ART Tips

Table of Contents

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1. Using the jTDS driver

- When using the jTDS driver to report from an SQL Server 2005/2008 database, the sql browser service needs to be running

- If connecting to a named instance e.g. if you are using SQL Server 2008 Express, use a JDBC url like the following

  ```
  jdbc:jtds:sqlserver://localhost/mydatabase;instance=SQLEXPRESS
  ```

2. Migrating the ART repository

ART doesn't provide any in-built tools to migrate the repository from one database to another. The following are suggested techniques for such a migration.

2.1. Migrating between the same RDBMS

To migrate between the same RDBMS e.g. from a MySQL database to another MySQL database, use the backup/restore tools provided for your RDBMS

2.2. Migrating between different RDBMSs

To migrate between different RDBMSs e.g. from a PostgreSQL database to a MySQL database, use ETL tools e.g. Pentaho Data Integration

2.2.1. Using Pentaho Data Integration

These steps illustrate the steps to migrate an ART repository database on PostgreSQL to MySQL.

- Create a new database on your MySQL server to serve as the destination. Run the **art-tables.sql** and quartz**tables_mysql.sql** scripts on this database to create a new, empty ART repository
- Run the **spoon.bat** file in the PDI_HOME\data-integration directory
- From the **Tools | Wizards | Create database connection** menu, create connections for your source and destination database
- Select the **Tools | Wizards | Copy tables** menu
- Select the source and destination databases
- In the available items list, select all the tables that begin with art_ i.e. don't select the qrtz_xx tables. This is so that you don't run into foreign key constraint issues when you run the job.
- Provide a name and directory where the job should be saved. The job must be saved before it runs.
- Run the job. You can use the **Run this job** icon to do this.

- Run the following statement on your destination database e.g. using HeidiSQL

```
update art_jobs set migrated_to_quartz='N'
```

The migration is done. You can now launch ART and define this new database as your ART repository.

2.2.2. Migrating the default database

These steps illustrate the steps to migrate the default ART repository database (HSQLDB) to MySQL using Pentaho Data Integration.

- Navigate to the PDI_HOME\data-integration**libext\JDBC** directory
- Delete the **hsqldb.jar** file and replace it with a version that corresponds to the version of the HSQLDB database e.g. for the default ART database, you can use the hsqldb jar found in the ART_HOME\WEB-INF\lib directory
- Start the default database in server mode. Navigate to the ART_HOME**WEB-INF\hsqldb\server-mode** directory and run the **start-databases.bat** file.
- Run the **spoon.bat** file in the PDI_HOME\data-integration directory
- From the **Tools | Wizards | Create database connection** menu, create connections for your source and destination database
- When creating the database connection to the HSQLDB database, use **HyperSonic** as the Type of database to connect to. In the next screen, for the name of the database, use **artrepository**.
- Select the **Tools | Wizards | Copy tables** menu
- Select the source and destination databases
- In the available items list, select all the tables that begin with art_ i.e. don't select the qrtz_xx tables. This is so that you don't run into foreign key constraint issues when you run the job.
- Provide a name and directory where the job should be saved. The job must be saved before it runs.
- Run the job. You can use the **Run this job** icon to do this.

- Run the following statement on your destination database

```
update art_jobs set migrated_to_quartz='N'
```

3. Upgrading a HSQLDB database

If you are upgrading your ART installation and are using a hsqldb database for the art repository, you can use the SQuirrel SQL Client to run the upgrade scripts to update your repository.

- Download, install and run SQuirrel SQL Client
- In the **Drivers** section, right click on the **HSQLDB Standalone** driver and select **Modify Driver**
- Select the **Extra Class Path** tab, click on the **Add** button and provide the path to a hsqldb driver .jar file. You can get a copy from the ART installation, in the ART_HOME\WEB-INF\lib directory.
- Click on OK to save and activate the driver
- In the **Aliases** section, click on the icon for **Create a new alias**
- Give the alias any name you want
- Select the HSQLDB Standalone driver in the Drivers list
- For the url, put the jdbc url for the file that you want to upgrade e.g. `jdbc:hsqldb:c:\my\ArtRepositoryDB`

- Give the username/password for your database e.g ART/ART for the default ART repository, ArtRepositoryDB
- Click on the **Properties** button and select the **Driver Properties** tab
- Tick the **Use driver properties** box
- For the **shutdown** property, tick the **Specify** column and select **true** for the value
- Click OK to save the properties
- Click on **Test** to ensure SQuirrel can connect to your database, then click on OK to save
- Select your new alias and click on the **Connect to Selected Alias** icon
- Copy the contents of the ART database upgrade script you want to run to SQuirrel, to the SQL tab
- Use **Ctrl+A** to select all the SQL statements
- Click on the **Run SQL** icon to run the sql statements
- Close SQuirrel

4. Deployment on JBoss 7

To deploy ART on JBoss 7, take the following steps.

- Create a **directory** named **art.war** in the JBoss deployment directory e.g. **JBOSS_HOME\standalone\deployments\art.war**
- Unzip the contents of the art.war file to this directory
- Create a file named **art.war.dodeploy** in the JBoss deployment directory e.g. **JBOSS_HOME\standalone\deployments\art.war.dodeploy**

For more details about application deployment on JBoss 7, see
https://docs.jboss.org/author/display/AS7/Application+deployment

5. Using custom fonts in JasperReports

If you want to use custom fonts in a jasper report, take the following steps to ensure the text is displayed correctly, especially in pdf view mode.

- When designing your report in iReport, select the **Tools | Options** menu
- Select the **Fonts** tab in the iReport section and click on the **Install Font** button
- Specify the location of your font file e.g. `C:\windows\fonts\arialuni.ttf` and click on Next
- In the **PDF details** section specify the required PDF Encoding e.g. For the Arial Unicode MS font, `Identity-H` would enable the display of text in most languages. You can select the option to Embed the font in the PDF document if your users may not have the font installed on their machines. This results in larger PDF files.
- Proceed with the Next steps of the wizard. The remaining configuration steps are optional.
- The custom font should now appear in the top panel of the Fonts tab.
- Select the font and click on the **Export as extension** button
- Select a path and file name for the font extension file e.g. `C:\temp\arialuni.jar`
- Click on OK to close the Options dialog
- Select the field in the report that should use the custom font. In the Properties editor, select the new font in the **Font name** field. For charts, you can set the appropriate field e.g. `Legend Font` etc. Preview the report in iReport to confirm that the report displays as desired. Ensure to

also use the PDF Preview to confirm how pdf output will look like.

- Save your report
- Stop your application server
- Copy the font extension file to the **ART_HOME\WEB-INF\lib** directory
- Start your application server
- Create or modify your query and upload the report's `.jrxml` file
- When you run the query, the generated output should use your custom font