BLUEcloud Analytics

Training Guide

SirsiDynix®

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Training Overview

Intended Audience

This guide is intended for those users who will create reports, dashboards and other objects in BLUEcloud Analytics.

Prerequisite

There is no pre-requisite knowledge necessary before using this guide. However, being familiar with your library's policies will be beneficial.

Supplementary Documentation

Please consult the *Data Reference Guide*, available in the SirsiDynix Support portal, as you learn more about and work with this product. The *Data Reference Guide* provides detailed information on the data attributes available in BLUEcloud Analytics. Most attributes are available for both Horizon and Symphony customers, but there are some exceptions. The *Data Reference Guide* details these exceptions and much more.

Goals

After completing this guide and/or the corresponding course, users will be able to:

- Create Reports and Dashboard Visualizations
- Filter and format Reports and Dashboards
- Set user preferences
- Share Objects with other users of BLUEcloud Analytics
- Schedule Reports for delivery via email

Getting Connected

Access information to your particular instance of BLUEcloud Analytics will not be provided during training. Your Site Administrator should receive the following information from your SirsiDynix Project Manager:

- URL for your instance of BLUEcloud Analytics
- Delivered usernames and passwords

BLUEcloud Analytics Overview

Introduction

BLUEcloud Analytics is the latest generation of reporting tools for the SirsiDynix Symphony and Horizon ILS systems. Used to its full potential, not only is it "a reporting tool", but also incorporates the concept of "analytics".

Most library personnel are already familiar with the general concept of a "report": a grid or graph of data that mainly describes *things that have already happened*.

While analytics will also shows you plenty of grids and graphs, the difference lies in the objective. Analytics is more about trends, and anticipating future needs. In other words, analytics is more concerned with presenting data indicating *what will likely happen*.

User Levels and Privileges

BLUEcloud Analytics is delivered with one administrative login. This login is created with admin level privileges. This is the highest level of privileges available. Users at this level can view reports, create dashboards, and create and save reports to any directory under their project.

NOTE: Additional logins can be created only by contacting Customer Support.

When requesting additional logins, you'll want to specify what level or set of privileges should be assigned to each login. BLUEcloud Analytics users are divided into four levels. Each user level has privileges that allow them to use different features of the product. The following bullet points provide an overview of each user level:

- Admin
  - Can create and save any report to all directories under the project, in addition to all Creator functions.
  - Limited to 15 users per subscription, including Creator users.
- Creator
  - Can create and save any report to My Reports, in addition to all Analyst functions.
  - Limited to 15 users per subscription, including Admin users.
- Analyst
  - Can create dashboards and basic reports and save to "My Reports", in addition to all Viewer functions.
  - Unlimited number of users allowed.

- Viewer
    - Can only view reports, has no creation privileges.
    - Unlimited number of users allowed.

NOTE: More detailed information about the privileges assigned to these groups is available in BLUEcloud Analytics User Levels Guide available on the Support Portal. Additional subscriptions can be purchased to accommodate your library's needs.

Terminology

Datasets

A dataset, as the name suggests, is the data you will be extracting information from in BLUEcloud Analytics. Data from your ILS is harvested nightly via an automated extraction process.

Reports

In BLUEcloud Analytics, the term "report" actually refers to a specific type of object that is a simple grid/graph focusing on one set of data. An example of something that might typically be shown as a report would be a count of your patrons by various categories, like a Horizon bType or a Symphony user category.

Reports are well suited, not only for "count" reports, but also for list reports such as lists of titles or lists of users. If you ever want to list something, a Report is always the best object to use.

Remember that some attributes are *only* available in Reports so if you would like access a specific attributes data, for example, *User Barcode* you would always want to create a Report. Consult the *Data Reference Guide* for more information about the availability of attributes. Reports data can later be pulled into dashboards. It is often useful to create a report with the data you wish to view first, in order to use it in a dashboard.

Dashboards

A dashboard is a special type of object deployed in a Flash format. Dashboards are a collection of important data that would benefit a decision maker "at-a-glance". For example, your cataloging supervisor might like a dashboard of several graphs that show general trends (items added by category or weeding activity), which can then be examined in more depth later.

Dashboards also can be highly interactive. Where reports are generally read-only in nature, a dashboard can have graphical elements on it that

let you view the data in different ways. You can dynamically apply filters, add a new metric, zoom in on a category of interest, copy data to another window, and zoom out again. All without ever leaving the current window, or flipping in and out of an "edit" mode.

Dashboards are especially well suited to the mindset behind analytics, and can serve different types of audiences from decision makers to staff.

For decision-makers, with a properly designed set of dashboards, you can have critical data about various library operations in front of you on one screen. Further, you can analyze, filter, and change the output in many ways without leaving the dashboard. The example below shows how these types of dashboards could look:

In the Dashboard Formatting chapter later in this guide, we will see that dashboards have even more sophisticated design potential, such as the ability to divide a dashboard into tabbed/sub-tabbed pages of content.

On the other hand, not everyone requires complex reporting like this. What if your circulation supervisor just wants a simple grid of checkout data? Dashboards can also present themselves much like a basic report:

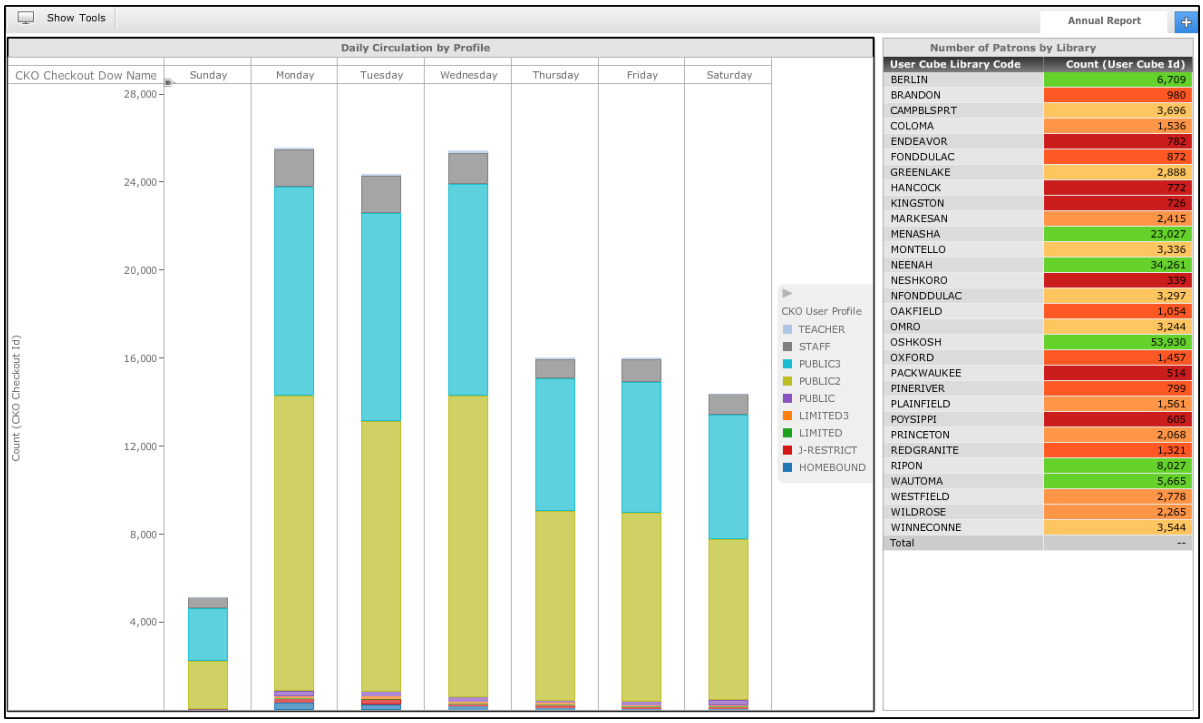
Checkout Library	Checkout Year	Checkout Month	Count (Checkout Id)
Oshkosh	2011	Nov	127
Oshkosh	2012	Jan	159
Oshkosh	2012	Feb	215
Oshkosh	2012	Mar	119
Oshkosh	2012	April	199
Oshkosh	2012	May	264

Visualization

Earlier in this section, we discussed "cubes", which are multi-dimensional matrices of data. BLUEcloud Analytics cubes are rather large sets of data that no human being could digest. Therefore, we need something that can present only the data from that cube we really want.

Visualizations are what you use in a dashboard to provide a specific view of the data. You can think of them as a close equivalent of a "report" that comes in the form of grids and/or graphs. Your dashboards can have one-to-many visualizations, depending on how much data you would like to present.

A simple dashboard may have just one visualization. More complex ones can have multiple visualizations, such as the example above with two: a graph and grid side-by-side.



Metrics

Much of your analysis will focus on gathering statistics. Metrics are objects in the cube that you will use to present numbers in your analysis. Examples of metrics might include “number of checkouts” or “number of renewals”. When working with reports, you will typically use *delivered* metrics. When working with dashboards you will not have access to delivered metrics and will instead create *derived* metrics.

Derived metrics

Derived metrics perform calculations on data just as delivered metrics do, but these calculations are done “on-the-fly”. These metrics can only be used for the dashboard in which they are created but provide greater flexibility in reporting and advanced calculations.

Attributes

Attributes are objects in the cube that can give numbers context. Examples of attributes might include “library” or “checkout year”. Your system will come delivered with a set of attributes in each cube.

Filters

Filters sift through your data and pull into your report only the information that you require in the report results. This makes the data in your report easier to understand and displays only the data the user needs to complete their analysis.

A filter is made up of one or more qualifications. Qualifications define the conditions that must exist for the data to be included in the report. We can join filters with Boolean logic such as AND or NOT.

Report Filters

Report filters are used to limit the display of data in a report, document or dashboard. We create report filters as we design the report and the filter is saved as part of the report’s definitions.

View Filters

A report filter restricts how much data is retrieved from the dataset, but we can also filter data *after* the report results have been displayed using a view filter. This type of filter dynamically limits the data displayed on the report without the user having to re-execute the report. Report filters can be combined with view filters within the same report. The report filter returns results, which the view filter further restricts.

Standalone Filters

Standalone filters are created as independent objects in BLUEcloud Analytics. Unlike, report filters, stand-alone filters can be reused in many different reports, documents or dashboards.

Derived elements

Derived elements are used in reports to group attributes together. Much like derived metrics, you can use derived elements to create groups on-the-fly while viewing a report. These groups provide a new way to view report data. For example, you could group data together by season (winter, spring, summer, and fall), by type (school libraries, academic libraries and public libraries) or by geographic area (Northside libraries and Southside libraries).

Personally Identifiable Information (PII)

Personally Identifiable Information or PII is considered to be any information that could be used to locate, contact or identify a person. In Horizon and Symphony, PII consists of the following data from a user record:

- Address
- Birthdate
- Email
- First name, Last name, Middle name and Suffix
- Phone number
- User ID

BLUEcloud Analytics does not harvest PII data by default from the ILS. If you would like PII available for reporting purposes in BLUEcloud Analytics, please open a case with Customer Support and request that it be made available in your instance of the product.

Cubes and Queries

Traditionally, reports are extracted from database tables and views out of a relational database, using either SQL statements or API calls. In addition to these types of queries, BLUEcloud Analytics also uses a type of data structure known as a *cube*, and accompanying technologies to support it. Cubes are used in creating Dashboards while Standard Reporting relies on queries.

If you think of tables as "flat" grids of data, think of cubes as a multi-dimensional data source. Dashboards rely heavily on data from the Cubes. Cubes take all the data from a predefined matrix of data and transform it into dimensional data.

This means that all data is in the cube from the beginning. When querying the cube in a Dashboard, filters are used to narrow the data to just the information you're interested in.

Standard Reporting, on the other hand, is a query generator. In reports you will choose the elements you want to display in a report and a specific query is created by the system to pull in only that data you have specified.

BLUEcloud Analytics includes several different datasets. These datasets are available in Standard Reporting and most are also structured as cubes for Dashboard reporting.

Each of the datasets is outlined in more detail in the following sections. Highlights of the delivered reports that accompany these datasets are also included.

Delivered Reports

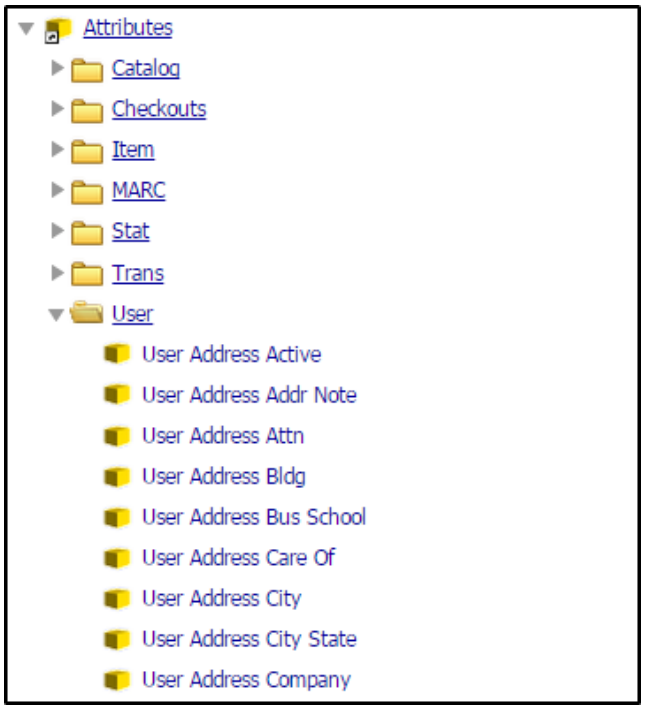
The reports delivered with each dataset can be used as they are or modified to meet the reporting needs of your organization. They are intended to be used as templates or a "starting point" for reporting. This allows you to apply some of the techniques you will learn later in this guide to these reports to customize them for your needs.

User Data

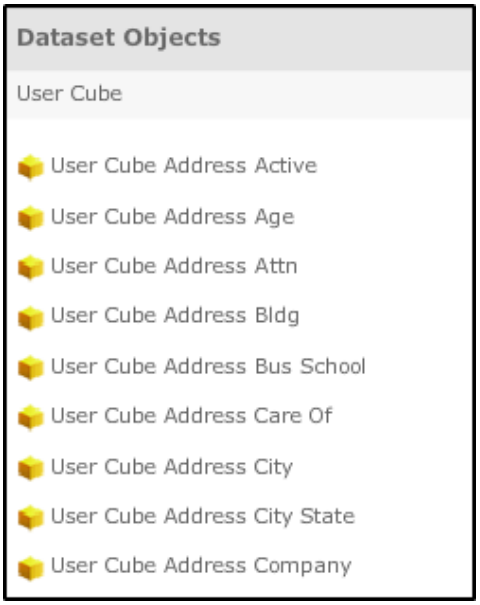
Imagine that you would like to create a report that shows the number of patrons in your ILS whose library card has been expired for over a year. This type of report would be built from *User* data.

NOTE: For steps on how to create this report, consult Exercise 1 in the List Reports section of this document.

Within Standard Reporting there is a folder containing User attributes as shown below. Note that this is not a complete list of User attributes.



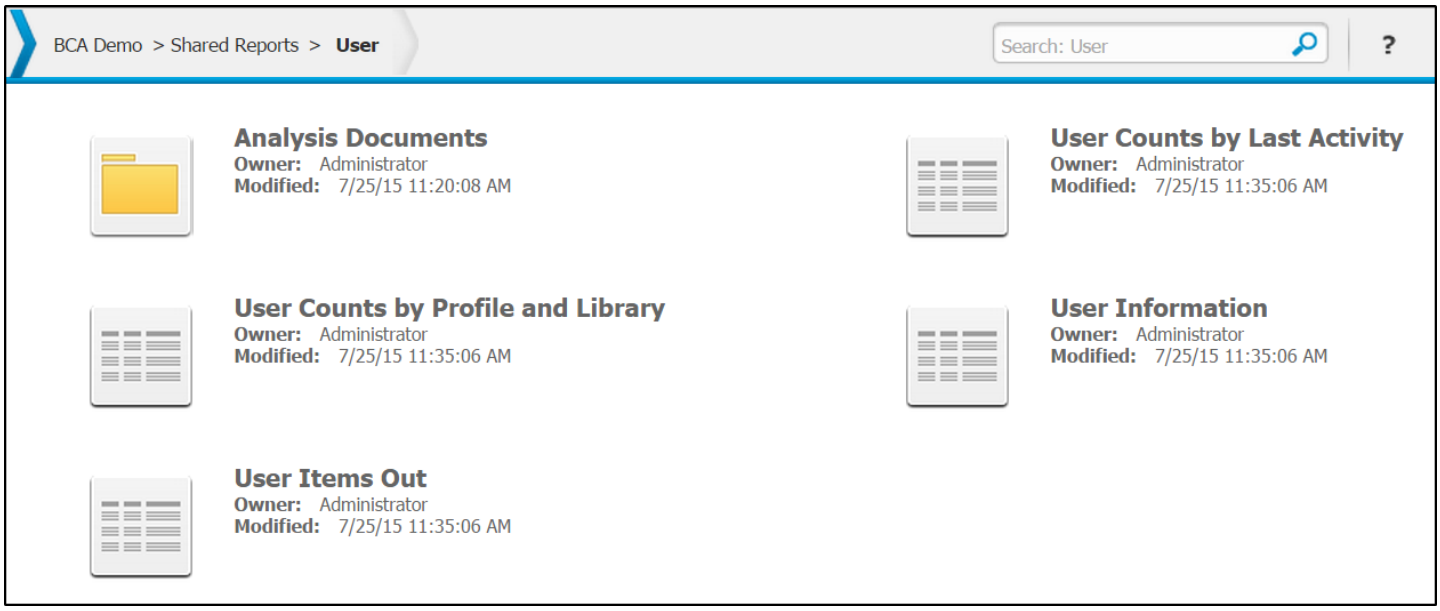
Within a Dashboard, these same attributes are accessible from the User Cube, with some exceptions.



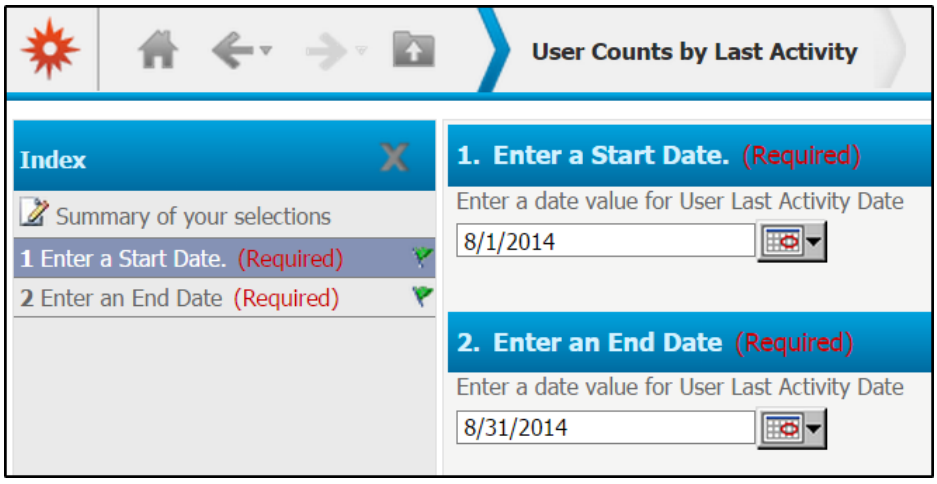
Remember that within a dataset, some attributes can be accessed through Standard Reporting and some can only be accessed in a Dashboard. *User Barcode* is a good example; this attribute can only be accessed in Standard Reporting. Consult the *Data Reference Guide* for more information.

Delivered Reports & Dashboards

User data is accompanied by four delivered reports and one dashboard (located within the *Analysis Documents* folder). These objects can be found in *Shared Reports* > *User*.



Each of these reports is unique and provides a different analysis of your user data. For example, the *User Counts by Last Activity* report prompts you to enter a date range, and returns a number of users active during that time period.



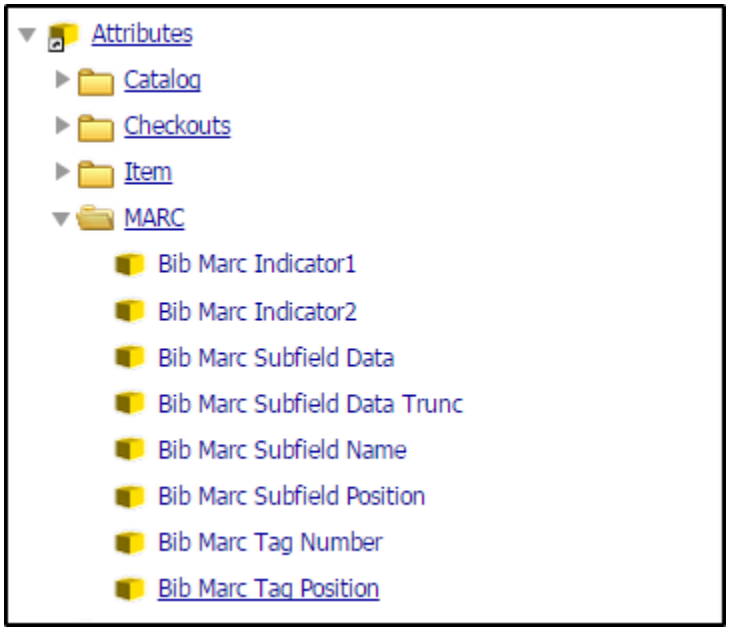
User Library	Metrics Number of Users
Berlin	336
Brandon	38
Campbellsport	247
Coloma	102
Endeavor	26
BEING REMOVED--NOT HOLDABLE	2
Green Lake (Caestecker)	200
Hancock	40
Kingston (Mill Pond)	34
Markesan	136
Menasha	938
Montello	110
Neenah	1,659
Neshkoro	9

MARC Data

Imagine that you would like to create a report that lists all of the titles in your ILS that contain a specific phrase in a specific field of the bibliographic records. This type of report would be built from *MARC* data.

NOTE: For steps on how to create this report, consult Exercise 2 in the List Reports section of this document.

Within Standard Reporting there is a folder containing MARC attributes as shown below.



NOTE: MARC data is not intended to be used in a Dashboard. Because of this, no MARC cube is delivered with BLUEcloud Analytics.

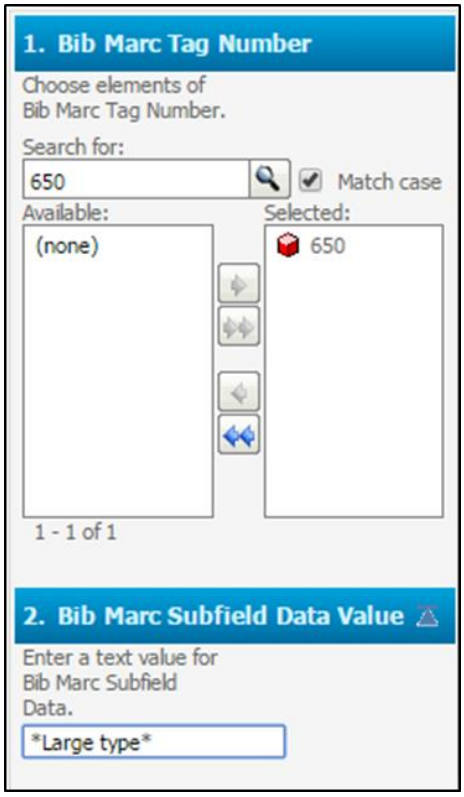
Delivered Reports

MARC data is accompanied by four delivered reports. These objects can be found in *Shared Reports* > *MARC*.

Each of these reports is provides a different way to analyze MARC data. For example, the *MARC Lookup Full Record* report includes three options prompts allowing you to specify a MARC field, subfield and subfield text.

After running this report, as with any delivered reports, you can make adjustments as needed, for instance adding View Filters, or removing or adding attributes.

The example below includes a View Filter. For more information on View Filters consult the section Adding a View Filter found within this document.



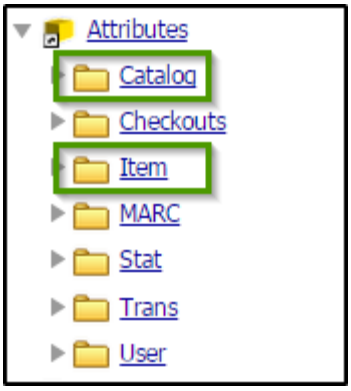
Catalog ID	Tag Position	Tag Number	Subfield Position	Subfield Name	Subfield Data	Indicator 1	Indicator 2
13267	13	245	1	a	Julie of the wolves.	1	0
			2	c	Pictures by John Schoenherr.	1	0
	20	650	1	a	Wolves		1
			2	v	Fiction.		1
			3	=	^A82330		1
	21	650	1	a	Eskimos		1
			2	v	Fiction.		1
			3	=	^A68173		1
	22	650	1	a	Large type books.		1
			2	=	^A75190		1
40979	14	245	1	a	The doctors were brothers /	1	4
			2	c	Elizabeth Seifert.	1	4
	18	650	1	a	Large type books.		0
			2	=	^A75190		0
64903	15	245	1	a	New plants from old :	1	0
			2	b	pruning and propagating for the indoor gardener /	1	0
			3	c	Charles M. Evans ; ill. by Lauren Jarrett.	1	0
	20	650	1	a	House plants.		0
			2	=	^A73267		0
	21	650	1	a	Plant propagation.		0
			2	=	^A71337		0

Catalog and Item Data

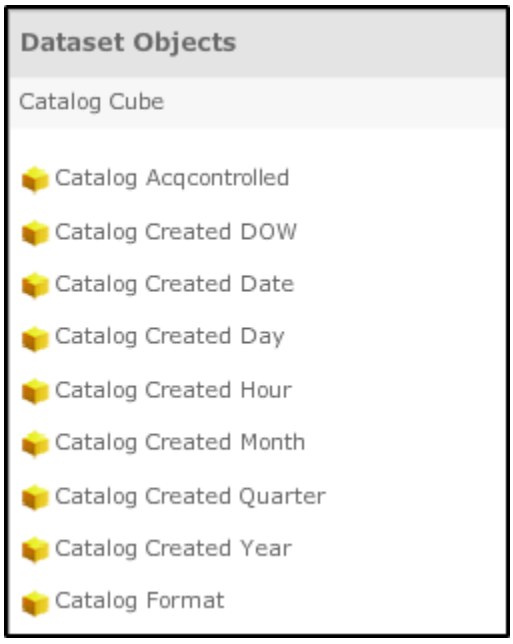
Imagine that you would like to create a report that lists all of the titles in your ILS system that contain a particular subject heading or a particular string of text within a specific MARC field. Within the report you would want to include information like title, author and perhaps even item barcode or call number. This type of report would be built from *Catalog* and *Item* data.

NOTE: For steps on how to create this report, consult Exercise 2 in the List Reports section of this document.

Within Standard Reporting there is a folder containing Catalog attributes and one containing Item attributes as shown here.



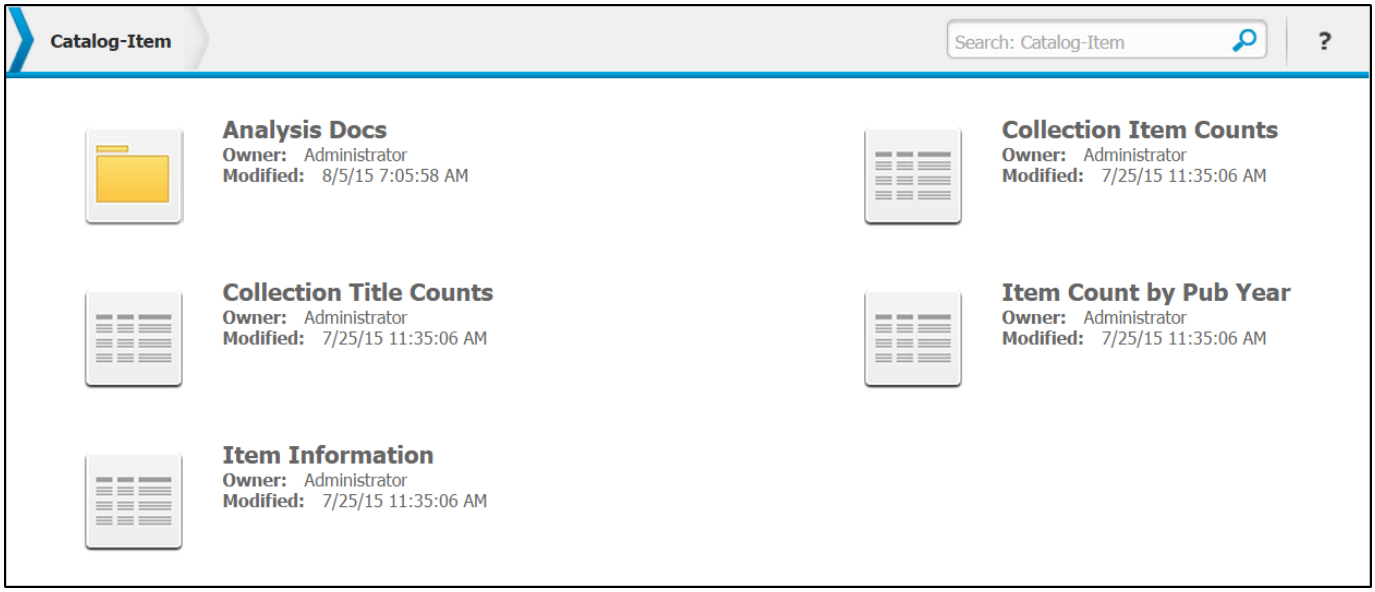
Within a Dashboard, both Item and Catalog attributes are accessible from the *Catalog Cube*.



Remember that within a dataset, some attributes can be accessed through Standard Reporting and some can only be accessed in a Dashboard. *Item Barcode* is a good example; this attribute can only be accessed in Standard Reporting. Consult the *Data Reference Guide* for more information.

Delivered Reports & Dashboards

Item and Catalog data is accompanied by four delivered reports and one dashboard (located within the *Analysis Documents* folder). These objects can be found in *Shared Reports* > *Catalog-Item*.



Each of these reports is unique and provides a different analysis of your catalog/item data. For example, the *Collection Item Counts* report returns a list of Collections (Horizon) or Home Location (Symphony) with a total number of items in each collection. For multi-library systems, this information is further broken down by library.

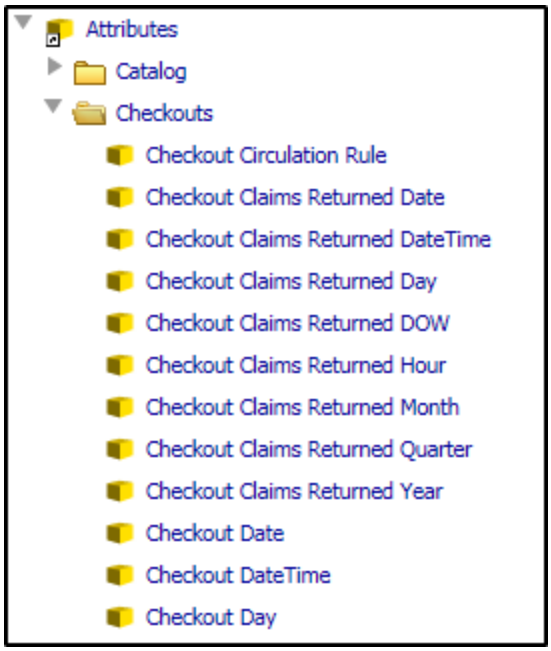
Item Collection	Metrics Item Library Desc	Berlin	Brandon	Campbellsport	Coloma	Endeavor
AUDIOBOOK						
BASEMT-REF						2
BASEMT-WIS						
BIOGRAPHY		562				2
BOOKCLUB						
CASS-BKNF			3			
CASS-BOOK			9	4		7
CASSETTE		21	1	1		7
CATALOGING			27	8		
CD		2,164	84	393	699	241
CD-BOOK		1,883	100	75	423	132
CD-BOOKFIC		4	4	158	2	4
CD-BOOKMYS						
CD-BOOKNF		3	1	63	42	11
CD-BOOKSF						1
CD-BOOKWST						
CD-CLASS				1		
CD-JAZZ						1
CD-MUSICAL		2		1		2
CD-POP				1		1
CD-ROM		35	10	2	3	11

Checkout Data

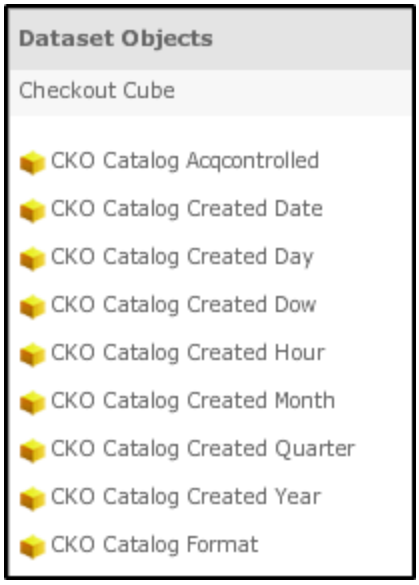
Imagine that you would like to create a report that shows the number items actively checked out at each of your libraries. This type of report would be built from *Checkout* data. Checkout data focuses only on items that are actively checked out to patrons.

NOTE: For steps on how to create this report, consult Exercise 3 in the Count Reports section of this document.

Within Standard Reporting there is a folder containing Checkout attributes as shown below. Note that this is not a complete list of Checkout attributes.



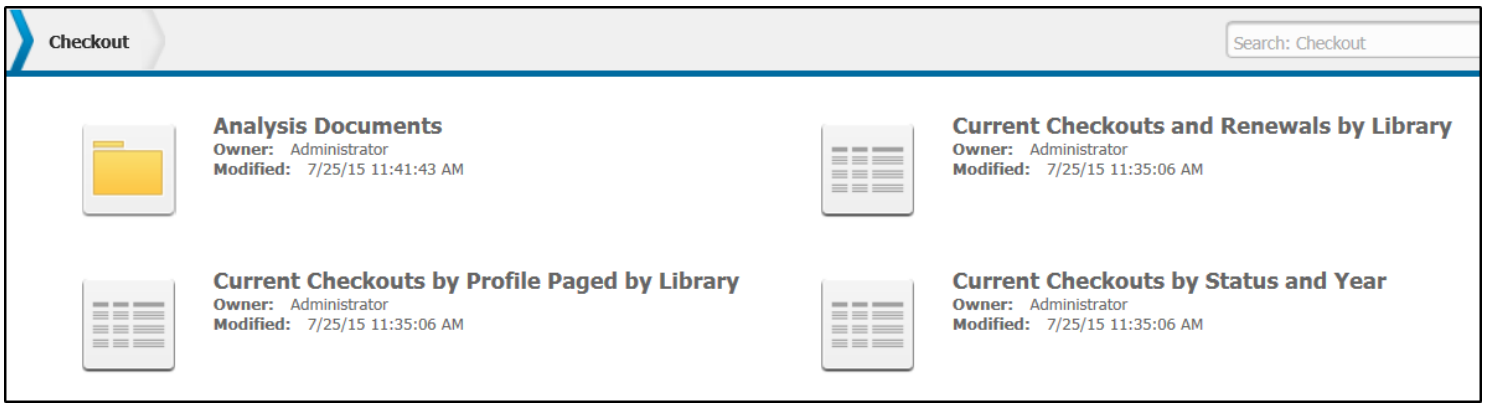
Within a Dashboard, these same attributes and many more are accessible from the Checkouts Cube. Attributes of Catalog-Item and User are available within the Checkouts cube, allowing you more granularity in reporting. Keep in mind, however, that when using these attributes your data is still being limited to current checkouts, i.e. users with current checkouts or collections with current checkouts.



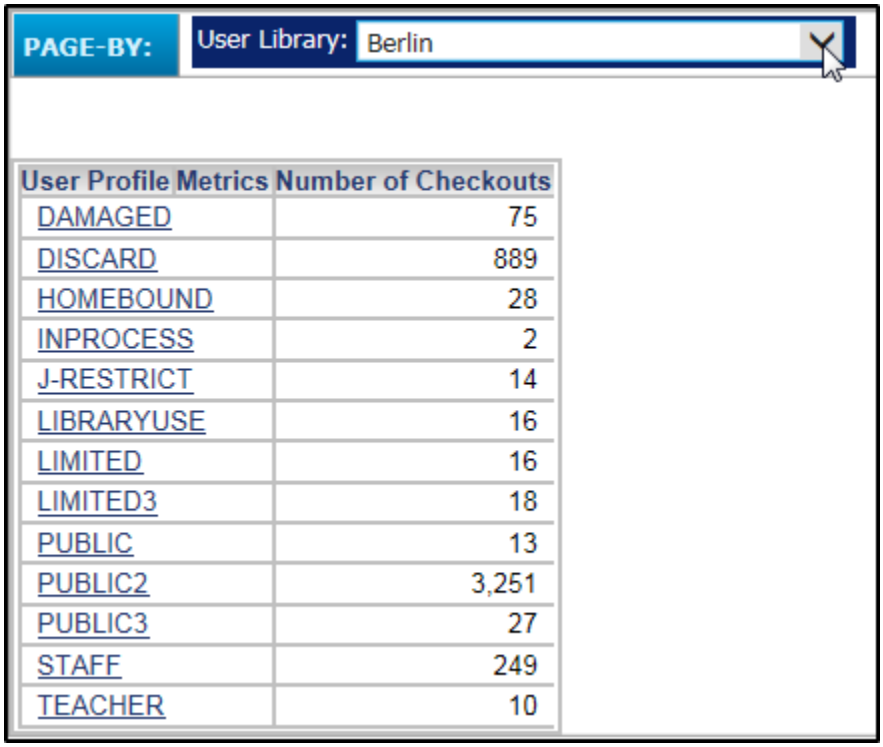
Remember that within a dataset, some attributes can be accessed through Standard Reporting and some can only be accessed in a Dashboard. *User Barcode* is a good example; this attribute can only be accessed in Standard Reporting. Consult the *Data Reference Guide* for more information.

Delivered Reports & Dashboards

Checkout data is accompanied by three delivered reports and one dashboard (located within the *Analysis Documents* folder). These objects can be found in *Shared Reports* > *Checkout*.



Each of these reports is unique and provides a different analysis of items currently checked out. For example, the *Current Checkouts by Profile Paged by Library* provides a list of user profiles (Symphony) or borrower types (Horizon) and a total number of items currently checked out. For multi-type libraries, it also provides a drop-down menu allowing you to switch to a report specific to that library.



User Profile Metrics	Number of Checkouts
DAMAGED	75
DISCARD	889
HOMEBOUND	28
INPROCESS	2
J-RESTRICT	14
LIBRARYUSE	16
LIMITED	16
LIMITED3	18
PUBLIC	13
PUBLIC2	3,251
PUBLIC3	27
STAFF	249
TEACHER	10

Historical Data

Imagine you are working on the library's Annual Report. You would like to create a report detailing the total annual circulation (checkouts and renewals) for each library. This type of report would be built from *Historical* data.

NOTE: For steps on how to create this report, consult Exercise 4 in the Count Reports section of this document. Note that this exercise is only for Symphony customers.

In BLUEcloud Analytics Historical data or Symphony customers, is sometimes referred to as *transactional* data; for Horizon customers, *statistical* data.

Transactional Data in Symphony - Trans (SYM)

For Symphony Users, historical reporting depends on two logs within Symphony, the historical log and the statistical log.

The History (Hist) log records every workstation transaction that has successfully changed the database. The Hist logs keep track of which command was sent, the date and time it was sent, which station and user access sent the command, and all of the data entered by the operator to perform that command. If a command or wizard changes one or more databases, it is logged in the history logs.

For example, the Hist log records all data during a Charge Item command since a charge changes the database. The log would not record a Search Item command since searching does not change the database.

The Statistical (Stat) log is generated from the Hist logs when the nightly your *Statistics Log* (statlog) report runs. Stat logs contain dated entries for anonymous transactions. The statlog report copies Hist log transactions into a statistics file, removes specific patron and title information, and substitutes user and item demographics.

For transactions for which statistics logs are maintained, a Stat log contains exactly the same transactions as the Hist log, except that each specific user and item transaction is replaced with general demographic information.

For each suitable transaction in the history file, SirsiDynix Symphony can take the user ID (if present) and the item ID and pull from the database all of the demographics associated with these two IDs. Functions such as charging items and creating holds contain both user and item IDs, so the

Statistics Log process replaces them with the appropriate user and item demographics.

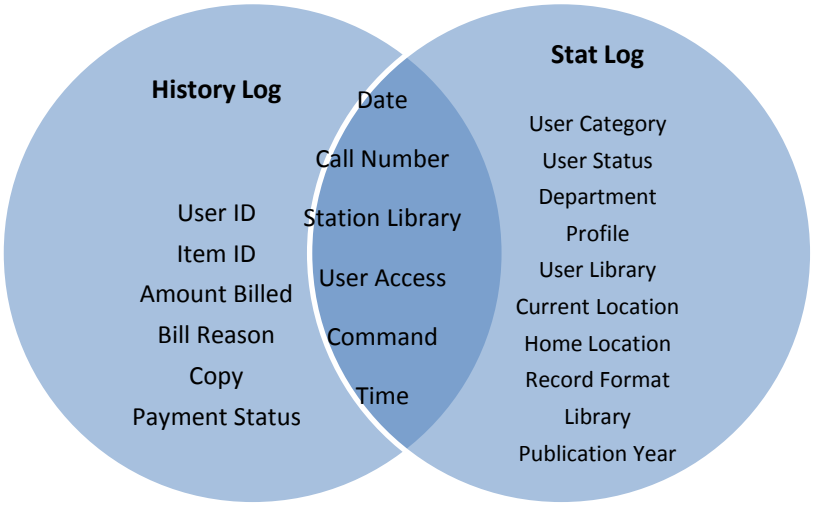
For example, this is a standard history log.

```
02/02/2005,13:51:43 Station: 029 Request: Sequence #: 13
Command: Bill User user access:ANNE-UACS clearance:TOP-
SECRET station library:MAIN user ID:ANN amount billed:1.75
bill reason:DAMAGE itemID:1114-1001 call number:PN6081
.R435 1987 copy:1 paid in full flag:N
```

This is the statistics log created from the above history log.

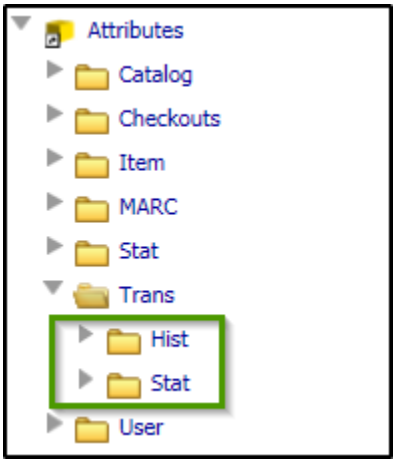
```
02/02/2005,13:51:43 Station: 029 Request: Sequence #: 13
Command: Bill User user access:ANNE-UACS user cat1:ACTIVE
user status:DELINQUENT department:LOST profile name:LOST
user location:DRAFT userlibrary:MAIN call number:PN6081
.R435 1987 current location:CHECKEDOUT record format:MARC
home location:STACKS library:MAIN type:DOCUMENT permanent:N
year of publication:1989 station library:MAIN
```

The diagram below illustrates what data the Hist and Stat logs would have in common for this particular transaction. This is important because the way you will build historical reports in BLUEcloud Analytics depends on where this information is accessible. Often times you will be able to do the same report from Hist or from Stat, but there may be some instances when it is more convenient to use one over the other.

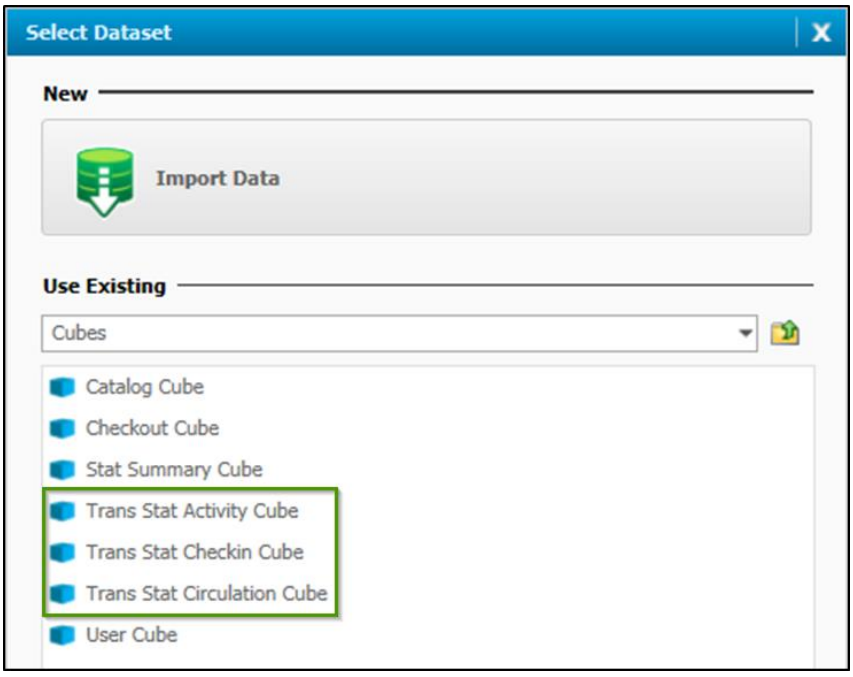


Attributes of Hist will primarily be used if a list of each transaction is needed to better understand *how* something happened in the system. Attributes of Stat will primarily be used for aggregating values—counting *how many* X occurred over a given period.

The attributes of Hist and Stat are accessible within Standard Reporting in the *Trans* folder. Within Trans you will find a folder for Hist and one for Stat as shown below.



Within a Dashboard, three cubes are available to access Transaction date from the Stat logs. Note that there is not a delivered cube of Hist data. The window below displays after selecting "Create New Dashboard". Notice the cubes available.



The *Tran Stat Circulation* cube contains only checkout and renewal transactions. *Tran Stat Checkin* contains only check-in information. *Trans Stat Activity* contains transactions for all other commands. Commands and their corresponding data codes are discussed in the next section.

Command and Data Codes

As discussed in the previous sections, reporting on transactional data in Symphony requires a familiarity with the structure of both the Hist and the Stat logs. But this type of reporting also requires a level of familiarity with the *content* of those logs. Both Hist and Stat logs contain two types of codes—Command and Data.

Command codes indicate the type of transaction being done in Symphony. Commands represent actions taken. Command codes take two forms; a description, such as *Bill User*, and a two-letter abbreviated code, such as *BY*. In the history log example shown below, notice that *Bill User* is the command.

```
02/02/2005,13:51:43 Station: 029 Request: Sequence #: 13
Command: Bill User user access:ANNE-UACS clearance:TOP-
SECRET station library:MAIN user ID:ANN amount billed:1.75
bill reason:DAMAGE itemID:1114-1001 call number:PN6081
.R435 1987 copy:1 paid in full flag:N
```

Data codes, on the other hand, represent all of the remaining information within a transaction. Data codes give a command context. Below is a list of the various data codes that could be associated with a *Bill User* command in the Hist log.

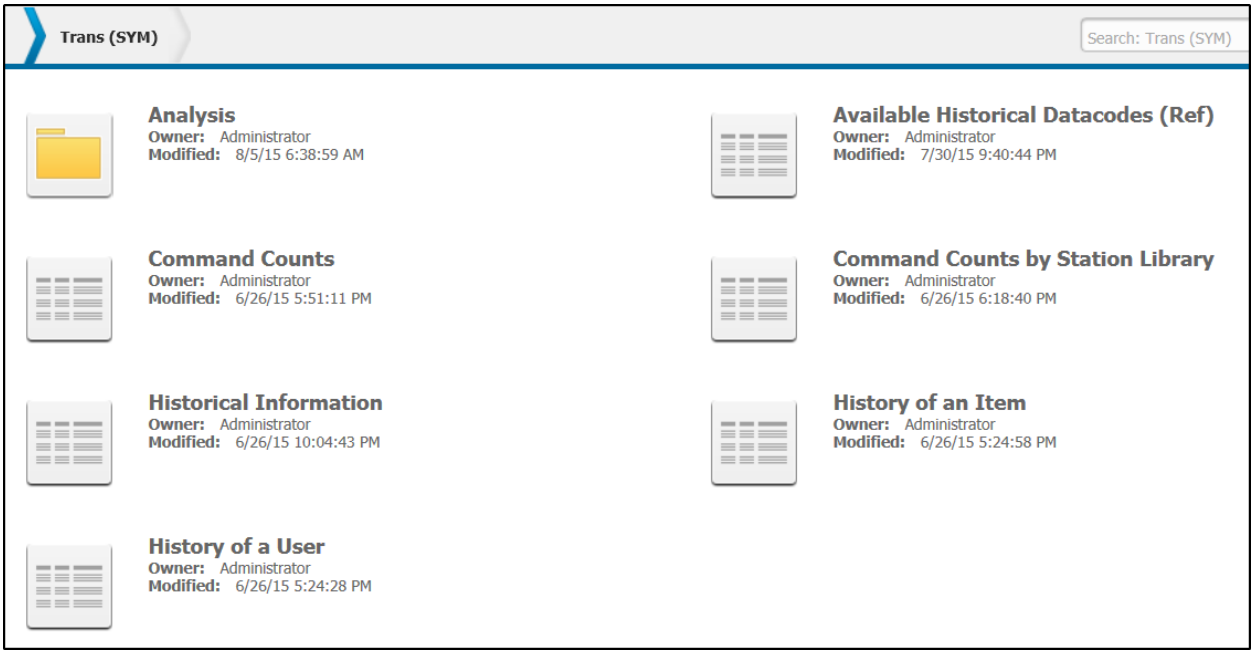
Trans Hist Data Code	Trans Hist Data Code Desc
BD	bill reason
BE	type of payment
BG	paid in full flag
BI	amount billed
dC	Client Type
Fb	station login environment
Fc	station login clearance
FD	station
FE	station library
FF	station login user access
Fv	Max length of transaction response
FW	station user's user ID
IQ	call number
NQ	item ID
Uk	user alternative ID
UO	user ID

Identifying all of the possible Data codes from Hist that could be reported on is sometimes difficult. The Hist logs contain over 2000 different data codes, all of which are contained in one attribute, *Trans Hist Data Code* as shown above. The Stat logs however, contain an average of 220 data codes and each is broken out into its own unique attribute.

One of the delivered reports, discussed below is the *Available Historical Datacodes.* This report is indented to be used only as reference, but it helps users in identifying the various Data codes in Hist associated with each command.

Delivered Reports & Dashboards

Transactional data is accompanied by six delivered reports and three dashboards (located within the *Analysis Documents* folder). These objects can be found in *Shared Reports* > *Trans (SYM).*

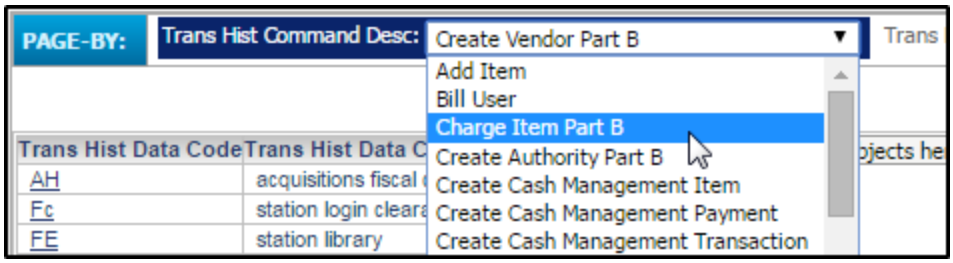


Available Historical Datacodes Report

As noted above, this report is very useful tool to find a starting point for reporting from the Hist logs. It shows the available Data codes for each Command code.

To find the Data code associated with a Command code

1. From the Page-by bar, select the appropriate command from the *Trans Hist Command Desc* or *Trans Hist Command* drop-down menus.



2. Note the available Data codes.

Trans Hist Data Code	Trans Hist Data Code Desc
CF	date due
DB	log format time
dC	Client Type
Fc	station login clearance
FD	station
FE	station library
FF	station login user access
Fv	Max length of transaction response
FW	station user's user ID
IQ	call number
IS	copy number
NQ	item ID
Ob	transited item override
Oc	clear charge override
OC	user block override
OD	noncirculatable item override
Oe	holds block override
Oh	item lost override
OI	alternate due date override
OK	type limit override
OL	nonchargeable item override
OM	master override
OP	item pieces override
OR	charge limit override
Uf	user pin
UO	user ID
YP	set translate status for rim

3. If the information you wish to report on is available in Hist, create a new report using Hist elements.

NOTE: The process of creating a report is discussed in more detail in the Basic Reports section of this document.

4. If the information you wish to reports on is not available in this list of Data codes, for example Home Location, more than likely it is available in the Stat logs. Create a new report using Stat elements.

NOTE: Consult Exercise 5 in the Count Reports section of this document for an exercise using home location and the command Add Item.

Command Counts Report

Among the many valuable reports delivered with Symphony transaction data is the *Command Counts* report. This counts all of the commands that occurred during a given year, and breaks the information down by month.

NOTE: Because this report is scanning every transaction in your Hist logs, it does take some time to run.

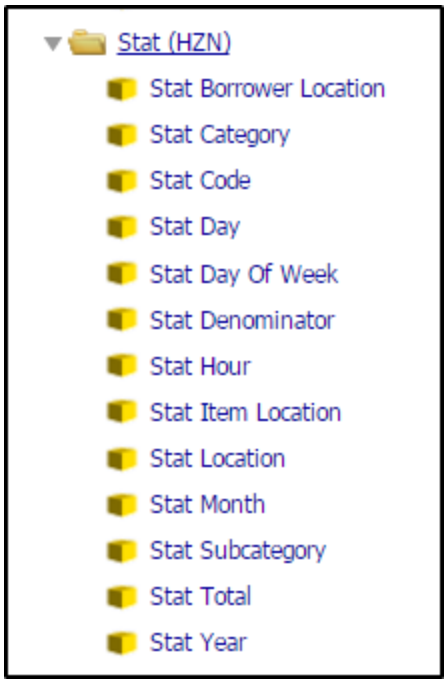
Trans Hist Year	Trans Hist Command Desc	Metrics		
		Trans Hist Month 1	2	3
2012	Charge Item Part B			
	Transit Item			
2013	Charge Item Part B	1		2
	Create Hold			5
2014	Bill User	770	794	972
	Charge Item Part B	255,409	249,554	279,900
	Create Hold	42,740	43,940	47,758
	Transit Item	64,635	64,813	70,726
	Use Item			
2015	Bill User	770	614	730
	Charge Item Part B	255,431	246,644	281,703
	Create Hold	42,754	41,080	42,481
	Transit Item	64,648	62,239	63,206
	Use Item			1

Statistical Data in Horizon – Stat (HZN)

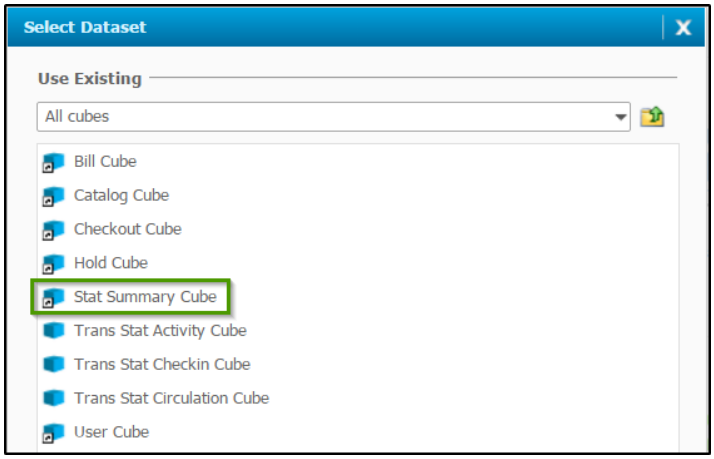
Horizon groups statistics into "stat categories". Some stat categories are further divided into subcategories which are system-defined. Other stat categories are divided by stat codes, which are locally defined. All of these categories and codes come together to describe data in the Stat Summary table of Horizon. It is the Stat Summary table that is accessible in BLUEcloud Analytics for historical reporting.

NOTE: It is important to be familiar with the delivered and locally defined elements of Stat Summary before working with Stat (HZN) data in BLUEcloud Analytics. For a listing of statistical categories, subcategories and codes please consult Appendix A.

Within BLUEcloud Analytics statistical category attributes are accessible within Standard Reporting in the *Stat (HZN)* folder.



Within a Dashboard, there is a delivered cube of Stat Summary data.

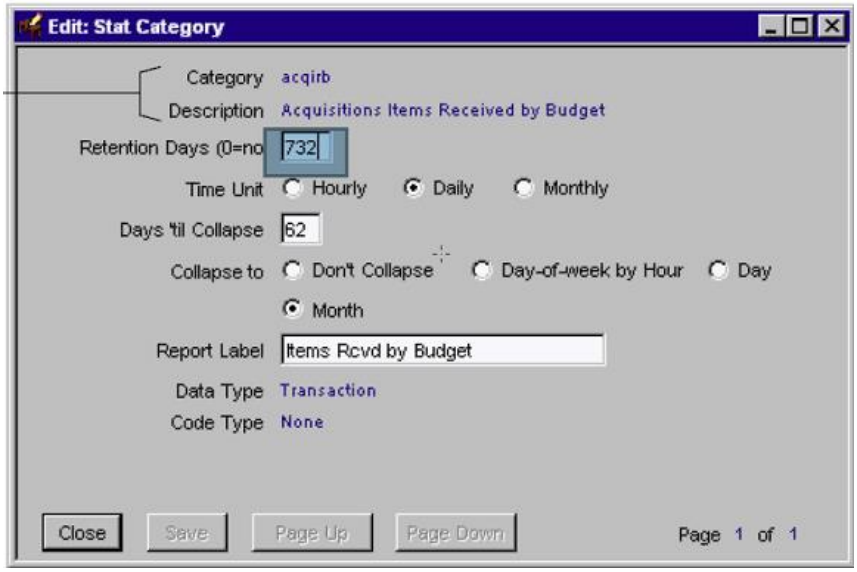


Historical data is only retained as far back as is defined in the stat category. Keep this in mind as you use BLUEcloud Analytics.

Note that while statistical categories and subcategories are system-defined, System Administrators can change how Horizon keeps statistics for each category or subcategory. If you are not able to report on a given time period, it may simply be that your Horizon stat categories are not retaining data for that period of time.

