Internet2 Techex 2018

Grouper in Action - 211

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Agenda

- 211 Privileges introduction
- 211.1 Folder privileges
- 211.2 Group privileges
- 211.3 Attribute privileges
- 211.4 Grouper system admin
- 211.5 Inherited privileges
- 211.6 Grouper security groups

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Privileges Introduction

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Privilege definition

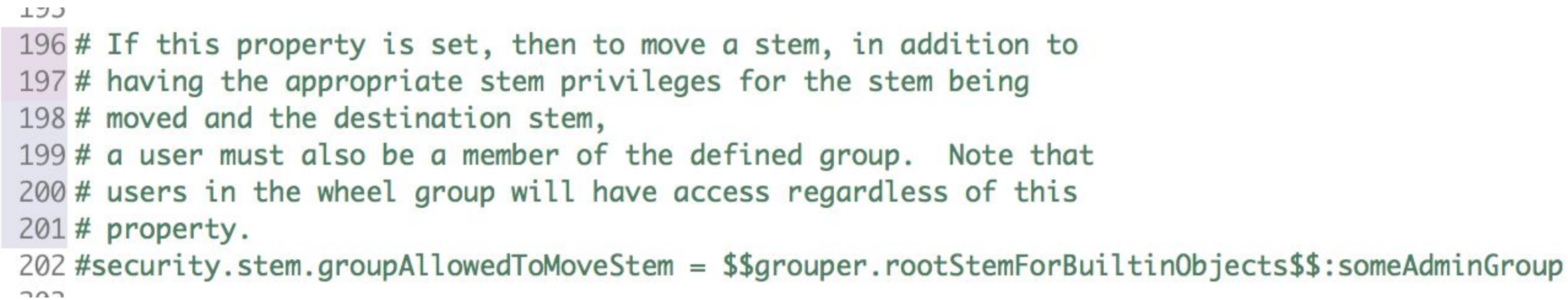
- Grouper privilege: Grant that allows a subject to do something in Grouper
- Privilege == entitlement == right == permission == grant
- We call it privilege in this case
- We call “permission” an externalized one of these things from an application stored in Grouper
- Entitlement is usually saved for SAML

Types of Grouper privileges

- Generally we talk about Group, Folder, Attribute definition privileges
- There are other “privileges”
  - System administrator
  - Global READ of memberships
  - Who can execute Web Service calls
  - Who can do attestation
  - List is very long

Example “privilege”

- From grouper.base.properties



```
# If this property is set, then to move a stem, in addition to
# having the appropriate stem privileges for the stem being
# moved and the destination stem,
# a user must also be a member of the defined group.  Note that
# users in the wheel group will have access regardless of this
# property.
#security.stem.groupAllowedToMoveStem = $$grouper.rootStemForBuiltinObjects$$:someAdminGroup
```

Default privileges

- If a subject creates an object (group, folder, attribute), then that subject will automatically be an ADMIN of the object
    - Unless they are in an inherited ADMIN assigned group
    - Unless they are a sysadmin

Default “all” privileges

- If the subject “EveryEntity” is assigned then every subject effectively has the privilege
- You can default EveryEntity to various privileges in the grouper.properties
  - E.g. VIEW or READ
  - Perhaps not recommended

Sometimes a privilege implies another privilege

- Some privileges are supersets of other privileges
- E.g. if you can ADMIN a folder, you can CREATE objects in the folder
- E.g. if you can UPDATE a group’s memberships, you can OPTIN yourself to the group

Privileges inform the UI

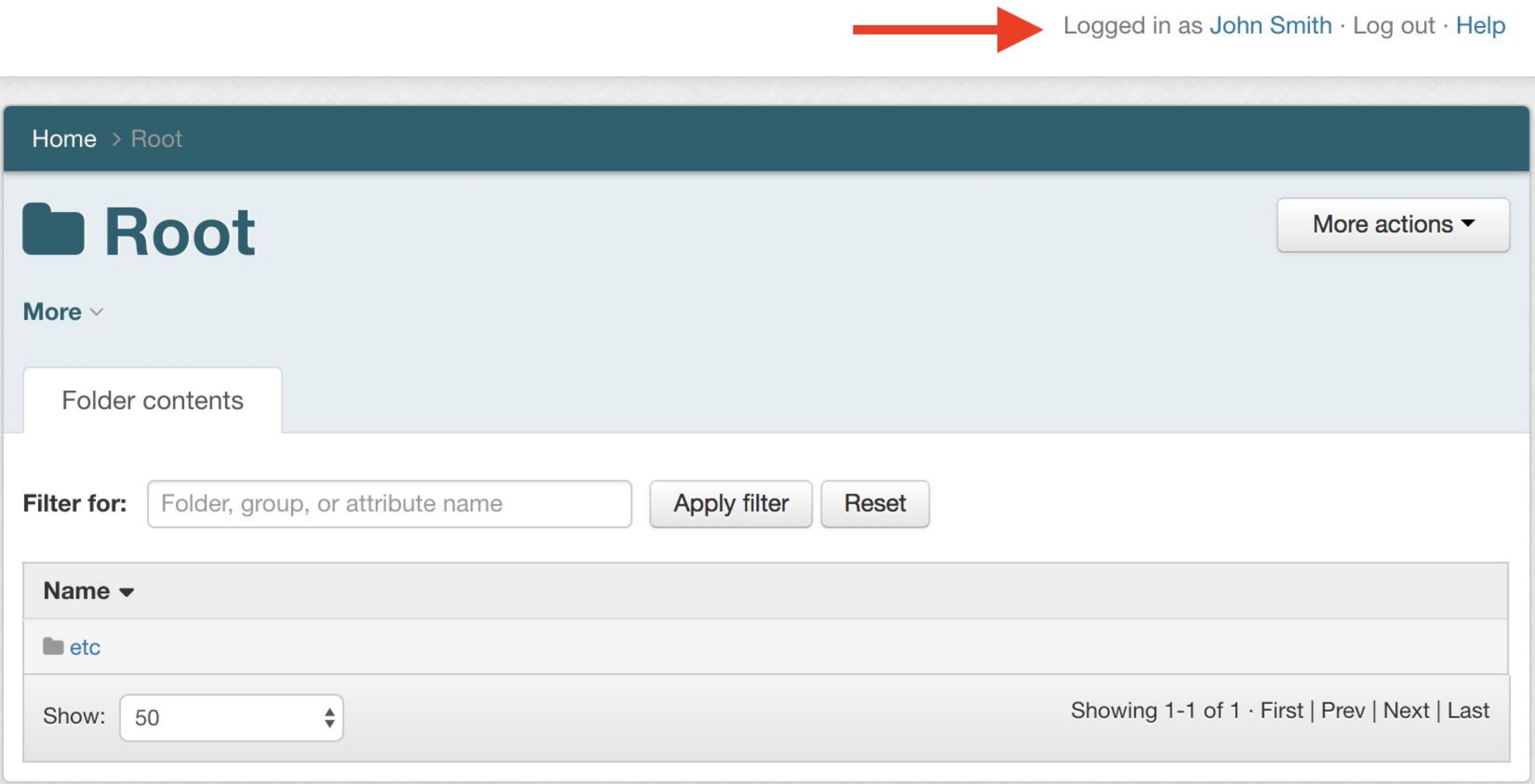
- The UI will appear differently to different users depending on their privileges
- E.g. If you can’t ADMIN a group, you can’t see the privilege tab

Hands on: Open two browser windows

- Lets have two windows open
- Since cookies are shared, if you use the same browser, use an incognito window. Otherwise separated browsers
- One as banderson (who is a sysadmin)
- One as jsmith (commoner)

