Example: Jena and Fuseki

Jena and Fuseki

- **Jena** is a solid and widely used system
  - Scales reasonably well using its TDB native store
  - Has support for reasoning via a native rules engine and an API for DIG-compliant reasoners
  - Subsets run on Android phones
- Fuseki is a sparql endpoint that comple-ments Jena
- Both are easy to install and use with Java or any other language via the API or endpoint

Download jena and fuseki

- **curl -O http://www.apache.org/dist/jena/binaries/apache-jena-2.11.1.tar.gz**
- **curl -O http://www.apache.org/dist/jena/binaries/jena-fuseki-1.0.1-distribution.tar.gz**

> tar -xzf jena-fuseki-0.2.6-distribution.tar.gz

> tar -xzf apache-jena-2.10.0.tar.gz

> rm *.gz

> ls

apache-jena-2.10.0 jena-fuseki-0.2.6

> export JENA=/Users/finin/.../apache-jena-2.10.0/

- **export FUSEKI=/Users/finin/S.../jena-fuseki-0.2.6/**
- **export TS=/Users/finin/S…/examples/triplestore/**

Start the Fuseki server

```
# create directory for the RDF data
> Mkdir $TS/MYTDB
# launch server allowing updates, using our data directory
#   and naming the default store ds
> cd $FUSEKI
> fuseki-server --update --loc=/Users/finin/MYTDB /ds &
17:01 INFO Server :: TDB dataset: directory=/Users/finin/MYTDB
17:01 INFO Server :: Dataset path = /ds
17:01 INFO Server :: Fuseki 0.2.5 2012-10-20T17:03:29+0100
17:01 INFO Server :: Started 2013/03/31 17:01:20 EDT on port 3030
# put some data into it from a file
> s-put http://localhost:3030/ds/data default Data/books.ttl
```

Add some data

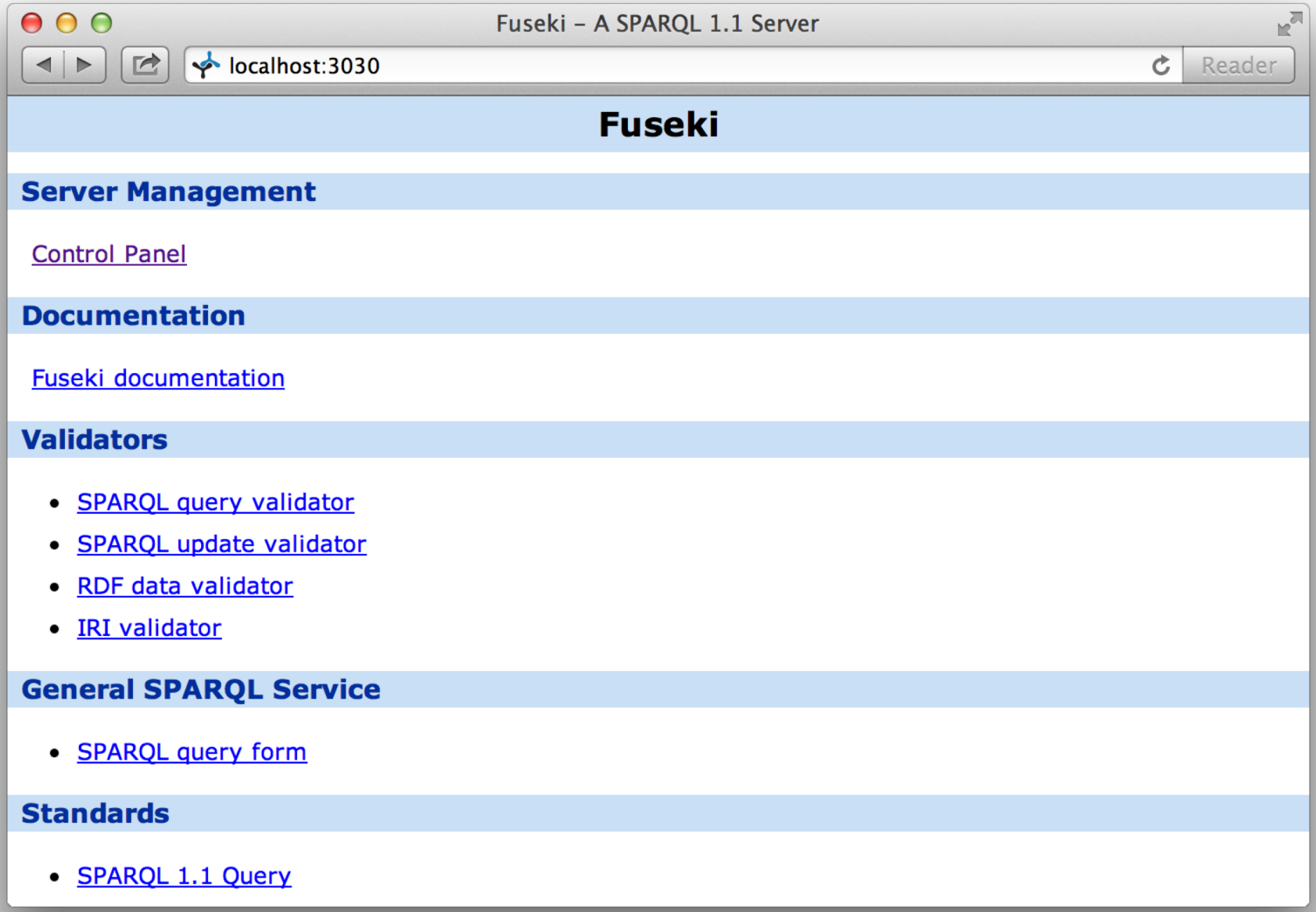
> Head Data/books.ttl

```
@prefix dc: <http://purl.org/dc/elements/1.1/> .
@prefix vcard: <http://www.w3.org/2001/vcard-rdf/3.0#> .
@prefix ns: <http://example.org/ns#> .
@prefix : <http://example.org/book/> .
```

