

Lightning Talk

Querqy/SMUI x Elasticsearch

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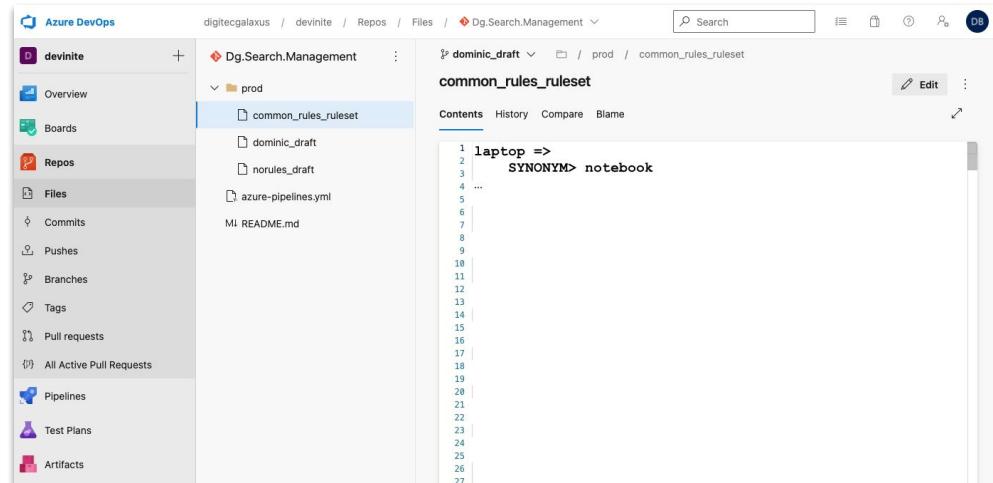
How are we using Querqy with ES?

Use case:

So far mainly for Search management using Common Rules Rewriter

Rules Management: Walking skeleton

- Rules.txt edited as text and committed to Azure Git (via Azure DevOps web interface for Git Repositories)
- Upon Commit an automatic validation & upload pipeline is triggered on commits and merges into master



```
1 laptop =>
2   SYNONYM> notebook
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```

Quickly testing a new rule in production

1. Create rule to be tested in a separate “draft rules.txt” and upload it to a separate common rules “draft rewriter”.
2. Test the rule directly in the productive search simply by activating the “draft rewriter”
e.g. via URL Parameter [q=dining table&draftrules=mydraftrules](#)

No need for a separate Test Environment that is struggling hard to be like PROD

With this approach, we can as well easily see a SERP without any rules applied by configuring a dummy “no-rules.txt” draft.

Monitoring “rule managed” searches

Problem:

Querqy@ES can not tell the caller whether or not a rule has been applied (unlike SOLR)

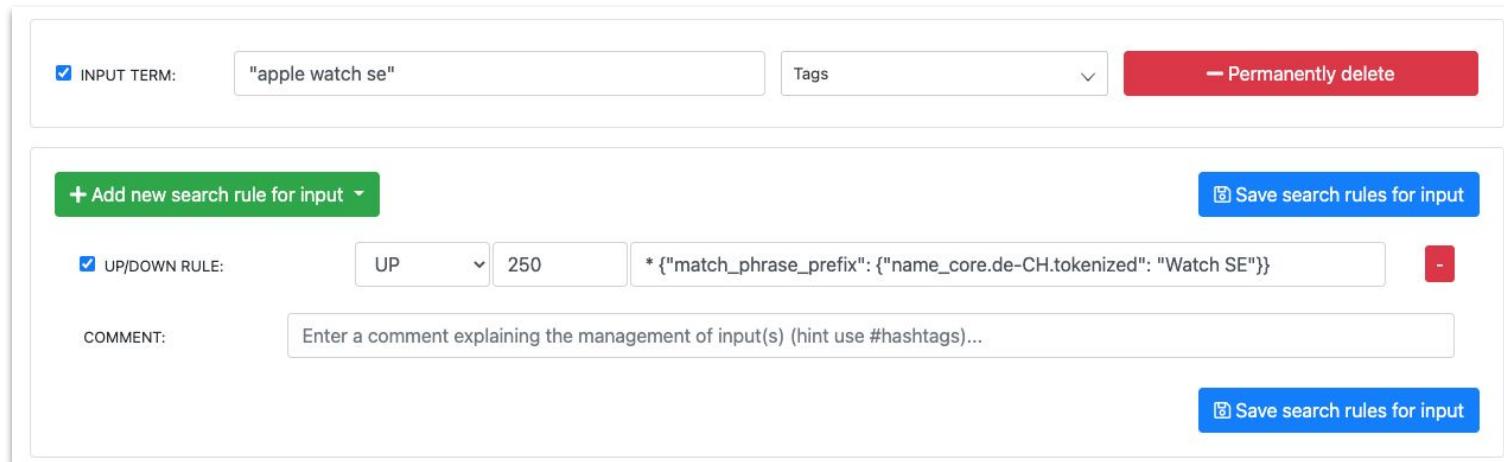
Solution:

- Using the newly supported Info Logging Feature for ES:
<https://docs.querqy.org/querqy/solr-plugin-configuration.html#info-logging>
- We chose to log to ES System Log and use Logstash to push these logs to Google BQ. From where we generate our monitoring reports

Outlook Rule Management: Migrate to SMUI

But is ElasticSearch supported? Officially no. But, it actually does.

Goal: Make SMUI accept Raw ES Queries & use custom deploy scripts to upload to ES



The screenshot shows the SMUI interface for managing search rules. At the top, there is a search bar with the term "apple watch se" and a "Tags" dropdown. To the right is a red "Permanently delete" button. Below the search bar, there is a green button to "Add new search rule for input" and a blue "Save search rules for input" button. The main configuration area has a "UP" dropdown set to "250" and a query string: * {"match_phrase_prefix": {"name_core.de-CH.tokenized": "Watch SE"}}. There is also a red minus button to remove this rule. Below this, there is a "COMMENT:" field with the placeholder "Enter a comment explaining the management of input(s) (hint use #hashtags)...". At the bottom right is another blue "Save search rules for input" button.

INPUT TERM: "apple watch se" Tags Permanently delete

+ Add new search rule for input Save search rules for input

UP 250 * {"match_phrase_prefix": {"name_core.de-CH.tokenized": "Watch SE"}} -

COMMENT: Enter a comment explaining the management of input(s) (hint use #hashtags)... Save search rules for input

Outlook Rule Management: Migrate to SMUI

How to do it?

- Make SMUI show a “raw query” field where we can put a raw ES Query
- Add a custom deployment script to upload the rules to Querqy@ES