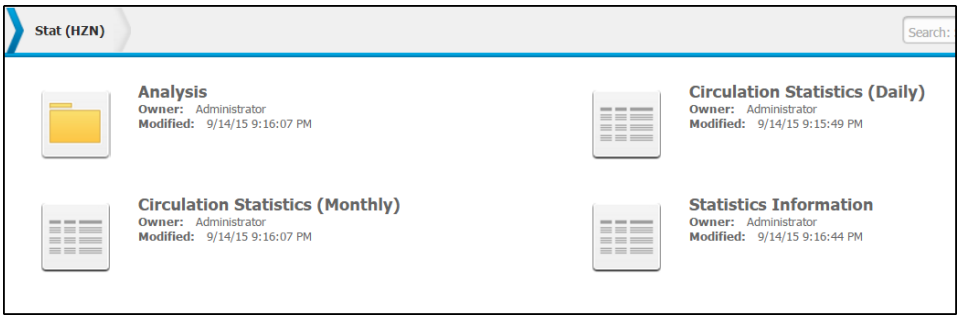
Within the Horizon client, when editing the stat category as shown below the following can be modified.

- Retention days – You can change the number of days you want to retain statistics.
- Time unit – You can change the time unit you want used for tracking statistics.
- Days until Collapse – You can change the time that elapses before daily statistics are collapsed and how you want them collapsed.



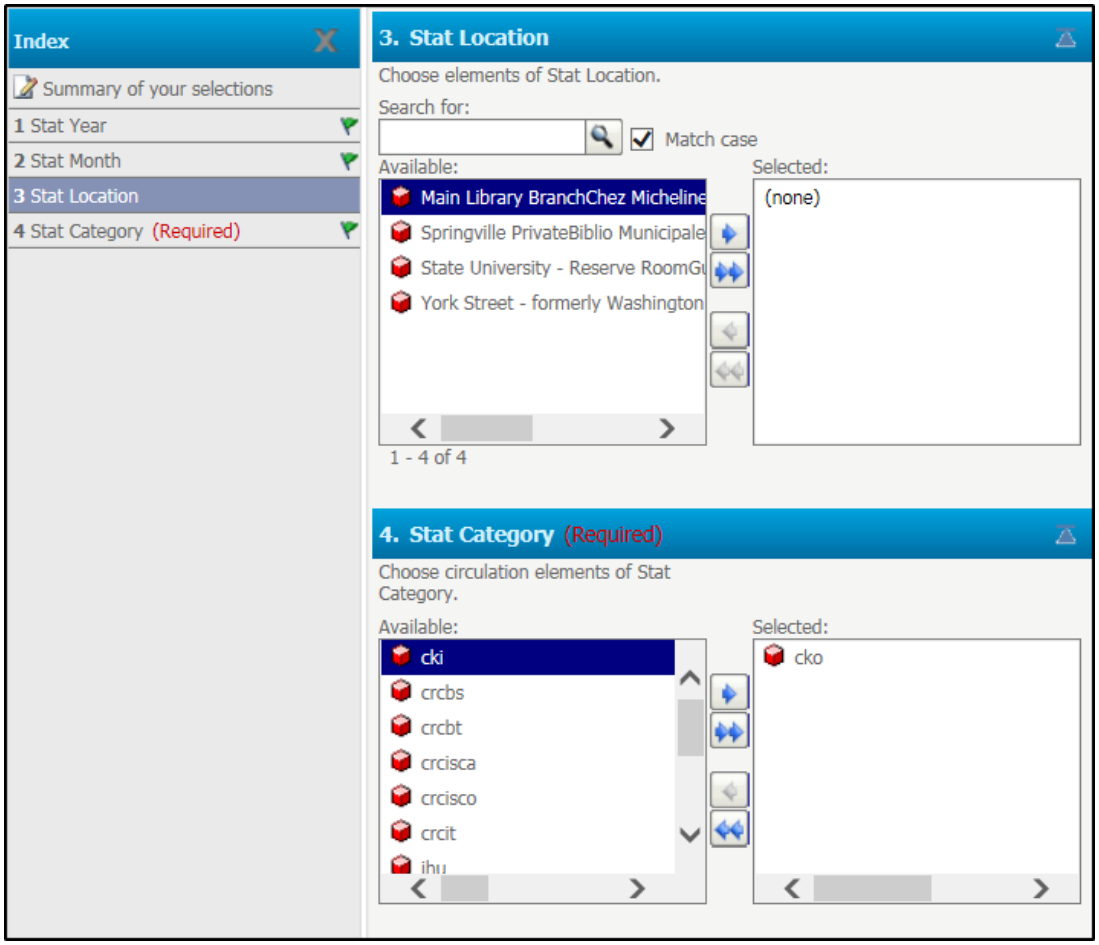
Delivered Reports & Dashboards

Stat Summary data is accompanied by three delivered reports and one dashboards (located within the *Analysis Documents* folder). These objects can be found in *Shared Reports* > *Stat (HZN)*.



Circulation Statistics (Monthly)

Among the many valuable reports delivered with Horizon statistical data is the *Circulation Statistics (Monthly)* report. You can choose from any of the Horizon Stat Categories via a prompt before running this report. You can also select the year and month of interest within the prompt.



Depending up the selections made in the filters, the output of this report looks as follows.

Stat Year	Stat Month	Stat Location	Stat Category	Stat Subcatego	Stat Day	15	27	28	31
					Metrics	Stat Total	Stat Total	Stat Total	Stat Total
2015	7	Main Library BranchChez Micheline	cko	1		2	4		
				3				1	
		Springville PrivateBiblio Municipale de Fantaisie	cko	1			1	1	2
				2		5			
				3		1		1	1

Basic Reports

Reports are often the best place to start gathering the data you wish to review. Reports can later be pulled into Dashboards for further analysis.

Shared Reports

BLUEcloud Analytics comes with a set of sample reports, available in the Shared Reports folder. Use the steps below to open a sample report and become familiar with a standard grid report display.

To open a shared report

In this example we'll open a prompted report, specifically the "Current Checkouts by Status and Year" report.

1. In the **Shared Reports** folder, open the **Checkout** folder.
2. Open the **Current Checkouts by Status and Year** report.
3. When prompted, highlight a library from the list.

NOTE: This report includes a prompt. Not all reports have to include a prompt as you will see later in this guide.

4. Click the arrow  to move the library you selected to the **Selected** column.
5. Click **Run Report**.

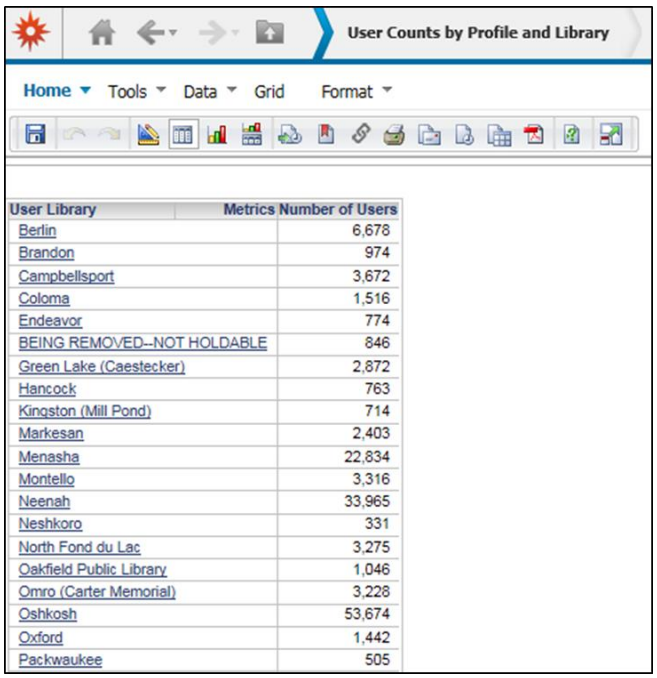
The report results are displayed in a grid format. The remaining topics in the section will discuss how to create a grid report.

Types of Report Views

Depending on the audience and the type of work being done, you may want to view a report in different ways.

Grid View

The most common report display style is the Grid view. It is also the default display style. Grid view displays reports using a formatted and in some cases cross-tabbed display. The following is an example of a report displayed as a grid. Notice in the toolbar that the Grid icon  is selected by default.



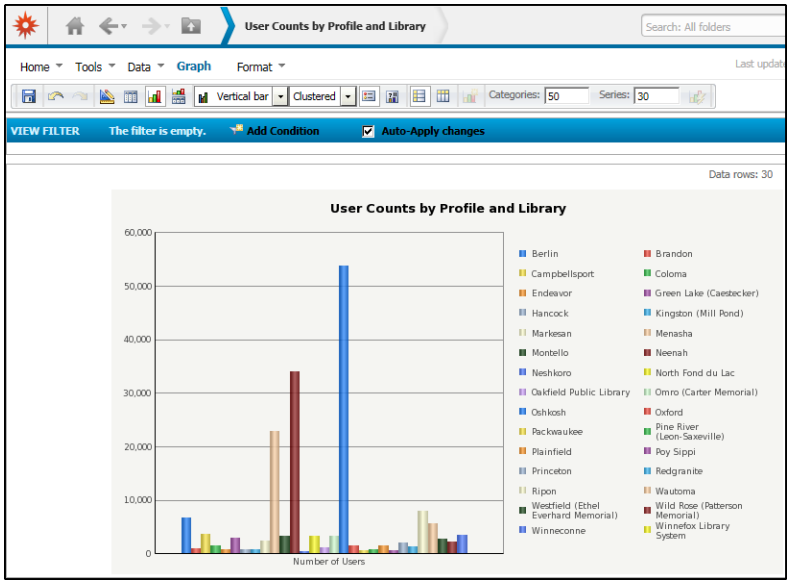
User Library	Metrics Number of Users
Berlin	6,678
Brandon	974
Campbellsport	3,672
Coloma	1,516
Endeavor	774
BEING REMOVED--NOT HOLDABLE	846
Green Lake (Caestecker)	2,872
Hancock	763
Kingston (Mill Pond)	714
Markesan	2,403
Menasha	22,834
Montello	3,316
Neenah	33,965
Neshkoro	331
North Fond du Lac	3,275
Oakfield Public Library	1,046
Omro (Carter Memorial)	3,228
Oshkosh	53,674
Oxford	1,442
Packwaukee	505

Graph View

The graph view displays report data visually. There are many different graph types to choose from. The following figure displays the Graph view of a report in the bar graph style.

To view a report as a graph

1. Click on the Graph icon  in the toolbar.



To display both a grid and graph view

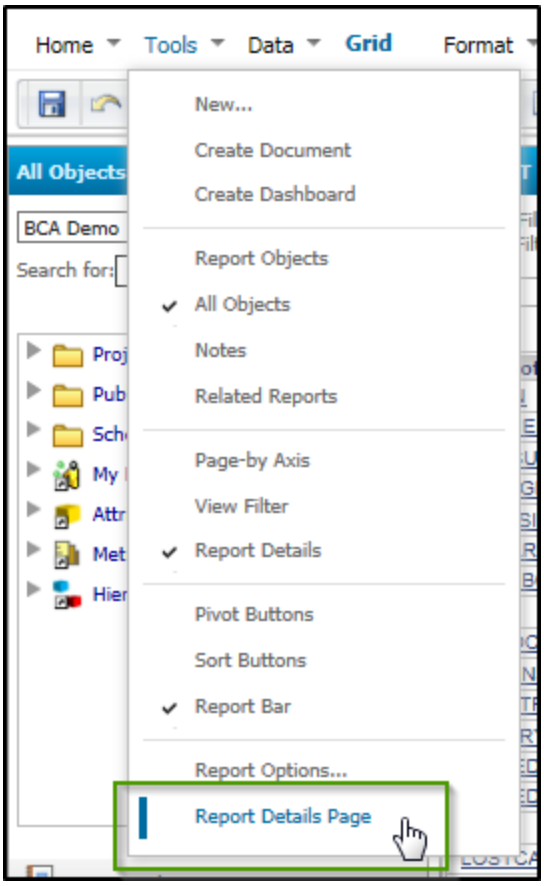
1. Select the Grid/Graph  icon.

SQL View

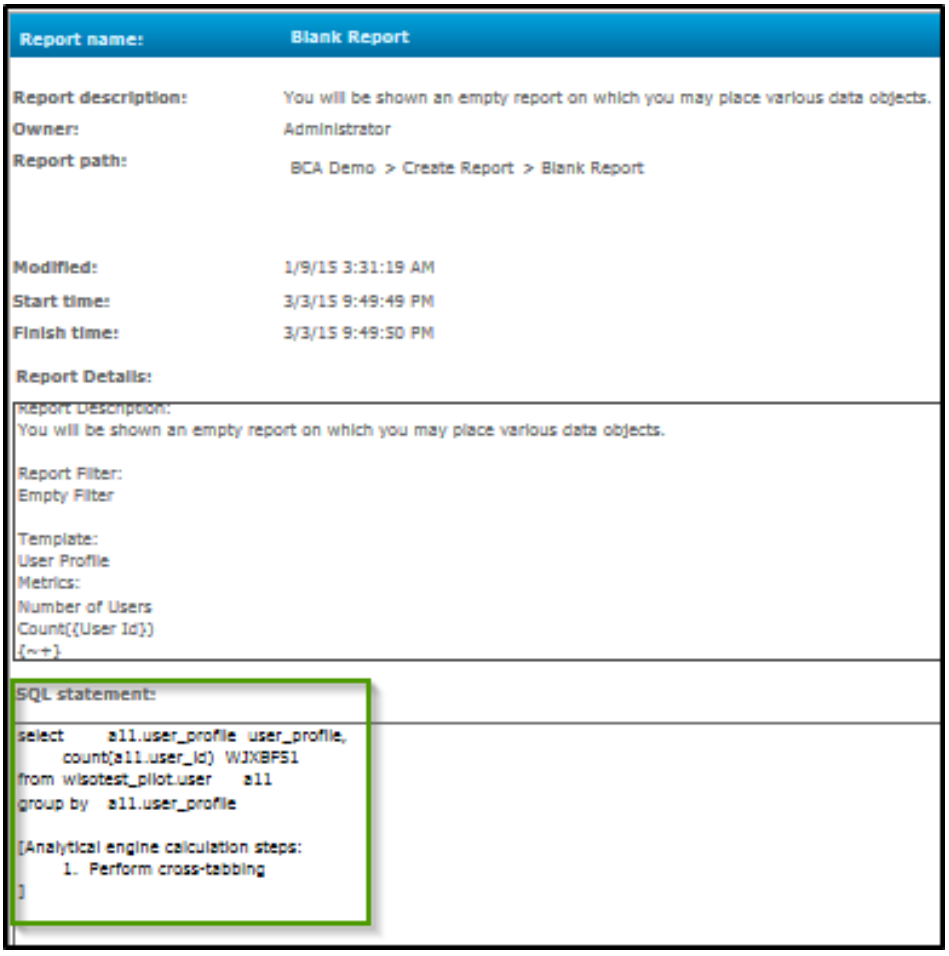
In addition to the grid and graph views, it is possible to see the SQL used to generate your report. The SQL view can help you to troubleshoot or fine-tune your report selections. The SQL view also includes statistics related to the execution of your report, such as the number of rows and columns, and the amount of time it took BLUEcloud analytics to execute the report.

To see the SQL for a report

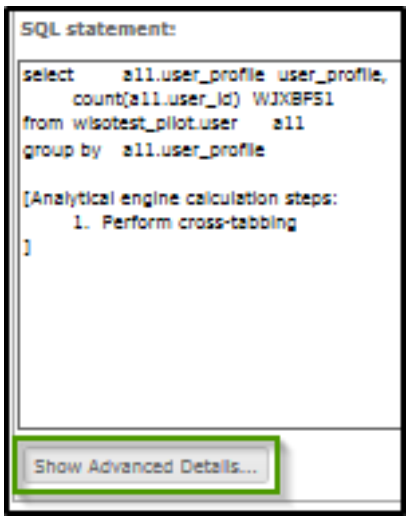
1. From the Tools menu select **Report Details Page**.



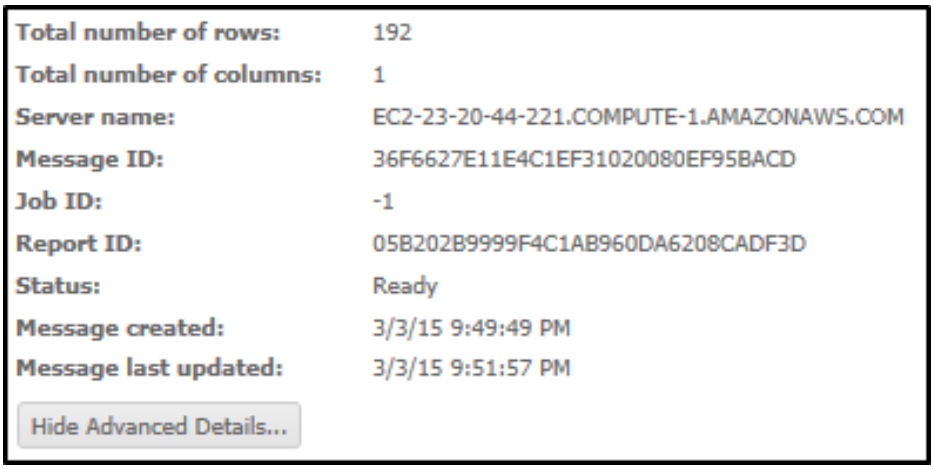
2. The SQL is displayed in the SQL Statement area.

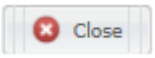


3. Click **Show Advanced Details** below the SQL Statement area, to see execution statistics for the report.



4. More detailed report information is displayed.



5. Click **Close**  when you are finished.

Creating a Simple Report

Users with Root Access level logins or higher can create new reports in

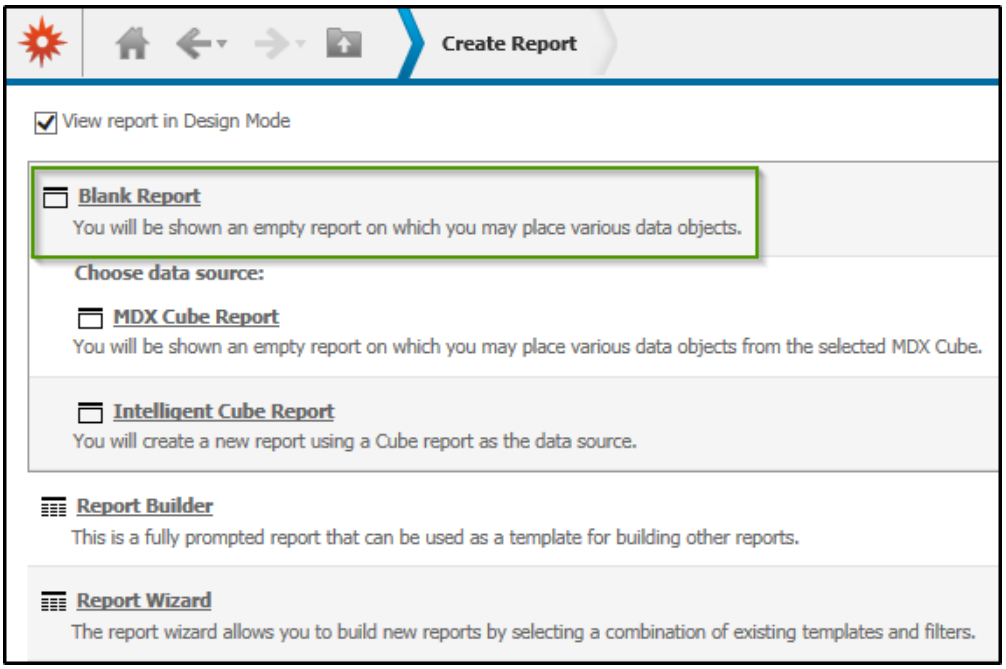
BLUEcloud Analytics. For more information about user levels, consult the User Access Levels section of this document.

To create a new, blank report

1. From the home page click on the **New Report** icon.

New Report

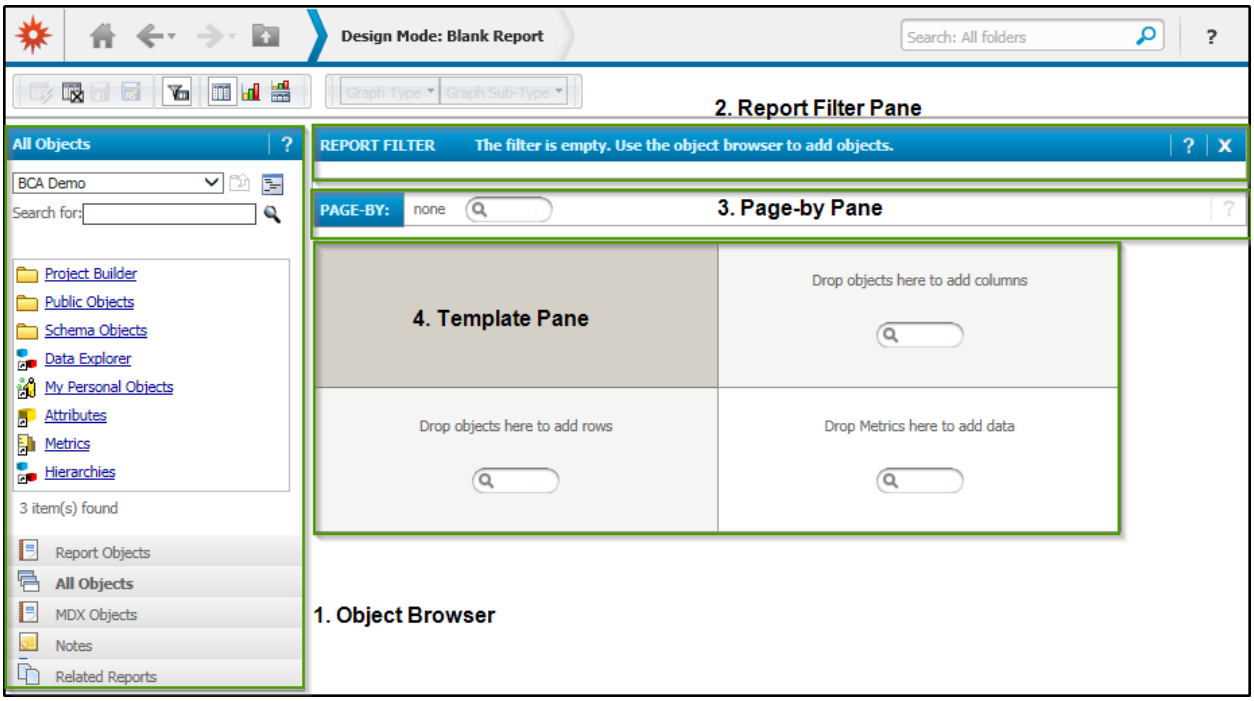
2. Select **Blank Report**.



The report opens in Design Mode. Here you will design your report before running it. Before you begin designing a report, it is important to understand the various sections of the Design Mode window.

Design Mode

The Design Mode is made up of the following sections.



1. **Object Browser** pane: use this pane to navigate through the project data to locate attributes and metrics to include in your report. In the Object Browser you can navigate to *All Objects* in the project, meaning all of the attributes and metrics available in BLUEcloud Analytics. You can also choose to navigate only through *Report Objects*. These two sections of the Objects Browser are discussed in more detail below:

    a. *Report Objects* pane: This provides a list of the objects you have added to your report.

    b. *All Objects* pane: This provides you see the list of all the objects available in your project. When you first begin working with reports in BLUEcloud analytics, you'll focus on the *Attributes* and *Metrics* folders.

    c. *MDX Objects* pane: This section will display, but will not be populated with content. You will not use the MDX Objects pane when creating reports.

    d. *Notes* pane: This provides an area to create and/or review report notes. In this section you could add information about how the report should be used or the data that is being displayed.

e. *Related Reports* pane: This provides a list of reports and documents that are related to the report you are currently working with.

2. **Report Filter** pane:

   a. *Report Filter* pane: allows you add filters to a report to modify what data is included in the report results

   b. *View Filter* pane: click the filter icon  to display View Filter pane in addition to the *Report Filter* pane. This pane also allows you to add filters to a report, however view filters do not modify the SQL for the report. View filters are applied after the SQL has been executed and the results are displayed.

3. **Page-by** pane: allows subsets of your report results to be displayed on separate pages of the report. For example, you might want to display data for different checkout years on different pages using the page-by function.

4. **Template** pane: you will drag and drop or double-click attributes and metrics from the *Object Browser* onto this workspace to define your report layout and content.

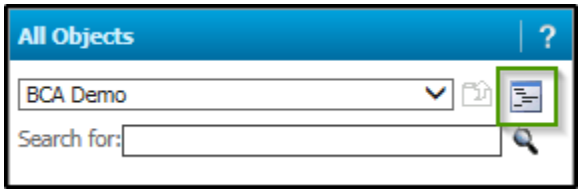
Adding Attributes

Attributes are objects in a report that give context or meaning. Non-numeric entities such as user profile, checkout year, or any Symphony policy or Horizon code are examples of attributes.

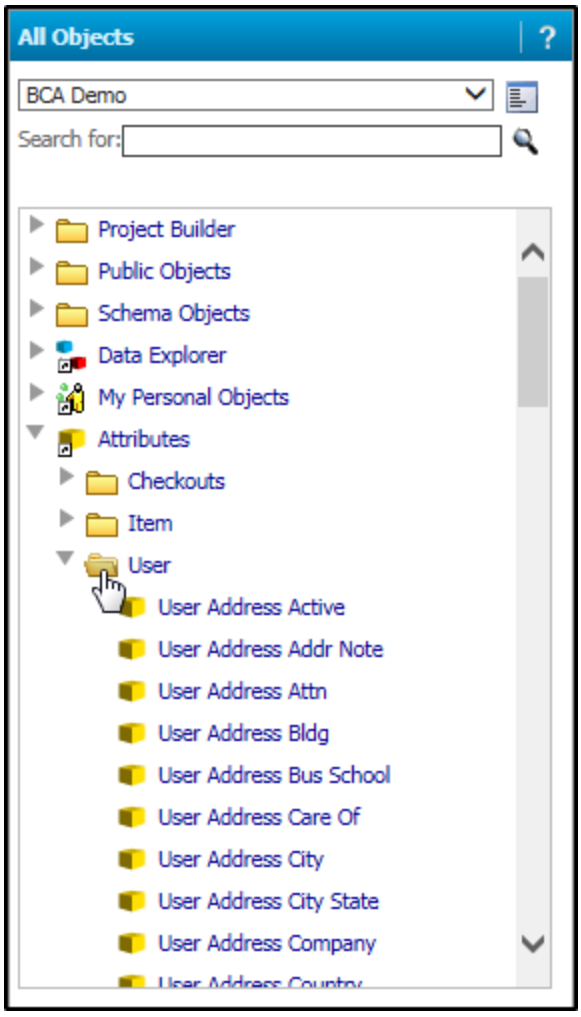
To add an Attribute to a Report

For this example, we'll add attributes that are available in the User Cube.

1. In the **All Objects** pane, click the List icon to more easily navigate through the objects.



2. Open the **Attributes** folder, then the **Users** folder.

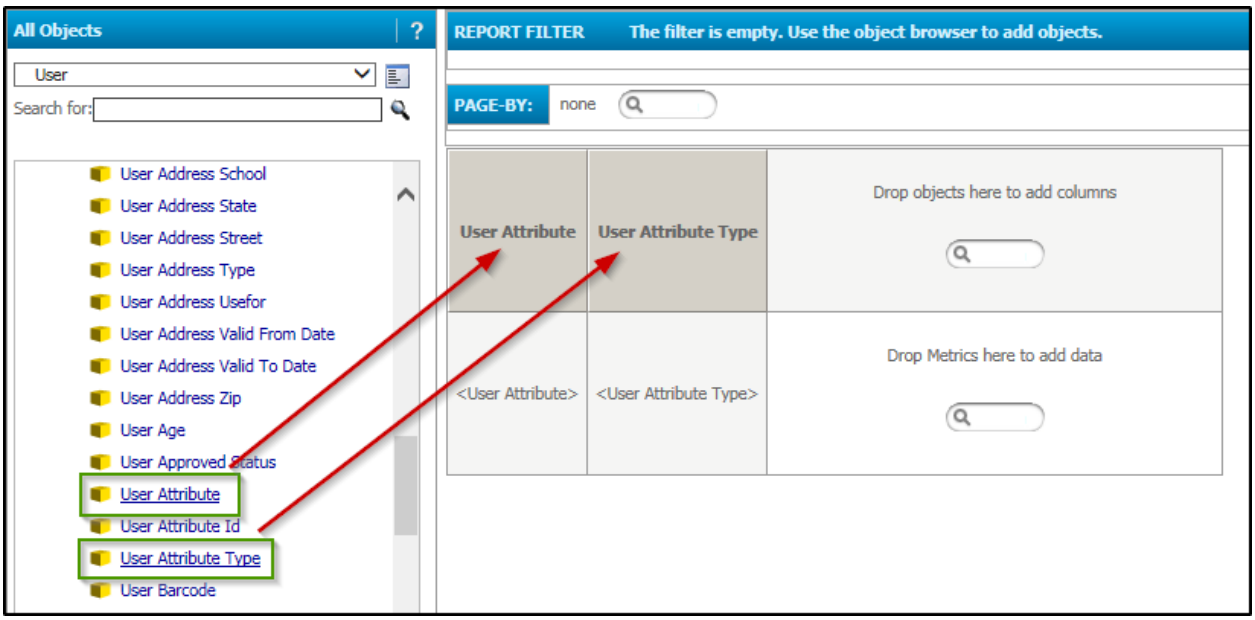


Scroll through the list of user attributes until you find one you'd like to report on.

For our example we'll use the User Attribute attributes.

NOTE: User Attributes are the equivalent of user categories in Symphony or user stat classes in Horizon. For more detailed information on what data a particular attribute represents, consult the BLUEcloud Analytics Data Reference Guide. Keep in mind too that some attributes are only available in a report while others are only available in a dashboard. The Data Reference Guide provides detailed information regarding what attributes are available in each object.

5. Double-click the **User Attribute** attribute and the **User Attribute Type** attribute into the report template.



Adding Metrics

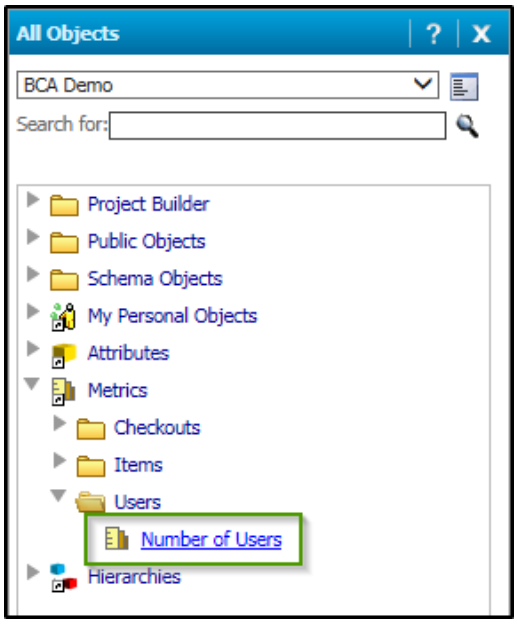
In the example above, the report template currently has no numbers – just two user attributes. If we ran this report as we have designed it now, we would have a list of all of the available user attributes and values associated with those user attributes. Not every report will have numbers. Some will just be a list of information; but in these next steps we'll add a **metric**, which is an object that allows you to not only insert numbers, but perform mathematical and statistical operations on those figures in your report.

To add a Metric to Report

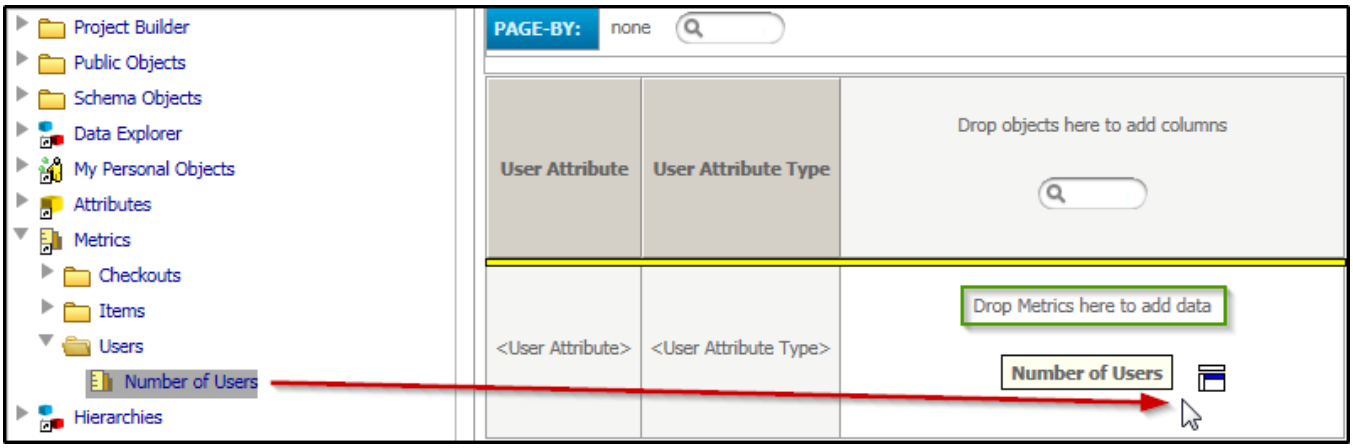
Continuing with the example from the previous section, let's say we want know the number of users in each of our user categories (Symphony) or borrower stat classes (Horizon).

1. In the **All Objects** pane, open the **Metrics** folder, then the **Users** folder.

2. Scroll through the list of user metrics until you find one you'd like to report on. For our example, we'll use the Number of Users metric.



3. Click and drag the **Number of Users** metric into the section of the report template that displays the text "Drop Metrics here to add data".



Your report template should now look like this.

User Attribute	User Attribute Type	Metrics	Number of Users
<User Attribute>	<User Attribute Type>		<Number of Users>

NOTE: You are currently still viewing the report in Design Mode. We can make many more design changes to this report before we display the results.

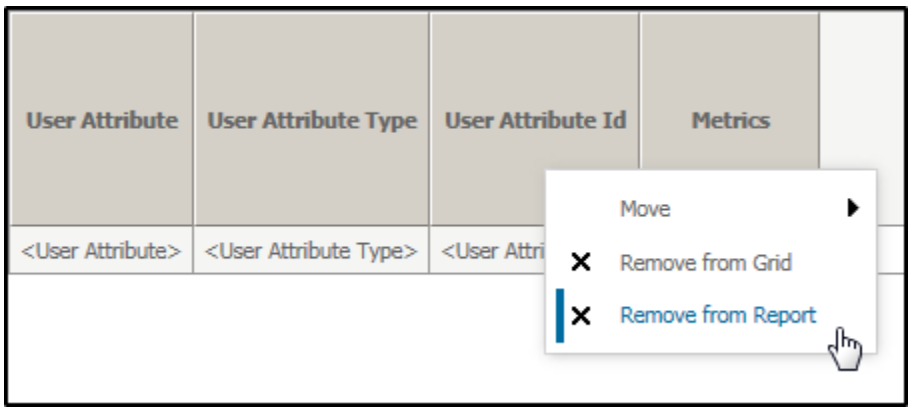
Removing Attributes or Metrics

If you find that you have added an attribute or metric to the report by mistake, you can easily remove it from the template. For example, let's say we added User Attribute ID to our report template and would like to remove it:

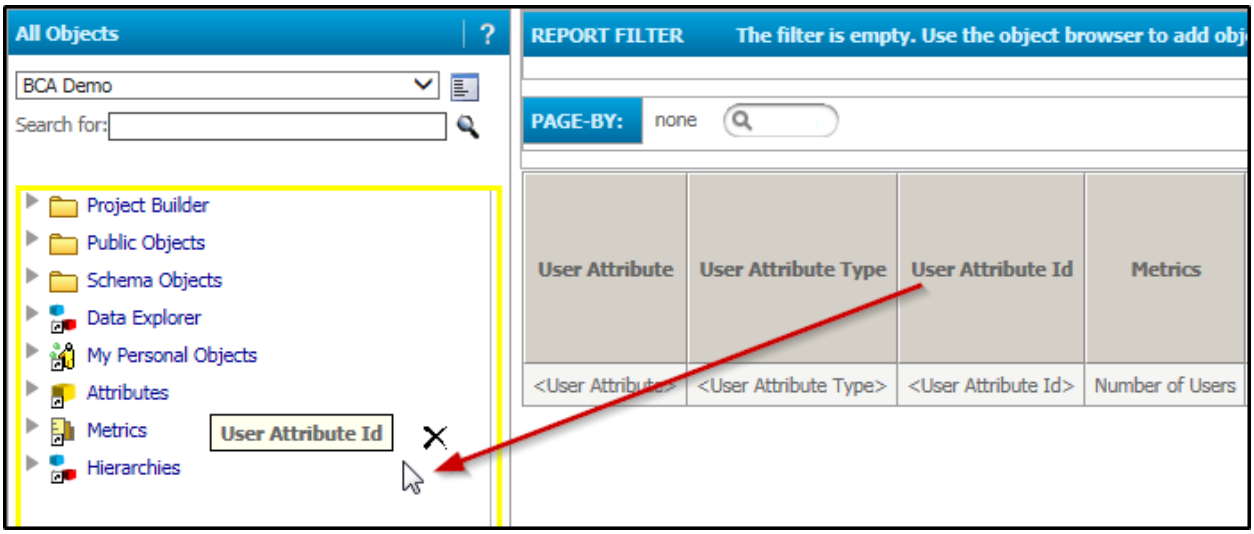
To remove an Attribute or Metric from a Report

1. Complete one of the following tasks:

   a. Either right-click on the object and select **Remove from Report**:



   b. Or click on the object in the report template and drag it back to the **All Objects** pane:



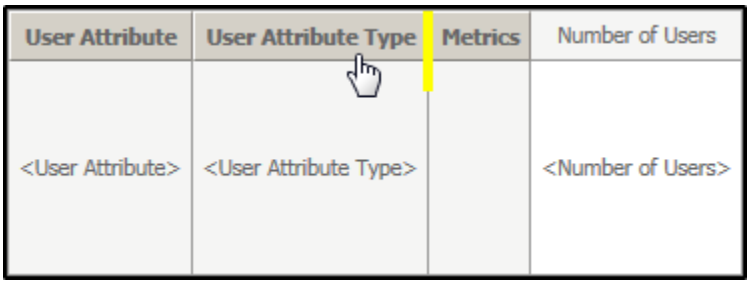
The object is removed from the report template.

Reordering Columns

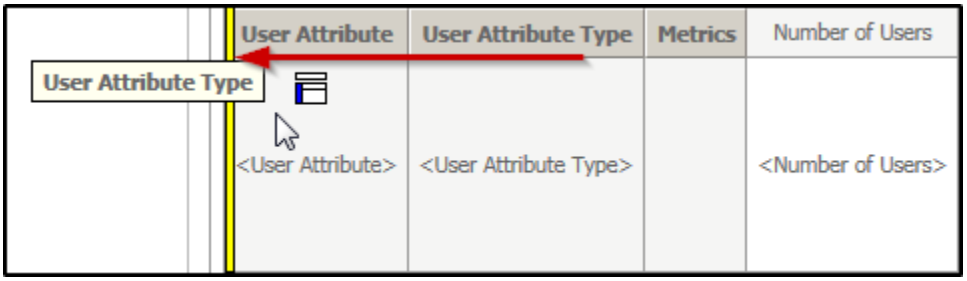
You can easily reorder the display of data in your report by clicking and dragging columns in the report template. For our example we'll want User Attribute Type to be to the left of User Attribute.

To reorder a column in a Report

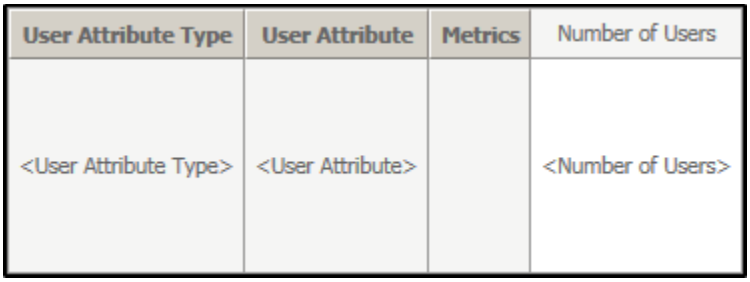
1. In the report template, click on the header of the column you would like to move.



2. Drag the column to your desired display location. The yellow arrow tells you to where the column will be moved.



Your report template should now look like this.



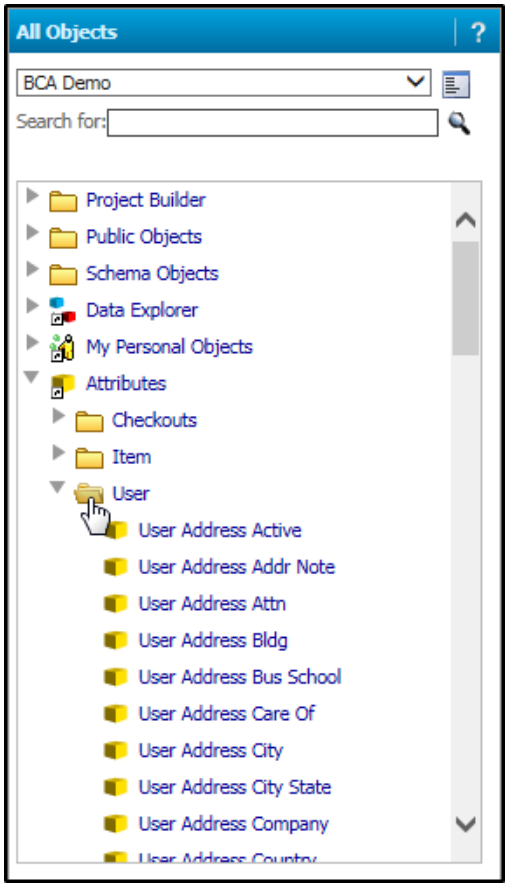
Adding Report Filters

In the example we are currently working with, if we were to run this report as it is now, we would retrieve results regarding all of the user categories (Symphony) or borrower stat classes (Horizon) in our ILS. It may be that we just want a report that will display results from one of those categories/classes. For, example in this dataset User Category 2 represents Counties in this library's service area. A county has been assigned to each user record to correspond with their address information. Let's imagine that we want a report that would count up the number of patrons in each of these counties. We'll need to filter out the other User Attribute types (birthdate, User Category 1, User Category 3, Department and Preferred Language) leaving only User Category 2 in the report results.

To add a Report Filter

In our report, we'll add the User Attribute Type attribute to the report filter. This will allow us to filter out unnecessary user categories.

1. In the **All Objects** pane, open the **Attributes** folder, then the **Users** folder.

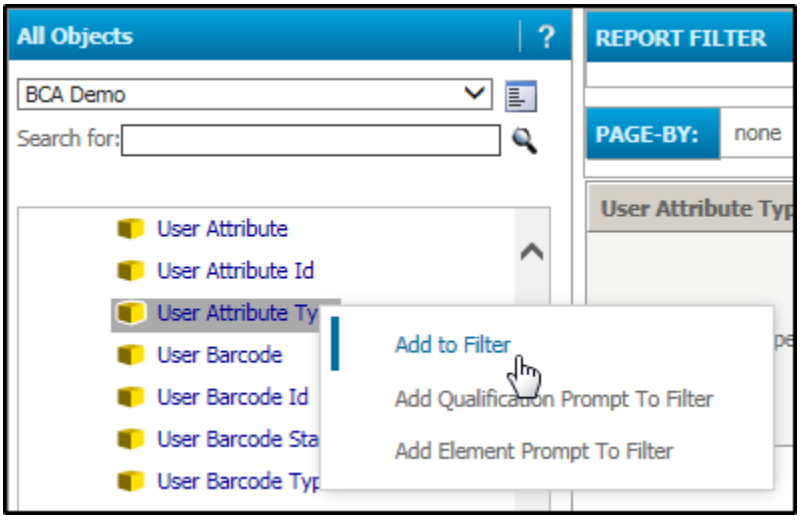


Scroll through the list of user attributes until you find one you'd like to report on.

For our example we'll use the User Attribute Type attribute.

NOTE: User Attributes are the equivalent of user categories in Symphony or Borrower_bstat classes in Horizon. For more detailed information on what data a particular attribute represents, consult the BLUEcloud Analytics Data Reference Guide.

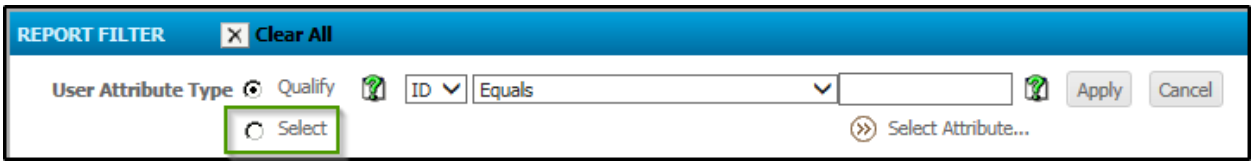
2. Right-click the **User Attribute Type** attribute and select **Add to Filter**



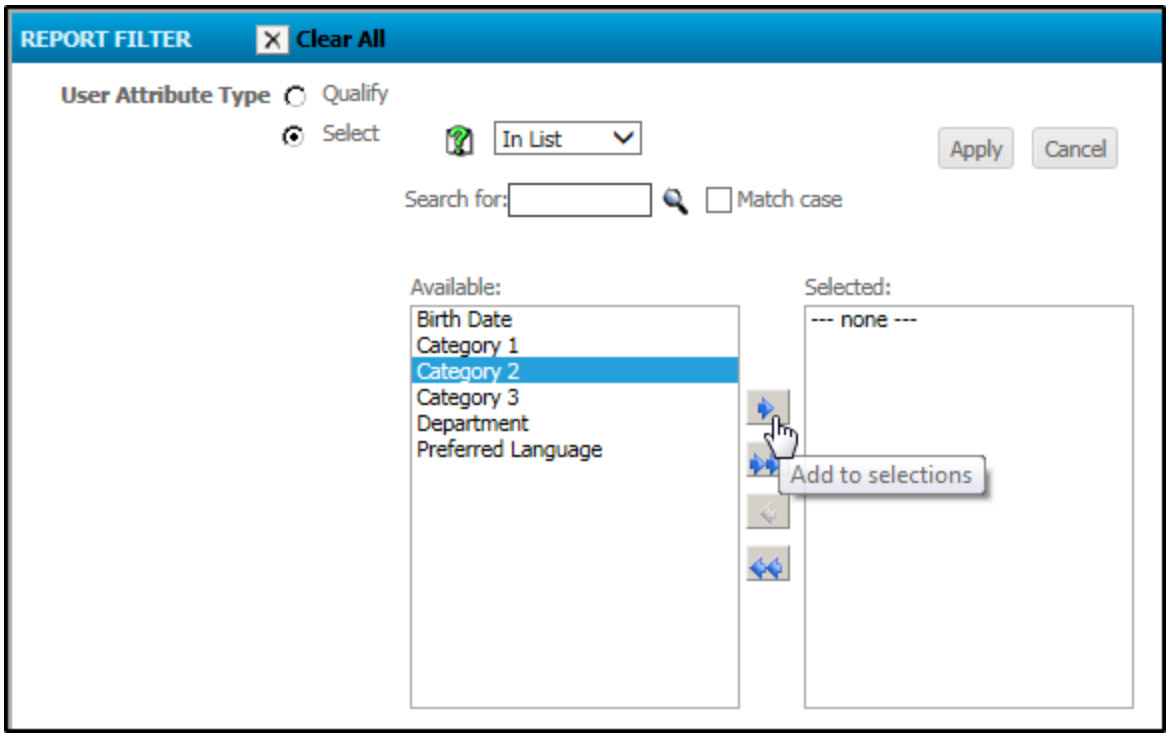
The attribute is added to the Report Filter pane, defaulted to a Qualification filter. For our example, we'll need to change this to a select filter, so that we can select the User Attribute Type from a list instead of keying it in.

NOTE: For more information about the different types of filters, refer to the Types of Filters section in this document.

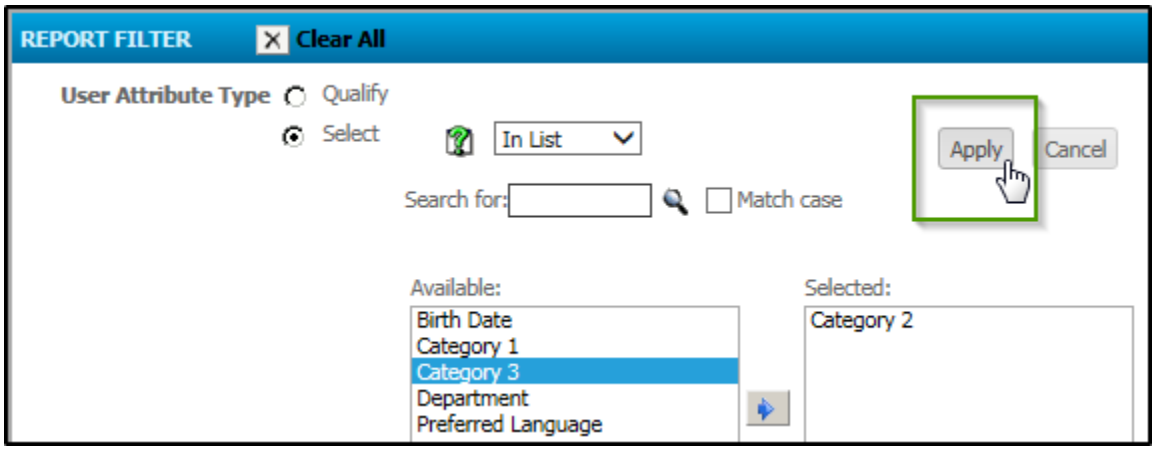
3. Change the Radio button to **Select.**



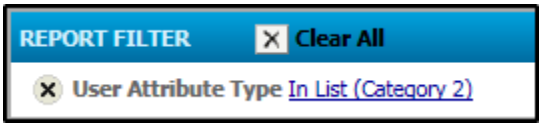
4. Highlight the **User Attribute Type** you'll like to be included in this filter and use the arrows to move it to the **Selected** list.



5. Click **Apply**.



6. The filter is applied. The results will be filtered down to just the User Category 2 attribute type.



Running a Report

Once you have added the desired objects to your report and applied any necessary report filters, you are ready to run the report and see the results.

To run a Report

1. Click the **Run Report** icon in the toolbar.

The report results are displayed.

User Attribute Type	User Attribute	Number of Users
	ADAMS	7
	ASHLAND	217
	BARRON	9
	BAYFIELD	37
	BROWN	23
	BUFFALO	6,718
	BURNETT	575
	CALUMET	40
	CHIPPEWA	2
	CLARK	1
	COLUMBIA	434
	CRAWFORD	9
	DANE	42
	DODGE	4
	DOOR	28
	DOUGLAS	4
	DUNN	24
	EAU CLAIRE	6
	FLORENCE	70
	FONDDULAC	192
	FOREST	7
	GRANT	4
	GREEN	1
	GREENLAKE	81
	IOWA	8
	IRON	25
	JACKSON	32
	JEFFERSON	3
	JUNEAU	139
	KENOSHA	128
	KEWAUNEE	515
	LACROSSE	14,902
	LAFAYETTE	104,627
	LANGLADE	43
	LINCOLN	732
	MANITOWOC	8
Category 2	MARATHON	7
	MARINETTE	9

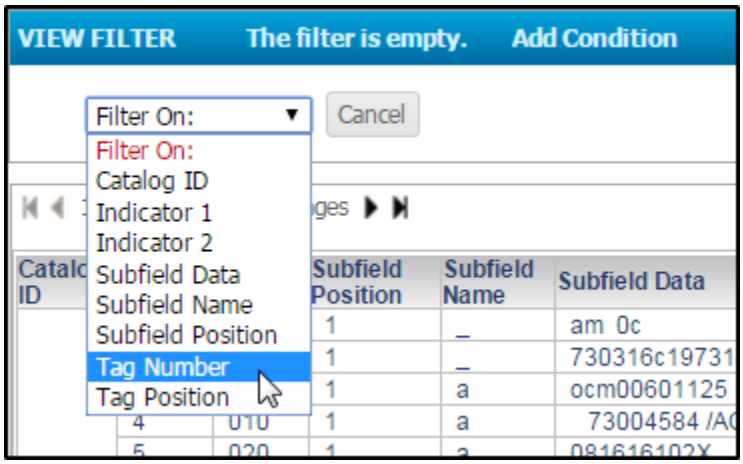
Adding a View Filter

In Standard Reporting, after running a report, users can apply a View Filter which limits the data displayed on the report without the user having to re-execute the report. Report filters can be combined with view filters within the same report.

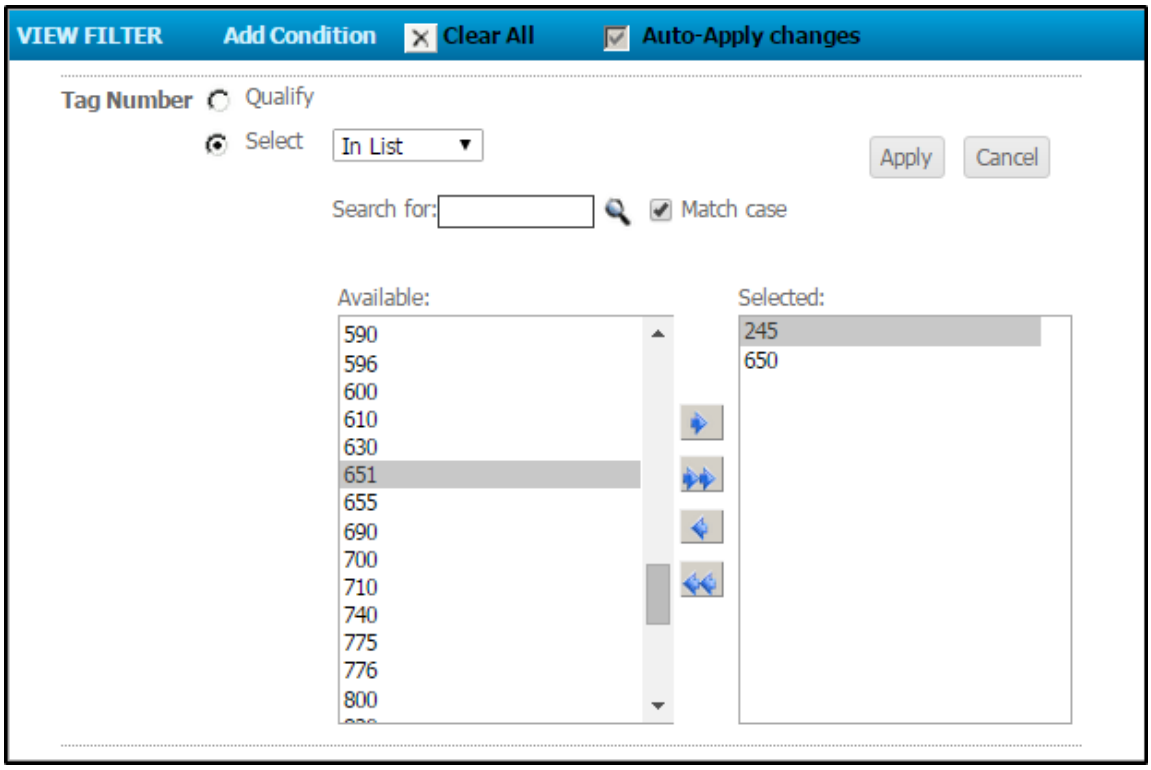
To add a View Filter to a report

1. In the View Filter pane click **Add Condition**.

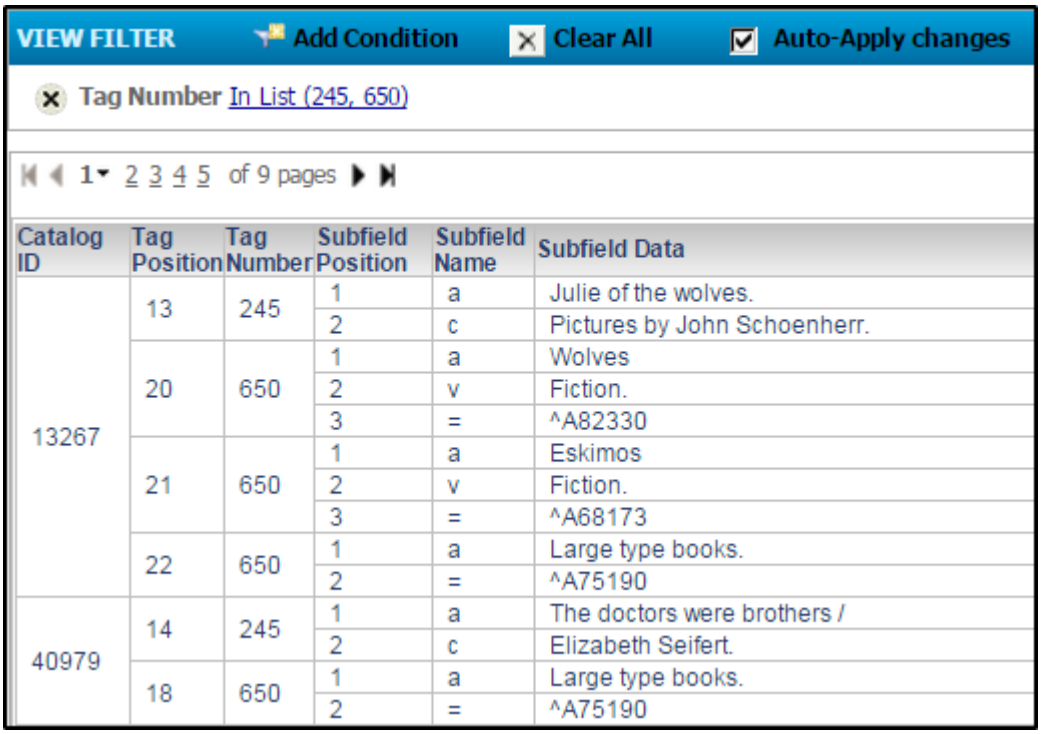
2. In the Filter On: drop-down menu, select and attribute or metric from the report.



3. Make selections as needed. In this example we are limiting the results of the delivered *Lookup Full MARC Record* report to only display the 245 and 650 fields.



