

Lightning Talk

Querqy/SMUI x Elasticsearch

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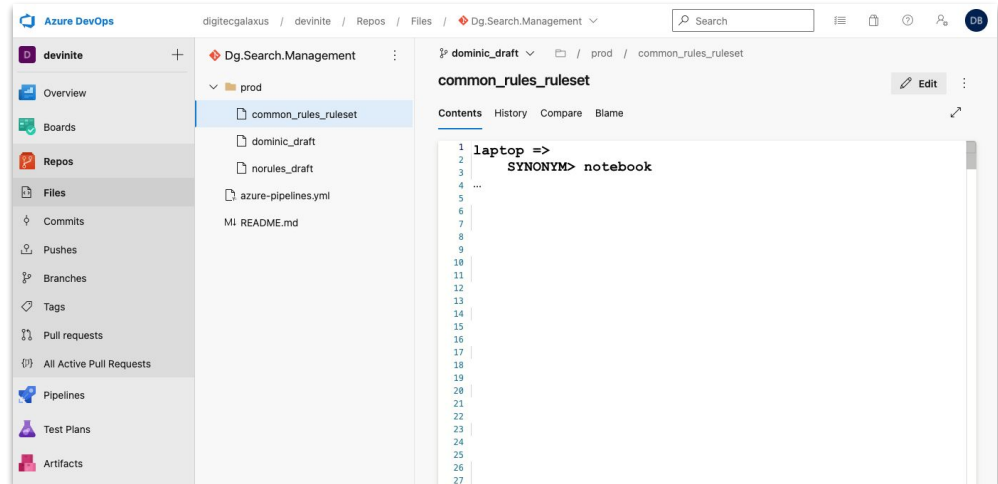
How are we using Querqy with ES?

Use case:

So far mainly for Search management using Common Rules Rewriter

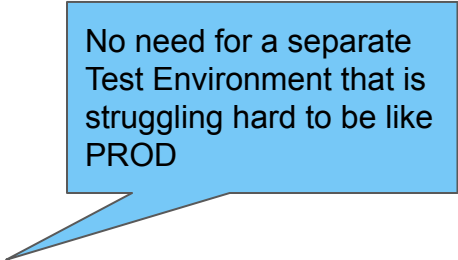
Rules Management: Walking skeleton

- 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



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&drafrules=mydrafrules](#)



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)

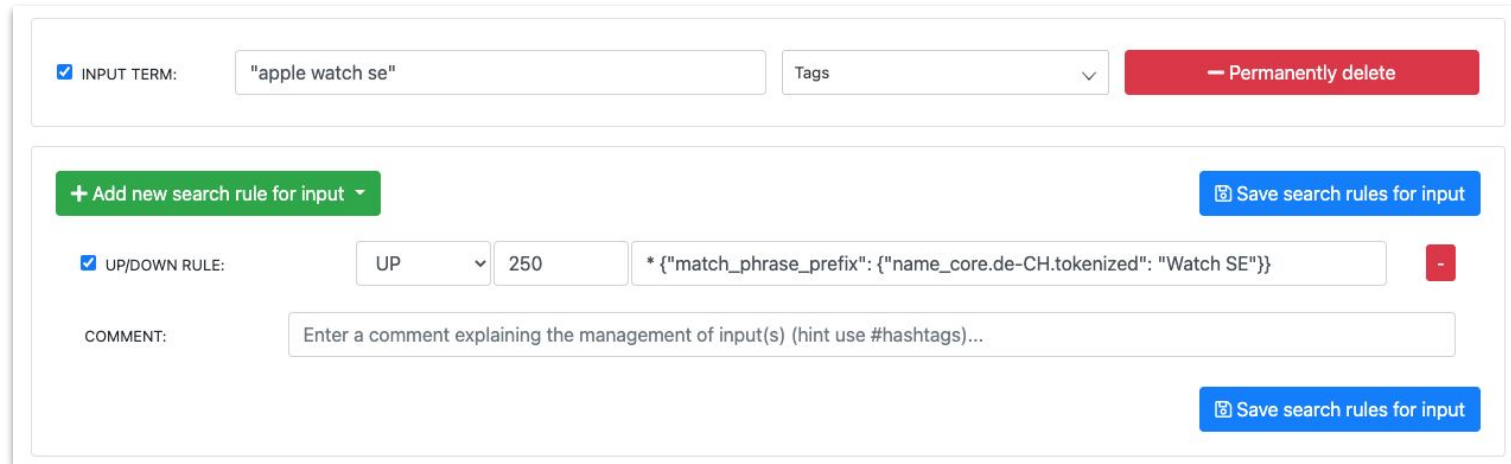
Solution:

- 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 displays the Outlook Rule Management interface. At the top, there is a section for the current rule configuration. It includes a checked checkbox labeled "INPUT TERM:" followed by a text input field containing "apple watch se". To the right of this field is a "Tags" dropdown menu and a red button labeled "— Permanently delete".

Below this is a section for adding or editing search rules. It starts with a green button labeled "+ Add new search rule for input" and a blue button labeled "Save search rules for input".

Underneath, there is a checked checkbox labeled "UP/DOWN RULE:". To its right are two input fields: one for "UP" (with a dropdown arrow) and another for "250". Further right is a text input field containing the JSON query: `* {"match_phrase_prefix": {"name_core.de-CH.tokenized": "Watch SE"}}`. A red minus button is located to the right of this query field.

At the bottom, there is a "COMMENT:" label followed by a text input field with the placeholder text "Enter a comment explaining the management of input(s) (hint use #hashtags)...". A blue button labeled "Save search rules for input" is positioned at the bottom right of this section.

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	
* {"term":{"producttype_id": 2165}}	STATUS
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 "parsing_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.

INPUT TERM: tisch draft:dominic x - Permanently delete

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

SYNONYM RULE: = (undirected) Arbeitstisch

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

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

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

- Upload the whole ruleset to a to a draft rewriter which is configured to only apply “@draft” annotated rules. Using JSON Path.

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