

Example: Jena and Fuseki



Jena and Fuseki



- **Jena** is a solid and widely used system
 - It scales reasonably well using its TDB native store
 - It has support for reasoning via a native rules engine and an API for DIG-compliant reasoners
 - There are subsets that run on Android phones
- Fuseki is a sparql endpoint that complements Jena
- The two 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/jena-  
fuseki-0.2.6-distribution.tar.gz  
> curl -O http://www.apache.org/dist/jena/binaries/  
apache-jena-2.10.0.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/
```

Start the Fuseki server



```
# create directory for the RDF data  
> mkdir ~/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



Fuseki - A SPARQL 1.1 Server

localhost:3030

Fuseki

- Server Management**
 - [Control Panel](#)
- Documentation**
 - [Fuseki documentation](#)
- Validators**
 - [SPARQL query validator](#)
 - [SPARQL update validator](#)
 - [RDF data validator](#)
 - [IRI validator](#)
- General SPARQL Service**
 - [SPARQL query form](#)
- Standards**
 - [SPARQL 1.1 Query](#)

Control panel: select the store



Fuseki - A SPARQL 1.1 Server

localhost:3030/control-panel.tpl

Fuseki Control Panel

Dataset: /ds

Enter a SPARQL query



Fuseki

localhost:3030/sparql.tpl

Fuseki Query

Dataset: /ds

SPARQL Query

select * where { ?S ?P ?O } limit 5

Output:

XSLT style:

SPARQL Update

Here are the results



```
localhost:3030/ds/query?query=select+*+wher...+5&output=csv&stylesheet=%2Fxml-to-html.xsl
localhost:3030/ds/query?query=select+*+where+%7B%3F%3FP+%3FO%7D+limit+5&o Reader
S,P,O
http://example.org/book/book5,http://purl.org/dc/elements/1.1/creator,J.K. Rowling
http://example.org/book/book5,http://purl.org/dc/elements/1.1/title,Harry Potter and the Order of the Phoenix
http://example.org/book/book3,http://purl.org/dc/elements/1.1/creator,_b0
http://example.org/book/book3,http://purl.org/dc/elements/1.1/title,Harry Potter and the Prisoner Of Azkaban
http://example.org/book/book1,http://purl.org/dc/elements/1.1/creator,J.K. Rowling
```

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