Reports

Reports in Koha are a way to gather data. Reports are used to generate statistics, member lists, shelving lists, or any list of data in your database.

• *Get there:* More > Reports

Custom reports

Koha's data is stored in a MySQL database which means that librarians can generate nearly any report they would like by either using the <u>guided reports wizard</u> or writing their own <u>SQL query</u>.

Add custom report

Note

Only staff with the <u>create_reports permission</u> (or the <u>superlibrarian permission</u>) will be able to create custom reports, either with the <u>guided report wizard</u> or <u>directly with SQL</u>.

Guided report wizard

The guided report wizard will walk you through a six step process to generate a report.

Step 1: Choose the module you want to report on. This will determine what tables and fields are available for you to query.

'Report is public' should be left to the default of 'No' in most cases especially if the report contains patron or other sensitive information. A public report can be accessed using the <u>JSON reports services</u> by anyone and without authentication.

Build a report

Step 1 of 6: Choose a module to report on, Set cache expiry, and choose report visibility

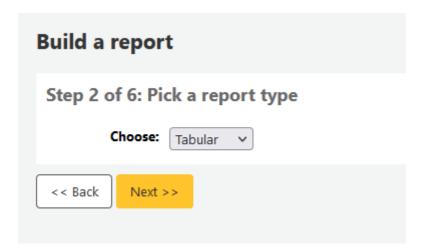
| Choose: | Circulation | ٧. |
|-----------|--------------|----|
| Report is | No (default) | ~ |

Note

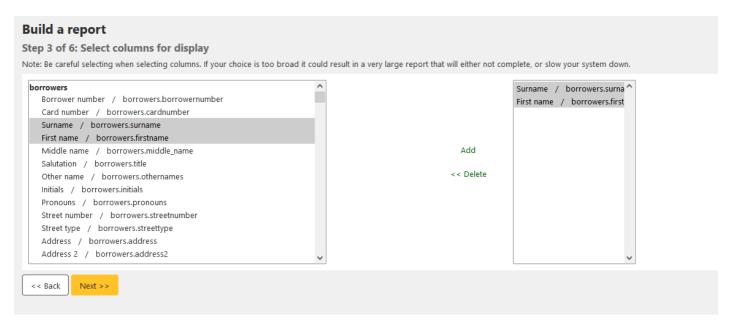
If your system administrator has set up memcache on your server you might see one more option for the Cache expiry. This is related to your public reports. If you make the report public then it's constantly running and will cause a large load on your system. Setting this value prevents that.

| Build a report | | | | |
|---|----------------|-------------------|--|--|
| Step 1 of 6: Choose a module to report on, Set cache expiry, and choose report visibility | | | | |
| Choose: | Circulation 🗸 | | | |
| Report is public: | No (default) 🗸 | | | |
| Cache expiry: | 300 | Seconds (default) | | |
| | | Seconds (default) | | |
| Next >> | | Minutes | | |
| | | Hours | | |
| | | Days | | |

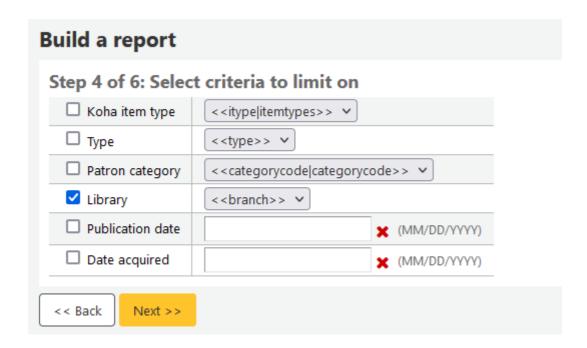
Step 2: Choose a report type. For now, Tabular is the only option available.



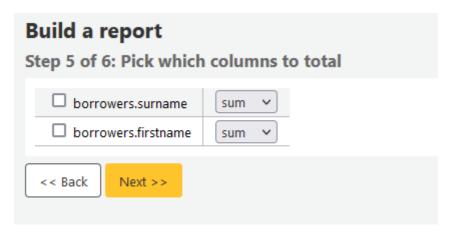
Step 3: Choose the fields you want in your report. You can select multiple fields and add them all at once by using CTRL+click on each item you want to add before clicking the Add button.