Hands on: See jsmith

- Look as jsmith, can’t see much



Logged in as John Smith · Log out · Help

Home > Root

Root

Filter for: Folder, group, or attribute name

Name
etc

Show: 50

Showing 1-1 of 1 · First | Prev | Next | Last

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Folder privileges

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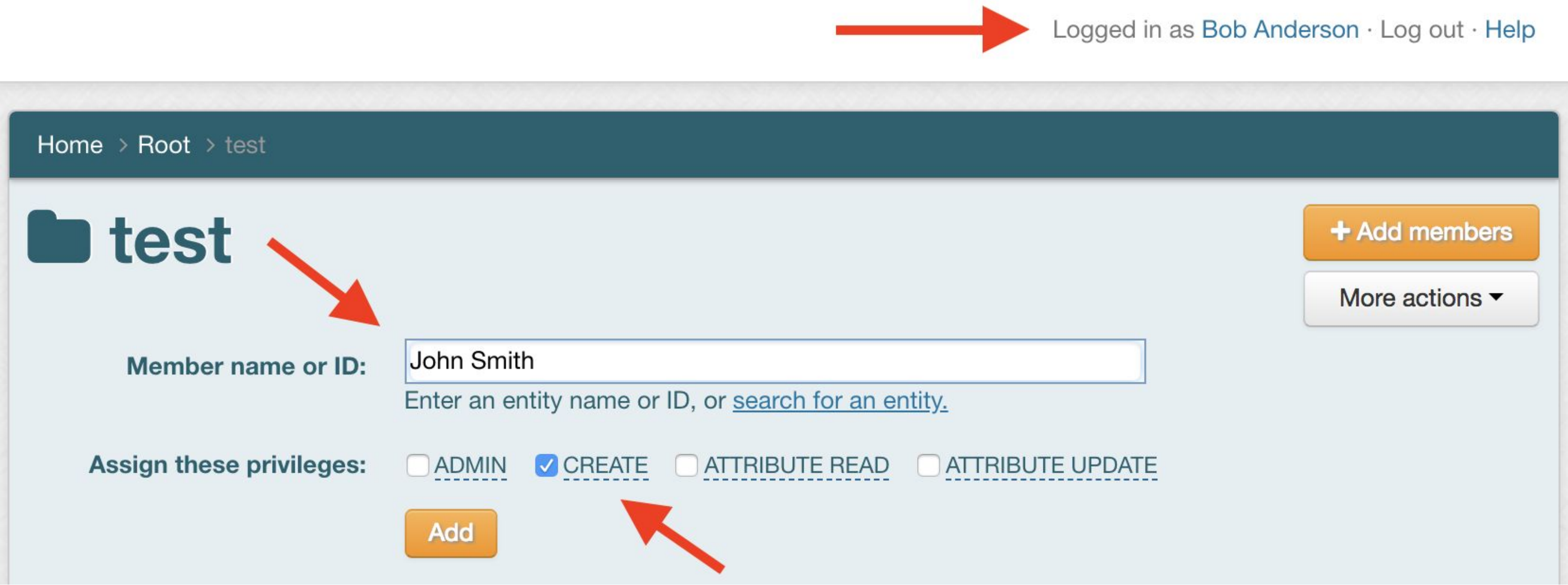
Folder privileges

- ADMIN: Can do anything including rename, edit description, delete the folder, create objects in folder, assign attributes, etc
- CREATE: Can create objects in folder
- ATTR_READ: Can see attribute assignments (of allowed attributes)
- ATTR_UPDATE: Can assign attributes (of allowed attributes)

Hands on: Folder privileges

- Click on the test folder privilege tab
- Add jsmith with CREATE



Logged in as Bob Anderson · Log out · Help

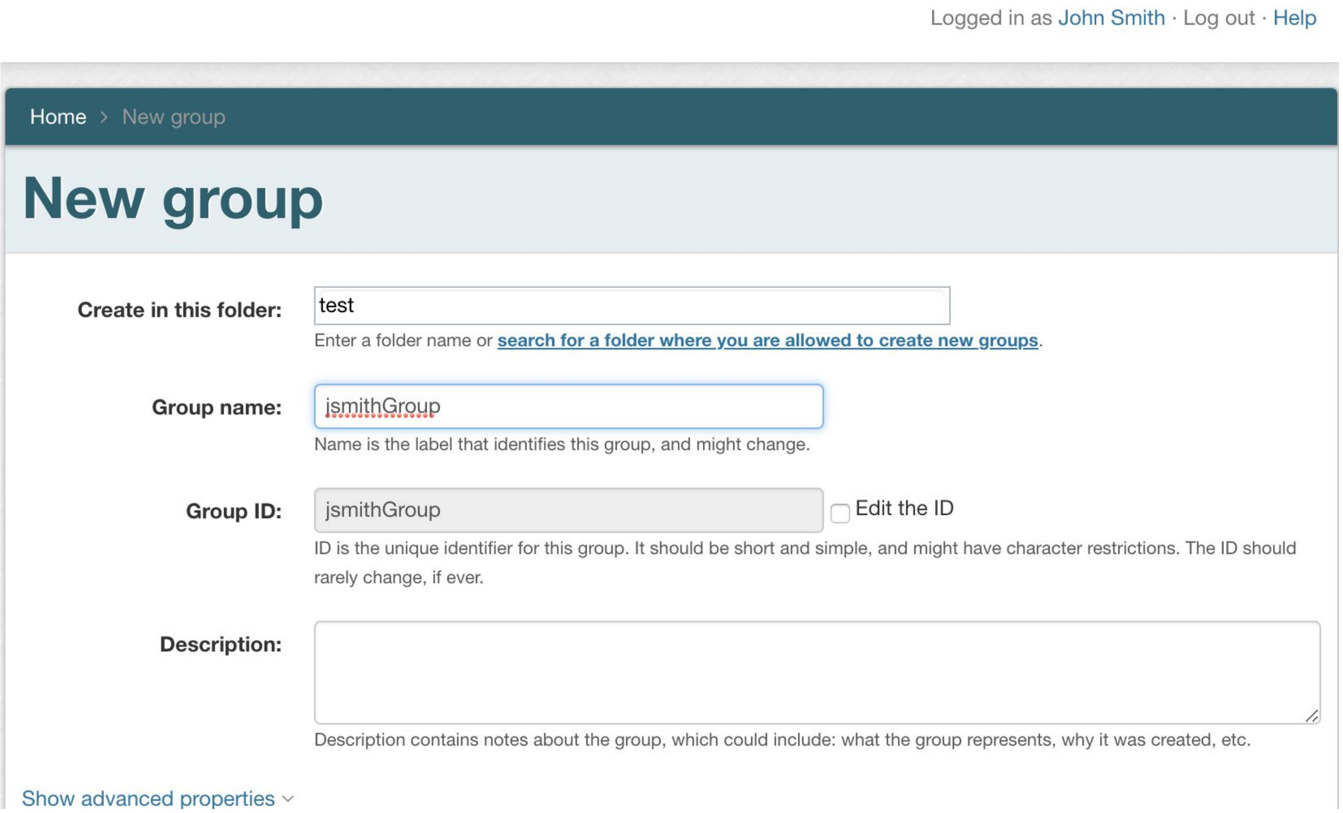
Member name or ID: John Smith

Enter an entity name or ID, or search for an entity.

Assign these privileges: □ ADMIN ☑ CREATE □ ATTRIBUTE READ □ ATTRIBUTE UPDATE

Hands on: Folder privileges (continued)

- Look as jsmith, refresh
- Create a group: test:jsmithGroup



Logged in as John Smith · Log out · Help

Home › New group

New group

Create in this folder: test

Enter a folder name or search for a folder where you are allowed to create new groups.

Group name: jsmithGroup

Name is the label that identifies this group, and might change.

Group ID: jsmithGroup ☐ Edit the ID

ID is the unique identifier for this group. It should be short and simple, and might have character restrictions. The ID should rarely change, if ever.

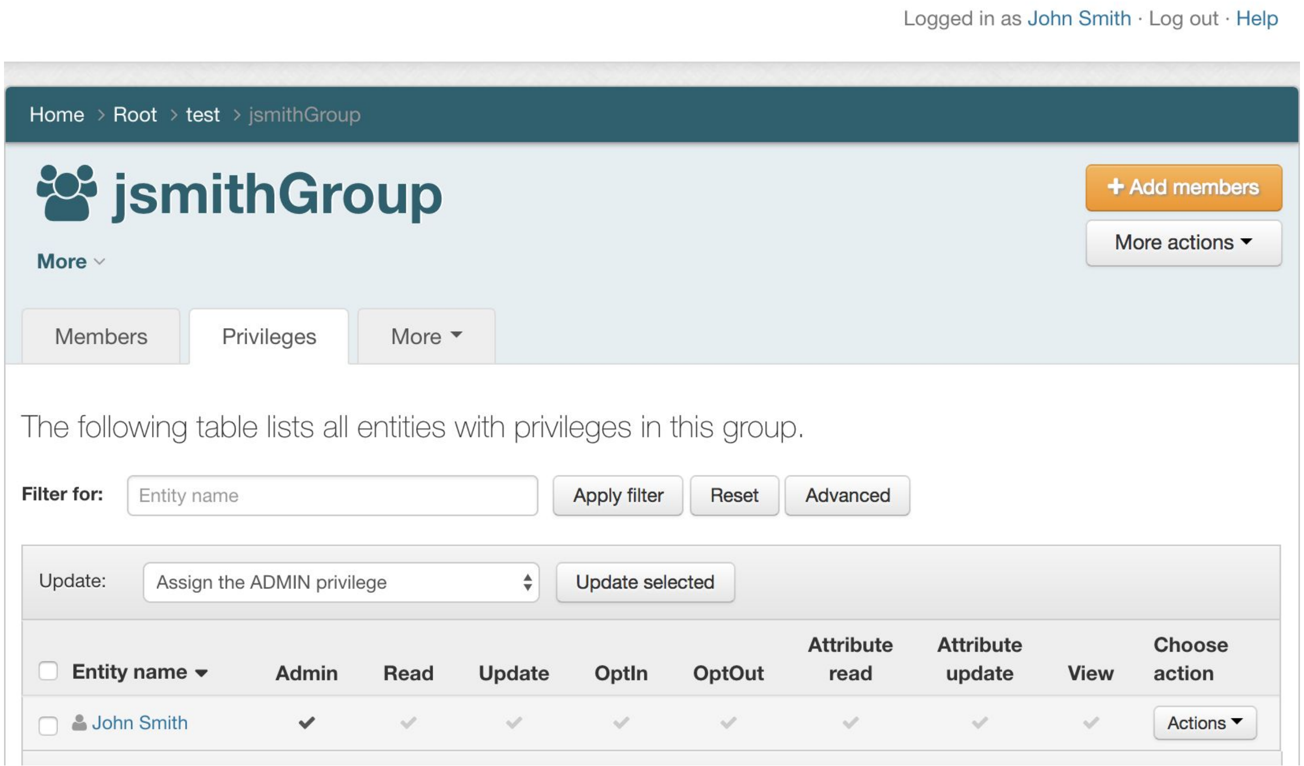
Description:

Description contains notes about the group, which could include: what the group represents, why it was created, etc.