4. The report data is filtered and displays only the data you selected as shown below.



Catalog ID	Tag Position	Tag Number	Subfield Position	Subfield Name	Subfield Data
13267	13	245	1	a	Julie of the wolves.
			2	c	Pictures by John Schoenherr.
	20	650	1	a	Wolves
			2	v	Fiction.
			3	=	^A82330
	21	650	1	a	Eskimos
			2	v	Fiction.
			3	=	^A68173
	22	650	1	a	Large type books.
			2	=	^A75190
40979	14	245	1	a	The doctors were brothers /
			2	c	Elizabeth Seifert.
	18	650	1	a	Large type books.
			2	=	^A75190

Adding Prompts

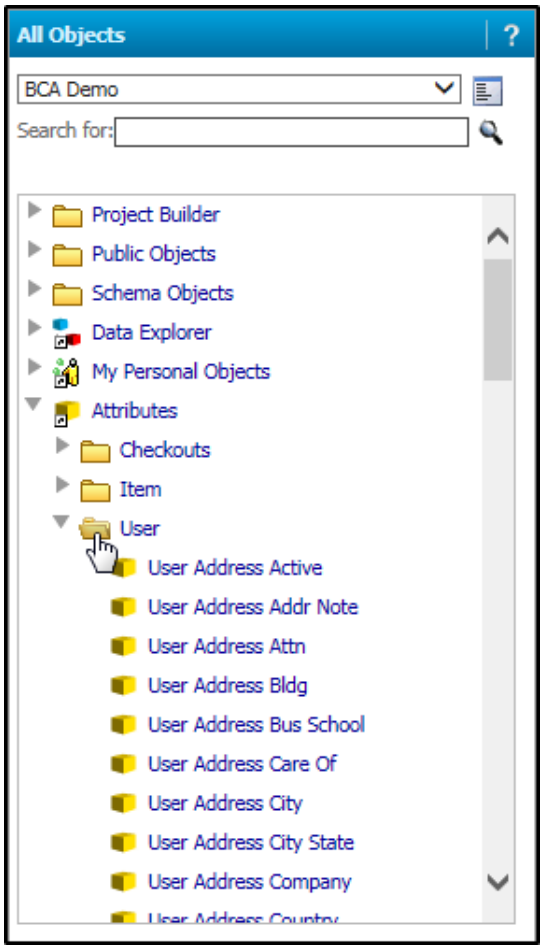
A prompt is a question presented to a user prior to displaying report results. How the user answers the question determines what data is displayed in the report. For example, a multi-branch library system might want a report that prompts a user to select a Library before displaying results. The results would then be narrowed down to the Library selected in the prompt.

For our example, let's add User Profile to our report as a prompt. Then we'll be able to see what user categories are assigned to each of our user profiles.

To add a Prompt to a Report

In our report, we'll add the User Profile attribute to the report prompt. This will allow us to select a specific user profile(s) before displaying the results without having to move into the Design Mode.

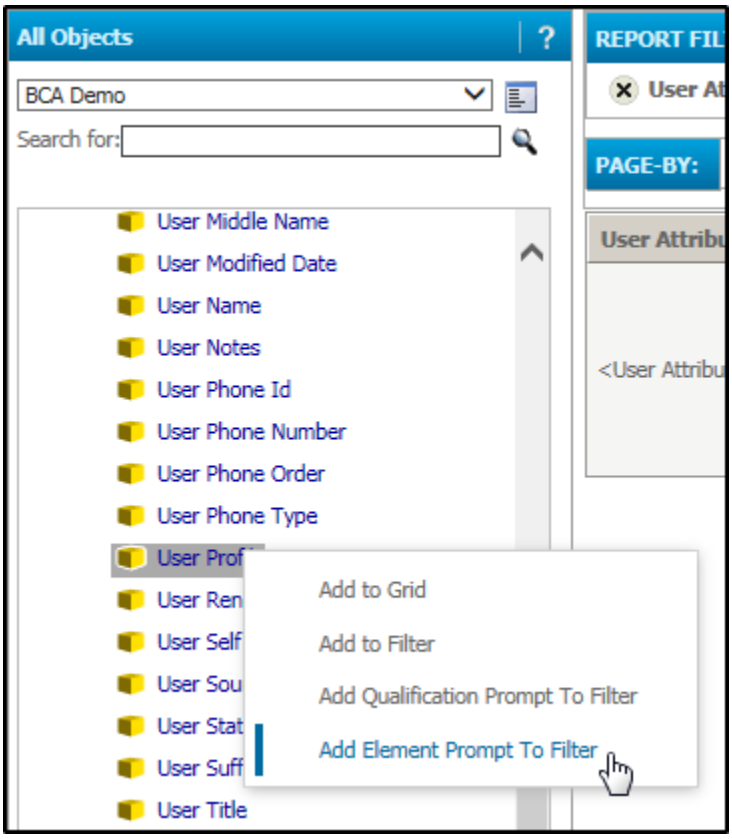
1. In the **All Objects** pane, open the **Attributes** folder, then the **Users** folder.



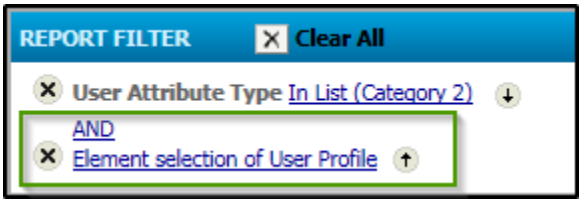
Scroll through the list of user attributes until you find one you'd like to prompt on.

For our example we'll use the User Profile attribute.

2. Right-click the **User Profile** attribute and select **Add Element Prompt to Filter.**



If you were following along with the previous examples, your Report Filter pane should now look like this.



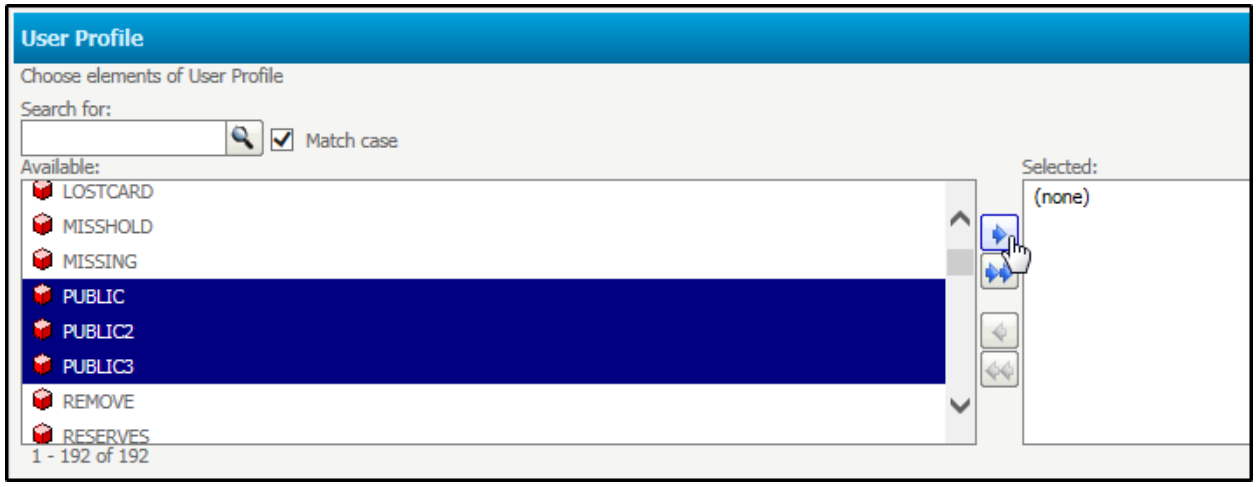
Running a Prompted Report

If there is a prompt applied to your report, as outlined in the previous section, you will first be asked to make a selection from the prompt.

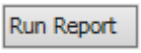
To choose elements in a Prompt

In this example you are prompted to select a User Profile.

1. Click on an element in the **Available** column. If you need to select multiple values, hold the Shift or Ctrl key down on your keyboard as needed.



2. Use the arrows to move the highlighted element(s) into the **Selected** column.

3. Click the **Run Report**  button.

Your report results are displayed, filtered down just to the User Profiles you selected in the prompt.

4. If you would like to make different selections in the prompt after the report results have been display, click the **Re-Prompt** icon from the toolbar and repeat steps 1 through 3.

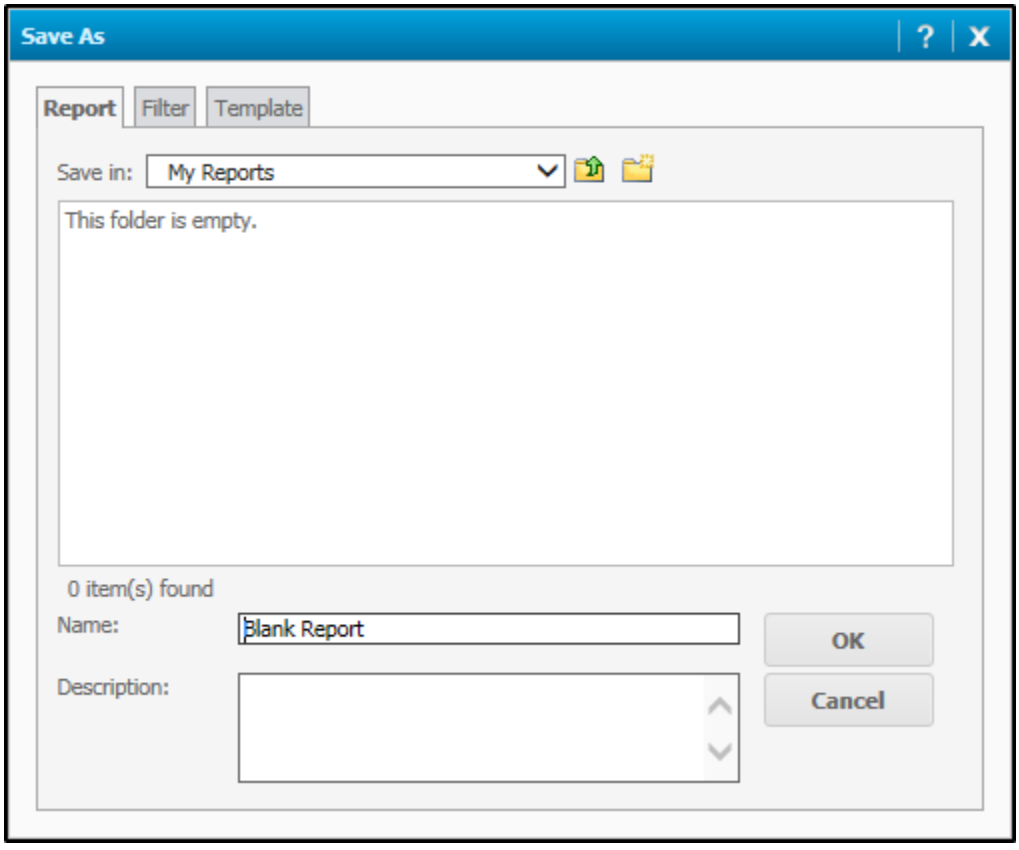
Saving a Report

When you save a report, you are not saving it to your computer, or saving it to email out to someone. You are saving the definitions of the report so that you do not have to design it from scratch again. You will save the report to your My Reports or Shared Reports folder, depending upon who should have access to it.

To save a Report

1. Click the **Save** icon in the toolbar.

2. In the Save As window, select a save location, name the report and, optional, enter a description.



3. Click **OK**.

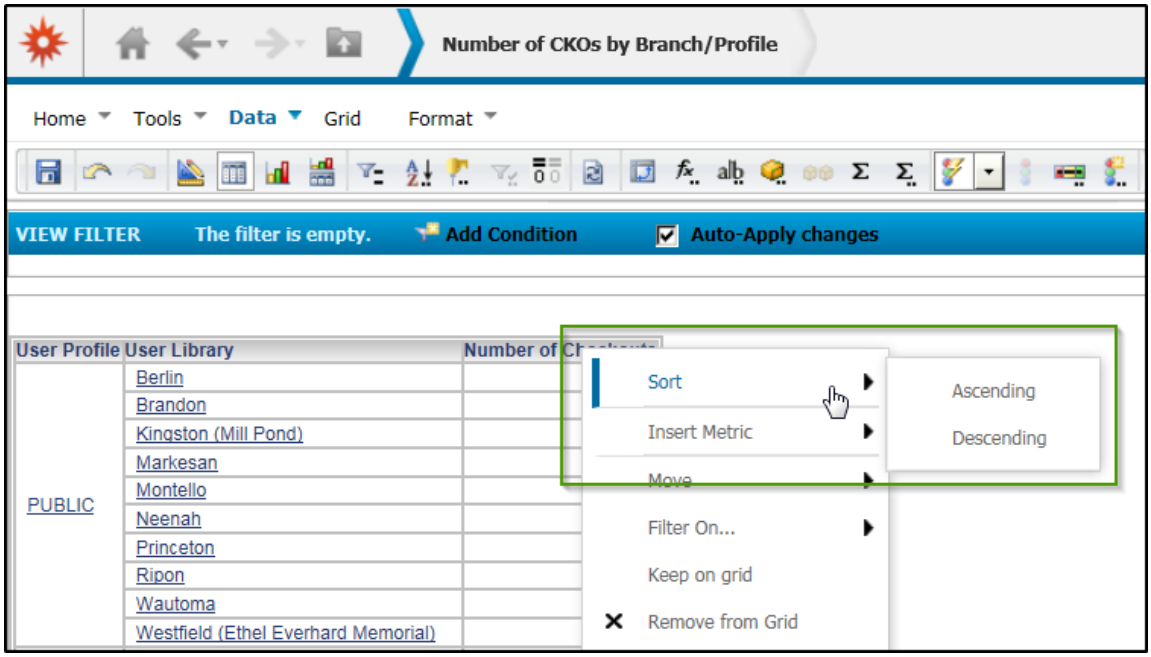
Sorting Report Data

Any column or row in a report can be sorted. When sorting data, you can determine if the sorting order is either ascending or descending. Data in report is sorted by default by the left most column. You can modify this default sort, changing how your data is displayed and organized, with a variety of sorting options.

Once a report has been run and the results are displayed, user the Quick Sort option, found by right-clicking any column header, to sort data in ascending or descending order.

To perform a quick sort

1. Right-click in the heading of the column or row to be sorted.



2. Select either Ascending or Descending.

The data is sorted according to you selection. In the example below the Number of Checkouts column has been sorted descending.

User Profile	User Library	Number of Checkouts
PUBLIC2	Oshkosh	34,945
PUBLIC3	Neenah	30,245
	Menasha	18,131
PUBLIC2	Ripon	4,578
	Berlin	3,275
	Omro (Carter Memorial)	2,684
	Wautoma	2,430
	Winneconne	2,176
	Montello	1,664
	North Fond du Lac	1,662
	Green Lake (Caestecker)	1,560
	Campbellsport	1,450
	Westfield (Ethel Everhard Memorial)	1,428
	Princeton	1,084
	Wild Rose (Patterson Memorial)	1,011
PUBLIC	Markesan	971

In addition to the ascending and descending options found in Quick Sort, you can sort data in more complex ways using the advanced sorting options.

To perform an Advanced Sort

1. From the **Data** toolbar, click the **Sort** icon  .
2. The Advanced Sort window displays. Make your sorting selections based on the following option descriptions:
    a. **Rows:** Select this tab to sort data added to the rows in the grid report.
    b. **Columns:** Select this tab to sort data added to the columns in the grid report.

    NOTE: You can sort attributes and/or metrics in both rows and columns. Simply select the necessary attributes and/or metrics on the Rows and Columns tabs.

    c. **Sort By:** From the drop-down list, select an attribute or metric, then choose whether to sort the values in ascending or descending order.
3. When finished, click **OK**. The data is sorted according to your selections.

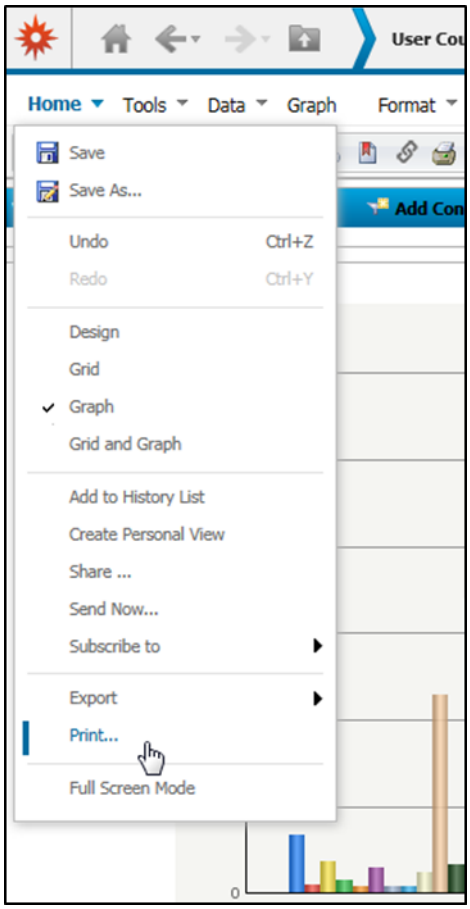
Exporting Reports

Printing a report

To print a report

1. Click any report to execute it.

   a. From the **Home** menu, select **Print**.



The **Print Options** page opens.

2. Click the **Show Printable Version**  button.

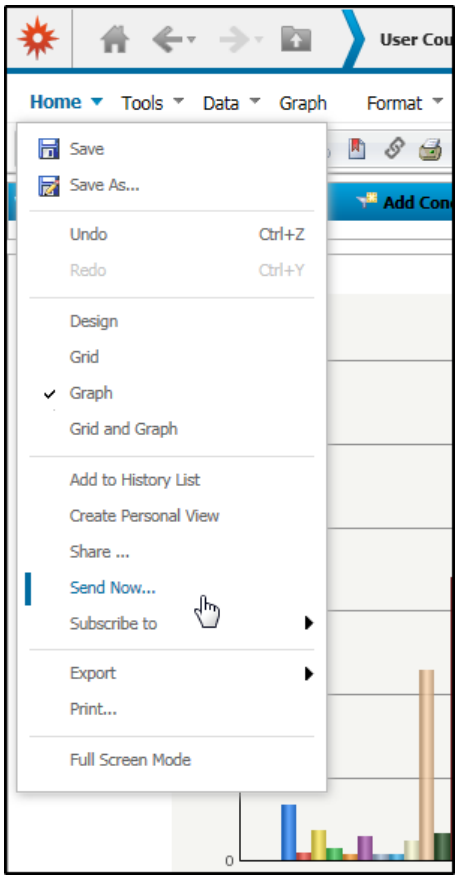
3. The report opens in your browser as a PDF preview.

4. Select the Print option from your browser.

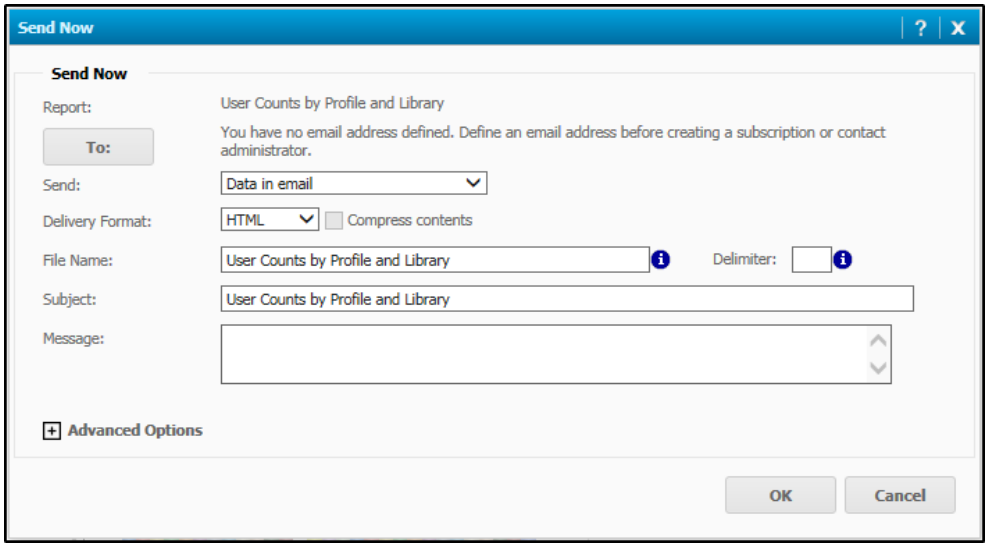
Emailing a report

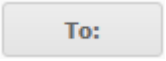
To email a report

1. Click the name of a report to execute it.
2. From the **Home** menu, select **Send Now**.



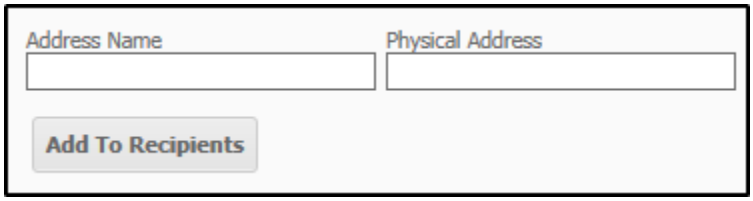
3. The Send Now dialog box opens.



4. Click **To:**  to locate the email address of the recipient. The Recipients Browser opens.

5. Select an address from the **Available** column and click the arrow  to move the address to the To: Cc: or Bcc: fields as needed.

If the email address you would like to send to is not in the Available list, type the person's name (**Address Name**) and email address (**Physical Address**) and click **Add to Recipients**.



6. Click **OK**.

7. Back in the Send Now window, in the **Send** drop-down list, choose how to include the report in the email. Options include:

    a. *Data in email* - Delivers data in an email message

    b. *Data in email and to history list* - Delivers data in an email message and also creates a message in the History List

    c. *Data and link to history list in email* - Delivers both data and a link to the History List in an email message, and creates a message in the History List

d. *Link to history list in email* - Creates a message in the History List and delivers a link to History List in an email message

8. If needed, edit the **Subject** field and enter a **Message** to be included in the email.

9. If desired, expand the **Advanced Options** section. With the correct permissions a user can:

    a. Select the Password protect zip file check box

    b. Enter a name for the zip file

    c. Select an expiration date for the subscription.

10. Click **OK**.

Exporting data

You can export reports in a variety of formats including PDF, HTML, Excel, and plain text. Before exporting a report, note that you can make adjustments to the report's export settings.

To export a report

1. Click the name of a report to execute it.

2. From the **Home** menu, select **Export**, and then select the required output format.

3. The **Export Options** page opens.

4. Make any necessary changes to the export options.

NOTE: You can further modify export options and graph settings in User Preferences.

5. The report displays in the selected application and format.

Filtering in Reports

Stand-alone Filters vs. Report Filters

A stand-alone filter is a filter created as an independent BLUEcloud Analytics object. The benefit of creating a "stand-alone" is that it can then be used on many different reports. Remember, in BLUEcloud Analytics filters can also be created at the same time the report itself is being created, as we did in the previous section. Those filters are generically called "report filters". Report filters are saved with the report's definitions meaning a report filter cannot be used on any other report. Both stand-alone filters and report filters accomplish the same results: filters determine what data will be pulled into the report results.

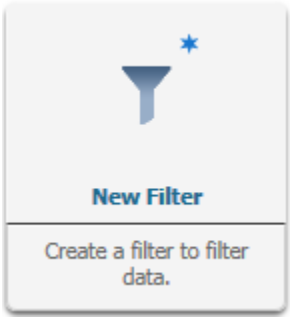
A report filter can use any of the qualification types described in this section so you may apply any of these concepts to both stand-alone and report filters, but here we will focus on saving these filters for later and multiple uses.

Filter Editor

You can create and save a filter using the Filter Editor. You can also use the Filter Editor to modify an existing filter.

To access the Filter Editor

1. In BLUEcloud Analytics, on the Home page, click **New Filter**.



   The New Filter page opens.

2. To create a filter, consult the following sections to determine which kind of filter you need. Then follow the steps provided.

Adding Stand-alone Filters to a Report

After you create a filter, you can include it in a report. When placed in a report, a filter becomes part of the report's definitions, pulling in only the necessary data each time the report is run.

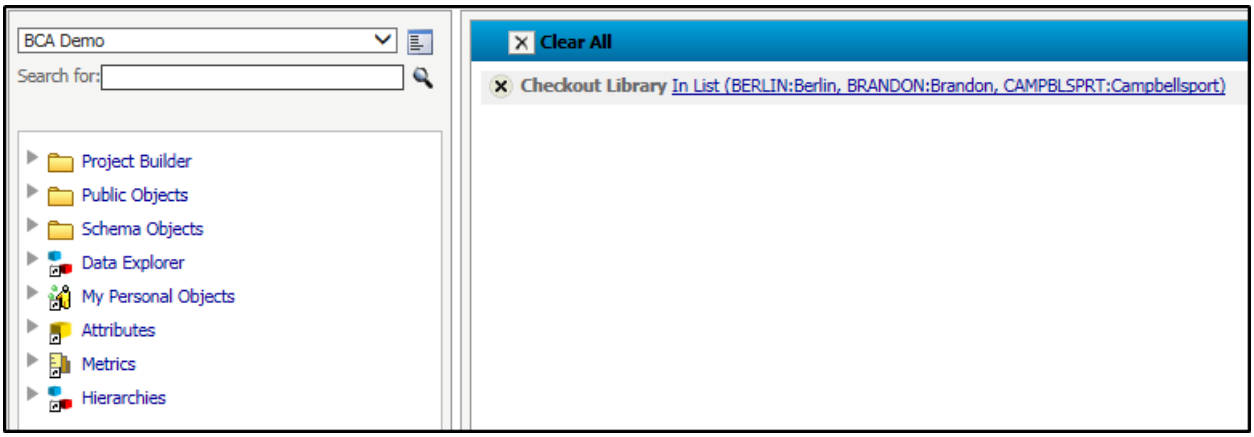
To add a Filter to a Report

1. Open an existing report or create a new blank report
2. From the **Design Mode**, in the **All Objects** pane on the left, navigate to the folder where your filter is saved.
3. To add a filter to the report's Filter pane, complete one of the following tasks:
    a. Drag and drop the filter on the **Report Filter** pane.
    b. Double-click the filter to add it to the **Report Filter** pane.
    c. Right-click the filter and select **Add to Filter**.

Almost all reports have attributes, metrics and filters. If needed, use the previous sections of this manual to add additional objects to your report in addition to your filter.

To edit a Filter

1. Click on the filter in BLUEcloud Analytics. The filter opens within the Filter Editor.



For details on each filter type that can be created and how to create them, consult the appropriate section below.

Types of Filters

Attribute Form Qualification

Attribute form qualification filters can be created based on any of the forms that that attribute might take. For example, the attribute Checkout DOW (day of week) has two forms ID, and Description.

ID: Checkout DOW	Description: Checkout DOW
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

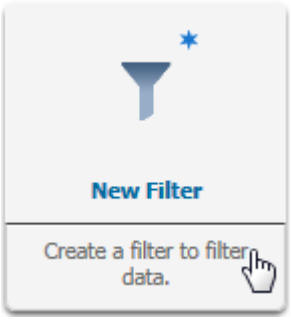
Let's imagine that you are trying to filter the data down to one particular day of the week, Sunday. With the Checkout DOW attribute, you could set up a qualification filter using the ID as shown below, entering the ID for Sunday:

Or, it might be easier to use the Description and type in the word "Sunday", if you do not know the corresponding ID. Note that the Description form is case sensitive.

To create a Filter based on an Attribute form

In this example we'll create a filter that will list users with a last name beginning with 'M'.

1. From the Home page, click **New Filter**.

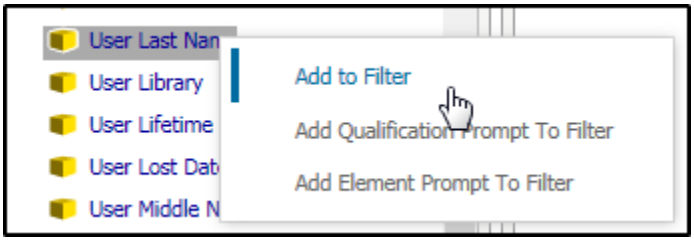


NOTE: Remember that you can also create filters "on-they-fly" within a report. The example will walk you through creating a filter so that you can use it in multiple reports. If you need to create a filter "one-the-fly" within a report select the New Report icon from the home screen and follow steps 2-8 outlined below.

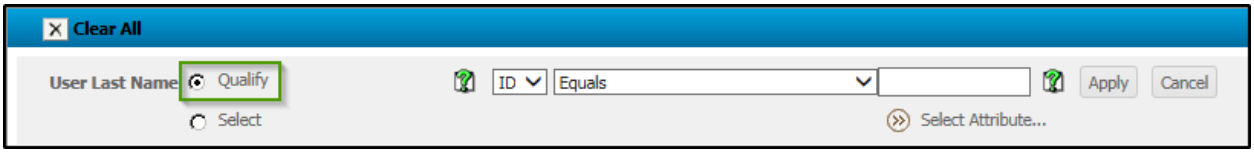
2. In the All Objects pane on the left, navigate to the attribute you'd like to work with.

3. Right-click on the attribute and select **Add to Filter.**

For this example we'll use the User Last Name attribute.



4. Select the **Qualify** radio button.

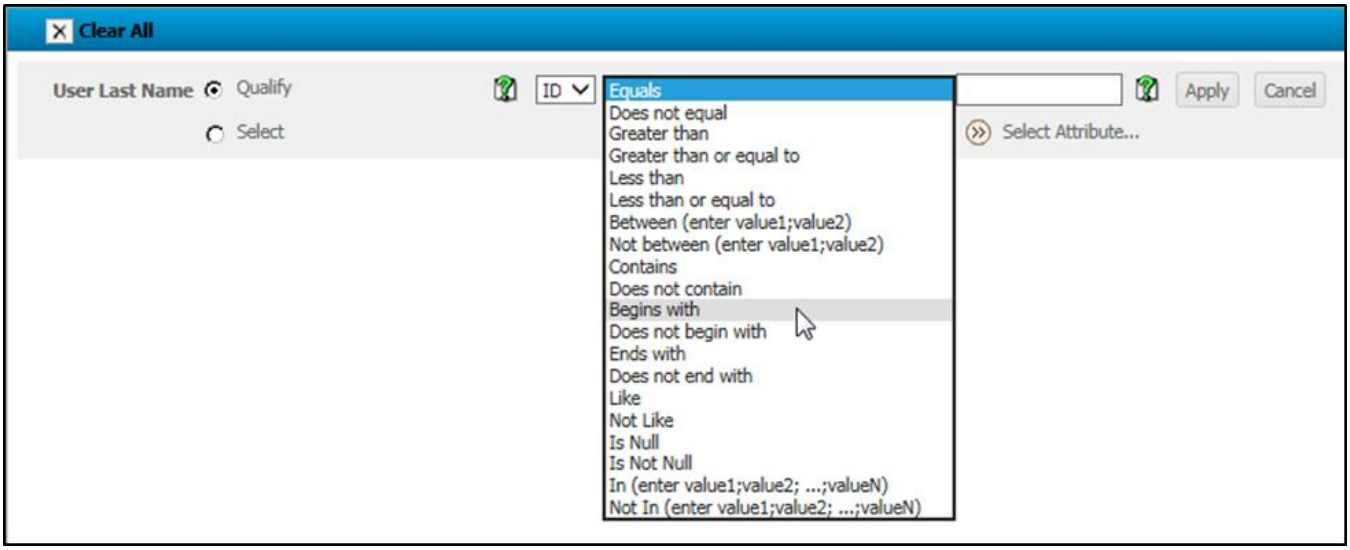


5. In the first drop-down menu, **select the form** you want to base the filter on.

   For this example we only have one option, ID.

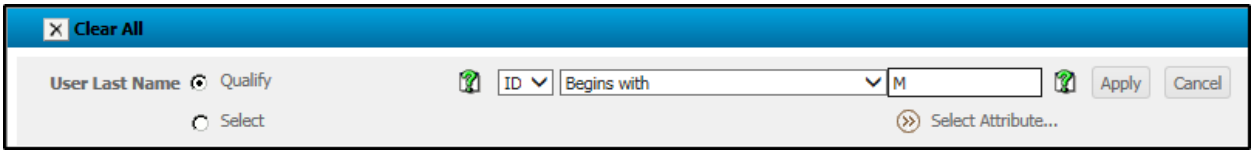
6. In the second drop-down menu, **select the operator** that best describes *how* the data should be filtered.

   For this example we'll select "Begins with".



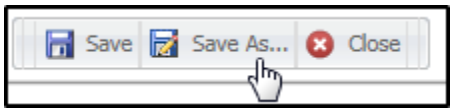
7. In the text field, **enter the value** you are looking for in the data.

   For this example we will enter the letter M.



8. Click **Apply.**

9. Click **Save-As** and save the filter.



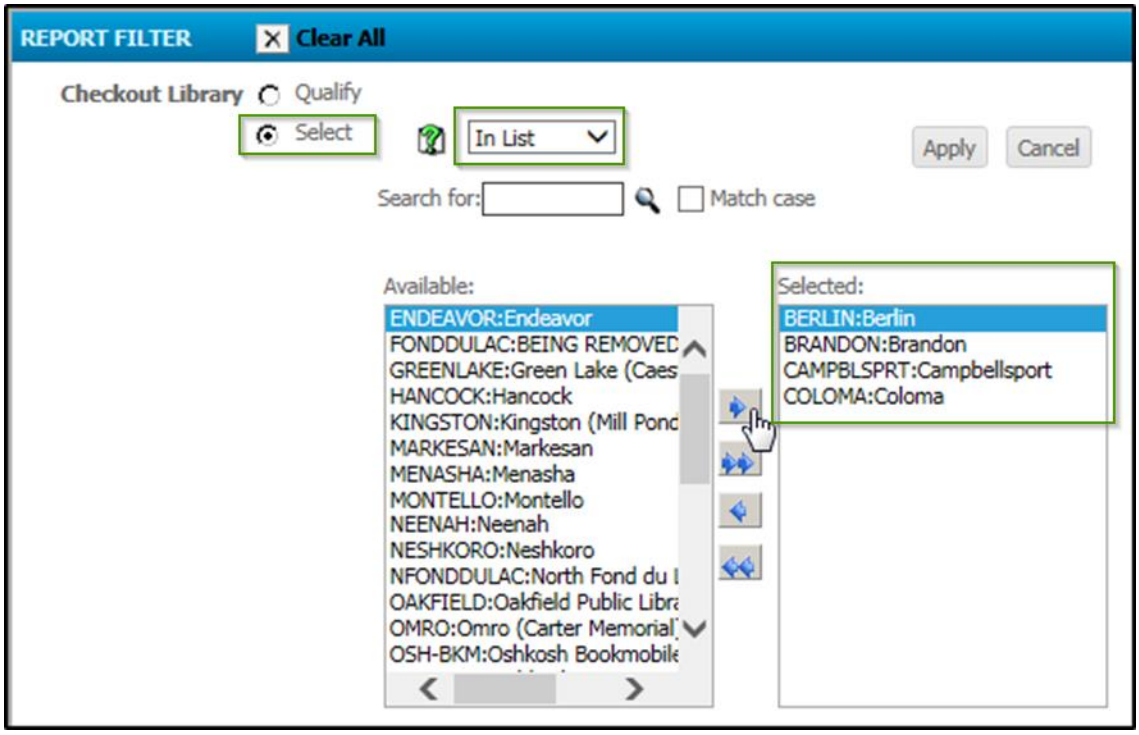
10. Click **Ok**.

NOTE: For instruction on how to add this filter to a report, consult the previous section in this document, "Adding Stand-alone Filters to a Report."

Attribute Element List Qualification

An *attribute element list* qualification filters data to display only if it has been added to the filter list. We can use the list to include what is selected or exclude what is selected using the "In List" and "Not in List" options.

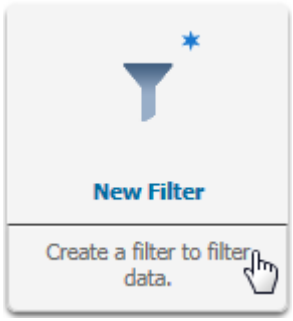
For example, we might want to filter our data down to a particular library or set of libraries in our system as shown below:



To create a Filter based on an Attribute Element list

In this example, imagine we are in a large multi-type library consortia. We have many academic, public and school libraries. We'd like to create a filter that would show only the public libraries.

1. From the Home page, click **New Filter**.

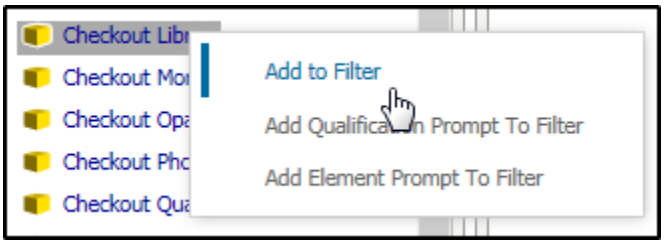


NOTE: Remember that you can also create filters "on-they-fly" within a report. The example will walk you through creating a filter so that you can use it in multiple reports. If you need to create a filter "one-the-fly" within a report select the New Report icon from the home screen and follow steps 2-7 outlined below.

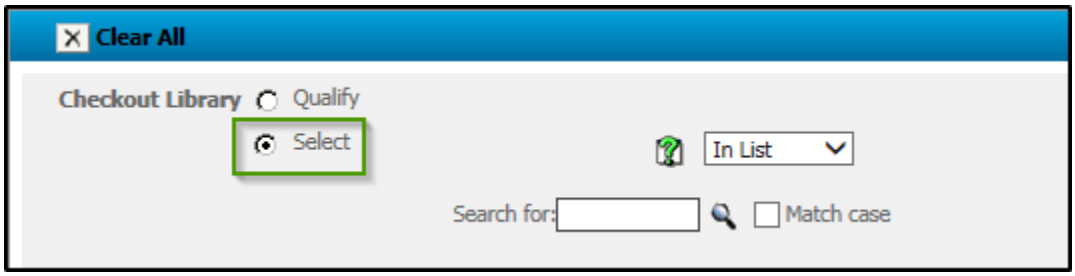
2. In the All Objects pane on the left, navigate to the attribute you'd like to work with.

3. Right-click on the attribute and select **Add to Filter.**

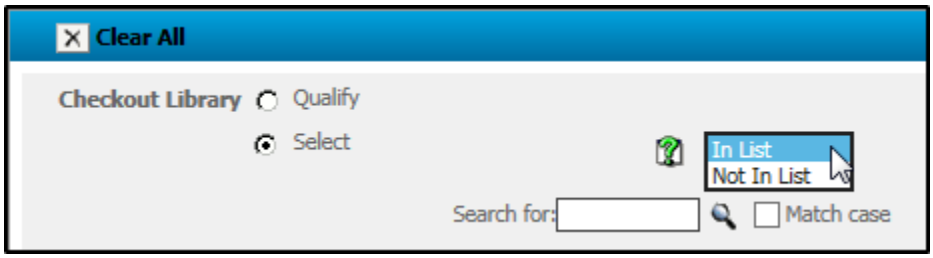
For this example we'll use the Checkout Library attribute.



4. Select the **Select** radio button.



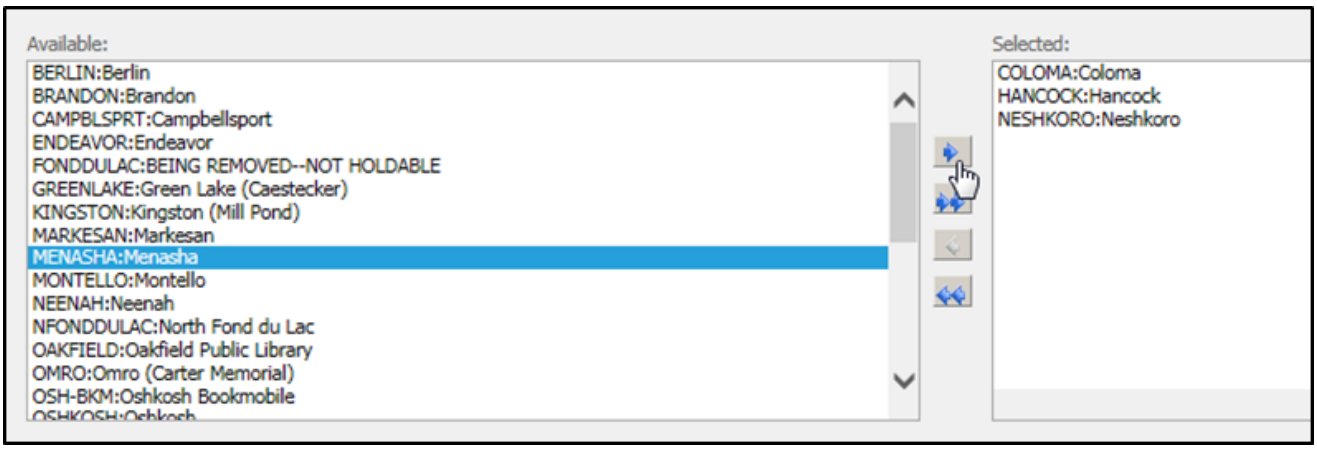
5. Choose whether you would like the libraries to filter data to what is selected "In List" or "Not In List" using the list drop-down menu.



For this example we use In List, since we have just a few libraries to select. You may want to choose "Not In List" if you want to keep the *majority* of the elements and only filter out one or two selections.

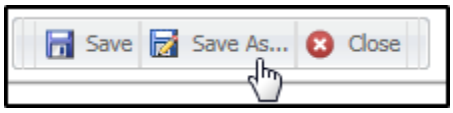
6. Select the elements you would like to include in the filter.

   For this example, we'll select three of our public libraries.



7. Click **Apply.**

8. Click **Save-As** and save the filter.

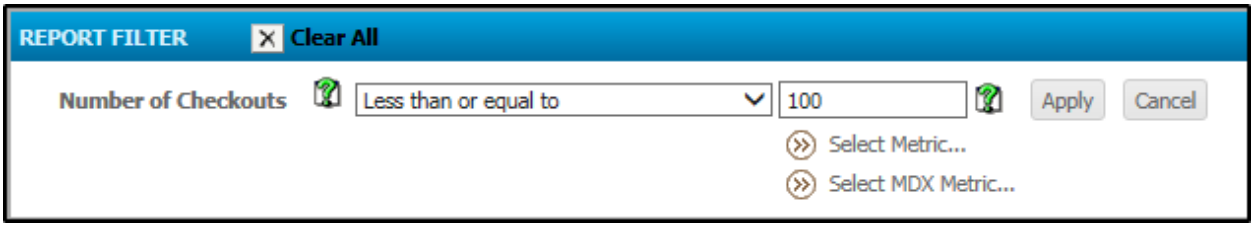


9. Click **Ok**.

NOTE: For instruction on how to add this filter to a report, consult the previous section in this document, "Adding Stand-alone Filters to a Report."

Metric Set qualifications

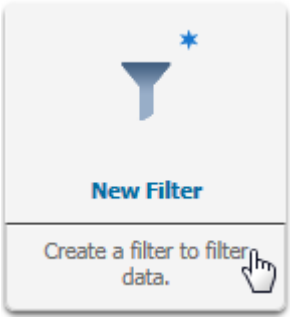
Metric set qualifications restrict data based on the value or percentage of a metric. For example, a metric set qualification might filter a report to only display data if the total number of current checkouts is less than or equal to 100 in a given week.



To create a Filter based on a Metric Set

In this example, imagine we are monitoring those libraries that have a low number of current checkouts. We can create a filter that will only display data for libraries with 1000 or fewer current checkouts.

1. From the Home page, click **New Filter**.

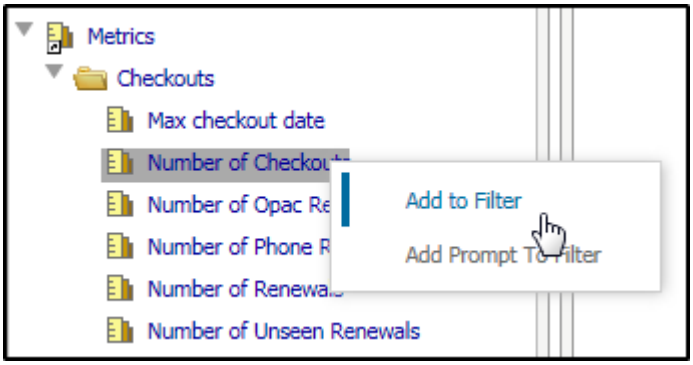


NOTE: Remember that you can also create filters "on-they-fly" within a report. The example will walk you through creating a filter so that you can use it in multiple reports. If you need to create a filter "one-the-fly" within a report select the New Report icon from the home screen and follow steps 2-5 outlined below.

2. In the All Objects pane on the left, navigate to the metric you'd like to work with.

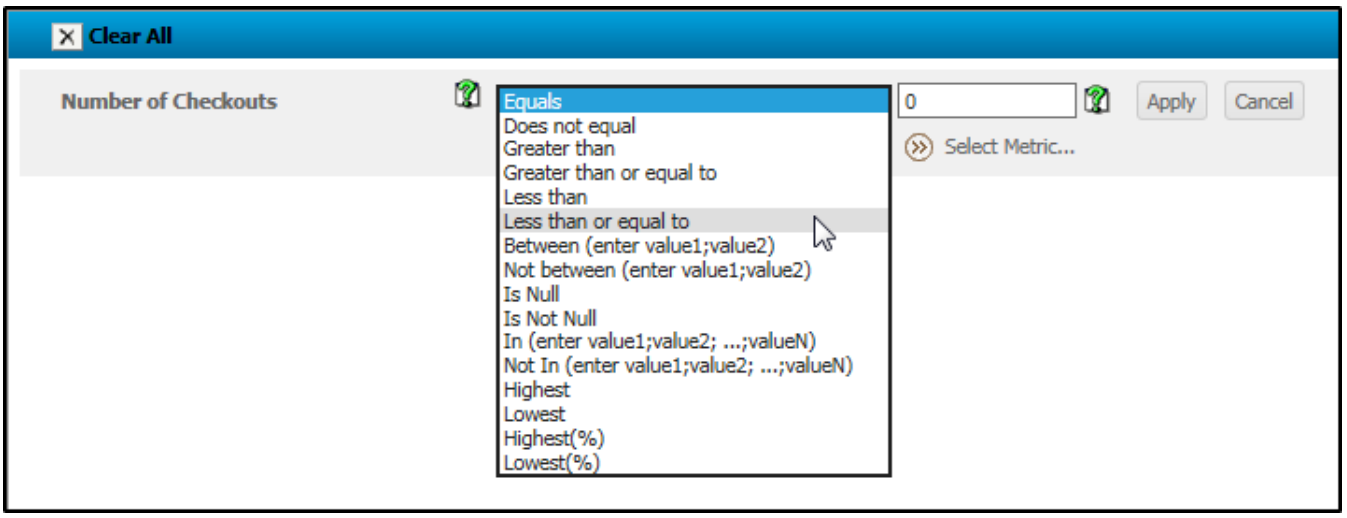
3. Right-click on the metric and select **Add to Filter.**

For this example we'll use the Number of Checkouts metric.



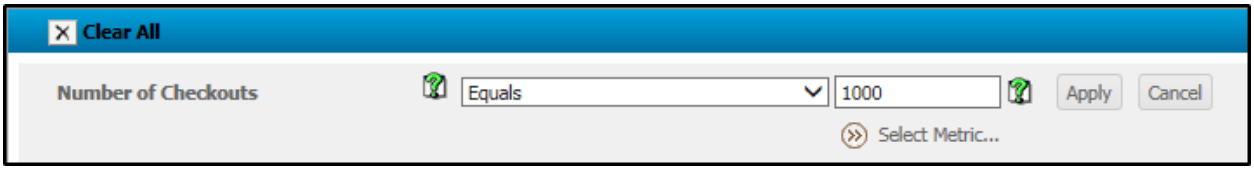
4. In the drop-down menu, **select the operator** that best describes *how* the data should be filtered.

   For this example we'll select "Less than or equal to".



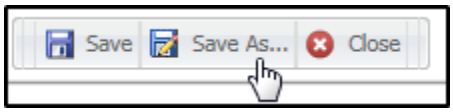
5. In the text field, **enter the value**.

   For this example we will enter the value 1000.



6. Click **Apply.**

7. Click **Save-As** and save the filter.

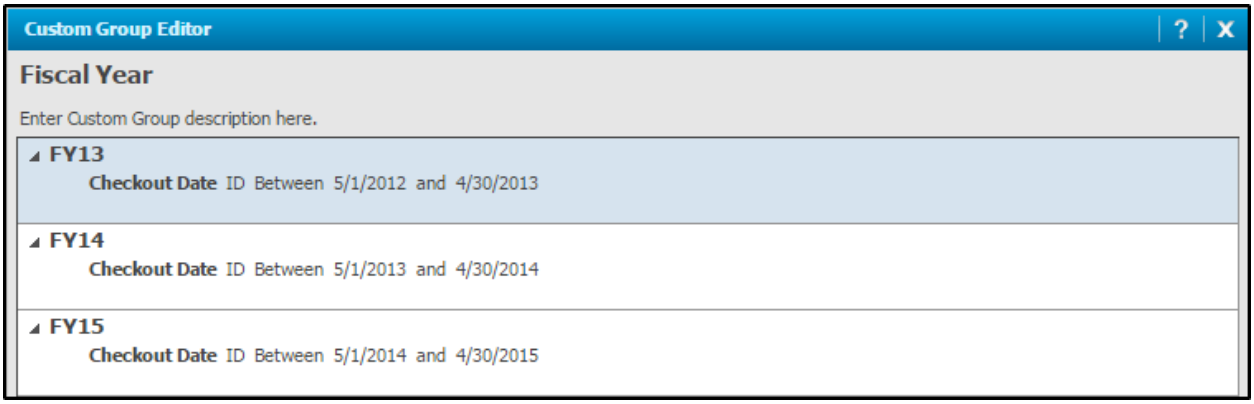


8. Click **Ok**.

NOTE: For instruction on how to add this filter to a report, consult the previous section in this document, "Adding Stand-alone Filters to a Report."

Custom Groups

A Custom Group allows users to filter data in a special way in a report. For example, you might want to create a group of libraries by type or region, or you might want to group checkout dates by Fiscal Year.

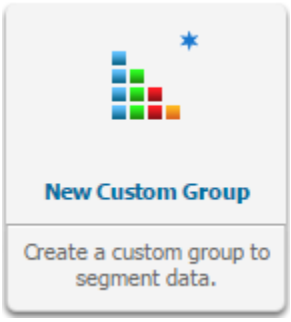


Custom groups can be used with Reports. To use the custom groups in a dashboard, you must build the dataset as a report and then base the dashboard off of that dataset.

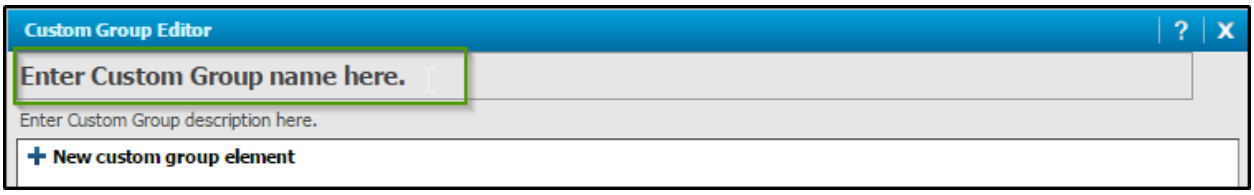
To create a Custom Group

For this example we will create a custom group for Fiscal Year. We will group together checkout dates according to a September 1 through August 31 Fiscal Year.

1. From the Home screen, select the **New Custom Group** icon.



2. Click in the area labeled, "**Enter customer Group name here**."

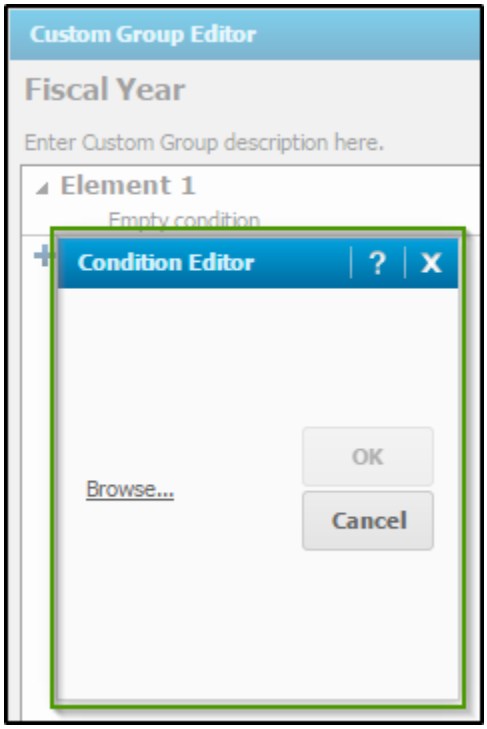


3. Enter a name for this group. This will be the column header in your report.

   For our example we will type “Fiscal Year”.

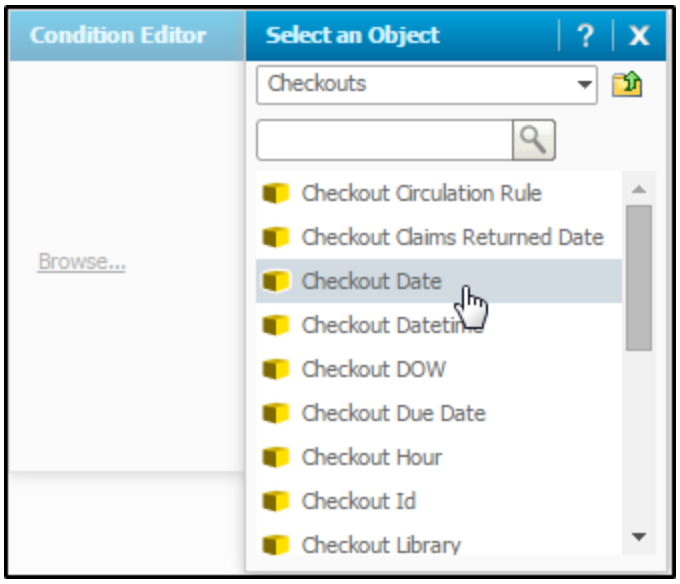
4. Click **New Custom Group Element.**

   The condition window displays.



5. Click **Browse** to select the necessary objects to define the filter.

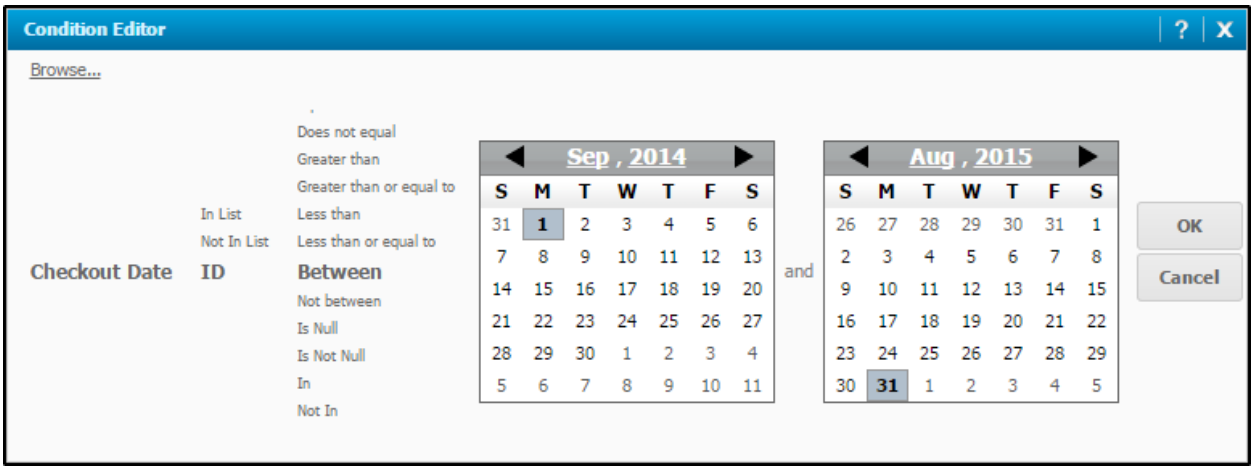
   For our example we browse to Checkouts > Checkout Date.



6. **Define** the filter conditions.

NOTE: For more information on filter conditions refer to the Type of Filters section in this document.

For this example, we will use the checkout date ID form which allows us to set a qualification of "between". We will select dates between Sep 1, 2014 and Aug 31, 2015 to define the FY15 element of our custom group.

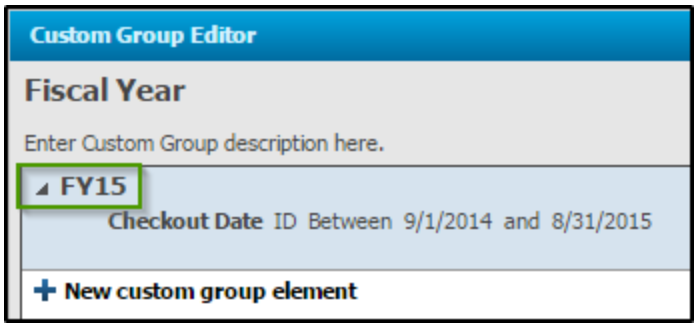


7. Click **OK**.

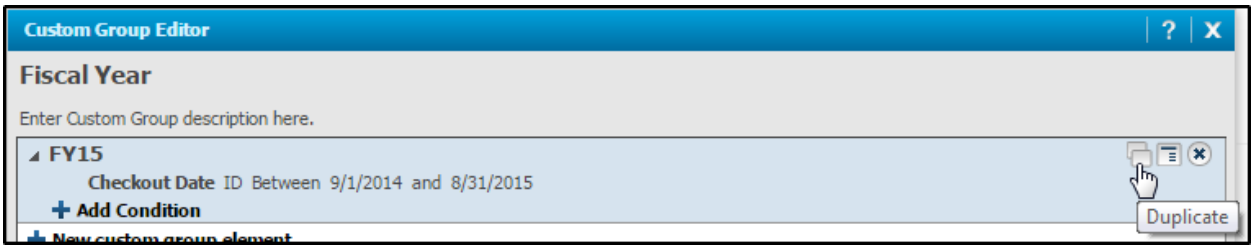
The element is added to the group.

8. Click on text that reads **Element Name** to rename the element. This name will be used in your report to identify this set of data.

For our example, we will rename this element *FY15*.