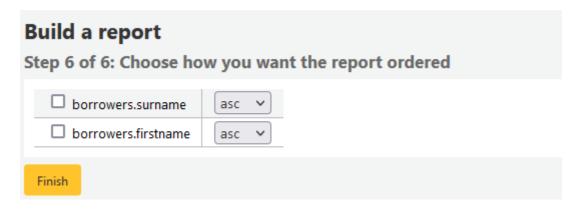
Step 4: Choose any limits you might want to apply to your report (such as item types or branches). If you don't want to apply any limits, simply click 'Next' instead of choosing an option.



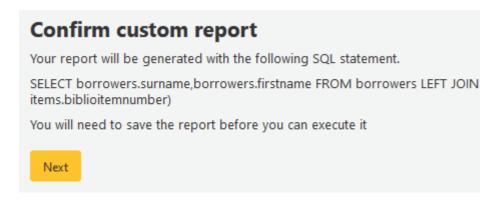
Step 5: Perform math functions. If you don't want to do any calculations, simply click 'Next' instead of choosing an option.



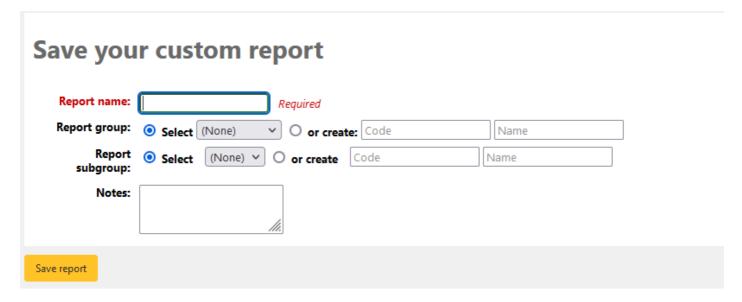
Step 6: Choose data order. If you want the data to print out in the order it's found in the database, simply click 'Finish'.



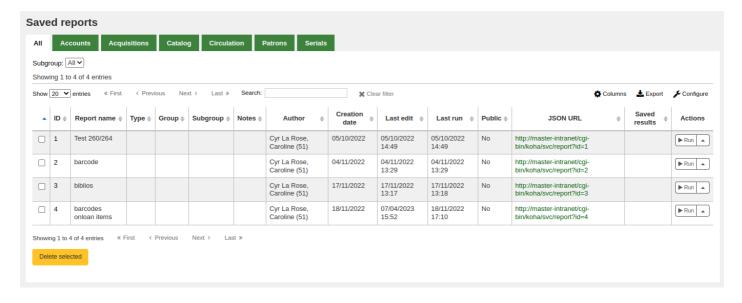
When you are finished you will be presented with the SQL generated by the report wizard. From here you can choose to save the report by clicking 'Finish' or copy the SQL and make edits to it by hand.



If you choose to save the report you will be asked to name your report, sort it in to groups and subgroups and enter any notes regarding it.



Once your report is saved it will appear on the 'Use saved' page with all other saved reports.



Note

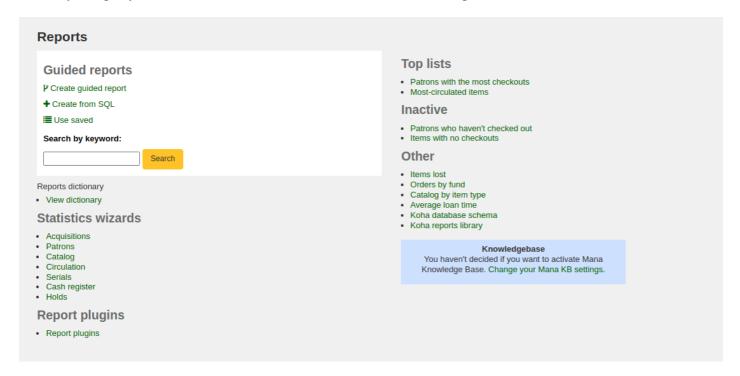
 You can customize the columns of this table in the <u>'Table settings'</u> section of the Administration module (table id: table_reports).