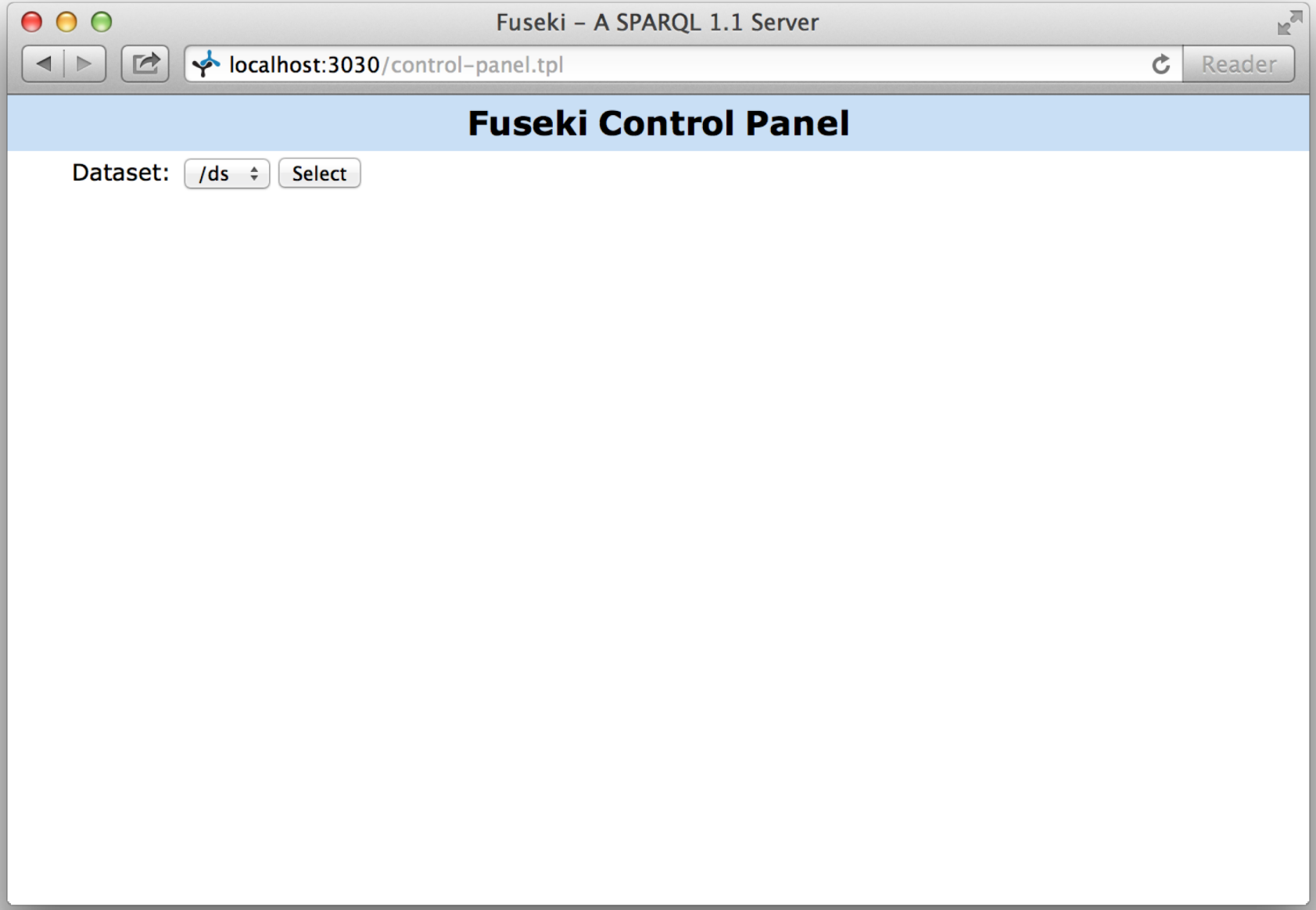
> s-put http://localhost:3030/ds/data default Data/books.ttl

```
18:00 INFO Fuseki  :: [2] PUT http://localhost:3030/ds/data?default
18:00 INFO Fuseki  :: [2] 204 No Content
```

