

Notice: Comments and suggestions should be directed to [issues](#) and [pull-requests](#) on the [fcrepo-specification](#) project.

## Fedora 4 API Specifications

### Atomic Batch Operations

A *batch* in this specification is defined as a resource representing a totally ordered set of RESTful HTTP requests, that can be suffixed with new requests and is kept in the same order in which it was received until a **commit** or **rollback** request is received or a specific period of inactivity passes.

The Fedora API requires the ability to create/start a *batch* by including a Atomic-start header with the request. The response MUST include a Atomic-ID header including a unique identifier for the *batch*. The Atomic-ID header MAY be dereferenceable.

The *batch* can be added to by including the Atomic-ID header specifying the unique identifier of an existing *batch* in subsequent PUT/POST/PATCH/DELETE operations, therefore deferring their execution until the *batch* is committed as a whole.

An implementation MAY enforce automatic expiration for a *batch*. If so, the response to any request made as part of the *batch* MUST have a Atomic-expires header with the date and time on which the *batch* will expire.

A *batch*'s lifetime MAY be extended with a subsequent PUT/POST/PATCH/DELETE/GET request specifying the unique identifier of an existing *batch* in the Atomic-ID header.

A *batch* can be **committed** with the inclusion of both a Atomic-commit header and a Atomic-ID header specifying the unique identifier of an existing *batch* in a subsequent PUT/POST/PATCH/DELETE/GET operation. The operations within the specified batch would be executed in sequential order until either:

1. they all complete successfully or
2. an exception is encountered causing the entire set of operations to fail and the state of any resources changed by the batch to be rolled back to their state prior to the batch.

A batch can be **rolled back** with inclusion of both a Atomic-abort header and a Atomic-ID header specifying the unique identifier of an existing *batch* in a subsequent PUT/POST/PATCH/DELETE/GET operation. This will cause none of the stored operations to execute and the state of the repository to be returned

An operation which includes a Atomic-ID header with the unique identifier that does **not** reference an existing non-expired batch and does **not** include a Atomic-start header MUST return a 412 Precondition Failed response.