Show advanced properties ⌄

Hands on: Folder privileges (continued)

- Note that jsmith is an ADMIN of folder
- Note that banderson can see it since sysadmin



Logged in as John Smith · Log out · Help
Home > Root > test > jsmithGroup
jsmithGroup
+ Add members
More actions ▾
More ⌄
Members
Privileges
More ▾

The following table lists all entities with privileges in this group.

Filter for: Entity name

Update: Assign the ADMIN privilege

☐ Entity name ▾	Admin	Read	Update	OptIn	OptOut	Attribute read	Attribute update	View	Choose action
☐ John Smith	✓	✓	✓	✓	✓	✓	✓	✓	Actions ▾

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Group privileges

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Group privileges

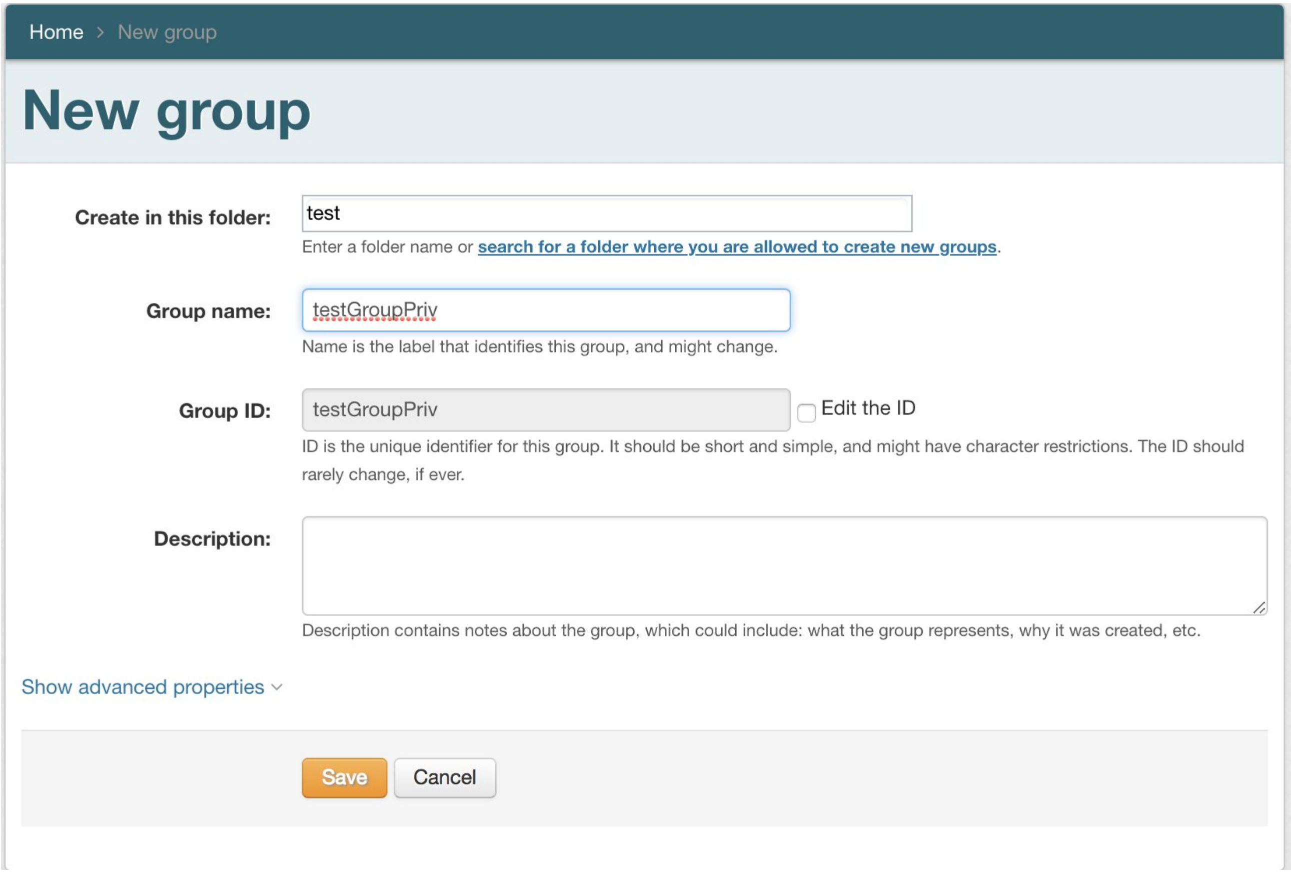
- ADMIN: Can do anything including rename, edit description, delete the group, assign members, assign attributes, etc
- UPDATE: Can add/remove memberships
- READ: Can see memberships
- VIEW: Can that the group exists, and name and description

Group privileges

- OPTIN: Can add self to group
- OPTOUT: Can remove self from group
- ATTR_READ: Can see allowed attribute assignments
- ATTR_UPDATE: Can add or remove allowed attribute assignments

Hands on: Group privileges

- As banderson, create testGroupPriv group



New group

Create in this folder: test

Enter a folder name or search for a folder where you are allowed to create new groups.

Group name: testGroupPriv

Name is the label that identifies this group, and might change.

Group ID: testGroupPriv □ Edit the ID

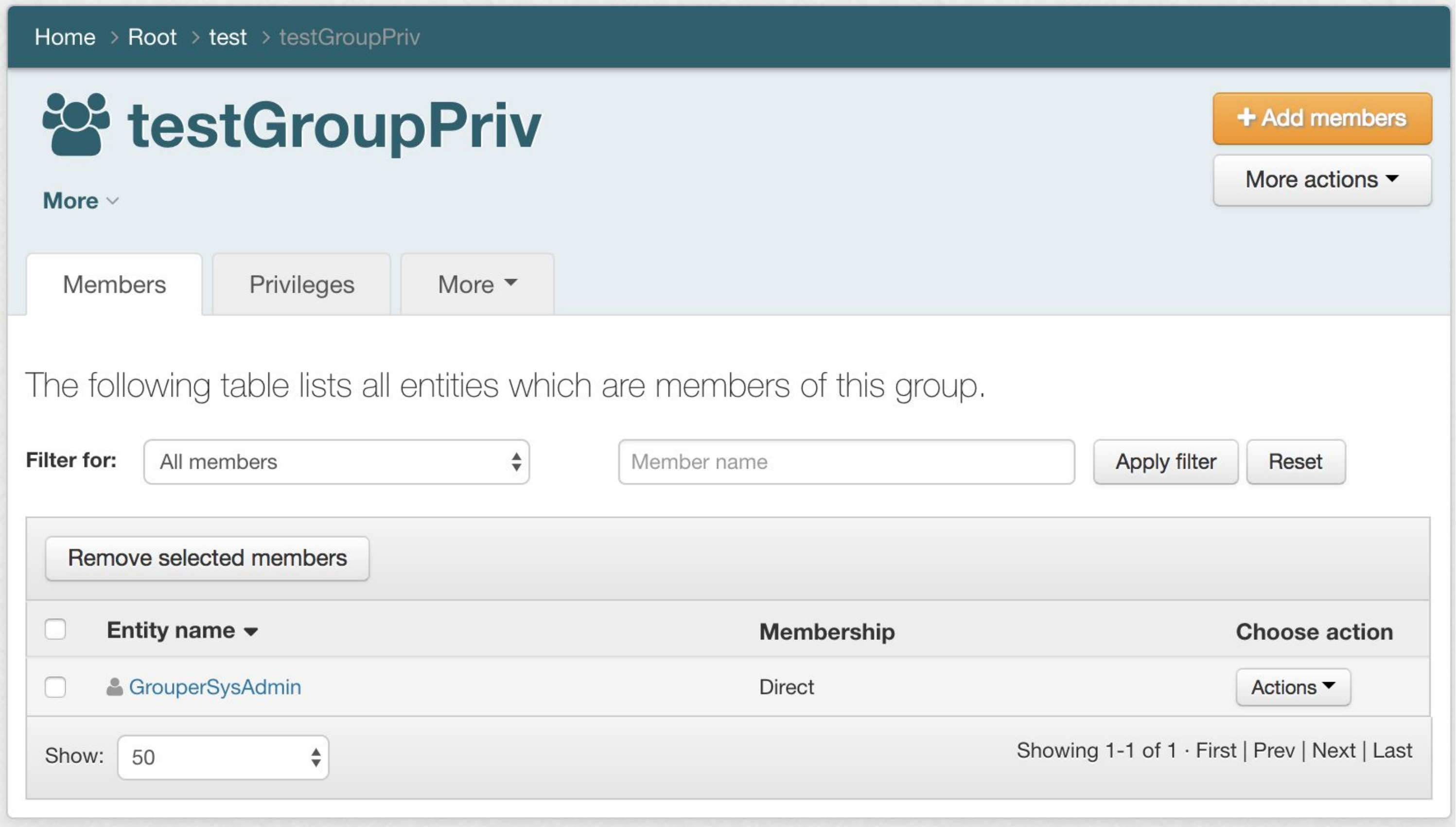
ID is the unique identifier for this group. It should be short and simple, and might have character restrictions. The ID should rarely change, if ever.