From here you can make edits, run the report, or schedule a time to have the report run. To find the report you created you can sort by any of the columns by clicking the on the column header (creation date is the best bet for finding the report you just added). You can also filter your results using the filter menu on the left or use the tabs to find reports based on your custom groups.

Report from SQL

In addition to the report wizard, you have the option to write your own queries using SQL. To find reports written by other Koha users, visit the Koha wiki: http://wiki.koha-community.org/wiki/SQL_Reports_Library. You can also find your database structure in /installer/data/mysql/kohastructure.sql or online at: http://schema.koha-community.org [http://schema.koha-community.org/].

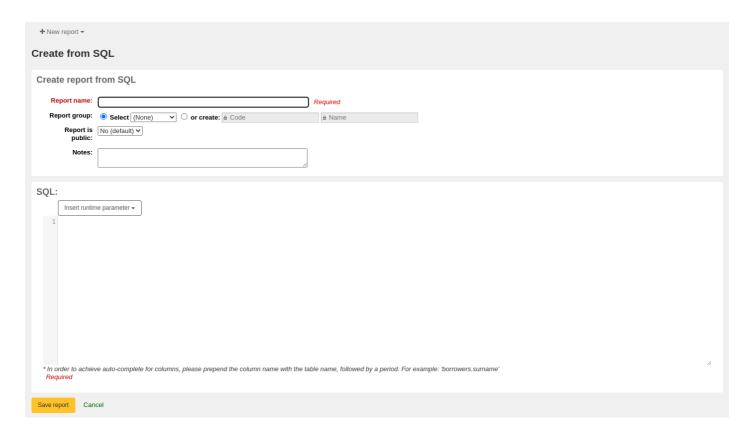
To add your query, click the link to 'Create from SQL' on the main reports module



or the 'New report' button at the top of the 'Saved reports' page.



Fill in the form presented



- Report name: the name is what will appear on the 'Saved reports' page to help you identify the report later. It will also be searchable using the filters found on the left of the 'Saved reports' page.
- Report group: you can use the 'Report group' to organize your reports in tabs on the 'Saved reports' page. You can choose from the list of existing groups, or create one on the fly by choosing the 'or create' radio button.



Report groups are set in the REPORT GROUP authorized value category.

Warning

If you're adding a report group on the fly, the code should not include special characters or spaces.

• Report subgroup: if you chose a report group, this field will appear to further organize your reports. Choose a subgroup from the list, or create one on the fly by choosing the 'or create' radio button.

Report subgroups are set in the REPORT SUBGROUP authorized value category.

Note

Report subgroups need to have unique values in 'Authorized value' and 'Description'. The 'Description (OPAC)' field needs to contain the authorized value for the report group that the subgroup falls under.

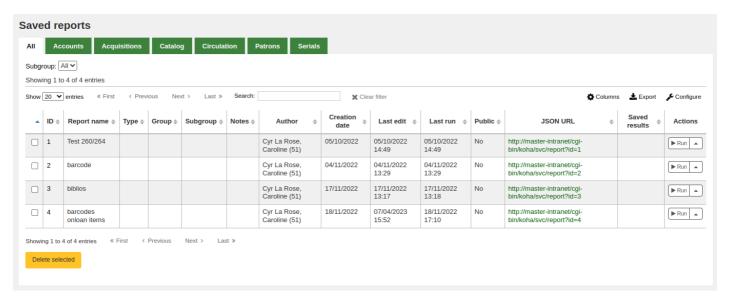
Warning

If you're adding a report subgroup on the fly, the code should not include special characters or spaces.

- Report is public: this should be left to the default of 'No' in most cases, especially if the report contains patron or other sensitive information. A public report can be accessed using the <u>JSON reports services</u> by anyone and without authentication.
- Cache expiry: this field will only appear if your system administrator has set up memcache on your server. This is related to public reports. If you make the report public, it's constantly running and will cause a large load on your system. Setting this value prevents that.
- Notes: notes will appear on the 'Saved reports' page, and can be used to provide more details about the report or tips on how to enter values when it runs.
- SQL: type or paste the SQL for the report (see <u>report writing tips</u> below).

Once everything is entered click the 'Save report' button and you'll be presented with options to run it. From here, you can also edit it, duplicate it, or schedule it to be run later.

