Getting the most out of Reporting on

Collaborative Lifecycle Management Data with JRS and RPE

Jazz Reporting Service

JRS Labs

***February 2016* edition**

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Lab Startup

To start the lab, open the Firefox browser already running and reload the page. This will present a login page.

Overview

The light weight Jazz Reporting Service (JRS) introduced with CLM 5.0 provides practitioners with the ability to easily create their own reports in a powerful and easy to use interface (without requiring Cognos expertise). The JRS interface is designed to be intuitive without any technical knowledge of the underlying data warehousing technology. Users can create table based or graphical reports for one or more artifact types, specify conditions as well as the scope of the data which will be displayed.

You can also control the formatting of results with an interactive preview. The resulting report can be run inside the JRS user interface and subsequently exported to Microsoft® Excel or Rational Publishing Engine, if desired. Alternatively the report can be added to a dashboard as a widget alongside the existing reports provided by CLM or the out of the box reports from JRS.

To manage these new reports, there is an explorer view that shows the reports stored in the JRS. The reports can be organized by tags, visibility and / or filtered through a text search. This is also a launch page for editing or duplicating existing reports shared by other team members.

Jazz Reporting Service 6.0.1 Release Highlights

This latest release supports the following new features:

- Historical trending or time-series reports
- Report customizations (color, and legend labels)
- Configuration-aware reporting
- Aging reports (point in time)
- Near live operation reporting with LQE

Jazz Reporting Service 6.0 Release Highlights:

This release supports the following features:

- Roll-up/summary Reports
- Dynamic Conditions
- Graphical reports with Drill down
- Traceability report improvements
- Ready to Copy reports which provide a quick template for novice users
- Interactive runtime filters
- New OOTB reports for operational reporting of burn up/down, velocity, and trending.
- Export to Excel and Rational Publishing Engine for further analysis

JRS supports two data sources: the data warehouse (DW) and LQE. LQE is primarily used (right now) for RELM and reporting against configuration-management project areas, but this lab doesn't cover those topics and focuses on the traditional data warehouse as the data source.

Exercises

This workshop is structured such that you can make a choice of what exercises to complete based on your interests.

Exercise 1 introduces you to the latest JRS interface. It is a good exercise to complete if you have never used JRS before. If you are familiar with the interface, you can choose to skip this first exercise and proceed to exercise 2.

Exercises 2 and 3 are basic exercises to get you started creating reports. Exercise 3 exposes some of the traceability report improvements made available in version 6.0.

Exercise 4 explores the features added in version 6.0 to support building summary reports.

Exercise 5 explores the feature of dynamic conditions.

Exercise 6 explores the historical trend reports added in version 6.0.1.

Exercise 7 explores how to create reports that display aging data.

Exercise 1: Exploring the Jazz Reporting Service interface

In this lab, you will explore and discover the different aspects of the user interface of the Jazz Reporting Service (JRS). You will learn:

- the different parts of the UI, including basic actions used to create, run and modify reports
- how to run a ready-to-use report
- how to duplicate and modify a ready-to-copy report

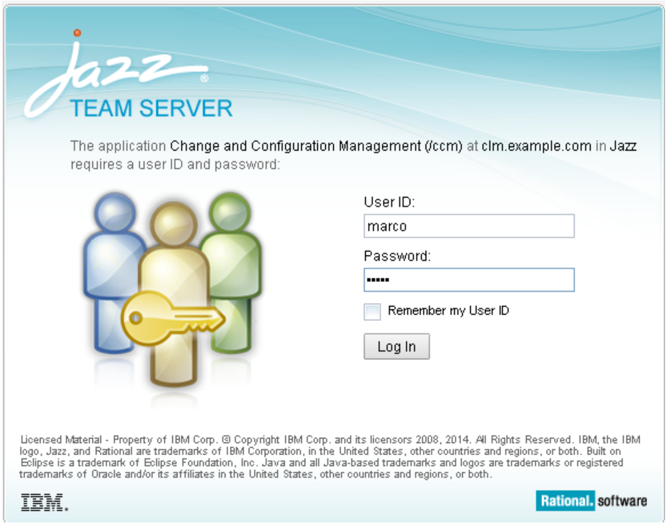
Login to the Change and Configuration Management application at

https://clm.jkebanking.net:9443/ccm/web

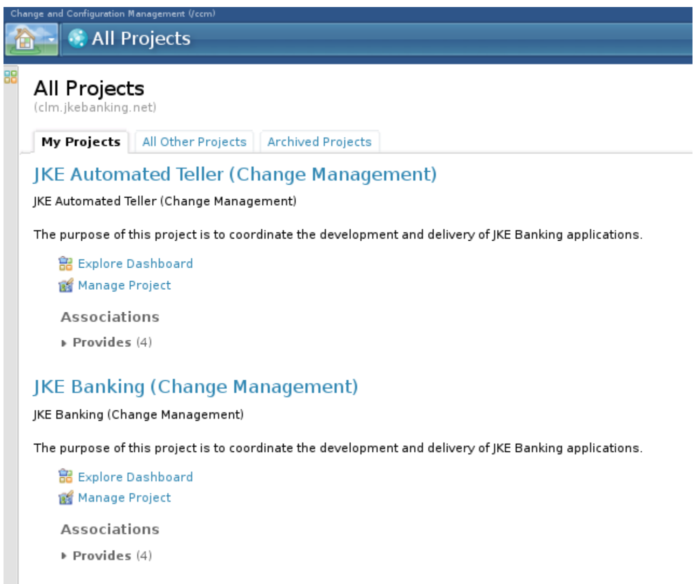
using the following access information:

User id: marco

Password: marco



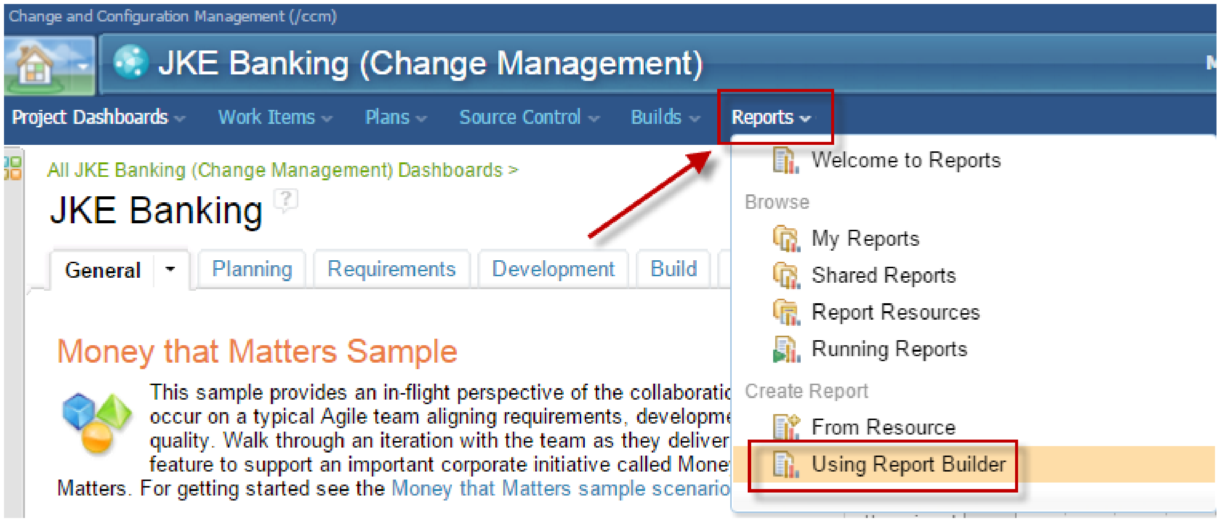
You should see two CCM project areas:



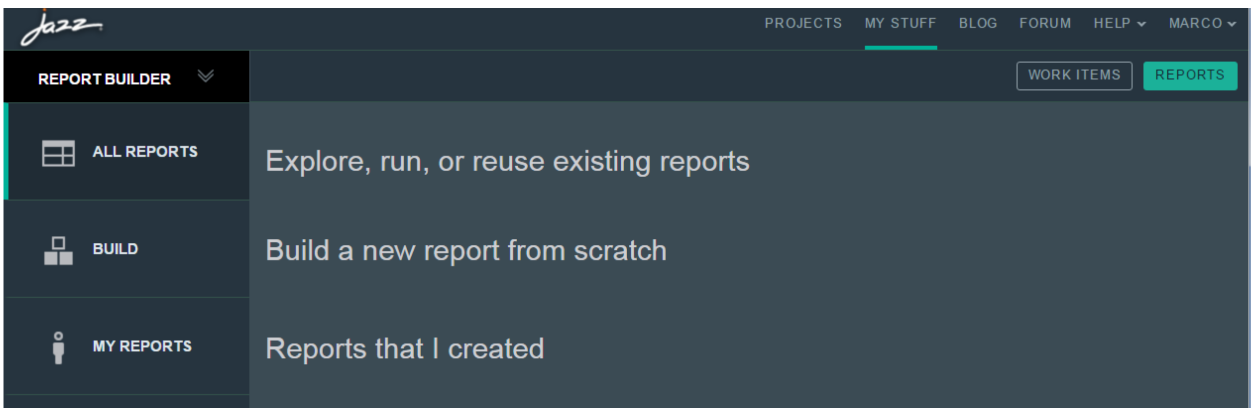
Note: The JRS is capable of reporting on artifacts across Jazz Team Servers and Project Areas.

Select the JKE Banking (Change Management) project area to navigate to the project dashboard. Select **Reports -> Using Report Builder**

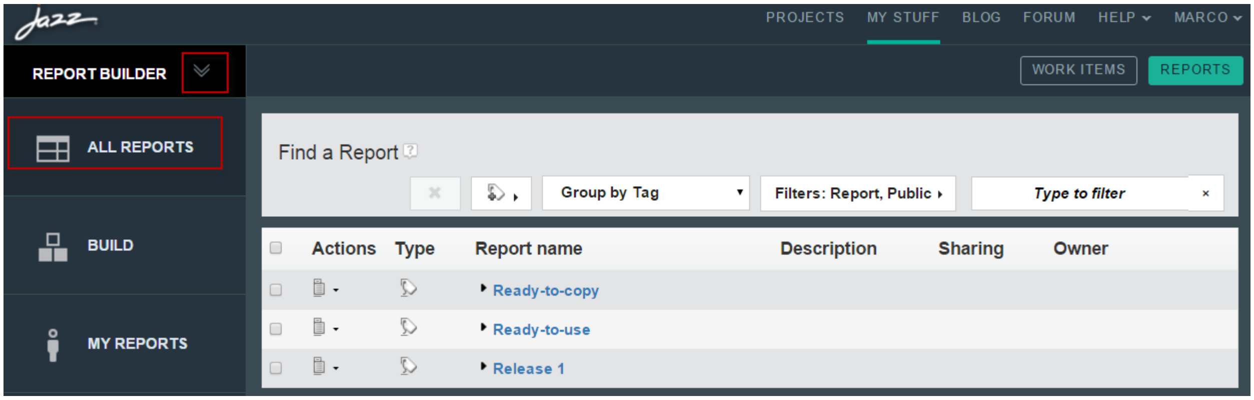
You can open Jazz Reporting Service from the following locations: from the Home menu in the Report Builder section, from the Reports Welcome page of the CLM application, from the Reports menu on a CLM application toolbar or via a hyperlink in a report widget running on a dashboard.



The Jazz Reporting Service (JRS) has three major capabilities shown in the screenshot below.