Description:

Description contains notes about the group, which could include: what the group represents, why it was created, etc.

Hands on: Group privileges (continued)

- As banderson, add GrouperSysAdmin as member to test:testGroupPriv



Home > Root > test > testGroupPriv

testGroupPriv

The following table lists all entities which are members of this group.

Filter for: All members

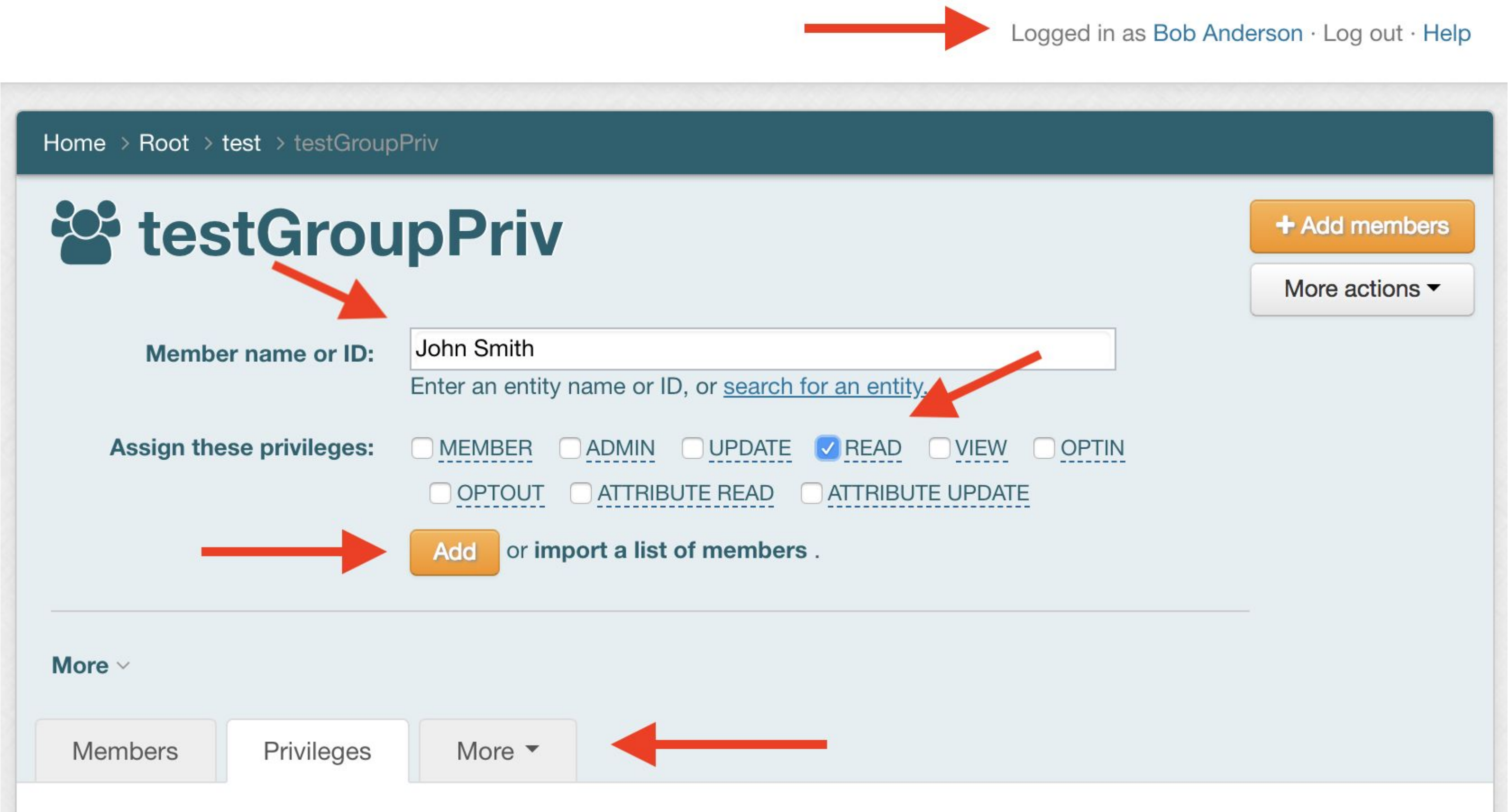
□	Entity name	Membership	Choose action
□	GrouperSysAdmin	Direct	Actions

Show: 50

Showing 1-1 of 1 · First | Prev | Next | Last

Hands on: Group privileges (continued)

- As banderson, click on privileges tab, assign READ to jsmith



Logged in as Bob Anderson · Log out · Help

Home > Root > test > testGroupPriv

testGroupPriv

Member name or ID: John Smith

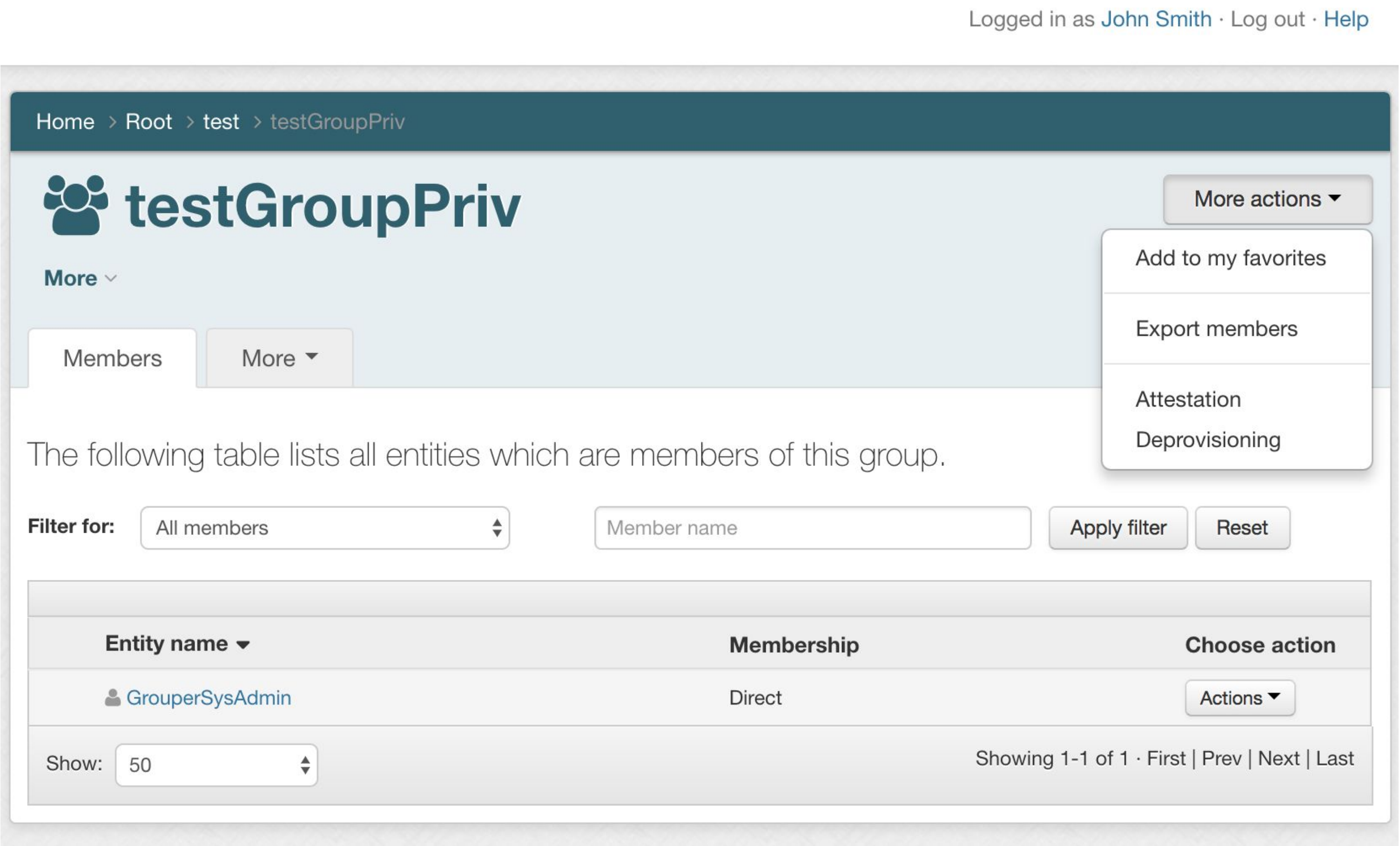
Enter an entity name or ID, or search for an entity.

