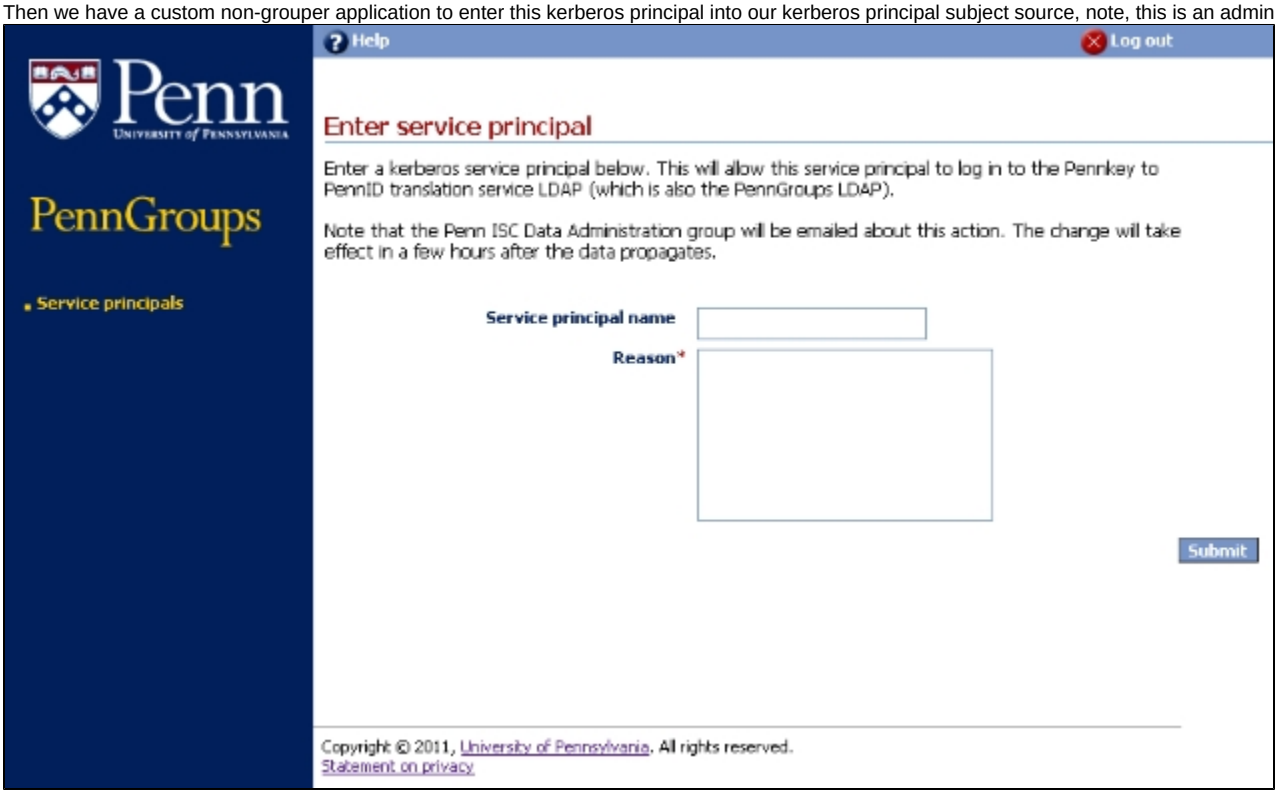
Grouper loader managed apache example

University of Pennsylvania wants to protect part of Apache with Grouper based on a SQL loaded group for a new application. Note that most institutions can use the apache mod_authnz_ldap, but our LDAP doesn't have memberOf and isn't conducive to it.

So the architecture we will have is the grouperClient which calls a WS to keep an apache .htaccess up to date via cron.

First, we use kerberos principals for authentication to Grouper WS, so we created a kerberos principal / pass: application_grouper/server.school.edu

Then we have a custom non-grouper application to enter this kerberos principal into our kerberos principal subject source, note, this is an admin action.



Then I add this kerberos principal to the WS users group: school:etc:webServiceClientUsers

This is an application which didn't previously use Grouper, so I create a folder in the applications folders in the IT department: school:it:ait:apps:appName

In there, I like to keep the privileges in groups, so make a group for that: school:it:ait:apps:appName:etc:appNameReaders

Add the kerberosPrincipal and the client person to that group.

Make a loader group: school:it:ait:apps:appName:groups:apacheGroup

Make sure that group is of grouperLoader type

Add the school:it:ait:apps:appName:etc:appNameReaders group to have the READ privilege on school:it:ait:apps:appName:groups:apacheGroup. Note, dont give admin because you dont want a non admin editing the attributes on a loader group. Generally you dont give "update" to a grouper loader group since the memberships will be reset. Maybe the updater knows what they are doing and can onboard quicker...

