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Creating/Setting multiple relationship properties, with conditional

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I'm attempting to set multiple relationship properties within a LOAD CSV operation, where one of the properties will ALWAYS be set and the other will only be set if the two nodes belong to a specific label. I can't seem to get it to allow me to chain multiple SET statements together, with a conditional between them.

I'm trying to do something along the lines of:

```
LOAD CSV WITH HEADERS FROM "file:/smalltext.csv" AS line
MATCH (a:Person { username: line.sender })
MATCH (b:Person { username: line.recipient })
CREATE UNIQUE (a)-[r:MSGD ]->(b)
SET r.Msg = coalesce(r.Msg, []) + [line.Msg]
WITH a,b,r, WHERE a:Geotagged AND b:Geotagged,
SET r.Distance = (2 * 6371 * asin(sqrt(haversin(radians(a.statusLat - b.statusLat))
```

FYI, the Distance formula comes straight from Neo4j, so I presume it is correct not only mathematically, but syntactically as well.

<http://neo4j.com/docs/stable/query-functions-mathematical.html#functions-haversin>

The Distance property should be set IF and ONLY IF both nodes are labeled as "Geotagged". The reason is, the subtraction function (of all things) doesn't know how to subtract null from a number (or vice-versa) and if the user is not "Geotagged", the lat/lon values will be null.

I've tried putting the creation of the Msg property in the CREATE statement, but it wouldn't allow me to reference the relationship property from within the relationship property.

The "Geotagged" label is set when the data is imported (also in a LOAD CSV) and gets set only if each user has geolocation information.

I've also wondered if I should make the distance property a separate relationship? I'd rather keep it together with the messages, but am open to thoughts on that question as well.

Thanks!

EDIT 1 I've been able to set the lat/lon to 0 if the user is not geotagged in the initial node creation phase, however I would prefer not to manipulate data if I don't absolutely have to.

EDIT 2 After having set all non-geotagged nodes' LAT and LON to 0 and rerunning the relationship import, Cypher is still telling me it can't do the subtraction with 0 (see below):

```
QueryExecutionKernelException: Don't know how to Subtract(a.statusLat,b.statusLat)`0` with
`33.223`
```

Now I'm just confounded...I'd have thought it would not have had a problem with that, but this is **STILL** not a good solution because when calculating the distance between a geotagged and non-geotagged user, it will give actual (and erroneous) results that I won't be able to work with.

EDIT 3 The answer below did indeed work, however the reason for my Exception above was because I was trying to subtract on Strings (duh), so simply running them through toFloat() at time of subtraction fixed it. I tried running toFloat() and storing the result in the DB, however that completely removed the field if it returned NULL, which is not the behavior I was going for.

If anyone has a way to run both SET's in the same LOAD CSV operation, I would greatly appreciate knowing how, because that will be far from ideal with my actual dataset.

neo4j cypher

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edited Apr 7 at 15:58

asked Apr 6 at 19:03

Brooks
113 • 11

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1 Answer

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I hope this is not a stupid suggestion but...

1 ...would it not be simpler to split the query out into multiple parts? There is nothing to say you cannot import and process the same CSV file in multiple ways, using multiple Cypher statements. From your question I am assuming that the creation of the relationship (a)-[r:MSGD]->(b) and setting of the property r.msg is working just fine. The issue comes when trying to conditionally set r.distance. So run another LOAD CSV operation, like this:

```
LOAD CSV WITH HEADERS FROM "file:/smalltext.csv" AS line
MATCH (a:Person:Geotagged { username: line.sender })-[r:MSGD]->(b:Person:Geotagged {
SET r.Distance = (2 * 6371 * asin(sqrt(haversin(radians(a.statusLat - b.statusLat))
```

This should match only those nodes with both :Person and :Geotagged labels that are linked by the MSGD relationship and therefore satisfy your condition of setting the r.distance property only when both Person nodes have been labelled with Geotagged.

The complete code would be something like:

```
LOAD CSV WITH HEADERS FROM "file:/smalltext.csv" AS line
MATCH (a:Person { username: line.sender })
MATCH (b:Person { username: line.recipient })
CREATE UNIQUE (a)-[r:MSGD]->(b)
SET r.Msg = coalesce(r.Msg, []) + [line.Msg]

LOAD CSV WITH HEADERS FROM "file:/smalltext.csv" AS line
MATCH (a:Person:Geotagged { username: line.sender })-[r:MSGD]->(b:Person:Geotagged {
SET r.Distance = (2 * 6371 * asin(sqrt(haversin(radians(a.statusLat - b.statusLat))
```

Hope this is helpful.

share improve this answer

edited Apr 7 at 15:06

answered Apr 7 at 14:27

ceej
466 • 2 • 10

No, not a stupid suggestion at all....I hadn't even considered reading in the file a second time. It will make things much more difficult with the actual data (3 million nodes and several million relationships), but....I still think there is a way to do it all in one statement, but this did indeed work. More details in my OP. – Brooks
Apr 7 at 15:55

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