Assign these privileges: □ MEMBER □ ADMIN □ UPDATE ☑ READ □ VIEW □ OPTIN □ OPTOUT □ ATTRIBUTE READ □ ATTRIBUTE UPDATE

or **import a list of members** .

Hands on: Group privileges (continued)

- As jsmith, see group, do you see differences?



Logged in as John Smith · Log out · Help

Home > Root > test > testGroupPriv

testGroupPriv

More

More actions

- Add to my favorites
- Export members
- Attestation
- Deprovisioning

Members | More

The following table lists all entities which are members of this group.

Filter for: All members | Member name | Apply filter | Reset

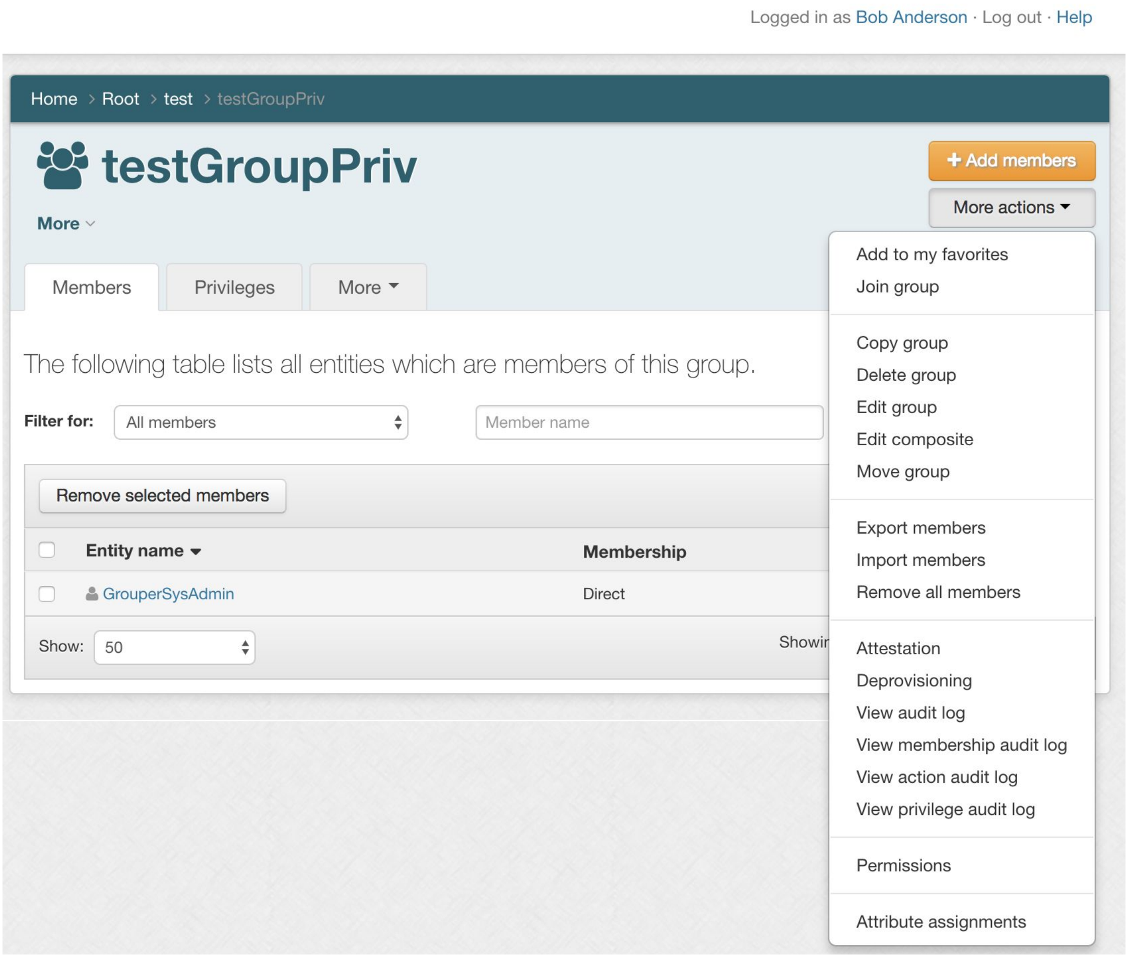
Entity name	Membership	Choose action
GrouperSysAdmin	Direct	Actions

Show: 50

Showing 1-1 of 1 · First | Prev | Next | Last

Hands on: Group privileges (continued)

- Look as banderson and compare



Logged in as Bob Anderson · Log out · Help

Home > Root > test > testGroupPriv

testGroupPriv

The following table lists all entities which are members of this group.

Filter for: All members

□	Entity name	Membership
□	GrouperSysAdmin	Direct

Show: 50

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Attribute privileges

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Attribute privileges

- Note: these are only on the attribute definition
- Attribute names use their definition’s privileges
- E.g. if you can VIEW a definition, you can VIEW the attribute name

Attribute privileges

- ADMIN: Can do anything including rename, edit description, delete the attribute, assign it (if allowed on target), assign attributes to the def, etc
- UPDATE: Can add/remove attribute assignments (if allowed on target)
- READ: Can see assignments (if allowed on target)
- VIEW: Can that the attribute exists, and name and description

Attribute privileges

- OPTIN: Can assign attribute to self
- OPTOUT: Can assign attribute to self
- ATTR_READ: Can see allowed attribute assignments
- ATTR_UPDATE: Can add or remove allowed attribute assignments

What do I need to READ attribute assignments???

- Two things
  - 1. READ or ADMIN on the attribute definition assigned
  - 2. Privileges on the assignment target:
    - A. ATTR_READ or ADMIN on group
    - B. ATTR_READ or ADMIN on folder
    - C. ATTR_READ of ADMIN on attribute def
- Note: if you can see an attribute assignment, you can see the value(s)

Hands on: Exercise for another time

- As banderson, create an attribute def, assignable to folders
- Assign READ priv to jsmith
- Create an attribute name
- Assign the attribute to the test folder
- See that jsmith cannot see attribute assignment
- Assign ATTR_READ to jsmith on the test folder
- See that jsmith can see attr assignment

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Grouper system admin

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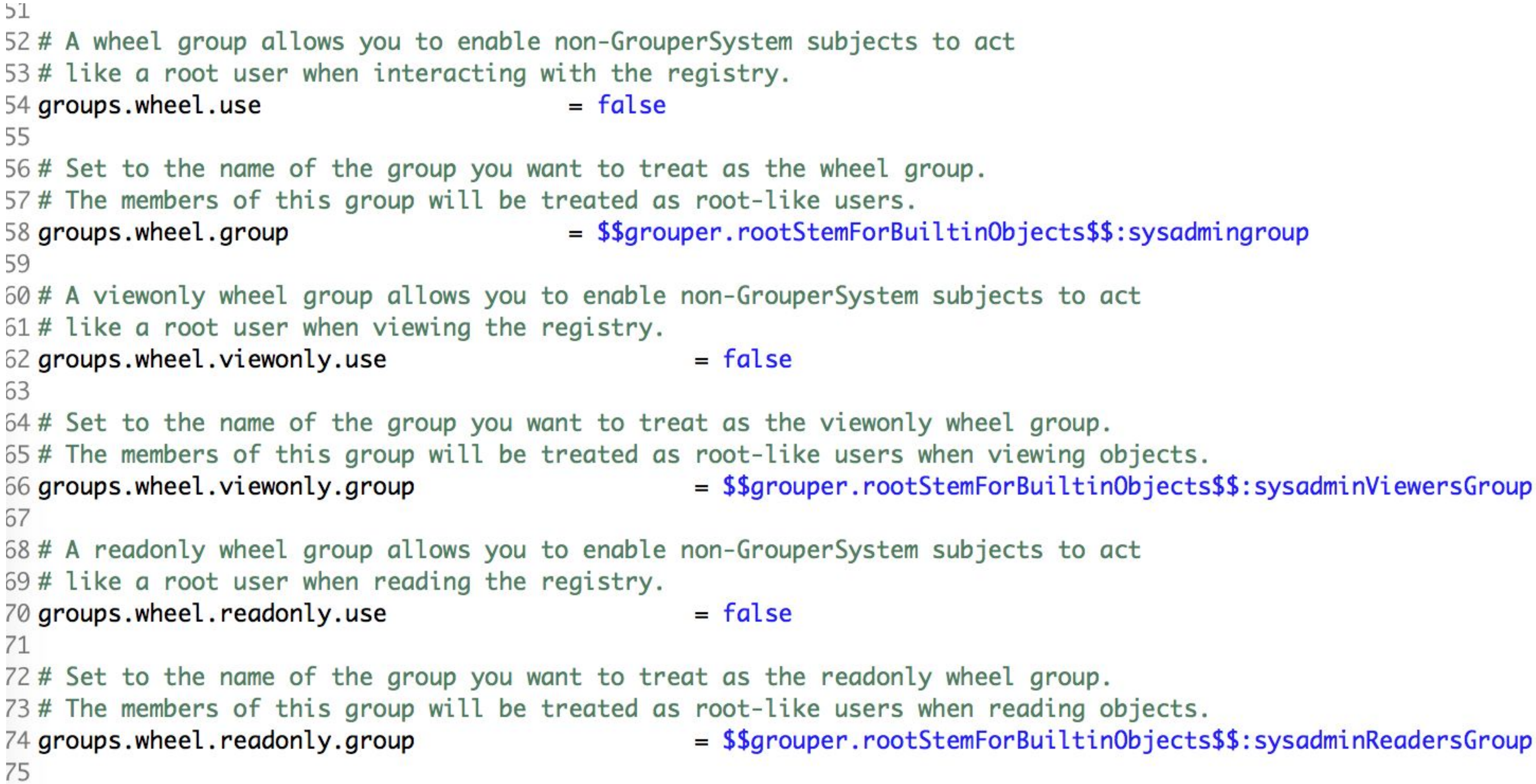
Grouper system admin

