Configuring a SPARQL endpoint for VIVO
SPARQL
Anyone?

Data from VIVO on our CTRIP Drupal portal via SPARQL
• SPARQL is a query language
• SPARQL is a recursive acronym.
• Stands for: SPARQL Protocol and RDF Query Language
• RDF: Resource Description framework
• Joseki is a SPARQL endpoint for the JENA API
Why use SPARQL?

- Structured Command Set
  - Select, Where, order by, limit
- Allows Patterns, Filters
- Only need to know endpoint uri
  - Not every uri you want
- Can return sets of data
  - Ex: Select every faculty member in biology department
- Joseki can process SPARQL queries.

RDF Profile Data from VIVO

http://vivo.ufl.edu/individual/n25562/n25562.rdf
• How to install Joseki

• Example how to with all command line statements needed to install on: vivo.sourceforge.net in the “FILES” Section

• Use the Virtual Machine as a test platform.
Basic Process

- Download and setup VM
- Configure Networking for VM. Joseki listens by default on port 2020.
- Login to VM and WGET/download Joseki ZIP package
  - You may need to install UNZIP to unpack the Joseki Files
  - Good place to install is in /usr/local/Joseki
Basic Process

- After installing you must Configure the “joseki-config.ttl” in /usr/local/<JosekiFOLDER>/joseki-config.ttl
- BACK IT UP FIRST
  - `$cp joseki-config.ttl <backfile>
- Example VIVO config in howto.
  - Need to modify SERVICES section
# Service 2 - SPARQL processor only handling a given dataset

```turtle
rdf:type     joseki:Service ;
rdfs:label   "SPARQL on the VIVO model" ;
joseki:serviceRef "VIVOService" ;
# web.xml just route this name to Joseki
# dataset part
joseki:dataset  <#ds1> ;
# Service part.
# This processor will not allow either the protocol,
# nor the query, to specify the dataset.
joseki:processor joseki:ProcessorSPARQL_FixedDS ;
```

## Datasets

```turtle
<#ds1>  rdf:type ja:RDFDataset ;
   ja:defaultGraph <#modelDB1> ;
rdfs:label "Dataset 1" ;
   ja:namedGraph [
        ja:graphName <http://vitro.mannlib.cornell.edu/default/vitro-kb-2> ;
        ja:graph <#modelDB1> ] ;
```

## This is very very bad. Configure MySQL security correctly

```turtle
<#modelDB1> rdf:type ja:RDBModel ;
   ja:connection [
        ja:dbType  "MySQL" ;
        ja:dbURL   <jdbc:mysql://localhost/vitro> ;
        ja:dbUser  "root" ;
        ja:dbPassword  "vitro123" ;
        ja:dbClass  "com.mysql.jdbc.Driver" ;
    ] ;
   ja:reificationMode ja:minimal ;
```

## Minimal means fastpath is possible.

```turtle
   ja:modelName "http://vitro.mannlib.cornell.edu/default/vitro-kb-2"
```

```
• Basic Process
  • Save the config
  • Then you have to startup
  • You must set the JOSEKIROOT
  • Should be the path to your Joseki install folder
  • EXAMPLE
    JOSEKIROOT=/usr/local/Joseki-3.4.2
Basic Process

To run you must be in the root of the Joskei folder and run the command

./bin/rdfserver

Common errors

- Not setting the JOSEKIRoot correctly
- Not making /bin/rdfserver executable (chmod u+x /bin/*)
Basic Process

- You will see the SPARQLer
- Click on
- “General Purpose SPARQL processor”
- Daemon example for JOSEKI on sourceforge.
- Basic Process
- Paste in your SPARQL query from the HOW TO
- Press GET RESULTS
- Wait for the MAGIC
- Basic Process
- View the results
- Can be output in many formats
  - Txt, csv, XML, N3, etc...
• THANKS PLEASE JOIN OUR PROJECT
• VIVO.SOURCEFORGE.NET
• Get help on IRC
• irc.freenode.net
• #VIVO QUESTIONS?