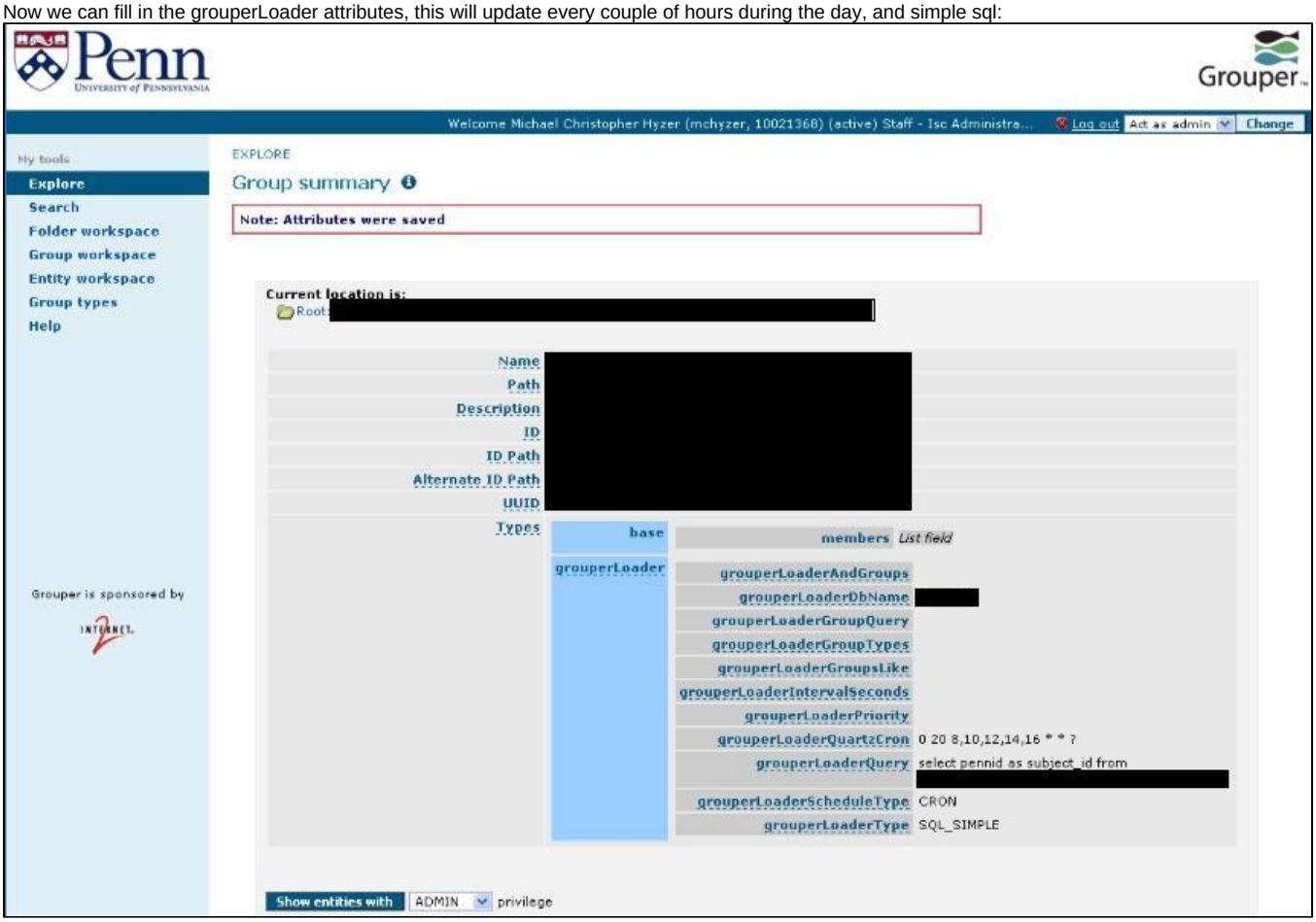
In this case we have a new database connection since the SQL is not loaded from the Grouper database. The DBA setup a new schema for use so that all we have permissions in the DB is to select from a certain view. We need to add in a database connection in the grouper-loader.properties:

```
db.application.user = APP_SCHEMA
db.application.pass = /home/user/pass/grouper/grouperMorphApp.pass
db.application.url = jdbc:oracle:thin:@(DESCRIPTION=(LOAD_BALANCE=YES)(FAILOVER=YES)(ADDRESS_LIST=(ADDRESS=
(PROTOCOL=tcp)(HOST=1.2.3.4)(PORT=1234))(ADDRESS=(PROTOCOL=tcp)(HOST=1.2.3.5)(PORT=1235)))(CONNECT_DATA=
(SERVICE_NAME=appdb.school.edu)))
db.application.driver = oracle.jdbc.driver.OracleDriver
```