Once a report is saved, you do not have to recreate it, it will appear on the 'Saved reports' page with all other saved reports.



Note

You can customize the columns of this table in the <u>'Table settings'</u> section of the Administration module (table id: table_reports).

From the 'Saved reports' page, you can <u>make edits</u>, <u>run the report</u>, or schedule a time to run the report later. To find the report you created, you can sort by any of the columns by clicking on the column header (creation date is the best to find the report you just added). You can also filter your results using the filter menu on the left or use the tabs to find reports based on your custom groups.

SQL Report writing tips

Autocomplete

When you start typing in the SQL field, autocomplete options will be displayed.

```
Insert runtime parameter 

1 SEL

**In order to achieve auto-complete for columns, please prepend the column name with the table name, followed by a period. For example: 'borrowers.surname'

**Required

**Required
```

Use the arrows on your keyboard to choose the correct option and press 'Enter' or 'Tab' to insert it into your report, or simply click on the option to insert it.

Autocomplete options include:

- SQL keywords such as SELECT, FROM, WHERE, etc.
- table names
- column names

Note

To have suggestions for column names, you must type the table name first, followed by a period, then start typing the column name.

For example, to have the suggestion for cardnumber, you must type borrowers.ca.

Runtime parameters

If you feel that your report might be too resource intensive you might want to consider using runtime parameters to your query. Runtime parameters basically make a filter appear before the report is run to save your system resources.

Click the button 'Insert runtime parameter' and choose which parameter to add.



- Authorized value: will display a drop down menu of the value descriptions from the chosen <u>authorized</u> <u>value category</u>. The authorized value code will be inserted in the report when it is run.
- Bibliographic framework: will display a drop down menu of <u>MARC bibliographic frameworks</u>. The framework code will be inserted in the report when it is run.
- Classification sources: will display a drop down menu of <u>classification sources</u>. The classification code will be inserted in the report when it is run.
- Date: will display a calendar to pick a date. The date in YYYY-MM-DD format will be inserted in the report when it is run.
- Item types: will display a drop down menu of <u>item types</u>. The item type code will be inserted in the report when it is run.
- Libraries: will display a drop down menu of <u>libraries</u>. The library code (branchcode) will be inserted in the report when it is run.
- List: will display a large text box in which the user can enter many values, one per line. Those values will be inserted in the report, separated by commas, when it is run.

Warning

In the case of the list parameter, users must write one value per line.

- Patron categories: will display a drop down menu of <u>patron categories</u>. The category code will be inserted in the report when it is run.
- Cash registers: will display a drop down menu of <u>cash registers</u>. The cash register's internal id will be inserted in the report when it is run.
- Debit types: will display a drop down menu of <u>debit types</u>. The debit type code will be inserted in the report when it is run.
- Credit types: will display a drop down menu of <u>credit types</u>. The credit type code will be inserted in the report when it is run.
- Text field: will display an empty text field in which the user can enter any text.

Note

You have to put "%" in a text box to 'leave it blank'. Otherwise, it literally looks for "" (empty string) as the value for the field.

For example entering nothing for: "title=<<Enter title>>" will display results with title=" (no title).

If you want to have to have something not mandatory, use "title like <<Enter title>>" and enter a % at run time instead of nothing.

After you choose the type of runtime parameter, it will ask you for the parameter label. This is what the user will see as the label for the choice they have to make or text they have to enter.

The syntax inserted into the report is <<Label|authorized_value>>.

- The << and >> are just delimiters to indicate the start and end of the runtime parameter.
- The label will be displayed on the left of the choice or value to enter.
- The authorized_value can be omitted if not applicable. If it is absent, a free text field will be displayed. If it contains an authorized code (see table below), a drop down of the values will be displayed.

Note

You can write those in manually as well, you don't have to go through the 'Insert runtime parameter' button. As long as the syntax is correct, Koha will interpret it as a runtime parameter.