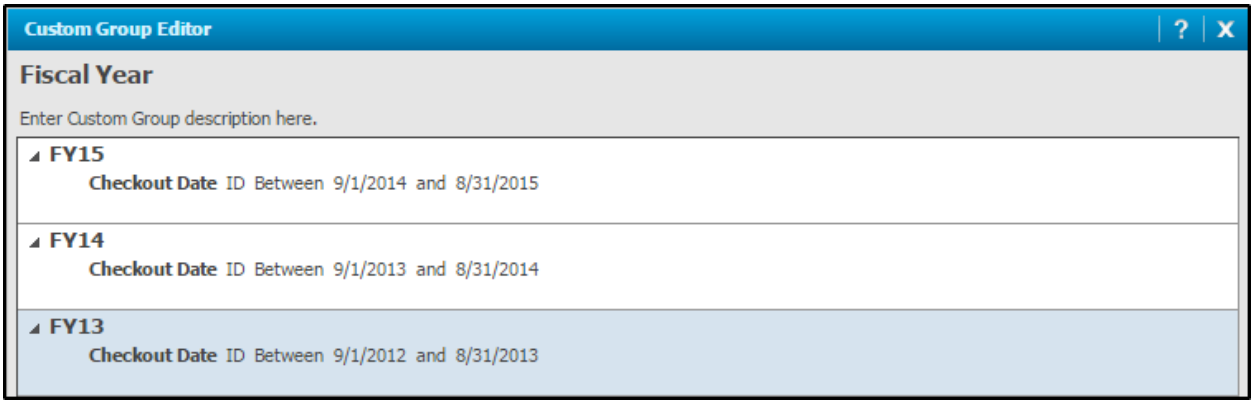


9. **Hover** over the element to see the **Duplicate** menu.



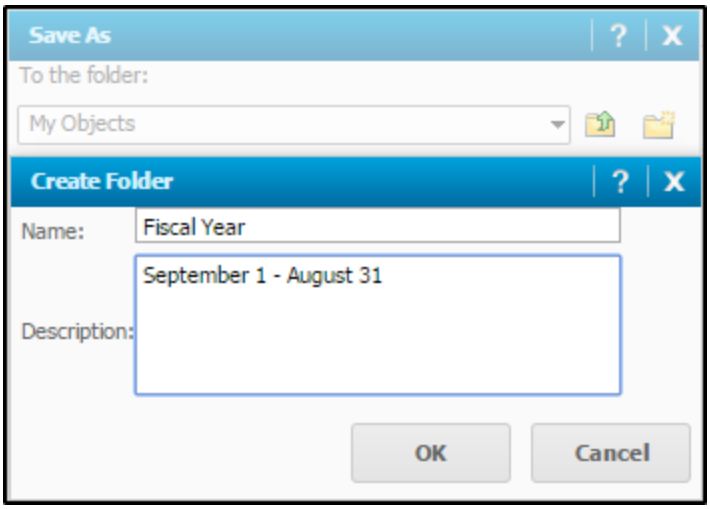
10. Use the **Duplicate** menu to easily add other elements.

    For our example we will create elements for FY14 and FY13.



11. Click **Save as**.

NOTE: Save this custom group to one of two directories. If you would like the group to be available for others to use, save it to the Shared Custom Groups folder (Public Options > Shared Custom Groups). If you would like to keep this custom group object private, save it to your My Objects folder.

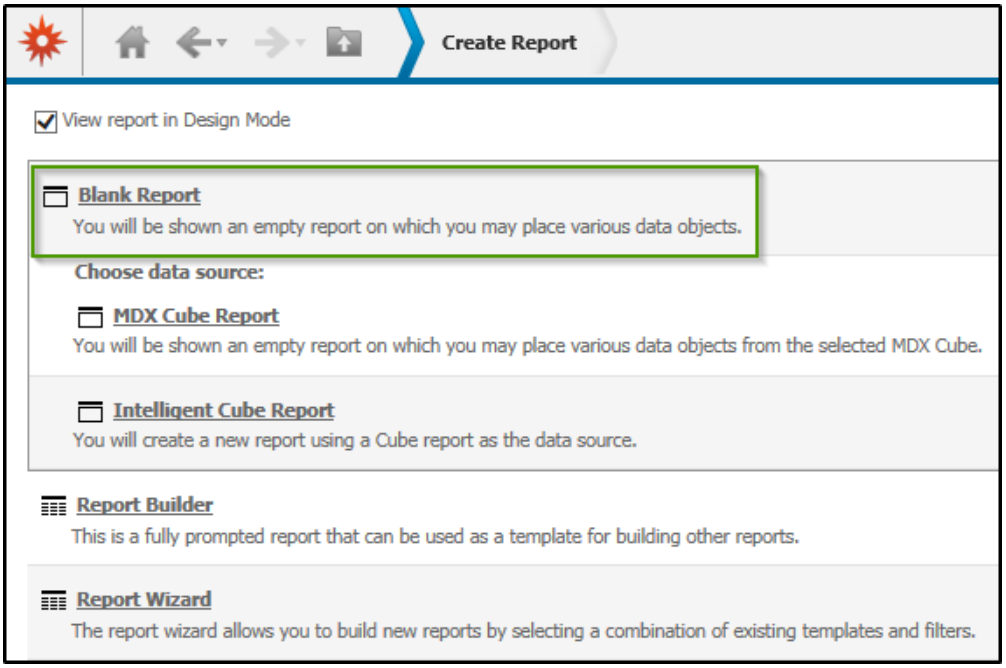


To use a Custom Group in a Report

1. From the home page, click on the **New Report** icon.

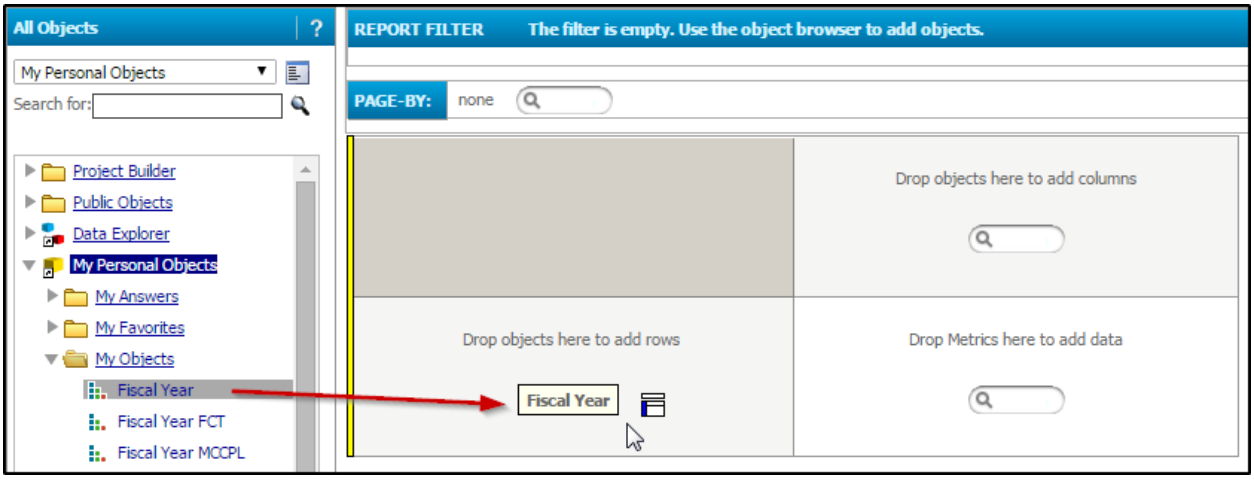
New Report

2. Select **Blank Report**.



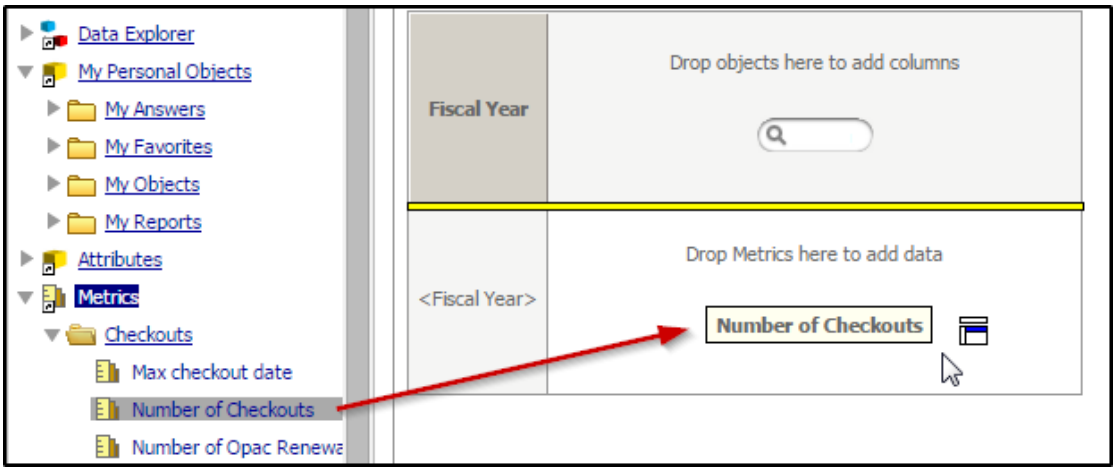
3. In the **All Objects** pane, navigate to the custom group either in the **Shared Custom Groups** or My Personal Objects > **My Objects** directory.

4. Click and drag the **Custom Group** into the report template.



5. Add additional attributes or metrics as needed.

   For our example we will add the Number of Checkout metric to see the total number of current checkouts grouped by Fiscal Year.



6. Click **Run Report**.

   The report results are displayed, grouped according to the custom group element settings.

Fiscal Year	Number of Checkouts
FY13	5,849
FY14	7,792
FY15	144,839

Report Formatting

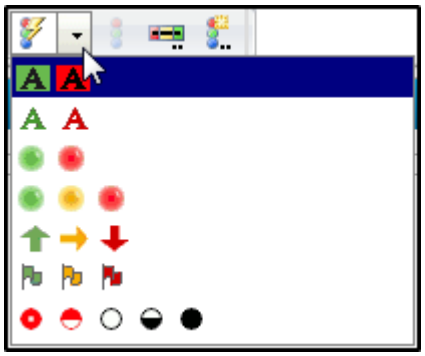
Reports can be formatted in a variety of ways, the result being improved the readability and appearance of your report. These reporting options can be done manually or you may select from a set of auto-styles. Auto-styles are collections of pre-selected formatting options that can be applied to a report all at once.

Thresholds

Thresholds are a way to conditionally apply formatting to data. With thresholds, you can draw the user's attention to key pieces of data that meet a certain condition, such as "number of checkouts > 1000". A threshold consists of a condition to be met and a color or image to apply. Thresholds can be created manually, as with a visual threshold or more easily using a "quick threshold".

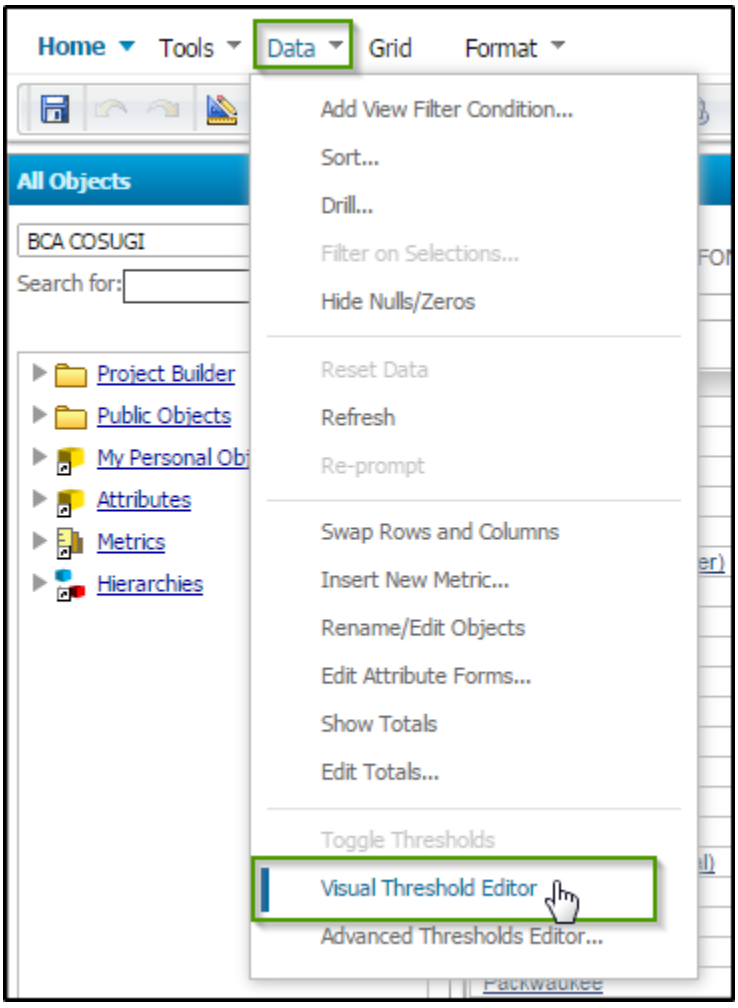
To add a Quick Threshold

1. Run a report.
2. After the report loads, select either the **Grid** or the **Grid/Graph** view.
3. Select a **metric header** on the grid report. To select multiple metric headers, hold CTRL and select the headers.
4. Select the **Data** toolbar.
5. Click the arrow next to the Quick Thresholds icon and select an option from the drop-down menu. The option you select depends on how you want to format the data.



To create a Visual Threshold

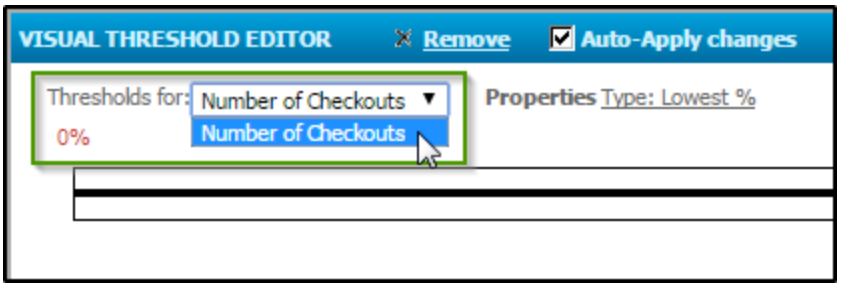
1. Run a report.
2. After the report loads, select either the **Grid** or the **Grid/Graph** view.
3. From the **Data** menu select **Visual Threshold Editor.**



The editor opens.

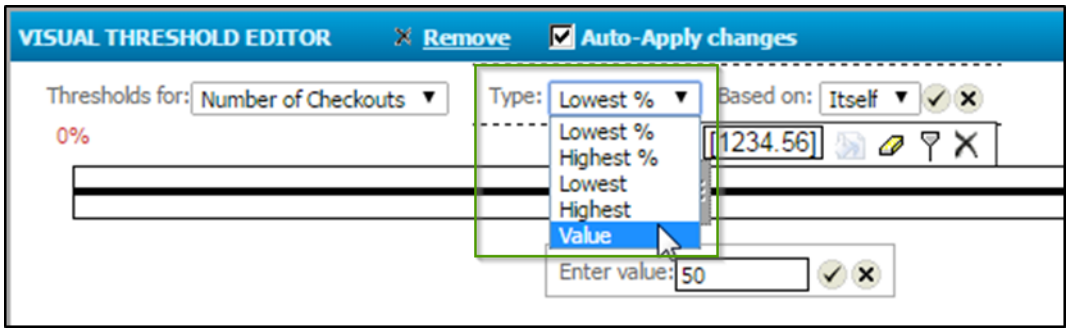
4. In the **Thresholds for** drop-down list, select the metric for which you would like to create a threshold.

For our example, we will select the Number of Checkouts metrics.



5. In the **Properties** link, click **Type.** In the **Type drop-down** list that appears, select the type of condition you'd like to use for this threshold.

For this example, we'll select Value.

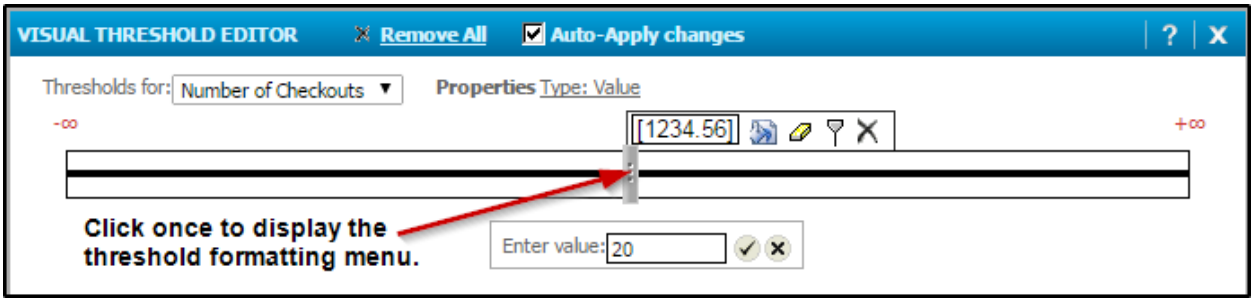


6. In the **Based on** drop-down menu, select if the threshold condition should be based on the metric itself or on another metric in the report.

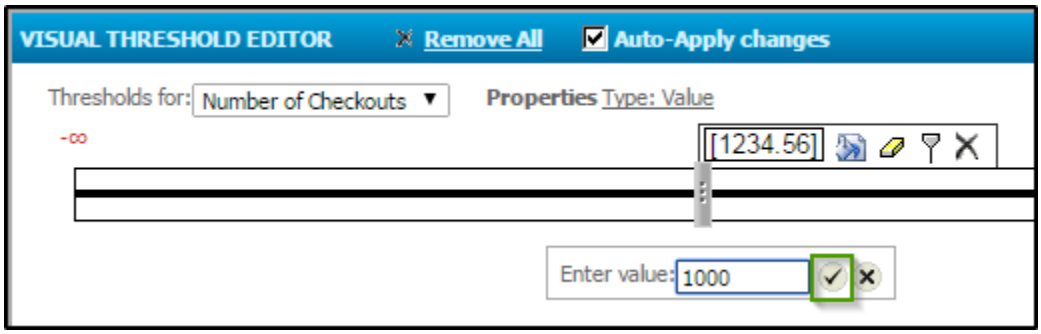
Since our example only contains one metric, the threshold can only be based on itself.

7. Click the **Apply** check-mark.

8. To add a threshold value, drag the slider bar to the desired position or key in the desired value.

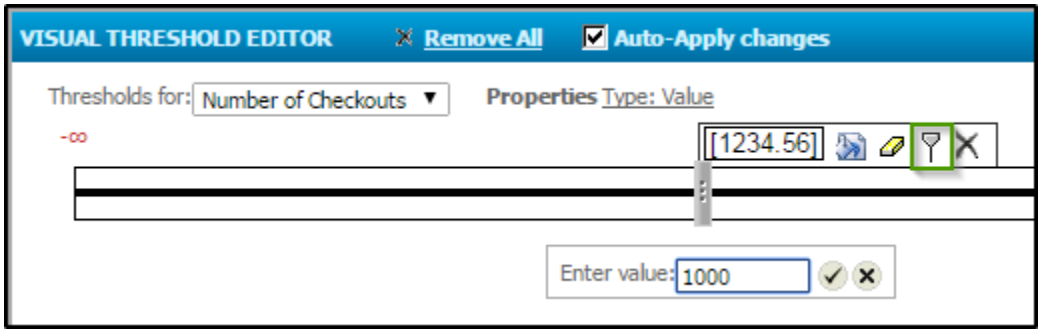


9. Click the **Check-mark** icon to set the value.



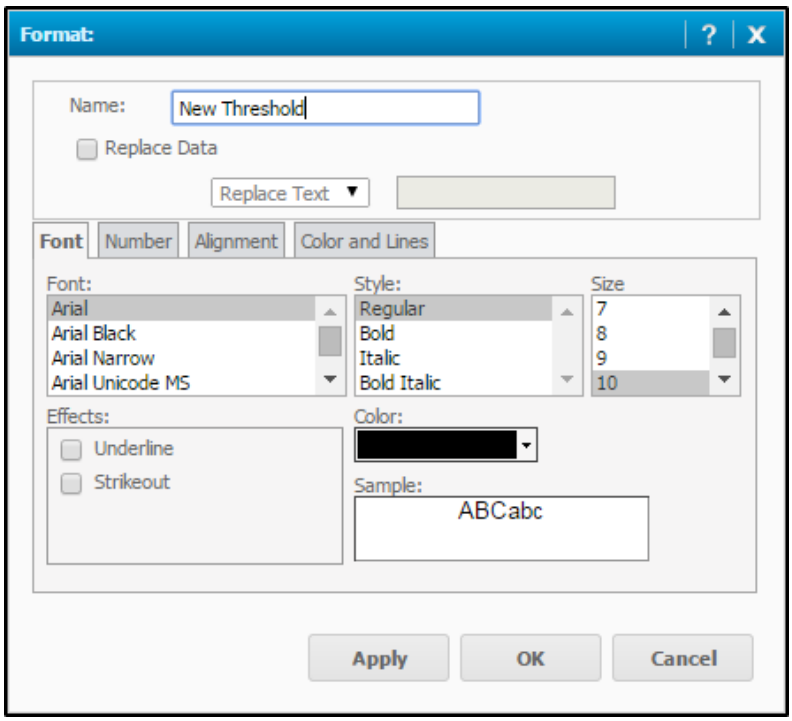
A division is added to the slider bar.

10. Add more divisions as needed using the **Add Threshold** icon in the formatting menu.



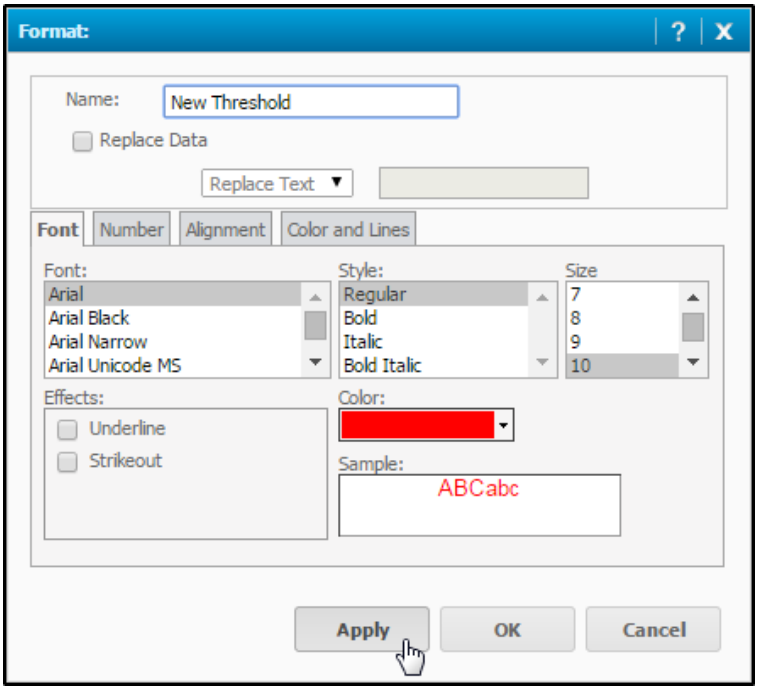
11. To format a particular range of values, represented by the area between division, **double-click** anywhere in the space between divisions and select **Format** from the menu.

The formatting menu opens.



12. Make selections as needed in the Format window.

For our example, we will simply change the color of the text to red if the current Number of Checkouts is between 0 and 1000.



13. Click **Apply** to see the changes display in the background. When you are satisfied with the threshold settings, click **OK**.

The threshold is applied.

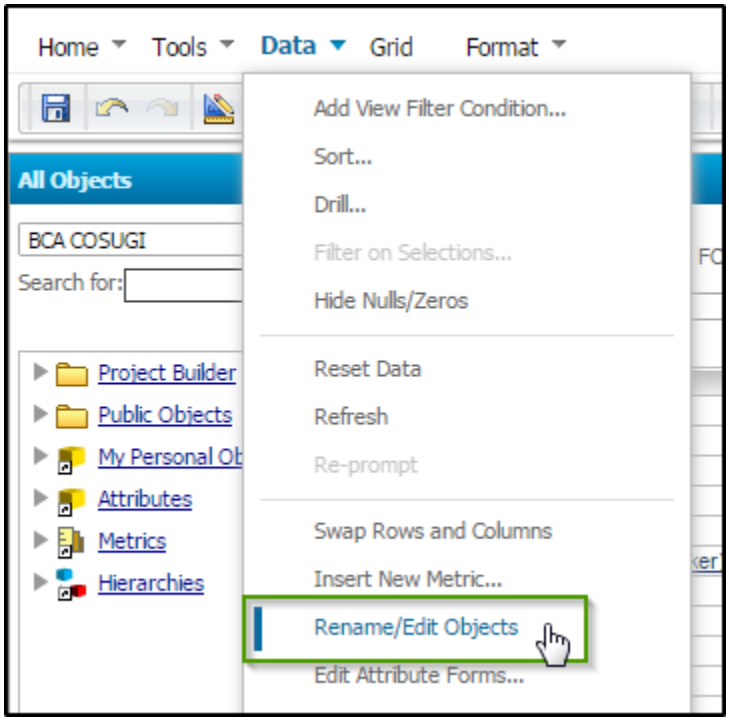
Checkout Library	Number of Checkouts
Berlin	4,651
Brandon	710
Campbellsport	2,472
Coloma	932
Endeavor	439
Green Lake (Caestecker)	1,807
Hancock	649
Kingston (Mill Pond)	661
Markesan	1,193
Menasha	22,737
Montello	1,796
Neenah	42,722
Neshkoro	215
North Fond du Lac	2,487
Oakfield Public Library	995
Omro (Carter Memorial)	2,424
Oshkosh Bookmobile	8
Oshkosh	50,308
Oxford	968
Packwaukee	897
Pine River (Leon-Saxeville)	753
Plainfield	967
POLICY NOT FOUND	9
Poy Sippi	466
Princeton	2,192
Redgranite	683
Ripon	6,655
Wautoma	3,188
Winnefox Cooperative Technical Services	588
Westfield (Ethel Everhard Memorial)	1,733
Wild Rose (Patterson Memorial)	1,266
Winneconne	4,230
Winnefox Library System	602

Renaming Objects

It is possible to rename objects in a report. This can be done using an alias. The alias renames the attribute or metric in the report, but does not change the name anywhere else in the BLUEcloud Analytics project.

To rename an Attribute or Metric in a Report

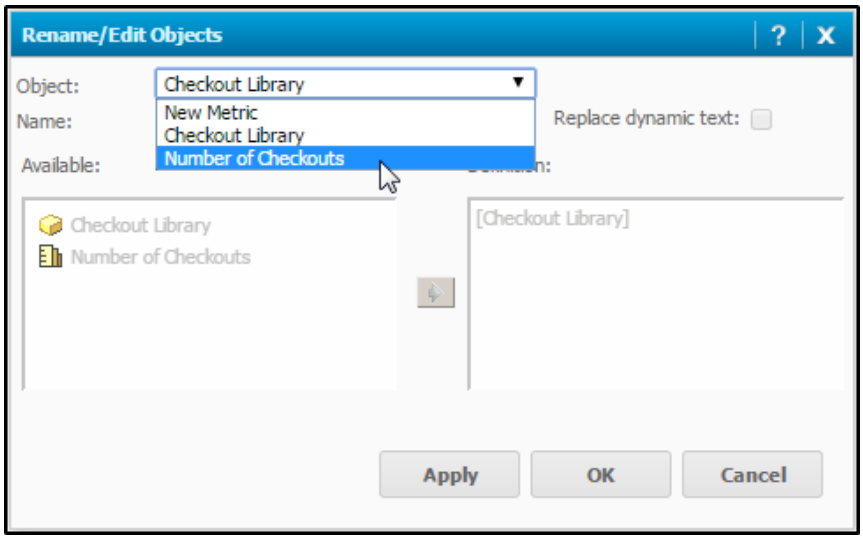
1. From the **Data** menu, select **Rename/Edit Object.**



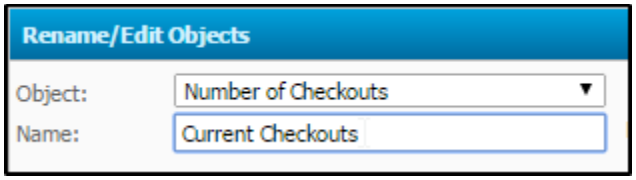
   The Rename/Edit Objects window is displayed.

2. Select the object you would like to rename from the **Object** drop-down menu.

   For this example, we'll select the Number of Checkouts metric.



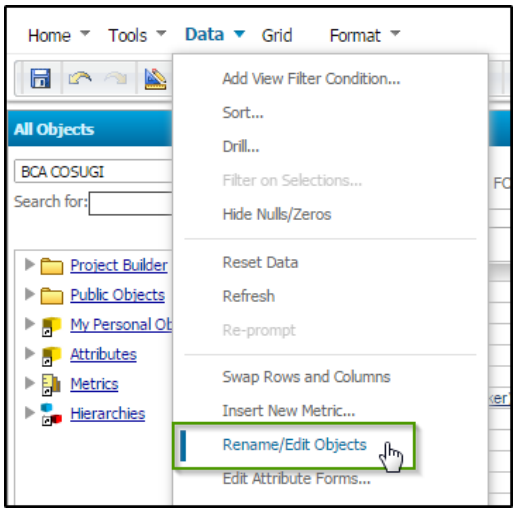
3. Type in the new **Name** of the object.



4. Click **OK**.

To find the original name of an Object in a Report

1. From the **Data** menu, select **Rename/Edit Object.**

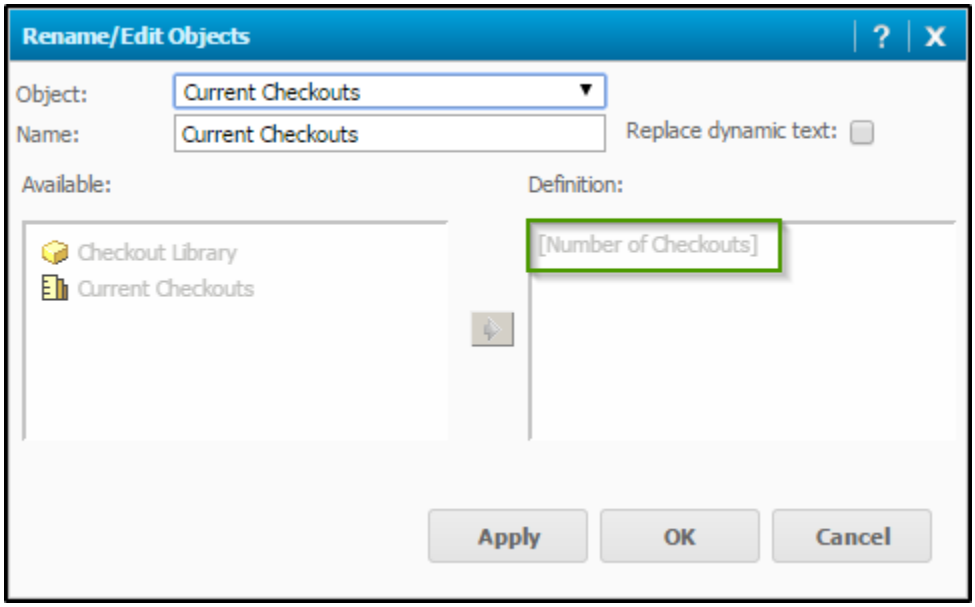


The Rename/Edit Objects window is displayed.

2. From the **Object** drop-down menu, select the object in question.

3. The **Definition** box displays the original object name.

Notice for this example, the original name of the Current Checkouts metric was Number of Checkouts.

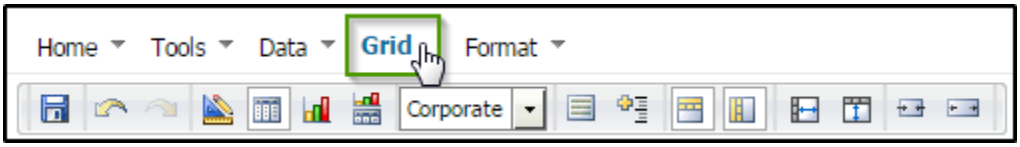


Autostyles

BLUEcloud Analytics comes with many preset formatting styles, referred to as Autostyles. They can be applied to a grid report from the Grid menu.

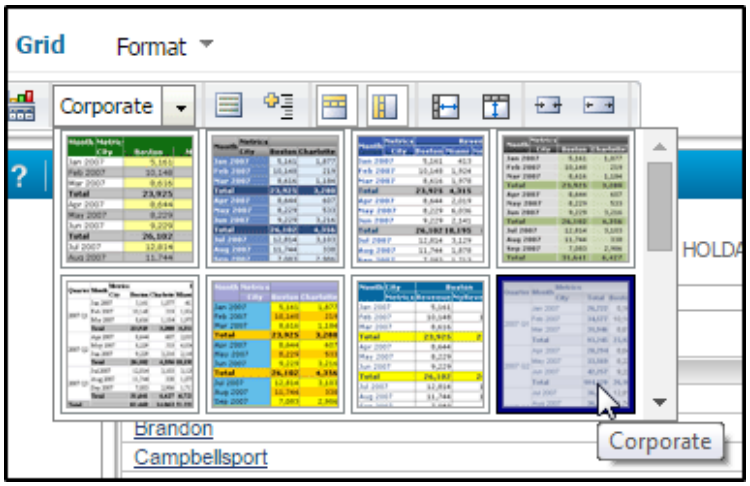
To apply and Autostyle

1. Select the **Grid** toolbar.



2. Select an Autostyle from the drop-down menu in the toolbar. Corporate is the default.

   For our example, we'll select the Finance Autostyle.



The report is displayed with the Autostyle formatting selected.

Checkout Library	Current Checkouts
Berlin	4,651
Brandon	710
Campbellsport	2,472
Coloma	932
Endeavor	439
Green Lake (Caestecker)	1,807
Hancock	649
Kingston (Mill Pond)	661
Markesan	1,193
Menasha	22,737
Montello	1,796
Neenah	42,722
Neshkoro	215
North Fond du Lac	2,487
Oakfield Public Library	995
Omro (Carter Memorial)	2,424
Oshkosh Bookmobile	8
Oshkosh	50,308
Oxford	968
Packwaukee	897
Pine River (Leon-Saxeville)	753
Plainfield	967
POLICY NOT FOUND	9
Poy Sippi	466
Princeton	2,192
Redgranite	683
Ripon	6,655
Wautoma	3,188
Winnefox Cooperative Technical Services	588
Westfield (Ethel Everhard Memorial)	1,733
Wild Rose (Patterson Memorial)	1,266
Winneconne	4,230
Winnefox Library System	602

Basic Dashboards

Shared Dashboards

BLUEcloud Analytics comes with a set of sample dashboards, available in the Shared Reports folder. Use the steps below to open a sample report and become familiar with a standard grid report display.

To open a shared dashboard

In the example, we'll open the delivered Checkout dashboard.

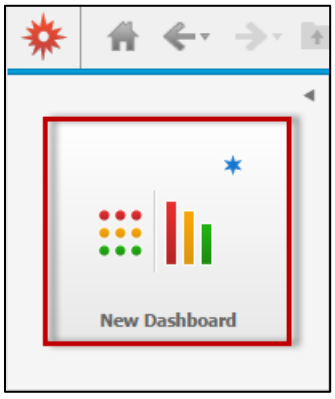
1. In the **Shared Reports** folder, open the **Checkout** folder.
2. Open the **Analysis Documents folder**.
3. Click on the dashboard titled **Analysis for Items Currently Checked Out**.

The dashboard is displayed. The remaining topics in the section will discuss how to create a dashboard.

Creating a Simple Dashboard

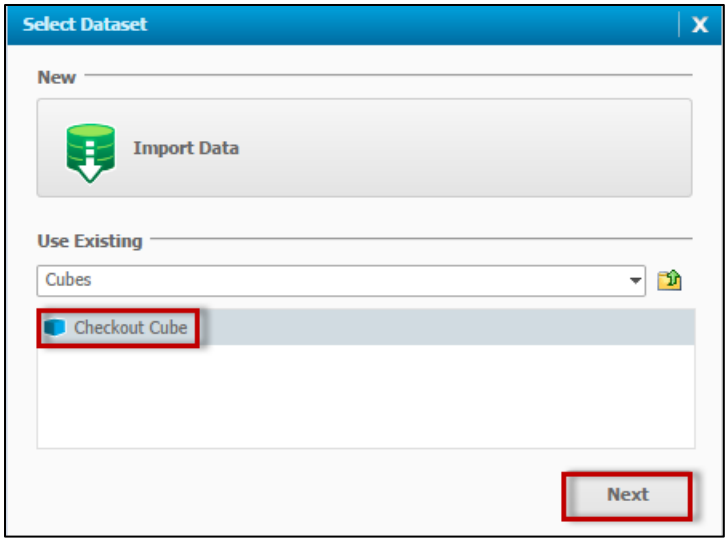
To create a new, blank dashboard

1. Click the **New Dashboard** button:



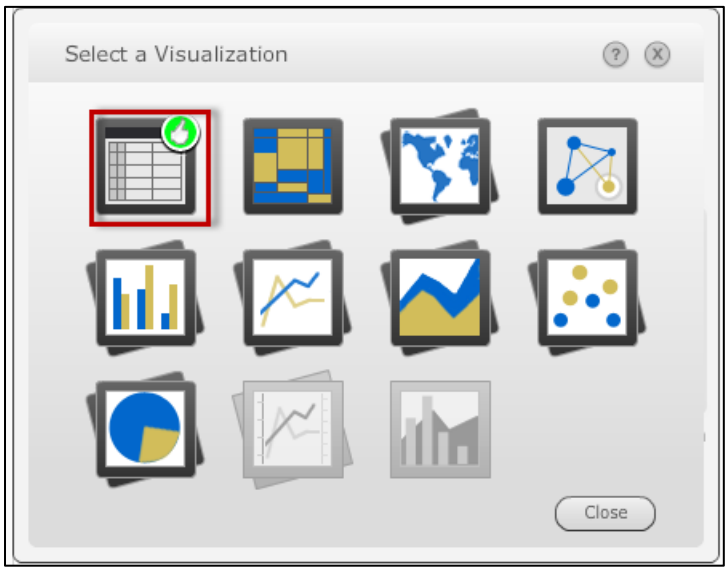
2. Next, browse to your Checkouts cube under **Shared Reports > Cubes > Checkout Cube.**

3. Click **Next**.

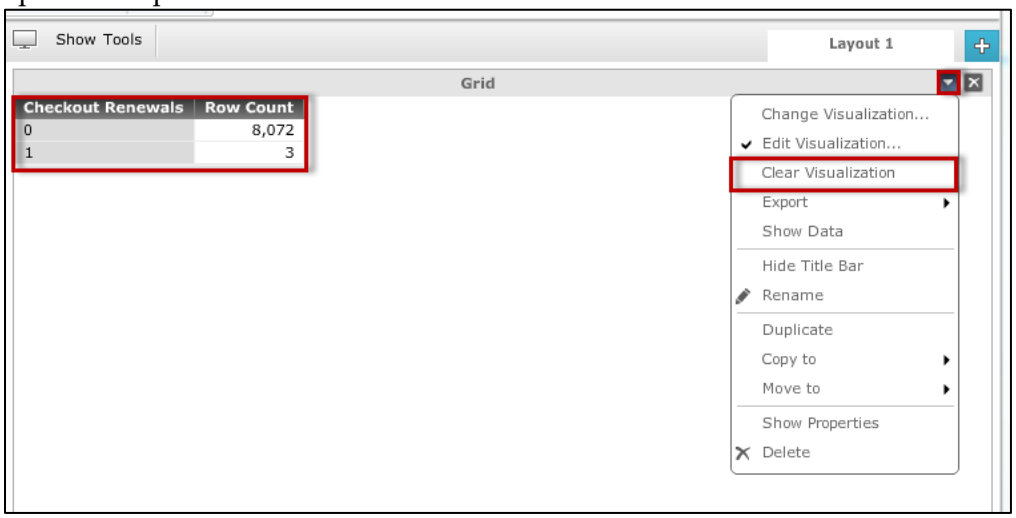


4. Next, you will choose a "visualization" which determines if your output is a grid or graph. Click the **Select a Visualization** button.

5. In this example, we'll start with a Grid visualization. Select the **Grid** icon from the list:



6. The Checkout Cube may include some default data that you will want to clear from the visualization. Click the visualzations's options drop down and select **Clear Visualzation**:

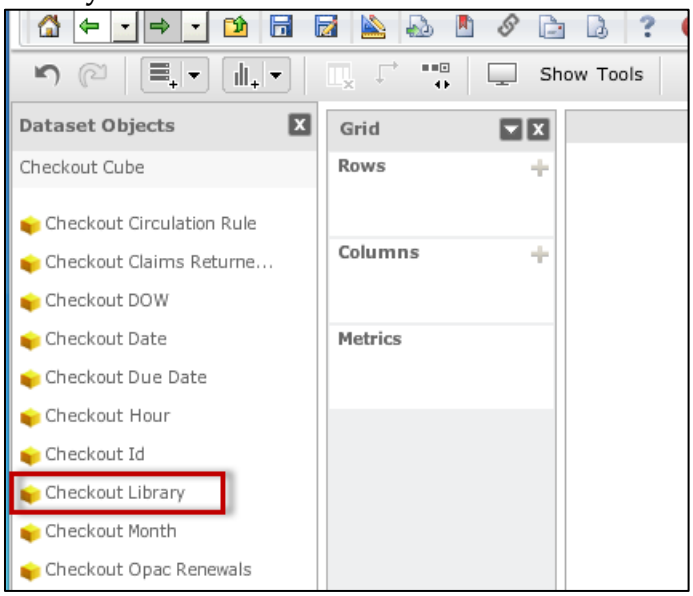


Adding Attributes

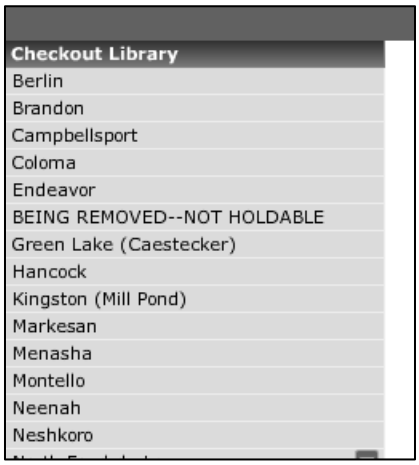
Attributes are objects in visualization that give context or meaning. Non-numeric entities such as user names, titles, authors, or any Symphony policy or Horizon code are examples of attributes. In our visualization, we'll add a couple of attributes that are available in the Checkouts cube: Checkout Library and Checkout Year.

To add an Attribute to a Dashboard

1. In the **Dataset Objects** pane on the left, double-click the **Checkout Library** attribute:

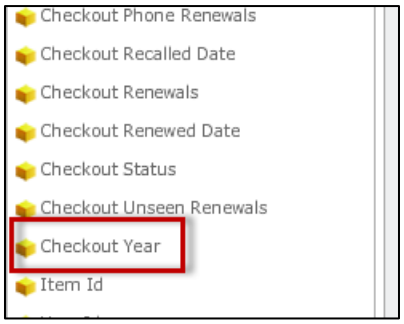


You should now have a listing of your libraries:



Checkout Library
Berlin
Brandon
Campbellsport
Coloma
Endeavor
BEING REMOVED--NOT HOLDABLE
Green Lake (Caestecker)
Hancock
Kingston (Mill Pond)
Markesan
Menasha
Montello
Neenah
Neshkoro

2. Double-click the **Checkout Year Attribute**:



Your visualization should now look similar to the following:

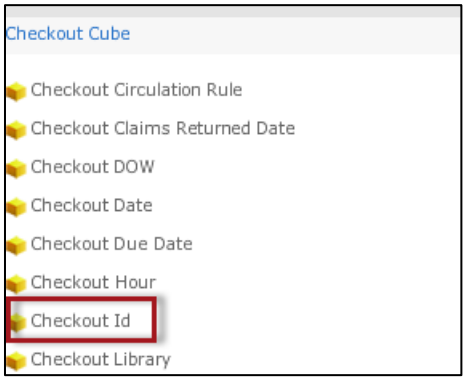
Checkout Library	Checkout Year
Berlin	2009
Berlin	2010
Berlin	2011
Berlin	2012
Berlin	2013
Berlin	2014
Brandon	2011
Brandon	2012
Brandon	2013
Brandon	2014
Campbellsport	2011
Campbellsport	2012
Campbellsport	2013
Campbellsport	2014

Adding Derived Metrics

Our analysis currently has no numbers – just two attributes. While not every visualization will have numbers, this particular one won't mean much without any. In these steps we'll add a **metric**, which is an object that allows you to not only insert numbers, but perform mathematical and statistical operations on them.

Let's say we want the number of checkouts in our visualization. The problem: there's no such metric. The possible solution: is there something else in the cube that we might be able to "count" that would reveal the number of checkouts?

The attributes that are in the cube can sometimes open up possibilities for a new metric. While there isn't a metric called "number of checkouts" there is an attribute called **Checkout Id**:



When you see an attribute termed as an "Id", that means it is a unique key assigned to each row. In other words, each checkout ever recorded in the cube has a unique checkout Id assigned to it by the system. This process happens across many different data points in your database. Every user in your system has a unique User Id, every item has a unique Item Id, and so on.

The sample data below shows an example of checkout Ids:

Checkout Library	Checkout Id	Item Id	User Id	Checkout Date
Coloma	18468103	158868|6|1	100963	2010-04-08
Coloma	19331580	341987|1|1	281476	2010-06-22
Coloma	19496638	809172|11|1	281476	2010-07-06
Coloma	19496640	849002|4|1	281476	2010-07-06
Coloma	19496648	748444|5|1	281476	2010-07-06
Coloma	19588705	425331|3|1	95548	2010-07-12
Coloma	19588707	392197|8|2	95548	2010-07-12

The ID numbers are likely gibberish to you. That's fine, as we're not planning on displaying them. However, they can be useful if we can *count*

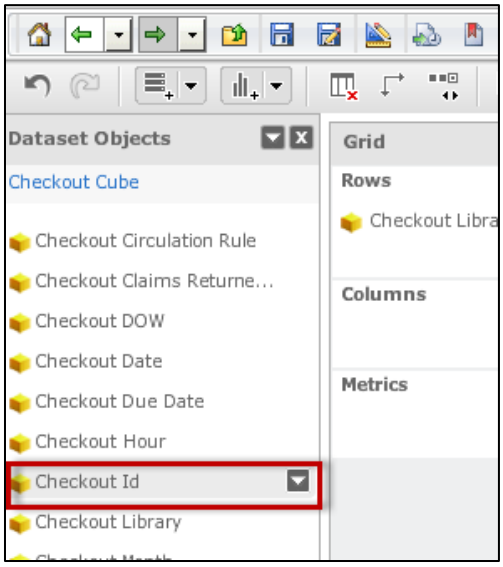
them. If you could create a metric that performs a "count" on the Checkout Id attribute, you are getting the number of checkouts.

Then, if you put that metric in a dashboard along with an atttribute like the Checkout Library, the metric will display the counts in a way that suits the attributes next to it. In other words, you are then getting "number of checkouts by library".

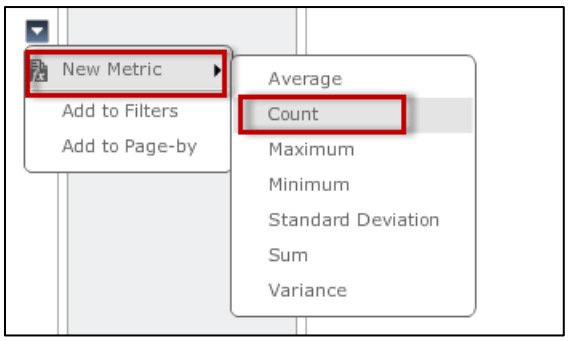
The example below shows how a "number of checkouts" metric can be created and added.

To Add A Derived Metric to the Visualization

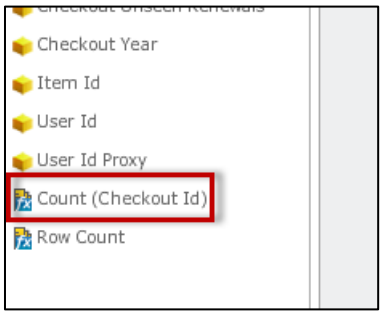
1. In the **Dataset Objects** pane, hover your mouse over the **Checkout Id** attribute, and click the drop-down arrow:



2. From the menu, select **New Metric > Count**:



3. Notice that a new metric called **Count (Checkout Id)** has been added to the **Dataset Objects** pane:



4. Double-click the **Count (Checkout Id)** metric. It will append to the end of the visualization:

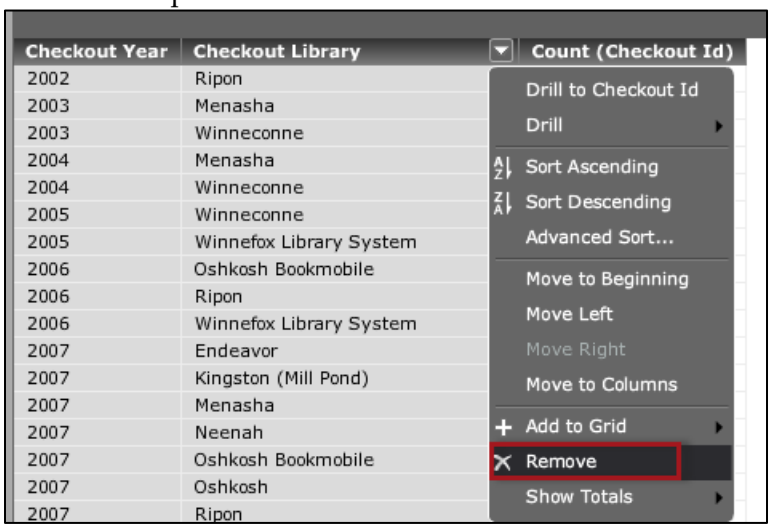
Checkout Library	Checkout Year	Count (Checkout Id)
Berlin	2009	1
Berlin	2010	3
Berlin	2011	26
Berlin	2012	135
Berlin	2013	249
Berlin	2014	4,237
Brandon	2011	7
Brandon	2012	14
Brandon	2013	19
Brandon	2014	670
Campbellsport	2011	5
Campbellsport	2012	13
Campbellsport	2013	55
Campbellsport	2014	2,399

Removing Attributes or Metrics

Attributes and/or metrics can be removed from the visualization. In this example, we'll take the Checkout Library attribute out.

To Remove an Attribute or Metric

1. Hover your mouse over the header of the attribute or metric in question so that you can see the drop-down arrow.
2. Click the drop-down arrow and select **Remove** from the menu:



3. The attribute/metric should now be removed from the visualization:

Checkout Year	Count (Checkout Id)
2007	1
2008	1,010
2009	54
2010	7
2011	7,000
2012	1
2013	2

Reordering Columns

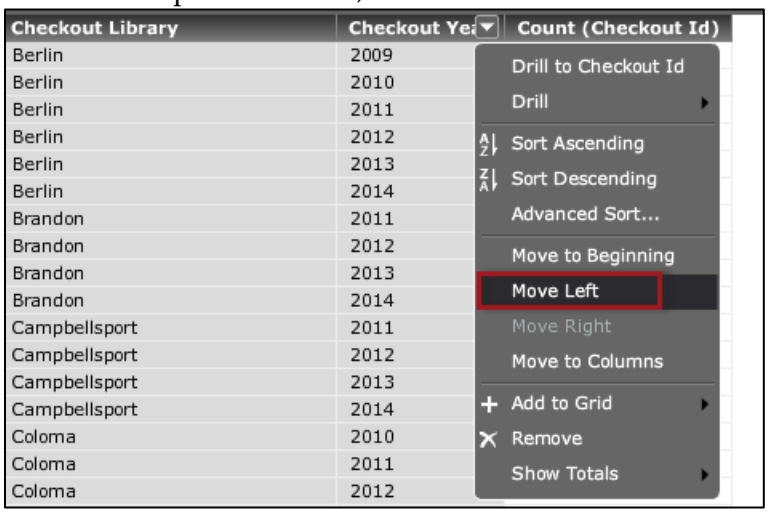
By default, attributes will display in the order in which you added them. This applies to metrics as well (though metrics will always show after the right-most attribute). Later, you may want to re-arrange attributes or metrics in a different sequence.

In the example below, we'll make the Checkout Year the left-most attribute.

To Re-order an Attribute or Metric

1. Hover your mouse over the **Checkout Year** column header so you can see the drop-down arrow.

2. From the drop-down menu, select **Move Left**:



The checkout year should now be the left-most attribute:

Checkout Year	Checkout Library	Count (Checkout Id)
2007	1	1
2008	1	1,004
2008	4	3
2008	99	3
2009	1	29
2009	4	18
2009	110	7
2010	1	7
2012	1	1
2013	1	2

You might have noticed that the left-most attribute automatically is sorted in ascending order. This holds true until you manually sort the data in some other way.

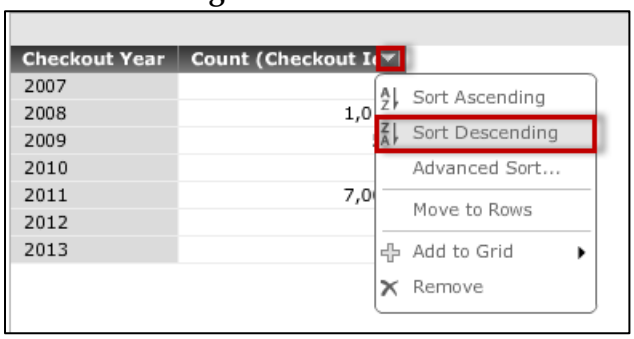
Adding a Sort

By default, BLUEcloud Analytics will sort your visualization by the left-most column of data. This holds true until you add a sort of your own. The example below demonstrates a "simple" sort, done by the Checkout Count in descending order.

To Perform A Simple Sort

1. Hover your mouse over the column header you'd like to sort by so you can see the drop-down arrow.

2. Click the drop-down menu, and select either **Sort Ascending** or **Sort Descending**:



3. Your data will now be sorted by that column:

Checkout Year	Count (Checkout Id)
2011	7,000
2008	1,010
2009	54
2010	7
2013	2
2007	1
2012	1

A sort will become part of the definition of the visualization. In other words, if you save the dashboard with a sort, that sort will be the default the next time it is viewed.

Sorting by multiple columns is also possible, and will be covered in a later chapter.

Changing the Visualization

To this point, we've been using a grid visualization. Grids are often a great way to begin, but you may later decide that you'd rather display the data in a graph format (in the Dashboard Formatting chapter later in this guide, we'll discuss how you could have it both ways).

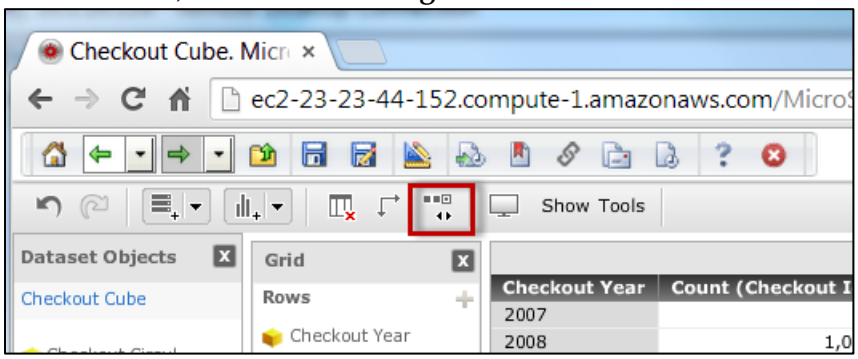
BLUEcloud analytics provides you with many different types of graphs including bar and pie charts, heat maps, and scatter plots.

Be aware that you should choose a graph type that is appropriate for what you are trying to highlight in the data. For example, if your intent is to show how different categories contribute to a whole; a pie chart may be the best choice. In another case where you want to highlight changes over time, the very same data might be better displayed with a line chart.

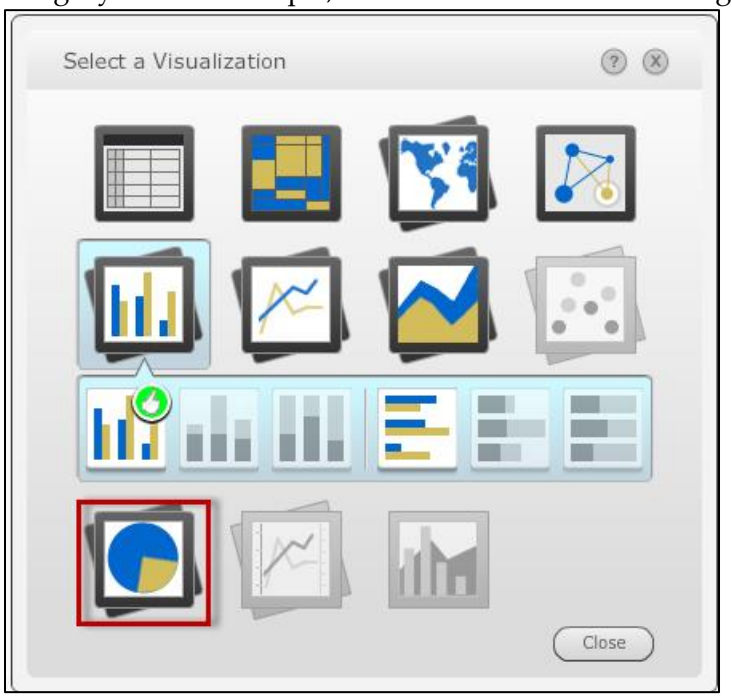
Also, some graph types will only be made available when your data meets certain conditions. For example, some of the "stacked area" graphs will require multiple attributes and at least one metric, and will not be selectable if your visualization doesn't meet those requirements.