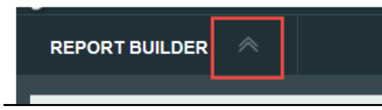


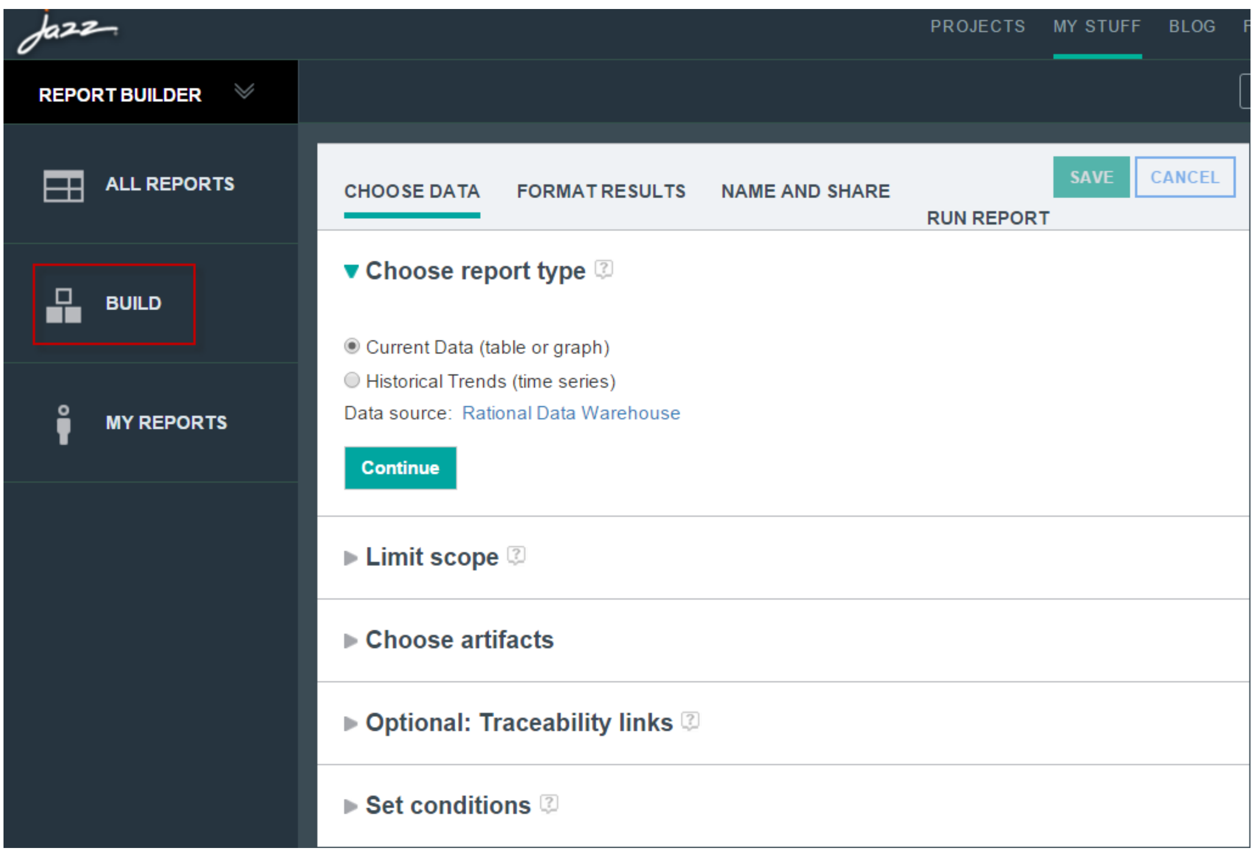
To see the ready-to-use, ready-to-copy reports and previously shared reports, click **All Reports**. Jazz Reporting Service has a collection of ready-to-use reports for agile tracking and planning, including reports where you can drill down into the most recent data to figure out any actions that need to be taken to address any problems. In addition, there is a set of default reports available that are tagged and grouped as ready-to-copy reports. These reports can be referenced as examples or duplicated and modified as desired.



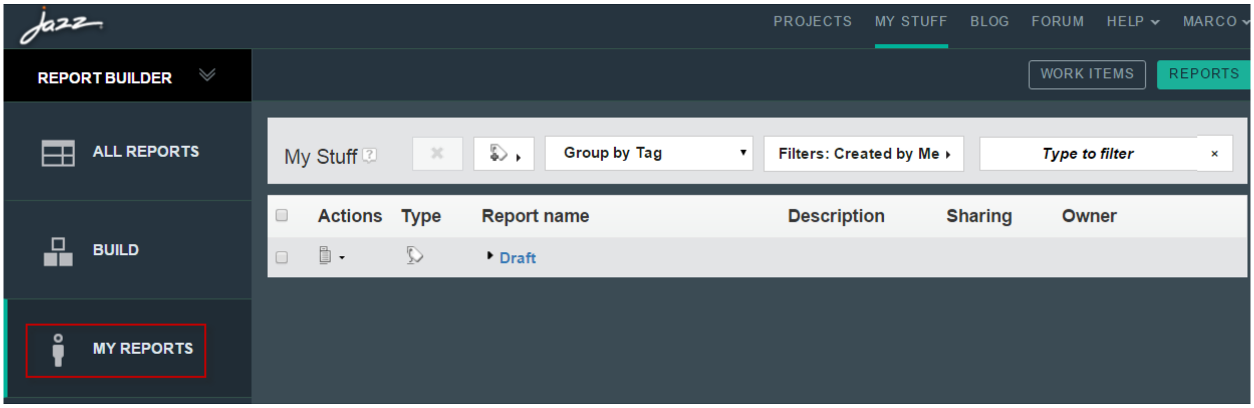
To start creating a new report, click **Build**. You will learn how to build and share your own report in a later exercise.

Hint: If you need to return to the left navigation menu after selecting one of the options, click the Up arrows to get it back.



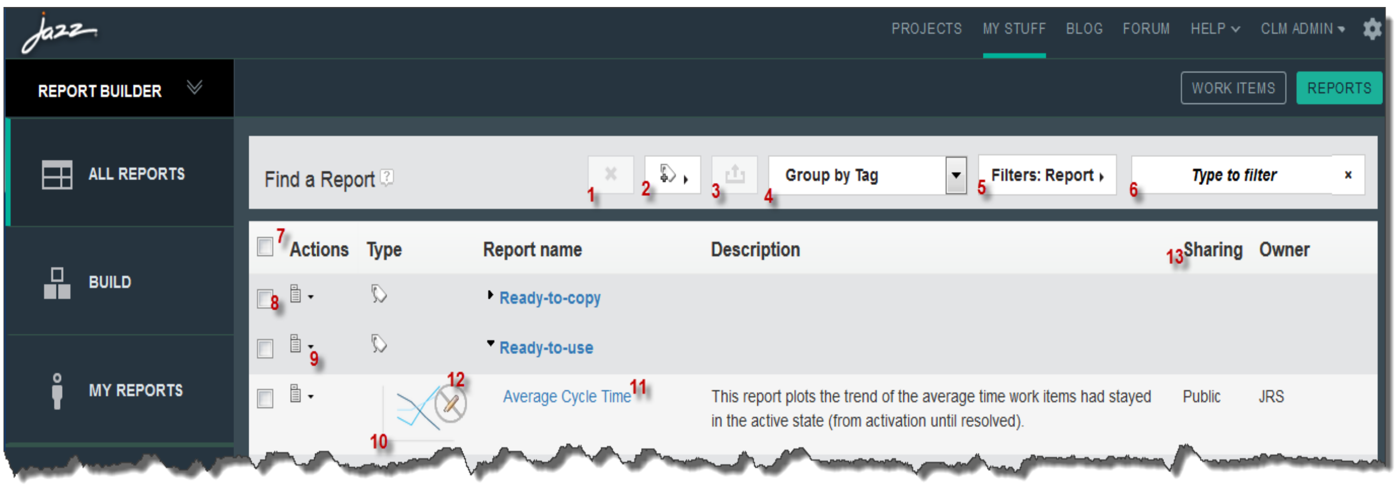


To see the reports that you previously created and saved, click **My Reports**. This section is currently empty but once you create your own reports (see Lab 2) you can manage them here.



All Reports - Explore, run, or reuse existing reports

Click **All Reports** to show the ready-to-use reports page, and click the Ready-to-use twisty to show the available reports.



All Reports - Explore

In the above screenshot, note the following elements and actions:

1. **Delete**: Delete selected reports. Enabled when one or more reports are selected.
2. **Add Tag**: Create new tags and add existing tags to selected reports.

3. [Only visible to report administrators with export privileges. Marco is not a report administrator. Use clmadmin/clmadmin if you want to have access.] **Export**: Export selected report definitions in ZIP format so that they can be imported onto a different server installation or for backup.

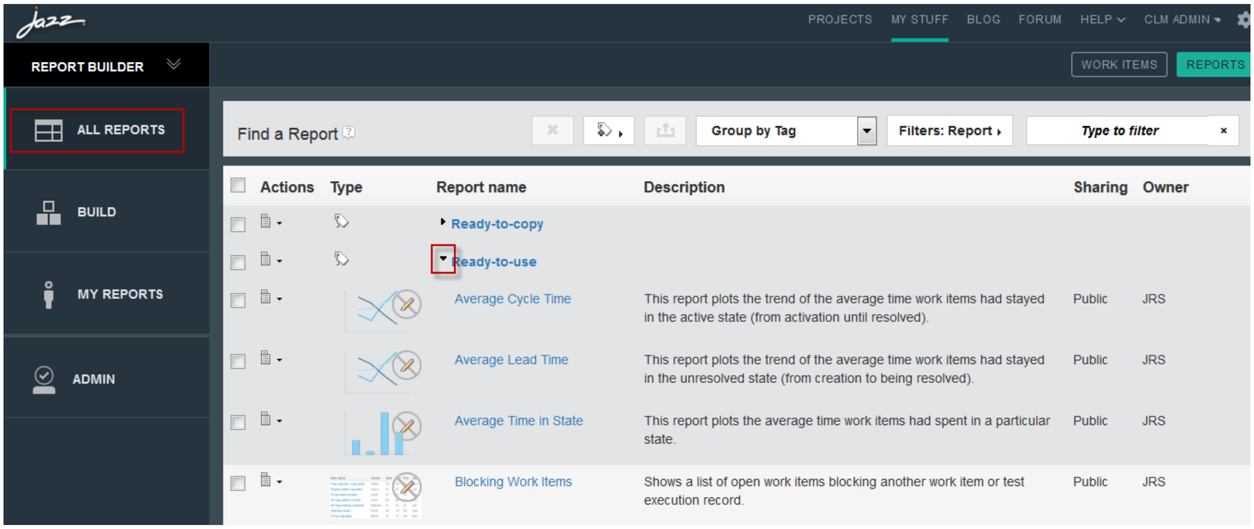
Note: The Export to Excel and RPE options appear when an individual report is run. In the next section, you will see those options.

4. **Group**: Display all reports, display reports grouped by Tag or display reports grouped by Visibility (Public or Private)
5. **Filter**: Filter displayed reports by Tag or Visibility (Public, Private, Created by Me)
6. **Text Filter**: Filter reports by text contained in Report Name or Description
7. **Select All** reports or clear all selections.
8. **Select** Individual Report
9. **Report Actions**: View (public and private reports); Edit, Duplicate (your own reports and public reports that are shared, or tagged as ready-to-copy); Delete (your own reports); Delete (any report if logged in as user with JazzAdmin permissions); Remove tags you created from a specific report (If the report is the last report to use that tag, the tag will be deleted as well)
10. **Report type**: Shows whether the report output is a graph or table
11. **Report link**: Clicking the link will run the report
12. **Read-only icon:** indicates report that is read-only, not editable.
13. **Visibility:** indicates whether other users can see a report in the UI or report catalog of CLM dashboard, - either public (visible by anyone with permission) or private (only for you).

