Organization hierarchies via the grouper loader

Main Grouper Loader page

- Penn organizational hierarchy
- Penn organizational hierarchy - legacy version before improvements
- Penn organizational hierarchy - part 1
- Penn organizational hierarchy - part 2

NOTE: Originally Penn used the fully qualified org path including ancesters. This worked fine for four years, but then the controller added a couple high level orgs. Our groups were named:

```
penn:community:employee:org:TOPU:UNIV:USCH:56XX:56YY:5600
```

and they were changed to:

```
penn:community:employee:org:TOPU:UNIV:UCAC:UUAC:USCH:56XX:56YY:5600
```

The loader proceeded to empty out and delete all of the org groups, and create the org groups in the new location. This means that applications that used the orgs now allowed no one in. In order to prevent this from happening again, we changed the orgs to not have the ancesters in the group path. like this:

```
penn:community:employee:org:5600:5600
```

Note that each org has its own folder in case there are supporting groups inside (like include/exclude lists). There are still roll-up orgs, but they are not structured in a hierarchy by group name. So the "org" loader hook is not needed, it is just some simple loader jobs.

Here is a demo that shows how to maintain organization charts with Grouper. Here are notes about Penn's implementation of this

Organizational hierarchies with org name in group name

Note: This is only recommended if you are sure the org structure will not change, or you are ok with change. Is most cases it is not recommended to put the org ancestor structure in the group name.

Movies

You need the free xvid codec to see the movies. Also, pay no attention to my kids running around on the floor above me while I made the movies 🙂

- Movie 1
- Movie 2
- Movie 3
- Movie 4

Steps

First you need to load the test data, and register the hook, add these settings in the proper place in the grouper.properties file:

```
grouperIncludeExclude.use = true

hooks.loader.class=edu.internet2.middleware.grouper.hooks.examples.HierarchicalOrgLoaderHook

#####################################
## org management
#####################################

# if the orgs table(s) should be included in the DDL (includes the hierarchical table
orgs.includePocOrgsTablesInDdl = true

# loader connection of the database where orgs are (grouper means the grouper db in grouper.hibernate.
properties)
orgs.databaseName = grouper

#table name of the org table (can prefix by schema name if you like)
orgs.orgTableName = grouperorgs_poc_orgs

#column names of this table
orgs.orgIdCol = id
orgs.orgNameCol = org_name
orgs.orgDisplayNameCol = org_display_name
orgs.orgParentIdCol = parent_id

#stem where the orgs are, e.g. poc:orgs
orgs.parentStemName = poc:orgs

#org config name
orgs.configGroupName = poc:orgs:orgsConfig
```

Then make sure to load the test subjects, and load the new DDL for the org proof of concept (here is the subjects.sql file):

```
gsh -registry -runsqlfile ..\subjects.sql
gsh -registry -runscript
```

Now you should see three new grouperorgs* tables, and 1 new view. Create the config groups, either with GSH or with the UI. Here are the GSH commands:

```
GSH_DEBUG=true
grouperSession = GrouperSession.startRootSession();
addRootStem("poc", "poc - proof of concept");
addStem("poc", "orgs", "Organizations");
addGroup("poc:orgs", "orgsConfig", "orgsConfig");
groupAddType("poc:orgs:orgsConfig", "grouperLoader");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderDbName", "grouper");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderQuartzCron", "0 46 6 * * ? ");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderQuery", "select gh.org_hierarchical_sor_name as group_name,
gpoa.subject_id from grouperorgs_hierarchical gh, grouperorgs_poc_org_assign gpoa where gh.org_id = gpoa.
org_id");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderScheduleType", "CRON");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderType", "SQL_GROUP_LIST");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderGroupQuery", "select gh.org_hierarchical_sor_name as
group_name, gh.org_hierarchical_sor_disp_name as group_display_name, org_description as group_description from
grouperorgs_hierarchical gh, grouperorgs_poc_orgs gpo where gh.org_id = gpo.id");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderGroupsLike", "poc:orgs:%org%group_systemOfRecord");
setGroupAttr("poc:orgs:orgsConfig", "grouperLoaderGroupTypes", "addIncludeExclude");
addGroup("poc:orgs", "orgsAllConfig", "orgsAllConfig");
groupAddType("poc:orgs:orgsAllConfig", "grouperLoader");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderDbName", "grouper");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderQuartzCron", "0 06 7 * * ? ");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderQuery", "select gam.group_name, ga.group_id as subject_id,
ga.value from grouperorgs_all_members_v gam, grouper_attributes ga, grouper_fields gf where gf.type =
'attribute' and gf.name = 'name' and gf.id = ga.field_id and ga.value = gam.member_group_name");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderScheduleType", "CRON");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderType", "SQL_GROUP_LIST");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderGroupQuery", "select gh.org_hier_all_sor_name as
group_name, gh.org_hier_all_sor_display_name as group_display_name, org_hier_all_sor_description as
group_description from grouperorgs_hierarchical gh, grouperorgs_poc_orgs gpo where gh.org_id = gpo.id and gh.
org_hier_all_name is not null");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderGroupsLike", "poc:orgs:%org%all_systemOfRecord");
setGroupAttr("poc:orgs:orgsAllConfig", "grouperLoaderGroupTypes", "addIncludeExclude");
```