List of parameters that can be used in runtime parameters

| Parameter | What the user sees | What gets inserted in query |
|-----------------------|--|-----------------------------|
| date | date picker | validly formatted date |
| branches | drop down of branch names | branch code |
| itemtypes | drop down of item type names | item type |
| categorycode | drop down of patron category descriptions | borrower category code |
| biblio_framework | drop down of MARC bibliographic frameworks | framework code |
| list | large text box | comma separated values |
| (auth-value-category) | drop down of auth-value descriptions in category | authorized value |
| (nothing) | text box | entered text |

Note

You can have more than one runtime parameter in a given SQL query.

Note

When using runtime parameters that create drop down menus you can optionally specify whether to include an option for 'All' or to allow multiple selections.

- To include an option for all the syntax is LIKE <<Label|branches:all>>.
- To allow multiple selections the syntax is IN <<Label|itemtypes:in>>.

```
SELECT *
FROM
items i
WHERE
i.homebranch LIKE <<Library|branches:all>>
AND
i.itype IN <<Item type|itemtypes:in>>
```

Example 1

| + New report ▼ | |
|---|---|
| Enter parame | eters for report Runtime parameter Example 1: |
| Enter patrons library: Enter filter for patron surname (% if none): | Centerville |
| Run the report | |

Example 2

SELECT *
FROM items
WHERE homebranch = <<Pick your branch|branches>>
 AND barcode LIKE <<Partial barcode value here>>

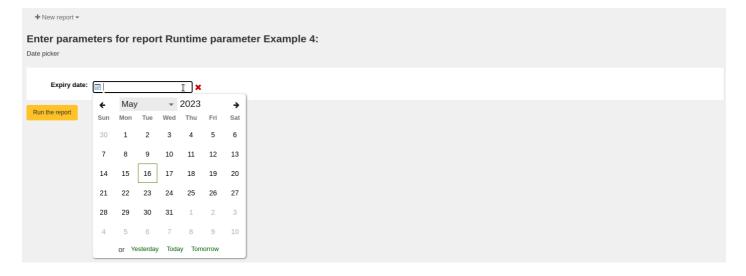
| + New report ▼ | | | |
|--|-------------------|--|--|
| Enter parameters for report Runtime parameter Example 2: | | | |
| Choice of library and ba | arcode text field | | |
| Pick your branch: | Centerville | | |
| Partial barcode value here: | | | |
| Run the report | | | |

Example 3

```
SELECT title,
    author
FROM biblio
WHERE frameworkcode = <<Enter the frameworkcode|biblio_framework>>
```



Example 4



Example 5

SELECT *
FROM items
WHERE itemnumber IN <<List of itemnumbers (one per line)|list>>



Warning

In the case of the list parameter, users must write one value per line.

Column names

You can use an SQL alias to rename columns.

Example

```
SELECT surname AS "Last Name"
FROM borrowers
```

For reports whose results you wish to <u>send to batch modification tools</u> or generate <u>automatic hyperlinks to</u> use [[batch field|Column Name]] to rename the itemnumber, biblionumber or borrowernumber columns. For example, [[itemnumber|Item Number]] will format the itemnumber column as "Item Number", while allowing those results to be sent to the batch item modification tool.

Example

SELECT [[borrowernumber|Borrower Number]], firstname AS "First Name", surname AS "Last Name" FROM borrowers

Hyperlinks

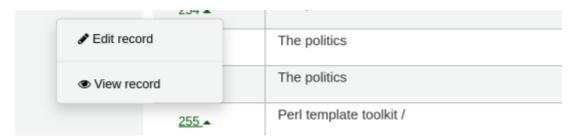
It can be useful to add clickable links to reports to make it easier for staff to navigate directly to specific results.

Koha will automatically generate hyperlinks for any report that contains a borrowernumber, cardnumber, itemnumber or biblionumber.

Note

The column name must match the type of data your are inserting. Please see <u>Column names</u> for more details on naming columns for automatic hyperlinks.

When a user clicks on the number, the menu will prompt the user to click which Koha page they wish to visit.



Available actions for each automatic link are:

• borrowernumber: View, edit, check out

cardnumber: Check outitemnumber: View, editbiblionumber: View, edit

You may wish to make this a single click by directly linking to a specific page, or you may wish to make other data into clickable links; to make a book's title a clickable link that brings the user to the bibliographic record, for example. Koha will insert HTML links added to the SELECT statement and by using CONCAT, data from the report results can be added to create a clickable link.