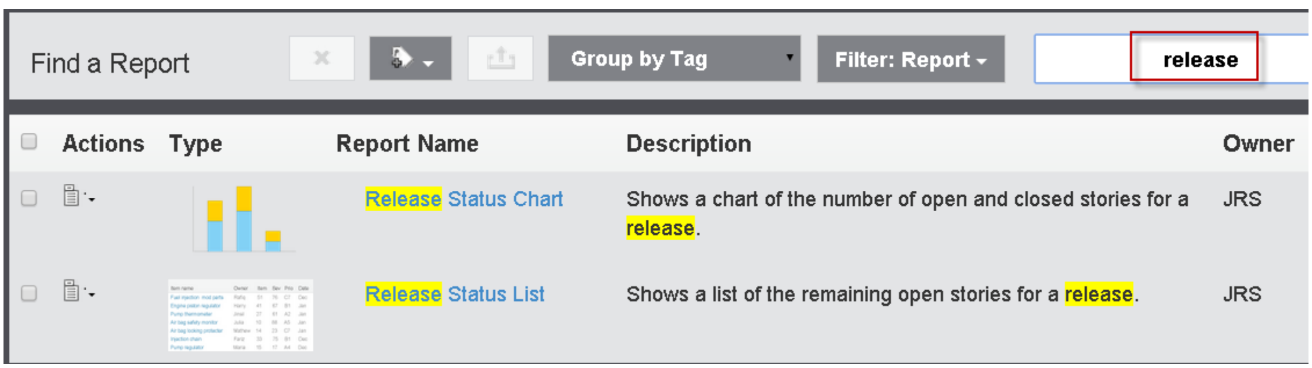
Run a ready-to-use report

In this exercise, you will learn how to run a ready-to-use report, providing values for parameters if required. A ready-to-use report is a SQL-based report that cannot be duplicated.

Navigate back to the JRS main page (https://clm.jkebanking.net.com:9443/rs/reports#start) click **All Reports** and click the twisty to show all ready-to-use reports.



You would like to monitor the status of various iterations by looking at the Open and Closed Stories for those iterations. Rather than scrolling to find a report that might provide this information, place the cursor in the **Text Filter** and begin typing “release status”. As you type the list of reports is filtered to show only those that contain the word as typed, eventually showing two reports.



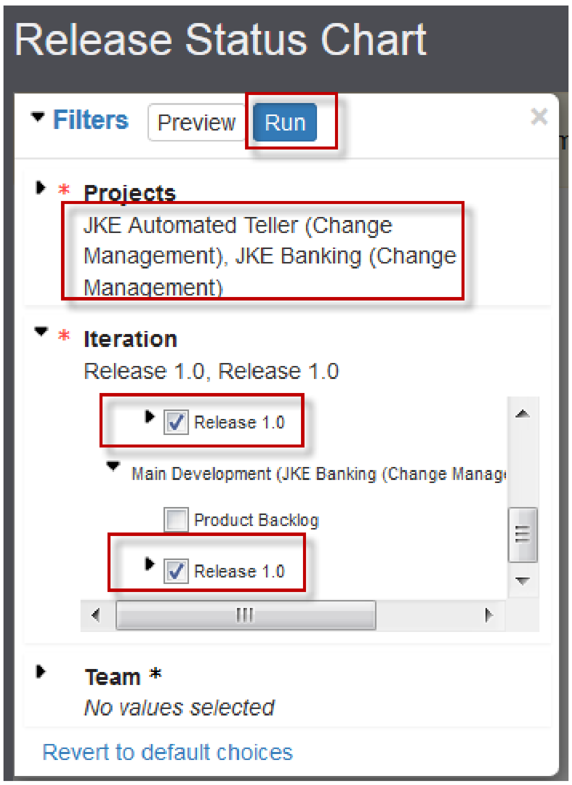
Run the **Release Status Chart** report by clicking its name. You will be presented with choices for three filters: the first two are required and are marked with a **red *** ,the third, Team, is optional.

Hint: The values displayed for Iteration are dynamically populated based on the value or values selected for the Project filter.

Expand the twisty next to the Projects filter to select JKE Automated Teller (Change Management) and JKE Banking (Change Management) Projects.

Expand the twisty next to the Iterations filter to select Release 1.0 [JKE Automated Teller (Change Management)] and Release 1.0 [JKE Banking (Change Management)] Iterations and click **Run**.

Hint: Use the scrollbars to locate the desired iterations.

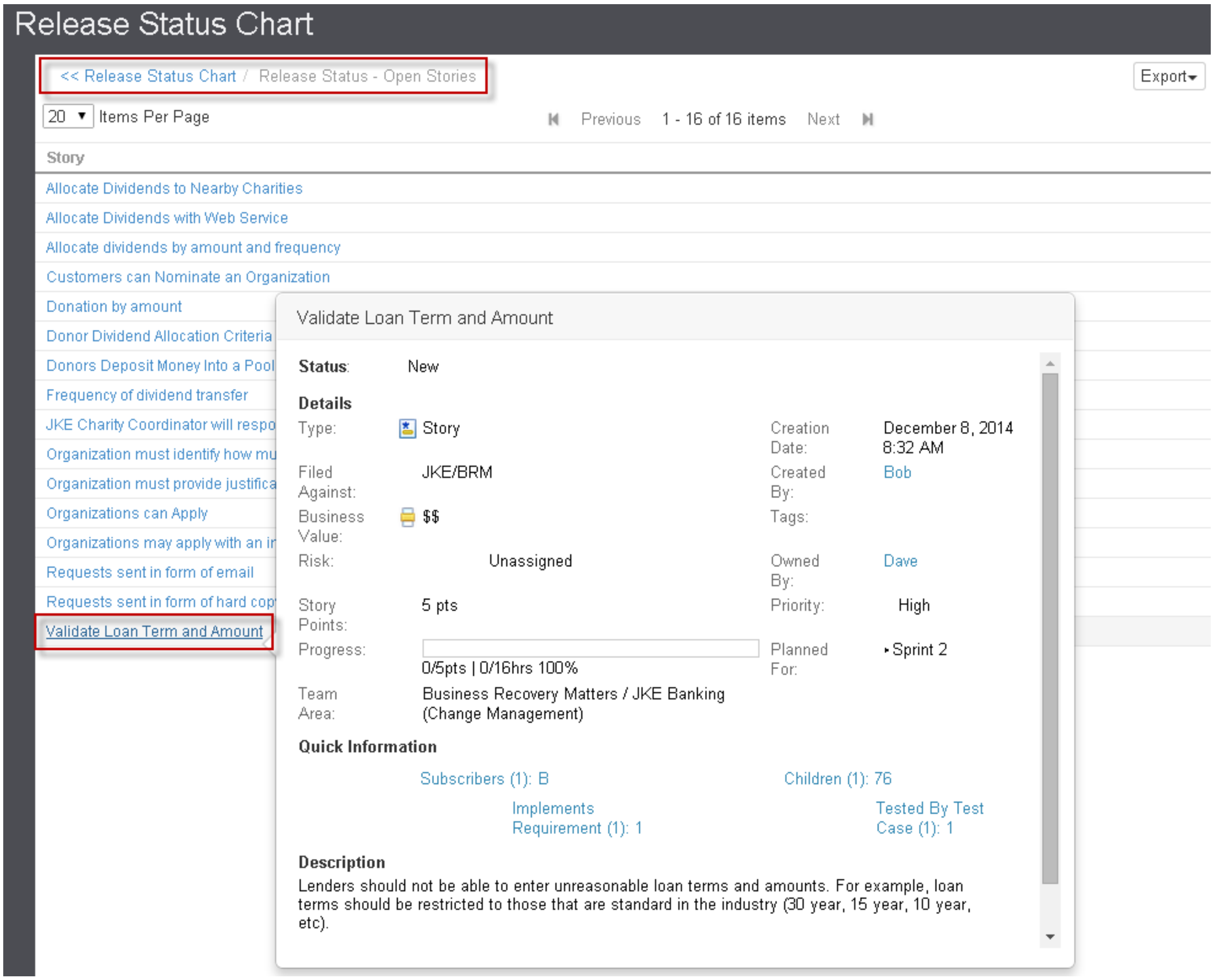


A bar chart showing the Open vs Closed stories for each release is displayed. Hovering over the different sections of the bars will display the count of stories contributing to that section. The data for the chart can also be exported for further manipulation as a spreadsheet, exported to Rational Publishing Engine or as a PNG or SVG image.

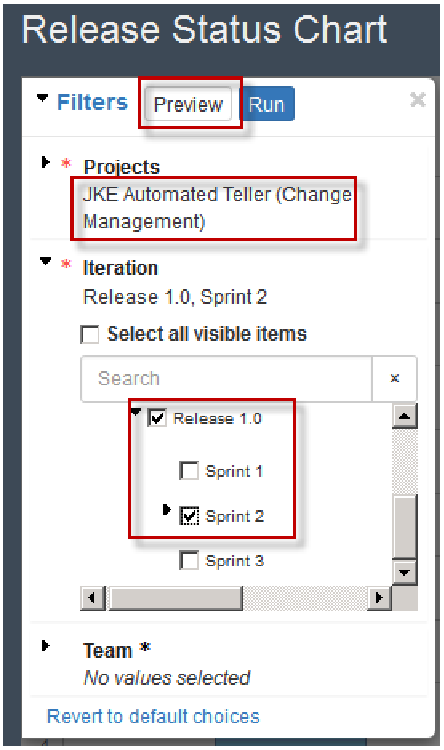
Export to Microsoft Excel for offline analysis and viewing is available when viewing the results. Excel export maintains report layout and format.

When exporting the query to Excel®, you can choose to create a new spreadsheet with live (updateable) or static data or add the query to an existing spreadsheet.

Now that you can see that there are 16 Open stories for the JKE Automated Teller Release 1.0 iteration, you can drill down to see that list of Open stories. Click the top section of the JKE Automated Teller stacked bar and a new report showing the list of Open Stories will be displayed. You can drill further into the details of each line item by hovering over it to display the rich hover or clicking it to open the item.

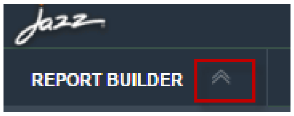


Click the Release Status Chart breadcrumb to return to the Release Status Chart page. You can also run simple "what-if" scenarios using the Preview feature. Click **Filters**, then select only the JKE Automated Teller (Change Management) project and both the Release 1.0 [JKE Automated Teller (Change Management)] and Sprint 2 [JKE Automated Teller (Change Management)] iterations and click **Preview** to display the resulting chart below the filters. Experiment with the filters to see what different values produce.



Run a ready-to-copy report

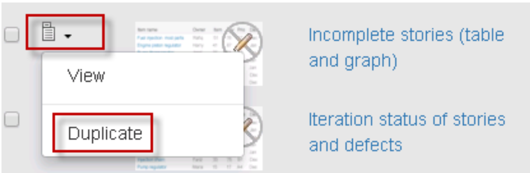
In this exercise, you will learn how to duplicate a ready-to-copy report, providing values for parameters if required. A ready-to-copy report is a report built using the Report Builder interface which can be duplicated and modified by team members.

Navigate back to the JRS main page 

click the Up arrow in the Report Builder dropdown.