```
toggle.ui-concept.all-rules.with-solr-fields=false
```

```
toggle.rule-deployment.custom-script=true
toggle.rule-deployment.custom-script-SMUI2SOLR-SH_PATH
="my-deployment-script.sh"
```

Tradeoff: **Higher risk of human error** when writing raw query syntax unless there is ES specific validation added to these inputs.

- <https://github.com/querqy/smui/issues/56>
- <https://github.com/querqy/smui/issues/43>

Testing raw query validation

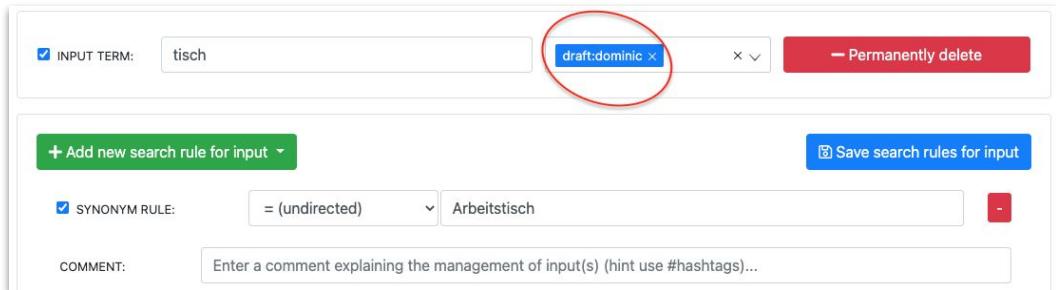
Since SMUI does not validate raw ES Query Syntax. What happens if we deploy rules with invalid raw queries?

Test Raw Query Validation	
	STATUS
* {"term":{"producttype_id": 2165}}	OK only matching query query fails with "syntax_exception" Error parsing raw query.
JSON Format is invalid	OK only matching query query fails with "syntax_exception" Error parsing raw query.
ES Keywords wrong (e.g. trm instead of term)	OK only matching query query fails with "syntax_exception" unknown query [trm] did you mean any of [term, terms]?
Unknown fields used (e.g. PT_ID instead of producttype_id)	OK only matching query query fails with "failed to create query: Rewrite first"
String is used for Term Query	OK only matching query query fails with "failed to create query: For input string: \"ab\""
Illegal character is used in Match Query	?? can't enforce a problem -- https://lucene.apache.org/core/3_0_3/queryparsersyntax.html#Escaping%20Special%20Characters

Seems to be unproblematic so far. But clearly the rules are not applied which is only detected at runtime in the elasticsearch logs

Outlook: Draft-Testing concept with SMUI

- Map the testing “drafts” concept to SMUI using Tags which resolve in @-properties in rules.txt.
- Upload the whole ruleset to a to a draft rewriter which is configured to only apply “@draft” annotated rules. Using JSON Path.

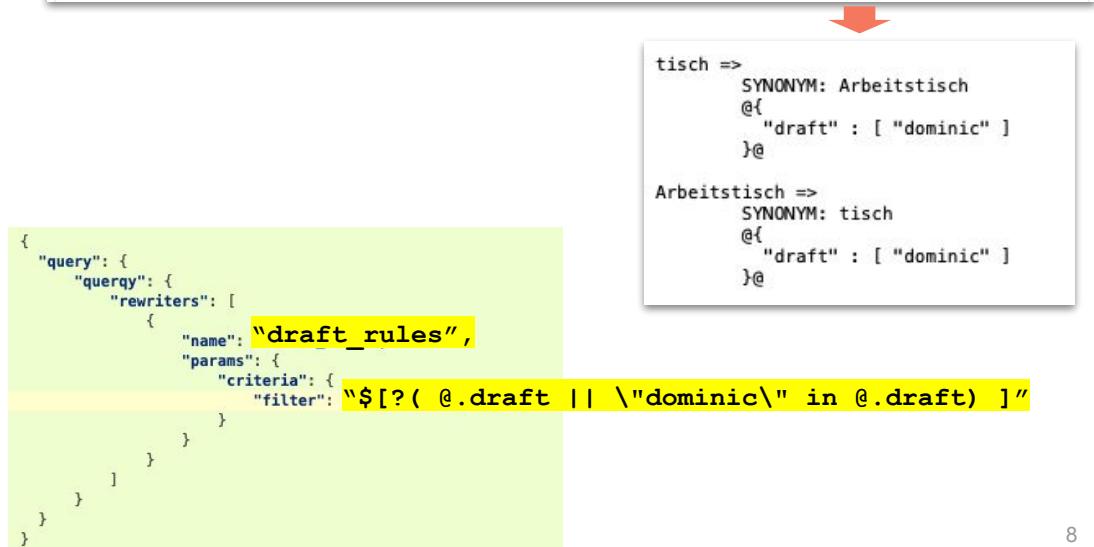


INPUT TERM: draft:dominic

+ Add new search rule for input

SYNONYM RULE: = (undirected)

COMMENT: Enter a comment explaining the management of input(s) (hint use #hashtags)...



tisch =>
SYNONYM: Arbeitstisch
@{
"draft" : ["dominic"]
}@

Arbeitstisch =>
SYNONYM: tisch
@{
"draft" : ["dominic"]
}@

```
{  
  "query": {  
    "querqy": {  
      "rewriters": [  
        {  
          "name": "draft_rules",  
          "params": {  
            "criteria": {  
              "filter": "$[?(@.draft || \\"dominic\\\" in @.draft)]"  
            }  
          }  
        }  
      ]  
    }  
  }  
}
```