Note the password is not in the file, so encrypt that and put it in the file:

```
[user@server bin]$ cd /opt/tomcat_9b/webapps/grouper/WEB-INF/lib
[user@server lib]$ java -jar morphString.jar
Enter the location of morphString.properties: ../classes/morphString.properties
Type the string to encrypt (note: pasting might echo it back):
The encrypted string is: abc123abc123abc123==
[user@server lib]$ echo abc123abc123abc123== > /home/user/pass/grouper/grouperMorphApp.pass
```

Now we can fill in the grouperLoader attributes, this will update every couple of hours during the day, and simple sql:



Run this with GSH to test it out:

```
gsh 0% grouperSession = GrouperSession.startRootSession();
gsh 1% loaderGroup = GroupFinder.findByName(grouperSession, "school:it:ait:apps:appName:groups:apacheGroup");
gsh 2% loaderRunOneJob(loaderGroup);
```

Bounce the grouper-loader process (at Penn this run in a tomcat, so we bounce that tomcat).

Make a .htaccess file to protect a directory in apache (or do something else in apache config) (note, we use cosign, protect with whatever authentication you have)

```
[mchyzer@flash public_html]$ pwd
/home/mchyzer/public_html
[mchyzer@flash public_html]$ cat .htaccess
CosignService isc-seo-studentHomeSso_dev-0
CosignCrypto  /opt/appserv/weblogin/cert_isc-seo-studentHomeSso_dev/isc-seo-studentHomeSso_dev-0.key /opt
/appserv/weblogin/cert_isc-seo-studentHomeSso_dev/isc-seo-studentHomeSso_dev-0.crt /opt/appserv/weblogin/ca/

CosignProtected On
AuthType Cosign

CosignRequireFactor UPENN.EDU

AuthGroupFile /home/mchyzer/public_html_config/appUsers.txt
Require group appUsers
[mchyzer@flash public_html]$
```

Now we need the beginning and end of the generated group file:

```
[mchyzer@flash public_html_config]$ more appUsersStart.txt
appUsers:
[mchyzer@flash public_html_config]$
```

Get the grouper client in that dir, and configure the grouper.client.properties WS URL, user, pass (based on kerberos principal):

```
[mchyzer@flash public_html_config]$ ls grouper*
grouperClient.jar  grouper.client.properties  grouper.client.properties~
[mchyzer@flash public_html_config]$ cat grouper.client.properties

...

# url of web service, should include everything up to the first resource to access
# e.g. http://groups.school.edu:8090/grouperWs/servicesRest
# e.g. https://groups.school.edu/grouperWs/servicesRest
grouperClient.webService.url = http://server.school.edu/grouperWs/servicesRest

# kerberos principal used to connect to web service
# e.g. name/server.whatever.upenn.edu
grouperClient.webService.kerberosPrincipal = application_grouper/server.school.edu

# password for shared secret authentication to web service
# or you can put a filename with an encrypted password
grouperClient.webService.password = abc123abc123abc123

...
```

Test the connection:

```
[mchyzer@flash public_html_config]$ java -jar grouperClient.jar --operation=getMembersWs --groupNames=school:it:
ait:apps:appName:groups:apacheGroup
GroupIndex 0: success: T: code: SUCCESS: group: school:it:ait:apps:appName:groups:apacheGroup: subjectIndex: 0:
12345678
GroupIndex 0: success: T: code: SUCCESS: group: school:it:ait:apps:appName:groups:apacheGroup: subjectIndex: 1:
87654321
[mchyzer@flash public_html_config]$
```

Write a script to generate the user file:

```
[mchyzer@flash public_html_config\]$ more appUsers.sh
#!/bin/bash

#make a backup
cp /home/mchyzer/public_html_config/appUsers.txt /home/mchyzer/public_html_config/appUsersBak.txt

#build the new file into a temp file so its not temporarily empty
cat /home/mchyzer/public_html_config/appUsersStart.txt > /home/mchyzer/public_html_config/appUsersTemp.txt

/opt/java6/bin/java -jar /home/mchyzer/public_html_config/grouperClient.jar--operation=getMembersWs --
groupNames=school:it:ait:apps:appName:groups:apacheGroup --subjectAttributeNames=PENNNAME --
outputTemplate='${wsSubject.attributeValues\[0\]}$space$' >> /home/mchyzer/public_html_config/appUsersTemp.txt
2>/home/mchyzer/public_html_config/appUsersLog.txt

ret=$?

if [ $ret -ne 0 ]; then
  mail someone@school.edu -s "Error syncing app apache group" < /home/mchyzer/public_html_config/appUsersLog.txt
  exit 1
fi

mv /home/mchyzer/public_html_config/appUsersTemp.txt /home/mchyzer/public_html_config/appUsers.txt
```

Put this in a cron, note, this cron should be right after the previous loader cron

```
[mchyzer@flash public_html_config]$ crontab -l
25 8,10,12,14,16 * * * /home/mchyzer/public_html_config/appUsers.sh > /home/mchyzer/public_html_config/appUsers.
log 2>&1
```

sdf