To Change a Visualization

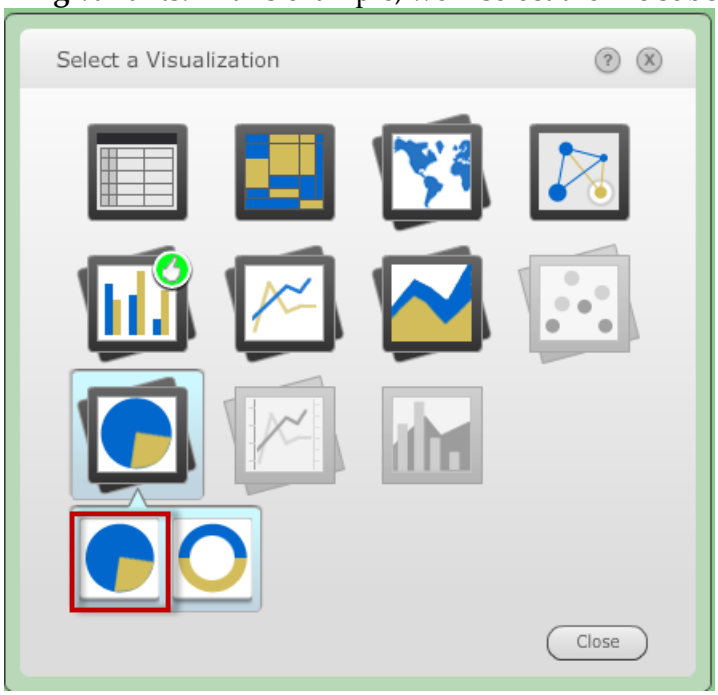
1. In the toolbar, click on the **Change Visualization** button:



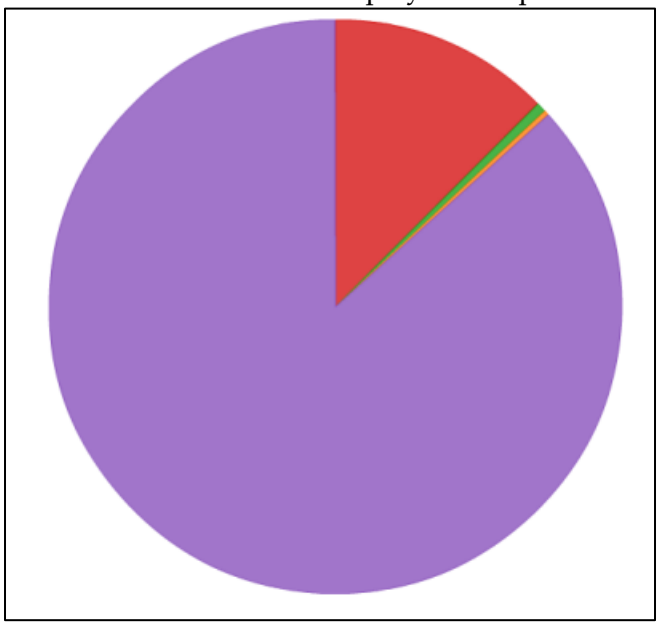
2. From the **Select a Visualization** dialog, select the visualization category. In this example, we'l select the **Pie Chart** category:



3. Some visualization categories will have subcategories from which you can choose. Notice the pie chart category offers both **Pie** and **Ring** variants. In this example, we'll select the **Pie** subcategory:



4. The visualization is now displayed as a pie chart:



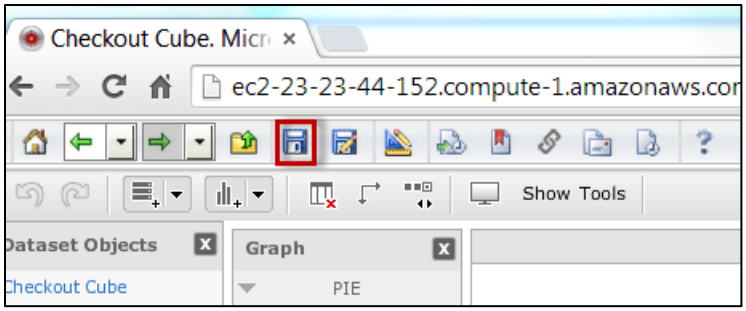
Saving the Dashboard

"Saving" a dashboard means saving the definition so you can run it again at a future time without having to recreate it. If a dashboard is intended for use by many users, you may want to save it to the Shared Reports folder (if your user permissions allow you to do so). The other option is the other option is the My Reports folder, which is only visible to your BLUEcloud analytics login.

If you save an object to the Shared Reports folder, it is visible to all users by default. However, it is possible secure objects and folders in order to limit who sees them.

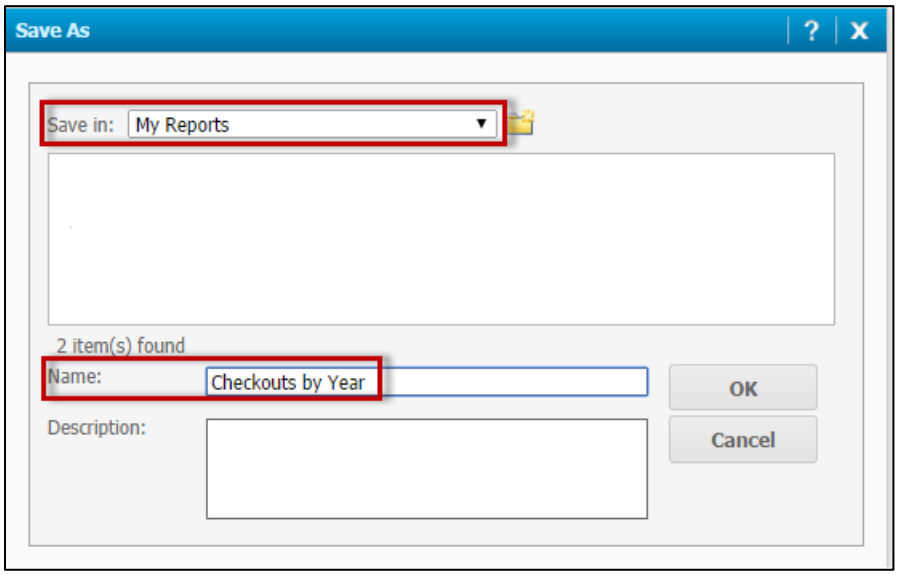
To Save a Dashboard

1. In the toolbar, click the **Save** button:

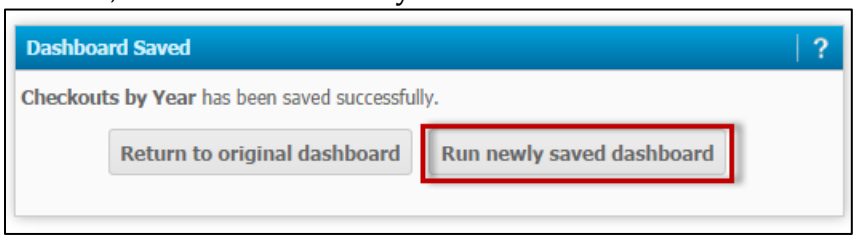


2. In the **Save As** dialog, select where you would like to save the dashboard. In this example, we'll place it in the **My Reports** directory.

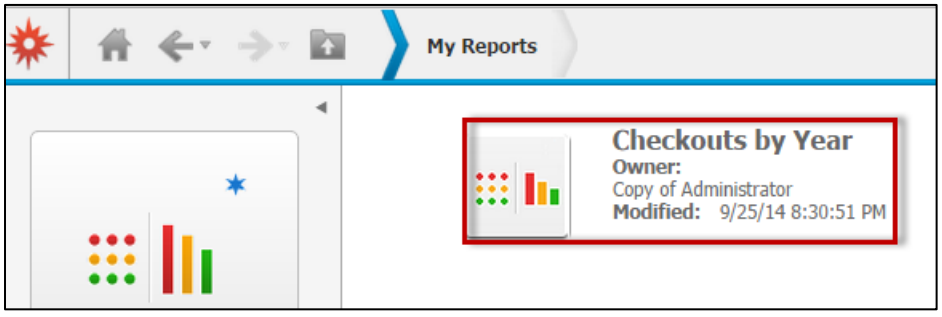
3. Also in the **Save As** dialog, provide a name for the dashboard in the **Name** field:



4. The dialog below will confirm your save. You can then either **Return to original dashboard** or **Run newly saved dashboard**. In this case, we'll click **Run newly saved dashboard**:



Now that your dashboard is saved, you can bring it back up later at any time by double-clicking its icon in the location you saved it:



Filtering in Dashboards

Types of Filters

Many of your analytics projects will incorporate a **filter,** which is a condition that restricts the data displayed. For example, our current visualization could be filtered to show only certain checkout years, or only display rows with more than 500 checkouts.

At this point, our visualization is completely unfiltered. We are looking at the total count of checkouts across all available checkout years. While this is still potentially useful, visualizations are often more meaningful by reducing it to *only* the data you want. Filters are the key to this.

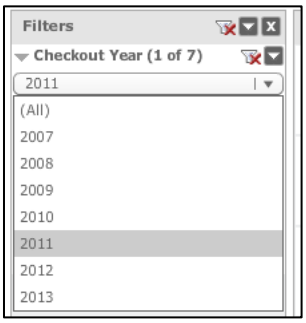
In traditional reporting, unfiltered data is regarded as undesirable from both a performance and comprehension standpoint. However, in analytics, it is the nature of the process to start with the entire "cube" of data. You then reduce your data set down to what you want through filtering.

Filtering can be done on both attributes and metrics. In dashboard visualizations, there are different interfaces available for filtering, including:

Checkbox:

Search box:

Drop-down:



Slider:

Radio button:

Some filter display styles are more suitable than others depending on your intent. For example, a slider would be handy when you want to select from a range of values, while a radio button display style is useful when you want to permit only one selection.

Filtering on Attributes

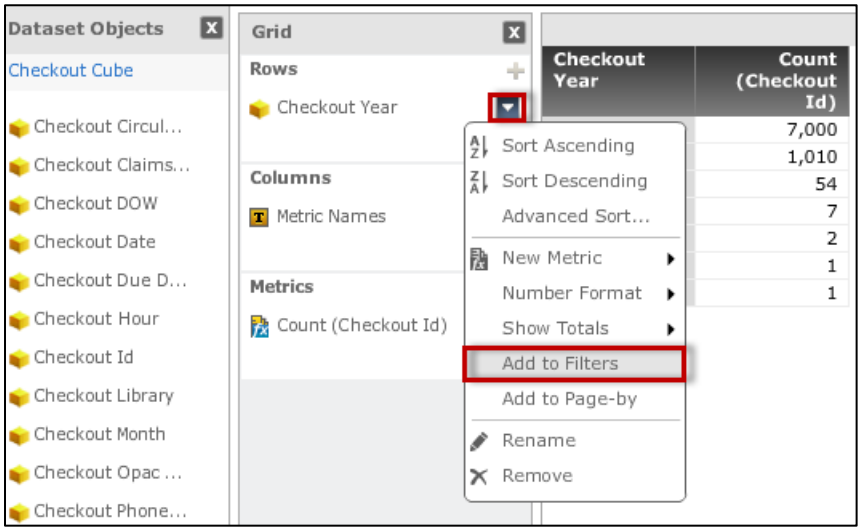
In many cases, you'll want to create one or more filters on attributes in the dashboard, such as limiting by library or year.

In this example, we'll add a slider-style filter to our visualization that allows for selection of a range of values from the Checkout Year attribute.

To Add an Attribute Filter

1. In the **Grid** pane, hover your mouse over the attribute or metric so you see the drop-down arrow.

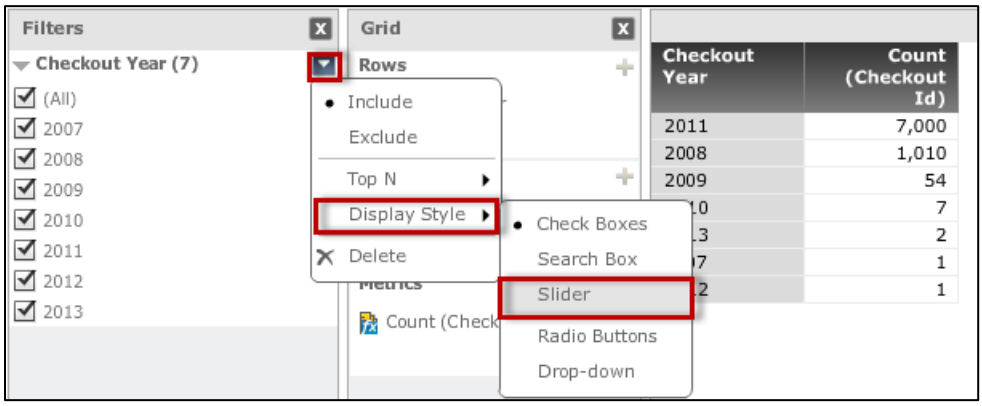
2. Click the drop-down arrow, and from the menu, select **Add to Filters:**



3. The filter interface will default to a checkbox style, as shown below:

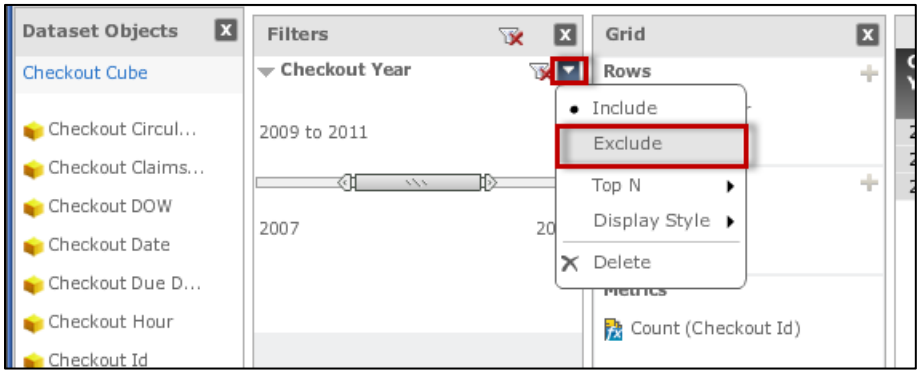
4. To change the style, hover your mouse over the **Checkout Year** attribute in the **Filters** pane so you can see the drop-down arrow.

5. Click the drop-down arrow, and select **Display Style > Slider** from the menu:

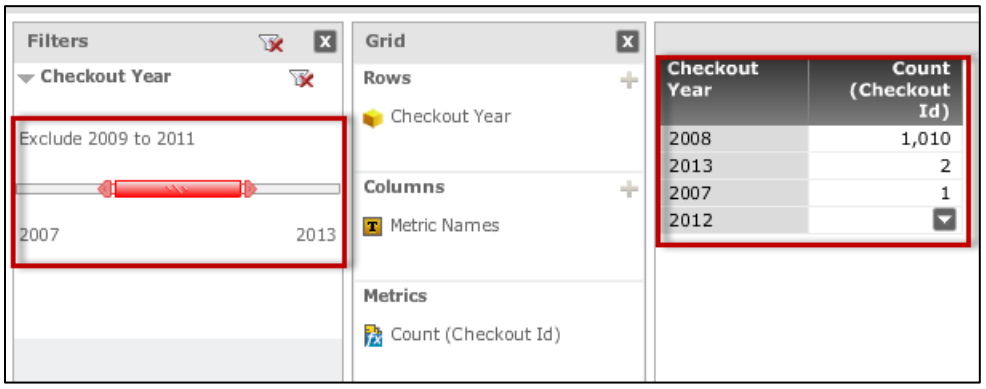


6. The filter interface is now in slider form. Drag the end-arrows with your mouse to narrow the range of checkout years. The example below has been narrowed to 2009-2011:

7. By default, the filter is *inclusive* in nature, and is showing only data from 2009-2011. If you wish to make it *exclusive* instead, use this menu combination:



8. The vizualization is now filtered to show all checkout years except for 2009-2011:



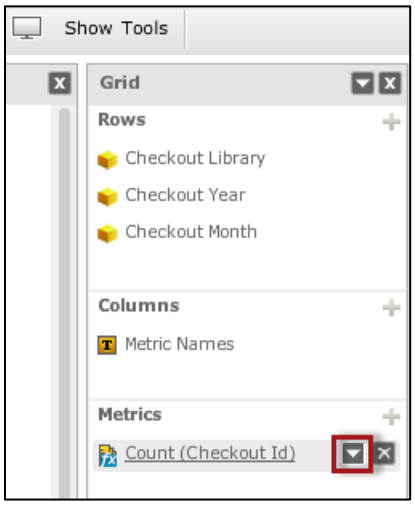
Filters on Metrics

When filtering on metrics, you are dealing with numbers on which you may want to perform mathematical filters. Because of this, you'll likely want access to common mathematical operators like "greater than", "less than", "equals", and other variants. This type of filter where you set such a condition is called a **qualification** metric filter.

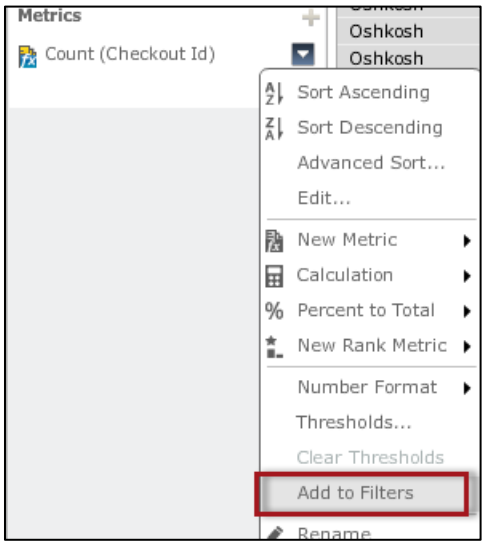
The example below filters a large amount of checkouts by restricting to rows with 100 or more checkouts.

To Add a Metric Filter

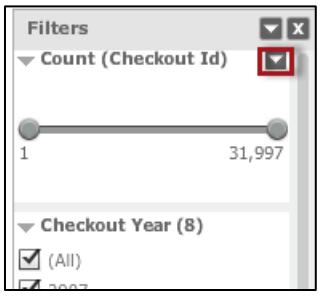
1. In the **Edit Visualization** pane, hover over the metric to access the drop-down arrow (NOTE: if you don't see the Edit Visualization pane, you can enable it in the toolbar in **Show > Edit Visualization)**:



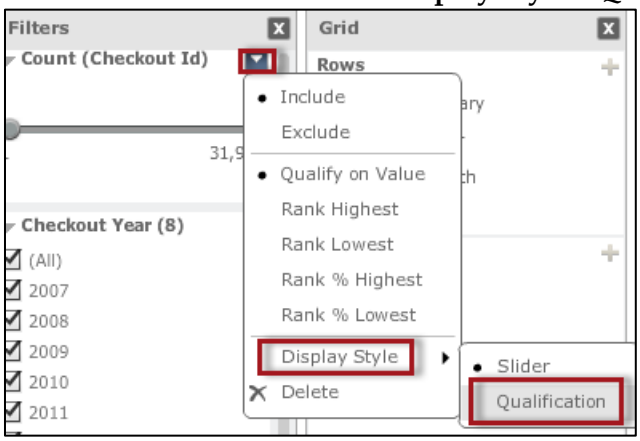
2. Click on the arrow, and select **Add to Filters** from the menu:



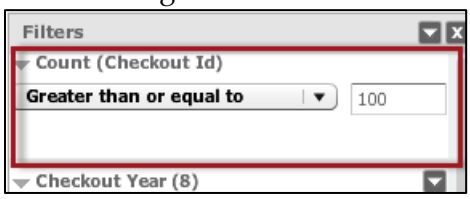
3. In the **Filters** pane, hover your mouse over the metric (in this case **Count (Checkout Id)** so you can access the drop-down arrow:



4. Click on the arrow and select **Display Style > Qualification:**



5. You should now have an interface in the **Filters** pane similar to the following:



6. From the drop-down, make sure **Greater than or equal to** is selected, type **100** into the value box, and press <Enter>.

7. The grid should now be restricted to rows with 100 or more checkouts:

Checkout Library	Checkout Year	Checkout Month	Count (Checkout Id)
Oshkosh	2011	Nov	127
Oshkosh	2012	Jan	159
Oshkosh	2012	Feb	215
Oshkosh	2012	Mar	119
Oshkosh	2012	April	199
Oshkosh	2012	May	264

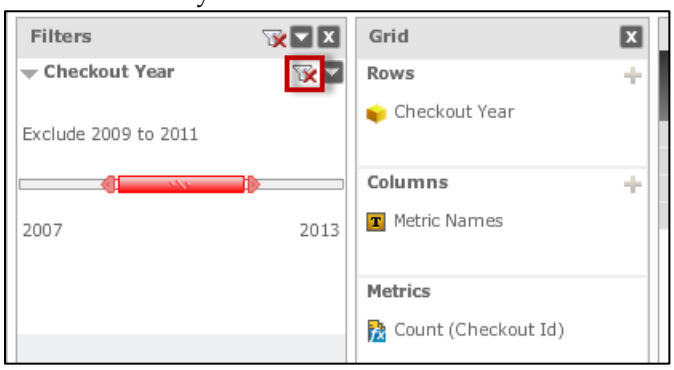
Clearing/Deleting Filters

"Clearing" a filter means clearing the data restriction, yet keeping the filter interface visible so you can use it again. By contrast, "deleting" a filter involves both clearing the restriction and getting rid of the filter interface altogether.

Filters can be cleared individually or all at once in the event you have more than one. Filters can be deleted individually.

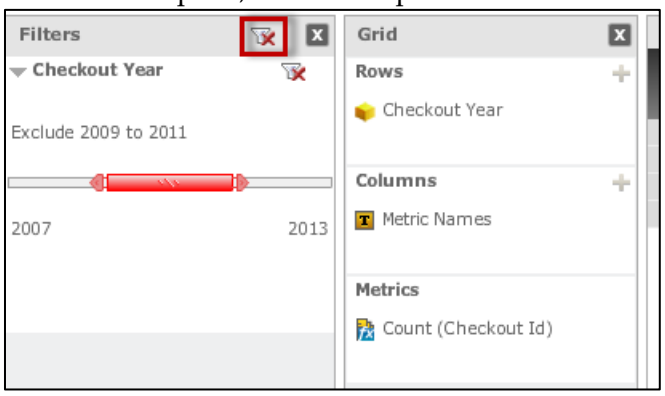
To Clear a Single Filter Condition

1. In the **Filters** pane, click the **Clear Filter** icon next to the attribute or metric filter you want to clear:



To Clear all Filter Conditions

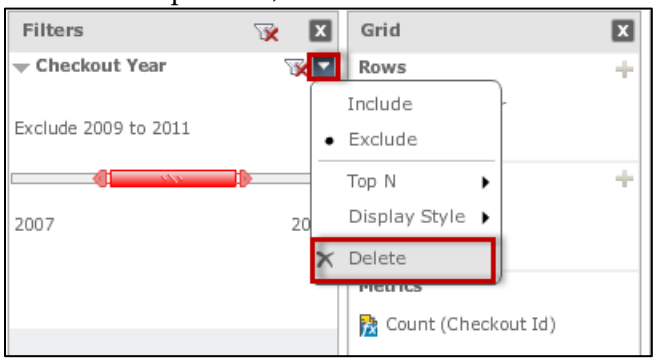
1. In the **Filters** pane, click the top-most **Clear Filter** icon:



To Delete a Filter

1. In the **Filters** pane, hover your mouse over the attribute or metric until you see the drop-down arrow.

2. Click the drop-down, and select **Delete** from the menu:



Keep Only

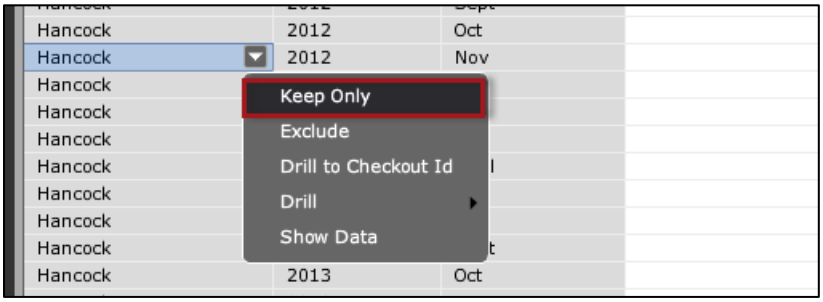
The Keep Only feature is a nice way to perform a "one-off" filtering operation against the original data set, narrowing the data down to just the value we select. In the examples below, we'll start with dashboard that displays data from the Checkouts cube, including **Checkout Library**, **Checkout Year**, **Checkout Month**, and a **Count** of checkouts:

To Keep Only specific Attribute values

1. In the grid, hover your mouse over the attribute value for rows you wish to keep, so you can access the drop-down arrow. In this example, any Checkout Library of **Hancock** will work:

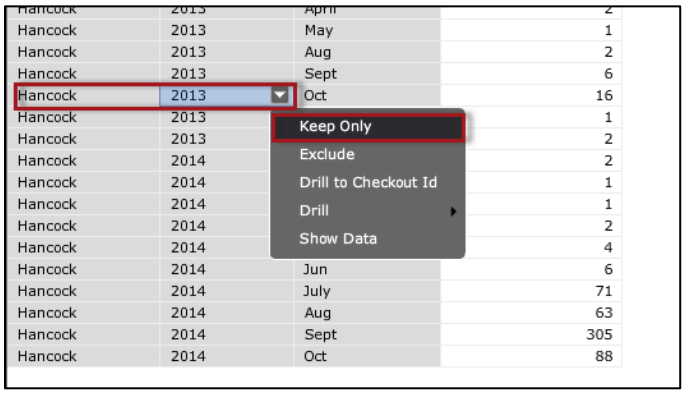
Hancock	2012	Jun	2
Hancock	2012	Aug	5
Hancock	2012	Sept	3
Hancock	2012	Oct	1
Hancock	2012	Nov	4
Hancock	2012	Dec	34
Hancock	2013	Feb	3
Hancock	2013	Mar	1
Hancock	2013	April	2

2. Click on the drop-down arrow, and select **Keep Only**:



It is important to understand that subsequent Keep Only operations will not *further* filter the data, but rather *replace* what was done in the previous Keep Only operation.

Let's extend our last example where we did a Keep Only to reduce rows to the Hancock library. What happens if we do another Keep Only on this grid with the intent of further reducing the data to the Checkout Year 2013? Do we really end up with "Checkouts at Hancock in 2013"?



Hancock	2013	May	1
Hancock	2013	Aug	2
Hancock	2013	Sept	6
Hancock	2013	Oct	16
Hancock	2013		1
Hancock	2013		2
Hancock	2014		2
Hancock	2014		1
Hancock	2014		1
Hancock	2014		2
Hancock	2014		4
Hancock	2014	Jun	6
Hancock	2014	July	71
Hancock	2014	Aug	63
Hancock	2014	Sept	305
Hancock	2014	Oct	88

The result: we've *replaced* the previous Keep Only operation. So while the data set has been reduced to 2013 checkouts, we're no longer restricted to the Hancock library:

Berlin	2013	Nov	29
Berlin	2013	Dec	17
Brandon	2013	Jan	3
Brandon	2013	Feb	7
Brandon	2013	Mar	
Brandon	2013	May	1
Brandon	2013	Jun	1
Brandon	2013	July	1
Brandon	2013	Aug	1
Brandon	2013	Sept	2
Brandon	2013	Oct	1
Campbellsport	2013	Jan	2
Campbellsport	2013	Feb	1
Campbellsport	2013	Mar	3

The important lesson here: filters are the best way to specify a *set* of conditions you'd like to apply. A couple of filters could easily achieve something like "2013 Checkouts at the Hancock library". Keep Only is best used with intent of a one-off change to the original data.

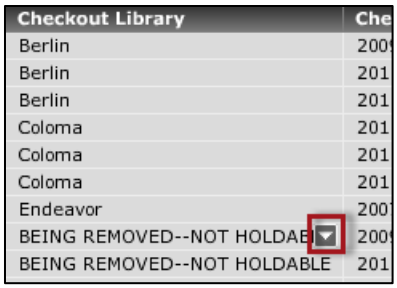
You can use filters in conjuction with a Keep Only operation and get cumulative effects. Just understand that only one Keep Only is operating at once.

Exclude

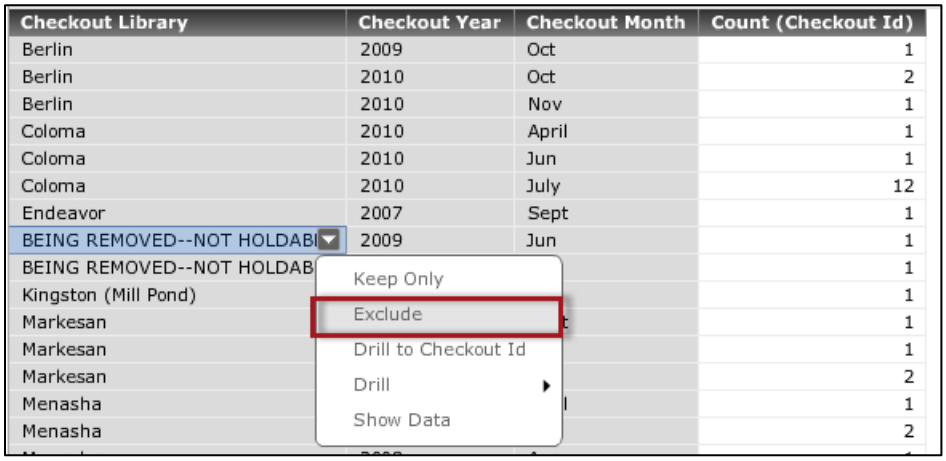
In this first example, instead of keeping a certain dataset, we're going to instead exclude particular pieces of data. We'll remove rows from the grid for a library that is slated for removal from the system ("BEING REMOVED – NOT HOLDABLE").

To Exclude Data by an Attribute

1. In the grid, hover your mouse over the attribute value you want to exclude so you can access the drop-down arrow:



2. Click on the arrow, and from the menu, select **Exclude**:



In the results, note that all rows for the **BEING REMOVED – NOT HOLDABLE** library have been removed from the grid, even though we applied this action to just the first instance of this library. When you exclude by an attribute value in this manner, you are excluding ALL rows with that value.

This could this be done with a proper filter, but exclusions give you a quick, click-oriented way to get rid of something you don't want.

Exclusions can also be applied to metrics. An important distinction from attribute exclusions: when performed against a metric, the exclusion

removes *only the selected row*, even if there are other rows that share the same metric value.

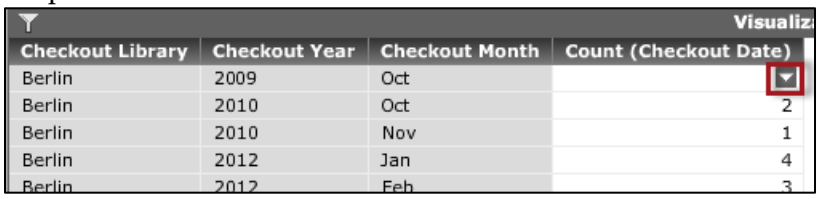
In the following example, we'll target this row for removal:

Visualization 1

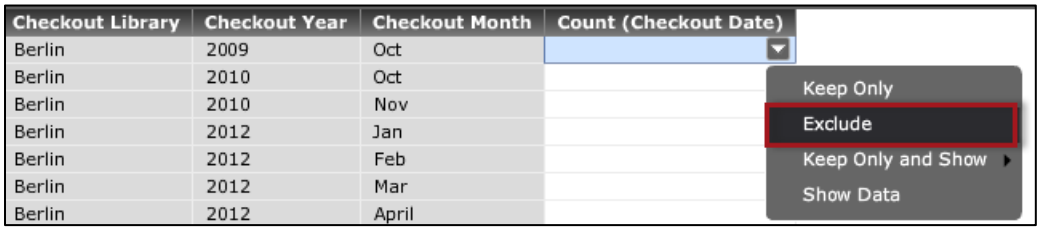
Checkout Library	Checkout Year	Checkout Month	Count (Checkout Date)
Berlin	2009	Oct	1
Berlin	2010	Oct	2
Berlin	2010	Nov	1
Berlin	2012	Jan	4
Berlin	2012	Feb	3
Berlin	2012	Mar	3

To Exclude Data by a Metric

1. Hover your mouse over the metric value so you can access the drop-down arrow:



2. Click on the arrow, and select **Exclude** from the menu:



The selected row has been removed from the results. However, note that only that row was removed. Other rows that also have a Checkout count of **1** are still in the grid:

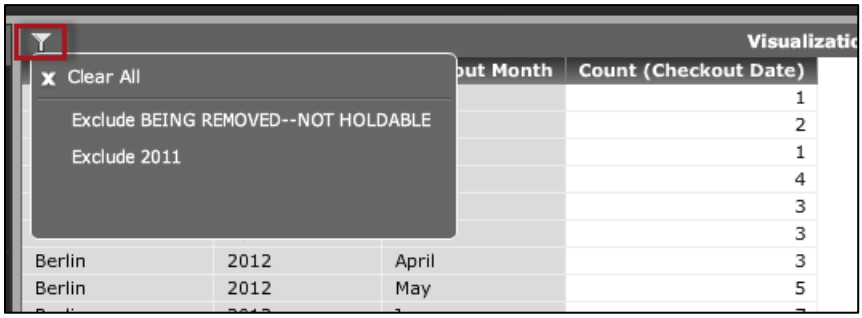
Visualization 1

Checkout Library	Checkout Year	Checkout Month	Count (Checkout Date)
Berlin	2010	Oct	2
Berlin	2010	Nov	1
Berlin	2012	Jan	4
Berlin	2012	Feb	3
Berlin	2012	Mar	3

This is an expected behavior of exclusions when it comes to metrics. To achieve a complete removal of rows based on a metric value, use a filter.

To clear Exclusions

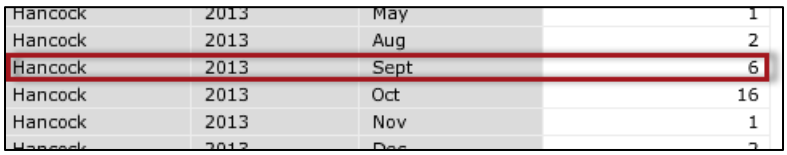
1. Click on the **Filters** button above the data set. Here, you can clear exclusions one at a time, or clear them all at once:



Keep Only and Show

The Keep Only and Show option allows a user to filter data to a certain subset then break that data down in a new way based on the attribute selected.

As a case study for Keep Only and Show, consider this grid which has a row of 6 checkouts in August 2013 for the Hancock library:

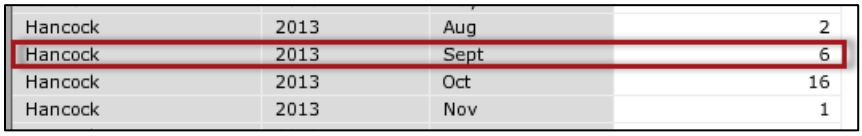


While this is good general information, what if I want to know *which* items were checked out? Or what if I want to know *who* did the checkouts? And in either case: *just for that row*.

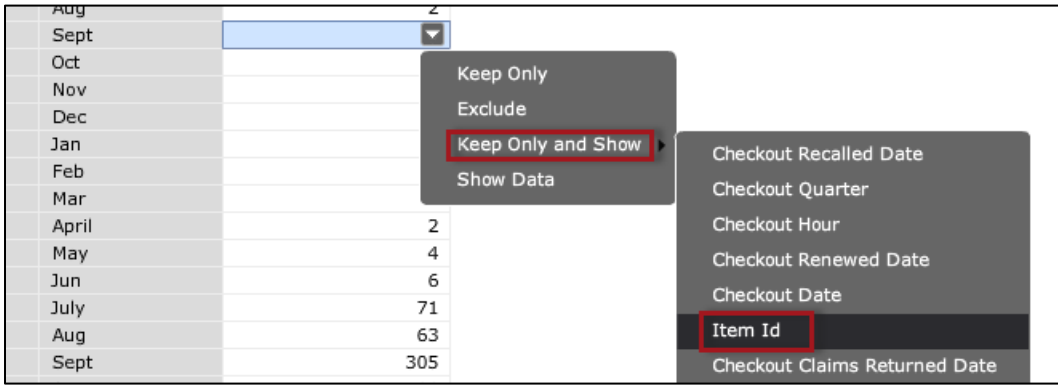
In the example below, we'll zoom in on this row of data to explore which items were checked out.

To Use Keep Only and Show

1. In the grid, hover your mouse over the metric you wish to explore so you can access the drop-down arrow:



2. Click the arrow, and select **Keep Only and Show > Item Id** from the menu:

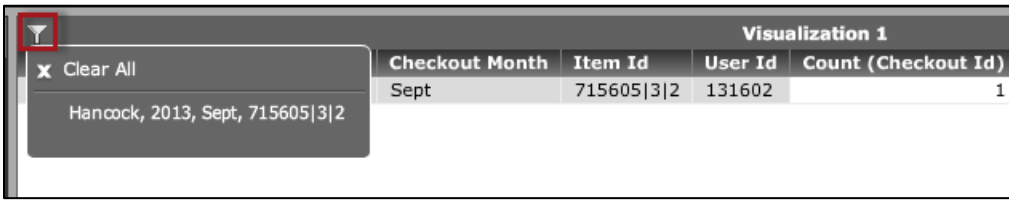


3. A new grid appears, showing details about each of the six checkouts including the Item Id:

Checkout Library	Checkout Year	Checkout Month	Item Id	Count (Checkout Id)
Hancock	2013	Sept	715605|3|2	1
Hancock	2013	Sept	721094|21|1	1
Hancock	2013	Sept	893744|30|1	1
Hancock	2013	Sept	916302|12|1	1
Hancock	2013	Sept	924018|9|1	1
Hancock	2013	Sept	949603|8|1	1

To clear Keep Only and Show

1. Click on the **Filters** button above the data set. Here, you can clear the Keep Only and Show operation:



Drilling

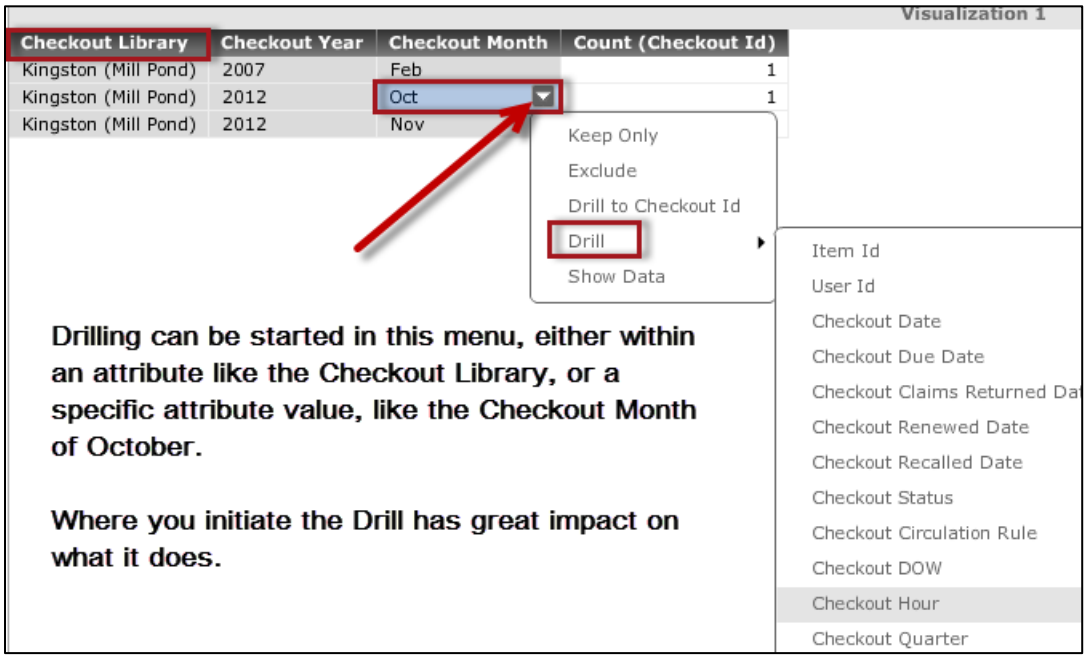
Similar to the Keep Only and Show option, drilling allows you to explore data beyond what is visible in the current output. It gives you a way to "take a peek" at related data, such as additional attributes that might be relevant to the current dataset, but aren't a permanent part of the dashboard.

Example: you have a dashboard built from the Checkouts cube that displays general information such as the library, the date, and the number of checkouts. While you like the useful, at-a-glance data it provides, say you also want the ability to "zoom in" and see *who* did the checkouts, or perhaps *which* items were checked out. This is the general idea behind drilling.

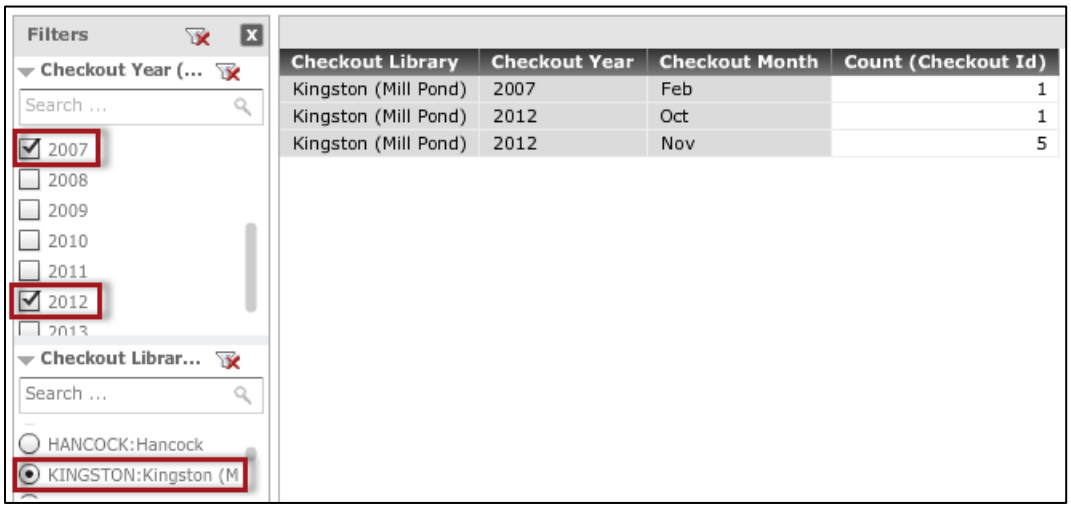
In this section, we'll focus on the **Drill** feature found in the context menus in a dashboard. Drilling can be done on any attribute (like **Checkout Library**) or attribute value (like the **Kingston** Library).

With the drill feature, you can include more attributes into the dashboard. But not only that, you're incorporating that new data *relative* to where you initiated the drill. So drilling from a specific library to add Item Ids to a dashboard will add Item Id transactions relevant to that library.

Also, the data you incorporate via drilling is subject to whatever filters are in place.



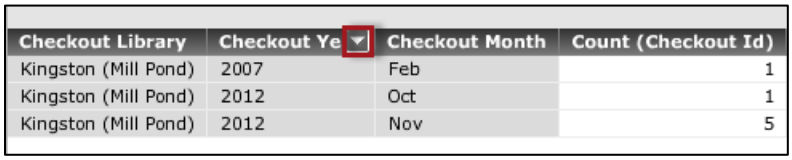
For illustrative purposes, we'll explore drilling using very small data sets. Bear in mind that drilling can apply to rather large data sets if you like. But to facilitate demonstration, let's start with the grid below that is limited to **Kingston** library checkouts, and only in the years **2007** and **2012**.



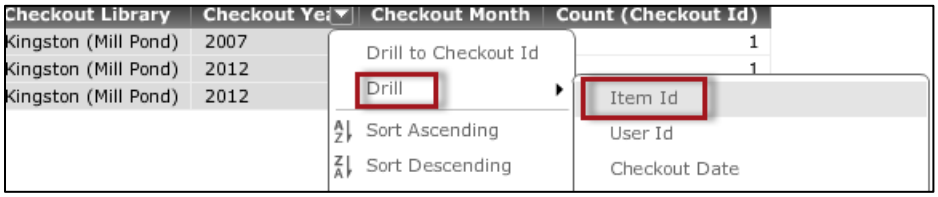
In this first example, we'll drill from the **Checkout Year** attribute down to the **Item Id**.

To Drill from an Attribute

1. Hover your mouse over the attribute so you can access the drop-down arrow:



2. Click the arrow, and select **Drill > Item Id** from the menu:



3. You should see results like the following:

Checkout Library	Item Id	Checkout Month	Count (Checkout Id)
Kingston (Mill Pond)	233769|2|1	Oct	1
Kingston (Mill Pond)	290478|8|1	Feb	1
Kingston (Mill Pond)	358336|3|1	Nov	1
Kingston (Mill Pond)	379955|8|1	Nov	1
Kingston (Mill Pond)	690614|4|1	Nov	1
Kingston (Mill Pond)	988217|2|1	Nov	1
Kingston (Mill Pond)	988642|3|1	Nov	1

Two important things happened here: 1) We're now displaying the Item Id instead of the Checkout Year, and 2) we went from 3 rows of data to 7.

Why the increase in rows? Notice that the original data set had 7 checkouts total (1 in Feb. 2007, 1 in Oct. 2012, and 5 in Nov. 2012). Because we drilled from the Checkout Year attribute (rather than doing it from a specific year), we drilled into Item Ids from all years listed (2007 and 2012). The filters in place also continued to constrain the results to the Kingston library.

To cancel the drill, use the **Undo** button in the toolbar.

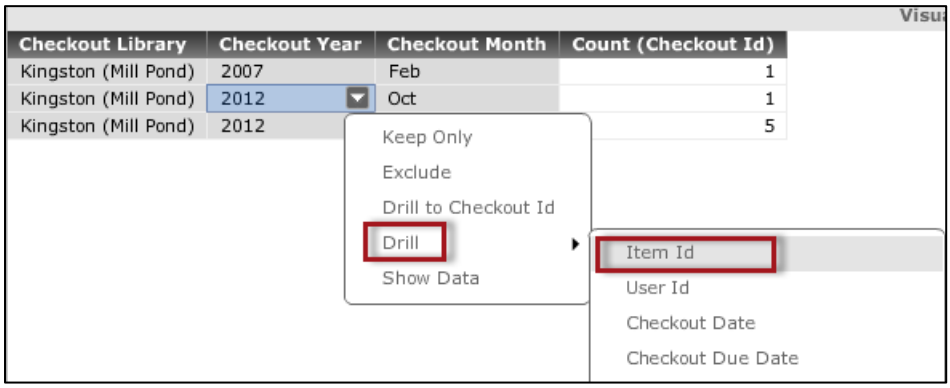
Now, let's start with the same original data set, and drill from an attribute *value*. Let's see what happens when we drill from a specific year, like 2012.

To Drill from an Attribute Value

1. Hover your mouse over the attribute value so you can access the drop-down arrow:

Checkout Library	Checkout Year	Checkout Month	Count (Checkout Id)
Kingston (Mill Pond)	2007	Feb	1
Kingston (Mill Pond)	2012	Oct	1
Kingston (Mill Pond)	2012	Nov	5

2. Click the arrow, and select **Drill > Item Id** from the menu:



3. You should see results similar to the following:

Checkout Library	Item Id	Checkout Month	Count (Checkout Id)
Kingston (Mill Pond)	233769|2|1	Oct	1
Kingston (Mill Pond)	358336|3|1	Nov	1
Kingston (Mill Pond)	379955|8|1	Nov	1
Kingston (Mill Pond)	690614|4|1	Nov	1
Kingston (Mill Pond)	988217|2|1	Nov	1
Kingston (Mill Pond)	988642|3|1	Nov	1

The attribute value we drilled from (within the Checkout Year) was replaced by what we drilled to (Item Id). This time, we ended up with 6 rows. Why? Out of the 7 total checkouts from our original data set, 6 of the 7 rows were from 2012. The checkout from 2007 was not included.

To cancel the drill, use the **Undo** button in the toolbar.

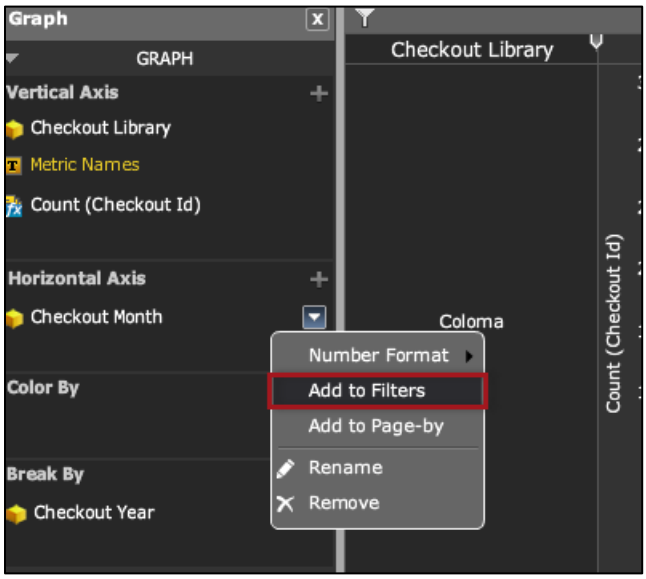
Notes on Exploring Graph Visualizations

This chapter largely focused on grid visualizations, mainly because it is easier to illustrate how the output is changing by demonstrating with a grid. However, graph visualizations also allow for all of the features shown in this chapter.

The concepts we've discussed have the exact same impact in graph visualizations; what changes is the method of accessing the features, in most cases.

Filtering

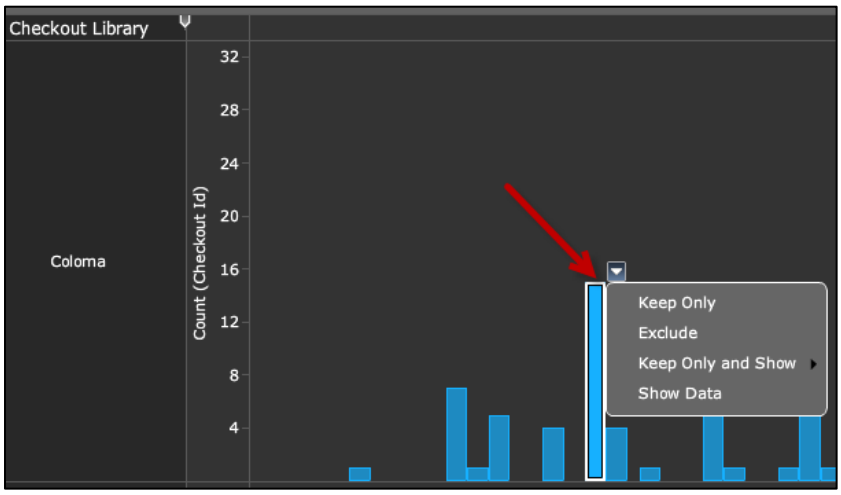
Creating and altering filters with a graph is no different than with a grid. You can access the same **Add to Filters** option when working with a graph:



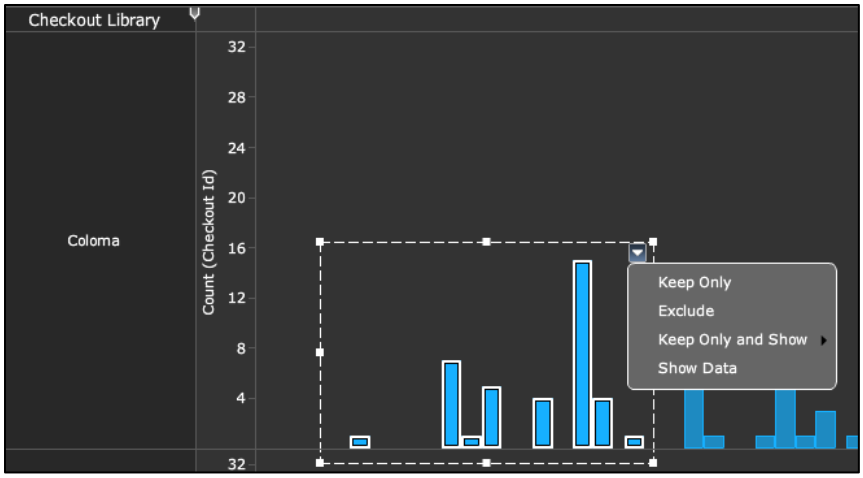
Keep Only/Exclude/Keep Only and Show

These options are available either by clicking on a specific object in the graph (like a specific bar), or by highlighting an area via a mouse drag. In the latter case, the operation is performed on the values selected.

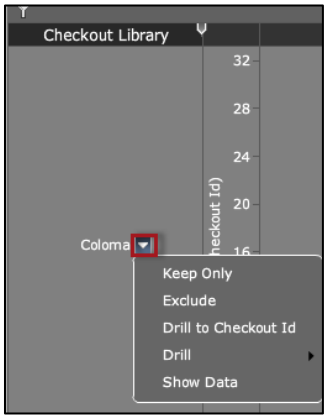
In the example below, a bar is first selected with a mouse click, and then the drop-down can be accessed by hovering on it:



In the screenshot below, an area been selected by dragging a box around a set of bars. The selected operation will then be applied to all data within the bounded area:



You can also find Keep Only and Exclude wherever attribute values are displayed, such as the checkout library:

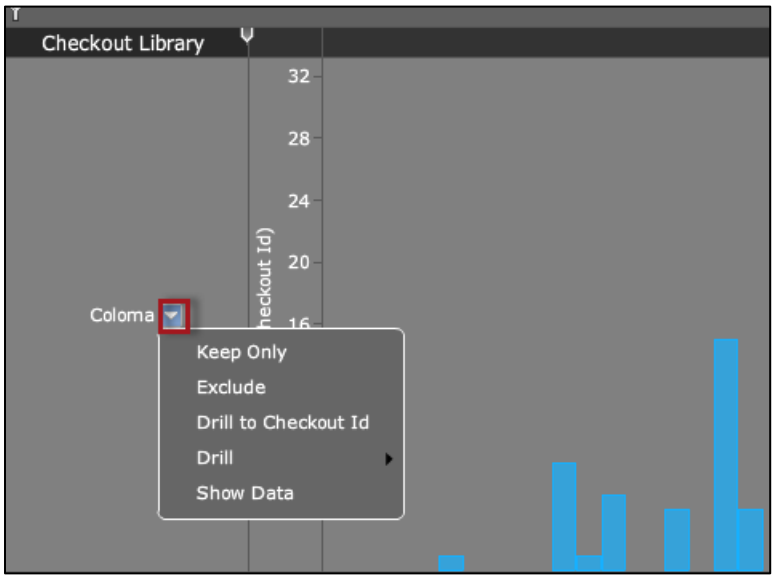


Drill

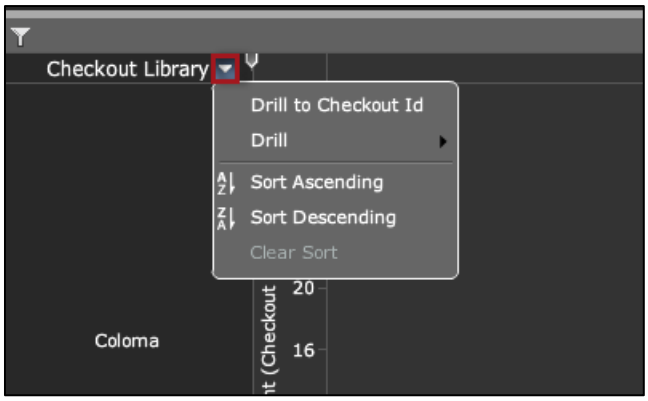
Drilling can also be done against a graph. The trick is to look for the attributes and attribute values (the exact location of them can vary depending on the type of graph you've selected).

Like drilling in a grid, you can drill against a specific value (the "Coloma" library in the screenshot), or do a more general drill against the attribute itself (the "Checkout Library"):

In the screenshot below, we could start a drill s from the checkout library of **Coloma**:



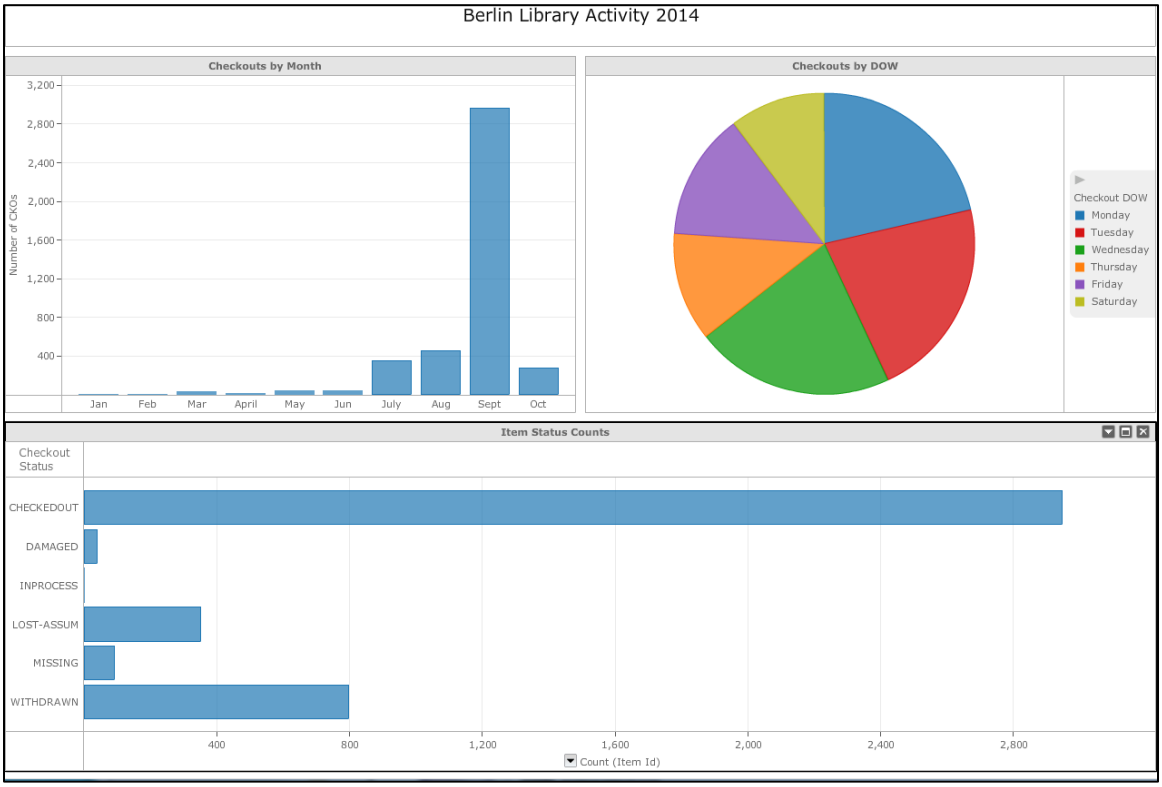
If we wanted to drill starting from all checkout libraries currently in the dashboard, we could initiate the drill from the attribute itself:



Dashboard Formatting

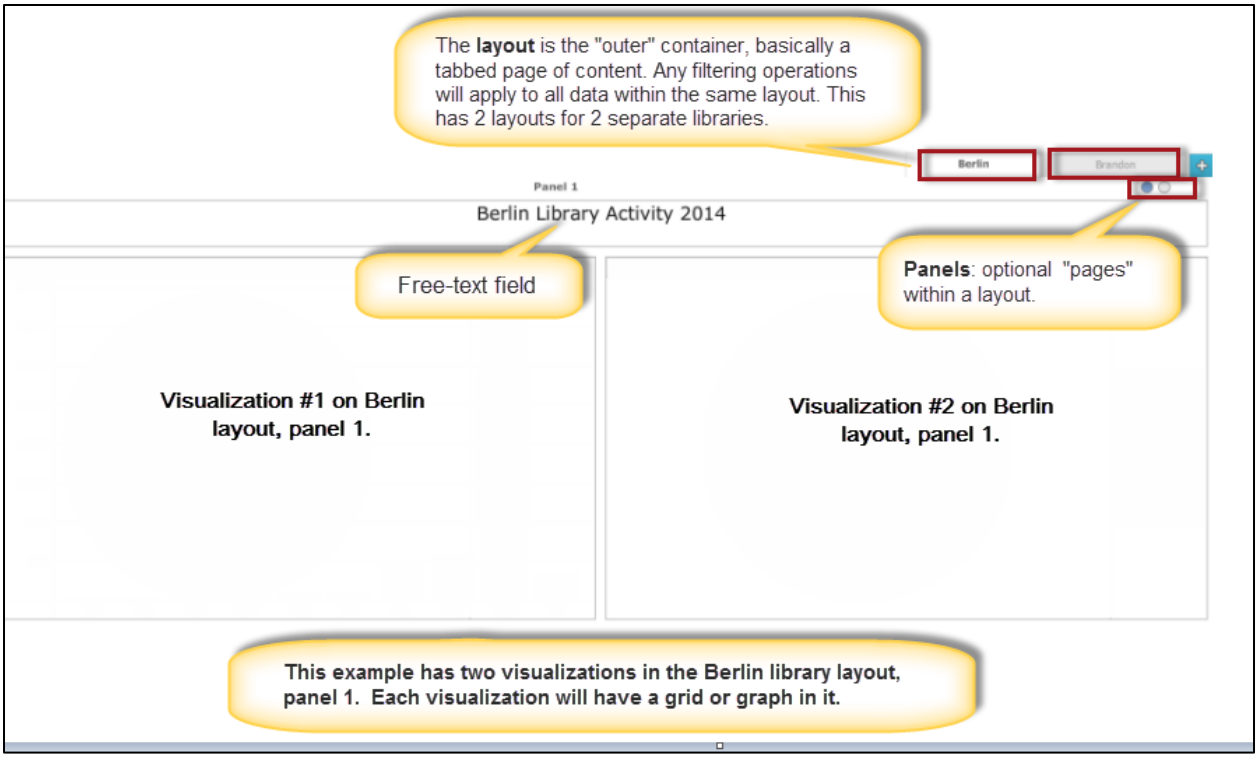
The dashboards shown in previous chapters were all simple one-grid/one-graph reports. Feel free to create simple dashboards. Many consumers of your reports won't require anything more complicated.