Expand the **ready-to-copy** reports. Use the filter to narrow down the results and look for **Incomplete stories.**

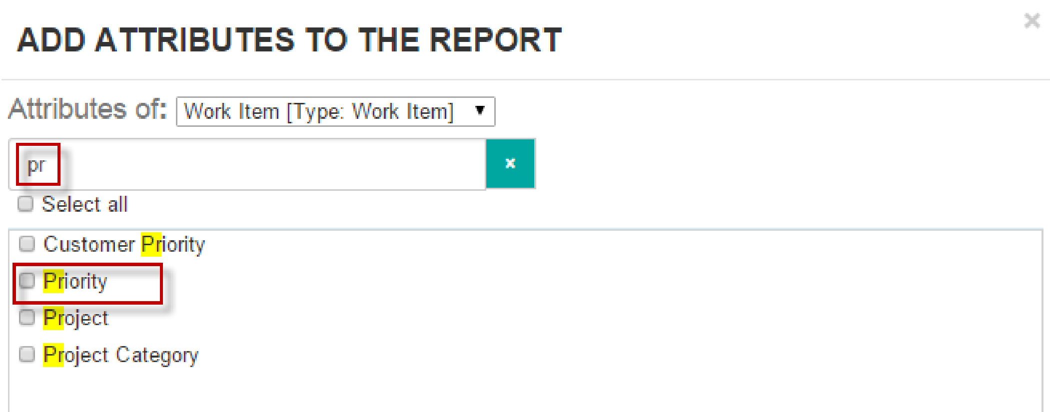
From the Actions drop-down menu for the **Incomplete stories (table and graph report)**,select **Duplicate** to make a copy of the report.



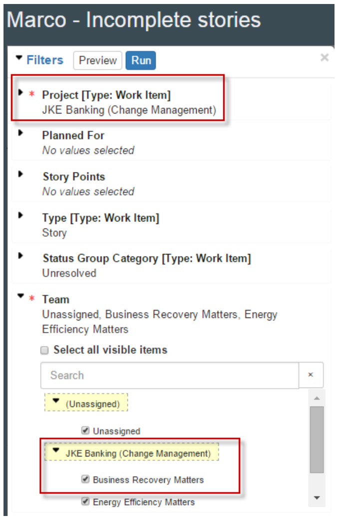
Make a name change. Call the report **Marco – Incomplete stories.** Optionally modify the description as well. Click **Save.**

Next, modify the report by adding a **Priority** column. Switch to the **Format Results** tab.

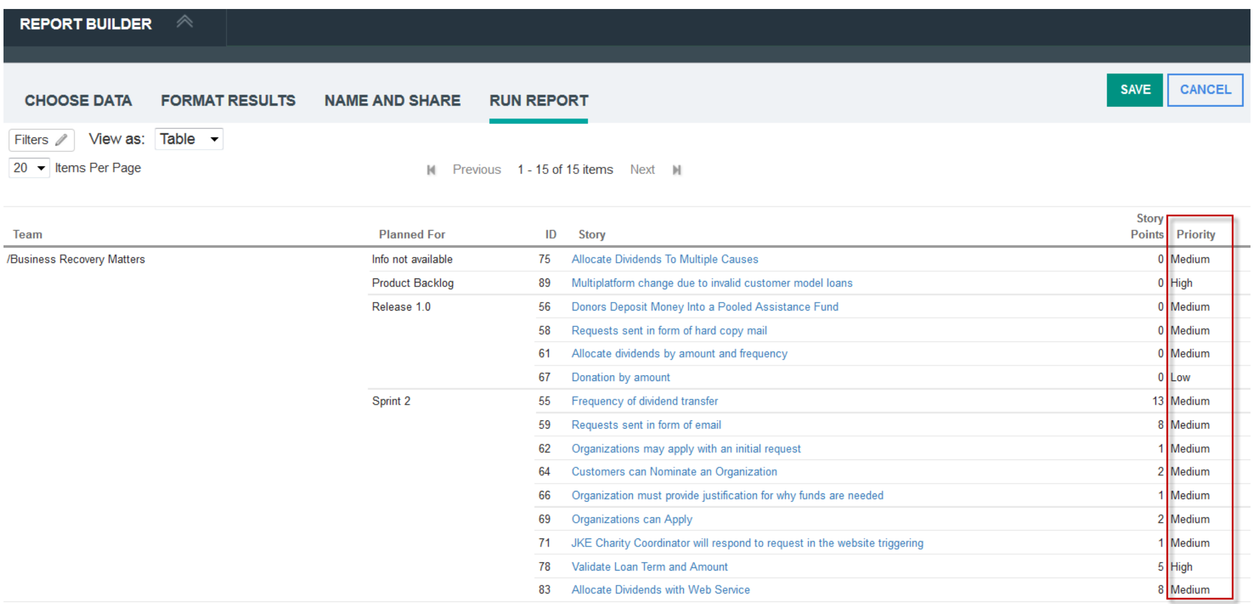
Click **Add attribute columns.** Enter ‘pr’ in the search bar and check **Priority**. Click **Add**.



Click the **Run the report** tab to run the report. If no results found, check the Filters and make sure that the BRM (Business Recovery Matters) team is one of the selected items and that JKE Banking (Change Management) is selected as the Project.



When the report runs successfully, you will notice that you have added the Priority attribute to your own copy of this ready-to-copy report.



Team	Planned For	ID	Story	Story Points	Priority
/Business Recovery Matters	Info not available	75	Allocate Dividends To Multiple Causes	0	Medium
	Product Backlog	89	Multiplatform change due to invalid customer model loans	0	High
	Release 1.0	56	Donors Deposit Money Into a Pooled Assistance Fund	0	Medium
		58	Requests sent in form of hard copy mail	0	Medium
		61	Allocate dividends by amount and frequency	0	Medium
		67	Donation by amount	0	Low
	Sprint 2	55	Frequency of dividend transfer	13	Medium
		59	Requests sent in form of email	8	Medium
		62	Organizations may apply with an initial request	1	Medium
		64	Customers can Nominate an Organization	2	Medium
		66	Organization must provide justification for why funds are needed	1	Medium
		69	Organizations can Apply	2	Medium
		71	JKE Charity Coordinator will respond to request in the website triggering	1	Medium
		78	Validate Loan Term and Amount	5	High
		83	Allocate Dividends with Web Service	8	Medium

Click **Save**

Exercise 2: Creating a simple cross-project report

In this lab you will create a simple list (table) report that shows Story work items with various Priorities and States, grouped in Descending order of story points across project areas you have access to. In this lab you will learn how to:

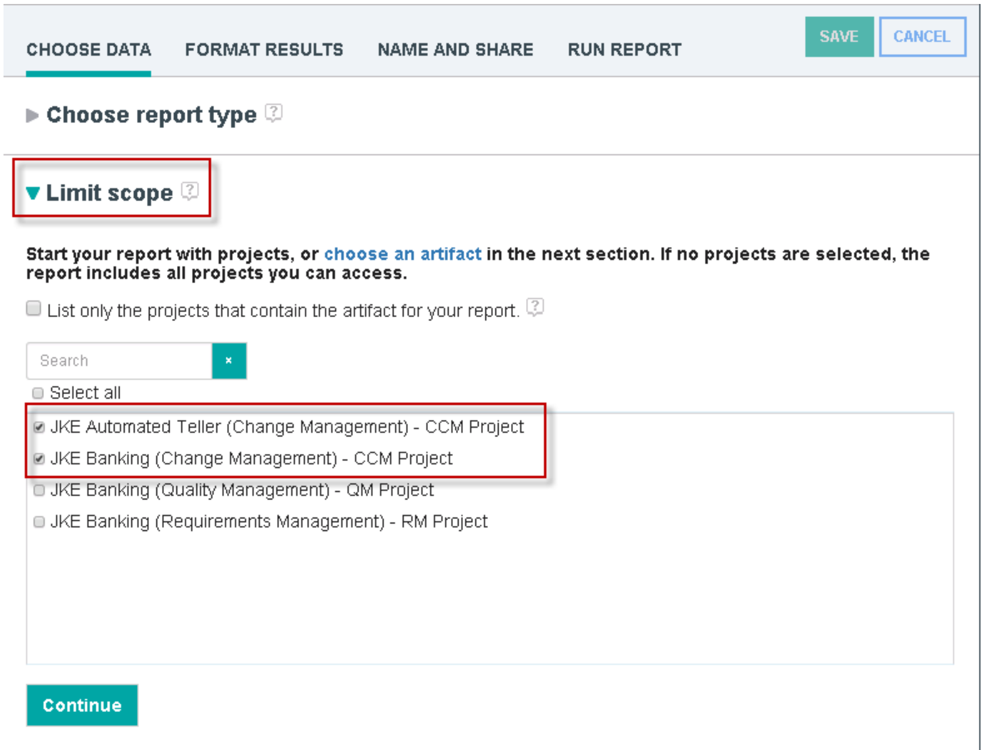
- Select the artifact type(s) to report on
- Select the project areas to report on
- Set conditions and grouping criteria
- Format the results of a report
- Preview the report
- Create and add a tag to the report to be able to find it easily
- Publish the report as a Public report for use by other team members
- View the report in a dashboard widget

Navigate to the JRS main page (https://clm.jkebanking.com:9443/rs/reports#start) and click **Build**. You are first required to choose the report type: **Current Data** or **Historical Trends**.

Select **Current Data.** Click **Continue.**

The **Limit Scope** section allows you to choose which Project Area(s) to limit the report to. This list comes from the data source, and is filtered by the projects you have access to. For this report, we wish to report across both the project areas to which Marco has access, so check **Select all** and click **Continue**.

Important: You can see public project areas and projects you belong to. However, if you have different permissions for accessing the data than your colleagues, the same report will produce different results when they run it.

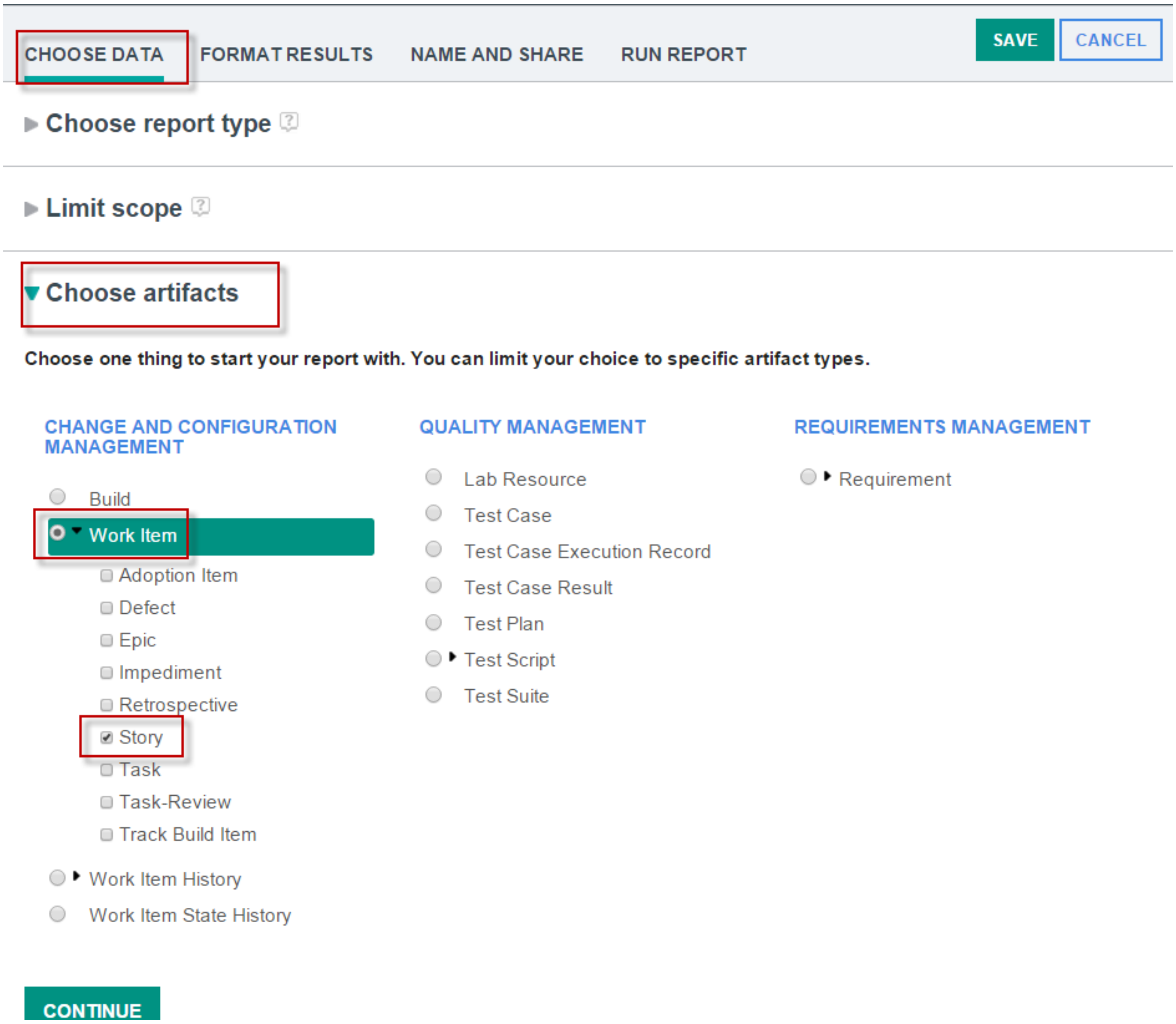


If you are developing a report for many teams, you may not want to limit scope now but rather have this be a required selection at report runtime.