- There is a GrouperSysAdmin user which is all powerful
- This is not used in WS or UI since SSO is usually configured and that principal cannot login
- There is a sys admin group configured in grouper.properties
- Members of this group are equivalent to the GrouperSysAdmin subject

Grouper system admin (continued)

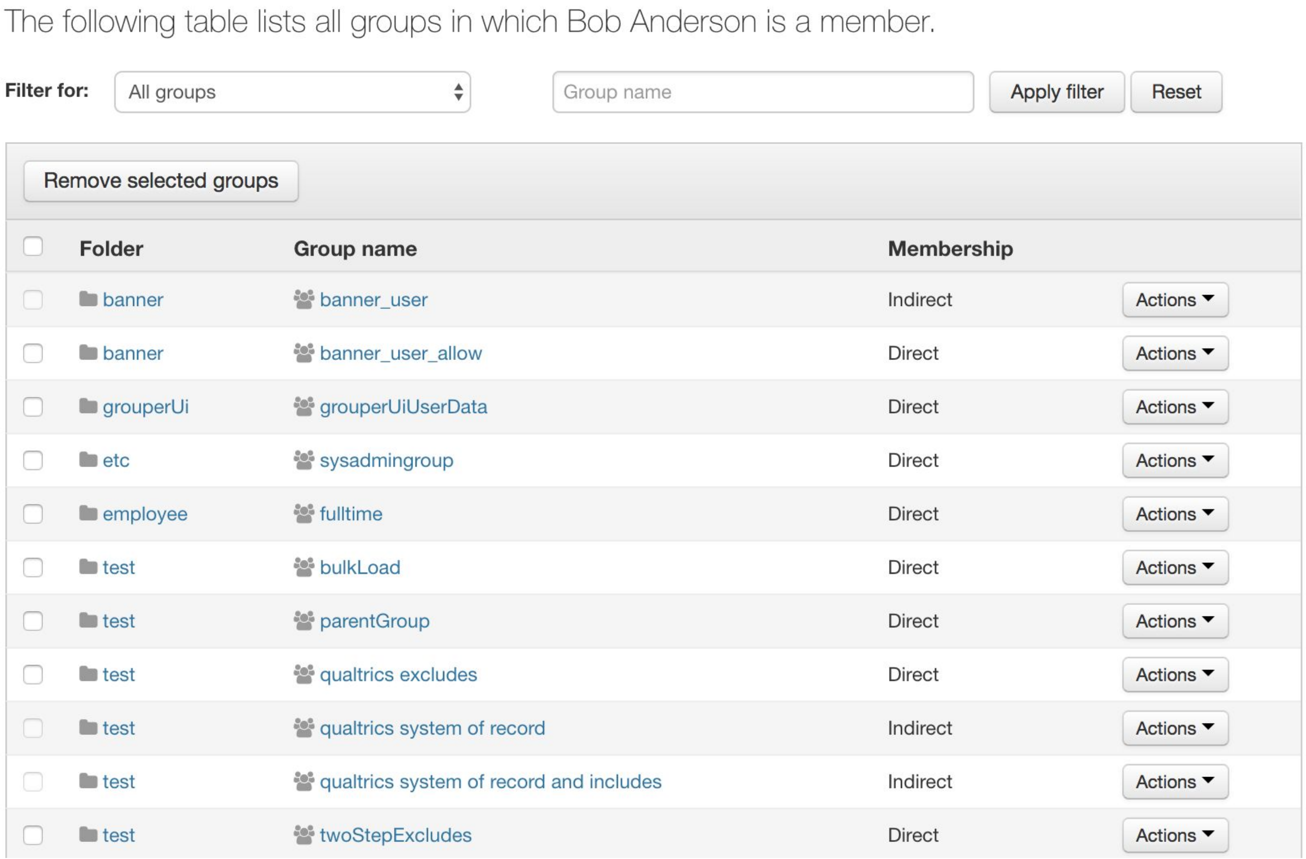
- See grouper.base.properties



```

# A wheel group allows you to enable non-GrouperSystem subjects to act
# like a root user when interacting with the registry.
groups.wheel.use                      = false

# Set to the name of the group you want to treat as the wheel group.
# The members of this group will be treated as root-like users.
groups.wheel.group                    = $$grouper.rootStemForBuiltinObjects$$:sysadmingroup

# A viewonly wheel group allows you to enable non-GrouperSystem subjects to act
# like a root user when viewing the registry.
groups.wheel.viewonly.use                      = false

# Set to the name of the group you want to treat as the viewonly wheel group.
# The members of this group will be treated as root-like users when viewing objects.
groups.wheel.viewonly.group                    = $$grouper.rootStemForBuiltinObjects$$:sysadminViewersGroup

# A readonly wheel group allows you to enable non-GrouperSystem subjects to act
# like a root user when reading the registry.
groups.wheel.readonly.use                      = false

# Set to the name of the group you want to treat as the readonly wheel group.
# The members of this group will be treated as root-like users when reading objects.
groups.wheel.readonly.group                    = $$grouper.rootStemForBuiltinObjects$$:sysadminReadersGroup

```

Hands on: Sysadmin

- See banderson’s groups and find the sysadmin group



The following table lists all groups in which Bob Anderson is a member.

□	Folder	Group name	Membership	
□	banner	banner_user	Indirect	Actions ▾
□	banner	banner_user_allow	Direct	Actions ▾
□	grouperUi	grouperUiUserData	Direct	Actions ▾
□	etc	sysadmingroup	Direct	Actions ▾
□	employee	fulltime	Direct	Actions ▾
□	test	bulkLoad	Direct	Actions ▾
□	test	parentGroup	Direct	Actions ▾
□	test	qualtrics excludes	Direct	Actions ▾
□	test	qualtrics system of record	Indirect	Actions ▾
□	test	qualtrics system of record and includes	Indirect	Actions ▾
□	test	twoStepExcludes	Direct	Actions ▾

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Inherited privileges

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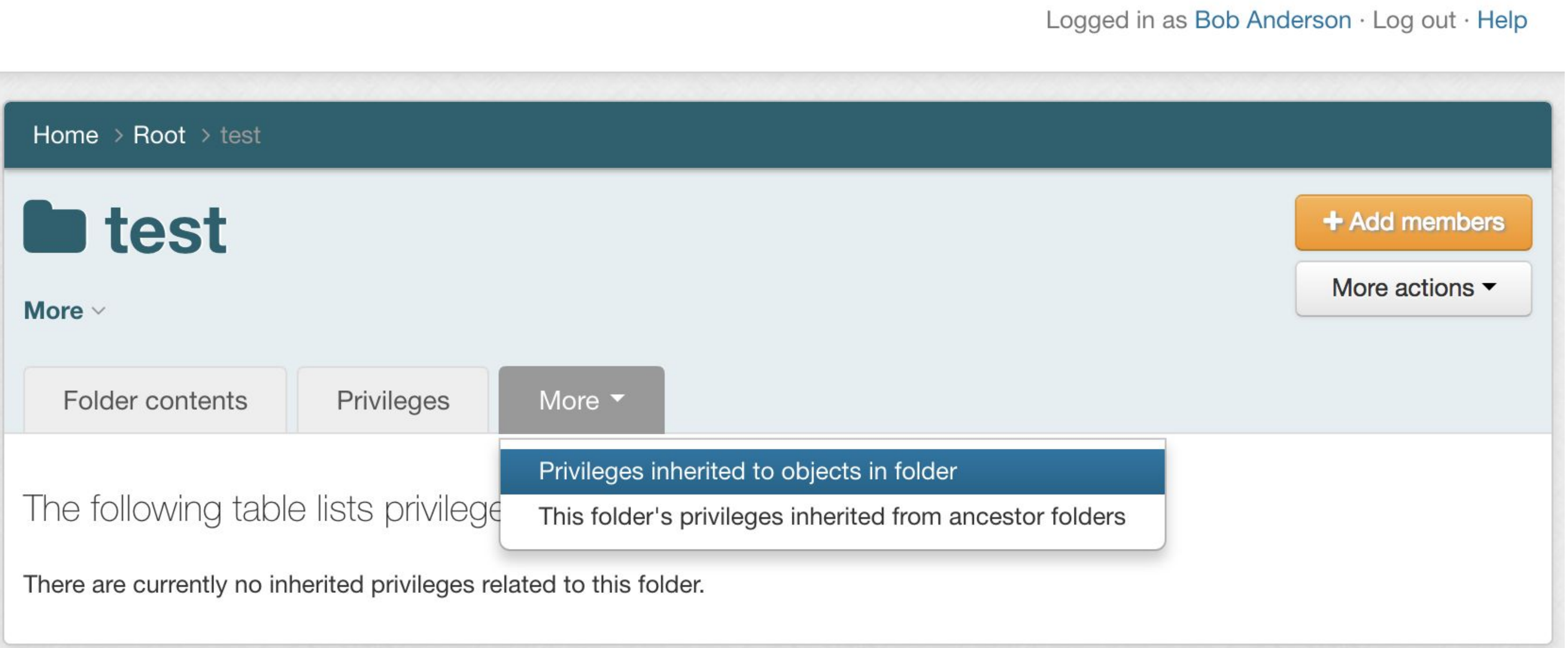
Folders can inherit privileges to objects