However, some consumers may want a wide range of information available within one dashboard. They may want several grids and graphs on one page, or perhaps spread across several adjacent pages accessed by tabs. An example of this type of dashboard is shown below:



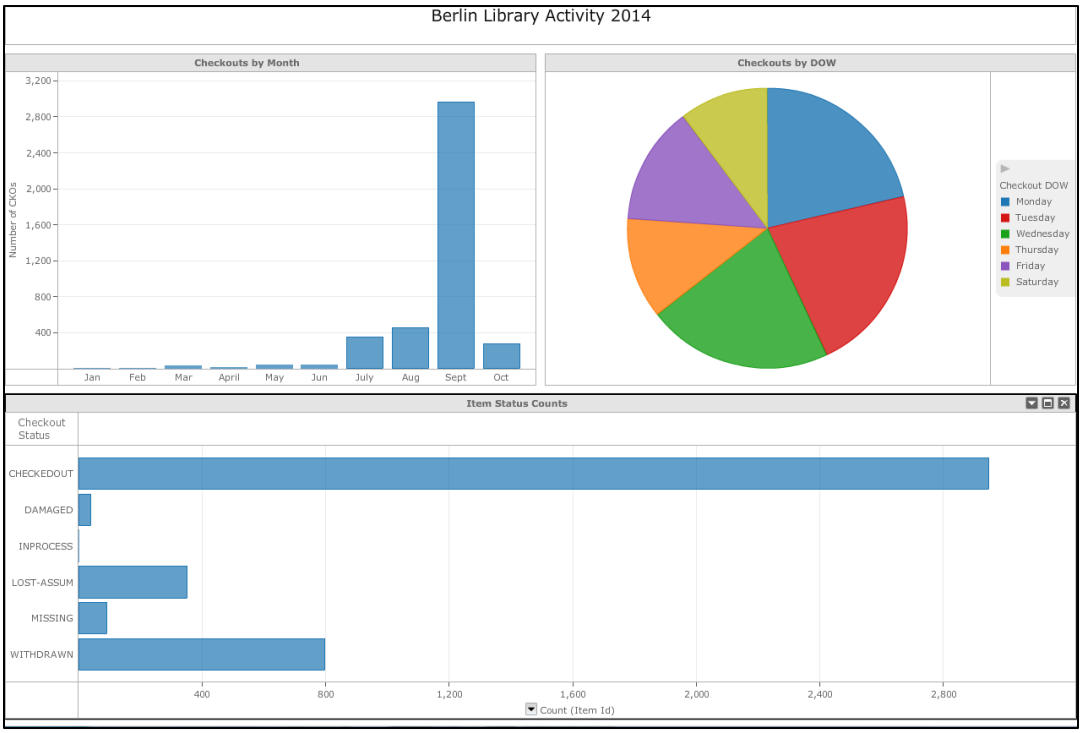
This chapter will discuss usage of **visualizations**, **layouts**, and **panels**, each of which can play a role in designing more versatile dashboards.

The "anatomy" of a dashboard that includes all three of these elements is shown below:


The **layout** is the "outer" container, basically a tabbed page of content. Any filtering operations will apply to all data within the same layout. This has 2 layouts for 2 separate libraries.
Berlin
Brandon
Panel 1
Berlin Library Activity 2014
Free-text field
Panels: optional "pages" within a layout.
Visualization #1 on Berlin layout, panel 1.
Visualization #2 on Berlin layout, panel 1.
This example has two visualizations in the Berlin library layout, panel 1. Each visualization will have a grid or graph in it.

Multiple Visualizations

In this example, we're going to create a dashboard that initially has 1 layout, and three visualizations:



Setup: the Visualizations

Because we've already spent previous chapters covering the mechanics of creating visualizations, we'll quickly summarize the content of each one here. The step-by-step instructions that follow will focus on the arrangement of them into one dashboard.

Visualization 1: Number of checkouts by month in 2014, restricted to the Berlin library. Type: vertical bar chart.

Visualization 2: Checkouts by day-of-week in 2014, restricted to the Berlin library. Type: pie chart.

Visualization 3: Item status counts, restricted to the Berlin library. Type: horizontal bar chart.

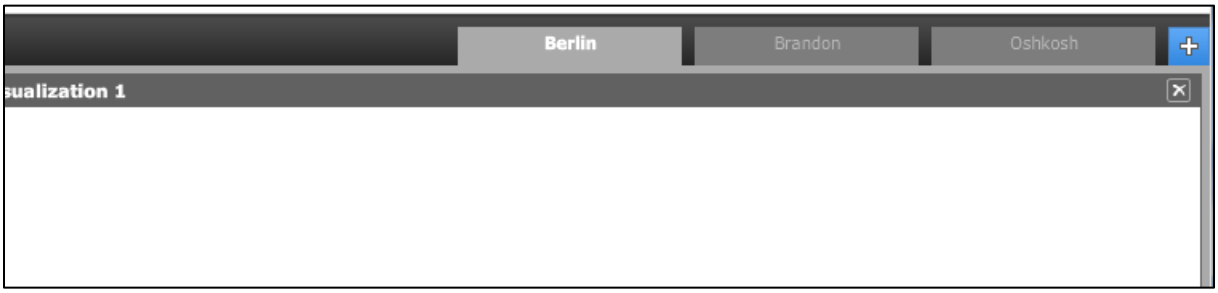
Setup: Filtering

When planning a dashboard, a critical thing to understand is this: *filtering will apply to all visualizations within a given layout, including multiple panels within the layout.*

Looking at our planned visualizations, notice that all three of them will filter to the Berlin library. Because filters are global in nature within a layout, this will be easy to do. As soon as one of the visualizations is filtered to the Berlin library, other visualizations in the layout with the library attribute will automatically be subject to the same filter.

Two of the visualizations also have a constraint to the year 2014. As long as that filter exists somewhere in the layout, anything in that layout with the Checkout Year attribute will be subject to that filter

If that sounds like a problem: this is where multiple layouts can be useful. For example, we could have separate layouts for different libraries, thus having a shared dashboard with a tab for each:



In the above example, any visualizations in the **Brandon** layout would not be affected by filters in either of the other two. Each layout could be filtered by their own library, leading to a shared dashboard.

If the idea of a shared dashboard between libraries makes you cringe, you can simply design separate dashboards for each, put them in separate folders, and secure them accordingly (see the BLUEcloud Analytics Administration class for more on this). As stated early in this chapter, not everyone is going to go full-steam-ahead on complex dashboards.

Creating the Dashboard

In this example, we'll now create the 1-layout/3-visualizations dashboard. On your system, you can vary the library/year options to ones suitable to your library's data.

To make the example slightly easier to follow, we'll first create each visualization as a grid so that you have a clearer picture of the setup.

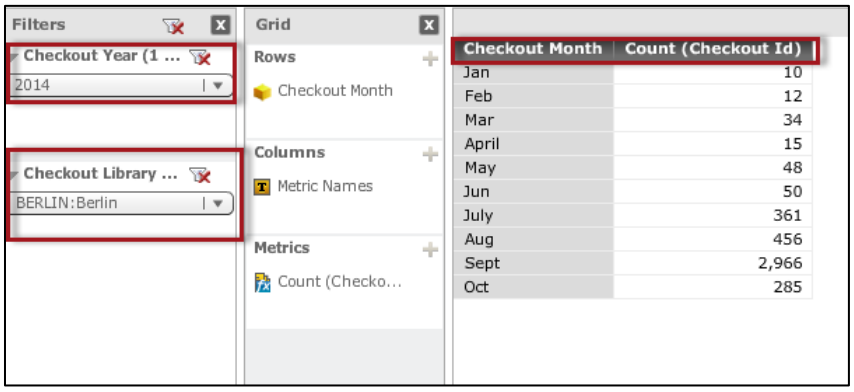
We'll then convert them to graphs. Experienced users can by-pass that step and create them as graphs to begin with.

When you have multiple visualizations in a layout, make sure you have first selected the one you want to work with using a mouse click. The highlighted visualization is the one that your attributes/metrics will be added to.

To Create a Dashboard with Multiple Visualizations

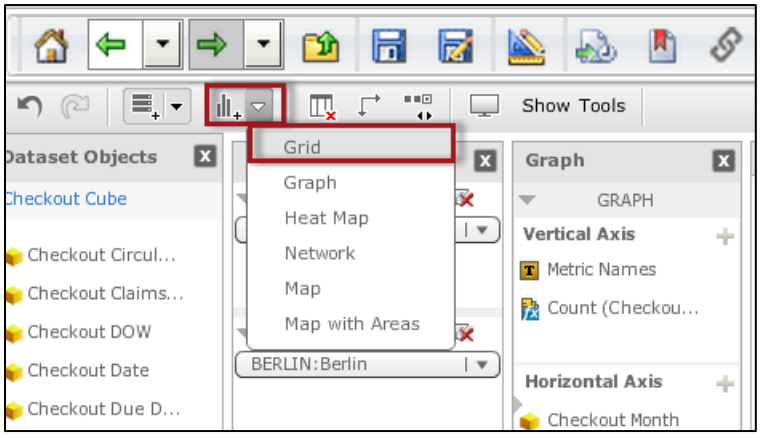
1. Create a new Dashboard using the **Checkouts** cube as your data source.

2. In the visualization, create the first example: **Number of checkouts by month in 2014, restricted to the Berlin library. Type: vertical bar chart**. Prior to converting it to a bar chart, it should look similar to the following in grid form:

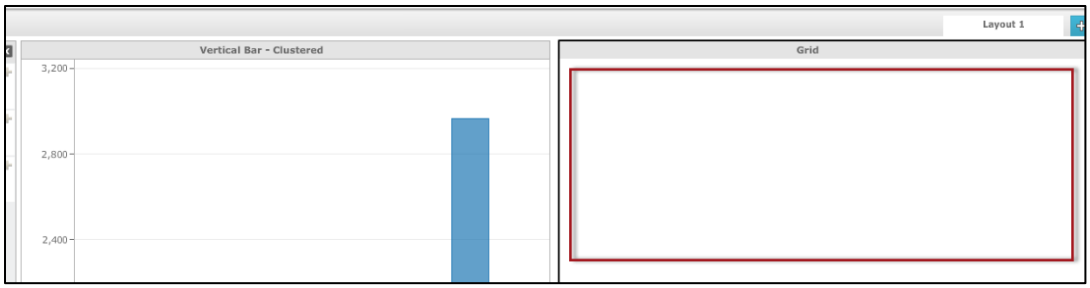


3. If your visualization was created as a grid, convert the visualization to a bar chart using the **Change Visualization** option either in the main toolbar, in in the visualizations drop-down menu.

4. In the main toolbar, select **Add Visualization > Grid**:



5. This should give you an empty visualization box on the right:



In the new visualzation, create the second example: **Checkouts by day-of-week in 2014, restricted to the Berlin library**. Type: pie chart. Prior to conversion to a pie-chart, the data should look similar to the following:

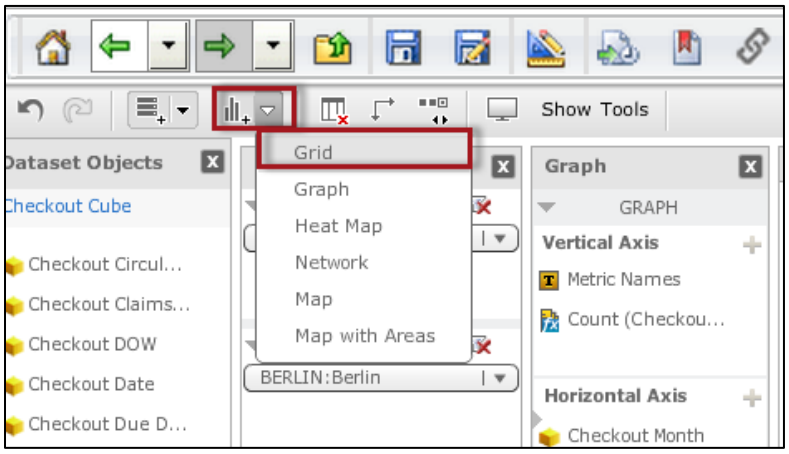
Grid

Checkout DOW	Count (Checkout Id)
Monday	902
Tuesday	925
Wednesday	907
Thursday	493
Friday	572
Saturday	438

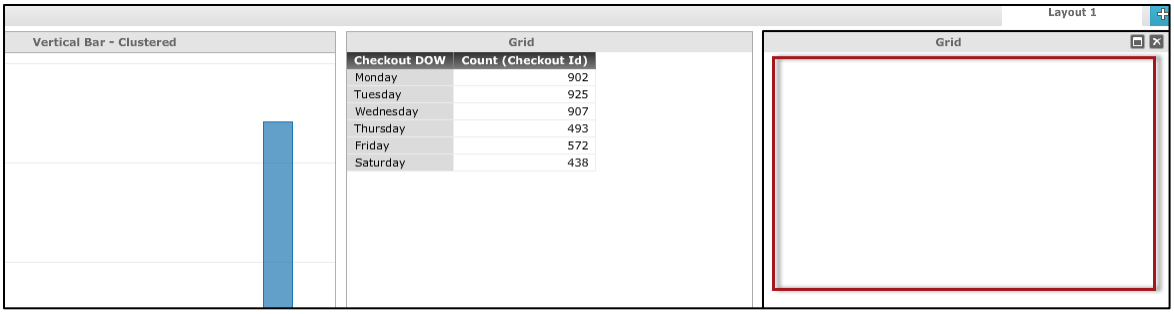
NOTE: You do not have to do any additional filtering, because you already created the "Berlin" and "2014" filters for the first visualization.

6. If your visualization was created as a grid, convert the visualization to a bar chart using the **Change Visualization** option either in the main toolbar, in in the visualizations drop-down menu.

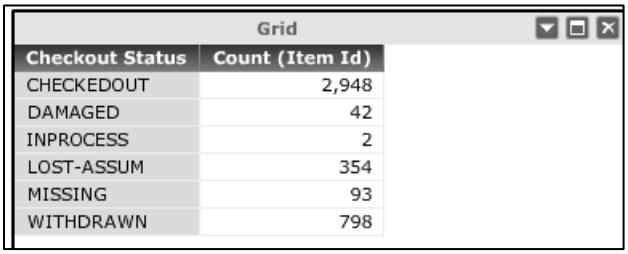
7. In the main toolbar, select **Add Visualization > Grid**:



8. This should give you a new empty visualization off to the right:



9. In the new visualization, create the third example**: Item status counts, restricted to the Berlin library. Type: horizontal bar chart.** In grid form, your data should look similar to the following:

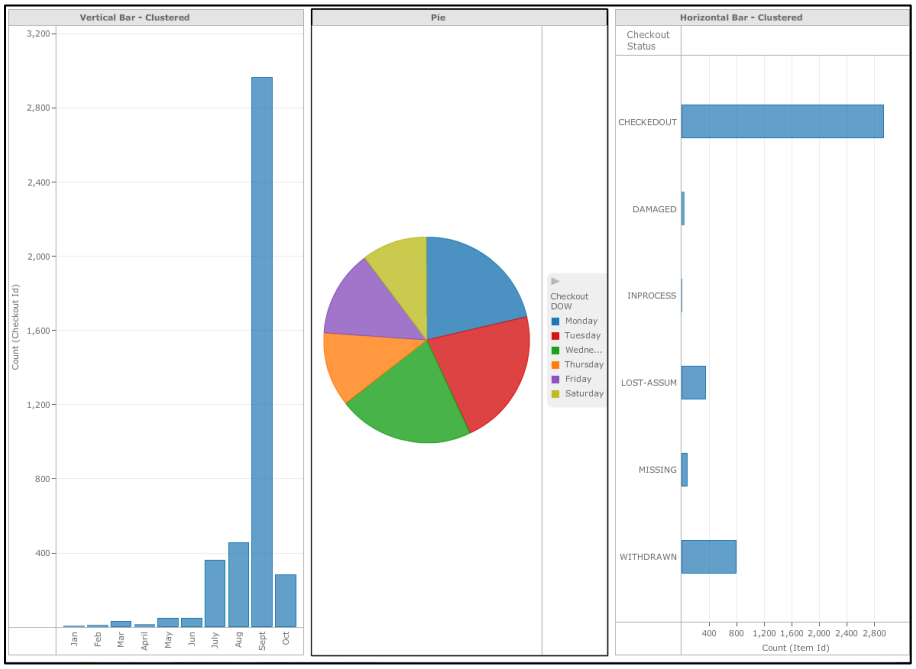


Grid

Checkout Status	Count (Item Id)
CHECKEDOUT	2,948
DAMAGED	42
INPROCESS	2
LOST-ASSUM	354
MISSING	93
WITHDRAWN	798

If your visualization was created as a grid, convert the visualization to a vertical bar chart using the **Change Visualization** option either in the main toolbar, in in the visualizations drop-down menu.

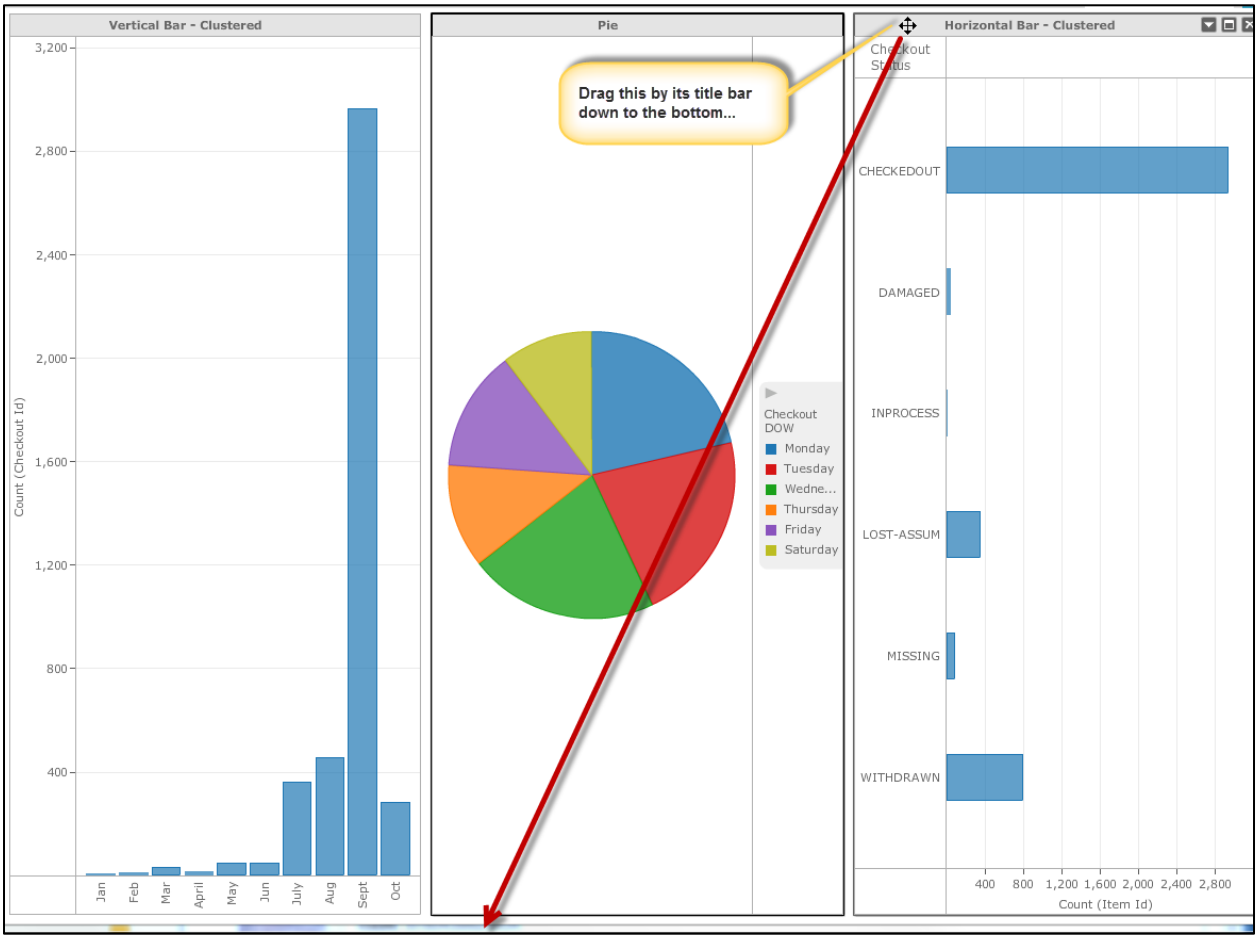
10. At this point, your dashboard should look like this:



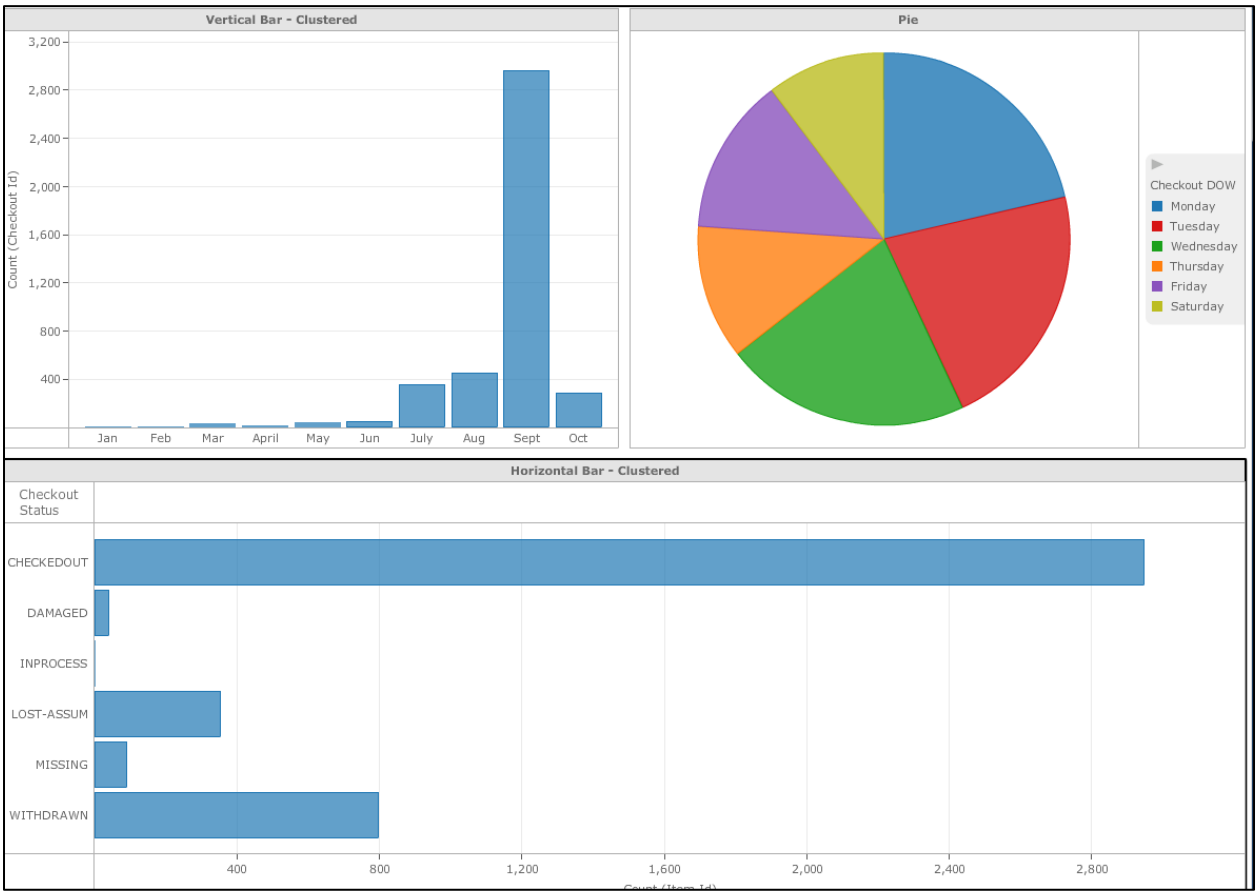
Rearranging the Visualizations

You may have noticed that visualizations default to a side-by-side arrangement. You can alter this arrangement by dragging and dropping the visualizations.

Let's drag-and-drop the right-most visualization below the other two. While dragging, you should see a blue line that shows where the drop will occur:



The third visualization should now have its own space on the bottom half of the layout:



By default, the system will give each visualization an even amount of space (50-50 on the top half, in the above example). Be aware that you can resize each visualization by dragging it by its borders.

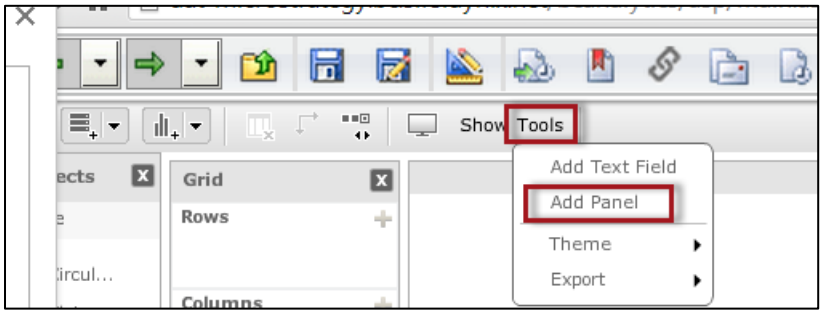
Panels

You can have as many visualizations as you want on a layout. However, the more visualizations you have, the less space each one will have to occupy. So while you could have ten visualizations on one layout, they would be rather small.

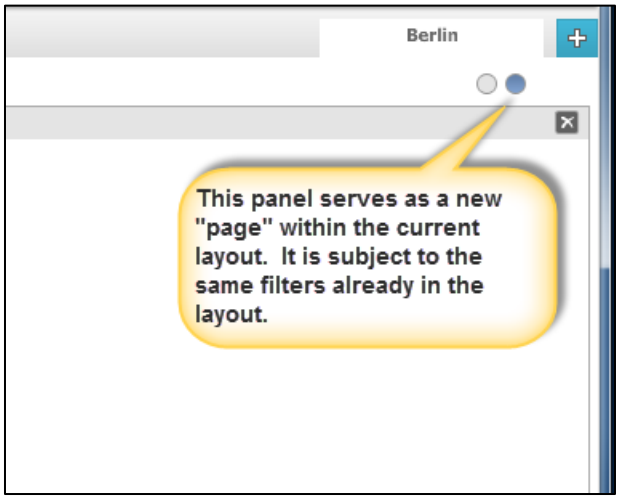
This is where additional *panels* could come in handy. To this point, we've actually been putting our visualizations in the default panel of the layout. If you want a dashboard to have tons of visualizations that are subject to the same filtering conditions, you can subdivide a layout into separate panels. This gives you more space to work with.

To Add Additional Panels to a Layout

1. In the **Tools** menu in the main toolbar, select **Add Panel:**



2. Your layout should now have a new panel in which you can place more visualizations:



From this point, you can add visualizations to the new panel using the exact same methods you used in the default panel.

Additional Layouts

While panels are used to give you more space *within* a layout, sometimes you may want additional layouts. The chief reason to have multiple layouts is to allow for multi-page dashboards where different filter conditions could apply to each page.

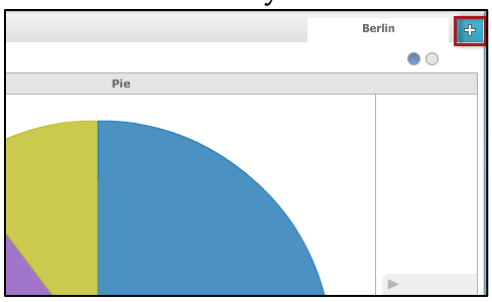
For example: our previous dashboard project had one layout filtered to the Berlin library. What if, in the same dashboard, I want content that is filtered to the Brandon library? I would need a new layout for that, since the existing layout is already filtered to Berlin.

Another possible reason you might use additional layouts: you like the "tabbed" look better than the dots-in-a-tab look that panels provide, regardless of filter considerations.

The example below shows creating a new layout. In this case, it is intended to provide a tab in the dashboard where visualizations for the Brandon library can later be placed.

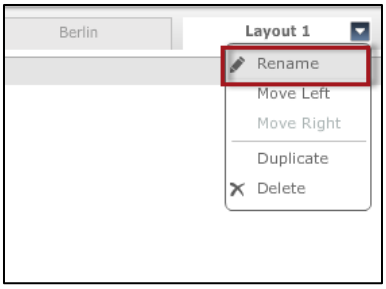
To Add a New Layout:

1. Click on the **Add Layout** tab next to the existing layout tab:



2. By default, the layout will have a patterned name like **layout 1**. You can rename it by hovering on the new layout tab so you can access the drop-down arrow:

3. Then, click on the arrow, and select **Rename** from the menu:



4. Type in the name of the new layout:

You now have a new layout with a default panel. You can add visualizations to it using the same methods as before. But let's introduce another method at this point: copying.

Copying / Moving Data

In a multi-page dashboard scenario, you may sometimes want similar reports across different panels or layouts. For example, maybe our new layout for the Brandon library wants to have content similar to Berlin's, but filtered to themselves.

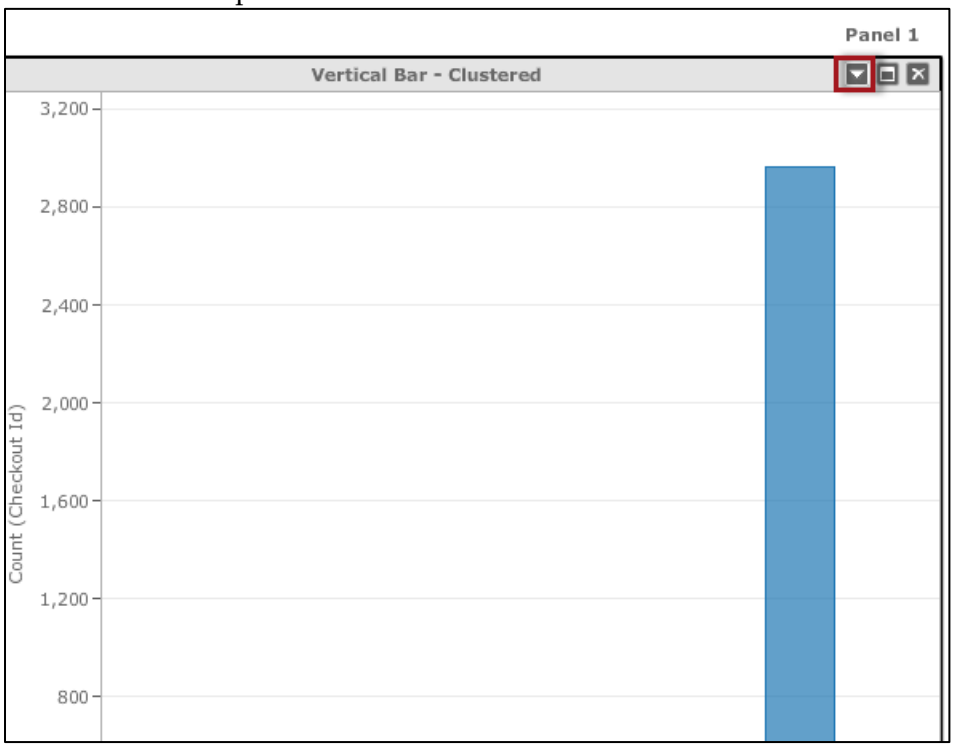
While you could recreate the same visualizations from scratch, it may be easier to copy or move any similar visualizations, and then adjust them.

"Copying" and "moving" mean exactly what they do in other software contexts. Copying creates a second, independent copy, while moving transfers the visualization from one place to the other.

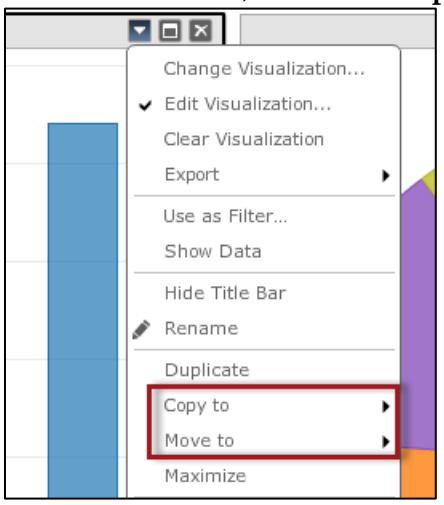
Copying and moving can be done between both layouts and specific panels. The example below copies one of the Berlin layout's visualizations over to Brandon's.

To Copy / Move a Visualization:

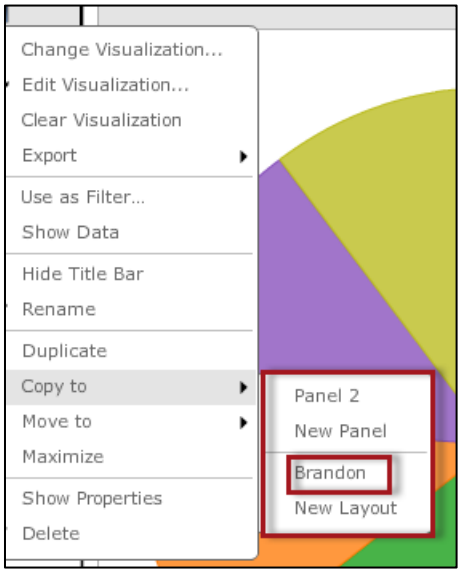
1. Hover your mouse over the title bar of the visualization so you can access the drop-down arrow:



2. Click on the arrow, and select **Copy to** or **Move to** from the menu:

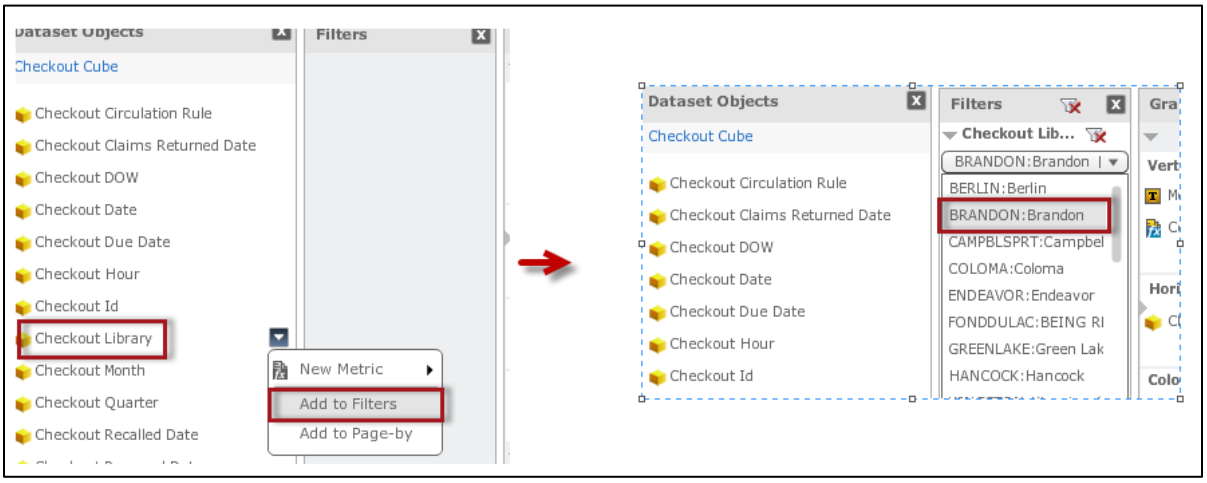


3. Your options at this point depend on what panels and layouts are available (also notice you could create new panels and layouts on-the-fly this way). In this case, we'll copy to the **Brandon** layout:



4. The Brandon layout now has the same visualization.

Be careful here. Just because our visualzation has been dropped into a tab of a particular name doesn't mean the data has technically been altered appropriately. This visualization doesn't truly become the Brandon library's until we adjust the filters within this layout to make it so:



Also, the Berlin layout was restricted to the Checkout Year of 2014. If that is needed in the Brandon layout, that filter would have to be recreated as well.

Now that that Brandon layout has a filter for the Brandon library, any additional visualizations that are copied or moved to it will restrict by that filter (as long as the visualization contains the Checkout Library, in this case).

Text Fields and Renaming Visualizations

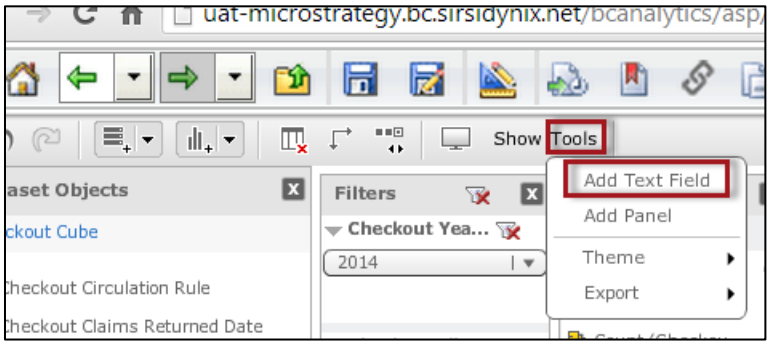
Some finishing touches to this dashboard would be nice. Let's look at **Text Fields** and **Renaming of visualizations**.

Text Fields

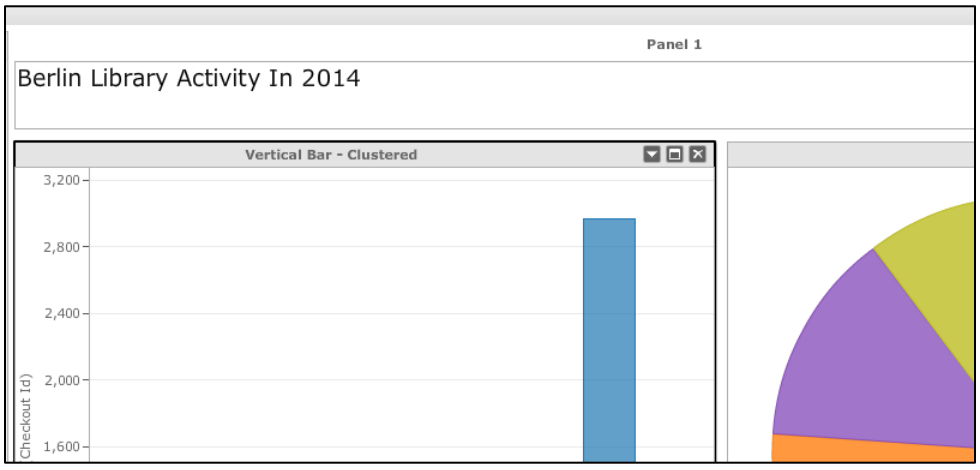
Text fields give you one or more places where you can enter free text amongst the visualizations. In this example, we'll add a caption to the top of the Berlin library layout that reads **Berlin Library Activity in 2014**.

To Add A Text Field:

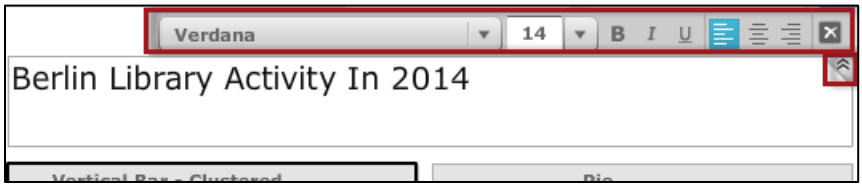
1. In the **Tools** menu in the main toolbar, select **Add Text Field**:



2. The text field should default to the top of the layout. Within the field, type the desired text, such as "Berlin Library Activity in 2014":



3. If you want to perform additional formatting such as alignment and font options, hover your mouse on the text box and click on the  icon to the right:

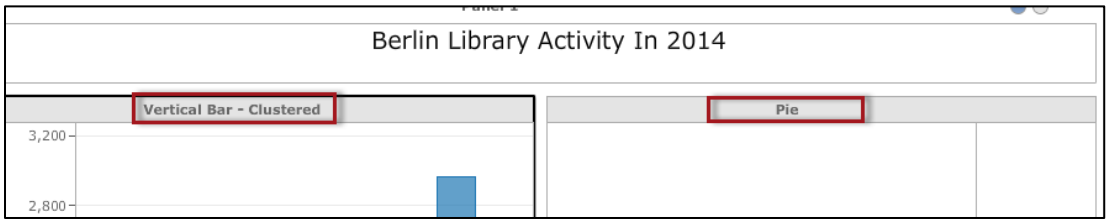


4. In the menu that appears above, you can then adjust alignments and fonts.

If needed, you can have multiple text fields. They can also be dragged to different sections of the screen just like visualizations, as well as resized.

Renaming Visualizations

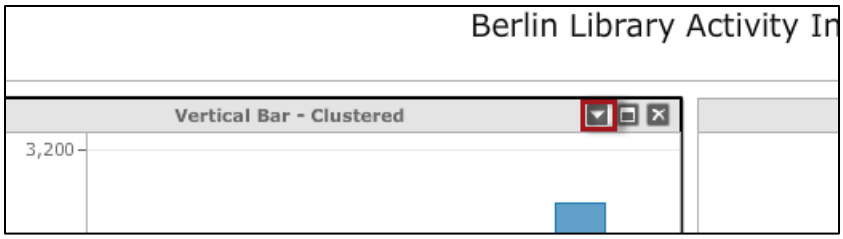
The default names of visualizations tend to be rather non-descript:



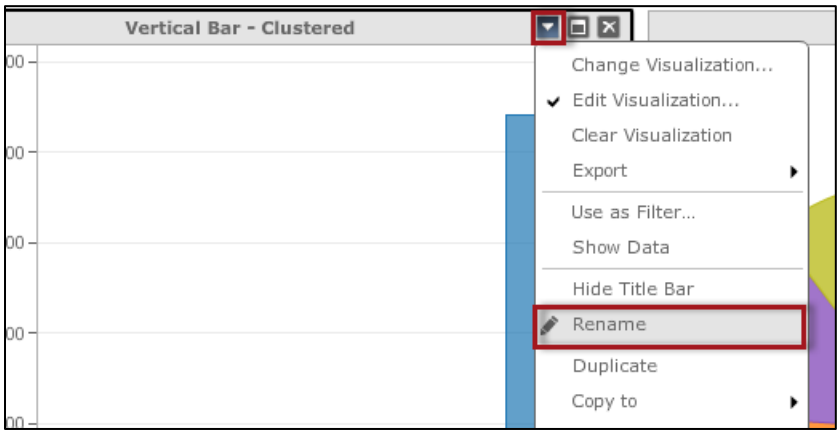
The exercise below renames the left visualization to **Checkouts by month**.

To Rename a Visualization:

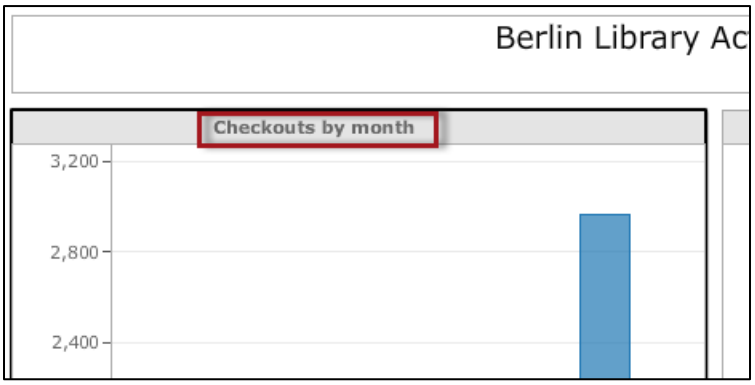
1. Hover your mouse over the visualization's title bar so you can access the drop-down arrow:



2. Click on the arrow, and select **Rename** from the menu:



3. Enter the desired text, such as "Checkouts by month":



Advanced Sorting

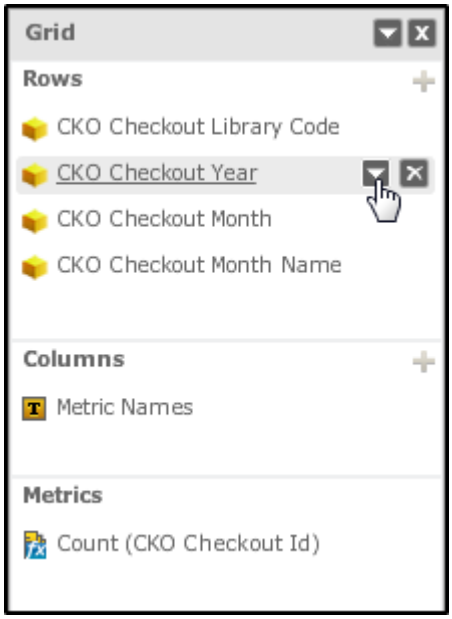
You can perform two types of sorts: a "simple" sort against a column of your choosing (discussed previously in this guide), or an "advanced" sort which allows for sorting against multiple columns.

You can sort by as many attributes or metrics as you like. Initially, the sorting dialog will provide for three sorts, but it will give you more "slots" to provide additional sorts if you use up the existing ones. You can choose an ascending or descending option for each sort.

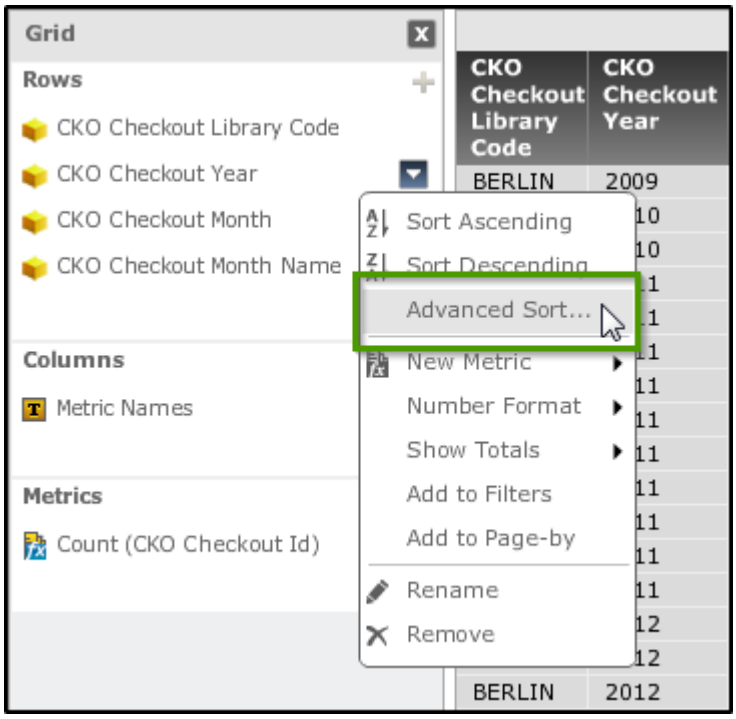
The example below adds three sorts to a dashboard: by Checkout Library, Checkout Year, and Checkout Month.

To Perform an Advanced Sort:

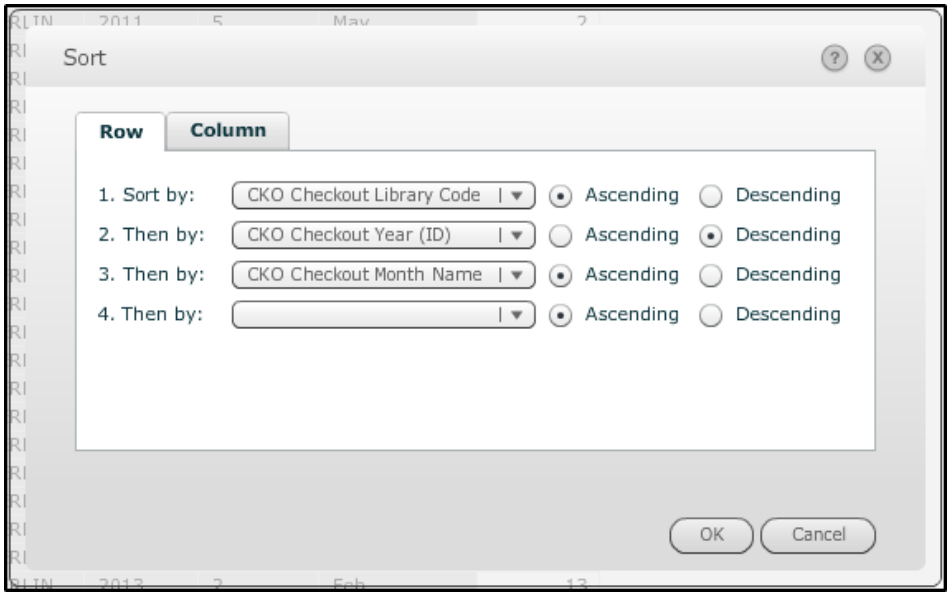
1. In the **Edit Visualization** pane, hover your mouse over any attribute or metric so you can access the drop-down arrow:



2. Click on the arrow, and from the menu select **Advanced Sort**:



3. In the **Sort** dialog, select up to three sorts, similar to the example below:

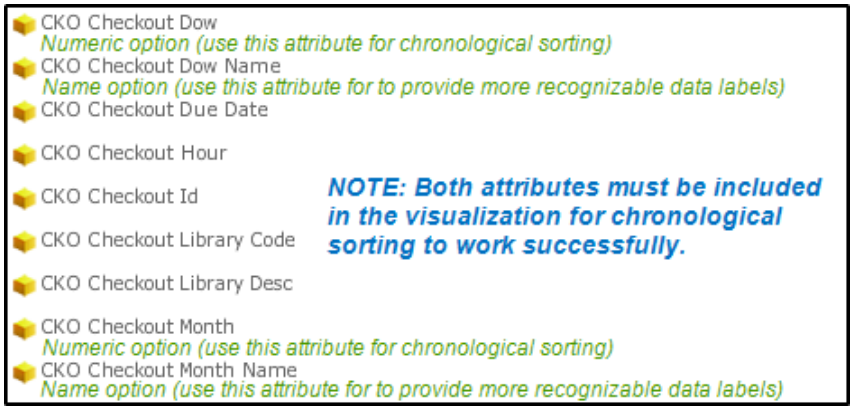


4. Click OK to finish the sort. The results should look similar to the following:

CKO Checkout Library Code	CKO Checkout Year	CKO Checkout Month	CKO Checkout Month Name	Count (CKO Checkout Id)
BERLIN	2014	4	April	15
BERLIN	2014	8	Aug	456
BERLIN	2014	2	Feb	12
BERLIN	2014	1	Jan	10
BERLIN	2014	7	July	361
BERLIN	2014	6	Jun	50
BERLIN	2014	3	Mar	34
BERLIN	2014	5	May	48
BERLIN	2014	10	Oct	285
BERLIN	2014	9	Sept	2,966
BERLIN	2013	4	April	6
BERLIN	2013	8	Aug	23
BERLIN	2013	12	Dec	17

Tips for Sorting Chronologically:

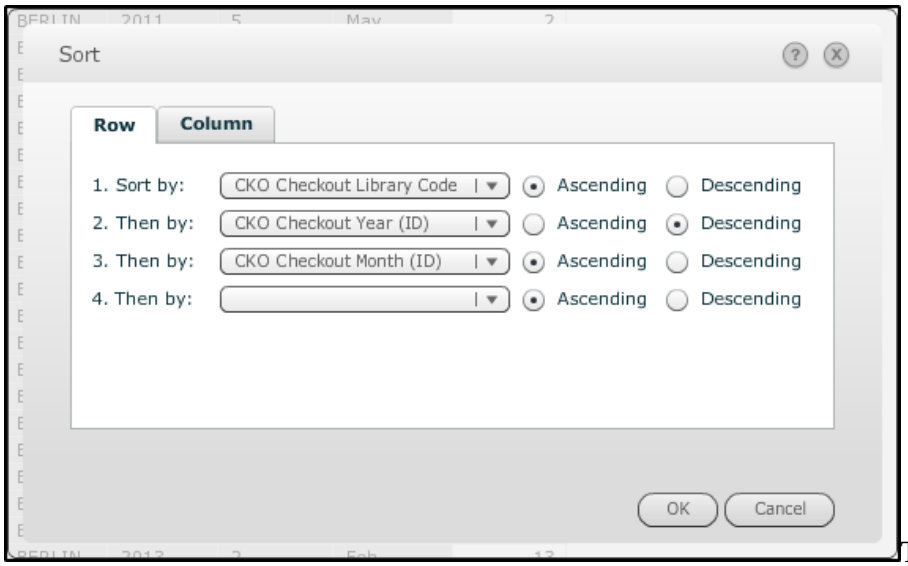
In the previous example, notice that our months are sorted alphabetically. That may not be how you expected the months to be sorted, but it is technically correct. That is because, in step 3 above, we sorted by the *Checkout Month Name* attribute. Since our only options are ascending or descending in *Advanced Sort*, the month names are sorted alphabetically, rather than chronologically.



Checkout Library	Checkout Year	Checkout Month	Count (Checkout Id)
Berlin	2009	Oct	1
Berlin	2010	Nov	1
Berlin	2010	Oct	2
Berlin	2011	April	4
Berlin	2011	Aug	1
Berlin	2011	Feb	1
Berlin	2011	Jan	1
Berlin	2011	July	8
Berlin	2011	Jun	1
Berlin	2011	May	2
Berlin	2011	Nov	3
Berlin	2011	Oct	3
Berlin	2011	Sept	2

When performing your sort, pay careful attention to a couple of things:

Date attributes like month or day-of-week may provide you a *numeric* option—for example, months are considered as 1 (January) through 12 (December)) in addition to the *name* version of the attribute. Examples are shown below.



The numeric option leads to a more logical sort in these cases:Sorting on the

numeric version of the attribute (*CKO Checkout Month*) will result is the following display:

CKO Checkout Library Code	CKO Checkout Year	CKO Checkout Month	CKO Checkout Month Name	Count (CKO Checkout Id)
BERLIN	2014	1	Jan	10
BERLIN	2014	2	Feb	12
BERLIN	2014	3	Mar	34
BERLIN	2014	4	April	15
BERLIN	2014	5	May	48
BERLIN	2014	6	Jun	50
BERLIN	2014	7	July	361
BERLIN	2014	8	Aug	456
BERLIN	2014	9	Sept	2,966
BERLIN	2014	10	Oct	285
BERLIN	2013	1	Jan	4
BERLIN	2013	2	Feb	13
BERLIN	2013	3	Mar	4
BERLIN	2013	4	April	6
BERLIN	2013	5	May	20
BERLIN	2013	6	Jun	16
BERLIN	2013	7	July	40
BERLIN	2013	8	Aug	23
BERLIN	2013	9	Sept	37
BERLIN	2013	10	Oct	40
BERLIN	2013	11	Nov	29
BERLIN	2013	12	Dec	17
BERLIN	2012	1	Jan	5
BERLIN	2012	2	Feb	7
BERLIN	2012	3	Mar	6
BERLIN	2012	4	April	5
BERLIN	2012	5	May	20
BERLIN	2012	6	Jun	15
BERLIN	2012	7	July	7
BERLIN	2012	8	Aug	7
BERLIN	2012	9	Sept	7
BERLIN	2012	10	Oct	21
BERLIN	2012	11	Nov	32
BERLIN	2012	12	Dec	3

Page-by

The **Page-by** feature provides a convenient way to view a large data set in slices. It is designed to be used with grid visualizations.

For example, take the following output from a checkouts dashboard that goes on for potentially thousands of rows, especially when little filtering is applied:

Visualization 1

Checkout Library	Checkout Year	Checkout Month	Count (Checkout Id)
Berlin	2009	Oct	1
Berlin	2010	Oct	2
Berlin	2010	Nov	1
Berlin	2011	Jan	1
Berlin	2011	Feb	1
Berlin	2011	April	4
Berlin	2011	May	2
Berlin	2011	Jun	1
Berlin	2011	July	8
Berlin	2011	Aug	1
Berlin	2011	Sept	2
Berlin	2011	Oct	3
Berlin	2011	Nov	3
Berlin	2012	Jan	5

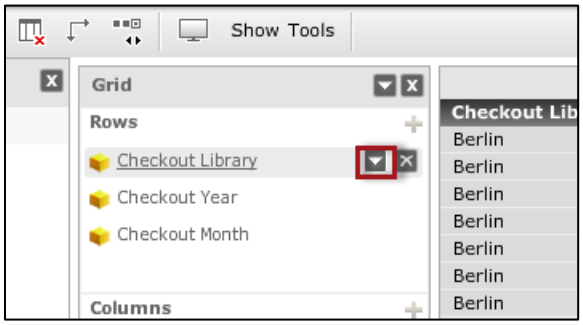
(hundreds of additional rows...)

One obvious solution to a large data set is to apply filters. Another option that may help is Page-by, which lets you "split" the data by an attribute into different pages, rather than one enormous page of data.

