Apache Jena

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1. TUTORIALS
2. SPARQL QUERY1

SPARQL Tutorial - A First SPARQL Query

In this section, we look at a simple first query and show how to execute it with Jena.

A "hello world" of queries

The file "q1.rq" contains the following query:

```
SELECT ?x
WHERE { ?x  <http://www.w3.org/2001/vcard-rdf/3.0#FN>  "John Smith" }
```

executing that query with the command line query application;

```
---------------------------------
| x                             |
=================================
| <http://somewhere/JohnSmith/> |
---------------------------------
```

This works by matching the triple pattern in the `WHERE` clause against the triples in the RDF graph. The predicate and object of the triple are fixed values so the pattern is going to match only triples with those values. The subject is a variable, and there are no other restrictions on the variable. The pattern matches any triples with these predicate and object values, and it matches with solutions for `x`.

The item enclosed in <> is a URI (actually, it's an IRI) and the item enclosed in "" is a plain literal. Just like Turtle, N3 or N-triples, typed literals are written with \^\^ and language tags can be added with @.

?x is a variable called x. The ? does not form part of the name which is why it does not appear in the table output.

There is one match. The query returns the match in the `x` query variable. The output shown was obtained by using one of ARQ's command line applications.

Executing the query

There are helper scripts in the Jena distribution `bat/` and `bin/` directories. You should check these scripts before use. They can be placed on the shell command path.

Windows setup

Execute:

```
bat\sparql.bat --data=doc\Tutorial\vc-db-1.rdf --query=doc\Tutorial\q1.rq
```

You can just put the `bat/` directory on your classpath or copy the programs out of it.

bash scripts for Linux/Cygwin/Unix

Execute:

```
bin/sparql --data=doc/Tutorial/vc-db-1.rdf --query=doc/Tutorial/q1.rq
```

Using the Java command line applications directly

(This is not necessary.)

You will need to set the classpath to include *all* the jar files in the Jena distribution `lib/` directory.

```
java -cp 'DIST/lib/*' arq.sparql ...
```

where `DIST` is the `apache-jena-VERSION` directory.

Next: basic patterns