RDFox v7.1 Migration Guide

This guide describes functional changes in RDFox v7.1 that might prevent scripts, configuration and code that work with RDFox v7.0, from being used directly with the newer version. Each change is described in its own section with clear actions to take as part of the upgrade. Users should read this guide in conjunction with the release notes for v7.1.

RDFox v7.1 is fully backwards compatible with RDFox v7.0 (and v7.0a), so there is no need to transcribe the server content as part of the upgrade.

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1. Changes affecting the endpoint and REST API

1.1. The x-role-name logging field has been replaced with x-agent-name

The `x-role-name` field accepted by RDFox v7.0 and earlier as part of a value for the `elf-logger-fields` endpoint parameter, has been replaced by the more general `x-agent-name` to reflect the fact that it might contain either the name of an RDFox role or an external agent.

**Required actions**

Search and replace `x-role-name` with `x-agent-name` in all code, configuration, and scripts.

1.2. The num-threads endpoint parameter has been renamed to num-http-workers

To avoid a clash with the server parameter with the same name, the endpoint parameter controlling the number of HTTP worker threads has been renamed from `num-threads` to `num-http-workers`. In RDFox v7.0 this clash made it impossible to specify the number of HTTP worker threads on the command line.

**Required actions**

Identify places in scripts and configuration where the `num-threads` parameter was being set with the intention of setting the number of HTTP worker threads and replace them with `num-http-workers`. Be careful not to replace instances that were intended to set the number of RDFox server threads, which determines how many threads are used for tasks like importation and reasoning.

1.3. The representation of variable substitutions in the explanation API has changed.

In RDFox v7.0, a rule instance in the `rule-instances` array of an explanation contained a `substitutions` structure. This was intended to describe the mappings between variable names and resources in an instance of a rule to clarify how the `body-facts` linked from the rule-instance derive the encompassing fact. Such a structure is insufficient to describe substitutions in the case where lexically identical variable names have different scopes within rule and therefore may have potentially different substitutions.

For example, in the following rule, the `?b` in the `AGGREGATE` is distinct from the `?b` in the body atom `[?b, :hasDog, :Dog]`.

```
[?a, :hasCount, ?c] :- [?a, :Person], [?b, :Dog], AGGREGATE([?a, :hasDog, ?b] ON ?a BIND COUNT(?b) AS ?c).
```

In RDFox v7.1, the substitutions are made explicit by including a `grounded-rule-structured` key/value pair in the explanation JSON object. Like the `rule-structured` value, this has structured annotations, but additionally each instance of each variable has been substituted with the correct RDF resource.
**Required actions**

Update code that uses the `substitutions` value from an `application/x.explanation+json` object to use the `grounded-rule-structured` value.

1.4. **The check-password operation on connections has been removed**

The check-password operation has been removed. Using REST, this operation could previously be performed on an explicitly managed connection by sending a PATCH request to the path for a server or data store connection with query string `operation=check-password`.

This change also affects JRDFox – see section 4.1.

**Required actions**

Remove all usages of the API described above.
2. Changes affecting query evaluation

2.1. The ROLE built-in has been replaced by the AGENT built-in

The proprietary built-in for retrieving the name of the role evaluating a SPARQL query, ROLE, has been replaced by the more general built-in AGENT to reflect the fact that it might return either the name of an RDFox role or an external agent.

Required actions

Search SPARQL strings for ROLE and replace them with AGENT.
3. Changes affecting data sources

3.1. Creating data source tuple tables now requires read privileges over the data source

To tighten up the rules regarding access to data sources, creation of a data source tuple table now requires that the creating agent holds a read privilege over the data source. For an explanation of data source tuple tables, see the introduction to Section 7 of the documentation.

*Required actions*

Review existing access control policies for your servers to check whether any roles that should be able to create tuple tables for a specific data source have read permission over the data source and grant additional privileges where this is not the case.

3.2. The parameter specifying the data source for a data source tuple table is now `data-source-name`

To improve the consistency of option naming, the parameter to specify the data source when creating a data source tuple table has been changed from `dataSourceName` to `data-source-name`. For the v7.1 release only, the old name will still be accepted (with a warning when using the shell) but users are advised to upgrade now to ease upgrading to future versions.

*Required actions*

Search source code, scripts for references to `dataSourceName` and replace them with `data-source-name`.

4. Changes affecting the Java API

4.1. The checkPassword operation on connections has been removed

The check-password operation has been removed. In Java, this was previously exposed as 
\texttt{tech.oxfordsemantic.jrdfox.client.ServerConnection.checkPassword(...)} and 
\texttt{tech.oxfordsemantic.jrdfox.client.DataStoreConnection.checkPassword(...)}. 
Both methods have been removed.

This change also affects the REST API- see section 1.4.

\textit{Required actions}

Remove all references to the APIs mentioned above before recompiling your Java code 
against the v7.1 JAR file.

4.2. The getRoleName method has been replaced by getAgentName

The methods 
\texttt{tech.oxfordsemantic.jrdfox.client.ServerConnection.getRoleName(...)} and 
\texttt{tech.oxfordsemantic.jrdfox.client.DataStoreConnection.getRoleName(...)} have 
been replaced with 
\texttt{tech.oxfordsemantic.jrdfox.client.ServerConnection.getAgentName(...)} and 
\texttt{tech.oxfordsemantic.jrdfox.client.DataStoreConnection.getAgentName(...)} respectively. This reflects the fact that the owner of a connection may now be either an 
RDFox role or an external agent.

\textit{Required actions}

Search and replace getRoleName with getAgentName.