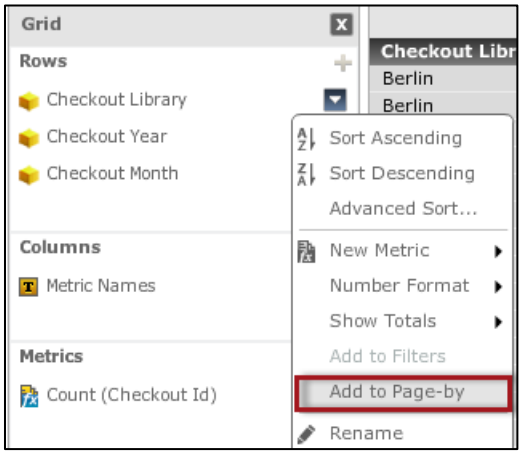
The example below moves **Checkout Library** into the Page-by axis, and allows you to choose the library via a drop-down.

To Use the Page-By Feature:

1. In the **Grid** pane, hover your mouse over the **Checkout Library** attribute so you can access the drop-down arrow:

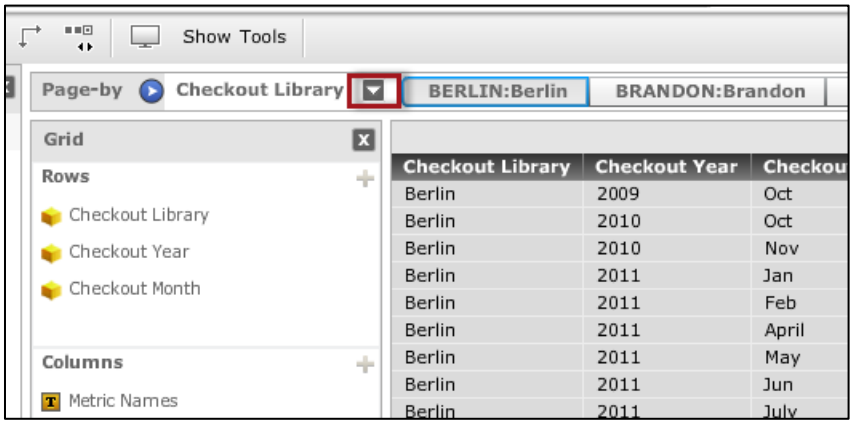


2. Click on the arrow, and select **Add to Page-by:**

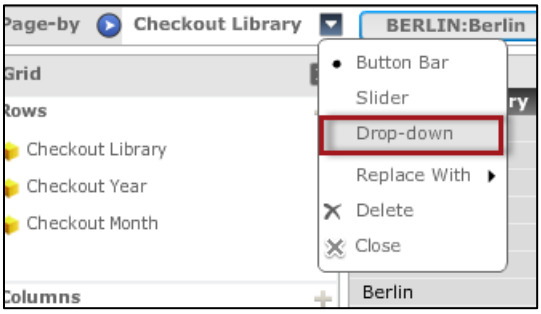


3. The data should now be separated into "pages", where each library can be selected with buttons:

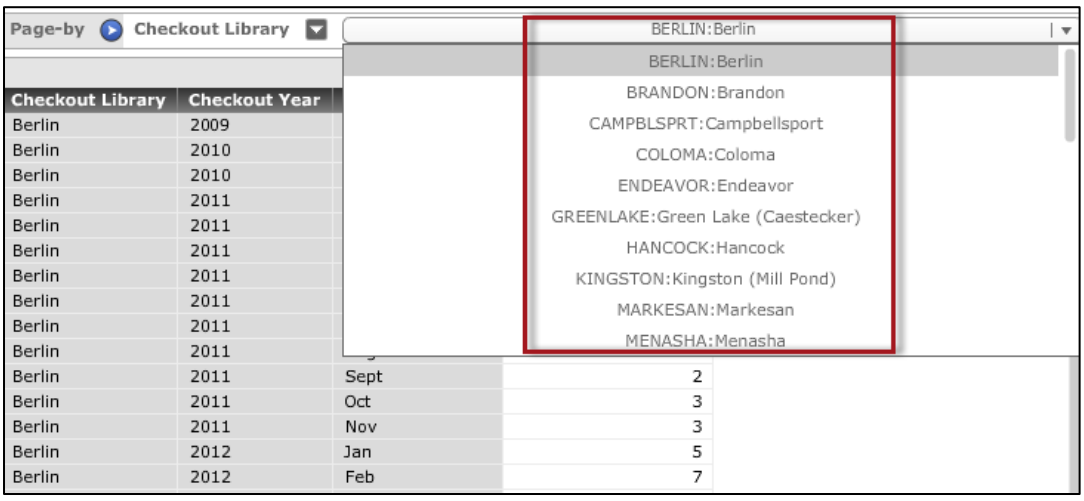
4. If desired, you can change the Page-by interface to either a slider or drop-down interface by hovering over the attribute in the Page-by attributes so you can access the drop-down arrow:



5. Click on the arrow, and select **Drop-down** from the menu:



You can now select the library in drop-down form:



Move to Columns

All of grid visualizations so far have been of the "vertical" type, where all data displays on the y-axis. Sometimes you may want to display one or more attributes across the x-axis to enhance readability. For example, how could we display a grid where the **Checkout Month** displays like this?

Visualization 1

Checkout Library	Checkout Month	Jan	Feb	Mar	April	May
	Checkout Year	Count (Checkout Id)	Count (Checkout Id)	Count (Checkout Id)	Count (Checkout Id)	Count (Checkout Id)
Brandon	2011	1	1			
Brandon	2012		1		1	1
Brandon	2013	3	7	2		1
Brandon	2014	8		13	1	
Campbellsport	2011					
Campbellsport	2012	1		7	1	1
Campbellsport	2013	2	1	3	4	6
Campbellsport	2014	2	9	6	15	16
Coloma	2010				1	
Coloma	2011			4		1
Coloma	2012		7			5
Coloma	2013	1	1	15	11	1

The example below shows the **Move to Columns** feature.

To Use Move to Columns:

6. In a grid visualization, hover you mouse over an attribute like the **Checkout Month** so you can access the drop-down arrow:

Visualization 1

Checkout Library	Checkout Year	Checkout Mon	Count (Checkout Id)
Berlin	2009	Oct	1
Berlin	2010	Oct	2
Berlin	2010	Nov	1
Berlin	2011	Jan	1
Berlin	2011	Feb	1
Berlin	2011	April	4
Berlin	2011	May	2
Berlin	2011	Jun	1
Berlin	2011	July	8

7. Click on the arrow, and select **Move to Columns** from the menu:

Checkout Library	Checkout Year	Checkout Mon	Count (Checkout Id)
Berlin	2009	Oct	
Berlin	2010	Oct	
Berlin	2010	Nov	
Berlin	2011	Jan	
Berlin	2011	Feb	
Berlin	2011	April	
Berlin	2011	May	
Berlin	2011	Jun	
Berlin	2011	July	
Berlin	2011	Aug	
Berlin	2011	Sept	
Berlin	2011	Oct	
Berlin	2011	Nov	
Berlin	2012	Jan	
Berlin	2012	Feb	
Berlin	2012	Mar	
Berlin	2012	April	

8. The grid should now show the chosen attribute along the x-axis.

This does leave one formatting issue: let's say you want to fix the repetitive **Count (Checkout Id)** notations as shown below:

Checkout Library	Checkout Month / Checkout Year	Jan	Feb	Mar	April	May
		Count (Checkout Id)	Count (Checkout Id)	Count (Checkout Id)	Count (Checkout Id)	Count (Checkout Id)
Berlin	2009					
Berlin	2010					
Berlin	2011	1	1		4	2
Berlin	2012	5	7	6	5	20
Berlin	2013	4	13	4	6	20
Berlin	2014	10	12	34	15	48
Brandon	2011	1	1			
Brandon	2012		1		1	1
Brandon	2013	3	7	2		1
Brandon	2014	8		13	1	

In the **Checkout Month** drop-down, we can use the **Move Down** option, resulting in this:

Checkout Library	Metrics	Visualization 1											
	Checkout Year	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec
		Count (Checkout Id)											
Endeavor	2012	1	5				1	1	1		3	3	
Endeavor	2013	5	1	3			1	2	7	9	9	4	3
Endeavor	2014	3	2	2	5	2	5	31	121	184	22		
BEING REMOVED--NOT HOLDABLE	2009						1						
BEING REMOVED--NOT HOLDABLE	2010											1	
BEING REMOVED--NOT HOLDABLE	2011	1									1		
Green Lake (Caestecker)	2011								1	5		2	1
Green Lake (Caestecker)	2012	7	2	1	1	1	1	6	1	3	2		
Green Lake (Caestecker)	2013	1	1		5		2	4	11	1	2	7	3
Green Lake (Caestecker)	2014	1	7	4	10	17	6	40	118	1,373	160		

Thresholds

Thresholds are a way to conditionally apply background colors to metrics in grid visualizations. With thresholds, you can draw the user's attention to key pieces of data that meet a certain condition, such as "number of checkouts > 1000". A thresholds consists of a condition to be met, and a color to apply.

The example below will demonstrate creating three thresholds. To simplify things, we'll work against this small grid:

Checkout Library	Checkout Year	Count (Checkout Id)
Brandon	2013	19
Brandon	2014	670
Campbellsport	2013	55
Campbellsport	2014	2,399
Coloma	2013	46
Coloma	2014	850
Endeavor	2013	44
Endeavor	2014	377
Winnefox Library System	2013	12
Winnefox Library System	2014	569

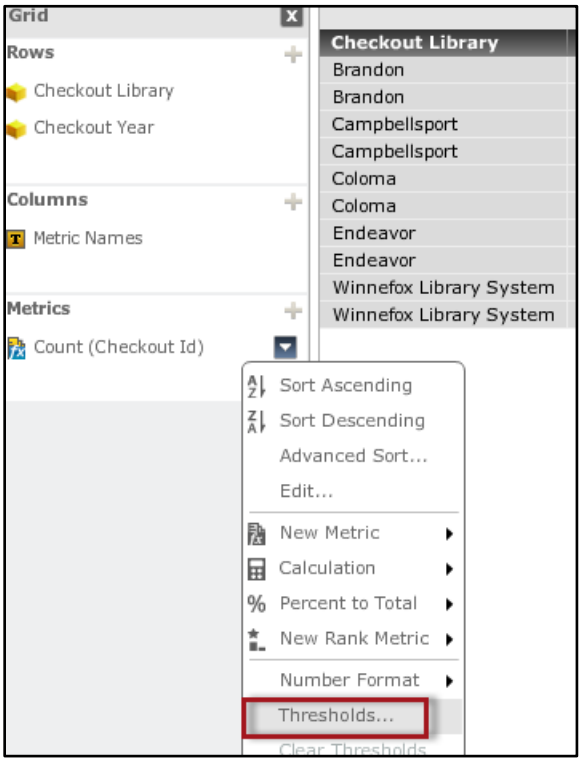
Our three thresholds will be:

1. Number of checkouts < 100: Green
2. Number of checkouts between 100 and 1000: Blue
3. Number of checkouts > 1000: Red

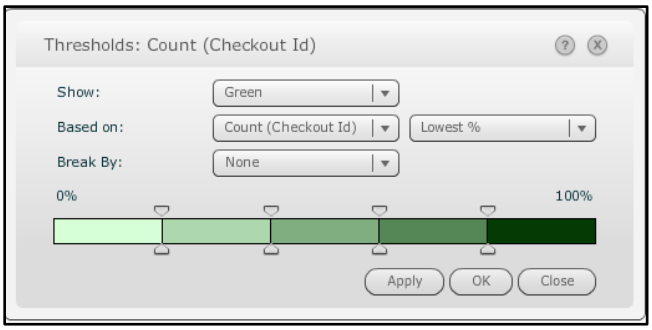
The system will default to giving you five threshold "ranges", which you can add to or subtract from. Since our example requires only three ranges, part of the process will be taking two of them out.

To Add A Threshold to Grid Visualization:

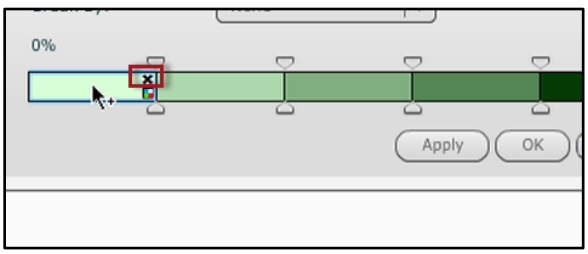
14. In the **Grid** pane, access the drop-down arrow next to the **Checkout Id** metric, and select **Thresholds…** from the menu:



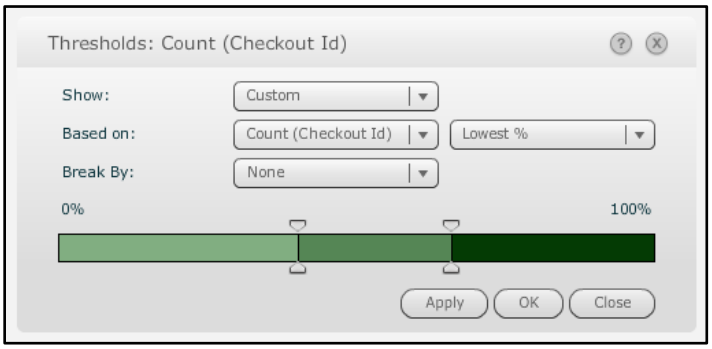
15. By default, the system should give you this dialog which defaults to five threshold ranges (two of which we're going to delete):



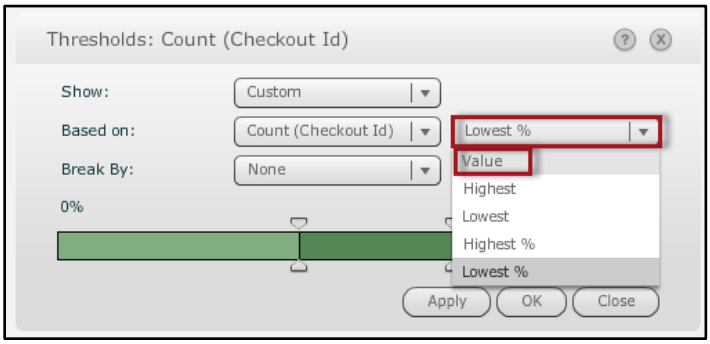
16. To delete a threshold range, hover your mouse within the box, and click on the "x" to delete it:



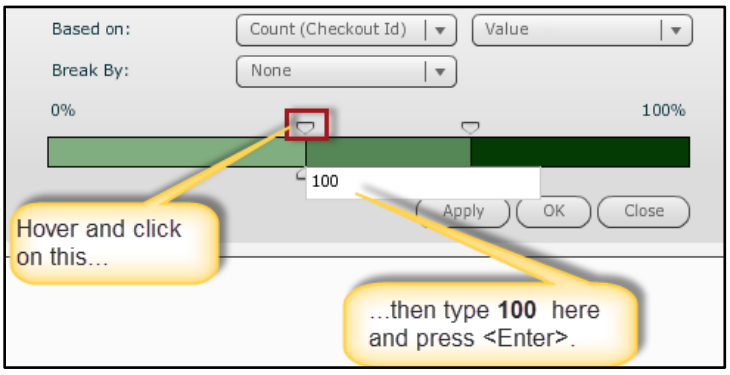
17. Repeat step 3 and delete one more threshold range (it doesn't matter which one. For this example, just make sure you end of with three ranges). At this point, your threshold dialog should look something like this:



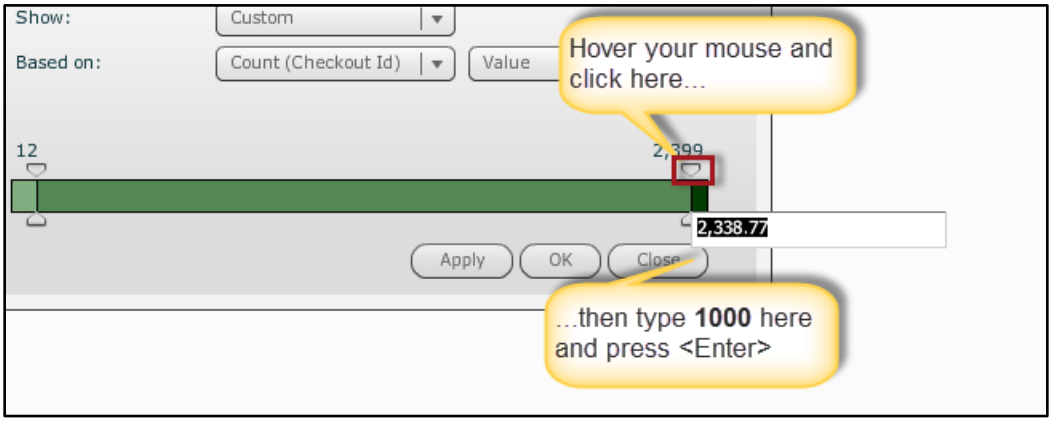
18. Next, we'll make a change so that the thresholds are based on exact numbers we specify, rather than the **Lowest %** basis that it is defaulted to. Click on the **Based on: Lowest %** in the drop-down, and select **Value**:



19. Next, we'll set the left threshold range to look for values "less than 100". The easiest way to set an exact value is to click on the slider, at which point you'll get a pop-up to fill in **100**:

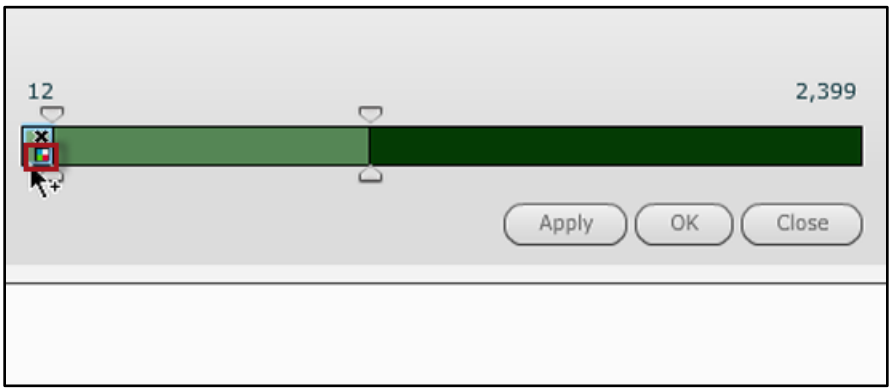


20. Our next theshold range (the middle) will end at 1000. Set it in a manner similar to step 6, as per the screenshot below:

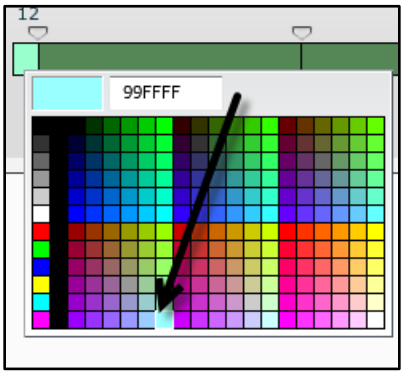


21. The third (right) threshold doesn't require any addtional work as far as the condition goes. It simply encompasses the remaining values not covered by the other two thresholds.

22. To set the color for the first (left) theshold, hover your mouse within its range box, so you can see the **color** button:



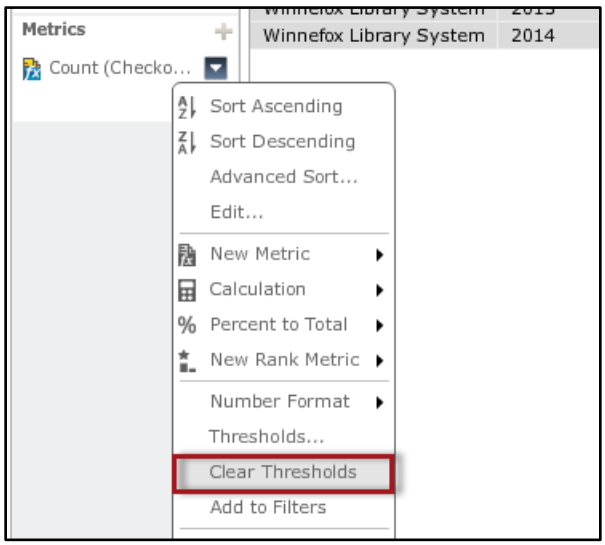
23. From the color dialog, pick a background color for the first threshold (since the text will be in black, make sure to pick a lighter shade):



24. Repeat step 10 for both the second and third threshold ranges. You should end up with something similar to the following:

Checkout Library	Checkout Year	Count (Checkout Id)
Brandon	2013	19
Brandon	2014	670
Campbellsport	2013	55
Campbellsport	2014	2,399
Coloma	2013	46
Coloma	2014	850
Endeavor	2013	44
Endeavor	2014	377
Winnefox Library System	2013	12
Winnefox Library System	2014	569

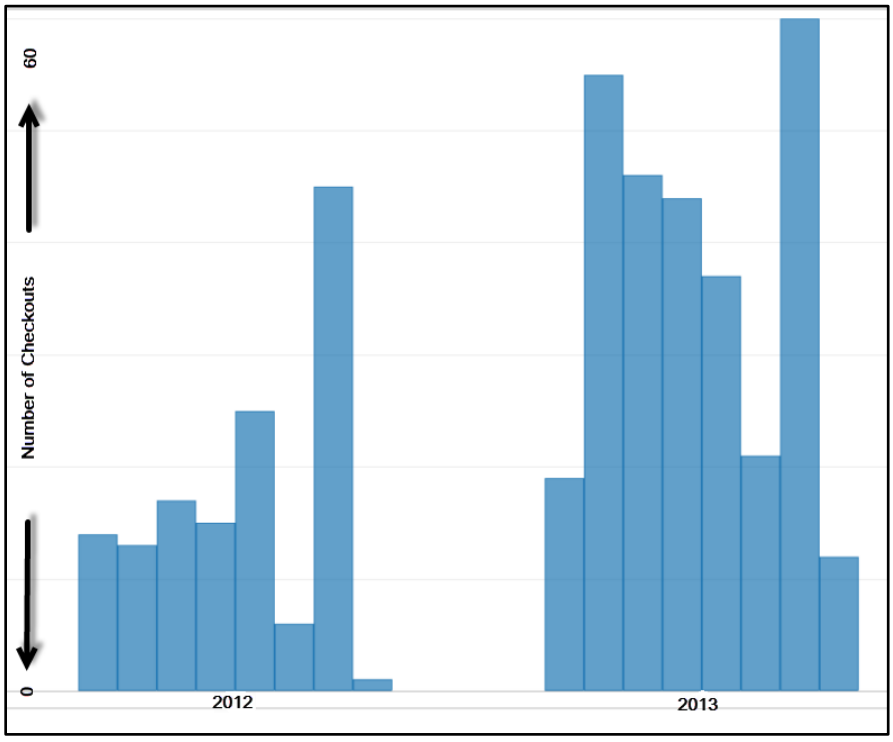
If you no longer want to use thresholds, you can clear them by accessing the drop-down for the metric in the **Grid** pane, and selecting **Clear Thresholds**:



Color-by

Color By is the same concept as thresholds, except that they are intended for graph visualizations. The methods used to create Color By effects are also very similar to those used in thresholds, as the two main components are a condition, and a color to use when that condition is met.

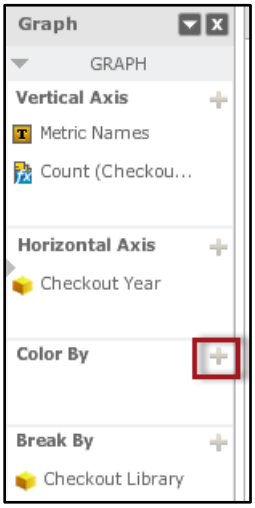
In the example below, we'll do a Color By on the following graph of checkouts by library/year:



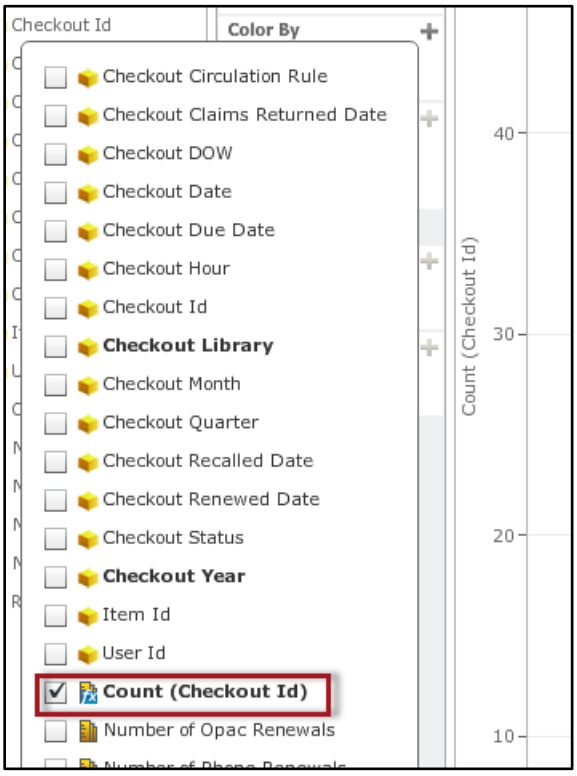
There will be two conditions: blue bars for checkouts < 30, red bars if > 30.

To Use Color By in a Graph Visualization:

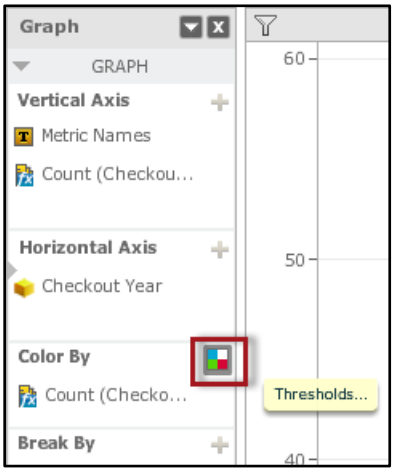
1. In the **Graph** pane, click on the **Add** button in **Color By**:



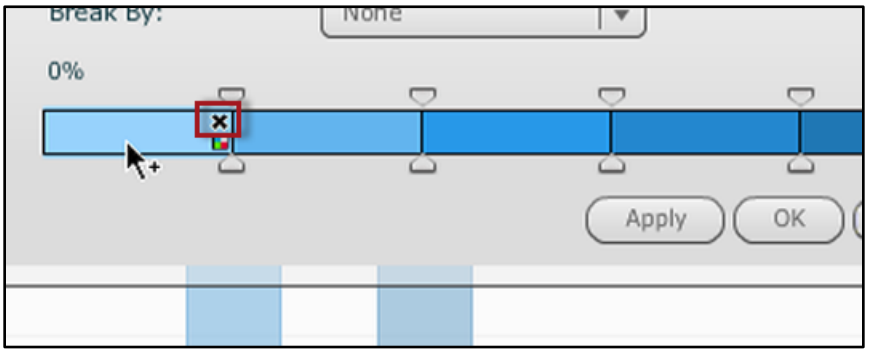
2. From the dialog, select the metric off of which you'll be basing the Color By. In this case, we'll mark the **Count (Checkout Id)** metric and click **OK**:



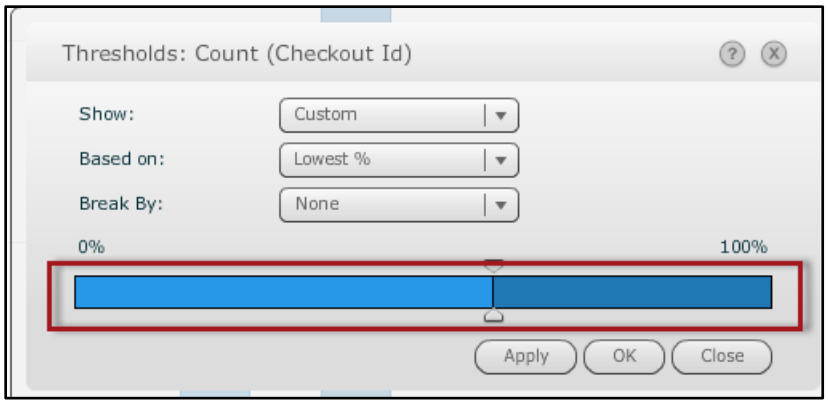
3. In the **Graph** pane in **Color By**, click on the **Thresholds** icon:



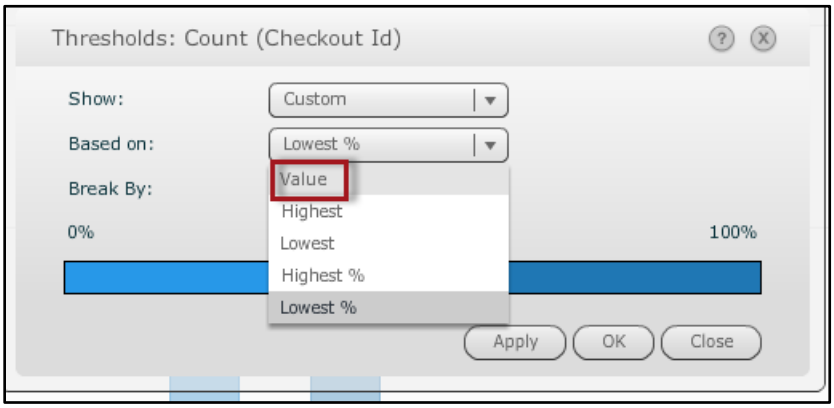
4. By default, the system provides you five threshold "ranges". We only need two for this example, so we'll delete three of them. To delete a range box, hover your mouse within it and click the 'x":



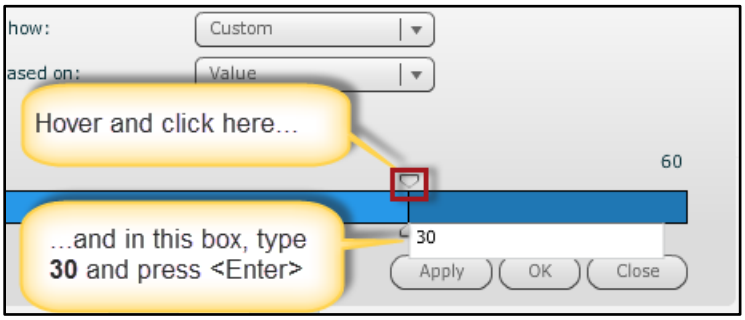
5. Repeat step 4 until you are left with two ranges as follows:



6. Next, we'll make a change to the **Based on** setting so that we can set exact numbers that define the Color By scheme. Click on the **Based on:** drop down, and select **Value** from the menu:

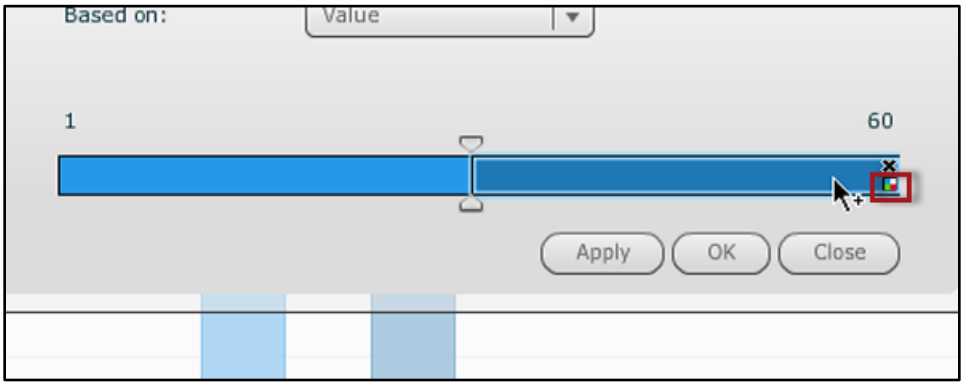


7. Next, we'll set the value of the left threshold range (checkouts < 30). To do this, either drag the slider, or click on it and enter **30** in the text box:

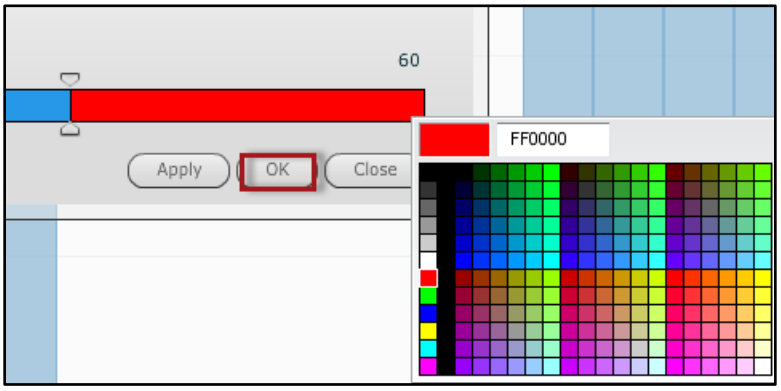


8. The second (right) threshold range requires to further settings as far as conditions, as it will account for all values not covered by the first threshold.

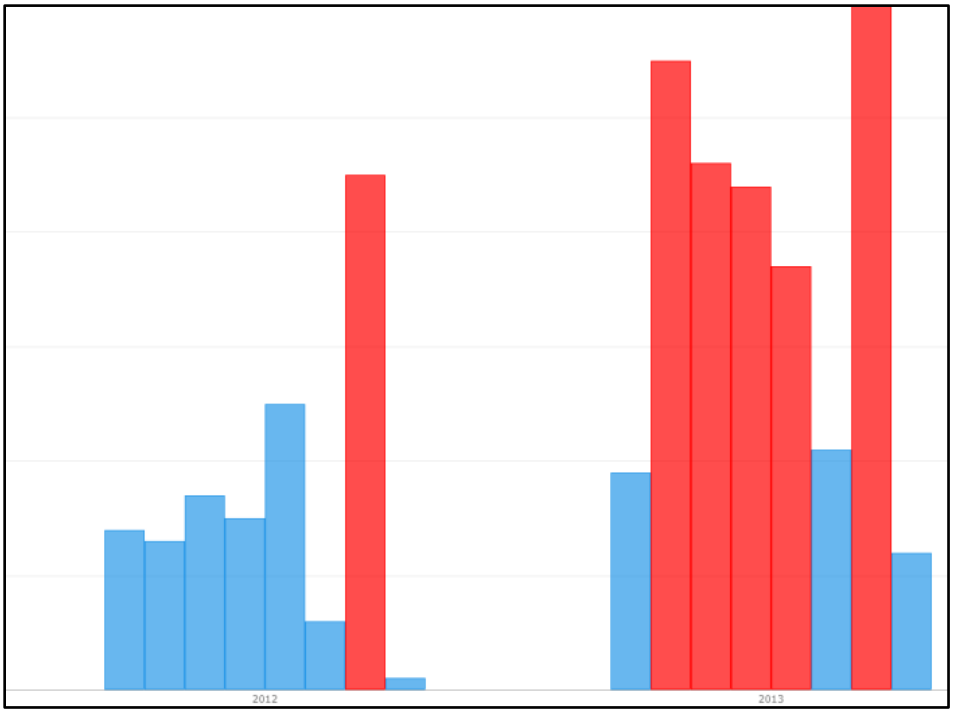
9. Next, we can select colors for each threshold range. The left threshold already has a blue color that we wanted. To change the second threshold to a red color, hover your mouse over it and click the **Edit Color** button:



10. From the color dialog, select a color, and click the **OK** button:



11. Your Color By settings will be applied to the graph:



Totals/Subtotals

If your report includes one or more metrics, you have the option to perform many different types of calculations on them. These include standard "aggregate" functions like counting, sums, and averages, or statistical functions such as standard deviation and variance.

This section will cover the application of these functions using two of the most common: grand totals and subtotals.

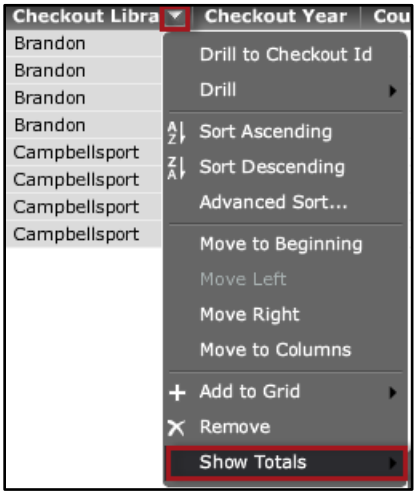
Grand Totals

A grand total can be placed in a visualization by invoking the totaling function on the left-most attribute. The example below will apply a grand total of the **Count (Checkout Id)** metric by applying a totaling function to the **Checkout Library** attribute. Our test visualization will consist of the data below:

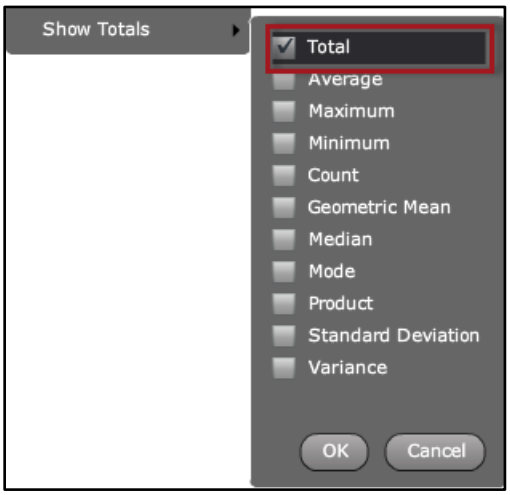
Checkout Library	Checkout Year	Count (Checkout Id)
Brandon	2011	7
Brandon	2012	14
Brandon	2013	19
Brandon	2014	670
Campbellsport	2011	5
Campbellsport	2012	13
Campbellsport	2013	55
Campbellsport	2014	2,399

To Add A Grand Total:

1. Access the drop-down arrow on the header of the left-most attribute, select **Show Totals** from the menu:



2. You should see a list of functions you can apply (you can select more than one, if needed). Check the box next to **Total** and click **OK**:



3. You should see results similar to the following:

Checkout Library	Checkout Year	Count (Checkout Id)
Brandon	2011	7
Brandon	2012	14
Brandon	2013	19
Brandon	2014	670
Campbellsport	2011	5
Campbellsport	2012	13
Campbellsport	2013	55
Campbellsport	2014	2,399
Total		3,182

Subtotals

Subtotals are totals broken out by a certain category. Using our simple visualization from a previous example, this shows subtotals by Checkout Library:

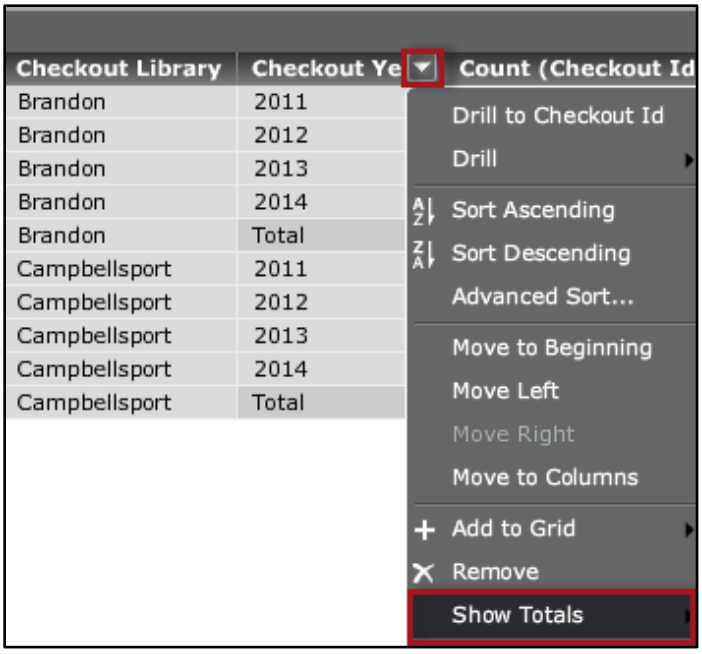
Checkout Library	Checkout Year	Count (Checkout Id)
Brandon	2011	7
Brandon	2012	14
Brandon	2013	19
Brandon	2014	670
Brandon	Total	710
Campbellsport	2011	5
Campbellsport	2012	13
Campbellsport	2013	55
Campbellsport	2014	2,399
Campbellsport	Total	2,472

Subtotals "by attribute" are generated by invoking the totaling function on the attribute *to the right*. In other words the subtotals "by library" in the above grid were created by invoking the totaling function on the **Checkout Year**, which happened to be the next attribute.

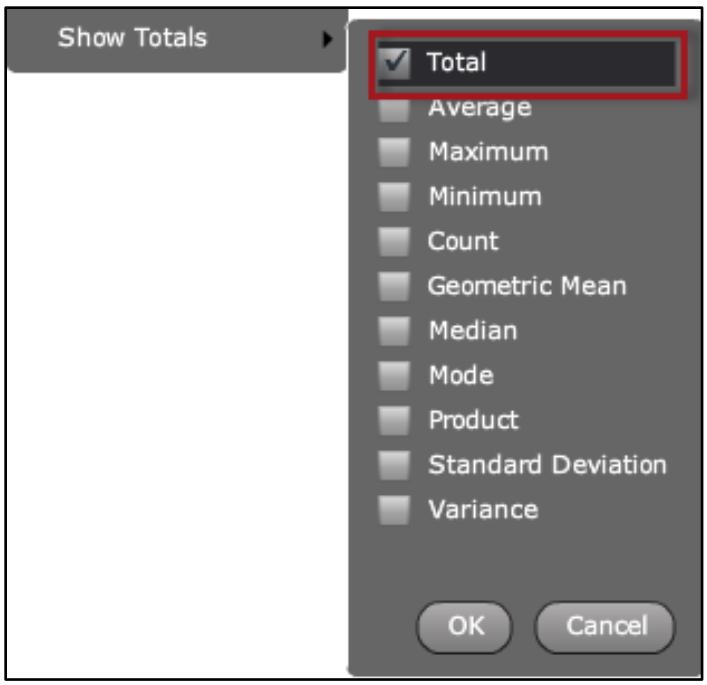
The steps below illustrate this in detail.

To Add a Subtotal:

1. On the attribute to right of the category you'd like a subtotal breakdown, click on the drop-down arrow for the header of the attribute and select **Show Totals**. Since we want subtotals by Checkout Library, we'll perform this act on the next attribute, which is **Checkout Year**:



2. You should see a list of functions you can apply (you can select more than one, if needed). Check the box next to **Total** and click **OK**:



You should have results like the following:

Checkout Library	Checkout Year	Count (Checkout Id)
Brandon	2011	7
Brandon	2012	14
Brandon	2013	19
Brandon	2014	670
Brandon	Total	710
Campbellsport	2011	5
Campbellsport	2012	13
Campbellsport	2013	55
Campbellsport	2014	2,399
Campbellsport	Total	2,472

Reports as Dashboard Datasets

While it may feel somewhat limiting to have attributes that are only available in Standard Reporting, you can create a report but then use that report as a *dataset* in a Dashboard for further analysis. The search feature, flexible filters, groups and metrics within Reports can make it easier to create the data you wish to view in a dashboard.

After you build a report and save it, use the Create Dashboard option found in the *Tools* toolbar, to bring the elements of your report into a dashboard. No visualizations will be created, but attributes not normally available in dashboards, if included in your report are now available. Keep in mind when doing this that ONLY the objects you add to your report will be available in the dashboard. If you make modifications to the source report, like adding additional metrics, the dashboard will be updated to reflect those additions automatically. This feature allows users further analyze their data with the dynamic visualizations available within Dashboards.

Search Tips

Boolean Searching

The Quick Search box, available from the Home menu and within any folder, allows you to use Boolean operators--AND or OR and NOT--to search your instance of BLUEcloud Analytics for the folders and objects you create. An example is shown in the image below.

You can also place double quotes around terms to search them as a phrase such as "Northside Academic".

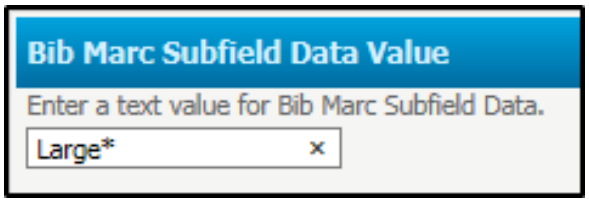
The plus (+) and minus (-) signs can be used to include or exclude specific words from a search. If you need to search for a special character, such as a plus or minus sign, type a backslash (\) before the character. This indicates that the character is part of the search term and is not to be used as an operator.

NOTE: When using the Quick Search box if search suggestions are not displayed as you type, "Quick Search" is not enabled and Boolean operators cannot be used. Enable Quick Search in Preferences > Project Defaults.

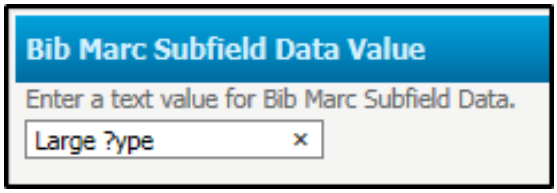
Wildcard Searching

Wildcard searching can be used within Reports. Wildcard characters are especially useful when using view filters and prompts.

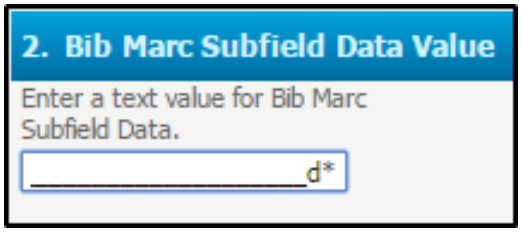
- Use the asterisk (*) to substitute for one or more characters or if you are unsure of a particular phrase.



- Use the question mark (?) to replace one character. This can be helpful when you are unsure of case as searching in BLUEcloud Analytics is case sensitive.

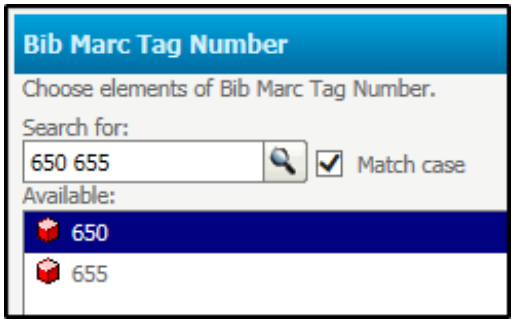


  - Use the underscore (_) for positional matching. This is especially useful when searching, for example, fixed field data in a 008 tag. In the example below, 23 underscores were entered before the letter "d" in order to search the 23rd position. After the letter d, an asterisk was entered because there are additional positions after the 23rd.



    NOTE: In order for the above to be successful, this would need to be combined with a filter on the Bib MARC Tag Number *limited to just the 008 field.*

  - Any text that is included inside double quotes is treated as a phrase.
  - Enter a blank space, a comma or the word OR to indicate a logical OR between two search terms.



  - Enter an ampersand symbol (&) or the word AND to indicate a logical AND between two search terms.
  - The use of a minus symbol (-) placed at the beginning of a search term or the word NOT indicates a logical AND NOT between two conditions.

Administration

User Creation

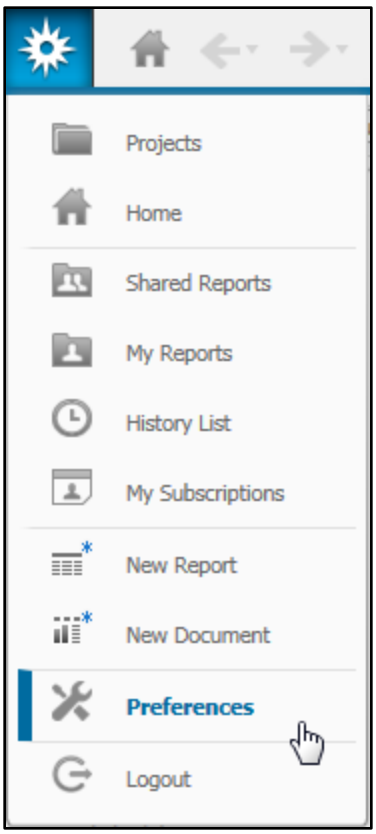
At this time, all user creation is handled by Customer Support. Users should submit a ticket via the Support Portal including a list of the users to be created and the passwords for each account.

User Preferences

Options for working with BLUEcloud Analytics objects can be customized for individual users. Once Client Care has created users for a particular instance, that user or an administrative user can log in and change their user preferences. Examples of what can be defaulted in the Preferences menu include language, default home page, print and export settings, and much more.

To set user preferences in BLUEcloud Analytics

1. **Log in** to BLUEcloud Analytics using the user name and password for the account that needs adjustment.
2. From the upper left of any page, click the **BCA Start** icon.



3. Select **Preferences**.

The General preferences page is displayed.

4. In the left navigation, select a **Preferences page** containing the options that are to be modified.

Importing Data Files

Data from an Excel spreadsheet (.xls or .xlsx) or a CSV file can be loaded into BLUEcloud Analytics with very few layout or design requirements. The data can be imported used in a report, dashboard or a document.

Only Admin and creator level users have the permissions to import data, however, once uploaded, Analyst users could use the data in a dashboard. View users could view the data in a dashboard.

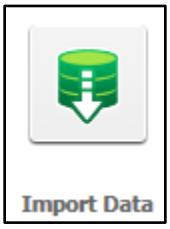
NOTE: Each Admin and Creator user can upload a total of 250MB of data. Check your usage of this space by clicking the Import Data icon from the Home Screen.

Once uploaded the data is saved as a cube. Depending on the structure of the data imported, the cube will contain various attributes and metrics. It important to keep in mind that these imported attributes and metrics can be added to reports and visualizations, but cannot be joined with other tables or cubes in BLUEcloud Analytics; meaning in one visualization or report you could not add imported and delivered attributes and metrics.

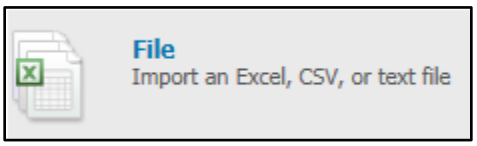
To import data from a file into BLUEcloud Analytics:

1. On the home page, **click** the **Import Data icon**.

   Or, from within a folder, click **Create** on the icon bar on the left. Then click **Import Data**.

2. From the **Select your Data Source** panel to the left, click the **File icon.**

3. Click **Browse**.

   The **Select a File to Upload** window displays.

4. Select a file to import, then click **Open.**

5. In the lower right corner of the screen, click **Continue**.

   A preview of the imported data is displayed on the Preview page.

6. If the file is an Excel workbook with more than one sheet of data, from the **Sheet Name** drop-down list, select the sheet from which data should be imported.

   By default, BLUEcloud Analytics assumes that data is stored in a simple tabular, layout. Users can also choose to import data stored in a cross-tabbed layout.

7. Select **Tabular** or **Cross-tabbed** and complete the following steps as needed.

   If Cross-tabbed is selected, the legend in the top right shows how each type of data is displayed. As needed, complete the following steps for cross-tabbed formats.

   a. Highlight each cell containing metric data by clicking and dragging the edges of the *Metric data* area.

   b. Check the "No Metric Headers" check box if no metric headers are contained in the file.

   c. If metric headers are included in the file, uncheck the "No Metric Headers" check box.

   d. Click and drag the *Metric header block* area to highlight the cells containing header information.

   If Tabular is selected, adjustments cannot be made to the data areas as described above, however, a user can add or modify column headers if necessary as follows. These headers are used as the names of the attributes and metrics being defined, so it is important that they are accurate. Complete the following steps to create new headers when none are displayed:

   a. Check the "Insert new column headers" check box. A new column header is inserted for each column.

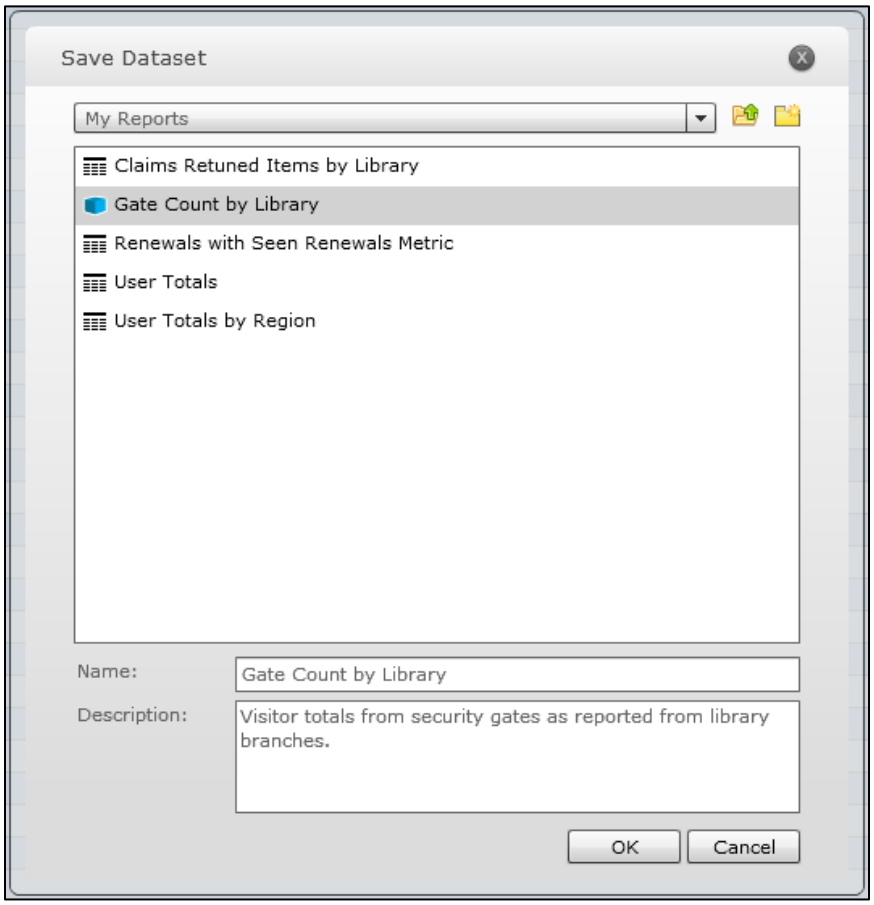
   b. Hover the cursor over a column header and click the arrow icon in the top right area of the cell.

   c. Select Rename. Enter a new name for the header.

   d. Press Enter on the keyboard.

8. Once all the necessary changes have been made, in the lower right corner of the screen, click **Continue**.

   The "Save Dataset" window is displayed. Depending on the permissions of the user creating this new dataset, they may have a choice in where to save the dataset.



9. In the drop-down menu, select the appropriate save location.

10. Enter a file **Name** and a **Description** if desired.

11. Click **OK.**

A confirmation screen displays. From this screen, users can select a type of object they wish to create with this data cube—report, document or dashboard—and begin analyzing the data immediately.

Sharing Objects

Users with "full control" of an object and those with administrative privileges can decide if other users or groups of users have access to that particular object. This is handled by editing an object's access control list in the "Share" submenu. As an example, permission might be set to allow a user to view and run a report while keeping the user from saving over or deleting a report. In addition to setting sharing permissions, users can also use the Share submenu to share a link to the object via email.

> *NOTE: When modifying the permissions for a folder, changes will be applied to the folder and all objects created in the folder in the future. If it is necessary to apply these permission to items already in the folder, select the "Overwrite all child object" permissions check box.*

The table below describes the permissions which can be assigned to a user or group of users. These permissions do not apply to cubes.

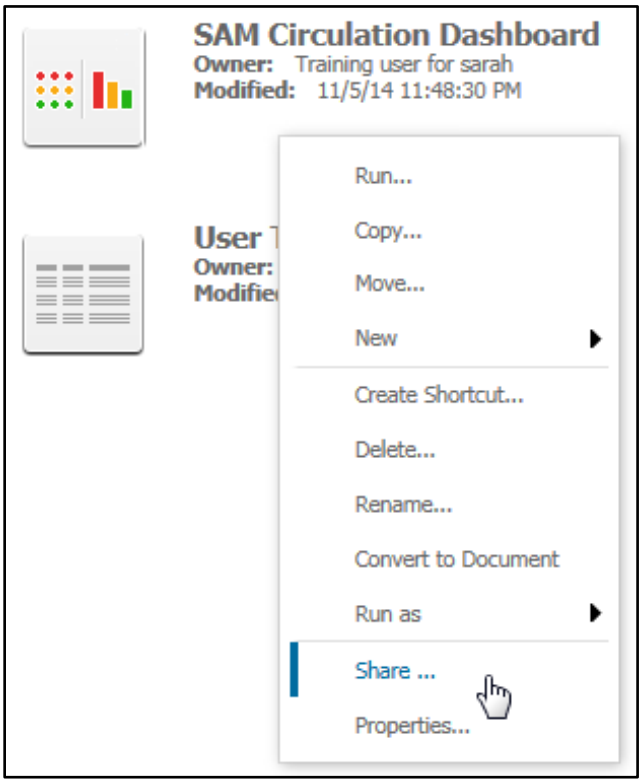
Permission Level	Description
View	A user may browse, read and execute the object.
Modify	A user may both view and modify the object including write and delete permissions.
Full Control	Grants all permissions for the object, including the ability to view, modify and delete the object. Users can also grant permissions for the object to other users.
Denied All	No permissions for the object are granted.
Custom	The user assigning permissions may create a custom combination of permissions. A pop-up menu displays after selecting *Custom* which allows a user to select the permissions.

The following table lists the permissions which can be assigned to cubes.

Permission Level	Description
Consume	A user may create or run reports with the cube.
Add	In addition to creating and running reports, a user can republish or refresh the cube.
Collaborate	User has all permissions and can also modify the cube.
Denied All	No permissions for the object are granted.
Custom	The user assigning permissions may create a custom combination of permissions. A pop-up menu displays after selecting *Custom* which allows a user to select the permissions.

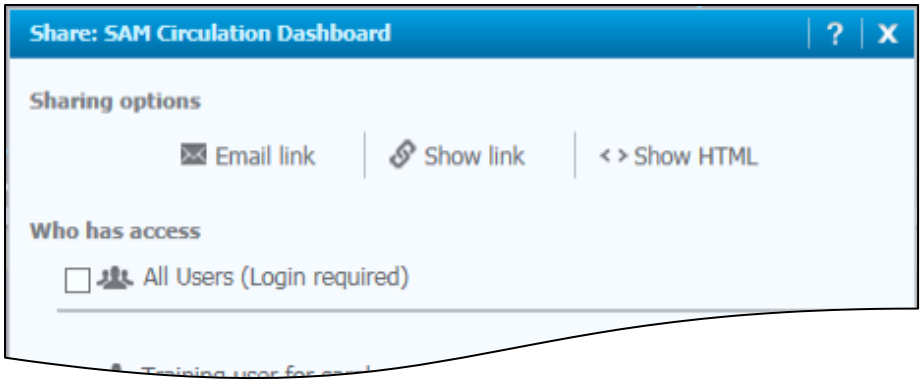
To assign object permissions to a user or user group

1. From within a folder, right-click on the object and select **Share**.



Or, from within an open report, document or dashboard click the **Share** icon on the Home toolbar.

