Getting started with Grouper development

Background

The purpose of this document is to describe the necessary set of steps needed to assist a developer reach a functional grouper deployment from the grouper source tree.

Requirements

1. The environment must have the Java Development Toolkit installed. Ensure that JAVA_HOME is set to the JDK installation folder. JDK 6~8 should all work.

2. The environment must have Apache Tomcat installed. Ensure that CATALINA_HOME is set to the Tomcat installation folder. Tomcat 6 is the preferred version.

Source Checkout

Checkout the grouper source from the project source repository:

```
git checkout git@github.com:Internet2/grouper.git
```

Build

1. Navigate to grouper-ui\webapp\WEB-INF\build.properties and specify the path to your Tomcat installation folder.

```
...
domain=/Users/apache-tomcat/webapps
serverhome=/Users/apache-tomcat
```

2. From the grouper root directory, execute:

```
ant all
```

The result will be **GroupsManager.war** that will exist inside the **${domain}** directory.

Test

1. Modify your **${server}/conf/tomcat-users.xml** file to include the following snippet:

```
<role rolename="grouper_user"/>
<user username="GrouperSystem" password="GrouperSystem" roles="grouper_user"/>
```

2. Open up a command prompt, and navigate to grouper/grouper directory and execute:

```
start-hsql.[sh|bat]
```

This will spin up an HSQL database instance. Keep this running in the background.

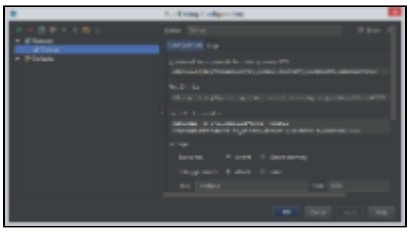
3. Navigate to http://localhost:8080/GroupsManager, authenticate with **GrouperSystem/GrouperSystem** and you should see the grouper home page.

Debugging

1. In your Tomcat\bin directory, locate the **startup.[bat|sh]** and include the following lines at the top:

```
set JPDA_ADDRESS=8000
set JPDA_TRANSPORT=dt_socket
```

2. In your IDE (Eclipse or IntelliJ IDEA) set up a remote debugger that would connect to port 8000. Here is a snapshot of what it would look like in IDEA:



3. Restart Tomcat. In the tomcat log, you should see an entry that says:

```
Listening for transport dt_socket at address: 8000
...
```

4. In your IDE, attach the debugger to the new remote debugger (Tomcat above) you created by starting a new debug session.

5. Set breakpoints and interact with grouper. The debugger should halt on each breakpoint.