

Blazegraph

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Blazegraph Triple Store

Blazegraph is a triple store and a graph database, written in Java and running as a web-based interface

Download the **blazegraph.jar** file from here:

https://github.com/blazegraph/database/releases/tag/BLAZEGRAPH_2_1_6_RC

This is **version 2.1.6** — Please do not use older versions

Running Blazegraph

To run Blazegraph, do the following:

1. Make sure you have Java installed, otherwise install it:
<https://www.oracle.com/technetwork/java/javase/downloads/index.html>
2. Open a terminal window, go to the folder containing the **blazegraph.jar** file and run the following command:
`java -server -jar ./blazegraph.jar`
3. Open your web browser and load the following address:
<http://localhost:9999>

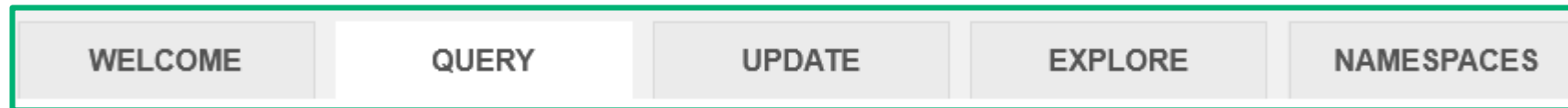
If you cannot run Blazegraph, please let me know

Using Blazegraph

Blazegraph is accessed through a web interface, usually located at <http://localhost:9999>

Blazegraph's interface is based on tabs. We will use three tabs:

1. Namespaces tab, to define namespaces
2. Update tab, to load data into the triple store
3. Query tab, to run queries on the triple store



Defining a Namespace

First of all, go to the **Namespaces** tab and define a new **Blazegraph namespace** (a separate data store)

Name:

Mode: triples ▾

Inference: ☒

Isolatable indices: ☐

Full text index: ☐

Enable geospatial: ☐

Create namespace

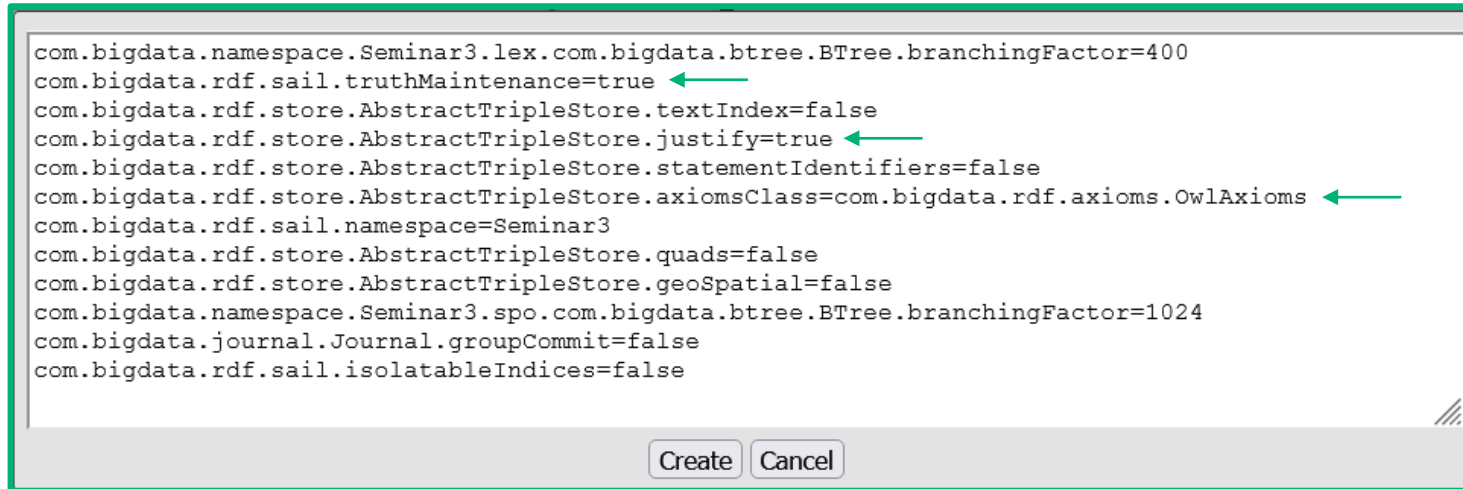
Insert the name, make sure the **Inference** checkbox is activated, click on **Create namespace**, then click on **Use**

Namespaces						
Seminar3	Use	Delete	Properties	Rebuild Full Text Index	Clone	Service Description
kb (default)	In use	Delete	Properties	Rebuild Full Text Index	Clone	Service Description

Important: every time you want to work on a different knowledge base, you must define a new namespace and then click on Use to activate it!

