

# Event-Driven Audit Events

## Run the Vagrant VM

Follow the instructions at <https://github.com/fcrepo4-labs/fcrepo4-vagrant> for setting up the Fedora 4 Vagrant Virtual Machine. These are essentially:

- Install [Vagrant](#) and [VirtualBox](#)
- Clone the fcrepo4-vagrant Git repository

```
git clone https://github.com/fcrepo4-labs/fcrepo4-vagrant.git
cd fcrepo4-vagrant
```

- Optional: Edit the `install_files/config` file and change the `FEDORA_AUTH` value to `true`.
- Start the Vagrant VM:

```
vagrant up
```

## Verify that audit events are created in the triplestore

- Verify that there are no triples in the Fuseki triplestore: [All Triples In Fuseki](#)
- Perform some auditable operations using the Fedora 4 HTML UI at <http://localhost:8080/fcrepo/rest> or using the REST API on the command-line:

```
curl -u fedoraAdmin:secret3 -X POST -H "Slug: object1" http://127.0.0.1:8080/fcrepo/rest
curl -u fedoraAdmin:secret3 -X POST -H "Slug: file1" --data-binary "test content" http://127.0.0.1:8080/fcrepo/rest/object1
curl -u fedoraAdmin:secret3 -X PATCH -H "Content-type: application/sparql-update" --data-binary "insert data {
<> <http://purl.org/dc/elements/1.1/title> \"new title\" . }" http://127.0.0.1:8080/fcrepo/rest/object1
curl -u fedoraAdmin:secret3 -X DELETE http://127.0.0.1:8080/fcrepo/rest/object1/file1
curl -u fedoraAdmin:secret3 -X DELETE http://127.0.0.1:8080/fcrepo/rest/object1
```

- Return to Fuseki and view the triples for the audit events: [All Triples In Fuseki](#)

## Query audit events

Once there are audit event triples in Fuseki, you can perform queries using the [Fuseki SPARQL query form](#):

### By resource:

```
select ?e where { ?e <http://www.loc.gov/premis/rdf/v1#hasEventRelatedObject> <http://127.0.0.1:8080/fcrepo/rest/object1> }
```

### By date range:

```
select ?e where { ?e <http://www.loc.gov/premis/rdf/v1#hasEventDateTime> ?date . FILTER (?date > "2015-04-01T10:00:00Z"^^<http://www.w3.org/2001/XMLSchema#dateTime>) }
```

### By event type:

```
select ?e where { ?e <http://www.loc.gov/premis/rdf/v1#hasEventType> <http://id.loc.gov/vocabulary/preservation/eventType/cre> }
```

### By agent:

```
select ?e where { ?e <http://www.loc.gov/premis/rdf/v1#hasEventRelatedAgent> "curl/7.37.1"^^<http://www.w3.org/2001/XMLSchema#string> }
```