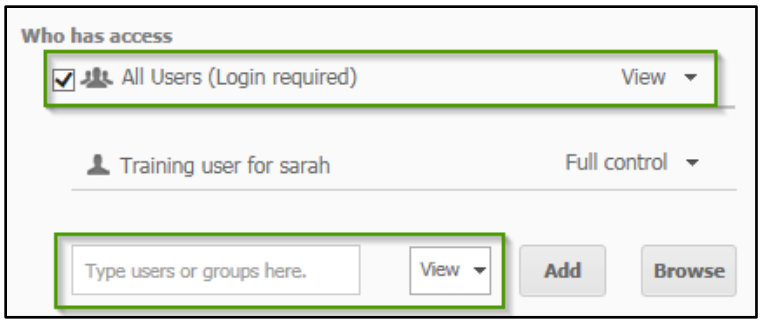
The "Share" dialog box is displayed.



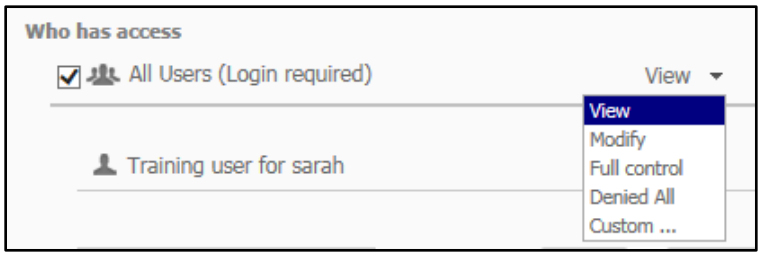
NOTE: You can save an object (a folder, dashboard, report etc.) to the Shared Reports *folder and then set access levels as discussed below. Only after you grant users access to the object they will see it in their* Shared Reports *folder.*

You can also save the object in your My Reports *folder and set permission levels but you must provide a link to users in order for them to be able to access the object. Links are provided in the* Sharing Options *section of the* Share *window.*

2. The "Who has access" section lists the users and groups who have or can have access to this object. To grant all users access to the object, select the **All Users check box.** Or, use the **Type users or groups here** textbox to enter the name of each user or user group the object should be shared to.

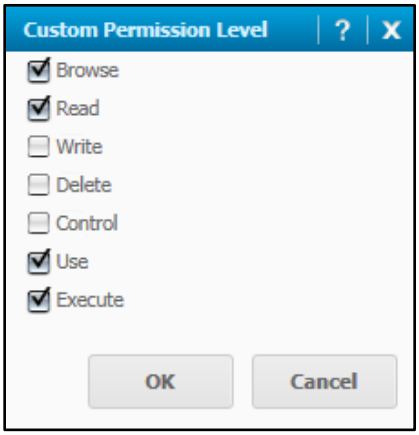


3. With either option, a drop-down menu is displayed. The user or user group is assigned View permissions by default. Use the **View** drop-down menu to change permissions**.**



Users can choose from the delivered permissions levels (described in detail in the above tables) or choose their own combination of permission to assign.

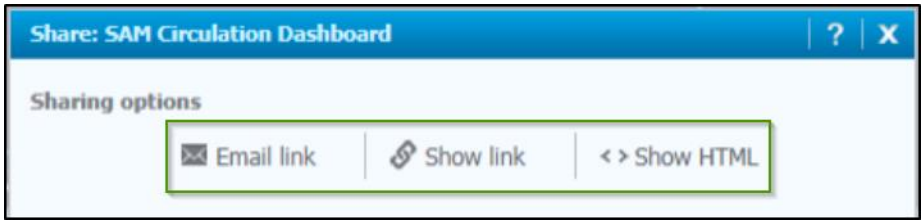
4. To assign custom permission, select **Custom.**



5. In the **Custom Permissions Level** window, select permissions to assign to this object.

6. Click **OK.**

7. If needed, provide to users a link to this object from the *Sharing Options* section of the *Share* window.

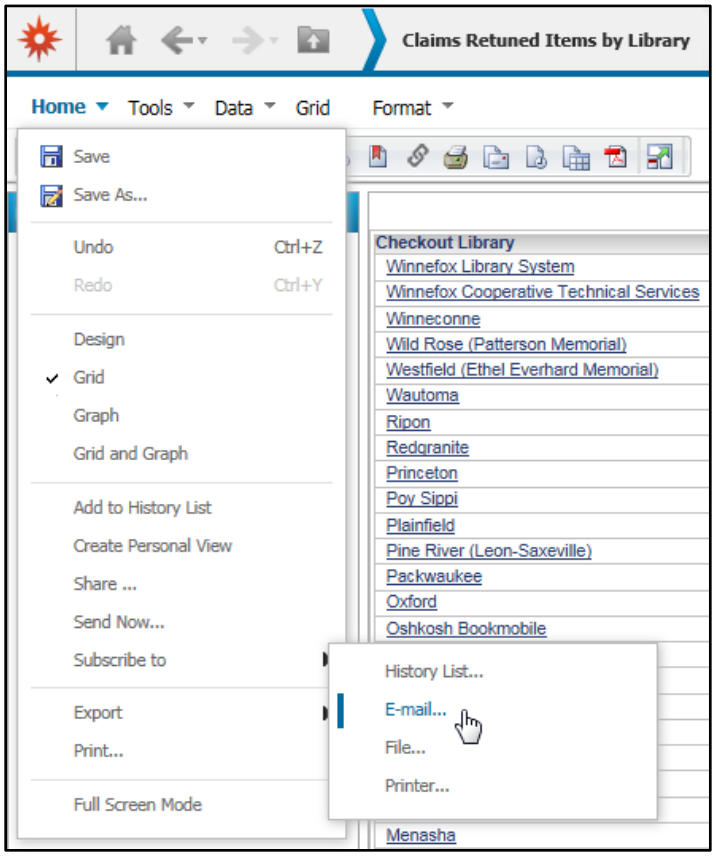


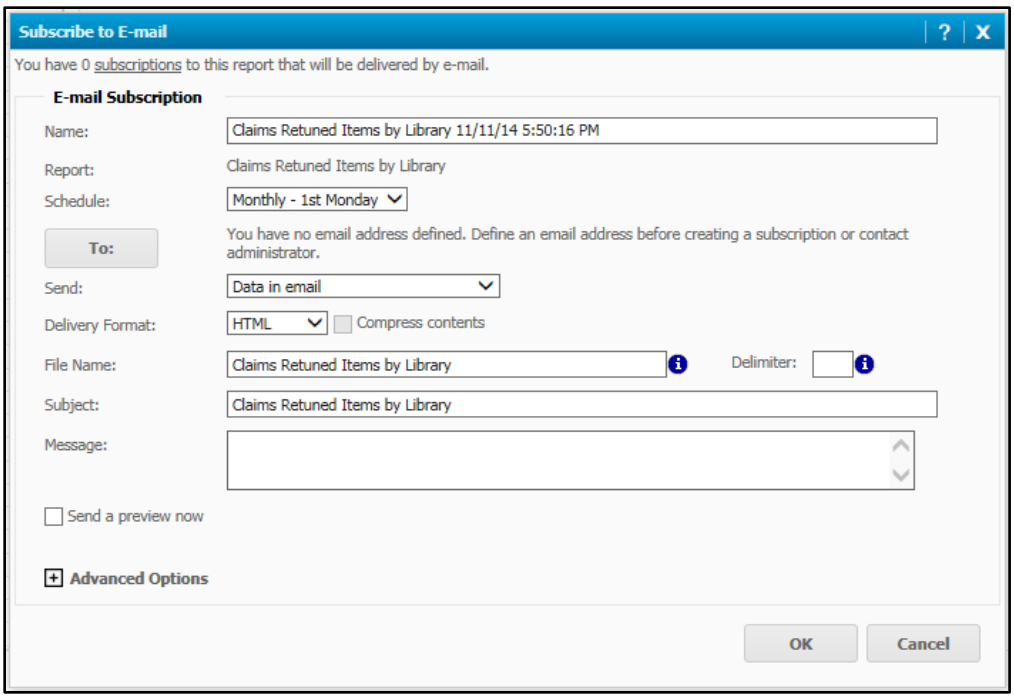
Subscribing to Objects

BLUEcloud Analytics administrators and users can create email, file and print subscriptions in a variety of ways. These subscriptions can be set up for reports, documents and, when using email subscriptions, for dashboards as well.

To create and email subscription in an open report or document:

1. From the **Home** menu, point to **Subscribe to** and select **E-mail**





2. In the Subscribe to Email Window, enter a **Name** for this email.

3. Select a **Schedule** for sending this email.

NOTE: BLUEcloud Analytics is delivered with schedules, if additional schedules with different frequencies are required, please contact Client Care.

4. Select an appropriate email address or use the ***To*** drop-down menu to do the same.

NOTE: If this is the first subscription being created, or if there are no addresses in a user's preferences, the To: *drop-down menu will not be displayed. Use the* To: *button to add recipients.*

5. In the **Send** drop-down list, choose how to include the report in the email. Options include:

   a. *Data in email* - Delivers data in an email message

   b. *Data in email and to history list* - Delivers data in an email message and also creates a message in the History List

   c. *Data and link to history list in email* - Delivers both data and a link to the History List in an email message, and creates a message in the History List

   d. *Link to history list in email* - Creates a message in the History List and delivers a link to History List in an email message

6. Enter a **Subject**.
7. If it is necessary to preview the report or document, select the **Send a preview now** check box.
8. If desired, expand the **Advanced Options** section. With the correct permissions a user can:
    a. Select the Password protect zip file check box
    b. Enter a name for the zip file
    c. Select an expiration date for the subscription.
9. Click **OK.**

A message displays confirming the subscription was created successfully.

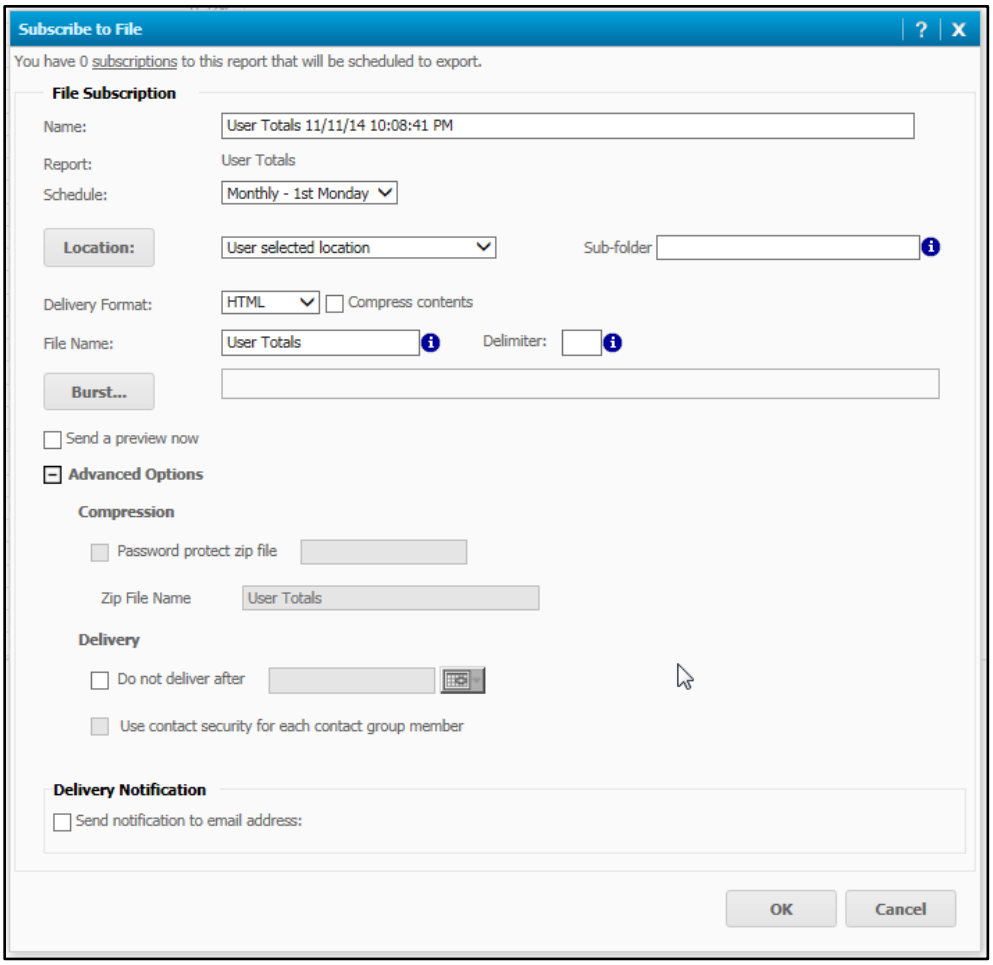
File Subscriptions

Creating a subscription to a file is similar to creating a subscription to email. When creating a subscription to file, however, users will specify to which folder the object will be saved. This will typically be a shared folder within BLUEcloud Analytics.

> *NOTE: With the appropriate privileges, users can create his or her own file location. File locations must be accessible by the BLUEcloud Analytics server for the subscription to execute successfully. Permission to save to the Shared Folder is set in the user login. If a user needs access to save to the Shared Folder, this can be set up by contacting Client Care.*

With the proper permissions, users can compress a saved and password protect it. All users can set an end delivery date using the *Do not deliver after* option.

The following image shows a sample file subscription defined in the Subscribe to File window.

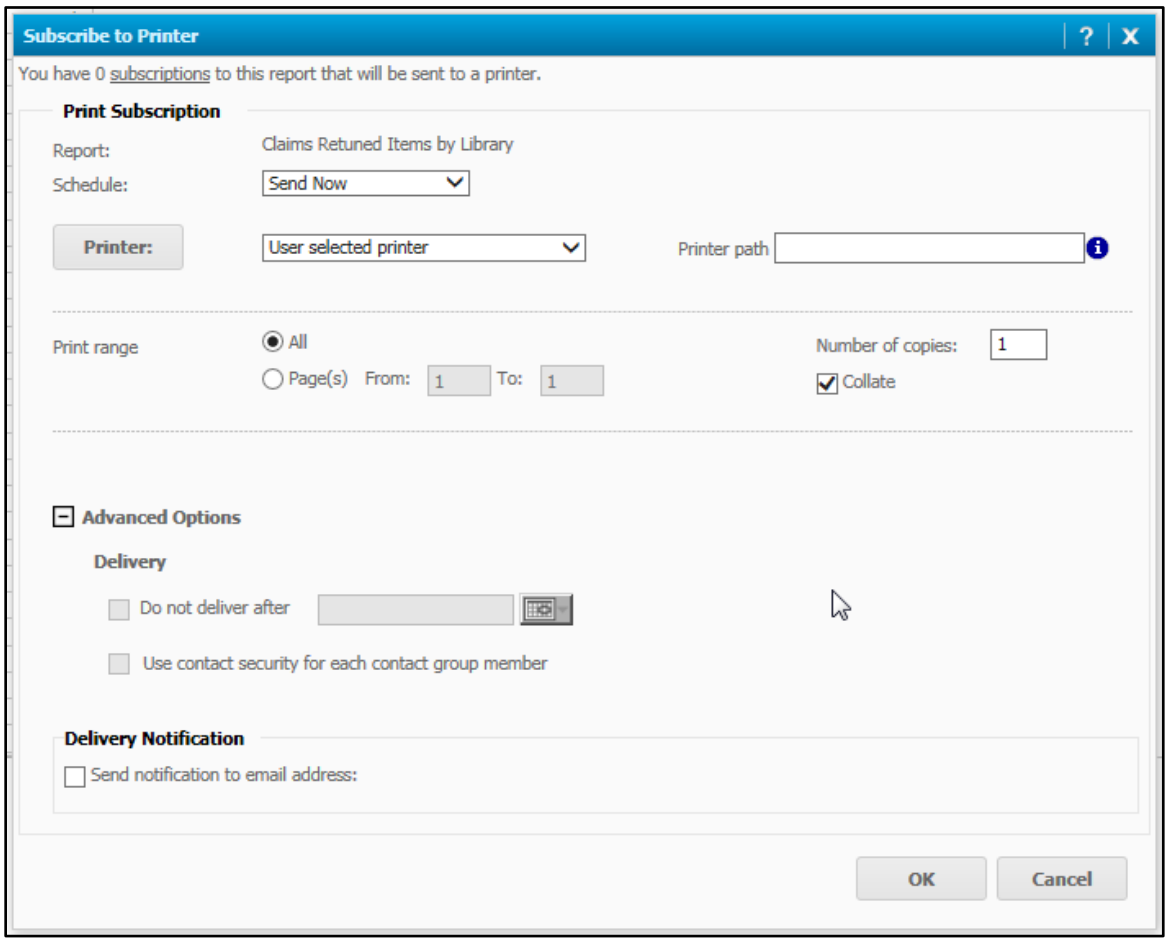


Print Subscriptions

When creating a print subscription, scheduling options include subscription name, schedule, expiration date, and instant preview. Users can also define a printer location, range of pages to be printed, number of copies and whether to collate to printed document.

NOTE: If users with the appropriate privileges, users can create his or her own print location. If a user needs to set up a print location please contact Client Care for assistance.

The following image shows the "Subscribe to Printer" window.



Appendix A: Horizon Statistical Categories

Stat Categories

All Horizon statistics are kept by category. Each category keeps different statistical information. This table lists all the statistical categories with their codes and descriptions.

Category	*Description*
acqacup	Acquisitions Actual Cost to Unit Price Ratio
acqaft	Acquisitions Average Fill Time
acqapf	Acquisitions Average Percentage Fill
acqclam	Acquisitions # of Claims
acqeav	Acquisitions Extended Amounts Vouched
acqecfd	Acquisitions Extra Charges to Dollar Product Ratio
acqecv	Acquisitions Extra Charges Vouched
acqio	Acquisitions Items Ordered
acqir	Acquisitions Items Received by Vendor
acqirb	Acquisitions Items Received by Budget
acqlo	Acquisitions Lines Ordered
acqlr	Acquisitions Lines Received
acqpols	PO-Line Stat
authdel	Auth Adds/Deletes
bibdel	Bib Adds/Deletes
bordel	Borrower Adds/Deletes
cki	Check In Transaction Totals
cko	Check Out Transaction Totals
ckostk	Check Out Stock Rotation Transaction Totals
crcbs	Circulation--BStat
crcbt	Circulation--BType
crcgp	Circulation--Stock Rotation Group
crcisca	Circulation--IStat by Call#
crcisco	Circulation--IStat by Collection
crcit	Circulation--IType
crcrt	Circulation--Stock Rotation Route
credit	Moneys Credited
fee	Moneys Levied
feewave	Moneys Waived
hlp	Holds Placed

hlr	Holds Resolved
ihu	In-house Usage
ihuisca	In-house Usage--IStat by Call#
ihuisco	In-house Usage--IStat by Collection
ihuit	In-house Usage--IType
itdel	Item Adds/Deletes
moncol	Moneys Collected
monlev	Moneys Levied
monwav	Moneys Waived
nbbs	# of Borrowers--BStat
nbbt	# of Borrowers--BType
nigp	# of Items-- Stock Rotation Group
niisca	# of Items--IStat by Call#
niisco	# of Items--IStat by Collection
niit	# of Items--IType
nirt	# of Items-- Stock Rotation Route
od	Overdue Notices
payment	Moneys Collected
refund	Moneys Refunded
rqp	Requests Placed
rqr	Requests Resolved

Stat Sub-Categories

Some Stat Categories are further broken down in Horizon into Sub-Categories. The table below lists each the sub-categories that correspond to a category. Descriptions of each are provided.

Category	*Description*	*Sub Category*	*Description*
acqeav	Acquisitions Extended Amounts Vouched	0	Extended Amounts
authdel	Auth Adds/Deletes	1	New (Manual)
		2	Deleted (Manual)
		3	New (Batch)
		4	Deleted (Batch)
		5	New (Acq)
bibdel	Bib Adds/Deletes	1	New (Manual)
		2	Deleted (Manual)
		3	New (Batch)
		4	Deleted (Batch)
		5	New (Acq)
bordel	Bib Adds/Deletes	1	New (Manual)
		2	Deleted (Manual)

		3	New (Batch)
		4	Deleted (Batch)
cki	Check In Transaction Totals	1	Normal
		2	Late
		3	Offline Normal
		4	Offline Late
cko	Check Out Transaction Totals	1	1st Time
		2	Phone Renewal
		3	Renewal
		4	Opac Renewal
		5	Offline 1st Time
		6	Offline Renewal
ckostk	Check Out Stock Rotation Transaction Totals	1	1st Time
		2	Phone Renewal
		3	Renewal
		4	Opac Renewal
		5	Offline 1st Time
		6	Offline Renewal
hlr	Holds Resolved	1	Picked Up
		2	Cancelled
		3	Expired
ihu	In-house Usage	0	In House Use
itdel	Item Adds/Deletes	1	New (Manual)
		2	Deleted (Manual)
		3	New (Batch)
		4	Deleted (Batch)
		5	New (Acq)
moncol	Moneys Collected	1	Fines
		2	Lost Book
		3	Damaged
		4	Fees
monlev	Moneys Levied	1	Fines
		2	Lost Book
		3	Damaged
		4	Fees
monwav	Moneys Waived	1	Fines
		2	Lost Book
		3	Damaged
		4	Fees
od	Overdue Notices	1	1st Notice

		2	2nd Notice
		3	3rd Notice
		4	4th Notice
		5	5th Notice
		6	Final Notice
rqp	Requests Placed	0	Placed
rqr	Requests Resolved	1	Cancelled
		2	Filled
		3	Expired

Stat Categories and Stat Codes

Some Stat Categories are further broken down in Horizon into Stat Codes. The table below lists each stat code that corresponds to a category. Descriptions of each are provided. Note that the codes themselves are locally defined. A stat code of BTYPE, for example, would have values that differ from organization to organization. All Stat Categories include Stat Location information—allowing you to report on the location or Library of, for example, the checkout. Some stat categories and corresponding stat codes include borrower location as well as item location information. Stat codes which allow this are indicated below.

Category	***Description***	***Stat Code***	***Stat Borrower Location***	***Stat Item Location***
crcbs	*Circulation--BStat*	BSTAT	Yes	Yes
crcbt	*Circulation--BType*	BTYPE	Yes	Yes
crcgp	*Circulation--Stock Rotation Group*	STOCK	Yes	Yes
crcisca	*Circulation--IStat by Call#*	ISTAT	Yes	Yes
crcisco	*Circulation--IStat by Collection*	ISTAT	Yes	Yes
crcit	*Circulation--IType*	ITYPE	Yes	Yes
crcrt	*Circulation--Stock Rotation Route*	ROUTE	Yes	Yes
ihuisca	*In-house Usage--IStat by Call#*	ISTAT	No	Yes
ihuisco	*In-house Usage--IStat by Collection*	ISTAT	No	Yes
ihuit	*In-house Usage--IType*	ITYPE	No	Yes
nbbs	*# of Borrowers--BStat*	BSTAT	No	No
nbbt	*# of Borrowers--BType*	BSTAT	No	No
nigp	*# of Items-- Stock Rotation Group*	GROUP	No	No
niisca	*# of Items--IStat by Call#*	ISTAT	No	No
niisco	*# of Items--IStat by Collection*	ISTAT	No	No
niit	*# of Items--IType*	ITYPE	No	No
nirt	*# of Items-- Stock Rotation Route*	ROUTE	No	No

Appendix B: BLUEcloud Analytics Exercises

List Reports

Exercise 1: Create a User List Report

Objective

Create a list of users that have been expired for over a year.

NOTE: Some of the attributes within the User Cube are considered "Personally Identifiable Information" (PII). If you have not enabled PII on your system you may not have access to the User Last Name *attribute used in this exercise.*

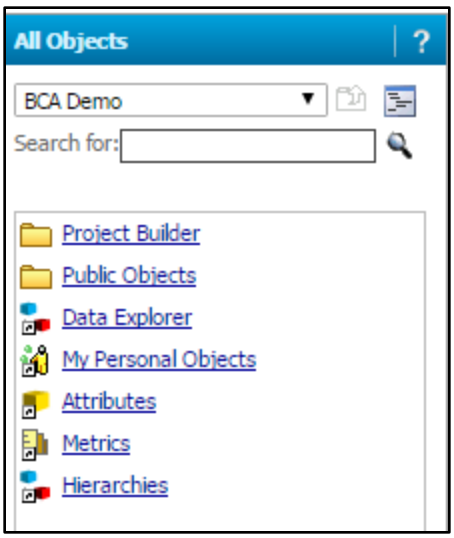
User Barcode	User Expiration Date	User Last Name	User Library
00000	2010-02-02	MATA	Menasha
0000000000000	2012-12-02	GIESEN	Neenah
0030301	2013-07-06	MATTICS	Menasha
0030302046245	1900-01-01	SCHERZ	Oshkosh
0030302610453	2010-08-10	SAVAGIAN	Menasha
0030302668295	1900-01-01	RIEHL	Menasha
0030302713083	1900-01-01	SECARD	Menasha
0030303350307	1900-01-01	BREUNIG	Menasha
003301709652	2010-02-28	HOLT	Menasha
0060602511630	2012-02-08	STEVENS	Redgranite
0060602511648	2012-02-08	GUNCKEL	Redgranite
0060602511655	2012-02-08	VERA PEREZ	Redgranite
0060602511663	2012-02-08	HINES	Redgranite
0060602511689	2012-02-08	NOFFKE	Redgranite
0060602511713	2012-02-08	GUTIERREZ	Redgranite
0060602511721	2012-02-08	VANDYKE	Redgranite

Create the Blank Report

1. From the home screen, click on the *New Report* icon.
2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane search for the attributes by name.



Or open the *Attributes* folder then the *User* folder to select the necessary attributes.

4. Add the following attributes to add them to the report template:
    - *User Barcode*
    - *User Expiration Date*
    - *User Last Name*
    - *User Library*

Add a Filter

5. Add a filter that will isolate only those patrons that have been expired for over a year.
    - Right-click on the *User Expiration Date* attribute and select *Add to Filter* in the right-click menu.
    - In the filters pane, with the *Qualify* radio button selected, change the qualification drop-down menu from "Equals" to "Less than or equal to".
    - In the search box enter a date that is one year from today.
    - Click the *Apply* button.

Run the Report

6. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

7. Review the report results.

Save the Report

8. From the *Home* toolbar, click the *Save* icon.
9. Select a save location.
10. Enter a name for this report.
11. Click *OK.*
12. Select the *"Run newly saved report"* button.

Export the Report to Excel

13. From the *Home* toolbar select the *Export* icon. This is the third icon from the right.
14. In the Export page that displays, review the export settings, making adjustments as needed.
15. Click the *Export* button.
16. Save the Excel document if needed.

Exercise 2: Create a Title List Report

Objective

Create a list of titles that, in the bibliographic data, contain a particular MARC field/tag. For this exercise, you will be focusing on the 526 note field. We're not looking for any particular data within that field, just for records where that field exists.

1 2 3 4 5 of 57 pages

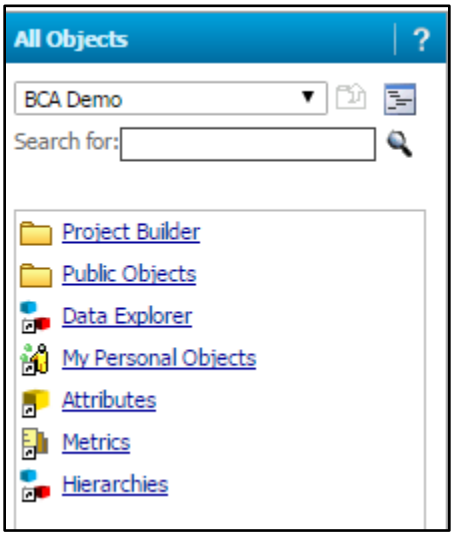
Item Barcode	Item Call Number	Catalog Author	Catalog Title	Bib Marc Tag Number	Bib Marc Subfield Name	Bib Marc Subfield Data
0020207101369	Wickstrom, Sylvie	Wickstrom, Sylvie.	I love you, Mister Bear /	526	a	Accelerated Reader/Renaissance Learning
					b	LG
					c	1.4
					d	0.5
0020207109644	Marsden, Carolyn	Marsden, Carolyn.	Silk umbrellas /	526	a	Accelerated Reader/Renaissance Learning
					b	MG
					c	5.4
					d	2.0.
0020207134709	Hoobler, Dorothy	Hoobler, Dorothy.	In darkness, death /	526	a	Accelerated Reader/Renaissance Learning
					b	MG
					c	5.2
					d	6.
0020207236777	Johnson, Angela	Johnson, Angela.	Bird /	526	a	Accelerated Reader/Renaissance Learning
					b	MG
					c	4.2
					d	3

Create the Blank Report

1. From the home screen, click on the *New Report* icon.
2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane search for the attributes by name.



Or open the *Attributes* folder then the *appropriate* folder(s) to select the necessary attributes.

4. Select the following attributes to add them to the report template

    - From the *Item* folder
        - *Item Barcode*
        - *Item Call Number*
    - From the *Catalog* folder
        - *Catalog Author*
        - *Catalog Title*

    NOTE: If you are viewing the All Objects *pane in the* List *hierarchy. Remember that you need to switch to the Catalog folder in the drop down menu at the top of the* All Objects *column. To switch from* List *to the more easy-to-browse* Tree *view, click the*  *icon.*

    - From the *MARC* folder
        - *Bib MARC Tag Number*
        - *Bib MARC Subfield Name*
        - *Bib MARC Subfield Data*

Add a Filter

5. Add a filter that will isolate only the 526 note with the MARC record.

    - Right-click on the *Bib MARC Tag Number* attribute and select *Add to Filter* in the right-click menu.
    - In the *filters* pane, click the *Select* radio button.
    - Use the search box to search for the 526 tag/field.
    - Once located, use the arrows to move the field to the *Selected* column or double-click the field.
    - Click the *Apply* button.

Run the Report

6. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

7. Review the report results.

Save the Report

8. From the *Home* toolbar, click the *Save* icon.

9. Select a save location.

10. Enter a name for this report.

11. Click *OK.*

12. Select the *"Run newly saved report"* button.

Export the Report as a PDF

13. From the *Home* toolbar select the *PDF* icon. This is the second icon from the right.

14. In the Export page that displays, review the export settings. The ideal export settings for this report are as follows.

    - Scaling:

        - Select the *Fit to:* radio button.

        - The default value in this field is "1 page wide by 1 page tall." For best results with this report, delete the value of 1 from the second field (tall), leaving it blank

    - Orientation - Landscape

15. Click the *Export* button.

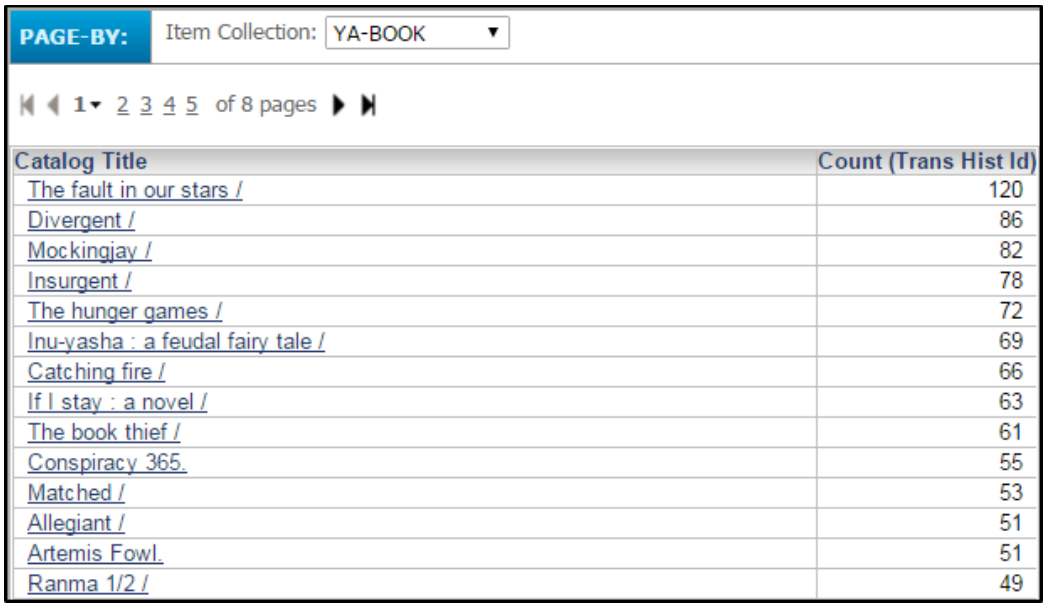
16. Save or print the PDF as needed.

Exercise 3: Create a "Most Popular Titles" Title List Report

NOTE: This exercise is intended to be completed by Symphony customers.

Objective

For each Collection/Home Location within the library, create a list of the most popular titles. The time period for this list could span years, months, weeks, even days. For this exercise we will limit the results to current calendar year.



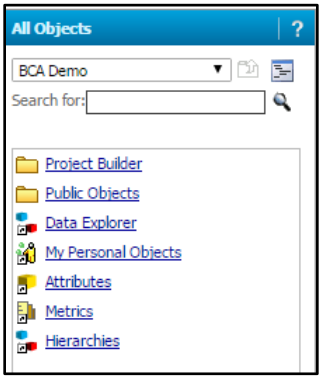
Catalog Title	Count (Trans Hist Id)
The fault in our stars /	120
Divergent /	86
Mockingjay /	82
Insurgent /	78
The hunger games /	72
Inu-yasha : a feudal fairy tale /	69
Catching fire /	66
If I stay : a novel /	63
The book thief /	61
Conspiracy 365.	55
Matched /	53
Allegiant /	51
Artemis Fowl.	51
Ranma 1/2 /	49

Create the Blank Report

1. From the home screen, click on the *New Report* icon.
2. Select *Blank Report*.

Add Attributes

17. From the *All Objects* pane search for the following attributes by name. Or open the *Attributes* folder then the *appropriate* folder(s) to select the necessary attributes as follows.



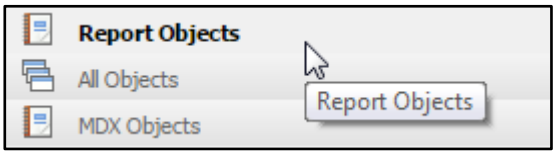
a. Add the *Catalog Title* attribute to the report template.

b. Add the *Item Barcode* attribute to the report template.

c. Add the *Trans Hist ID* attribute to the report template.

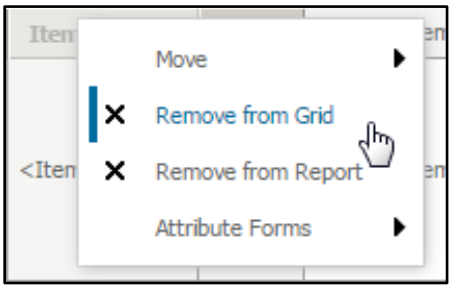
Derive a Metric

3. Within the All Objects pane, Select *Report Objects*.



4. Right-click on the *Trans Hist ID* attribute and select *Insert Metric* > *Count*. A *Count (Trans Hist ID)* attribute is created and is added to the report template.

5. Within the report template



   a. Right-click on the Item Barcode column header and select *Remove from Grid.*

   b. Do the same for the *Trans Hist ID* attribute.

NOTE: This step is important. We do not want a list of all of the item barcodes displaying in the Grid, but we do need access to the Item Barcode *attribute in the report in order to join the item, catalog and hist tables.*

Add a Filter

6. Add a filter that will isolate only checkout transactions.

   a. From the *All Objects* pane, open the *Attributes* folder. Or, search by the attribute name "*Trans Hist Command Desc" and skip to step c.*

   b. Open the *Trans* folder, then open the *Hist* folder.

   c. Click and drag the *Trans Hist Command Desc* attribute into the report filter or right click on the attribute and select Add to Filter.

   d. In the filters pane, click the Select radio button.

   e. Locate the *Charge Item Part B* command and move it into the *Selected* column.

NOTE: There are multiple "pages" of commands. User the Search for: box to easily locate the desired commands.

a. Click the *Apply* button.

7. Add a filter that will isolate the current calendar year.

NOTE: Consult the section regarding Custom Group for information on Fiscal Year reporting.

a. From the *All Objects* pane open the *Attributes* folder, then the *Trans* folder, then the *Hist* folder. Right-click on the *Trans Hist Year* and select *Add to Filter* in the right-click menu.

b. In the filters pane, click the *Select* radio button.

c. Select the current year and move it into the *Selected* column by double-clicking or using the arrows.

d. Click the *Apply* button.

8. Add a page-by filter that will filter the report by collection and allow selection of a collection from the page-by drop-down menu.

- From the *All Objects* pane open the *Attributes* folder then the *Item* folder.
- Click and drag the *Item Collection* attribute into the *Page-by* pane.

Run the Report

9. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

10. Right-click on the *Count (Trans Hist ID)* column and select *Sort* > *Descending* to see the most popular titles at the top.

11. Review the report results, selecting a collection from the Page-by drop-down menu to page through different collections.

Save the Report

12. From the *Home* toolbar, click the *Save* icon.

13. Select a save location.

14. Enter a name for this report.

15. Click *OK*

16. Select the *"Run newly saved report"* button.

Count Reports

Exercise 1: Create a Report of Collection Totals

Objective

Create a report detailing the number of items and the value of each library collection.

Item Collection	Item Price	Number of Items
AUDIOBOOK	$208,661	2,972
BASEMT-REF	$1,492	1,614
BASEMT-WIS	$285	3,808
BIOGRAPHY	$59,852	6,078
BOOKCLUB	$19,759	1,034
CASS-BKNF	$228	15
CASS-BOOK	$8,145	527
CASSETTE	$4,838	264
CATALOGING	$0	71
CD	$316,654	45,737
CD-BOOK	$21,069,672	17,097
CD-BOOKFIC	$249,149	3,701
CD-BOOKMYS	$1,453,522	2,762
CD-BOOKNF	$102,976	2,377
CD-BOOKSF	$3,532,873	454
CD-BOOKWST	$9,491	218
CD-CLASS	$14,344	720
CD-JAZZ	$6,533	550
CD-MUSICAL	$3,932	900

Create the Blank Report

17. From the home screen, click on the *New Report* icon.

18. Select *Blank Report*.

Add Attributes

19. From the *All Objects* pane, open the *Attributes* folder.

20. Open the *Item* folder and double-click the *Item Collection* attribute to add it to the report template.

Add Metrics

21. From the *All Objects* pane, open the *Metrics* folder.

22. Open the *Item* folder and double-click the following metrics to add them to the report template

- Item Price
- Number of Items

Run the Report

23. From the toolbar, click the *Run Report* icon. This is the first icon from the left.
24. Review the report results.

Format the Item Price Column

25. In the report results, right-click on the Item Price column header.
26. In the right-click menu, select *Advanced formatting…*
27. Click on the *Number* tab.
28. Select the *Currency* radio button.
29. Click *OK*.

Save the Report

30. From the *Home* toolbar, click the *Save* icon.
31. Select a save location.
32. Enter a name for this report.
33. Click OK
34. Select the *"Run newly saved report"* button.

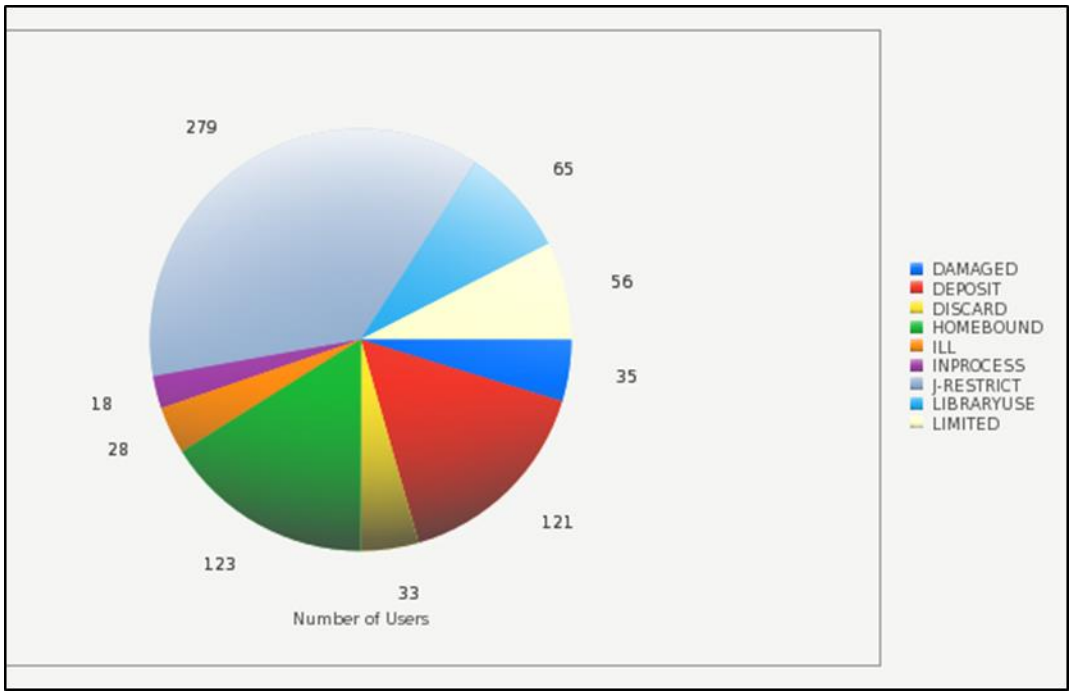
Export the Report as a PDF

35. From the *Home* toolbar select the *PDF* icon. This is the second icon from the right.
17. In the Export page that displays, review the export settings, making adjustments as needed.
36. Click the *Export* button.
37. Save or print the PDF as needed.

Exercise 2: Create a Report of Total Active Users

Objective

Create a report detailing the number of users, broken down by btype/profile that have been active in the last year.



Create the Blank Report

1. From the home screen, click on the *New Report* icon.
2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane, open the *Attributes* folder.
4. Open the *User* folder and double-click the *User Profile* attribute to add it to the report template.

Add Metrics

5. From the *All Objects* pane, open the *Metrics* folder.
6. Open the *User* folder and double-click the *Number of Users* metric to add it to the report template.

Add a Filter

7. Add a filter that will isolate only those patrons that have been active in the past 365 days.

    e. Right-click on the *User Last Activity Date* attribute *(return to Attributes folder > User folder)* and select *Add to Filter* in the right-click menu.

    f. In the filters pane, with the *Qualify* radio button selected, change the qualification drop-down menu from "Equals" to "Greater than or equal to".

    g. In the search box enter a date that is one year prior to today.

    h. Click the *Apply* button.

Run the Report

8. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

9. Review the report results.

Display the Report as a Pie Chart

10. From the *Home* toolbar, select the *Graph* or *Grid and Graph* icon.

11. From the *Graph* toolbar, select the *Graph Type* drop-down menu. This is the first drop-down menu displayed from the left.

12. Change the display style to *Pie.*

NOTE: If many pie charts are displayed instead of just one, from the Graph toolbar, select the Series by Row icon to change the display to one pie chart.

NOTE: If the pie chart is displaying across multiple pages, from the Graph toolbar, adjust the Series value as needed.

Save the Report

13. From the *Home* toolbar, click the *Save* icon.

14. Select a save location.

15. Enter a name for this report.

16. Click *OK.*

17. Select the *"Run newly saved report"* button.

Export the Report as a PDF

18. From the *Home* toolbar select the *PDF* icon. This is the second icon from the right.

19. In the Export page that displays, review the export settings, making adjustments as needed.

20. Click the *Export* button.

21. Save or print the PDF as needed.

Exercise 3: Create a Report of Total Items Checked Out

Objective

Create a report detailing the number of items actively checked out at each library.

Checkout Library	Number of Checkouts
Berlin	4,651
Brandon	710
Campbellsport	2,472
Coloma	932
Endeavor	439
BEING REMOVED--NOT HOLDABLE	4
Green Lake (Caestecker)	1,807
Hancock	649
Kingston (Mill Pond)	661
Markesan	1,193
Menasha	22,737
Montello	1,796
Neenah	42,722
Neshkoro	215
North Fond du Lac	2,487
Oakfield Public Library	995
Omro (Carter Memorial)	2,424

Create the Blank Report

1. From the home screen, click on the *New Report* icon.

2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane, open the *Attributes* folder.

4. Open the *Checkouts* folder and double-click the *Checkout Library* attribute to add it to the report template.

Add Metrics

5. From the *All Objects* pane, open the *Metrics* folder.

6. Open the *Checkouts* folder and double-click the *Number of Checkouts* metric to add it to the report template.

Run the Report

7. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

8. Review the report results.

Save the Report

9. From the *Home* toolbar, click the *Save* icon.

10. Select a save location.

11. Enter a name for this report.

12. Click OK

13. Select the *"Run newly saved report"* button.

Email the report

14. From the *Home* toolbar select the *Send Now* icon. This is the fifth icon from the right.

18. In the *Send Now* window that displays, use the *To:* button to enter an email address.

19. After entering and address (recipient) name and the Physical (email) address click *Add to Recipients.*

20. Click *OK.*

21. Back in the *Send Now* window, leave all other settings as they are delivered.

NOTE: Consult the help documentation for more information on the Send Now settings.

22. Click *OK.*

Exercise 4 (SYM): Create a Report of Annual Circulation by Library

NOTE: This exercise is intended to be completed by Symphony customers.

Objective

Create a report detailing the annual total circulation (checkouts and renewals) for each library. The report should include the last four years of circulation data.

Metrics	Number of Statistical Transactions			
Trans Stat Station Library	2012	2013	2014	2015
BERLIN	44,287	107,765	108,859	64,344
BRANDON	6,600	18,085	17,966	10,099
CAMPBLSPRT	19,824	54,890	54,208	31,034
COLOMA	9,953	27,290	26,685	15,864
ENDEAVOR	3,598	8,284	8,355	5,146
GREENLAKE	24,873	62,921	62,020	37,568
HANCOCK	6,249	16,633	16,701	9,555
KINGSTON	8,947	20,776	20,888	12,524
MARKESAN	12,561	30,424	29,967	18,000
MENASHA	172,583	427,007	426,972	252,052
MONTELLO	17,492	42,651	42,321	24,964
NEENAH	362,707	882,599	884,343	526,187
NESHKORO	1,224	3,097	3,090	1,827
NFONDDULAC	19,981	47,802	47,546	28,640
OAKFIELD	9,251	23,497	23,535	13,810
OMRO	22,949	53,847	54,487	33,218

Create the Blank Report

1. From the home screen, click on the *New Report* icon.
2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane, open the *Attributes* folder.
4. Open the *Trans* folder then the *Stat* folder and double-click the *Trans Stat Station Library* attribute to add it to the report template.
5. From the same folder double-click the *Trans Stat Year* attribute to add it to the template.

Add Metrics

6. From the *All Objects* pane, open the *Metrics* folder.

7. Open the *Trans* folder then the *Stat* folder and double-click the *Number of Statistical Transactions* metric to add it to the report template.

Add a Filter

8. Add a filter that will isolate only checkout and renewal transactions.

    i. From the *All Objects* pane open the *Trans* folder then the *Stat* folder. Right-click on the *Trans Stat Command Desc* attribute and select *Add to Filter* in the right-click menu.

    j. In the filters pane, click the *Select* radio button.

    k. Locate the following commands and move them into the *Selected* column: Renew Item, Renew User Part B and Charge Item Part B.

    NOTE: There are multiple "pages" of commands. User the Search for: box to easily locate the desired commands.

    l. Click the *Apply* button.

9. Add a filter that will isolate the last four calendar years of data.

    NOTE: Consult the section regarding Custom Group for information on Fiscal Year reporting.

    m. From the *All Objects* pane open the *Trans* folder then the *Stat* folder. Right-click on the *Trans Stat Year* and select *Add to Filter* in the right-click menu.

    n. In the filters pane, click the *Select* radio button.

    o. Select the last four years and move them into the *Selected* column.

    NOTE: Hold down the Ctrl while clicking to select multiple years.

    p. Click the *Apply* button.

Run the Report

10. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

11. Review the report results.

Export the Report as a Spreadsheet

12. From the *Home* toolbar select the *Export* icon. This is the third icon from the right.

13. In the Export page that displays, review the export settings, making adjustments as needed.

14. Click the *Export* button. Save or print the spreadsheet as needed.

Exercise 5 (SYM): Create a Report of Items Added Monthly by Home Location

NOTE: This exercise is intended to be completed by Symphony customers.

Objective

Create a report detailing the total number of items added monthly to each Home Location. This report should include the current month of data, sorted in descending order.

Trans Stat Month	7
Trans Stat Home Location	Number of Statistical Transactions
MAGAZINE	2,988
ON-ORDER	1,274
NEW-FIC	762
FICTION-BK	212
DVD	202
JPICTURE	190
MAGAZINE-C	152
NONFICTION	150
STACKS	122
NEW-NONFIC	117
JNONFIC	103
NEW-PB	91
NEW-DVD	78
JDVD	76
JCARTOONS	63
JFICTION	63
JNEW-FIC	60
LGPRINT	60
JEASY-READ	59

Create the Blank Report

1. From the home screen, click on the *New Report* icon.

2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane, open the *Attributes* folder.

4. Open the *Trans* folder then the *Stat* folder and double-click the *Trans Stat Home Location* attribute to add it to the report template.

5. From the same folder double-click the *Trans Stat Month* attribute to add it to the template.

Add Metrics

6. From the *All Objects* pane, open the *Metrics* folder.

7. Open the *Trans* folder then the *Stat* folder and double-click the *Number of Statistical Transactions* metric to add it to the report template.

Add a Filter

8. Add a filter that will isolate only add item transactions.

    a. From the *All Objects* pane open the *Trans* folder then the *Stat* folder. Right-click on the *Trans Stat Command Desc* and select *Add to Filter* in the right-click menu.

    b. In the filters pane, click the *Select* radio button.

    c. Locate the *Add Item* command and move it into the *Selected* column

    NOTE: There are multiple "pages" of commands. User the Search for: box to easily locate the desired commands.

    d. Click the *Apply* button.

9. Add a filter that will isolate the current calendar year of data.

    e. From the *All Objects* pane open the *Trans* folder then the *Stat* folder. Right-click on the *Trans Stat Year* and select *Add to Filter* in the right-click menu.

    f. In the filters pane, click the *Select* radio button.

    g. Select the current year and move them into the *Selected* column.

    h. Click the *Apply* button.

10. Add a filter that will isolate the last three months of data.

i. From the *All Objects* pane open the *Trans* folder then the *Stat* folder. Right-click on the *Trans Stat Month* and select *Add to Filter* in the right-click menu.

j. In the filters pane, click the *Select* radio button.

k. Select the current year and move them into the *Selected* column..

l. Click the *Apply* button.

Sort the results in Descending Order

11. Right-click on the *Number of Statistical Transactions* column header.

12. From the right-click menu, select *Sort* > *Descending*.

Run the Report

13. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

14. Review the report results.

Export the Report as a Spreadsheet

15. From the *Home* toolbar select the *Export* icon. This is the third icon from the right.

16. In the Export page that displays, review the export settings, making adjustments as needed.

17. Click the *Export* button.

18. Save or print the spreadsheet as needed.

Exercise 5 (HZN): Create a Report of Items Added and Deleted Monthly by Library

NOTE: This exercise is intended to be completed by Horizon customers.

Objective

Create a report detailing the total number of items added and deleted each month at each Library during the current year.

Stat Location	Stat Subcategory	1	2
	Stat Month	Stat Total	Stat Total
Main Library BranchChez Micheline	6	1	
Springville PrivateBiblio Municipale de Fantaisie	2	34	
	4	33	1
	5	60	
	6	1	
	10	3	1
	12	8	2

Create the Blank Report

1. From the home screen, click on the *New Report* icon.
2. Select *Blank Report*.

Add Attributes

3. From the *All Objects* pane, open the *Attributes* folder.
4. Open the *Stat (HZN)* folder and double-click the *Stat Location* attribute to add it to the report template.
5. From the same folder double-click the *Stat Month* attribute to add it to the template.
6. Click and drag the *Stat Subcategory* attribute into the report template, adding it to columns to create a cross-tabbed display.

NOTE: When clicking and dragging an attribute into the report template, watch for the "yellow line" which indicates if the attribute will be added to rows (vertical line) or columns (horizontal line).

Add Metrics

7. From the *All Objects* pane, open the *Metrics* folder.
8. Open the *Stat* folder and double-click the *Stat Total* metric to add it to the report template.

Add a Filter

9. Add a filter that will isolate only statistics representing the addition and deletion of items.

a. From the *All Objects* pane open the *Stat (HZN)* folder. Right-click on the *Stat Category* attribute and select *Add to Filter* in the right-click menu.

b. In the filters pane, click the *Select* radio button.

c. Locate the "itdel" category which represents items added and deleted. Move it into the *Selected* column.

d. Click the *Apply* button.

10. Add a filter that will isolate only statistics for the current year.

e. From the *All Objects* pane open the *Stat (HZN)* folder. Right-click on the *Stat Year* attribute and select *Add to Filter* in the right-click menu.

f. In the filters pane, click the *Select* radio button.

g. Locate the current year. Move it into the *Selected* column.

h. Click the *Apply* button.

Run the Report

11. From the toolbar, click the *Run Report* icon. This is the first icon from the left.

12. Review the report results.

NOTE: Stat Subcategories are listed as numeric values. If you are not familiar with Stat Subcategories, consult Appendix A for explanations of each value. As an example, in the image below, since a filter has been applied to limit the category to "itdel", the subcategories are then 1 (items added manually) and 2 (items deleted manually). Meaning Springville library had added the most items during the month of May. They deleted the most items during the month of December.

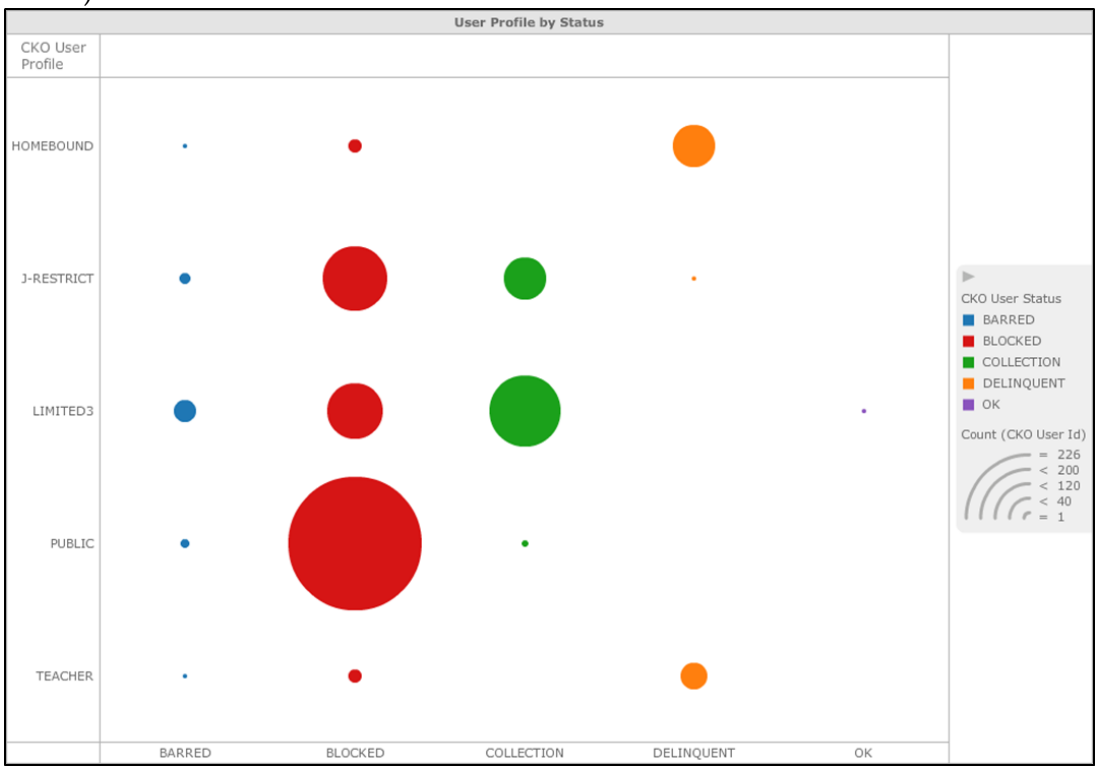
Stat Location	Stat Subcategory	1	2
	Stat Month	Stat Total	Stat Total
Main Library BranchChez Micheline	6	1	
Springville PrivateBiblio Municipale de Fantaisie	2	34	
	4	33	1
	5	60	
	6	1	
	10	3	1
	12	8	2

Visualizations

Exercise 1: User Status Visualization

Objective

Create a visualization within a Dashboard showing each user profile broken down by user status (Symphony: User Status; Horizon: Approved Status).



Create the Dashboard

1. From the home screen, click on the *New Dashboard* icon.
2. Navigate to the *Shared Reports* > *Cubes* folder.
3. Select the *Checkout Cube.*
4. Click *Next.*

Add Attributes

5. From the *Dataset Objects* pane double-click the *CKO User Profile* attribute to add it to the visualization.
6. Double-click the *CKO User Status* attribute to add it to the visualization.

Add Metrics

7. From the *Dataset Objects* pane locate the *CKO User Id* attribute.
8. Using the hover menu select *New Metric* > *Count* to derive a metric from the *CKO User Id* attribute.
9. Scroll to the bottom of the *Dataset Objects* pane. Double-click the metric you have just created (*Count (CKO User Id)*) to add it to the visualization.

Add a Filter

10. From the *Edit Visualization* pane, hover over *CKO User Profile.* Select *Add to Filters.*
11. De-select the user profiles you are not interested in.

    For example, you may have user profiles similar to the following: HOMEBOUND, J-RESTRCT, LIMITED3, PUBLIC and TEACHER. Limit the results to these types of profiles as needed.

Change the Visualization to a Graph

12. Hover over the grey bar at the top of the visualization. From the hover menu, select *Change Visualization.*
13. From the *Select a Visualization* window, select the *Bubble Grid* visualization.

Color the display by CKO User Status

14. From the *Edit Visualization* pane, within the *Color by* section, click on the plus sign or "add" icon.
15. From the list that displayed, select *CKO User Status.*

Rename the Visualization

16. Hover over the grey bar at the top of the visualization. From the hover menu, select *Rename.*
17. The grey bar now displays a text box. Enter a name for this visualization.

Save the Dashboard

18. From the toolbar, click the *Save* icon.
19. Select a save location.

20. Enter a name for this Dashboard.
21. Click OK
22. Select the *"Run newly saved dashboard"* button.

Export the Visualization as an image

23. Hover over the grey bar at the top of the visualization. From the hover menu, select *Export > Image.*
24. Select a save location.
25. Enter name for this file.
26. Click *Save.*