

Banking Security Provision With Faster Processing Using Apache Storm

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Abstract- Security is an important aspect in banking domain. Bank system consumes big amount of data. Use of e-banking is increasing day by day. In e-banking number of transactions are performed for different banking operations. Processing such transactions with security provision is important and necessary objective in banking sector. Especially in e-banking security challenges can reduce the efficiency of bank transactions. In this paper we are presenting use of better processing technology such as Apache storm for real time processing with provision of security improving usefulness and performance of banking.

Keywords- 1) Apache Storm, 2) banking system, 3) transactions , 4) encryption

I. INTRODUCTION

Now a days the Cloud and various servers are being very famous for the data storage, because of which it becomes easy to access the data from anywhere i.e. from any location. Over the last Decade, the size of the banking industry has grown by 7.5 times. Many transactions are being performed with the help of improved banking features such as e-banking. Inclusion of new technology is a reason for increasing use of e-banking. It also increases efficiency in terms of time constraints.

In this paper, we propose a system which is being designed in such a way that the E-banking portal is being used by the user to do the multiple transactions on the system, as the bank application works. From huge data of bank transactions all the predictive results can be acquired using apache storm for analytics and even security authentication will be provided using various encryption techniques. We will be using Apache Storm which provides distributed stream processing environment. It converts data into streams instead of batches hence provides real time processing. It makes computation of transactions faster as data is being processed in real time. With the help of encryption techniques security measures are also being taken to avoid risk of intrusion.

II. IDENTIFY, RESEARCH AND COLLECT IDEA

Indian banks are no longer constrained by geography as they have worldwide operations. IT has been instrumental in

the global expansion of banks. Technology has brought significant changes in the functioning of delivery of banking services. But security features and better processing of data at a real time is major need in banking sector. So our goal is to process data of bank transaction at real time and to provide a security with the help of encryption to those transactions.

III. RELATED WORKS

The data is being stored onto Hadoop and it is also used for analytics using Map Reduce. Hadoop provides batch processing environment which converts input data into batches. This process consumes time as a result Hadoop is quite slower compared to Apache Storm. Transaction data need to be processed in real time. Apache storm is a stream data processing system which is distributed and real time. Apache Storm has been used in Twitter for some complex computations. Hadoop does not provide real time stream processing environment so Apache Storm is a solution for real time data processing for processing bank transactions.

Bank transactions follow steps provided by each bank for doing operation. Maintaining security and integrity of the data is the first objective and main responsibility for any bank. Encryption is not introduced for overall bank transactions by the banks. Selection of appropriate encryption technique depends on architecture or data flow model acquired by the bank. Using encryption helps in securing data included in transactions and to protect from different intrusion attacks. Traditionally many of the banks are using old storage and processing techniques and tools such as hardware resources like servers which are reflected in bank transaction. Using such processing techniques increases processing time as load on the system servers increases. Processing time can be reduced with help of real time environment such as Apache storm.

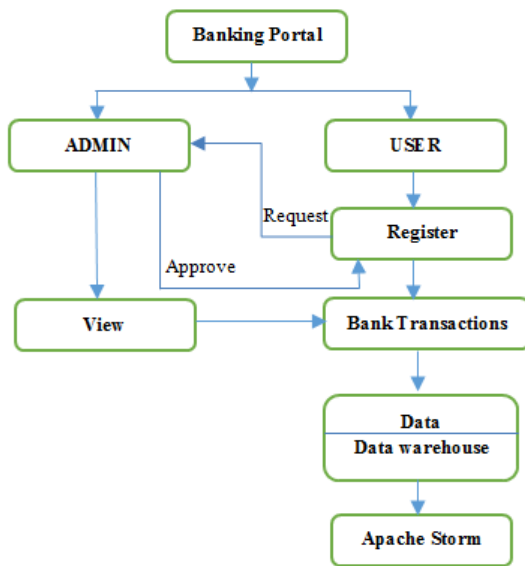


Fig. Proposed Architecture

FUNCTION:

- 1) There will be two user roles in this system: 1. Admin and 2. User
- 2) Admin of the bank will add Branch Manager.
- 3) Branch Managers will add other staff like cashier etc.
- 4) User registers on the portal, he/she has to mention the correct working email address, Login credentials will be sent on his registered mobile number and then user will be able to login, and can do transactions, bill payment and balance Enquiry.
- 5) SECURITY part will be implemented as per the bank policies and securities.
- 6) Analysis of data will be displayed using storm, which admin will analyze. e.g.(total no of transactions per day etc.), User Models applied for various schemes).
- 7) Statistical data analysis report will be given on the basis of apache storm result.

USER CHARACTERISTICS:

1. User Registration and Login
2. Apache Storm (nimbus), Zookeeper,
3. Transactions
4. View analysis report.

8) SCOPE:**9) Intrusion Detection:**

Encryption addresses most common industry challenges like fraud, intrusion and data breaches effectively.

Risk Management:

Assess risks accurately using Big Data Solutions. By analyzing transactional data gives a complete and accurate view of risk enabling firms to make informed decisions.

Data Storage and Security:

Protection, easy storage and access of financial data are the optimal needs of banks and finance firms. While technology will be used which provides scalable and reliable data storage designed to span large clusters of commodity servers.

Analysis:

Bank need to analyze unstructured data residing in various sources like social media profiles, emails, calls, complaint logs, discussion forums, etc. and also some traditional sources.

IV. CONCLUSION

Information Technology course do promise to change the pace of banking to the next few years. Encryption techniques are needed for a wide variety of use cases in the banking and financing industry. Apache storm is used for analysis of data which will be displayed and which admin will analyze. E.g. (total no of transactions per day, User Models applied for various schemes).

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