Example 1

This example uses the string /cgi-bin/koha/members/boraccount.pl?borrowernumber=XXXX to insert a direct link to a borrower. The end user will see the borrower's library barcode number.

SELECT CONCAT('';
FROM borrowers

Koha will automatically insert your library's top level domain when a user clicks the link, so only "cgi-bin" and onward is required.

Note

The example uses single quotation marks to separate the CONCAT segments, which are joined by commas. Below is a detailed explanation of the sections, each of which is separated by a comma:

- CONCAT This SQL command combines separate queries and strings into a single column. Parentheses will enclose the next entries.
- '<a href="/cgi-bin/koha/members/boraccount.pl?borrowernumber=' The beginning of an HTML link tag and Koha URL that points to a specific borrower. The single quotation marks ensure the string is printed literally. You must escape the double quotation marks with a backslash to ensure Koha interprets it literally rather than as part of the SQL.
- borrowernumber The borrower number from the database. This is not enclosed by single quotation marks because we wish to query Koha.
- '">' The end of an opening HTML tag for a link. Again wrapped in single quotation marks.
- cardnumber The borrower's barcode number queried from Koha. This is what will be visible to the user and comprise the clickable link.
- '' A closing tag of an HTML link. Wrapped in single quotation marks.

Example 2

This example will link directly to an item, displaying the item's barcode to the user.

SELECT CONCAT('', barcofrom items



Example 3

This example will link to a bibliographic record and display the item's title.

SELECT CONCAT('', title FROM biblio

SQL report from Mana

In the "Create report from SQL", you can search Mana KB for pre-made reports by clicking on "New report" and choosing "New SQL from Mana".

Note

This option will only appear if you've configured Mana KB in the administration module.

You will be prompted to enter keywords to search the knowledge base.

In the search results, you will see

- the details of the report (name, notes and type)
- how many people have used this entry (# of users)
- when it was used for the last time (last import)

• additional comments made by other Koha users (comments)

Click on "Import" to import a copy of the report in your own saved reports.

You can then edit it, duplicate it, delete it, run it as you would any of your own reports.

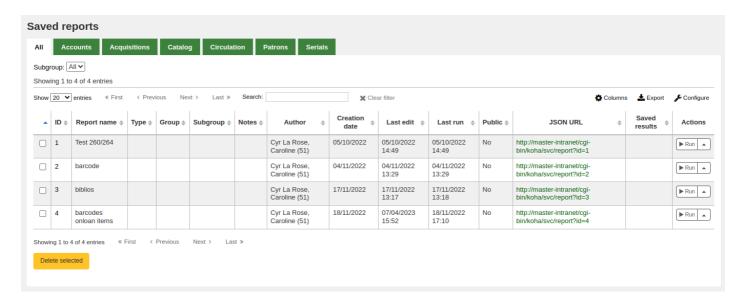
Duplicate report

Reports can also be added by duplicating an existing report. Visit the 'Saved reports' page to see all of the reports listed on your system already.

To the right of every report there is an 'Actions' pull down. Clicking that and choose 'Duplicate' to use an existing report as the basis for your new report. That will populate the new report form with the existing SQL for easy editing and resaving.

Edit custom reports

Every report can be edited from the reports lists. To see the list of reports already stored in Koha, click 'Use saved.'



Note

• You can customize the columns of this table in the <u>'Table settings'</u> section of the Administration module (table id: table_reports).

To find the report you'd like to edit you can sort by any of the columns by clicking the on the column header. You can also filter your results using the filter menu on the left or use the tabs to find reports based on your custom groups.

From this list you can edit any custom report by clicking 'Actions' to the right of the report and choosing 'Edit' from the menu that appears.

