

ART Libraries

ART uses a number of free and open source libraries and resources in order to provide various functionality. Below is a listing of some of them.

| Library | License | Comment |
|---------------------------------------|-----------------------|--|
| Tango Desktop Project | Public Domain | Many icons used in the application have come from this icon set |
| Logback | EPL v1.0 and LGPL 2.1 | Provides the concrete logging library. More currently maintained than log4j used previously. Enables modification of logging level without need to restart the application. Switching to debug mode can now be done without much thought. Also provided code to enable viewing of logs from the application interface. No longer need access to application server machine to view logs. |
| SLF4J | MIT | Logging facade allowing for change of the concrete logging library without changing application code. Allowed for an easy change from using log4j to logback (ART 2.3.1 to 2.4). No code changes were needed and there was minimal change from the log4j.xml file to the logback.xml file. |
| jsoup | MIT | Enable automatic generation of pdf manuals from wiki contents |
| html2ps | GPL | Enable automatic generation of pdf manuals from wiki contents |
| sorttable.js | X11 | Enable sorting of data in htmlGrid view mode |
| date.js | MIT and GPL | Used to verify validity of dates entered for date parameters |
| AjaxTags | Apache | Used to display dashboards, to provide information about queries in the start page and to retrieve saved schedule information in the define job page |
| Cewolf | LGPL | Used to display charts on the browser |
| JFreeChart | LGPL | Used to output charts as pdf and png files |
| Mondrian | EPL | Used to provide OLAP functionality |
| JPivot | CPL | Used to provide the interface for interacting with OLAP cubes |

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| Apache Commons , including fileupload, lang | Apache | Used for a number of utility functions |
| HSQLDB | custom , based on BSD | Used to provide a demo database with sample queries |
| iText | MPL or LGPL Using iText 2.1.7 which was the last version under this license. Later iText versions are licensed under the AGPL | Used to provide pdf output |
| JasperReports | LGPL | Used to provide support for formatted reports |
| JCIFS | LGPL | Used to provide windows authentication |
| Apache POI | Apache | Used to provide xls, xlsx and docx output for tabular reports |
| Quartz | Apache | Used to provide scheduling for jobs |
| SPNEGO | LGPL | Used to provide integrated windows authentication or Single Sign On |
| DataTables | GPL or BSD | Used to provide the htmlDataTable view mode. Enables paginated results, sorting and searching of results |
| jQuery | MIT | Used to display query results in the select parameters page |
| jQuery Form Plugin | MIT and GPL | Enable use of AJAX in form submission |
| TinyMCE | LGPL | Used to provide a HTML WYSIWYG editor for defining job email message text, and contents of text queries |
| DHTMLgoodies JS Calendar | LGPL | Used to provide a date picker for date parameters in the select parameters page |
| jBCrypt | ISC/BSD | Used to hash user passwords |
| log4jdbc | Apache | Used to support logging of sql statements |
| OWASP Java Encoder | New BSD | Escaping/encoding of strings that build html output, to prevent cross-site scripting |

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| Font Awesome | SIL OFL 1.1 | Used to provide icons used within the application. (ART 3.0+) |
| Bootstrap | MIT | Provides a responsive user interface, enabling use of a single code base for different screen sizes i.e. for tablets, phones and computers. (ART 3.0+) |
| Bootbox.js | MIT | Provides information and confirmation dialogs e.g. when deleting records. (ART 3.0+) |
| Bootstrap-hover-dropdown | MIT | Enables bootstrap menus to dropdown on hover instead of on click. (ART 3.0+) |
| HTML5 Shiv | MIT/GPL2 | Enables use of HTML5 with Internet Explorer 6-8. (ART 3.0+) |
| jquery.dataTables.rowReordering.js | GPL v2 or BSD style | Enables reordering of rows within a DataTables table. Used to change drilldown and report parameter positions. (ART 3.0+) |
| jquery.quicksearch.js | MIT | Allow for search within a multi-select. (ART 3.0+) |
| lou multiselect.js | Custom | Provides a user-friendly way to perform multi selects. (ART 3.0+) |
| Notify.js | MIT | Used to provide event notifications e.g. successful record deletion. (ART 3.0+) |
| Respond.js | MIT | Enables use of HTML5 with Internet Explorer 6-8. (ART 3.0+) |
| Appelsiini chained select | MIT | Provides the chained parameters feature. (ART 3.0+) |
| Bootstrap-select | MIT | Provides enhanced functionality in select elements e.g. allowing for search and multi select. (ART 3.0+) |
| Eonasdan datetimepicker | MIT | Provides a date picker. (ART 3.0+) |
| moment.js | MIT | Manipulating dates in javascript. Required by eonasdan date picker. (ART 3.0+) |
| jQuery UI | MIT | Provides ui effects. Required by jquery.dataTables.rowReordering.js. (ART 3.0+) |
| Thymeleaf | Apache | Provides email templates used with scheduled jobs. (ART 3.0+) |
| Spring Framework | Apache | Provides the MVC framework. (ART 3.0+) |

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| Commons DbUtils | Apache | Makes working with JDBC cleaner. (ART 3.0+) |
| Joda-Time | Apache | Provides date manipulation functions. (ART 3.0+) |
| Ehcache | Apache | Provides object caching. (ART 3.0+) |
| Jackson JSON processor | Apache, LGPL | Provides for loading and saving java objects to json files. (ART 3.0+) |
| Hibernate validator | Apache | Provides validation annotations. (ART 3.0+) |
| UnboundID LDAP SDK | GPL 2, LGPL 2.1, Custom | Enables LDAP authentication. (ART 3.0+) |
| jTDS | LGPL | A JDBC driver for SQL Server |
| MySQL Connector/J | GPL | JDBC driver for MySQL |
| MariaDB Connector/J | LGPL | JDBC driver for MariaDB |
| CUBRID JDBC driver | BSD | JDBC driver for CUBRID |
| PostgreSQL JDBC Driver | BSD | JDBC driver for PostgreSQL |
| UCanAccess | Apache | JDBC driver for MS-Access. (ART 3.0+) |
| jXLS | Apache | Provides reports based on pre-created MS-Excel templates |
| HikariCP | Apache | Provides connection pooling. (ART 3.0+) |
| JavaMail API | CDDL 1.1, GPL 2 | Enables sending of emails |
| Barbecue | BSD-style | Used for jasper reports with barcodes. (ART 3.0+) |
| Freemarker | Apache | Used for reports based on freemarker templates. (ART 3.0+) |
| Bootstrap Switch | Apache | Used to display checkboxes as toggle switches. (ART 3.0+) |
| XDocReport | MIT | Used for reports based on docx, odt or pptx templates. (ART 3.0+) |
| Simple Java API for ODF | Apache | Used to provide odt and ods output for tabular reports. (ART 3.0+) |
| Apache Commons Net | Apache | Used to provide ftp functionality. (ART 3.0+) |
| Java CAS client | Apache | Provides CAS authentication functionality. (ART 3.0+) |

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| sqlite-jdbc | Apache | JDBC driver for SQLite. (ART 3.0+) |
| CsvJdbc | LGPL | JDBC driver for csv files, other delimited files e.g. pipe delimited etc and fixed width files. (ART 3.0+) |