- Can inherit group, folder, or attribute privileges
- Can be for just that one folder, or for that folder and subfolders
- Will automatically assign for newly create objects
- If you remove the inherited assignment, it will remove all assignments of objects

Hands on: inherited group privileges

- As banderson: Go to test folder, click tab: More -> Privileges inherited to objects in folder



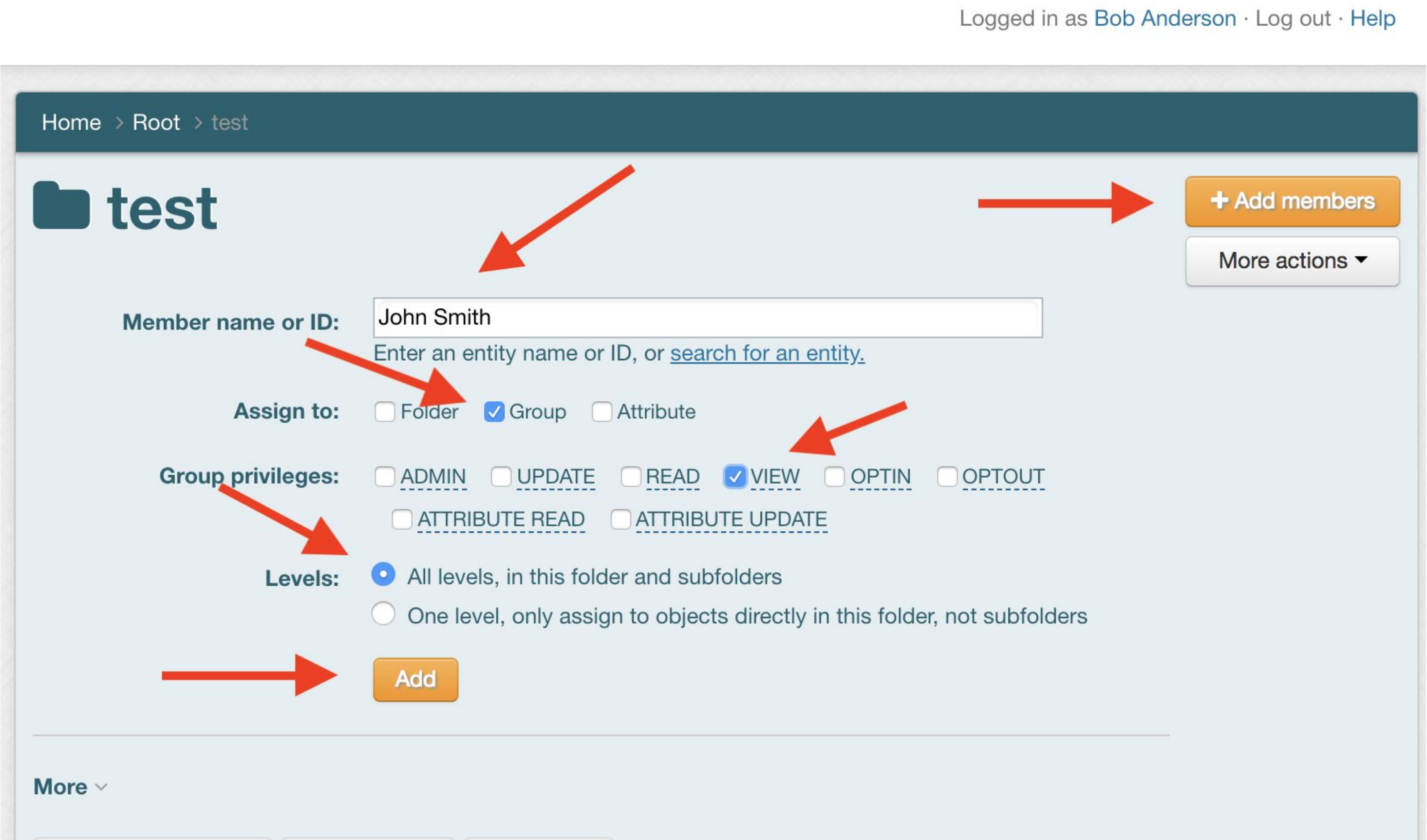
Logged in as Bob Anderson · Log out · Help
Home > Root > test
test
More
+ Add members
More actions
Folder contents
Privileges
More
Privileges inherited to objects in folder
This folder's privileges inherited from ancestor folders

The following table lists privilege

There are currently no inherited privileges related to this folder.

Hands on: inherited group privileges

- Assign VIEW to jsmith on all groups



Logged in as Bob Anderson · Log out · Help

Home > Root > test

test

+ Add members

More actions ▾

Member name or ID: John Smith

Enter an entity name or ID, or search for an entity.

Assign to: □ Folder ☑ Group □ Attribute

Group privileges: □ ADMIN □ UPDATE □ READ ☑ VIEW □ OPTIN □ OPTOUT □ ATTRIBUTE READ □ ATTRIBUTE UPDATE

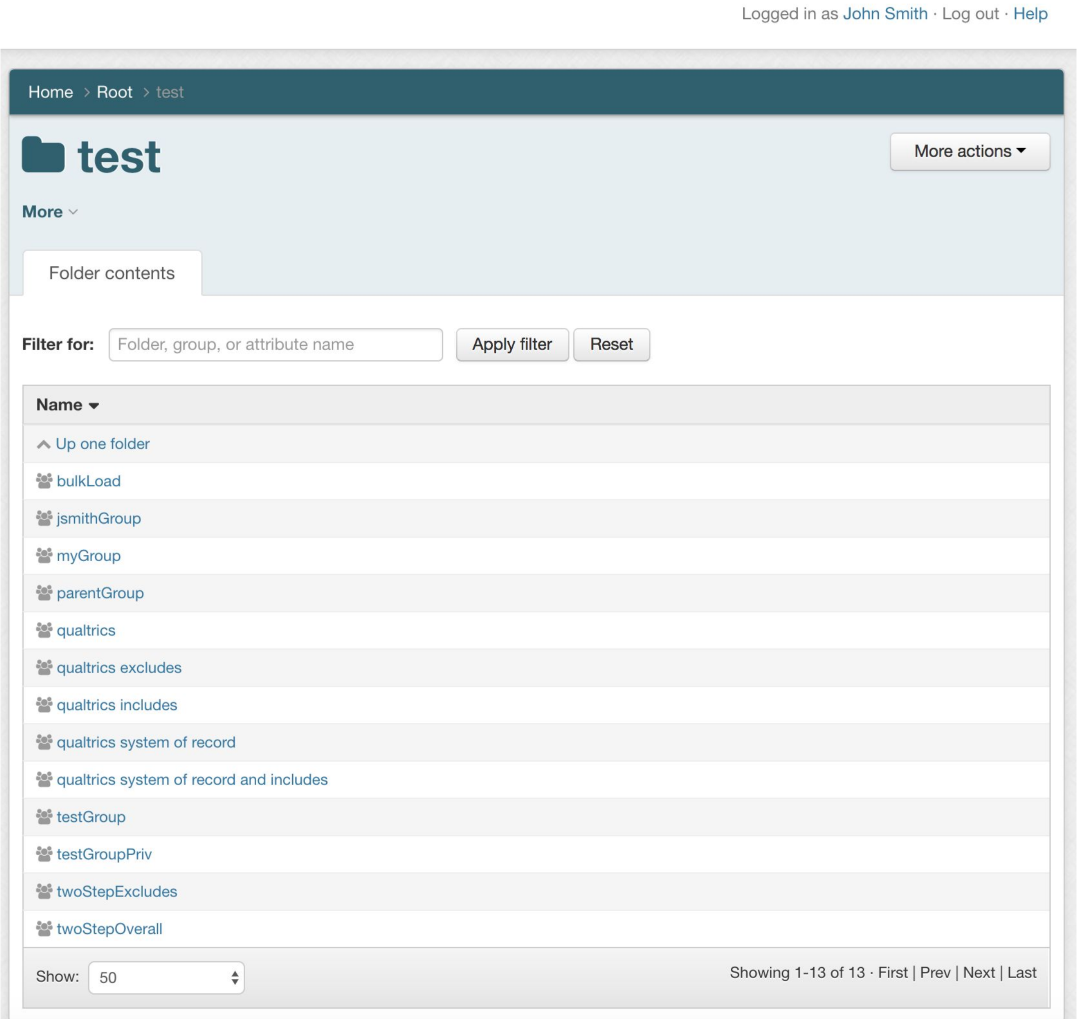
Levels:
● All levels, in this folder and subfolders
○ One level, only assign to objects directly in this folder, not subfolders

