Release Testing - 5.0.0

Testing Tickets

RC-1 Testing

- FCREPO-2934 - UI: "View Versions" link gives 404 if no version is created yet for a resource
- FCREPO-2938 - remove fedora:writable triple?
- FCREPO-2933 - 406 returned when Accept-Datetime header is present when GETting Memento

Defer to 5.1

- FCREPO-2936 - Sections 3.1.2 and 3.1.3: Add Default ldp:membershipResource to Direct and Indirect Containers
- FCREPO-2936 - Sections 3.1.2 and 3.1.3: Add Default ldp:hasMemberRelation to Direct and Indirect Containers
- FCREPO-2937 - Section 3.1.3: Add Default ldp:insertedContentRelation Indirect Containers

RC-2 Testing

- FCREPO-2961 - Shiro explodes if user does not have fedoraUser or fedoraAdmin role
- FCREPO-2962 - Skip test of changing interaction models if not supported
- FCREPO-2963 - Fcrepo5 neither builds nor runs on Windows
- FCREPO-2966 - PUT against existing resource and invalid interaction model should return 409
- FCREPO-2966 - Changing NonRdfSource to BasicContainer gives 204

External Projects

Samvera (instructions)

<table>
<thead>
<tr>
<th>Project</th>
<th>Tested by</th>
<th>Success? RC-1</th>
<th>Success? RC-2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>valkyrie</td>
<td>Esmé Cowles</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>Support merged into master branch</td>
</tr>
</tbody>
</table>

Islandora (testing ticket)

<table>
<thead>
<tr>
<th>Project</th>
<th>Tested by</th>
<th>Success? RC-2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAW</td>
<td>Jared Whiklo</td>
<td>✗</td>
<td>✔️</td>
<td>Discovered FCREPO-2961 with regards to authentication RC-3 works once <a href="https://github.com/Islandora-CLAW/Syn/pull/14">https://github.com/Islandora-CLAW/Syn/pull/14</a> is merged.</td>
</tr>
</tbody>
</table>

API-X

<table>
<thead>
<tr>
<th>Project</th>
<th>Tested by</th>
<th>Success? RC-2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>fcrepo-api-x-integration</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>fcrepo-api-x-demo (Docker)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Testing Plan

```bash
git clone https://github.com/fcrepo4/fcrepo4
cd fcrepo4
git checkout fcrepo-5.0.0-RC-3

# or pull pre-built resources from https://github.com/fcrepo4/fcrepo4/releases/tag/fcrepo-5.0.0-RC-2
```

Sanity Builds

Scripts

[https://github.com/awoods/fcrepo-build-scripts](https://github.com/awoods/fcrepo-build-scripts)

<table>
<thead>
<tr>
<th>Project</th>
<th>Command</th>
<th>Platform</th>
<th>Tested By</th>
<th>RC 1</th>
<th>RC 2</th>
<th>RC 3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>fcrepo4</td>
<td>mvn clean</td>
<td>linux</td>
<td>Yinlin Chen</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td>Build successful on Ubuntu Server 16.04 LTS (HVM)</td>
</tr>
<tr>
<td></td>
<td>install</td>
<td></td>
<td>Andrew Woods</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>Build successful on Fedora Linux 27; openjdk version &quot;1.8.0_191&quot;; Maven 3.5.0 (Red Hat 3.5.0-6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Randall Floyd</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yinlin Chen</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fcrepo4</td>
<td>mvn clean</td>
<td>mac</td>
<td>Yinlin Chen</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>Build successful</td>
</tr>
<tr>
<td></td>
<td>install</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fcrepo4</td>
<td>mvn clean</td>
<td>windows</td>
<td>Yinlin Chen</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>Build successful</td>
</tr>
</tbody>
</table>

**Note (18 January 2018):** The victims database warnings are due to the victi.ms site currently returning a 503 error. [Jared Whiklo](https://github.com/victimes/victims-web/issues/155) has reported this issue upstream:

API-Test Suite

1. Start Fedora with the following command

   ```bash
   ```

2. Run the API-Test suite with the following command

   ```bash
   java -jar target/testsuite-1.0-SNAPSHOT-shaded.jar -c config-local.yml
   ```
   a. Where "config-local.yml" is something like the following
default:
  rooturl: http://localhost:8080/rest/
  root-controller-user-webid: http://example.com/fedoraAdmin
  root-controller-user-name: fedoraAdmin
  root-controller-user-password: fedoraAdmin
  permissionless-user-webid: http://example.com/testuser
  permissionless-user-name: testuser
  permissionless-user-password: testpass
  broker-url: tcp://127.0.0.1:61616
  topic-name: fedora
  queue-name:
  implementation-name: Fedora
  implementation-version: 5.0.0-RC

tomcat:
  rooturl: http://localhost:8080/fcrepo/rest/
  root-controller-user-webid: http://example.com/fedoraAdmin
  root-controller-user-name: fedoraAdmin
  root-controller-user-password: secret3
  permissionless-user-webid: http://example.com/testuser
  permissionless-user-name: testuser
  permissionless-user-password: password1
  broker-url: tcp://127.0.0.1:61616
  topic-name: fedora
  queue-name:
  implementation-name: Fedora
  implementation-version: 5.0.0-RC

