Cypher Editor

In the Web
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@FylmTM
MATCH (myNode)
WHERE mno = "Dmitry"
RETURN ~
Syntax highlighting

```
MATCH (variable:Label)-[:REL_TYPE]->()
WHERE variable.intProperty = $param
RETURN toString(variable);
```
Error reporting

MATCH (myNode:Person)
WHERE myNode.label = "Register"
RETURN no viable alternative at input ' '
Auto Completion

$1 \text{ MATCH (node)}$

$2 \text{ SET node,}$
It’s already there

- Open Source
- Separate “Backend”
- CodeMirror support
- Integrated into Neo4j 3.2

/neo4j-contrib/cypher-editor
openCypher ?
1. Grammar
2. Tests
3. Improvements
1. Grammar

- Based on ANTLR4 grammar
- Copied & Modified for Cypher Editor usage
- Superset of openCypher grammar version
- Neo4j version of Cypher

File: cypher-editor-support/src/_generated/Cypher.g4
ANTLR4 ♥ JavaScript *

* With a few exceptions.
$ cd cypher-editor-support/test/parser/openCypherTestFiles

$ ls -1
cypher-legacy.js
cypher.js

$ cat * | grep "§" | wc -l
227
3. Improvements

- Grammar improvements (clause order)
  - https://github.com/opencypher/openCypher/pull/223

- Add namespace to procedure names
  - https://github.com/opencypher/openCypher/pull/226
Challenges (1)

- Vendor extensions
  - Legacy Cypher -> Neo4j Vendor extension
  - Documented vendor extension
    - Neo4j 3.2 node key constraint
    - Neo4j 3.2 composite index
Challenges (2)

Little details that matters

MATCH (n:Person) | MATCH (n: Person)
MATCH (n:`Army:General`) | MATCH (n: `Army:General`)

nodeLabel : '::' \textcolor{red}{SP?} labelName ;
Challenges (2)
Little details that matters

What user sees:

MATCH (n:_ RETURN n

What grammar sees:

MATCH (n:_ RETURN n
LANGUAGE ENGINEERING FOR EVERYONE!

Xtext is a framework for development of programming languages and domain-specific languages. With Xtext you define your language using a powerful grammar language. As a result you get a full infrastructure, including parser, linker, typechecker, compiler as well as editing support for Eclipse, IntelliJ IDEA and your favorite web browser.

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Our team responsibility

• Sync up with openCypher grammar when possible and makes sense

• Contribute our grammar fixes & improvements back to openCypher