

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

Library	License	Comment
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
Font Awesome	SIL OFL 1.1	Used to provide icons used within the application (ART 3.0+)

Library	License	Comment
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+)
Commons DbUtils	Apache	Makes working with JDBC cleaner. (ART 3.0+)

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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+)
sqlite-jdbc	Apache	JDBC driver for SQLite. (ART 3.0+)

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CsvJdbc	LGPL	JDBC driver for csv files, other delimited files e.g. pipe delimited etc and fixed width files. (ART 3.0+)
Tooltipster	MIT	Used for chart tooltips (ART 3.0+)
Jasny Bootstrap	Apache	Used to provide a file upload component for report types that use a template file e.g. jXLS reports. (ART 3.0+)
jQuery File Upload	MIT	Used to enable upload of multiple files that may be used by a JasperReports report e.g. images and sub-report files. (ART 3.0+)
Microsoft JDBC Driver for SQL Server	MIT	JDBC driver for SQL Server. (ART 3.0+)
gridstack.js	MIT	Provides Gridstack Dashboard functionality. (ART 3.0+)
Lodash	MIT	Dependency of gridstack.js (ART 3.0+)
highlight.js	BSD	Used to provide syntax highlighting for "Show SQL" option. (ART 3.0+)
Ace	BSD	Provides syntax highlighting when creating reports (ART 3.0+)
JSZip	MIT and GPLv3	Required for DataTables.xlsx export. (ART 3.0+)
pdfmake	MIT	Required for DataTables.pdf export. Also includes vsf_fonts.js which is the default font definition for pdfmake - the Roboto font. (ART 3.0+)
ReactPivot	MIT	Used to provide ReactPivot report functionality. (ART 3.0+)
PivotTable.js	MIT	Provides PivotTable.js report types. (ART 3.0+)
C3.js	MIT	Provides charts in PivotTable.js reports. (ART 3.0+)
D3.js	BSD	Dependency of C3.js. (ART 3.0+)
Papa Parse	MIT	Enables PivotTable.js reports that use csv files as input. (ART 3.0+)
Subtotal.js	MIT	Provides subtotals for PivotTable.js report types. (ART 3.0+)
opencsv	Apache	Provides csv output. (ART 3.0+)

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uniVocity-parsers	Apache	Provides csv output. (ART 3.0+)
dygraphs	MIT	Provides Dygraphs report types. (ART 3.0+)
yadcf	MIT	Provides column filters for DataTables reports. (ART 3.0+)
Chart.js	MIT	Provides Chart.js report type. (ART 3.0+)
randomColor	CCO	Provides colours for chart.js reports. (ART 3.0+)
Datamaps	MIT	Provides Datamaps report types. (ART 3.0+)
topojson	custom	Required for Datamaps. (ART 3.0+)
Leaflet	BSD	Provides Leaflet report type. (ART 3.0+)
OpenLayers custom	Provides OpenLayers report type. (ART 3.0+)	