

# Configuration Options Inventory

Here is found details of the locations and purposes of the Fedora configuration files. For details on how to enable and configure these options, see this [page](#).

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## fcrepo-webapp

Fedora [RESTful HTTP API](#) uses the open source Jersey RESTful Web Services framework that provides support for JAX-RS APIs and serves as a JAX-RS (JSR 311 & JSR 339) Reference Implementation. The jersey servlet dispatcher is configured in [web.xml](#) as follows:

### web.xml

```
<servlet>
  <servlet-name>jersey-servlet</servlet-name>
  <servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-class>
  <init-param>
    <param-name>javax.ws.rs.Application</param-name>
    <param-value>org.fcrepo.http.commons.FedoraApplication</param-value>
  </init-param>
  <load-on-startup>1</load-on-startup>
</servlet>
```

The following spring files exist in a directory as configured in [web.xml](#), which contains a context-param element with param-name "contextConfigLocation". The param-value points to a spring context configuration file "WEB-INF/classes/spring/repository.xml". This configuration file imports a settings file located in the same directory or the file specified by system property `fcrepo.spring.configuration`. Note that these files are in the source tree under `fcrepo-webapp/src/main/resources/spring` and copied to `WEB-INF/classes` upon build.

## fcrepo-webapp/src/main/resources/spring

### repository.xml

- this imports all the settings from either the file specified in the system property `fcrepo.spring.configuration` or the provided configuration file `fcrepo-config.xml`

### repo.xml

```
<!-- Master context for fcrepo4. -->
<import resource="${fcrepo.spring.configuration:classpath:/spring/fcrepo-config.xml}"/>
```

## fcrepo-config.xml

This is where you configure your Fedora instance, including:

- specify the repository.json file to be loaded as the repositoryConfiguration or use the `fcrepo.modeshape.configuration` system property.
- bean for repository factory
  - repository factory parameter for [serverManagedPropertiesMode](#)
- bean implementation for InternalIdentifierConverter (identifier translationChain), StoragePolicyDecisionPointImpl, SessionFactory, and base-packages to auto scan into spring
- bean implementation for eventing - observer, filter, event bus
- specify the implementation for processing events
- config for transactions
- bean implementation for minting identifiers

It is recommended to use the provided `fcrepo-config.xml` as a starting point for your customization.

## fcrepo/fcrepo-configs/src/main/resources/config

### activemq.xml

- config for message broker

### jgroups-fcrepo-tcp.xml

- Config for the Messaging Toolkit JGroups to transfer state between nodes in a Fedora Cluster.

## fcrepo4/fcrepo-webapp/src/main/resources

### logback.xml

- logging configuration (logging can also be [configured with System properties](#))

## Modeshape repository configuration

Fedora uses Modeshape, a JCR implementation. We distribute a handful of known-good configurations for Modeshape, although we anticipate configuration tuning for deployment environments will be common.

<https://github.com/ModeShape/modeshape/blob/master/modeshape-jcr/src/main/resources/org/modeshape/jcr/repository-config-schema.json>

## Repository Config Options

These configuration files are copied to WEB-INF/classes from [fcrepo-configs/src/main/resources](#) upon build.

### cacheSize

- The `cacheSize` option may be set to specify the size of the Modeshape node cache. The default value is 10,000, and increasing this value can improve performance, particularly for the [Many Members](#) performance issue. See the example configuration files, such as [file-simple/repository.json](#) for an example.

### /config/clustered-mysql/repository.json

- Configuration for clustered repositories with a centralized MySQL object store.

### /config/file-simple/repository.json

- Configuration for file-based object store for testing, not recommended for production.

### /config/jdbc-mysql/repository.json

- Configuration for MySQL-based object store.

### /config/jdbc-postgresql/repository.json

- Configuration for PostgreSQL-based object store.

### /config/servlet-auth/repository.json

- Configuration with servlet authentication enabled.

Fedora will store object properties to the configured backend datastore. These probably won't be very large, and should be stored on fast disk. The object properties are stored as binary JSON documents within the given cache store configuration.

## Binary storage

```
fcrepo.binary.directory:target/binaries
```

Fedora stores binary content separately (to one of the above paths, depending on configuration). These files are stored hashed by the content SHA-1 hash.

## Parallel stream processing

```
fcrepo.streaming.parallel:false
```

If you are running Fedora on a multiprocessor machine you can level parallel processing across single requests by turning this option on. Parallel processing of streams can boost the retrieval speeds of the RDF associated with objects with large numbers of inlinks (ie dependent objects with memberOf associations). Enabling this option in conjunction with increasing with cacheSize parameter in your repository.json file can boost retrieval speeds significantly.

## Skolemizing to Hash-URIs

```
fcrepo.bnode.hash-uri=<true|false>
```

With this property set to 'true', Fedora will skolemize incoming blank nodes to hash-URIs (with UUID fragments) on the base URI to which the request was addressed. By default this feature is turned off for backwards compatibility.

## Allowing user updates to certain server managed triples

You can relax certain restrictions on updating some server managed triples using the following setting:

```
fcrepo.properties.management=relaxed
```

For details please refer to the following article: [How to allow user-updates to certain server managed triples](#).

## Custom Namespace registry

This optional feature allows an administrator to provide a list of custom namespace prefixes that will override the default prefix registry. The custom namespaces are loaded on start-up via a YAML file. The namespaces can be modified while Fedora is running. Changes may take a few minutes to take effect.

More information on this feature can be found at the [Best Practices - RDF Namespaces](#) page.