<table>
<thead>
<tr>
<th>Platform</th>
<th>Test Suite Version</th>
<th>Tested by</th>
<th>Results RC-2 (#pass, fail, skip)</th>
<th>Results RC-3 (#pass, fail, skip)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fedora Linux 27</td>
<td>f3dd201</td>
<td>Randall Floyd</td>
<td>Total tests run: 238, Failures: 12, Skips: 23</td>
<td>Total tests run: 238, Failures: 12, Skips: 23</td>
<td></td>
</tr>
<tr>
<td>Ubuntu</td>
<td></td>
<td>Andrew Woods</td>
<td>Total tests run: 220, Failures: 13, Skips: 16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### One-Click Run

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

<table>
<thead>
<tr>
<th>Command</th>
<th>Platform</th>
<th>Tested By</th>
<th>RC-1</th>
<th>RC-2</th>
<th>RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>java -jar fcrepo-webapp-&lt;version&gt;-SNAPSHOT-jetty-console.jar</td>
<td>Linux</td>
<td>Andrew Woods</td>
<td>✔️</td>
<td></td>
<td></td>
<td>Ran one-click and successfully performed manual tests</td>
</tr>
<tr>
<td>java -jar fcrepo-webapp-&lt;version&gt;-SNAPSHOT-jetty-console.jar</td>
<td>Fedora Linux 27</td>
<td>Randall Floyd</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td>Built and ran one-click, successfully performed manual tests</td>
</tr>
<tr>
<td>Platform</td>
<td>Tested by</td>
<td>Success? RC-2</td>
<td>Success? RC-3</td>
<td>Notes</td>
<td></td>
<td></td>
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<td>------------------</td>
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<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mac</td>
<td>Yinlin Chen</td>
<td>![checkmark]</td>
<td>![checkmark]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mac</td>
<td>Danny Bernstein</td>
<td>![checkmark]</td>
<td>![checkmark]</td>
<td>Build and start One-Click run successfully</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mac</td>
<td>Danny Bernstein</td>
<td>![checkmark]</td>
<td>![checkmark]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Manual Tests**

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

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

**WebAC Tests**

Use the following recipes to create WebAC-protected resources

**Default ACL**

```bash
# root container should be read-only by default
curl -i -u testuser:testpass -X PUT http://localhost:8080/rest/test-default
# expect 403

# create a resource with admin
curl -i -u fedoraAdmin:fedoraAdmin -X PUT http://localhost:8080/rest/test-default
# expect 201

# resources inheriting the default acl should be read-only
curl -i -u testuser:testpass -X GET http://localhost:8080/rest/test-default
# expect 200
curl -i -u testuser:testpass -X PUT http://localhost:8080/rest/test-default/child
# expect 403
```

**Simple read-only**

Platform | Tested by     | Success? RC-2 | Success? RC-3 | Notes |
----------|---------------|---------------|---------------|-------|
Mac       | Danny Bernstein | ![checkmark] | ![checkmark] |       |
Fedora Linux 27 | Randall Floyd | ![checkmark] |       |
# create a resource with admin
```
curl -i -u fedoraAdmin:fedoraAdmin -X PUT http://localhost:8080/rest/test-read-only

curl -i -u fedoraAdmin:fedoraAdmin -X PUT http://localhost:8080/rest/test-read-only/child
```

# Put read-only acl on parent
```javascript
@prefix acl: <http://www.w3.org/ns/auth/acl#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .

<#restricted> a acl:Authorization ;
  acl:agent 'testuser' ;
  acl:mode acl:Read;
  acl:default <http://localhost:8080/rest/test-read-only> ;
  acl:accessTo <http://localhost:8080/rest/test-read-only> .
```
```javascript
| curl -i -u fedoraAdmin:fedoraAdmin -d @ -X PUT -H "Content-Type: text/turtle" http://localhost:8080/rest/test-read-only/fcr:acl
```

# Verify expected access privileges on target and child - ie read but not write
```
curl -i -u testuser:testpass -X GET http://localhost:8080/rest/test-read-only/child
# expect 200

curl -i -u testuser:testpass -X POST http://localhost:8080/rest/test-read-only/child
# expect 403
```

<table>
<thead>
<tr>
<th>Platform</th>
<th>Tested by</th>
<th>Success? RC-2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac</td>
<td>Danny Bernstein</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Fedora Linux 27</td>
<td>Randall Floyd</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**Simple read-write**

# create a resource with admin
```

```

# Put read-only acl on parent
```javascript
@prefix acl: <http://www.w3.org/ns/auth/acl#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .

<#restricted> a acl:Authorization ;
  acl:agent 'testuser' ;
  acl:mode acl:Read, acl:Write;
  acl:default <http://localhost:8080/rest/test-read-write> ;
  acl:accessTo <http://localhost:8080/rest/test-read-write> .
```
```javascript
| curl -i -u fedoraAdmin:fedoraAdmin -d @ -X PUT -H "Content-Type: text/turtle" http://localhost:8080/rest/test-read-write/fcr:acl
```

