Overview

Bulk Edit - Establish a performance baseline for user status bulk updates.

- How long does it take to export 100, 1000, 2500, 10k, and 100K records?
- Use it for up to 5 concurrent users.
- Look for a memory trend and CPU usage

Infrastructure

PTF - environment

- 10 m6i.2xlarge EC2 instances
- 2 instances of db.r6.xlarge database instances, one reader and one writer
- MSK
  - 4 m5.2xlarge brokers in 2 zones
  - auto.create-topics.enable = true
  - log.retention.minutes=120
  - 2 partitions per DI topics
- okapi (running tasks -3)
  - 1024 CPU units, 1360 MB mem
- mod-data-export-spring (running tasks -1)
  - 256 CPU units, 1844 MB mem
- mod-data-export-worker (running tasks -1)
  - 1024 CPU units, 2248 MB mem
- mod-notes (running tasks -2)
  - 128 CPU units, 896 MB mem
- mod-agreements (running tasks -2)
  - 128 CPU units, 1362 MB mem
- mod-users (running tasks -2)
  - 258 CPU units, 896 MB mem

Differences in modules memory and CPU parameters

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CPU</td>
<td>RAM</td>
<td>CPU</td>
</tr>
<tr>
<td>mod-data-export-worker</td>
<td>256</td>
<td>1844MB</td>
<td>1024</td>
</tr>
</tbody>
</table>

Software Versions

- mod-data-export-worker v 1.4.10
- mod-data-export-spring v 1.4.4
- mod-agreements:5.2.2
- mod-notes: 3.1.2
- mod-users: 18.3.0
- mod-inventory-18.2.2
- mod-inventory-storage-24.1.0
Summary

Test report for Bulk Edits users-app functionality 2022-09-29.

- 10k records per user, 5 users simultaneously can be uploaded in about 3 min, edited files uploaded in up to 10 minutes (depending on the number of records that should not be updated: 2 min if all records will be updated), and edited in 4 min (about 10 min total).
- The files with identifiers should be strictly determined.
- The memory of mod-users increases during the tests for 2500 records 5 parallel jobs by 1%(from 42% to 43%) and during the tests for 5000 (5 parallel) and 10 000 records (5 parallel) jobs by 2% (from 43% to 45%). For mod-data-export-worker memory was about 97% all the time. All other modules' memory usage was stable.
- CPU - 5000 & 10k records per user 5 parallel jobs -CPU of modules did not exceed 149%.
- RDS CPU utilization did not exceed 52%

Results

Test Runs

Users App - updating user status


<table>
<thead>
<tr>
<th>1 virtual user</th>
<th>&quot;BARCODE&quot;</th>
<th>Time to upload</th>
<th>Time of POST /bulk-edit/${jobId}/items-content-update/upload</th>
<th>Time to edit</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>2 sec</td>
<td>2 sec</td>
<td>2 sec</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>12 sec</td>
<td>8 sec</td>
<td>18 sec</td>
<td></td>
</tr>
<tr>
<td>2500</td>
<td>31 sec</td>
<td>4.7 min</td>
<td>21 sec</td>
<td></td>
</tr>
<tr>
<td>10k</td>
<td>40 min if 0 records matched related to MODEXPW-255 - Getting issue details...</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

* "-" test was not performed due to 0 records can be updated

<table>
<thead>
<tr>
<th>5 virtual users</th>
<th>&quot;BARCODE&quot;</th>
<th>Time to upload</th>
<th>Time of POST /bulk-edit/${jobId}/upload</th>
<th>Time to edit - commit changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2500</td>
<td>34-39 sec</td>
<td>up to 10 minutes (depending on the number of records that should not be updated)</td>
<td>1 min 5 sec</td>
<td></td>
</tr>
<tr>
<td>5000</td>
<td>1 min 12 sec</td>
<td>35 sec if all records will be updated</td>
<td>1min 50 sec</td>
<td></td>
</tr>
<tr>
<td>10k</td>
<td>2min 15 sec</td>
<td>2 min if all records will be updated</td>
<td>3 min 58 sec</td>
<td></td>
</tr>
</tbody>
</table>

Memory usage

The memory of mod-users increases during the tests for 2500 records 5 parallel jobs by 1%(from 42% to 43%) and during the tests for 5000 (5 parallel) and 10 000 records (5 parallel) jobs by 2% (from 43% to 45%). For mod-data-export-worker memory was about 97% all the time.
CPU utilization

2500 records per user 5 parallel jobs:

<table>
<thead>
<tr>
<th>modules</th>
<th>max CPU utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>mod-users</td>
<td>116%</td>
</tr>
<tr>
<td>mod-data-export-worker</td>
<td>19%</td>
</tr>
<tr>
<td>nginx-okapi</td>
<td>13%</td>
</tr>
<tr>
<td>okapi</td>
<td>11%</td>
</tr>
<tr>
<td>mod-data-export-spring</td>
<td>7%</td>
</tr>
<tr>
<td>mod-inventory</td>
<td>6%</td>
</tr>
<tr>
<td>mod-agreements</td>
<td>4%</td>
</tr>
<tr>
<td>mod-notes</td>
<td>3%</td>
</tr>
<tr>
<td>mod-inventory-storage</td>
<td>0.5%</td>
</tr>
</tbody>
</table>
5000 & 10k records, 5 parallel jobs - CPU of modules did not exceed 149%

RDS CPU utilization

2500 records - RDS CPU utilization did not exceed 42%
5000 & 10k records - RDS CPU utilization did not exceed 52%

Jiras issues related to the test:

**MODEXPW-244** - Getting issue details... Status: fixed

**MODEXPW-150** - Getting issue details... Status: fixed

**MODEXPW-255** - Getting issue details... Status: Open

**MODBULKED-32** - Getting issue details... Status: Open

**PERF-299** - Getting issue details... Status: Open