Now run the jobs (note, run the allJob twice [one time only generally] since the first time it creates groups needed in the job):

```
grouperSession = GrouperSession.startRootSession();
group = GroupFinder.findByName(grouperSession, "poc:orgs:orgsConfig");
loaderRunOneJob(group);
allGroup = GroupFinder.findByName(grouperSession, "poc:orgs:orgsAllConfig");
loaderRunOneJob(allGroup);
loaderRunOneJob(allGroup);
```

Example at Penn

There is the grouper.properties hook config:

```
#implement a loader hook by extending edu.internet2.middleware.grouper.hooks.LoaderHooks
#hooks.loader.class=edu.yourSchool.it.YourSchoolLoaderHooks
hooks.loader.class=edu.internet2.middleware.grouper.hooks.examples.HierarchicalOrgLoaderHook
```

And the grouper.properties org management config:

```
#######################################
## org management
#######################################

# if the orgs table(s) should be included in the DDL (includes the hierarchical table
orgs.includePocOrgsTablesInDdl = true

# loader connection of the database where orgs are (grouper means the grouper db in grouper.hibernate.
properties)
orgs.databaseName = grouper

#table name of the org table (can prefix by schema name if you like)
orgs.orgTableName = org_list_v

#column names of this table
orgs.orgIdCol = org_name
orgs.orgNameCol = org_name
orgs.orgDisplayNameCol = org_display_name
orgs.orgParentIdCol = parent_id

#stem where the orgs are, e.g. poc:orgs
orgs.parentStemName = penn:community:employee:org

#org config name
orgs.configGroupName = penn:community:employee:orgConfig
```

Basically, that hook will when the org loader job runs, and will populate the grouperorgs_hierarchical table. The org_list_v looks like this:

ORG_NAME	ORG_DISPLAY_NAME	ORG_DESCRIPTION	PARENT_ID	PAYROLL_FLAG	CENTER_CODE	CENTER_NAME	CENTER
4953	PS-CPUP-Psychiatry	PS-CPUP-Psychiatry	PSYH	N	40	Perelman School of Medicine	
4954	SU-CPUP Harrison Department of Surgical Research	SU-CPUP Harrison Department of Surgical Research	SUDT	Y	40	Perelman School of Medicine	
4955	SU-CPUP Department of Surgery	SU-CPUP Department of Surgery	SUDT	N	40	Perelman School of Medicine	
4957	SM-CP-Indirect Cost Group Practice	SM-CP-Indirect Cost Group Practice	SMCP	N	40	Perelman School of Medicine	
4958	SM-CP-Practice Overhead	SM-CP-Practice Overhead	SMCP	N	40	Perelman School of Medicine	
4999	CI- Center Institute Holding	CI- Center Institute Holding	SOMI	N	40	Perelman School of Medicine	
5001	Library Directors Office	Library Directors Office	50YY	N	50	University Library	
5002	Library Business Office	Library Business Office	50YY	N	50	University Library	
5003	Library Human Resources	Library Human Resources	50YY	N	50	University Library	

We need this hook and logic since we dont have the whole name of the group in one columns. This could also probably be done with an oracle connect by query, or a view with a procedural function. The generated (via the hook and view above) grouperorgs_hierarchical table looks like this:

