Health Ontology Mapper installation and sample data setup guide

# System Setup

## Prerequesites

The basic system requirements for installing i2b2 and the Ontology Mapper system are fairly minimal, but specific. A virtual machine is recommended but by no means required. The following setup was used for the testing deployment:

* CentOS 5.4
  + Specific version probably isn’t important, but a good package manager and graphical user interface are extremely helpful in later steps
* 30 + GB of hard disk space
  + The Oracle DB will require quite a bit of space, the OS needs some room, and the OntoMapper software needs some space as well
* Java JDK 6
  + JDK 5 will probably work as well
* Glassfish 2.1
  + Glassfish 3 and Tomcat 5.5 may work as well
* Oracle 10g Express Edition (XE)
  + May be installed from RPMs for server and client, available here
  + 9i and some other versions of Oracle probably work as well
* Apache Ant 1.7
  + Newer versions probably work
* The OntologyMapper software itself
  + Can be checked out directly from UCSF and Recombinant Data via SVN
    - <http://svn.recomdata.com/osr/OntologyMapper/trunk/IDR>
    - While under development, this codebase may not be stable or working
  + A known-working zip archive of the codebase
    - \*\*LINK\*\*

## General Setup

1. Install a Subversion client
   1. For CentOS and RHEL: yum install subversion -y
2. Install JDK 6
   1. Download from <http://java.sun.com>
   2. Set the JAVA\_HOME environment variable
   3. Set the PATH environment variable to include $JAVA\_HOME/bin
   4. rpm -ivh jdk-6u##--linux-i586-rpm.bin
      1. “##” will be the specific minor release version
3. Install apache ant
   1. Download from <http://ant.apache.org/bindownload.cgi>
   2. Unpack the archive (tar cfvz for .tar.gz or unzip for .zip)
   3. Set the ANT\_HOME environment variable to your ant package location
   4. Set the PATH environment variable to include $ANT\_HOME/bin
4. Install glassfish 2.1
   1. java -jar glassfish-installer-v2.1.1-b31g-linux.jar
      1. Follow the directions on screen as prompted
   2. Set the GLASSFISH\_LOCATION environment variable
   3. Set the PATH environment variable to include $GLASSFISH\_LOCATION/bin
5. Install Oracle 10g XE
   1. rpm -ivh oracle-xe-10.2.0.1-1.0.i386.rpm oracle-xe-client-10.2.0.1-1.0.i386.rpm
6. Configure Oracle Application Express’s listener port
   1. Required to avoid conflict with glassfish on 8080
   2. Using the Oracle GUI tools, start the PL/SQL Console
   3. Log in to Oracle using the username and password you provided during installation
   4. Execute the following commands to change the port to 9090:

begin

dbms\_xdb.sethttpport(9090);

dbms\_xdb.setftpport(0);

end;

* + 1. Setting either port to 0 disables that feature
  1. Restart Oracle with /etc/init.d/oracle-xe restart

## Setup and Install OntoMapper

1. Extract and install the Oracle database scripts
   1. \*\*LINK TO ZIP OF .sql FILES\*\*
   2. Execute the setup scripts in the following order:
      1. I2B2DEMODATA\_Oracle.sql
      2. I2B2METADATA\_Oracle.sql
      3. I2B2WORKDATA\_Oracle.sql
      4. I2B2HIVE\_Oracle.sql
      5. Alter\_I2B2DEMODATA\_Oracle.sql
      6. I2B2\_Metadata\_Insert\_Oracle.sql
      7. OntoMapper\_Metadata\_Insert\_Oracle.sql
2. Configure the OntoMapper data source for your Oracle install
   1. Edit WebContent\WEB-INF\applicationContext.xml
      1. Comment out the Sybase connector information
      2. Uncomment the Oracle connector information
      3. Set the username, password, etc for both ‘dataSource’ and ‘i2b2MetadataDataSource’
3. Specify the file upload folder for IRB and IACUC approval files
   1. Edit src/upload.properties to reference a location on your file system
      1. /tmp/<whatever> is fine for testing
4. Configure the logger properties
   1. Edit src/log4j.properties as needed
5. Build the OntoMapper application by executing the ant build file buildIDR.xml located under the root directory.
   1. ant -f buildIDR.xml
6. Deploy the generated IDR.war to Glassfish
   1. Copy IDR.war to $GLASSFISH\_DIR/domains/domain1/autodeploy
7. Start Glassfish
   1. asadmin domain1 start
      1. The autodeploy and startup process may take a few minutes
8. Verify the IDR webapp works
   1. Point a web browser to <http://localhost:8080/IDR/jsp/Login.jsf>
9. Configure the Mapping interpreter data source
   1. Edit db.properties to specify the Oracle data source, username, and password
10. Build the Mapper
    1. ant -f build.xml
       1. Mapper.jar is generated at the top level of the build
11. Execute the generated Mapper.jar
    1. The Mapping Interpreter takes an xml file (mapper instance file) as input.
       1. java -jar Mapper.jar file=xml\HSDB\_Mapper.xml
    2. Once a mapper instance file is executed it could be re-run by supplying its id found in MAP\_DIMENSION table of I2B2DEMODATA schema.
       1. java -jar Mapper.jar id=1