Release Testing - 4.6.1

Testing Blocker Tickets

1. RC-1
    a. ~~Missing commit from master: resolved~~
2. RC-2
    a. None

External Projects

- Hydra

Project	Success?
ActiveFedora	✅
CurationConcerns	✅
Plum	✅

- Islandora

Testing Plan

```
git clone https://github.com/fcrepo4/fcrepo4
cd fcrepo4
git checkout 4.6.1-RC
```

Sanity Builds

Project	Command	Platform	Tested by	Success?	Notes
fcrepo4	mvn clean install	linux	Andrew Woods		
			Andy Wagner	✅	Ubuntu 14.04 and 16.04
			Michael Durbin	✅	Fedora 22
			Michael Durbin	❌ - known issue, ok	Faailed in fcrepo-http-api in a subsequent run: FedoraLdpIT.testConcurrentPutsWithPairtrees:2501 Four children should have been created. (only three found)

fcrepo4	mvn clean install	mac	Danny Bernstein osx 10.10.5 quad-core java 1.8.0_20-b26	- known issue, ok	Failed tests in fcrepo-http-api: FedoraLdpIT.testConcurrentPutsWithPairtrees:2501 Four children should have been created. (only three found)
			Jared Whiklo		2 consecutive runs
fcrepo4	mvn clean install	windows			
fcrepo-module-auth-rbacl	mvn clean install	linux	Andrew Woods		
fcrepo-module-auth-rbacl	mvn clean install	mac	Danny Bernstein		
			Jared Whiklo		2 consecutive runs
fcrepo-module-auth-rbacl	mvn clean install	windows			
fcrepo-module-auth-xacml	mvn clean install	linux	Andrew Woods		
fcrepo-module-auth-xacml	mvn clean install	mac	Danny Bernstein		
			Jared Whiklo		2 consecutive runs
fcrepo-module-auth-xacml	mvn clean install	windows			
fcrepo-module-auth-webac	mvn clean install	linux	Andrew Woods		
fcrepo-module-auth-webac	mvn clean install	mac	Danny Bernstein		
			Jared Whiklo		2 consecutive runs
fcrepo-module-auth-webac	mvn clean install	windows			
fcrepo-mint	mvn clean install	linux	Andrew Woods		
fcrepo-mint	mvn clean install	mac	Danny Bernstein		
fcrepo-mint	mvn clean install	windows			
fcrepo-audit	mvn clean install	linux	Andrew Woods		
fcrepo-audit	mvn clean install	mac	Danny Bernstein		
fcrepo-audit	mvn clean install	windows			
fcrepo-webapp-plus	mvn clean install	linux	Andrew Woods		
fcrepo-webapp-plus	mvn clean install	mac	Danny Bernstein		
fcrepo-webapp-plus	mvn clean install	windows			
fcrepo-webapp-plus	mvn clean install -Prbacl	mac	Danny Bernstein		
fcrepo-webapp-plus	mvn clean install -Prbacl	windows			
fcrepo-webapp-plus	mvn clean install -Prbacl	linux	Andrew Woods		
fcrepo-webapp-plus	mvn clean install -Pxacml	mac	Danny Bernstein		
fcrepo-webapp-plus	mvn clean install -Pxacml	windows			
fcrepo-webapp-plus	mvn clean install -Pxacml	linux	Andrew Woods		

Filesystem Federation

Test simple federation

Tested by	Platform	Success?	Notes
Andrew Woods	Linux	✓	Deployed core war with file-connector repository.json
Jared Whiklo	Mac	✓	As above

One-Click Run

```
cd fcrepo-webapp; mvn clean install -Pone-click
```

Command	Platform	Tested by	Success?	Notes
java -jar fcrepo-webapp-4.6.1-SNAPSHOT-jetty-console.jar	Linux	Andrew Woods	✓	
java -jar fcrepo-webapp-4.6.1-SNAPSHOT-jetty-console.jar	Mac	Danny Bernstein Joshua Westgard	✓ ✓	
java -jar fcrepo-webapp-4.6.1-SNAPSHOT-jetty-console.jar	Windows			

Manual Tests

All of the below should take place in the HTML UI and non-vagrant tests should run against **fcrepo-webapp-plus.**

1. Create nested containers
2. Create binary resources
3. Run fixity on binary
4. Update Properties: Perform SPARQL-Update on container
5. Update Properties: Perform SPARQL-Update on binary
6. Delete container
7. Delete binary
8. Use transactions
9. Create versions
10. View versions
11. Rollback versions

Database Tests

With Tomcat7 deployment, run above manual tests with alternate backend databases (Configuring JDBC Object Store)

Database	Platform	Tested by	Success?	Notes
MySQL	5.5.38	Danny Bernstein	✓	
PostgreSQL	9.3.15	Jared Whiklo	✓	

fcr:backup/fcr:restore Functionality

These tests are designed to ensure the proper function of the 'fcr:backup/fcr:restore' features by testing them against various Fedora configurations. The validity of the 'restore' can only be determined by crawling the repository and verifying the successful retrieval of the repository's content.

