First Steps

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This document will walk you through getting the code, building the webapp, and exercising the REST API.

Prerequisites

Fedora requires Java 11 and Maven 3 (only for building the project). Check that you have them installed before proceeding:

```
$ java -version
openjdk version "11.0.5" 2019-10-15
OpenJDK Runtime Environment AdoptOpenJDK (build 11.0.5+10)
OpenJDK 64-Bit Server VM AdoptOpenJDK (build 11.0.5+10, mixed mode)

$ mvn -version
Apache Maven 3.6.3 (cecedd343002696d0abb50b32b541b8a6ba2883f)
Maven home: /usr/local/opt/apache-maven-3.6.3
Java version: 11.0.5, vendor: AdoptOpenJDK, runtime: /Library/Java/JavaVirtualMachines/adoptopenjdk-11.jdk
/Contents/Home
Default locale: en_US, platform encoding: UTF-8
OS name: "mac os x", version: "10.15.6", arch: "x86_64", family: "mac"
```

Building Fedora

You can download pre-compiled binaries and run Fedora in an existing Tomcat or Jetty instance or pre-packaged Jetty instances, or build Fedora from source (it's not difficult or time consuming).

Clone the latest code from Github:

```
$ git clone https://github.com/fcrepo/fcrepo.git
Cloning into 'fcrepo'...
remote: Counting objects: 40152, done.
remote: Compressing objects: 100% (12759/12759), done.
Receiving objects: 14% (5622/40152), 3.68 MiB | 912 KiB/s
[...]
$ cd fcrepo
```

And build the project (the first time you build Fedora may take some time and bandwidth to download all the development dependencies):

```
Running mvn -Pfast-build clean install builds Fedora quickly by skipping all tests. Run mvn clean install if you want to run the tests.
```
Running the Fedora webapp

The webapp can be run from a bundled instance of jetty. The application will listen on port 8080 by default.

If you would like to run the webapp on a different port, you can add the "jetty.port" option in your maven command (e.g. mvn -Djetty.port=8181 jetty:run)

$ cd fcrepo-webapp
$ mvn jetty:run
[....]

There's a nice, friendly HTML interface waiting for you at http://localhost:8080/rest/ (the default username and password is fedoraAdmin)

REST API Examples

The REST API documentation provides a full listing of the features and functions of the REST API. Here are some examples to get you started:
The REST API supports a variety of RDF serialization formats, including:
Create a new object
  * Trying ::1...
  * TCP_NODELAY set
  * Connected to localhost (::1) port 8080 (#0)
  * Server auth using Basic with user 'fedoraAdmin'
  > POST /rest/ HTTP/1.1
  > Host: localhost:8080
  > Authorization: Basic ZmVkb3JhQWRtaW46ZmVkb3JhQWRtaW4=
  > User-Agent: curl/7.60.0
  > Accept: */*
  >
  < HTTP/1.1 201 Created
  < Date: Thu, 02 Aug 2018 14:50:46 GMT
  < Content-Type: text/plain
  < Content-Length: 63
  < Server: Jetty(9.3.1.v20150714)
  <
  * Connection #0 to host localhost left intact

http://localhost:8080/rest/39965e35-4cad-4b96-b826-0c8612f773d5

$ curl http://localhost:8080/rest/7f/50/8e/82/7f508e82-15f7-48de-92a3-25751b749cf -ufedoraAdmin:fedoraAdmin
@prefix premis:  <http://www.loc.gov/premis/rdf/v1#> .
@prefix test:  <info:fedora/test/> .
@prefix memento:  <http://mementoweb.org/ns#> .
@prefix rdfs:  <http://www.w3.org/2000/01/rdf-schema#> .
@prefix webac:  <http://fedora.info/definitions/v4/webac#> .
@prefix acl:  <http://www.w3.org/ns/auth/acl#> .
@prefix ns001:  <http://localhost:8080/rest/ktest/> .
@prefix xsi:  <http://www.w3.org/2001/XMLSchema-instance> .
@prefix xmlns:  <http://www.w3.org/2000/xmlns/> .
@prefix rdf:  <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix fedora:  <http://fedora.info/definitions/v4/repository#> .
@prefix xml:  <http://www.w3.org/XML/1998/namespace> .
@prefix ebucore:  <http://www.ebu.ch/metadata/ontologies/ebucore/ebucore#> .
@prefix ldp:  <http://www.w3.org/ns/ldp#> .
@prefix xs:  <http://www.w3.org/2001/XMLSchema> .
@prefix fedoraconfig:  <http://fedora.info/definitions/v4/config#> .
@prefix foaf:  <http://xmlns.com/foaf/0.1/> .
@prefix dc:  <http://purl.org/dc/elements/1.1/> .

<http://localhost:8080/rest/39965e35-4cad-4b96-b826-0c8612f773d5>
  rdf:typefedora:Container ;
  rdf:typedefora:Resource  ;
  rdf:typeldp:BasicContainer ;
  fedora:lastModifiedBy "fedoraAdmin" ;
  fedora:createdBy "fedoraAdmin" ;
  fedora:created "2018-08-02T14:50:46.121Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
  fedora:lastModified "2018-08-02T14:50:46.121Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
  rdf:typldp:RDFSource ;
  rdf:typldp:Container ;
  fedora:writable true .

Delete an object

$ curl -X DELETE http://localhost:8080/rest/39965e35-4cad-4b96-b826-0c8612f773d5 -ufedoraAdmin:fedoraAdmin