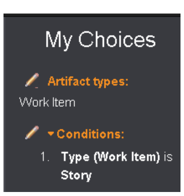
Click **Continue.**

Now, let's select the initial artifact to report on. We want to report on Stories which are a type of Work Item in the Change and Configuration Management CLM application.

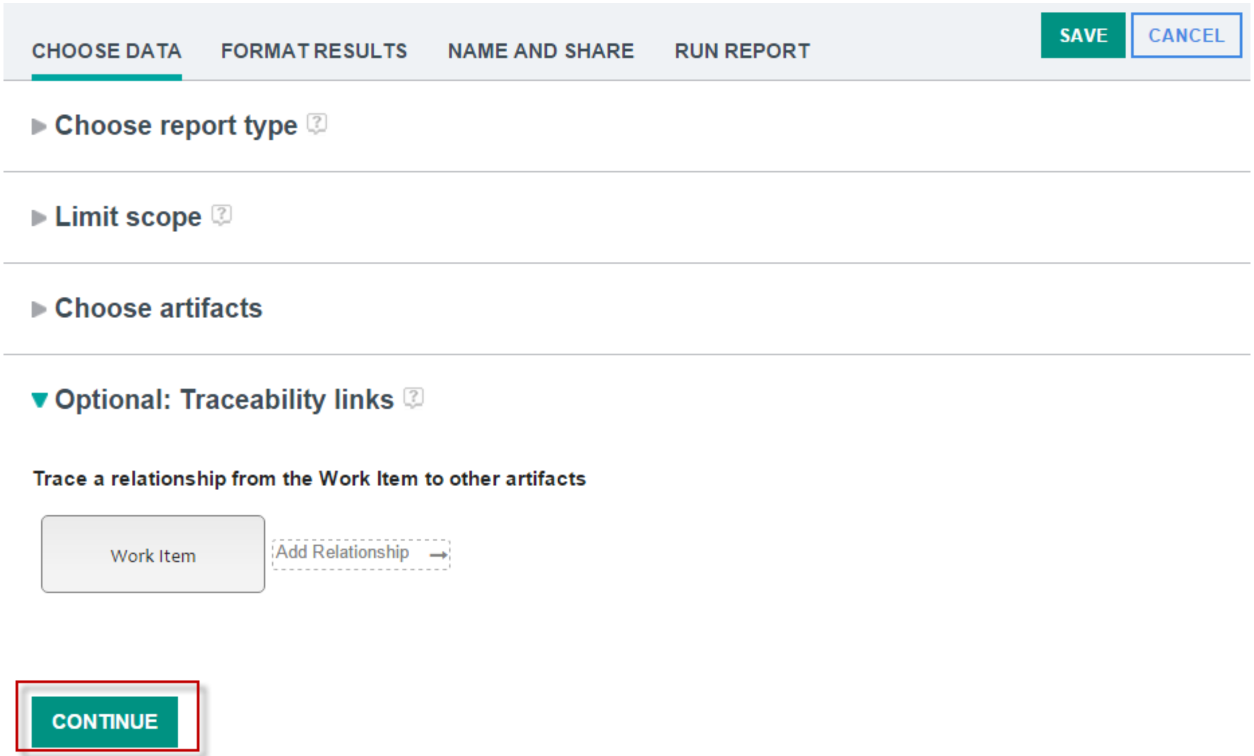
Under the Change and Configuration Management heading, expand **Work Item** and select **Story**. Then click **Continue**.



As you build your report, you can see your choices in the My Choices pane on the right side. At any time, you can adjust your choices by clicking a pencil icon in this pane.



You have the option to add traceability links to other lifecycle artifacts which you will do in a later lab. Click **Continue** in the **Optional: Traceability links** section.

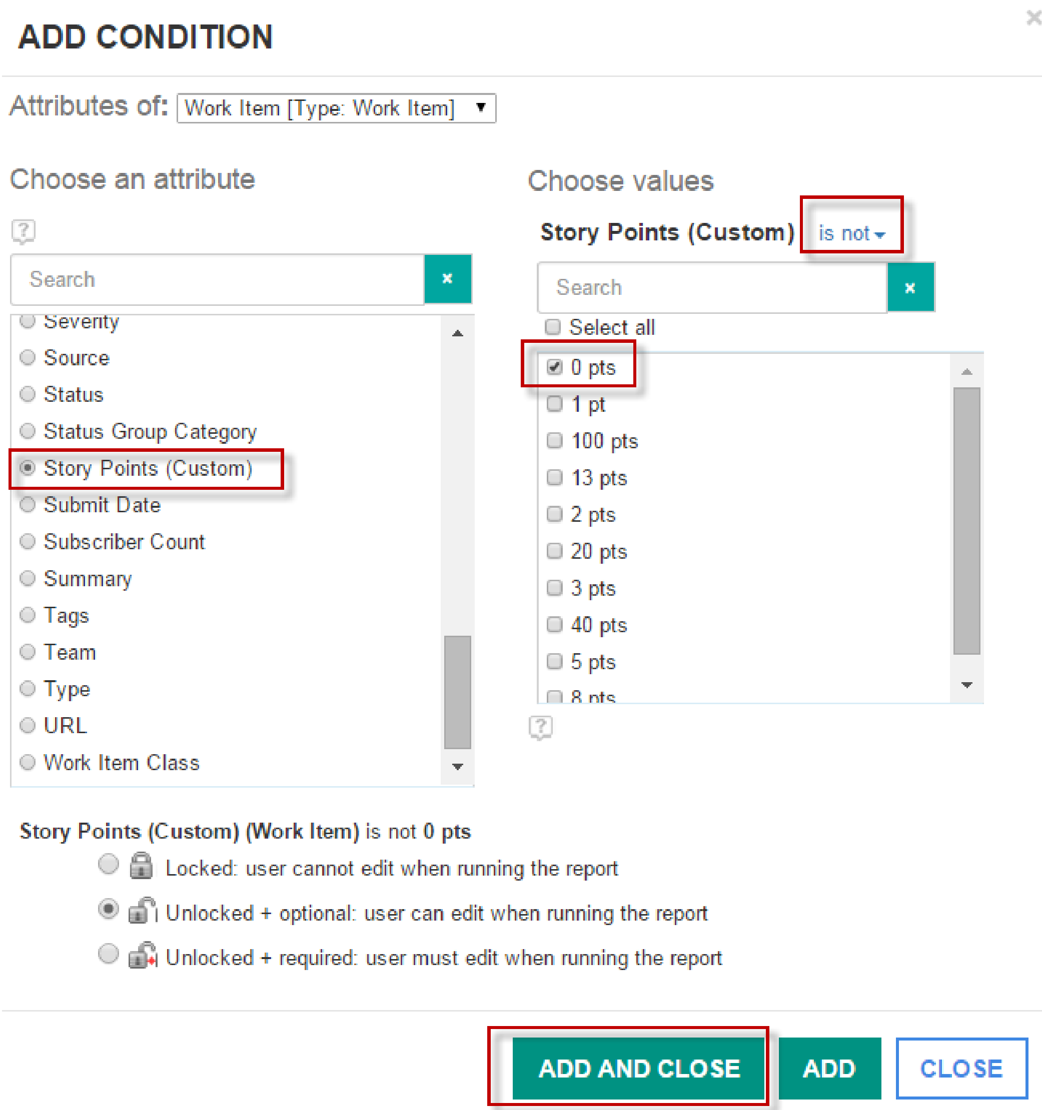


You now need to filter the data such that you only see Stories that have a Story Point value greater than zero.

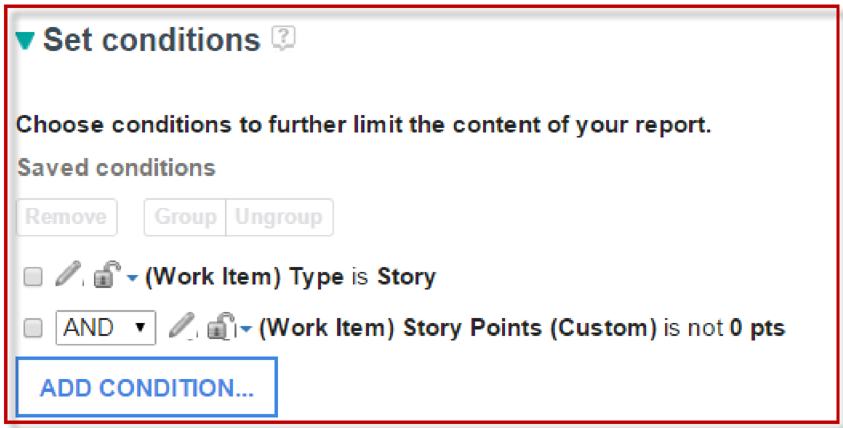
In the **Set Conditions** section, click on **Add Condition…**

Scroll down (or type Story in the Search box) in the Choose an attribute list, and select **Story Points (custom)**.

In the Choose values section that is displayed, select “is not”, then select “0” from the list of available Story Point values. The options that appear at the bottom determine whether the user can or must change the condition at run-time; leave the default selected. Click **Add and Close**.

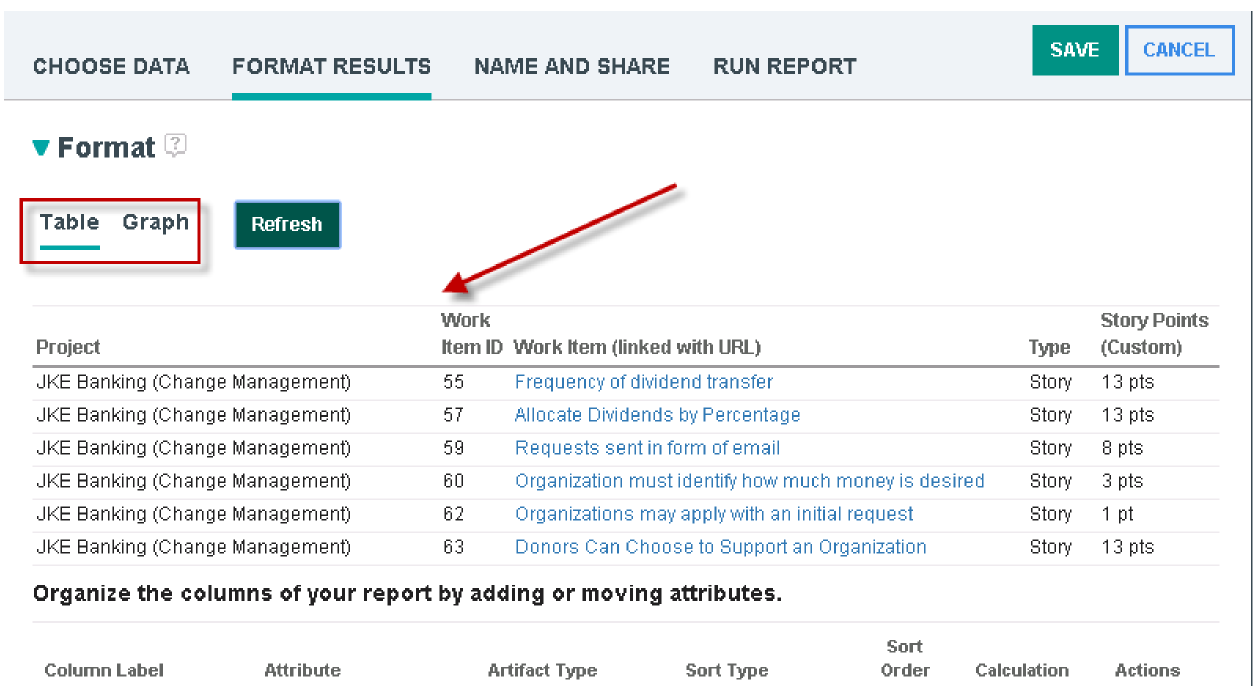


You can edit saved conditions or add further conditions if you wish including complex grouped AND/OR conditions using the controls available in this section.



