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# Introduction

In this paper I will writing about Single View use case of Mongo DB. I have researched about Citi group Financial institution who adopted Mongo DB to fulfil their needs. First it’s important to understand what is single view in Mongo DB. “A Single View application aggregates data from multiple sources into a central repository to create a single view of anything.” (MongoDB 2019). Financial institutes like Citi Group requires a faster analyzation of trade signals, getting a single view of their customers and much more information to meet with new regulations, be in competition with their competitors and clear transparency and accountability.

# What business problem did the Citi Group face?

Citi group was having performance issues with relational database. They started using MongoDB around 2 years ago. For simple data model which requires only 6 tables, Citi group had to create 30 table with all different joins to connect them together. This was making the performance very slow. Citi group was unable to receive notifications on time which was so much loss for them. Citi Group was mainly having Performance and flexibility issues.

# Was there a system of application developed? Explain what function(s) the system provides.

Citi considered many choices but finally chose to work with Mongo DB. MongoDB is document database and it is based on based on data/query pattern. Mongo DB is document based model, which works object-oriented models. It works with JSON map of strings and objects. You can write your Java objects to model your actual domain, we don’t have to think about normalization and relationship in Mongo DB. Which gave Citi group a great flexibility. IN Mongo DB there are some feature which don’t support to compare two rational databases. Also, it Doesn’t support transaction and joins.

# How did a distributed database system help the company provide a solution?

Citi group was able to map it’s request on time and with flexibility. Citi group worked with BSON/JSON which is Map<String Object>. Citi group was now able store user criteria in MongoDB as a map of field and values. They used annotations to mark subscribe-able fields for each document type. Citi group set up their client system which sends JMS event when new document is published. Which constructed MongoDB query from JMS event to find matching subscription entry.

# What are 2-3 examples of new capabilities with this system?

For example, if user is interested in equity from North America, we can save it as criteria in Mogo DB. And then use annotation to turn an incoming document to incoming query.so the basic idea is that we are taking an incoming document turn it into Mongo DB query and query against user interest table. instead of issuing 10000 queries for 10000 interest, this solution will generate one query against all the interest. And you get all the results back which gets what user wants to read.

Another example, imagine there is a school and we have to make three tables one is Students, other one Teachers and last one for subjects. In relational data base we will create so many tables and joins to connect all these tables but in Mongo DB we will using key value pairs. For Example

{

Criteria [

{Key: Student Value: Sonam Abrol]},

{Key: Subject Value: Distributed Databases]},

{Professor: Truelove]}

]

}

Ensure index ({Criteria Key :1, Criteria Val :1})

# Conclusion

It’s really great what we can do with MongoDB. It’s very easy, fast and flexible. We can through anything at MongoDB, it will construct.

# References

MongoDB. (n.d.). Single View. Retrieved October 16, 2019, from <https://www.mongodb.com/use-cases/single-view>.

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