# Verify expected access privileges on target and child - ie read and write
```
# expect 200

curl -i -u testuser:testpass -X POST http://localhost:8080/rest/test-read-write/child
# expect 201
```

1. Create resource to protect
2. Create ACL on protected resource (read/write)
3. Create child of protected resource
4. Verify expected access privileges on target and child

<table>
<thead>
<tr>
<th>Platform</th>
<th>Tested by</th>
<th>Success? RC-2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac</td>
<td>Danny Bernstein</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Fedora Linux 27</td>
<td>Randall Floyd</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

External Content

Create and verify all three modes of external content handling: proxy, redirect, copy

#Proxy
```
```

#verify that the binary is returned.
```
```

#remove the file one disk, repeat the previous command and verify that an error code is returned.

#Redirect
```
```

#Get the file and verify a 307 is returned
```
curl -i -ufedoraAdmin:fedoraAdmin http://localhost:8080/rest/test_redirect_remote_file
```

#Copy
```
```

#verify copied file returns 200.
```
curl -i -ufedoraAdmin:fedoraAdmin http://localhost:8080/rest/test_copy_remote_file
```

<table>
<thead>
<tr>
<th>Handling (proxy, redirect, copy)</th>
<th>Platform</th>
<th>Tested by</th>
<th>Success? RC-2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>proxy, redirect, copy</td>
<td>Mac</td>
<td>Danny Bernstein</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Database Tests

With Tomcat8 deployment, run above manual tests with alternate backend databases ([Configuring JDBC Object Store](#))
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.

<table>
<thead>
<tr>
<th>Tested by</th>
<th>Platform</th>
<th>Container (Tomcat/Jetty)</th>
<th>Database</th>
<th>From Fedora Version</th>
<th>To Fedora Version</th>
<th>Number of RDF Resources</th>
<th>Number of Binaries</th>
<th>Size of Backup (du -h)</th>
<th>Success RC2?</th>
<th>Success RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danny Bernstein</td>
<td>OSX 10.13.6</td>
<td>Jetty</td>
<td>File-simple</td>
<td>5.0.0-RC-2</td>
<td>5.0.0-RC-2</td>
<td>2821</td>
<td>0</td>
<td>500K</td>
<td>✔</td>
<td></td>
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</tr>
<tr>
<td>Danny Bernstein</td>
<td>OSX 10.13.6</td>
<td>Jetty</td>
<td>File-simple</td>
<td>5.0.0-RC-2</td>
<td>5.0.0-RC-2</td>
<td>2564</td>
<td>2564</td>
<td>2.6 GB</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linux</td>
<td>Tomcat</td>
<td>Postgres</td>
<td></td>
<td>5.0.0-RC-2</td>
<td>5.0.0-RC-2</td>
<td>2564</td>
<td>2564</td>
<td>2.6 GB</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linux</td>
<td>Tomcat</td>
<td>Postgres</td>
<td></td>
<td>5.0.0-RC-2</td>
<td>5.0.0-RC-2</td>
<td>2564</td>
<td>2564</td>
<td>2.6 GB</td>
<td>✔</td>
<td></td>
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<tr>
<td>Linux</td>
<td>Tomcat</td>
<td>Postgres</td>
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<td>2564</td>
<td>2.6 GB</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linux</td>
<td>Tomcat</td>
<td>Mysql</td>
<td></td>
<td>5.0.0-RC-2</td>
<td>5.0.0-RC-2</td>
<td>2564</td>
<td>2564</td>
<td>2.6 GB</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linux</td>
<td>Tomcat</td>
<td>Mysql 5.6</td>
<td></td>
<td>5.0.0-RC-2</td>
<td>5.0.0-RC-2</td>
<td>2564</td>
<td>2564</td>
<td>2.6 GB</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

Vagrant Tests

```
vagrant destroy
vagrant up
```

<table>
<thead>
<tr>
<th>Test steps</th>
<th>Tested By</th>
<th>Success RC2?</th>
<th>Success RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEDORA_AUTH=true</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

```bash
vagrant ssh
sudo service tomcat7 stop
sudo rm -rf /etc/fuseki/databases/test_data/*
sudo service tomcat7 start
curl -XPOST localhost:9080/reindexing/ -H"Content-Type: application/json" -d '{"activemq:queue: triplestore.reindex"}"
```

**Backwards Compatibility Tests**

1. Start **5.0.0 one-click**
2. Load sample datasets via /fcr:restore
3. Run **test scripts** on 5.0.0
4. Stop 5.0.0
5. Start RC one-click
6. Run **test scripts** on RC
7. ReStart RC
8. Run **test scripts** on RC

<table>
<thead>
<tr>
<th>Tested by</th>
<th>Success RC2</th>
<th>Success? RC-3</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Resources**

[1] **Testing scripts**

[2] **Fedora 4 Release Test Suite**