

Princeton Results - Test 2

Setup

1. Version of Fedora
 - a. 4.5.1-SNAPSHOT | Build #fd6f9da9 (2016-02-19) (<https://github.com/fcrepo4/fcrepo4/pull/986> before squashing)
2. Fedora Configuration
 - a. `JAVA_OPTS="-Dfcrepo.home=/var/lib/tomcat7/fcrepo4-data -Djava.awt.headless=true -Xmx8g"`
 - b. See below
3. System details
 - a. Fedora: VMWare VM configured with 4x 2.8GHz CPU, 16GB RAM
 - b. JMeter: separate identical VM
 - c. Network: 1000Mb/s ethernet
 - d. OS: Ubuntu 14.04.3 LTS
 - e. JVM: Oracle JDK 1.8.0_66-b17
 - f. Servlet container: Tomcat 7.0.52
 - g. 100GB disk, about 70GB free at beginning of test
4. Initial State of the Repository
 - a. empty
5. Number of Client Threads
 - a. 1

Test

```
$HOME/jmeter/bin/jmeter -Dfedora_4_server=lib-federal.princeton.edu -Dfedora_4_context=fcrepo/rest -Dfilesize_min=0 -Dfilesize_max=4096 -Dbinary_threads=1 -n -t $HOME/jmeter/fedora.jmx
```

Results

LevelDB

1. Summary: 523,751 in 14,350s = 36.5/s, Avg: 22, Min: 8, Max: 3,738, Err: 1 (0.00%)
2. Status: Test ended when LevelDB encountered a "Too many open files" error
3. Logs:
 - a. jmeter log: [test2-leveldb.log](#)
 - b. jmeter data: [test2-leveldb.csv.gz](#)
 - c. jmeter perf: [test2-leveldb-perf.log](#)

PostgreSQL

1. Additional config:
 - a. `JAVA_OPTS="{JAVA_OPTS} -Dfcrepo.modeshape.configuration=classpath:/config/jdbc-postgresql/repository.json"`
 - b. PostgreSQL 9.3 running on same VM as Fedora
2. Summary: 3,959,096 in 293,495s = 13.5/s, Avg: 69, Min: 8, Max: 24243, Err: 1 (0.00%)
3. Status: Test ended when Tomcat encountered "java.lang.OutOfMemoryError: GC overhead limit exceeded" error
 - a. Restarting Tomcat restored the repository to a usable state
4. Logs:
 - a. jmeter log: [test2-postgres.log](#)
 - b. jmeter data: [test2-postgres.csv.gz](#)
 - c. jmeter perf: [test2-postgres-perf.log](#)
 - d. fedora log: [test2-postgres-fedora.log](#)

PostgreSQL with UseG1GC

1. Additional config:
 - a. `JAVA_OPTS="{JAVA_OPTS} -Dfcrepo.modeshape.configuration=classpath:/config/jdbc-postgresql/repository.json -XX:+UseG1GC -XX:+DisableExplicitGC"`
 - b. PostgreSQL 9.3 running on same VM as Fedora
2. Summary: 4,153,187 in 356,680s = 11.6/s, Avg: 81, Min: 8, Max: 66,544, Err: 1 (0.00%)
3. Status: Test ended when the performance CRUD operations timed out
 - a. Tomcat error log contains a WARN message at the same time: "WARN 12:55:39.576 (arjuna) ARJUNA012117: TransactionReaper::check timeout for TX 0:ffff7f000101:aec8:573f1629:fc7cda in state RUN"
4. Logs:
 - a. jmeter log: [test2-postgres-gc1.log](#)
 - b. jmeter data: [test2-postgres-gc1.csv.gz](#)

c. fedora log: [test2-postgres-gc1-fedora.log](#)

PostgreSQL with Modeshape5 branch

1. Version of Fedora:
 - a. [modeshape5 branch](#) as of 6/5/16, commit 7477d568
2. Additional config:
 - a. `JAVA_OPTS="{JAVA_OPTS} -Dfcrepo.modeshape.configuration=classpath:/config/jdbc-postgresql/repository.json -XX:+UseG1GC -XX:+DisableExplicitGC"`
 - b. PostgreSQL 9.5 running on same VM as Fedora
 - i. **Note:** PostgreSQL upgraded from 9.3 to 9.5 to fix an error only seen with the modeshape5 branch
3. Summary: 7,779,352 in 280,285s = 27.8/s, Avg: 31, Min: 1, Max: 3,414, Err: 1 (0.00%)
4. Status: Test ended when disk was filled up with PostgreSQL database files.
5. Logs:
 - a. jmeter log: [test2-postgres-mode5.log](#)
 - b. jmeter data: [test2-postgres-mode5.csv.gz](#)
 - c. jmeter perf: [test2-postgres-mode5-perf.log](#)