

Ten. Million. Questions. Let's celebrate [all we've done together](#).

Stack Overflow is a question and answer site for professional and enthusiast programmers. It's 100% free.

Take the 2-minute tour x

Update to: Adding node to Neo4j Spatial Index

asked 4 months ago

viewed 126 times

active 4 months ago

I'm hoping someone can provide some updated clarification on adding nodes to Spatial. The best instructions I can find is:

2

[Neo4j Spatial 'WithinDistance' Cypher query returns empty while REST call returns data](#)

However it's almost 2 years old and has some contradictory information with an acknowledged bug (<https://github.com/neo4j-contrib/spatial/issues/106>), which appears to still be open.

★
2

I also found this tutorial:

<http://mattbanderson.com/setting-up-the-neo4j-spatial-extension/>

Which says we should add the node to the layer AND insert the Neo4j ID# into the node as a property, but NOT insert the node to the geom index.

My main priority here is that I be able to query via Cypher (within the browser) but we will eventually want to be able to query via REST as well. So, ideally i'd like to insert the nodes in such a way that we can do both.

So, my questions are:

- 1) What are the correct steps here to allow querying via both REST and Cypher?
- 2) If I call /addSimplePointLayer and then /index/node to add the Spatial index (both via cURL or REST), can I use LOAD CSV to insert nodes and be able to query Spatial Plugin via both REST and Cypher?
- 3) If I am using REST to insert my nodes, what calls (and in what order) would I need to make in order to ensure that I can query via both REST and Cypher (web browser)?

Thanks, I'm looking forward to getting this all worked out!!

neo4j cypher

share improve this question

add a comment

asked Apr 9 at 22:19

 Brooks
113 • 11

1 Answer

active

oldest

votes

question 1

5

You first need to initialize once a layer and create the spatial index using the REST calls:

```
POST /db/data/ext/SpatialPlugin/graphdb/addSimplePointLayer HTTP/1.1
Host: localhost:7474
Accept: application/json
Content-Type: application/json
Cache-Control: no-cache

{
  "layer" : "geom",
  "lat" : "lat",
  "lon" : "lon"
}
```

Blog

 [Why Stack Overflow is a Good Workplace for Women](#)

Linked

- 0 [Neo4j Spatial add index to Location node](#)
- 8 [Neo4j Spatial 'WithinDistance' Cypher query returns empty while REST call returns data](#)
- 0 [neo4j spatial cypher withinDistance issue](#)
- 0 [How do support location based query using neo4j cypher query?](#)

Related

- 0 [Neo4j cypher query performance via REST on centered nodes](#)
- 20 [Neo4j: Step by Step to create an automatic index](#)
- 0 [Indexing nodes in Neo4j](#)
- 1 [\(neo4j\) Is it possible to remove a Node from an Index via Cypher, REST or Webadmin console?](#)
- 1 [Slow index lookup in Neo4j](#)
- 1 [Neo4j spatial withinDistance returns no results](#)
- 0 [How to Update node in spatial layer in Neo4j?](#)
- 1 [Neo4j indexing for large number of nodes](#)
- 1 [Neo4j full text index](#)
- 0 [Neo4j 2.2: Cypher Spatial request with other parameters returns Index does not exist](#)

Hot Network Questions

 [How does java.util.EnumSet<E> work?](#)

 [Approximation of Borel sets by a countable collection of majorants](#)

and:

```
POST /db/data/index/node/ HTTP/1.1
Host: localhost:7474
Accept: application/json
Content-Type: application/json
Cache-Control: no-cache

{
  "name" : "geom",
  "config" : {
    "provider" : "spatial",
    "geometry_type" : "point",
    "lat" : "lat",
    "lon" : "lon"
  }
}
```

Create a node with lon/lat properties using Cypher via the transactional endpoint:

```
POST /db/data/transaction/commit HTTP/1.1
Host: localhost:7474
Accept: application/json
Content-Type: application/json
Cache-Control: no-cache

{
  "statements" : [
    {
      "statement" : "create (city:City {data}) return id(city)",
      "parameters" : {
        "data" : {
          "name" : "MyTown",
          "lon": 15.2,
          "lat": 60.1
        }
      }
    }
  ]
}
```

and add it to the spatial index - be sure to adopt the node id with the id of the node returned from the previous request:

```
POST /db/data/ext/SpatialPlugin/graphdb/addNodeToLayer HTTP/1.1
Host: localhost:7474
Accept: application/json
Content-Type: application/json
Cache-Control: no-cache























{
  "layer": "geom",
  "node": "http://localhost:7474/db/data/node/<my_nodeid_goes_here>"
}
```

In order to enable Spatial play nice with Cypher a hack is required: every geo-indexed node should carry a property called `id` with the value of the node id. This can be accomplished with a simple cypher statement (the example below does this for all City nodes):

```
POST /db/data/transaction/commit HTTP/1.1
Host: localhost:7474
Accept: application/json
Content-Type: application/json
Cache-Control: no-cache

{
  "statements" : [
    { "statement" : "match (n:City) set n.id=id(n)" }
  ]
}
```