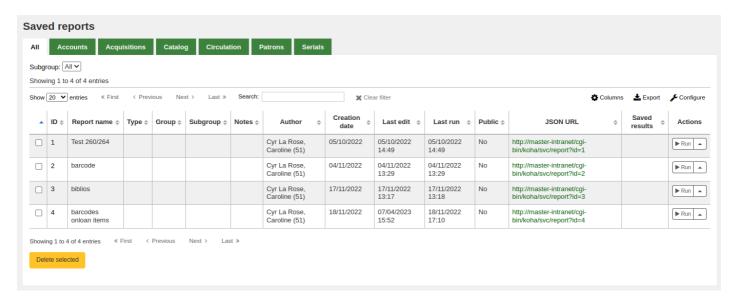
The form to edit the report will appear. Use the "update button" to save your modifications or click on "update and run SQL" to save and display the report results.

Running custom reports

Note

Only staff with the <u>execute_reports permission</u> (or the <u>superlibrarian permission</u>) will be able to run existing reports.

Once custom reports are saved to Koha, you can run them by going to the Saved Reports page and clicking the 'Run' button to the right of the report.



When your report runs, you will either be asked for some values,



or you will see the results right away.

From the results you can do various actions with the button bar at the top of the page.

- New report: create a brand new report.
 - New guided report: goes to the guided report wizard
 - New SQL report: goes to the <u>create from SQL</u> section
 - New SQL from Mana: this option only appears if <u>Mana is set up</u>, to <u>search Mana for an existing SQL report</u>.
- Edit:
 - Edit: edit the current report
 - Duplicate: <u>create a new report from the existing one</u>
 - Delete: delete the current report

- Run report: rerun the report
- Run with template: this button only appears if you have notice templates in the <u>notices and slips tool</u> that are for reports.

Tip

To view the results in a format other than the traditional table, you can create a template in the notices and slips tool.

For example, to view patron information in 'card' form,

- Go to <u>Tools > Notices and slips</u>.
- Click 'New notice', and choose 'Reports'.
- Fill out the code and name for the slip. The name will be what appears in the 'Run with template' menu.
- In the 'Print' template section, paste the code:

- o Click 'Save'.
- In a report with patron information, for example,

```
SELECT * FROM borrowers LIMIT 50
```

Click 'Run with template' and choose the template.

Instead of a table, the results will appear in 'card' form.

- Schedule: schedule the report to be run at a later time with the <u>task scheduler tool</u>
- Download: download the results
 - Comma separated text (.csv): a comma separated text file is a CSV file and it can be opened by any spreadsheet application or a text editor
 - Tab separated text: a tab separated text can also be opened by any spreadsheet or a text editor
 - Open Document Spreadsheet: ODS is an open-source spreadsheet file that can be opened in most spreadsheet applications
- Show SQL code: show the SQL query used to get those results
- Create chart: create a pie chart or a line/bar chart with the visible results
- Fetch all data for chart: make all the data visible to make a chart with all the data

Send report output to batch modification tools

After running a report that contains itemnumbers, biblionumbers and/or patron cardnumbers the list of numbers can be imported directly into the relevant batch modification tool by clicking the 'Batch operations with X visible records' button in the report results. The X depends on the number of records you have chosen to display on screen (up to 1000).

Statistics reports

Statistic reports will show you counts and sums. These reports are all about numbers and statistics, for reports that return more detailed data, use the <u>guided report wizard</u>. These reports are limited in what data they can look at, so it's often recommended to use <u>custom reports</u> for official end of the year statistics.

Note

Only staff with at least one of the <u>reports permissions</u> (or the <u>superlibrarian permission</u>) will be able to use the statistics wizards.

Acquisitions statistics

Note

These reports are limited in what data they can look at, so it's often recommended to use <u>custom</u> <u>reports</u> for official end of the year statistics.

Using the form provided, choose which value you would like to appear in the column and which will appear in the row.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

When generating your report, note that you get to choose between counting or summing the values.

Choosing amount will change your results to appear as the sum of the amounts spent.

Patron statistics

Note

These reports are limited in what data they can look at, so it's often recommended to use <u>custom</u> <u>reports</u> for official end of the year statistics.

Using the form provided, choose which value you would like to appear in the column and which will appear in the row.

If you choose to output to the browser your results will print to the screen.

Based on your selections, you may see some query information above your results table. You can also choose to export to a file that you can manipulate to your needs.

Catalog statistics

Note

These reports are limited in what data they can look at, so it's often recommended to use <u>custom</u> <u>reports</u> for official end of the year statistics.