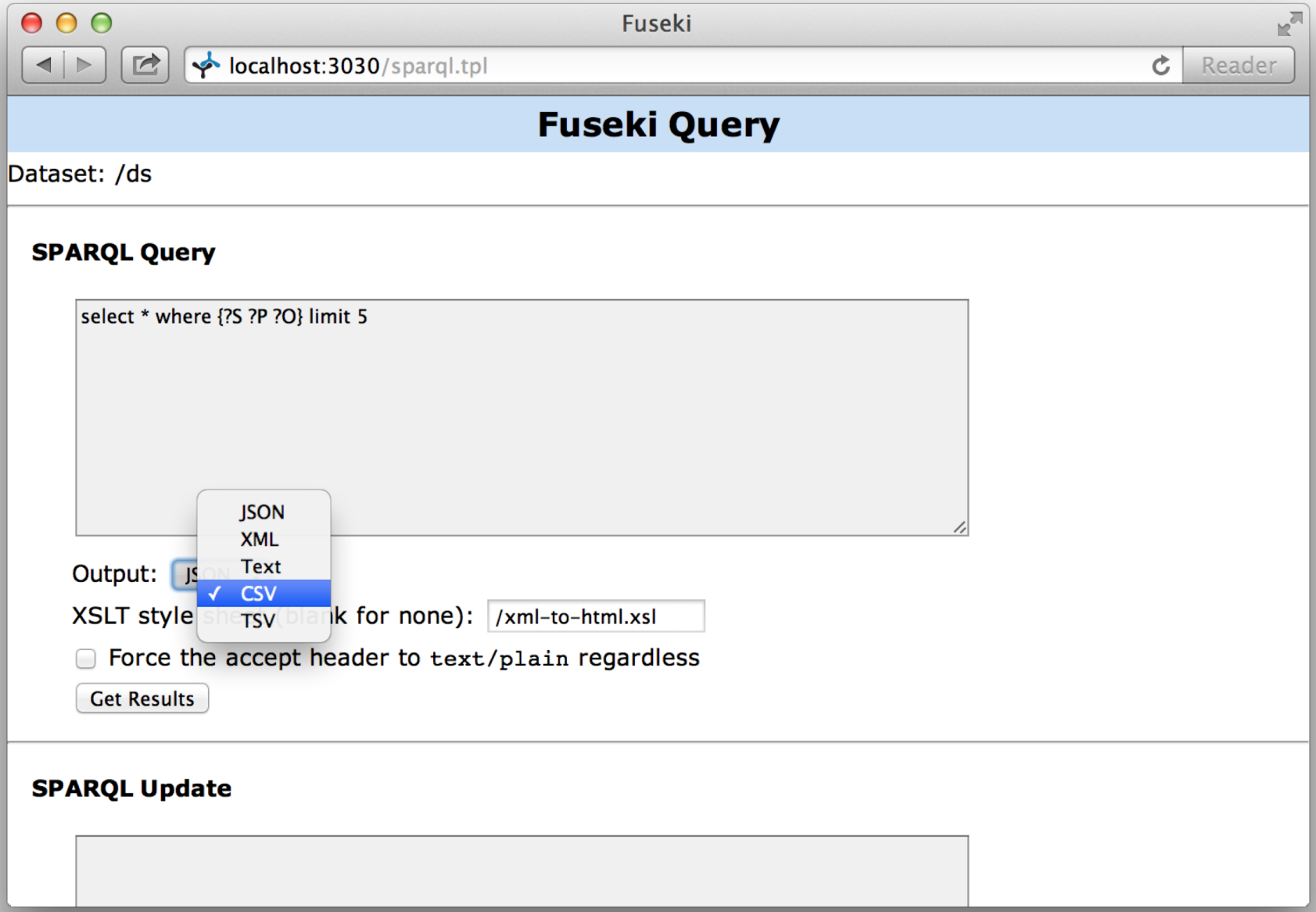
Access Fuseki via Browser



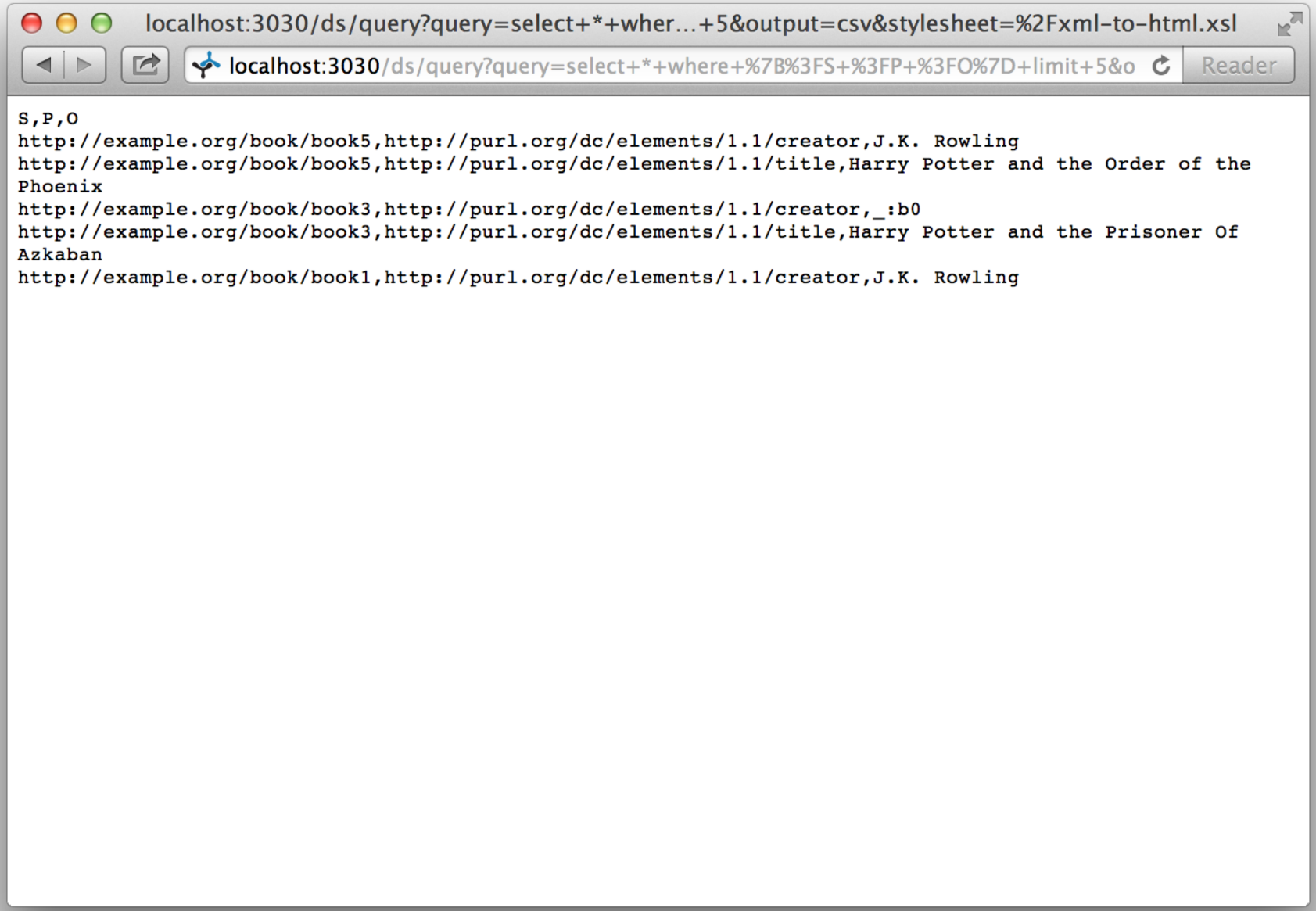
Control panel: select the store



Enter a SPARQL query



Here are the results



Other interactions

- From the control panel you can also
  - Enter SPARQL update queries
  - Upload a file of RDF data into the store
- To bulk load data, use Jena's tdbloader command
  - Loads at ~50K triples/sec
  - ~ 80 minutes to ~250M triples in DBpedia's dataset

For CIA Fact Book

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX ciafb:
<http://www.cia.gov/cia/publications/factbook#>

SELECT *
WHERE {
  ?C ciafb:Name ?N;
       ciafb:Area ?A
 }
limit 10
```