Defining a Namespace

When you create the namespace, you will see this window:



Before clicking on Create, check the following properties:

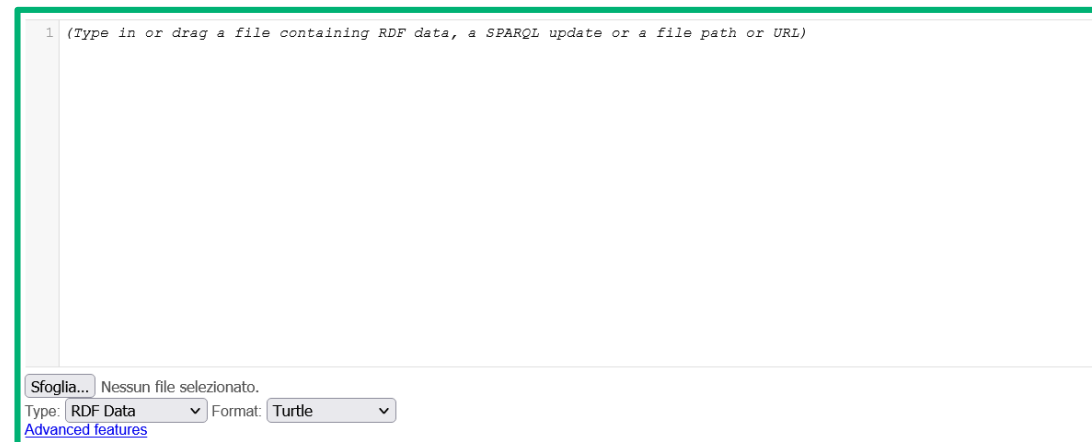
- `com.bigdata.rdf.sail.truthMaintenance` must be set to **true**
- `com.bigdata.rdf.store.AbstractTripleStore.justify` must be set to **true**
- `com.bigdata.rdf.store.AbstractTripleStore.axiomsClass` must be set to `com.bigdata.rdf.axioms.OwlAxioms`

Uploading Data

After defining a namespace, go to the **Update tab**

In this tab you can run **SPARQL Update queries**, but also load files containing your knowledge base

To do so, **drag-and-drop** your file on the **query area**, select the **type** (RDF Data) and **format** (Turtle), and finally click on **Update**



The screenshot shows the 'Update' tab interface in Blazegraph. It features a large text area for input with a placeholder text: `1 (Type in or drag a file containing RDF data, a SPARQL update or a file path or URL)`. Below the text area, there is a file selection button labeled 'Sfogli...' and the text 'Nessun file selezionato.'. To the right of the file selection area, there are two dropdown menus: 'Type: RDF Data' and 'Format: Turtle'. At the bottom left of the interface, there is a link labeled 'Advanced features'.

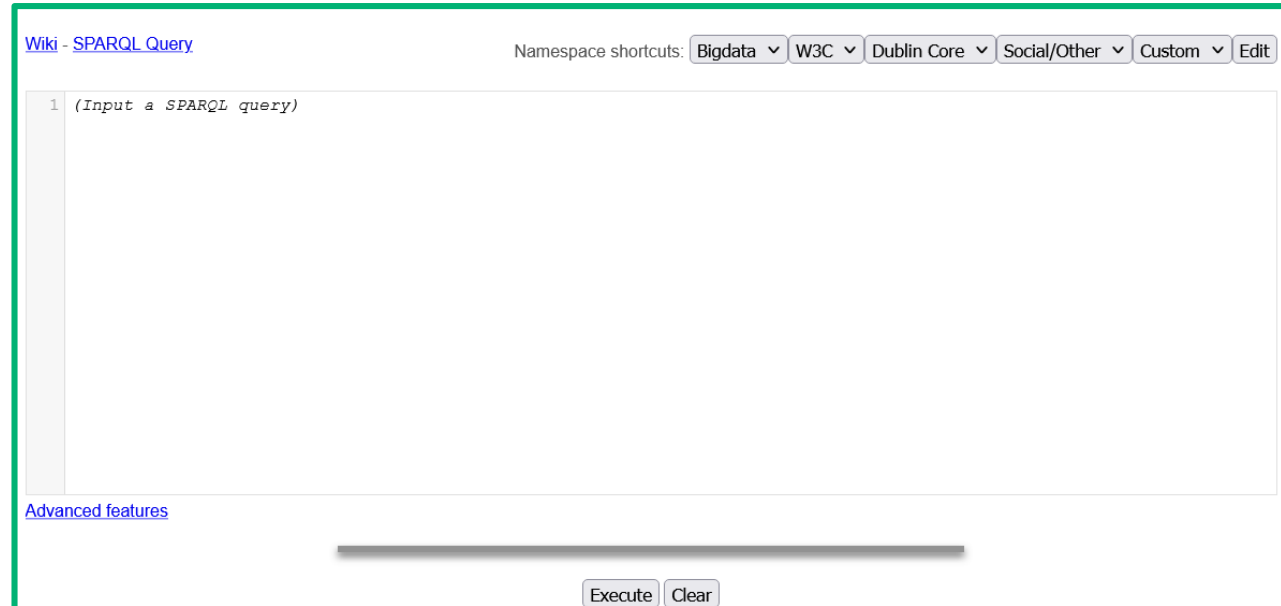
Running Queries

Queries are run through the **Query tab**

Write your query in the **query area**, then click **Execute**

The **result** is reported as a **table**

The **most recent queries** are saved in the area below the Execute button (so that you can reload them later)

A screenshot of a web-based SPARQL query interface. At the top, there's a header with a link "Wiki - SPARQL Query" and a row of namespace shortcuts: "Bigdata", "W3C", "Dublin Core", "Social/Other", "Custom", and "Edit", each in a small box with a dropdown arrow. Below this is a large text area for the query, with a line number "1" and a placeholder text "(Input a SPARQL query)". At the bottom left of the text area is a link "Advanced features". At the bottom center, there are two buttons: "Execute" and "Clear". The entire interface is enclosed in a green border.

Instructions for Exercises

- Download the knowledge base from Moodle, open it in a text editor and look at its contents
- Download the **Blazegraph JAR** and launch it
- Go to the Blazegraph web interface and define a new namespace called “Seminar3” (no spaces!)
- Upload the knowledge base into **Blazegraph**