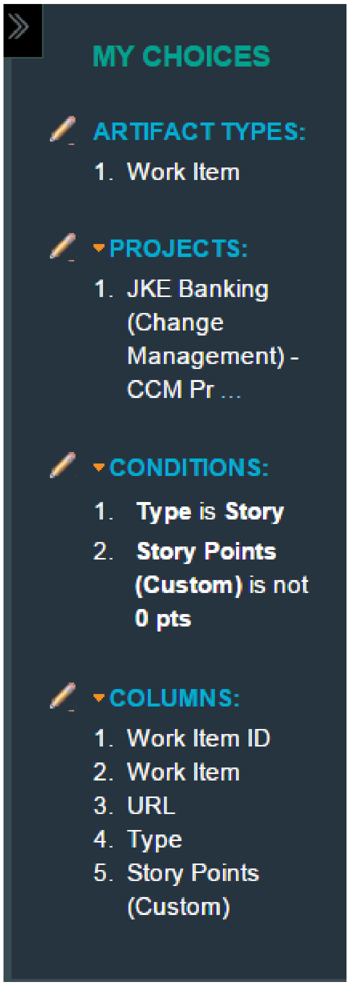
As you build the report, you can use the **Format Results** tab at the top of the page to see what the report will look like with a subset of the data. You can also visualize the data in a graphical format which you will explore later.

Click **Continue** at the bottom of the **Set Conditions** section to proceed to the **Format Results** tab.



Note also that your progress so far is updated in the My Choices pane on the right; as mentioned previously, you can at any time adjust your choices by clicking a pencil icon in this pane.

If you are building or viewing a large report, you can collapse the My Choices pane to display more of the report results.



Format results

So far you have chosen the CLM artifact type to report on (Story work item type) and added a condition to limit the data (Story Points > 0). Next, you will format the results by adding some columns (Priority, State) and sort order (first by Project Area and then in Descending order of Story Points).

In the **Columns** section of the **Format Results** tab, you will notice that there are some columns added by default such as project, work item type, and work item ID. These will vary based on the type of report you build.

There will be some default columns based on the artifacts and types you are reporting on.

Name and URL fields are combined automatically to create artifact links. Do NOT remove either of these columns if you want links in the final report.

Click **Add Attribute** columns. Scroll or use the **Search** box to find and add the following attributes as columns to the report: Priority, Status. You will have to do click **Add Attribute** once per attribute.

Then use the arrows in the **Actions** column to rearrange the order of the columns. Move **Story Points (Custom)** to the bottom.

Next set the **Sort Type** for the Story Points column to Descending.

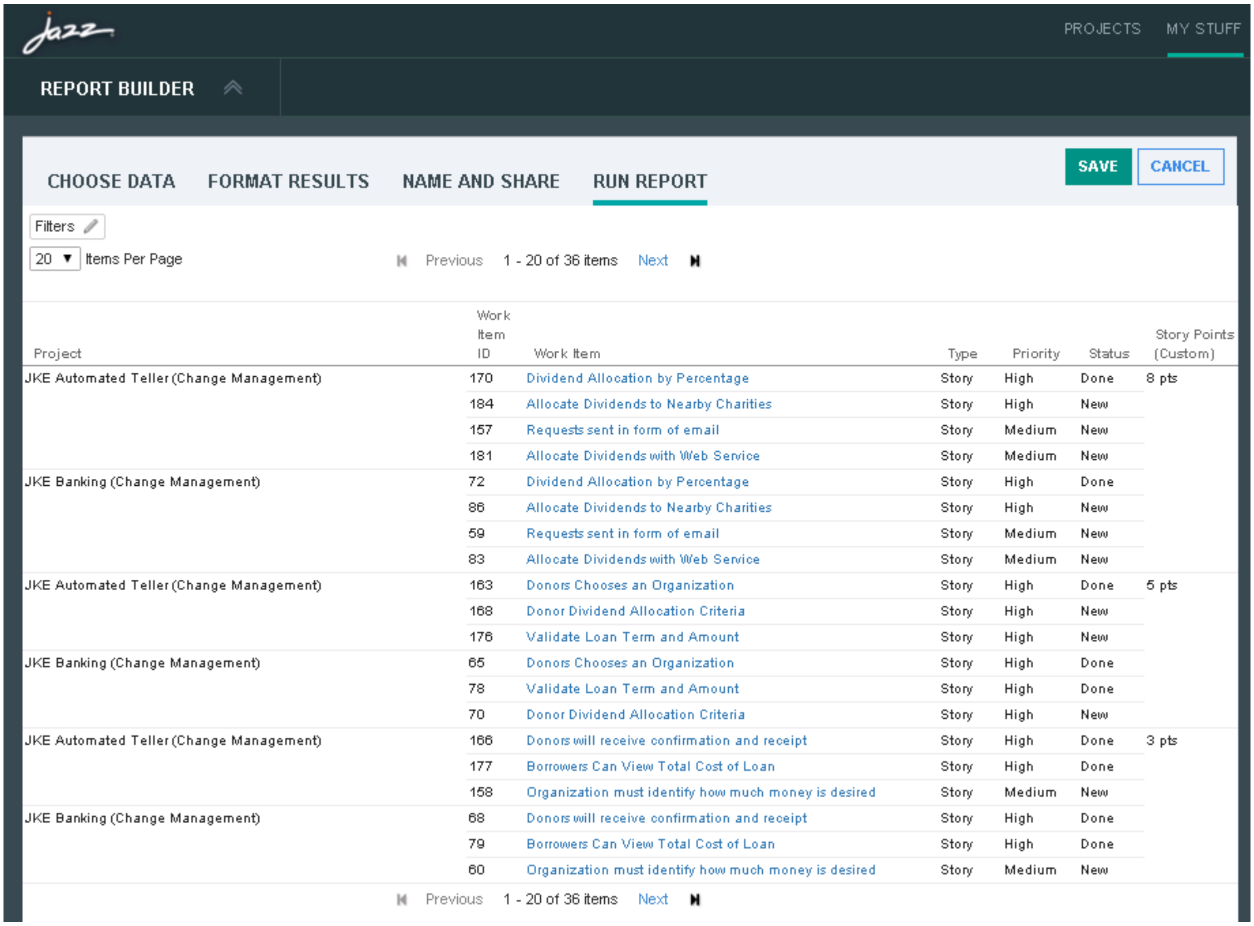
Finally set the **Sort Type** for the Project column to Ascending.

Organize the columns of your report by adding or moving attributes.

Column Label	Attribute	Artifact Type	Sort Type	Sort Order	Calculation	Actions
Project	Project	Work Item	Ascending	2		
Work Item ID	ID	Work Item				
Work Item	Name	Work Item				
URL	URL	Work Item				
Type	Type	Work Item				
Priority	Priority	Work Item				
Status	Status	Work Item				
Story Points (Cı	Story Points (Custom)	Work Item	Descending	1		

Before saving, tagging and sharing the report you need to make sure that it is presenting the right data in the format you expect.

Click **Run Report** to see what the final report will look like.



Project	Work Item ID	Work Item	Type	Priority	Status	Story Points (Custom)
JKE Automated Teller (Change Management)	170	Dividend Allocation by Percentage	Story	High	Done	8 pts
	184	Allocate Dividends to Nearby Charities	Story	High	New	
	157	Requests sent in form of email	Story	Medium	New	
	181	Allocate Dividends with Web Service	Story	Medium	New	
JKE Banking (Change Management)	72	Dividend Allocation by Percentage	Story	High	Done	
	86	Allocate Dividends to Nearby Charities	Story	High	New	
	59	Requests sent in form of email	Story	Medium	New	
	83	Allocate Dividends with Web Service	Story	Medium	New	
JKE Automated Teller (Change Management)	163	Donors Chooses an Organization	Story	High	Done	5 pts
	168	Donor Dividend Allocation Criteria	Story	High	New	
	176	Validate Loan Term and Amount	Story	High	New	
JKE Banking (Change Management)	65	Donors Chooses an Organization	Story	High	Done	
	78	Validate Loan Term and Amount	Story	High	Done	
	70	Donor Dividend Allocation Criteria	Story	High	New	
JKE Automated Teller (Change Management)	166	Donors will receive confirmation and receipt	Story	High	Done	3 pts
	177	Borrowers Can View Total Cost of Loan	Story	High	Done	
	158	Organization must identify how much money is desired	Story	Medium	New	
JKE Banking (Change Management)	68	Donors will receive confirmation and receipt	Story	High	Done	
	79	Borrowers Can View Total Cost of Loan	Story	High	Done	
	60	Organization must identify how much money is desired	Story	Medium	New	

You can switch back to any of the “Choose data” or “Format results” sections to make changes as you see fit, either by clicking on the tabs or the pencil icons in the My Choices pane.

Name, Tag and Share the Report

Now you will save, tag and make the report available to the rest of the team.

Click the **Name and share** tab, enter a name, **Story Point Report by Marco,** and description for the report, “Table of Story points with priority and Status organized by Project Area and in Descending order of Story Point values”.

Change the **Privacy and sharing** setting to “**Public (publish to catalog)**.

You can control who can see your report. Publish it only when you are ready to share it. When you make it public, team members can add it as a widget on their Jazz dashboards or see it on the **All Reports** page.

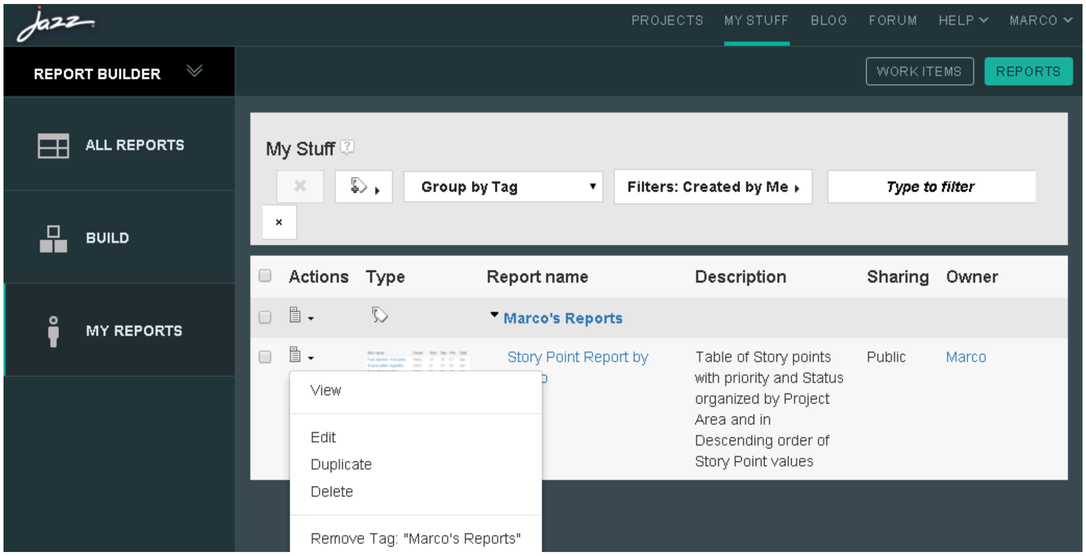
Next go the tags box, type **Marco's Reports** for the tag name and click enter. Then click **Save**.