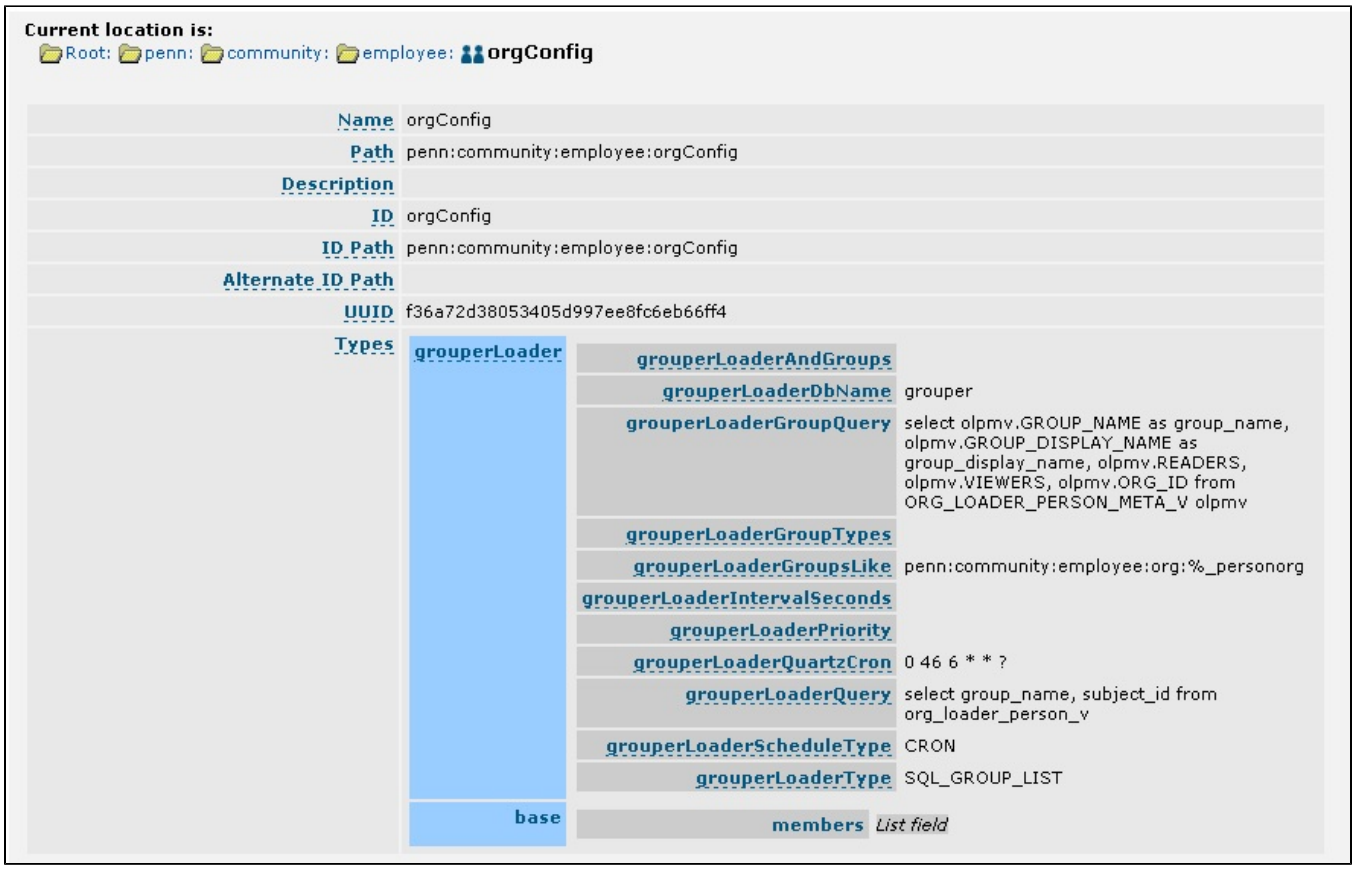
ORG_ID	ORG_HIERARCHICAL_STEM	ORG_HIERARCHICAL_NAME
0613	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0613	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0613:0613_group
0614	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0614	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0614:0614_group
0615	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0615	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0615:0615_group
0618	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NDIV:0618	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NDIV:0618:0618_group
0619	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NDIV:0619	penn:community:employee:org:TOPU:UNIV:USCH:06XX:NDIV:0619:0619_group
CHXX	penn:community:employee:org:TOPU:UNIV:USTU:86XX:CHXX	penn:community:employee:org:TOPU:UNIV:USTU:86XX:CHXX:CHXX_group
4756	penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMC:PATH:PAGT:4756	penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMC:PATH:PAGT:4756:4756_group
CLST	penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:CLST	penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:CLST:CLST_group
CNBC	penn:community:employee:org:TOPU:UNIV:USCH:58XX:CNBC	penn:community:employee:org:TOPU:UNIV:USCH:58XX:CNBC:CNBC_group
CNSC	penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMI:CNSC	penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMI:CNSC:CNSC_group
TRAN	penn:community:employee:org:TOPU:UNIV:UBUS:93XX:TRAN	penn:community:employee:org:TOPU:UNIV:UBUS:93XX:TRAN:TRAN_group

