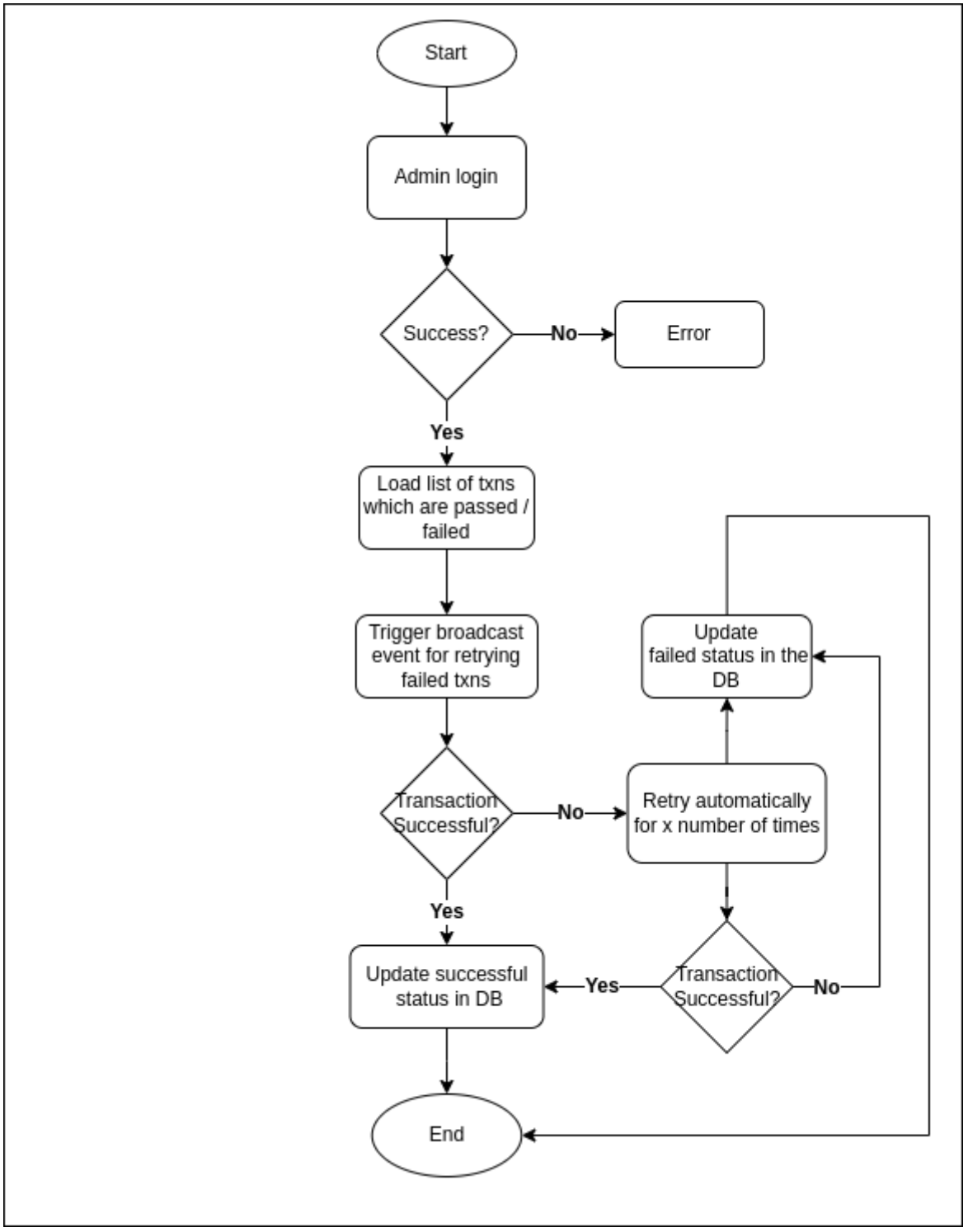
Additional requirement

The admin should be able to see list of transactions that are passed or failed and should be able to retry failed broadcast at any point in time.

Solution for additional requirement

- When the admin logins and opens the transaction page, he can see all the passed and failed transaction.
- Admin can choose any failed transaction and retry the broadcast transaction event.
- When the admin triggers a transaction broadcast this gets added in the queue (Could be Kafka or RabbitMQ).
- All the failed transaction are read from the queue and broadcasted one by one in EVM compatible blockchain network.
- If the transaction is again failed it is retried for a specific number of times and then failed status is again updated in the DB against that transaction for further investigation.

Flow diagram for additional requirement



Thank you