

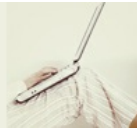
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## Conditional Relationship in Graph DB

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How would a graph model handle a conditional relationship like:

4 (Alice -[Dates]-> Bob)  
Where [Dates] exists IF and ONLY IF  
(Bob -[Owns]-> Ferrari) is true

Besides just querying, I'm wondering whether the relationship be applied by the database engine based on the condition or whether this needs to be managed in the application.

neo4j graph-databases relationships arangodb

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asked Mar 31 at 18:20

NonSecwitter  
340 1 16

2 Answers

active oldest votes

I can't speak for arangodb, but for neo4j this bit has to be addressed by the application. The bits of schema that you can assert about graphs don't address what kinds of relationships can exist off of a node type. Contingent relationships like what you're talking about are a step further than that even.

Doing validation like this can be more complex than it first appears. Let's say Bob owns a Ferrari. And so Alice dates Bob (so shallow!). All fine and well -- whether enforced by the application or the database. OK now, Bob sells his Ferrari. What should the database do?

1. Should Bob be prohibited from selling his ferrari? (i.e. delete of that relationship fails)
2. Should Alice be forced to break up with Bob? (I.e. delete of that dates relationship....brutal!)
3. Should some nasty error be thrown?

These are domain-specific considerations. You'd want to do this in your application layer so that you could think through those validation conditions, and do the right thing. Even if the graph database did support it, it's not clear you'd want to use the graph database's default enforcement policy (whatever that would be).

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answered Mar 31 at 18:29

FrobberOfBits  
8,397 7 29

Great answer. Is this where a "business rules" engine would be useful, either as a layer between the DB and App, or running period checks on relationship validity? - [NonSecwitter](#) Mar 31 at 18:45

- 1 Maybe a business rule engine, or maybe hooks into transactions. I.e. when a transaction commits, if the result is a database that's in the wrong state, then the transaction handler would clean up afterwards according to those rules. - [FrobberOfBits](#) Mar 31 at 19:03

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asked 4 months ago

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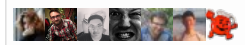
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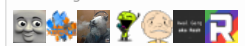
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5 The answer of FrobberOfBits is very good and holds true for the ArangoDB database as well. However ArangoDB offers a micro-service framework called "Foxx" that allows you to define additional API endpoints for your database that can execute custom code.

One application for Foxx would exactly be your problem: \* Define an endpoint to remove the relation that does two things: 1) Delete the relation 2) Check for all logical constraints or side-effects and apply them

This gives you the advantage that is executed directly in the database (only one query-trigger) and your application code is free of these constraints.

share improve this answer









answered Apr 1 at 11:21

 **mchacki**  
1,656 ● 1 ● 8


If I could pick two answers I would :) – NonSecwitter Apr 1 at 11:28


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