## How to Use WebAC agentClass Groups

In WebAC you can use the acl:agentClass property of an Authorization to point to a resource that holds a list of usernames. This allows you to create and manage groups of users within Fedora, and to assign different permissions to different groups. This how-to will guide you through the process of creating a resource, creating an agentClass group, and limiting access to that resource through an ACL that references that agentClass group.

## **Prerequisites**

- a running Fedora 4 with the WebAC module enabled, at http://localhost:8080/fcrepo (an easy way to get this is to run the Fedora 4 Vagrant)
- curl

## **Steps**

1. Create these four files:

```
acl.ttl

@prefix webac: <http://fedora.info/definitions/v4/webac#>.
@prefix ldp: <http://www.w3.org/ns/ldp#>.
<> a webac:Acl .
```

```
@prefix ldp: <http://www.w3.org/ns/ldp#>.
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
<> a foaf:Group;
    foaf:member "testuser".
```

```
foo.ttl

@prefix ldp: <http://www.w3.org/ns/ldp#>.
@prefix acl: <http://www.w3.org/ns/auth/acl#>.
@prefix dc: <http://purl.org/dc/elements/1.1/>.

<> a acl:accessControl </fcrepo/rest/acl>;
    dc:title "Hello, World!".
```

```
authz.ttl

@prefix acl: <http://www.w3.org/ns/auth/acl#>.

<> a acl:Authorization;
   acl:accessTo </fcrepo/rest/foo>;
   acl:agentClass </fcrepo/rest/group>;
   acl:mode acl:Read.
```

2. Upload these resources into Fedora:

```
$ curl -X PUT http://localhost:8080/fcrepo/rest/acl -u fedoraAdmin:secret3 \
    -H "Content-Type: text/turtle" --data-binary @acl.ttl
$ curl -X PUT http://localhost:8080/fcrepo/rest/foo -u fedoraAdmin:secret3 \
    -H "Content-Type: text/turtle" --data-binary @foo.ttl
$ curl -X PUT http://localhost:8080/fcrepo/rest/group -u fedoraAdmin:secret3 \
    -H "Content-Type: text/turtle" --data-binary @group.ttl
$ curl -X PUT http://localhost:8080/fcrepo/rest/acl/authz -u fedoraAdmin:secret3 \
    -H "Content-Type: text/turtle" --data-binary @authz.ttl
```

(Note: The order you upload these in is important, since foo references acl, and authz references foo and group)

3. Test that testuser can read the foo resource, while adminuser cannot:

```
$ curl -i http://localhost:8080/fcrepo/rest/foo -u testuser:password1
$ curl -i http://localhost:8080/fcrepo/rest/foo -u adminuser:password2
```

The first request should respond with 200 OK, while the second should be 403 Forbidden.

To allow adminuser to also read the foo resource, we can add adminuser to the members of the group.

1. Create group.sparql with the following contents:

```
group.sparql

PREFIX foaf: <http://xmlns.com/foaf/0.1/>

INSERT {
      <> foaf:member "adminuser" .
}
WHERE {}
```

2. Run this command to update the group and add adminuser to it:

```
$ curl -i -X PATCH http://localhost:8080/fcrepo/rest/group \
    -u fedoraAdmin:secret3 \
    -H "Content-Type: application/sparql-update" \
    --data-binary @group.sparql
```

You should receive a 204 No Content response on success.

1. Now you should be able to repeat the command from step 3 and successfully retrieve the foo resource as adminuser:

```
$ curl -i http://localhost:8080/fcrepo/rest/foo -u adminuser:password2
```

This time, you should get a  ${f 200}$   ${f OK}$  response.

## Caveats for agentClass Groups

- For it to be useful, the names listed in the foaf:member properties of an authorization need to be names that your authentication system will provide to Fedora. Remember, Fedora does no authentication of its own.
- The purpose of the acl:agentClass groups is distinct from any group mechanism your existing authentication system may have (e.g., LDAP or ActiveDirectory groups). The groups provided by the authentication system would be passed to Fedora as security principals, which the WebAC module compares against the acl:agent property. In other words, externally defined groups are opaque to Fedora, thus it treats them as simple agents.