ORG_HIERARCHICAL_SOR_NAME	ORG_HIERARCHICAL_SOR_DISP_NAME
penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0613:0613_group_systemOfRecord	Continence system of record
penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0614:0614_group_systemOfRecord	Gerontologic Nursing system of record
penn:community:employee:org:TOPU:UNIV:USCH:06XX:NPRA:0615:0615_group_systemOfRecord	Midwife at Misericordia system of record
penn:community:employee:org:TOPU:UNIV:USCH:06XX:NDIV:0618:0618_group_systemOfRecord	Nursing School Service Group 2 system of record
penn:community:employee:org:TOPU:UNIV:USCH:06XX:NDIV:0619:0619_group_systemOfRecord	Office of Global Health Affairs system of record
penn:community:employee:org:TOPU:UNIV:USTU:86XX:CHXX:CHXX_group_systemOfRecord	College Houses and Academic Services Miscellaneous Parent system of record
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMC:PATH:PAGT:4756:4756_group_systemOfRecord	PA-Human Applications Core system of record
penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:CLST:CLST_group_systemOfRecord	Classical Studies Parent system of record
penn:community:employee:org:TOPU:UNIV:USCH:58XX:CNBC:CNBC_group_systemOfRecord	Clinical Studies New Bolton Center Parent system of record
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMI:CNSC:CNSC_group_systemOfRecord	NC-Comprehensive Neuroscience Center system of record
penn:community:employee:org:TOPU:UNIV:UBUS:93XX:TRAN:TRAN_group_systemOfRecord	Transportation and Parking Parent system of record

ORG_HIER_ALL_NAME	ORG_HIER_ALL_DISPLAY_NAME
penn:community:employee:org:TOPU:UNIV:USTU:86XX:CHXX:CHXX_all	College Houses and Academic Services Miscellaneous Parent All
penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:CLST:CLST_all	Classical Studies Parent All
penn:community:employee:org:TOPU:UNIV:USCH:58XX:CNBC:CNBC_all	Clinical Studies New Bolton Center Parent All
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMI:CNSC:CNSC_all	NC-Comprehensive Neuroscience Center All
penn:community:employee:org:TOPU:UNIV:UBUS:93XX:TRAN:TRAN_all	Transportation and Parking Parent All

ORG_HIER_ALL_SOR_NAME	ORG_HIER_ALL_SOR_DISPLAY_NAME	ORG_HIER_ALL_SOR_DESCRIPTION
penn:community:employee:org:TOPU:UNIV:USTU:86XX:CHXX:CHXX_all_systemOfRecord	College Houses and Academic Services Miscellaneous Parent All system of record	Members of CHXX and all groups underneath the hierarchy
penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:CLST:CLST_all_systemOfRecord	Classical Studies Parent All system of record	Members of CLST and all groups underneath the hierarchy
penn:community:employee:org:TOPU:UNIV:USCH:58XX:CNBC:CNBC_all_systemOfRecord	Clinical Studies New Bolton Center Parent All system of record	Members of CNBC and all groups underneath the hierarchy
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMI:CNSC:CNSC_all_systemOfRecord	NC-Comprehensive Neuroscience Center All system of record	Members of CNSC and all groups underneath the hierarchy
penn:community:employee:org:TOPU:UNIV:UBUS:93XX:TRAN:TRAN_all_systemOfRecord	Transportation and Parking Parent All system of record	Members of TRAN and all groups underneath the hierarchy

Based on that we will make some views that load the groups and memberships. There are two loader jobs, one for the orgs, and one for the org rollups. Below is our orgGroupConfig (list of orgs)



Below is org_loader_person_meta_v view, which is based on in part by the grouperorgs_hierarchical table:

