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# Neo4j - Indexes and performance

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I have a doubt on the performances of a Cypher query in Neo4j. The situation is: every node of my graph has a property and I'd like to count the number of nodes with the same property. So, my basic query is

```
match (n:NodeLabel)
with n.community as community, n.myid as myid
match (m) where m.community = community
return myid, count(m) as totcommunity
```

I created an index on the property "community"

```
create index on :NodeLabel(Community)
```

But the performances are very poor: it takes ages for a graph with 200.000 nodes. How can I get better performances?

Thanks in advance

`indexing`  `neo4j`  `cypher`  `database-indexes`

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asked Apr 10 at 15:09
**besil**
109 ● 7

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## 2 Answers

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You forgot to add the label for the second match, then it cannot use the index: Try this:

```
match (n:NodeLabel)
match (m:NodeLabel) where m.community = n.community
return n.myid as myid, count(*) as totcommunity
```

You can also make sure that it uses the index by prefixing your query with `EXPLAIN` and check the query plan.

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answered Apr 10 at 17:30
**Michael Hunger**
25.2k ● 2 ● 21 ● 41

Thanks for the EXPLAIN clause (I didn't know it). But what if I have different labels for nodes and I'd want to check the community property for all of them? Are you telling me that if I don't specify a label for the node, it won't use the index for the specified property? – besil  Apr 11 at 11:08

I don't understand how to use the EXPLAIN clause. Could you provide an example? Thank you very much  – besil  Apr 13 at 10:08

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If you want to return each distinct community value and the number of nodes with that value:

```
MATCH (n:NodeLabel)
RETURN n.community, COUNT(n);
```

If, instead, you want to get the count of the number of nodes with the same `community` value as a specific node (as identified my `myid`), try this query:

```
MATCH (n:NodeLabel {myid: 123})
WITH n.community AS c, n.myid AS myid
MATCH (n:NodeLabel)
WHERE n.community = c
RETURN myid, n.community, COUNT(n);
```

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edited Apr 12 at 3:02

answered Apr 10 at 17:27

**cybersam**
**9,941** • 2 • 7 • 21

> Thanks for your answer. Yes, it should work. But I want for specific nodes the size of the community they belong to, not the size of all communities. – besil  Apr 11 at 11:09

> Yes it is. But the problem was about using the desired label when matching nodes. Thanks a lot for your answer – besil  Apr 13 at 7:03

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