SQL to Cassandra Data Model Structure

Asked 7 years, 4 months ago Modified 7 years, 4 months ago Viewed 428 times

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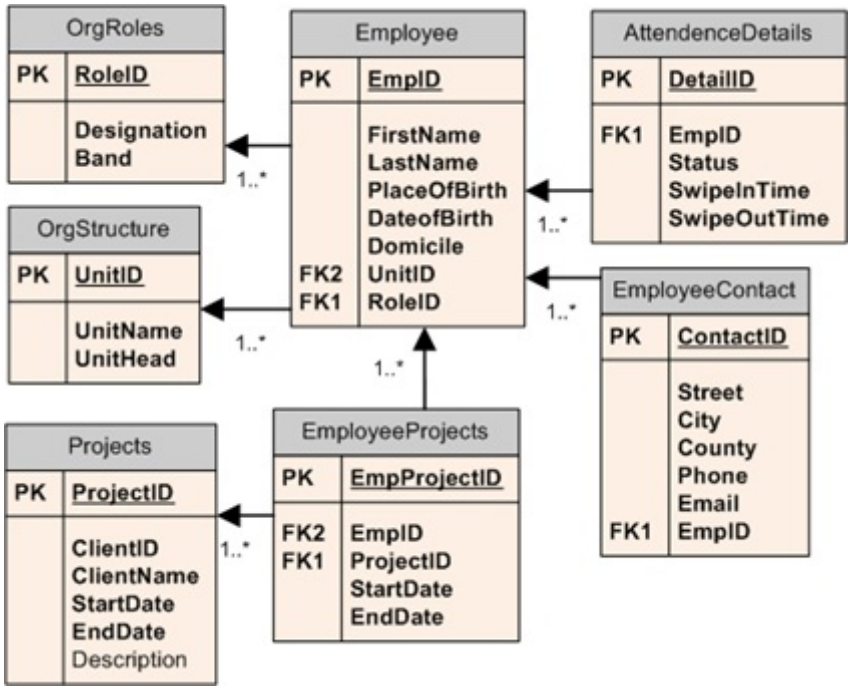
Forgive me for asking something that is probably explained elsewhere, but I didnt found a simple and plain conversion/explanation of SQL model to Cassandra Model.

Lets say I've a use-case of designing a DB structure for employee details and records in a organization. In SQL(having years of experience), I could have modelled it using normalization techniques, but coming into the world of NoSQL, it would take me sometime to have hold over designing DB for NoSQL, hence I'm here (for better understanding).

Can someone transform this SQL model into a NoSQL(Cassandra) model, thereby giving a lot of newbies(like me) a simple and plain transformation of SQL to NoSQL migration.



Since SO works on a concept **Try First and then ask**, so Ive thought of a structure as well. Let me know if that works well.

Since data can be denormalized in Cassandra, I thought of this structure.

```
Emploee(ColumnFamily) = {
    "01234"(EmployeeId) : {
        "EmpName" : "Jack",
        "mail" : "Jack@xyz.com",
        "phone" : ["9999900000","8888888888"],
        "DOB": 4/1/91,
        "Contact":{ "Street" : XYZ2 , "City":ABC, "Pincode":PQR},
        "UnitID":{ "UnitName" : XYZ , "UnitHead":ABC},
        "RoleID":{ "Designation" : Manage , "Band":Something},
    },
    "01235"(EmploeeId) : {
        "EmpName" : "Jackyyy",
        "mail" : "Jackyyy@xyz.com",
        "phone" : ["99565600000","88888846468"],
```

```
        "DOB": 4/1/91,
        "Contact":{ "Strreet" : XYZ2 , "City":ABC1, "Pincode":PQR},
        "UnitID":{ "UnitName" : XYZ1 , "UnitHead":ABC1},
        "RoleID":{ "Designation" : Faculty , "Band":Something},
    },

    and so on...
}


Projects(ColumnFamily) = {
    "1213"(ProjectId) : {
        "EmpID" : [01234,01235],
        "StartDate" : 4/1/2001,
        "EndDateDate": 4/1/2012,
        "ClientName": Apple
        "Description": "Something",
    },

    and so on...
}
```

Firstly please let me know, if this structure is correct. If yes, how would I design queries for the following?

```
1) Select employee whose phone number = something;

2) Select employees who lives in 'XYZ' location;

3) Select employees whose age is > 40 years ;

4) Select employee whose Designation is a 'Manager' of Unit Name 'XYZ' ;

5) Select employees who work for over 1o hours a day;

6) Get names(not IDs) of all employees wh were working for client 'Apple';
```

Let me know If I can provide more clarity on the question!!!

cassandra

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asked Feb 27, 2015 at 10:50

PythonEnthusiast
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1 Answer

Sorted by: Highest score (default)

Your structure is not correct because you won't be able to express any of your 6 queries :-(

2

The main rule of Cassandra modeling is: start from your queries and denormalize. In your case, you would have 6 tables employee_by_phone, employee_by_location, employee_by_age and so on. http://www.datastax.com/dev/blog/basic-rules-of-cassandra-data-modeling

However if you have a lot of multi-criteria queries like these, Cassandra (Datastax Enterprise edition) has SolR extension which will let you express richer queries. In this case your model may be right.

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answered Feb 27, 2015 at 13:37

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4,280 21 21