GROUP_NAME	GROUP_DISPLAY_NAME
penn:community:employee:org:TOPU:NOTU:HCAG:21XX:2100:2100_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:21XX:2100 - Health System:2100 - Health System
penn:community:employee:org:TOPU:NOTU:HCAG:21XX:2101:2101_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:21XX:2101 - Hospital of the University of Pennsylvania:2101 - Hospital of the University of Pennsylvania
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG02:9931:9931_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG02:9931 - Organic Letters Journal:9931 - Organic Letters Journal
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG36:9979:9979_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG36:9979 - American Academy of Political and Social Science:9979 - American Academy of Political a
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9940:9940_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9940 - Hillel Foundation:9940 - Hillel Foundation
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9941:9941_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9941 - Christian Association:9941 - Christian Association
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9942:9942_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9942 - Newman Center:9942 - Newman Center
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9943:9943_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9943 - Daily Pennsylvanian:9943 - Daily Pennsylvanian
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9944:9944_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9944 - Off Campus Work Study:9944 - Off Campus Work Study
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9950:9950_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG87:9950 - Wistar Institute:9950 - Wistar Institute
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG93:9910:9910_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG93:9910 - Faculty Club Agency:9910 - Faculty Club Agency
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG98:9909:9909_personorg	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG98:9909 - University City District:9909 - University City District
penn:community:employee:org:TOPU:UNIV:UADM:78XX:78YY:7801:7801_personorg	penn:community:employee:org:TOPU:UNIV:UADM:78XX:78YY:7801 - Audit and Privacy:7801 - Audit and Privacy
penn:community:employee:org:TOPU:UNIV:UADM:79XX:79YY:7901:7901_personorg	penn:community:employee:org:TOPU:UNIV:UADM:79XX:79YY:7901 - Penn Police:7901 - Penn Police
penn:community:employee:org:TOPU:UNIV:UADM:79XX:79YY:7902:7902_personorg	penn:community:employee:org:TOPU:UNIV:UADM:79XX:79YY:7902 - Security and Technical Services:7902 - Security and Technical Services
penn:community:employee:org:TOPU:UNIV:UADM:79XX:79YY:7903:7903_personorg	penn:community:employee:org:TOPU:UNIV:UADM:79XX:79YY:7903 - Fire and Emergency Services:7903 - Fire and Emergency Services

READERS	VIEWERS	ORG_ID
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	2100
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	2101
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9931
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9979
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9940
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9941
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9942
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9943
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9944
penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	9950

Here is the sanitized org_loader_person_v view:

GROUP_NAME	SUBJECT_ID
penn:community:employee:org:TOPU:UNIV:UOTH:00XX:0007:0007_personorg	[redacted]9
penn:community:employee:org:TOPU:UNIV:UADM:96XX:OAM:9603:9603_personorg	[redacted]4
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMC:SURG:SUDT:4505:4505_personorg	[redacted]1
penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:HSSC:0113:0113_personorg	[redacted]8
penn:community:employee:org:TOPU:UNIV:USCH:32XX:32YY:3200:3200_personorg	[redacted]9
penn:community:employee:org:TOPU:UNIV:USCH:06XX:06YY:0624:0624_personorg	[redacted]8
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMC:SURG:SUDT:4505:4505_personorg	[redacted]2
penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:PHIL:0117:0117_personorg	[redacted]4
penn:community:employee:org:TOPU:UNIV:USCH:02XX:LOGN:HIST:0111:0111_personorg	[redacted]1
penn:community:employee:org:TOPU:UNIV:USCH:40XX:SOM:SOMC:NEUR:4322:4322_personorg	[redacted]0

Below is the org rollup config (adds child groups (not grandchild etc) to the parent. The grandchild is effectively a member since it is a cihld of the child...

Current location is:
Root: penn: community: employee: **orgRollupConfig**

Name	orgRollupConfig
Path	penn:community:employee:orgRollupConfig
Description	
ID	orgRollupConfig
ID Path	penn:community:employee:orgRollupConfig
Alternate ID Path	
UUID	8b329babf720413d81f5004fb3729c02

Types

base

members	*List field*

grouperLoader

grouperLoaderAndGroups	
grouperLoaderDbName	grouper
grouperLoaderGroupQuery	select group_name, group_display_name, group_description, readers, viewers from org_loader_rollup_meta_v
grouperLoaderGroupTypes	addIncludeExclude
grouperLoaderGroupsLike	penn:community:employee:org:%_rolluporg_systemOfRecord
grouperLoaderIntervalSeconds	
grouperLoaderPriority	
grouperLoaderQuartzCron	0 06 7 * * ?
grouperLoaderQuery	select GROUP_NAME, SUBJECT_ID, SUBJECT_SOURCE_ID from ORG_LOADER_ROLLUP2_V
grouperLoaderScheduleType	CRON
grouperLoaderType	SQL_GROUP_LIST

Here is the org_loader_rollup_meta_v view:

