

ART Libraries

ART uses a number of free and open source libraries and resources in order to provide various features. 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 1.0 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, etc	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 WYSISYG 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

Library	License	Comment
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+)
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. Documentation . (ART 3.0+)
jquery.quicksearch.js	MIT	Allow for search within a multi-select (ART 3.0+)
lou multi select	MIT	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+)
Chained selects	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+)

Library	License	Comment
Spring Framework	Apache	Provides the MVC framework (ART 3.0+)
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-databind	Apache	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+)

Library	License	Comment
Java CAS client	Apache	Provides CAS authentication functionality. (ART 3.0+)
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+)
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+)

Library	License	Comment
Subtotal.js	MIT	Provides subtotals for PivotTable.js report types. (ART 3.0+)
opencsv	Apache	Provides csv output. (ART 3.0+)
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+)
JQuery Hottie	MIT	Provides the Tabular Heatmap report type. (ART 3.0+)
Log4jdbc-log4j2	Apache	Provides for logging of datasource sql statements (ART 3.0+)
H2 JDBC driver	MPL 2.0, EPL 1.0	JDBC driver for H2. (ART 3.0+)
Saiku including saiku-ui, saiku-service, saiku-query, saiku-olap-util	Apache	Provides analytics functionality - olap analysis. (ART 3.0+)
Couchbase JDBC driver	Apache	JDBC driver for Couchbase. (ART 3.0+)
MongoDB Java Driver	Apache	Java driver for MongoDB. (ART 3.0+)
Jongo	Apache	Allows querying of MongoDB using syntax similar to that of the Mongo shell. (ART 3.0+)
Morphia	Apache	Allows querying of MongoDB using alternative syntax (ART 3.0+)
Groovy	Apache	Used to enable execution of dynamic code e.g. with MongoDB reports. (ART 3.0+)
groovy-sandbox	MIT	Provides security for running groovy scripts. (ART 3.0+)
Firebird JDBC driver	LGPL	JDBC driver for Firebird. (ART 3.0+)

Library	License	Comment
MonetDB JDBC driver	MPL	JDBC driver for MonetDB. (ART 3.0+)
Informix JDBC driver	Custom	JDBC driver for Informix. (ART 3.0+)
Cassandra JDBC wrapper	Apache	JDBC wrapper for the Datastax Java Driver for Cassandra. (ART 3.0+)
Neo4j JDBC driver	Apache	JDBC driver for Neo4j. (ART 3.0+)
moment-jdateformatparser	MIT	Converts <code>java.text.SimpleDateFormat</code> date formats for date/datetime parameters to <code>moment.js</code> date formats used by <code>eonasdan</code> date picker. (ART 3.0+)
Apache Tika	Apache	Determine the mime type of a file. (ART 3.0+)
JSch	BSD style	Provides SFTP functionality. (ART 3.0.1+)
Jackcess Encrypt	Apache	Enable reporting from password protected MS Access files. (ART 3.1+)
PDFBox	Apache	Used to set passwords on pdf files. (ART 3.1+)
Bouncy Castle	MIT	Required in order to set passwords on pdf files. (ART 3.1+)
AES Crypt	Apache	Enables encrypting of reports using the AES Crypt file format. (ART 3.1+)
JPGPJ	MIT	Enables encrypting of reports using OpenPGP. (ART 3.1+)
Autosize	MIT	Enable autogrow of form input that can take short or much longer text. (ART 3.1+)
cron-parser	MIT	Provide description for main schedule when editing a job or schedule. (ART 3.1+)
SMBJ	Apache	Allows for copying of files to (SMB2) networks shares. (ART 3.1+)
jclouds	Apache	Enables copying of files to cloud blob storage e.g. Amazon S3. (ART 3.1+)
Sardine	Apache	Allow for copying of files to WebDAV servers. (ART 3.1+)
Velocity Tools	Apache	Provide classes for formatting numbers and dates in XDocReport reports that use velocity syntax. (ART 3.1+)
Velocity Engine	Apache	Provides the velocity report type. (ART 3.2+)
OrgChart	MIT	Provides OrgChart report types. (ART 3.2+)

Library	License	Comment
JSON Loop	MIT	Enables OrgChart: Database report type. (ART 3.2+)
html2canvas	MIT	Required for OrgChart export. (ART 3.2+)
ES-6 Promise	MIT	Required for OrgChart export in IE browser. (ART 3.2+)
jsPDF	MIT	Required for OrgChart pdf export. (ART 3.2+)
Whisper	Apache	Provides for suppression of duplicate error message emails when using error notification. (ART 3.2+)
Jaspersoft MongoDB Connecor	EPL 1.0	Enable jasper reports to report from MongoDB datasources. (ART 3.2+)
AWS Java SDK For Amazon S3	Apache	Enables copying of files to Amazon S3 storage. (ART 3.2+)
ReportEngine	Apache	Provides ReportEngine report types. (ART 3.3+)
jackson-dataformat-xml	Apache	Provides representation of REST API call results as XML. (ART 3.4+)
Woodstox	Apache	Used by jackson-dataformat-xml. (ART 3.4+)
JJWT	Apache	Provides for REST API authentication using JWT tokens. (ART 3.4+)
Date Range Picker	MIT	Enables date range parameter type. (ART 3.5+)
plotly.js	MIT	Provides Plotly.js report type. (ART 3.5+)
Dozer	Apache	Used to make copies of objects. (ART 3.6+)
ZeroTurnaround Zip Library	Apache	Used in zipping/unzipping files. (ART 3.7+)
Cloning	Apache	Used to make copies of objects. (ART 3.8+)
Snowflake JDBC driver	Apache	JDBC driver for Snowflake. (ART 3.10+)
Synapticloop Backblaze B2 Java API	MIT	Enables copying of files to Backblaze B2 storage. (ART 3.11+)
Inputmask	MIT	Enables use of masks for parameters. (ART 3.11+)
Presto JDBC driver	Apache	JDBC driver for Presto. (ART 4.0+)
kdb+ JDBC driver	Apache	JDBC driver for kdb+. (ART 4.0+)
kdb+ Java client	Apache	Java client/api for kdb+. (ART 4.0+)

Library	License	Comment
InfluxDB Java client	MIT	Allow querying of InfluxDB databases. (ART 4.0+)
DataStax Java Driver for Apache Cassandra	Apache	Allows querying of Cassandra databases. (ART 4.0+)
Bootstrap Dropdown Hover	Apache	Allows opening of dropdown menus on hover. (ART 4.0+)
jQuery QueryBuilder	MIT	Enables self service reports functionality. (ART 4.1+)
Multiselect	MIT	Enables self service reports functionality. (ART 4.1+)
itfsw QueryBuilder	Apache	Enables self service reports functionality. (ART 4.1+)
jackson-dataformat-csv	Apache	Enables import/export of records to csv. (ART 4.4+)
jcifs-ng	LGPL 2.1	Provides windows domain authentication. (ART 4.5+)
Apache Calcite	Apache	Provides JDBC driver for JSON files, MongoDB. (ART 4.9+)
Starschema BigQuery JDBC driver	BSD	JDBC driver for Google BigQuery. (ART 5.0+)