

Advanced Searches in Documentum REST Services (2): Facets

Overview

This tutorial is the second post of the Search Services Series in Documentum REST 7.3. Advanced facets is worth a separate tutorial even though it is part of *AQL*. In Documentum REST 7.2, users can only execute faceted search against one attribute, which is quite limited for many user scenarios. It has been improved a lot in Documentum REST 7.3 with AQL support.

Part 1. [Advanced Searches in Documentum REST Services \(1\): AQL](#)

Part 2. Advanced Searches in Documentum REST Services (2): Facets

Part 3. [Advanced Searches in Documentum REST Services \(3\): Saved Searches](#)

Part 4. [Advanced Searches in Documentum REST Services \(4\): Search Templates](#)

Preliminary

Please refer to the *Preliminary* section in [Advanced Searches in Documentum REST Services \(1\): AQL](#) to prepare the environment.

Multiple Facets

Sometimes users want to get facets against more than one attributes for one search, which is called multiple facets, e.g. both color and size for clothes. Here is an example of facet

attributes for SysObject type. There are two facet definition here, which group the search result at the same level.

- one for attribute *r_full_content_size*
- one for attribute *keywords*

Below is the POST request to execute the facet search. The request body is an AQL with the facet definition.

```
POST /dctm-rest/repositories/ubuntudb/search?include-total=true HTTP/1.1 Host: localhost:8080 Content-Type: application/vnd.emc.rest Body-->
10000:20000,40000:900000 10000:20000,40000:900000
```

```
<!--Request Body--> <search xmlns="http://identifiers.emc.com/vocab/documentum" xmlns:xsi="http://www.w3.org/2001/XMLSchema"
```

Here is the explanation of the above facet definition in the AQL request:

- The facet definition for attribute *r_full_content_size* defines a *group-by* strategy with *range*. This is the new capability brought by AQL. Other strategies can be *string* (the default one), *range*, *alphanumerical*, *day*, *week*, *relativeDate*, etc. In this sample, results are grouped in two ranges 1k-2k, and 4k-9k.
- The facet definition for attribute *keywords* defines a string value strategy (default).
- The two definitions group the search result independently, and do not impact to each other, so they are called **multiple facets** or **parallel facets**

The multiple facets results have several facets on the same level.

```
<!--Response Body--> <dm:facet xmlns:dm="http://identifiers.emc.com/vocab/documentum"> <dm:facet-id>facet_r_full_content
```

Briefly speaking, the structure of multiple facets is like below.

```
| - r_full_content_size | | - 3 (10000:20000) | | - 2 (40000:900000) | - keywords | - 3 (extensibility) | - 1 (client) | - 1 (search)
```

Hierarchical Facets

The hierarchical facets contain more than one attributes, too. But these attributes are not at the same level. More precisely, they are hierarchical. A similar hierarchical sample that helps

to understand the hierarchical facets is [geographical hierarchy](#): *continents - continental sections - countries - cities...*

In the tutorial, we will continue with the content size and keywords sample. Here is a POST request to execute the search service and the request body contains the hierarchical facet definitions.

POST /dctm-rest/repositories/ubuntudb/search?include-total=true HTTP/1.1 Host: localhost:8080 Content-Type: application/vnd.emc

<!--Request Body--> <search xmlns="http://identifiers.emc.com/vocab/documentum" xmlns:xsi="http://www.w3.org/2001/XMLSchema"

Here is the explanation of the above fact definitions:

- The search result is firstly grouped by the facet attribute *r_full_content_size*
- Each grouped result is then grouped by the facet attribute *keywords*
- The nested facet definition is depending on the grouped result of the parent facet definition, so called ***hierarchical facets*** or ***nested facets***

Below is the hierarchical facets results. Notation *<facet-value>* has the embedded notation *<facet-value>* in it. *facet_r_full_content_size*

<dm:facet xmlns:dm="http://identifiers.emc.com/vocab/documentum"> <dm:facet-id>facet_r_full_content_size</dm:facet-id> <dm:facet-value>

In short, the hierarchical facets results are of the structure below.

| - r_full_content_size | - 3 (10000:20000) | | - keywords | | - 3(extensibility) | | - 2 (40000:900000) | - keywords

Navigating Facets

The facet result does not return document items directly in the response, but instead, each facet result value has a URL link, which contains facet constraints for each group. For example, the link below extracted from the hierarchical facets sample has URL parameters and values: *facet-id-constraints=facet_r_full_content_size%3D40000/900000,facet_keywords%3Dclient*

<dm:link href="http://localhost:8080/dctm-rest/repositories/ubuntutdb/search?facet-id-constraints=facet_r_full_content_size%3D40000/900000,facet_keywords=client"

After a simple URL decoding, we can see its parameter value as *facet-id-constraints=facet_r_full_content_size=40000/900000,facet_keywords=client*. It is easy to find out that this is actually the facet constraints:

- *r_full_content_size* is in range *40000 - 900000*
- *keywords* is *client*

But this URL doesn't contain search criteria so users can't navigate facets by just following it. It misses the search criteria because the length could be too large to construct the facet constraints into URL. The approach to navigate facets with AQL is to follow the link in facet results and POST the original search criteria.

The below request snippet makes a POST request to the href link of the specific facet result. The request body should be the original AQL, but is not shown in this sample. As expectation, there will be only one search result returned. Have a try!

POST /dctm-rest/repositories/ubuntutdb/search?facet-id-constraints=facet_r_full_content_size%3D40000/900000,facet_keywords%

Conclusion

The article covers the basic knowledge about advanced facet search. By learning this topic, you get to know:

- the facet search for more than one attributes is supported
- multiple facets, hierarchical facets and their differences
- how to execute an advanced facet search
- use HTTP method POST to execute the facet search

Next: [Part 3. Advanced Searches in Documentum REST Services \(3\): Saved Searches](#)

[Learn more about Documentum REST Services >>](#)