Using the form provided, choose which value you would like to appear in the column and which will appear in the row.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Circulation statistics

Note

These reports are limited in what data they can look at, so it's often recommended to use <u>custom</u> <u>reports</u> for official end of the year statistics.

Using the form provided, choose which value you would like to appear in the column and which will appear in the row.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Note

To get a complete picture of your monthly or daily circulation, you can run the report twice, once for 'Type' of 'Checkout' and again for 'Renewal.'

This report uses 'Period,' or date, filtering that allows you to limit to a month by simply selecting the first day of the first month through the first day of the next month. For example, 10/1 to 11/1 to find statistics for the month of October.

- To find daily statistics, set your date range.</br>
 Example: "I want circulation data starting with date XXX up to, but not including, date XXX."
- For a whole month, an example range would be: 11/01/2009 to 12/01/2009
- For a whole year, an example range would be: 01/01/2009 to 01/01/2010
- For a single day, an example would be: 11/15/2009 to 11/16/2009 to find what circulated on the 15th

Tracking in house use

Using the Circulation statistics reporting wizard you can run reports on in house usage of items simply by choosing 'Local use' from the 'Type' pull down:

Serials statistics

Note

These reports are limited in what data they can look at, so it's often recommended to use <u>custom</u> <u>reports</u> for official end of the year statistics.

Using the form provided, choose how you would like to list the serials in your system.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Holds statistics

Note

These reports are limited in what data they can look at, so it's often recommended to use <u>custom</u> <u>reports</u> for official end of the year statistics.

Using the form provided you can see statistics for holds placed, filled, cancelled and more at your library. From the form choose what value you want to display in the column and what value to show in the row. You can also choose from the filters on the far right of the form.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Patrons with the most checkouts

This report will simply list the patrons who have the most checkouts.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Most circulated items

This report will simply list the items that have the been checked out the most.

If you choose to output to the browser your results will print to the screen. You can also choose to export to a file that you can manipulate to your needs. Patrons with no checkouts This report will list for you the patrons in your system who haven't checked any items out. If you choose to output to the browser your results will print to the screen. You can also choose to export to a file that you can manipulate to your needs. Items with no checkouts This report will list items in your collection that have never been checked out. If you choose to output to the browser your results will print to the screen. You can also choose to export to a file that you can manipulate to your needs. Catalog by item type This report will list the total number of items of each item type per branch.

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Lost items

This report will allow you to generate a list of items that have been marked as Lost within the system

Once you have chosen parameters, you will see the corresponding list of items.

Note

• You can customize the columns of this table in the <u>'Table settings'</u> section of the Administration module (table id: lostitems-table).

Orders by fund

If you use the <u>Acquisitions module</u>, you will be able to see all the items that were ordered in each fund.

Once you choose the fund you wish to view, you can export the results or view them in the browser. If you choose to view them directly, you will be shown the list of orders.

Note

• You can customize the columns of this table in the <u>'Table settings'</u> section of the Administration module (table id: funds-table).

Average loan time

This report will list the average time items are out on loan based on the criteria you enter:

If you choose to output to the browser your results will print to the screen.

You can also choose to export to a file that you can manipulate to your needs.

Report dictionary

The report dictionary is a way to pre-define common filters you'd like to apply to your reports. This is a good way to add in filters that the report wizard doesn't include by default. To add a new definition, or filter, click 'New definition' on the reports dictionary page and follow the 4 step process.

- Step 1: Name the definition and provide a description if necessary
- Step 2: Choose the module that the will be queried.
- Step 3: Choose columns to query from the tables presented.

Step 4: Choose the value(s) from the field(s). These will be automatically populated with options available in your database.

Confirm your selections to save the definition.

Your definitions will all appear on the Reports Dictionary page

Then when generating reports on the module you created the value for you will see an option to limit by the definition at the bottom of the usual filters.

Report plugins

Some plugins that are available can be used to make or enhance reports.

• *Get there*: More > Reports > Report plugins > Report plugins

Note

Only staff with the <u>report permission</u> (or the <u>superlibrarian permission</u>) will be able to access report plugins.

From this page, you will see only report-type plugins.

See the <u>managing plugins section</u> of this manual to learn how to manage your report-type plugins.