If the anticipated Fedora release is not backwards compatible with the previous version of Fedora, then the "From Fedora Version" should be the previous version. Otherwise, it is sufficient to test the fcr:backup/fcr:restore functionality using the same version.

See: RESTful HTTP API - Backup and Restore

```
# Backup
curl -X POST localhost:8080/rest/fcr:backup

# Restore
curl -X POST -d "/path/to/backup/directory" localhost:8080/rest/fcr:restore
```

Resources

- These python scripts - fcrepo-testing - can be used to load RDF content and binary content to a Fedora repository and verify the integrity of the loaded resources. Output from the load process can be used to verify the integrity of a 'restored' repository. See the README for more info.
- This script can be used to walk your repository, failing if a non-success response is encountered.

Tested by	Platform	Container (Tomcat /Jetty)	Database Backend	From Fedora Version	To Fedora Version	Number of RDF Resources	Number of Binaries	Size of Backup (du -h .)	Success?	Notes
Andrew Woods	Linux	Tomcat 8.0.37	MySQL Ver 14.14 Distrib 5.7.16	4.6.1	4.6.1	23234	0	35M	✅	Used LUBM_02 dataset
Andrew Woods	Linux	Tomcat 8.0.37	MySQL Ver 14.14 Distrib 5.7.16	4.6.1	4.7.0	23234	0	35M	✅	Used LUBM_02 dataset
Kevin Ford	Docker	Tomcat 7.0.69	Postgres (9.4)	4.6.1	4.6.1	512	512		✅	
Kevin Ford	Linux	Tomcat (7.0.72)	Postgres (9.4)	4.6.1	4.6.1	5120	0	192K	✅	
Kevin Ford	Mac	Jetty (Standalone)		4.6.1	4.6.1	25593	0		✅	Backup/restore procedure successful, but encountered 400 errors during PUTs. A second test resulted in a few (7) 500s during PUTs. In both cases, however, the successful PUTs matched the GETs before and after backup/restore.
Kevin Ford	Docker	Tomcat 7.0.69	Postgres (9.4)	4.6.1	4.6.1	25600	0		✅	

NB: "Success" is measured not by receiving a "204 No Content" message after the 'fcr:restore' command, but by performing a GET on every resource in the repository and receiving "200 OK" messages.

Multi-thread Tests

These tests are designed to ensure the integrity of the repository when loading content in a multi-threaded fashion. Testing for repository corruption should entail confirming the successful load of resources, the successful fetching of resources, and the successful deletion of resources. Prior to 4.6.1, these tests would result in repository corruption.

Resources

- These python scripts - fcrepo-testing - can be used to load RDF content and binary content to a Fedora repository and verify the integrity of the loaded resources. See the README for more info.

Tested by	Platform	Container (Tomcat/Jetty)	Database Backend	Number of Threads	Number of RDF Resources	Number of Binaries	Success?	Notes
Kevin Ford	Docker	Tomcat 7.0.69	Postgres (9.4)	3	768	768	✅	
Kevin Ford	Docker	Tomcat 7.0.69	Postgres (9.4)	8	2821	0	✅	
Kevin Ford		Jetty (Standalone)		3	768	768	✅	
Kevin Ford		Jetty (Standalone)		8	2821	0	✅	

NB: "Success" is measured by receiving all 201s when loading content, all 200s when performing a GET on each loaded resource, and all 204s when finally deleting the content.

Vagrant Tests

```
vagrant destroy
vagrant up
```

Test steps	Tested by	Success?	Notes
FEDORA_AUTH=true FEDORA_AUDIT=true	Andrew Woods	✅	Using: https://github.com/whikloj/fedora4-tests
FEDORA_AUTH=false FEDORA_AUDIT=true	Andrew Woods	✅	Using: https://github.com/whikloj/fedora4-tests
FEDORA_AUTH=true FEDORA_AUDIT=false	Andrew Woods	✅	Using: https://github.com/whikloj/fedora4-tests

FEDORA_AUTH=false FEDORA_AUDIT=false	Andrew Woods	✅	Using: https://github.com/whikloj/fedora4-tests (RC-2)

Manual Tests

Same as above, plus:

1. Verify audit events are in triplestore
2. Verify resources are in triplestore
3. Verify resources are in Solr
4. Verify authorization works for the two auth-enabled configurations
5. Verify reindexing to triplestore works

[1] Testing scripts

[2] Fedora 4 Release Test Suite