With that in place you can use Cypher for geo queries, e.g.:

-  [Aerofoil that gives reasonably good lift for both flow directions: forward and backward](#)
-  [Antonym of Overlap?](#)
-  [Using Emergency Fund to Sell Upside-down Car](#)
-  [How can I grant a non-Super User group permission to force check-in of articles?](#)
-  [Remove a language from the "Preferred language order"](#)
-  [How to show pagination "go to page" text box?](#)
-  [Is "user-select: none" bad UX?](#)
-  [How to deal with people looking at their mobile phone during my presentation?](#)
-  [Does developing on ARM Processors from different vendors differ much?](#)
-  [What does OWA stand for?](#)
-  [What can I do when I accidentally gave out an overpowered item?](#)
-  [Important formulas in Combinatorics](#)
-  [Using siunitx, \ohm results in an italic Omega](#)
-  [Straight line in TikZ with 'continued' marking in the middle](#)
-  [`cond` with less redundancy](#)
-  [Which Star Trek character appeared on screen with the most different ranks?](#)
-  [Carrying a handgun in other countries with a US concealed carry permit](#)
-  [Seven overlapping circles](#)
-  [Would allowing shorter passwords sometimes be more secure?](#)
-  [An "outside the box" sequence](#)
-  [Name for a device purposefully put together from faulty parts](#)
-  [Password strength of random words and brainfayer](#)

```
POST /db/data/transaction/commit HTTP/1.1
Host: localhost:7474
Accept: application/json
Content-Type: application/json
Cache-Control: no-cache

{
  "statements" : [
    {
      "statement" : "start city = node:geom('withinDistance:[60.1,15.2, 100.0]') return
      "parameters" : {}
    }
  ]
}
```

NB: for `withinDistance` you have to specify `lat` , `lon` , `distanceInKm` .

question 2

As described above you need to have a separate REST call for adding a node to the spatial index. This is currently not possible with Cypher directly. As a workaround use `LOAD CSV` to create the nodes with lon/lat properties. In a preprocessing step run a statement like `MATCH (n:City) where not has(n.id) set n.id = id(n) return id(n) as id` . This will set the id properties (the hack described above) and returns a list of ids of the new nodes. For each of them emit the REST call to add a node to the geom index.

question 3

Has been answered already above :-)

[share](#) [improve this answer](#)

answered Apr 10 at 11:01



[Stefan Armbruster](#)
23.1k ● 2 ● 28 ● 51

Hello Stefan, Thank you for the information and continued help and support! You reference above "adding a node to the spatial index", but you only cite the `addNodeToLayer` endpoint and I don't see anywhere the `/db/data/index/node/geom` endpoint. Can you please clarify? Do I just need to add to the layer and not the spatial index? Or the index and not the layer? Or both? And if both, in what order (if order matters)? – [Brooks](#) Apr 10 at 13:47

afaik `addNodeToLayer` implicitly adds it to the index as well. I've tried the described sequence of operations and the cypher query at the end returned results – [Stefan Armbruster](#) Apr 11 at 9:02

[add a comment](#)

Your Answer

B *I* [🔗](#) [💬](#) [{}](#) [🖼️](#) [☰](#) [☷](#) [☰](#) [☷](#) [↶](#) [↷](#)

Sign up or [log in](#)

Post as a guest

[🔗](#) Sign up using Google

[f](#) Sign up using Facebook

[📄](#) Sign up using Stack Exchange

Name

Email

required, but never shown

[Post Your Answer](#)

By posting your answer, you agree to the [privacy policy](#) and [terms of service](#).

Not the answer you're looking for? Browse other questions tagged [neo4j](#) [cypher](#) or [ask your own question](#).

 [question feed](#)

[tour](#) [help](#) [blog](#) [chat](#) [data](#) [legal](#) [privacy policy](#) [work here](#) [advertising info](#) [mobile](#) [contact us](#) [feedback](#)

TECHNOLOGY

Stack Overflow	Programmers	Database Administrators
Server Fault	Unix & Linux	Drupal Answers
Super User	Ask Different (Apple)	SharePoint
Web Applications	WordPress Development	User Experience
Ask Ubuntu	Geographic Information Systems	Mathematica
Webmasters	Electrical Engineering	Salesforce
Game Development	Android Enthusiasts	ExpressionEngine@ Answers
TeX - LaTeX	Information Security	more (13)

LIFE / ARTS

Photography

Science Fiction & Fantasy

Graphic Design

Movies & TV

Seasoned Advice (cooking)

Home Improvement

Personal Finance & Money

Academia

more (9)

CULTURE / RECREATION

English Language & Usage

Skeptics

Mi Yodeya (Judaism)

Travel

Christianity

Arqade (gaming)

Bicycles

Role-playing Games

more (21)

SCIENCE

Mathematics

Cross Validated (stats)

Theoretical Computer Science

Physics

MathOverflow

Chemistry

Biology

more (5)

OTHER

Stack Apps

Meta Stack Exchange

Area 51

Stack Overflow Careers