

# Example of customizing the subject API source adapter

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- Download the latest Grouper 1.4 branch
  - `cvs -d:pserver:anoncvs@anoncvs.internet2.edu:/home/cvs/i2mi login`
  - `cvs -d:pserver:anoncvs@anoncvs.internet2.edu:/home/cvs/i2mi export -r GROUPER_1_4_BRANCH grouper`
- In grouper dir, run: `ant dist`
- Start the database (hsqldb in this case, could be mysql/postgres/oracle also):
  - `F:\temp\grouper1.4\bin>java -cp ..\lib\jdbcSamples\hsqldb.jar org.hsqldb.Server -database.0 file:grouper -dbname.0 grouper`
- Add tables: (unix) `bin> gsh.sh -registry -runscript` (windows): `bin>gsh -registry -runscript`
  - (note: this is using hsql, you can do a similar thing on mysql or postgres or oracle)
  - You should now be able to browse the DB with hsqlManager or whatever tool you use to admin the db
  - (hsqldb) `bin>java -cp ..\lib\jdbcSamples\hsqldb.jar org.hsqldb.util.DatabaseManager -url jdbc:hsqldb:hsqldb://localhost/grouper`
- 
- Check tables: `bin> gsh.sh -registry -check`
  - Should output: NOTE: database table/object structure (ddl) is up to date
- Start gsh and add a subject: `bin> gsh.sh`  
`gsh 10% addSubject("mchyzer", "person", "Chris Hyzer")`  
`hibernatesubject: id='mchyzer' type='person' name='Chris Hyzer'`  
`gsh 11% SubjectFinder.findById("mchyzer", "person").getAttributes()`

```
java.util.HashMap: {LFNAME=[null], LOGINID=[null]}
```

`gsh 12% exit`

- Make a directory under `src/grouper` called "poc" (proof of concept)
- Add a java source file of this name "`src/grouper/poc/MyGrouperJdbcSourceAdapter.java`" with these contents:

```

/*
 * @author mchyzer
 * $Id$
 */
package poc;

import java.util.Set;

import org.apache.commons.lang.StringUtils;

import edu.internet2.middleware.grouper.subj.GrouperJdbcSourceAdapter;
import edu.internet2.middleware.grouper.util.GrouperUtil;
import edu.internet2.middleware.subject.Subject;
import edu.internet2.middleware.subject.SubjectNotFoundException;
import edu.internet2.middleware.subject.SubjectNotUniqueException;

/**
 *
 */
public class MyGrouperJdbcSourceAdapter extends GrouperJdbcSourceAdapter {

    /**
     * as an example, concatenate two attributes together, store as a third attribute
     * @param subject
     */
    private void decorateSubject(Subject subject) {
        if (subject != null) {
            String idNameLoginid = subject.getId() + " " + subject.getName() + " "
                + StringUtils.defaultString(subject.getAttributeValue("LOGINID"));
            subject.getAttributes().put("idNameLoginid", idNameLoginid);
        }
    }

    @Override
    public Subject getSubject(String id) throws SubjectNotFoundException,
        SubjectNotUniqueException {
        Subject subject = super.getSubject(id);
        decorateSubject(subject);
        return subject;
    }

    @Override
    public Subject getSubjectByIdentifier(String id)
        throws SubjectNotFoundException, SubjectNotUniqueException {
        Subject subject = super.getSubjectByIdentifier(id);
        decorateSubject(subject);
        return subject;
    }

    @Override
    public Set<Subject> search(String searchValue) {
        Set<Subject> subjectSet = super.search(searchValue);
        for (Subject subject : GrouperUtil.nonNull(subjectSet)) {
            decorateSubject(subject);
        }
        return subjectSet;
    }
}

```

\* Edit the sources.xml, and instead of:

```

<source adapterClass="edu.internet2.middleware.grouper.subj.GrouperJdbcSourceAdapter">
  <id>jdbc</id>

```

Change it to:

```

<source adapterClass="poc.MyGrouperJdbcSourceAdapter">
  <id>jdbc</id>

```

- Do another "ant dist" from GROUPER\_HOME
- Start gsh from the bin dir, search for the subject again, see the new attribute: idNameLoginid

```
gsh 0% SubjectFinder.findById("mchyzer", "person").getAttributes()  
java.util.HashMap: {LFNAME=[null], idNameLoginid=mchyzer Chris Hyzer , LOGINID=[null]}  
gsh 1%
```

- Note, after major upgrades of Grouper versions, you should test this to make sure it is still accurate...