Hint: As you type, you will see tags that match so you don't have to remember existing tags or create new misspelled tags.

Important: Tag your reports so that they are easy to find, and grouped in a way that is useful to you. Each tag in the Jazz Reporting Service is a category in the Jazz Reporting service widget catalog.

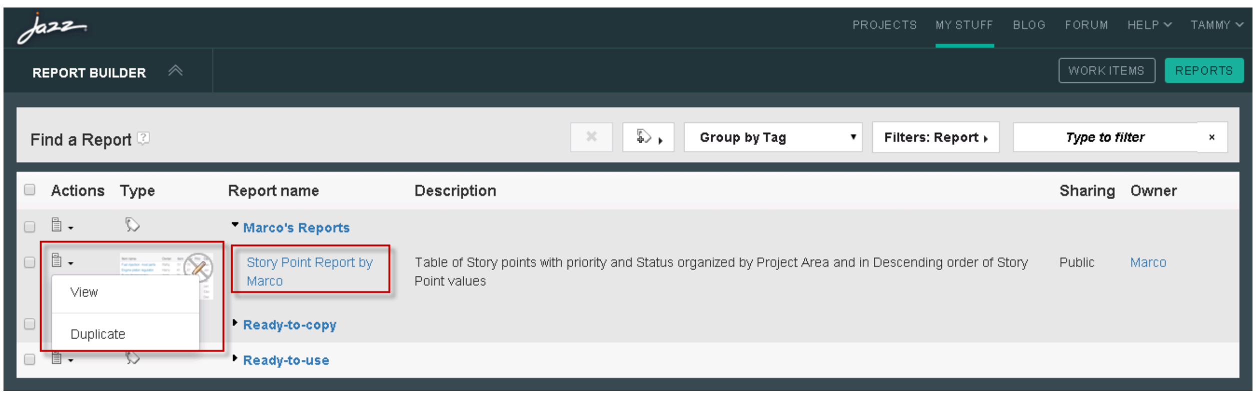
You can now run, and manage this new report from the **My Reports** section of the JRS main page.

Select the Report Builder up arrow and select **My Reports.**

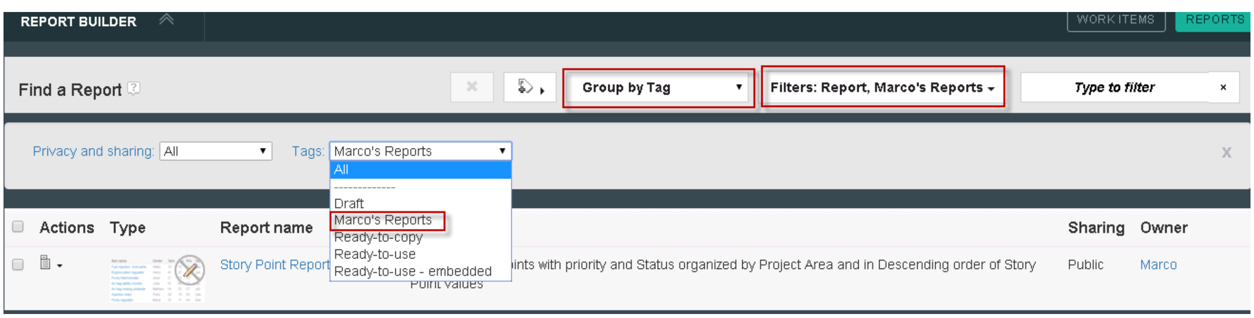


Your team members can also view and use your report (using the **Duplicate** action) as the basis for their own reports from the **All Reports** page.

Navigate to the **All Reports** page. Notice that Marco's Reports is now a category. Expand it to view, run and duplicate the report.



You can also use the "Marco's Reports" tag to group and filter. Click the **Filters:Report** menu at the top right, then from the Tags drop-down, select **Marco's Reports**.

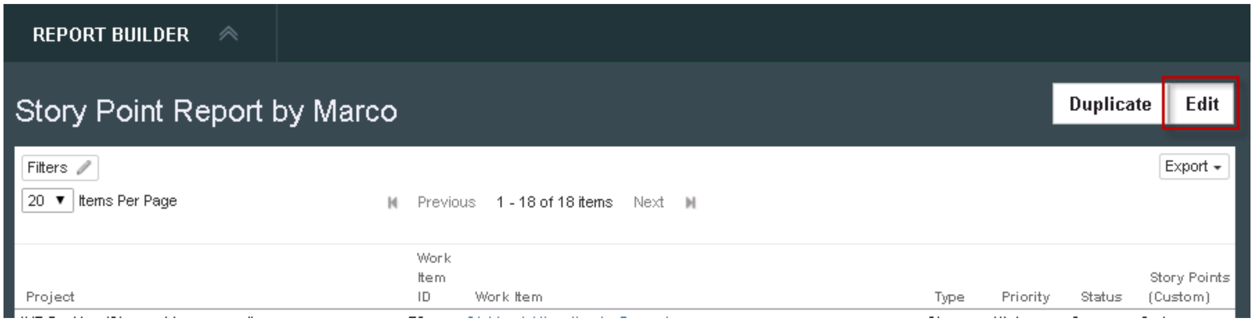


Preview as a graph

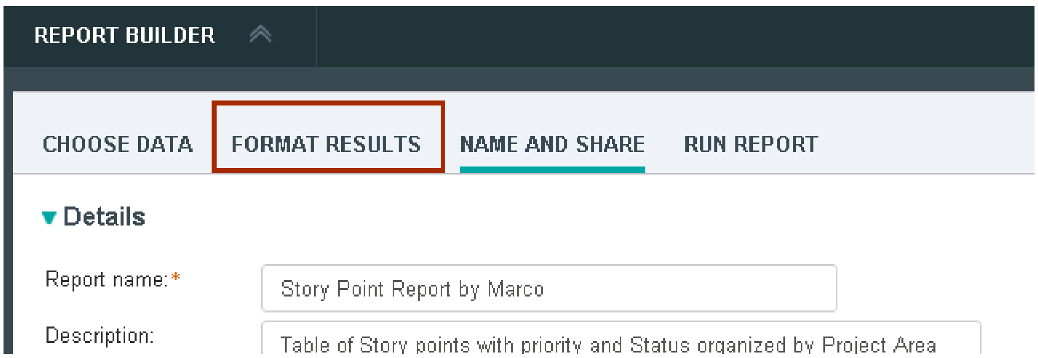
Let’s explore how to view the report you just created as a graph instead of a table.

Click the **Story Point Report by Marco** report that you just created.

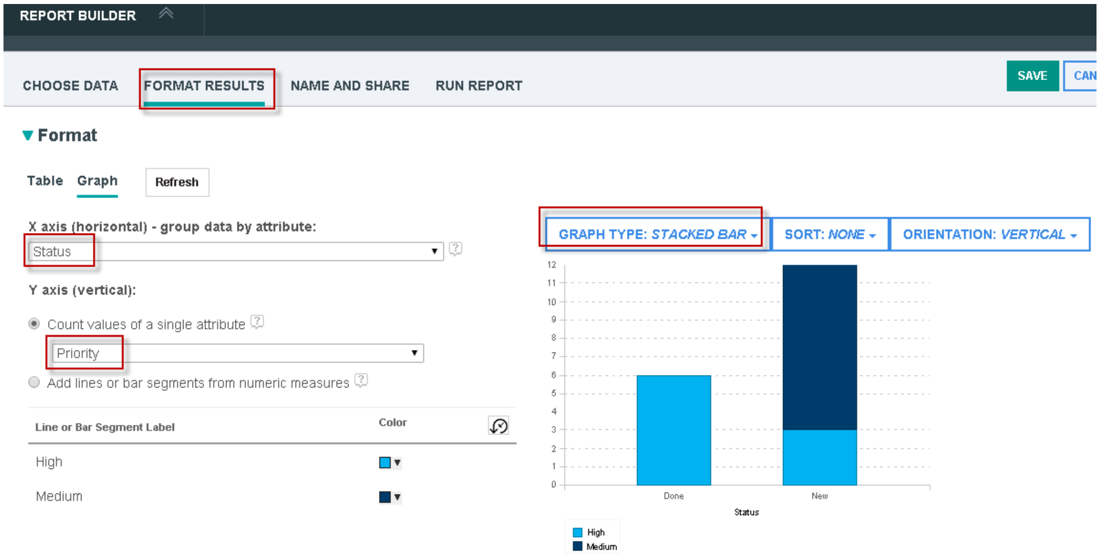
Click **Edit**



Click **Format Results**



Click **Graph** to explore what options are available for displaying the contents of this report graphically.



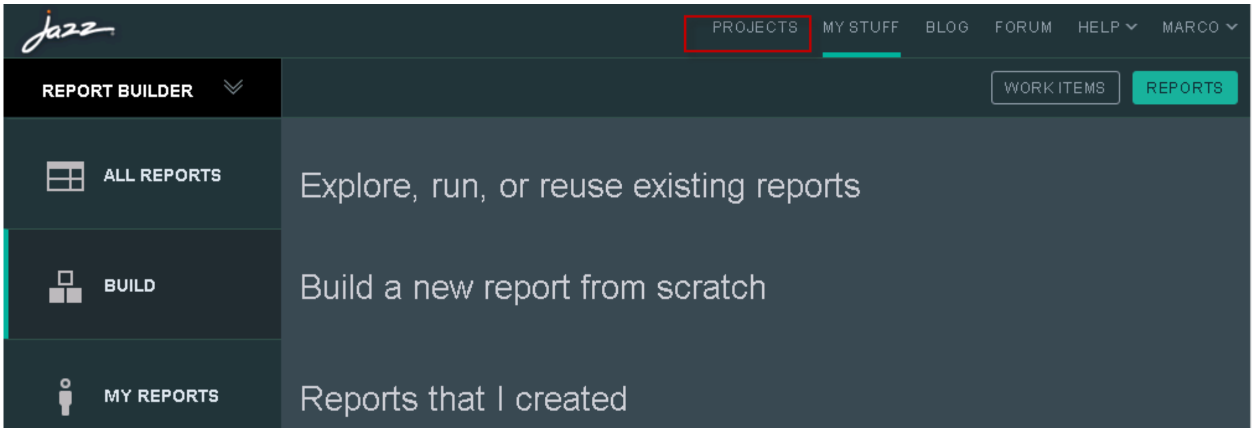
The report results can be grouped based on any of the columns in the report, optionally sorted, and the orientation can be set. You can also find the graph type that best communicates your data: bar, stacked bar, grouped bar, and pie chart. Explore the graph options to see what fits your reporting needs.

For example, switch the x-axis and y-axis parameters. When the status becomes the y-axis, note the lines or bar segments that are added by default. Now the values for the status attribute are used as lines or bar segments.