Add

More ⌄

Hands on: inherited privs (continued)

- As jsmith, see groups



Logged in as John Smith · Log out · Help

Home > Root > test

test

More actions

More

Folder contents

Filter for: Folder, group, or attribute name

Apply filter | Reset

Name

Up one folder

bulkLoad

jsmithGroup

myGroup

parentGroup

qualtrics

qualtrics excludes

qualtrics includes

qualtrics system of record

qualtrics system of record and includes

testGroup

testGroupPriv

twoStepExcludes

twoStepOverall

Show: 50

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Grouper security groups

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Privileges to individuals have limitations

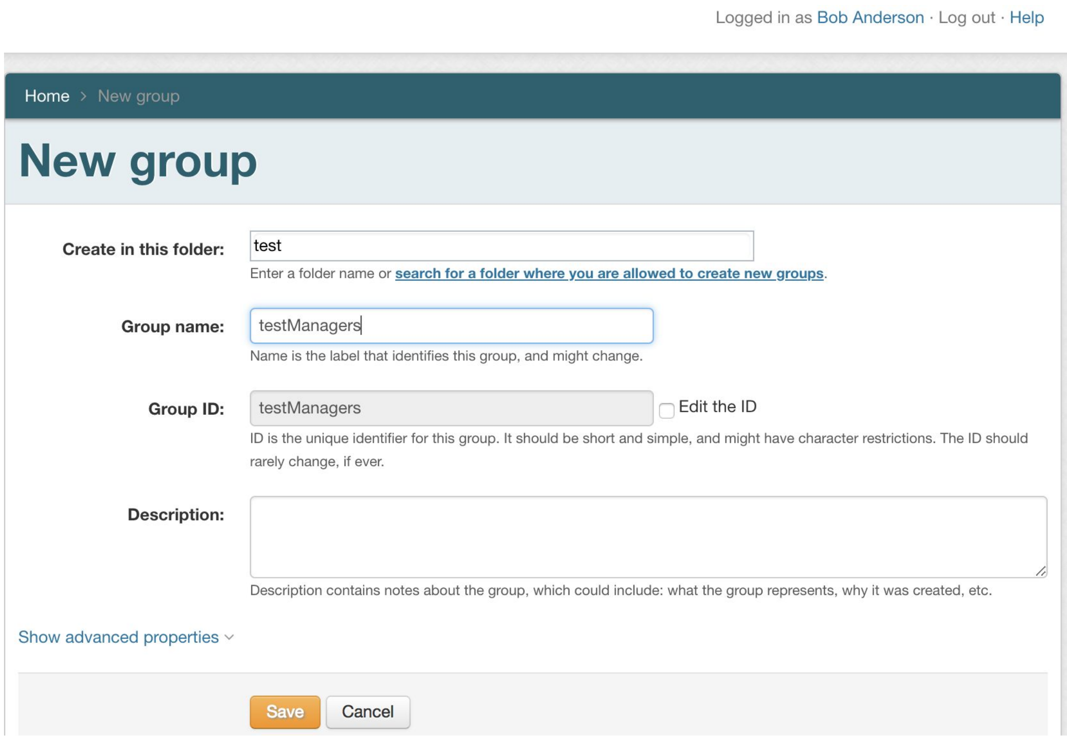
- Can’t do composites on activeEmployee
- Can’t easily clone a “role” for another user
- Too many individual assignments

Privileges to individuals have limitations - solution

- Try to generally assign privileges to groups, not indiviuals
- Try to use inherited privileges to the group from a folder
- Generally projects have 4 roles:
  - Admin: can do everything
  - Manager: can READ / UPDATE
  - Reader: can READ
  - Viewer: can see objects exist

Hands on: Privileges to groups

- As banderson: create the group test:testManagers
- Add jsmith to group



New group

Create in this folder: test

Enter a folder name or search for a folder where you are allowed to create new groups.

Group name: testManagers

Name is the label that identifies this group, and might change.

Group ID: testManagers ☐ Edit the ID

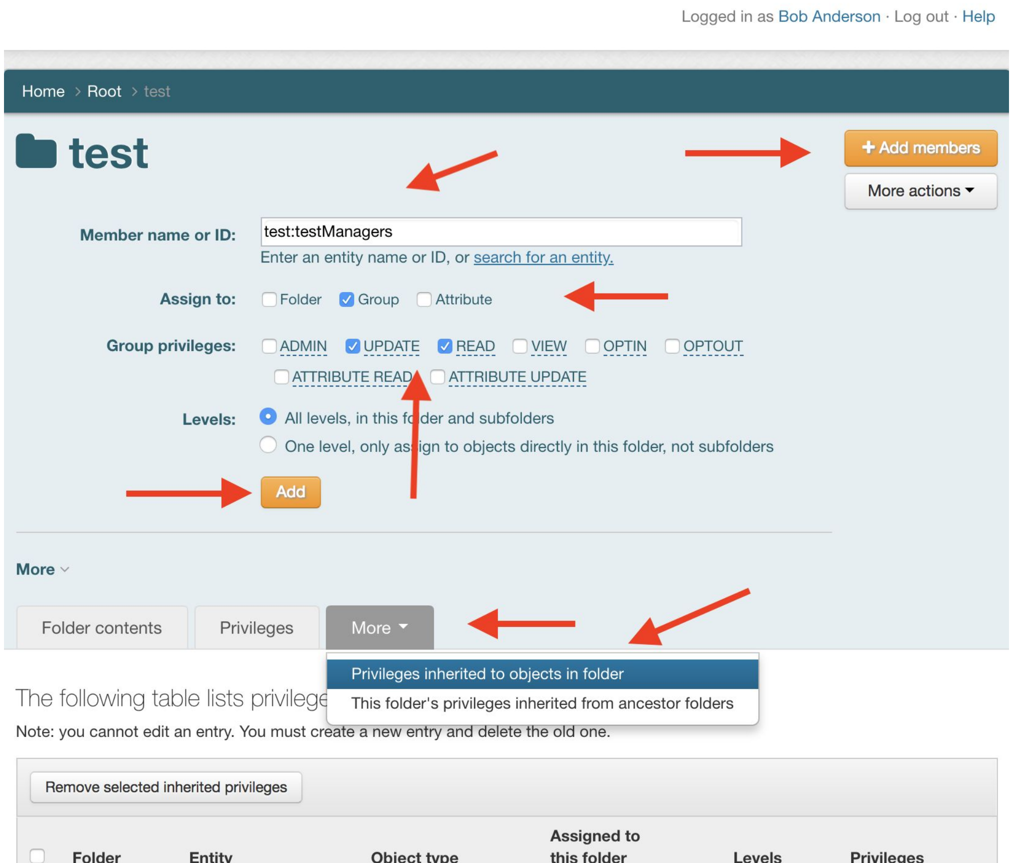
ID is the unique identifier for this group. It should be short and simple, and might have character restrictions. The ID should rarely change, if ever.

Description:

Description contains notes about the group, which could include: what the group represents, why it was created, etc.

Hands on: Privs to groups (continued)

- On the test folder, assign inherited READ/UPDATE privs to testManagers



Logged in as Bob Anderson · Log out · Help

Home > Root > test

Member name or ID: test:testManagers
Enter an entity name or ID, or search for an entity.

Assign to: □ Folder ☑ Group □ Attribute

Group privileges: □ ADMIN ☑ UPDATE ☑ READ □ VIEW □ OPTIN □ OPTOUT □ ATTRIBUTE READ □ ATTRIBUTE UPDATE

Levels:
● All levels, in this folder and subfolders
○ One level, only assign to objects directly in this folder, not subfolders

Add
More
Folder contents
Privileges
More ▾
Privileges inherited to objects in folder
This folder's privileges inherited from ancestor folders

The following table lists privilege

Note: you cannot edit an entry. You must create a new entry and delete the old one.

□	Folder	Entity	Object type	Assigned to this folder	Levels	Privileges