

Semantic Web lab 4: RDF & SPARQL

Consider the following statement:

"Star Trek: The Next Generation" was a SF TV series in which the actors Patrick Stewart, Jonathan Frakes and LeVar Burton played. The role interpreted by Stewart was Capt. Jean-Luc Picard.

(a)

Write the RDF/XML for the above statement. You can use <http://www.w3.org/RDF/Validator/> for this and then copy and paste the code there.

Hint: Use rdf:Bag

(b)

Draw the RDF graph for the above statement. . You can use <http://www.w3.org/RDF/Validator/>

(c)

What roles were interpreted by the actors from "Star Trek: The Next Generation"?

Write the corresponding SPARQL query for this question. Write the corresponding SPARQL query for this question.

Use the ARQ engine from JENA or any other tool to process SPARQL - see Lab 4 Instructions.

For next lab:

Download apache-jena-4.10.0.zip (<https://downloads.apache.org/jena/binaries/>) and unzip it and:

Set the JENAROOT environment variable to where apache-jena-4.10.0 is unpacked. (from the administrator account)

Set the PATH system variable to %PATH%;%JENAROOT\bin (from the administrator account)

Use your rdf and SPARQL file and execute them by writing, in the command prompt: ARQ --data=rdf file name --query=file name query.fileHint: To run the queries, follow these steps:

Save the query as a .sparql file. Open the terminal,

navigate to the location of the apache-jena-4.0.0 file and run the command arq --data=pathToYourRDFfile --query=pathToYourRQfile

Also you will need to install Protege <https://protege.stanford.edu/>