GROUP_NAME	GROUP_DISPLAY_NAME
penn:community:employee:org:TOPU:NOTU:HCAG:HCAG_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG - Health Care and Agencies:HCAG - Health Care and Agencies system of record
penn:community:employee:org:TOPU:NOTU:HCAG:21XX:21XX_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:21XX - University of Pennsylvania Health System:21XX - University of Pennsylvania Health System
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX - External Organizations Parent:99XX - External Organizations Parent system of record
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG02:AG02_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG02 - Agencies for SAS:AG02 - Agencies for SAS system of record
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG04:AG04_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG04 - Agencies for Provost Interdisciplinary Center:AG04 - Agencies for Provost Interdisci
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG06:AG06_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG06 - Agencies for School of Nursing:AG06 - Agencies for School of Nursing system of re
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG07:AG07_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG07 - Agencies For Wharton:AG07 - Agencies For Wharton system of record
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG13:AG13_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG13 - Agencies for SEAS:AG13 - Agencies for SEAS system of record
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG24:AG24_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG24 - Agencies for DRIA:AG24 - Agencies for DRIA system of record
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG26:AG26_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG26 - Agencies for University Museum:AG26 - Agencies for University Museum system of
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG32:AG32_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG32 - Agencies for GSE:AG32 - Agencies for GSE system of record
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG35:AG35_rolluporg_systemOfRecord	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG35 - Agencies for Social Policy Practice:AG35 - Agencies for Social Policy Practice syste

GROUP_DESCRIPTION	READERS	VIEWERS	ORG_ID
Members of HCAG and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	HCAG
Members of 21XX and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	21XX
Members of 99XX and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	99XX
Members of AG02 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG02
Members of AG04 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG04
Members of AG06 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG06
Members of AG07 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG07
Members of AG13 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG13
Members of AG24 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG24
Members of AG26 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG26
Members of AG32 and all groups underneath the hierarchy	penn:community:employee:orgSecurity:orgReaders	penn:community:employee:orgSecurity:orgViewers	AG32

Below is the org_loader_rollup2_v

GROUP_NAME	SUBJECT_ID	SUBJECT_SOURCE_ID	SUBJECT_GROUP_NAME
penn:community:employee:org:TOPU:NOTU:HCAG:21XX:21XX_rolluporg_systemOfRecord	96e2d7b59d1641fe9fd157de88f95dda	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:21XX:2100:2100_personorg
penn:community:employee:org:TOPU:NOTU:HCAG:21XX:21XX_rolluporg_systemOfRecord	278b66bfcf6941b99d521532f41660e9	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:21XX:2101:2101_personorg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	8bed6b7dd4774a8a83fcddd9b2e23248	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG02:AG02_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	65c354ad767145fa88e08c6d3cc98507	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG04:AG04_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	06b502f1d12b41a8a91c94fd3b47d985	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG06:AG06_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	ef20013d97334889ab8ac8b5de16eaeb	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG07:AG07_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	0dd6217005be4b2996574fbcac0c1eec	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG13:AG13_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	5a13844e363c4e6fbbc95015969b81c1	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG24:AG24_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	3ad2e77634c3426c8a2e6e4777f7a350	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG26:AG26_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	03eb3d96d823450bb90cb467574e7045	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG32:AG32_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	9d19e406f9d6484693355f18f3c02525	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG35:AG35_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	1c06e5471bc04a5fb5ea019842b383f8	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG36:AG36_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	aa96d4b3cc054fdb8abbb01aaa472b11	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG40:AG40_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	71c737d033504314be962623b8baf8c	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG56:AG56_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	efdb07b7185f47bdabdd755734b77d62	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG81:AG81_rolluporg
penn:community:employee:org:TOPU:NOTU:HCAG:99XX:99XX_rolluporg_systemOfRecord	80be58fb7f5b4136ae40f7d80723cbc5	g:gsa	penn:community:employee:org:TOPU:NOTU:HCAG:99XX:AG83:AG83_rolluporg

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sdf

To do:

- make orgs work with reset
- make sure deletes work with include/exclude
- unit test
- make possible to do multiple orgs lists
- add option to do include exclude or not
- add a way to put privileges on all groups
- auto-create groups which arent there...
- deprecate GroupSave.saveUnchecked()? 1.5
- test and document removing group since not in groupQuery
- why does loader keep saying "inserted 5 five memberships"
- do we need "all" groups if parents doint have assignments? Or even if they do?
- profile loader? do all in one query?
- add views to hsqldb
- stems are not in alphabetical order
- graceful loader veto?