Adding a report as a widget on a dashboard

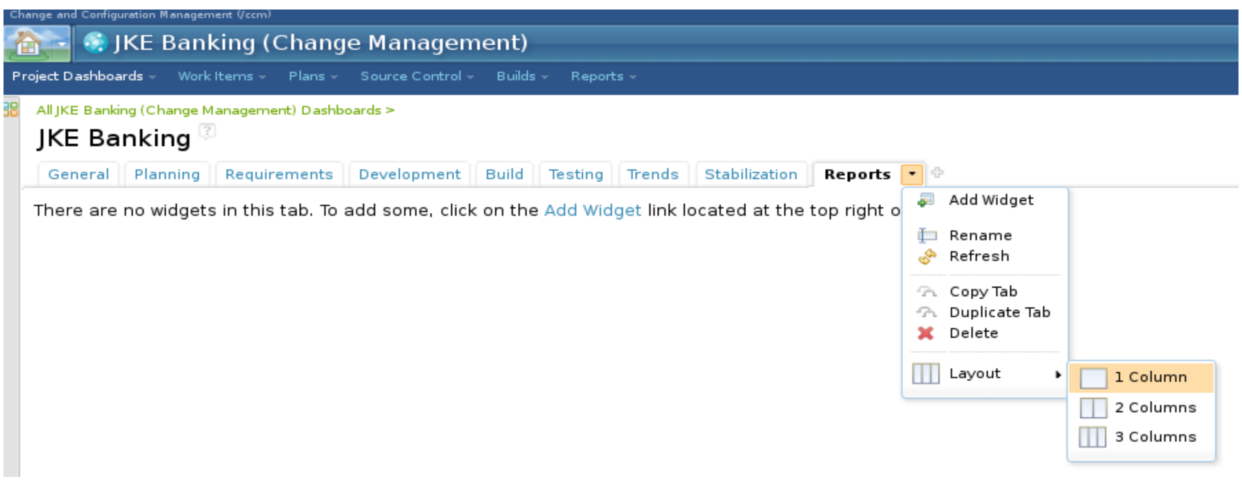
Next, let’s add this report as a widget on a dashboard. Reports you build and publish as well as the ready-to-copy/ready-to-use reports get added to the JRS widget catalog. This catalog provides widgets that can be added to a dashboard.

From the JRS toolbar, select **Projects**.

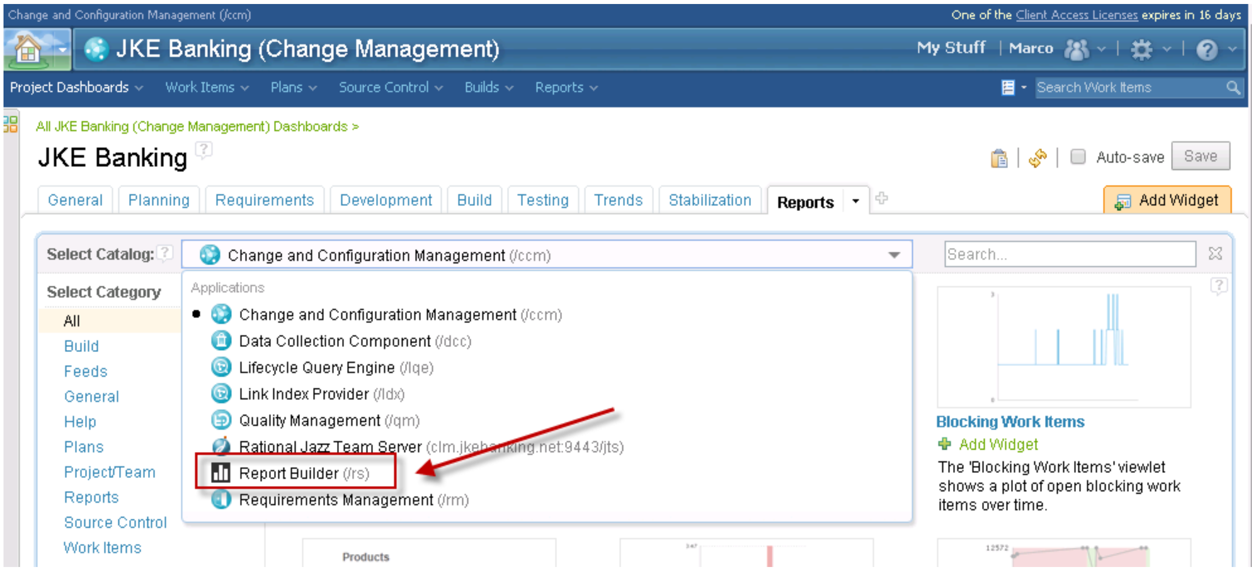


This takes you to the list of projects. Select **JKE Banking (Change Management)** to open that project's dashboard.

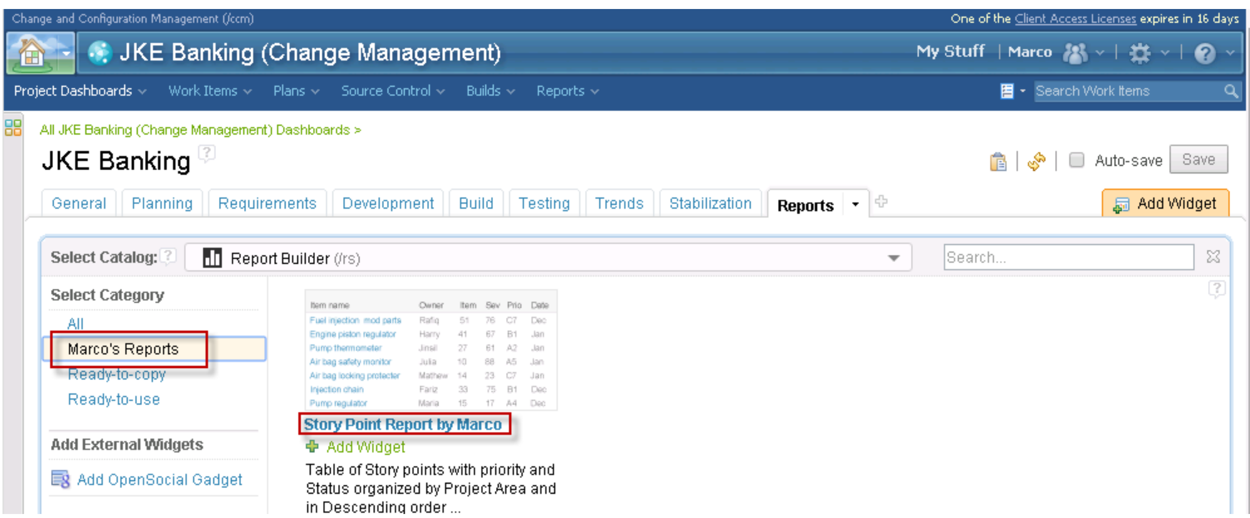
Click the + icon to the right of the list of tabs, and create a new tab for the JKE Banking dash-board. Caii it **Reports** and set the layout to 1 Column. This layout makes these large widgets readable without scrolling. Click **Save.**



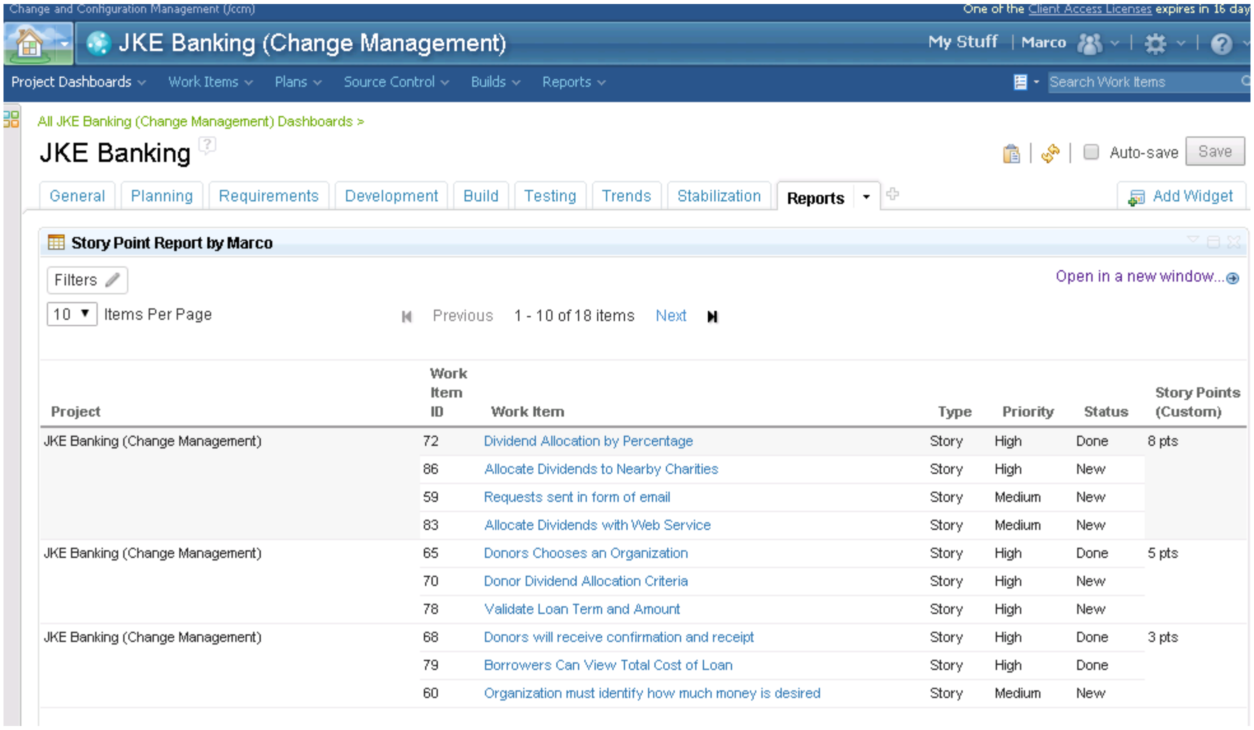
Then select **Add Widget** and select the Report Builder catalog.



Notice that the previously created tag, **'Marco's Reports'**, behaves as a category within the Report Builder catalog.



Select 'Marco's Reports' to find the report we created earlier. Click **Add Widget** and **Save.** This adds the report '**Story point Report by Marco**' to the Reports dashboard. If you see a login prompt, click Log in to run the report.



The widget can be expanded using the control on the right side. It can also be maximized. The gadget height can also be manually set using the Settings menu option. By default, it is set to zero which sets a default gadget height.

Exercise 3: Creating a traceability report

You will now use the Report Builder to create a multi-artifact traceability report where you can define the relationships you want to see between artifacts. Traceability reports allow you to get an assessment of progress across the entire lifecycle. For example, you can build a test coverage report that shows the test cases for requirements as well as the defects associated with those test cases. Visibility across the lifecycle disciplines allows you to be better prepared to respond to changes quickly, to keep projects on track, drill down to unlock key data and stay ahead of problems.

Creating requirements lifecycle coverage report

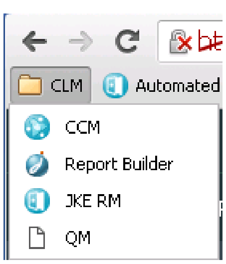
In this lab, you will work as a test manager responsible for making sure that all of the necessary requirements are being implemented, validated, and that testing is running smoothly and on schedule. You need to create a report to verify that the test coverage on your project is sufficient. You create a report that shows requirements and their related test cases, and in turn the work items related to the test cases. This helps you to verify the coverage and identify gaps in the testing.

You will learn:

- Create a report that shows requirements and their related test cases, and the work items related to the test cases
- Report on relationships between requirements and test cases
- Create conditions that refine what test artifacts to return

Logout of JKE Banking (Change Management).

Using the bookmarks toolbar, launch Report Builder.



Login to Report Builder using the following credentials:

User ID: tanuj
Password: tanuj

From the Report Builder home page, select **Report Builder**->**Build**.

Key questions to ask when building reports: What type of artifacts do you want to collect data about? What projects contain the data you want? What data do you care about? What are the relationships between the data.

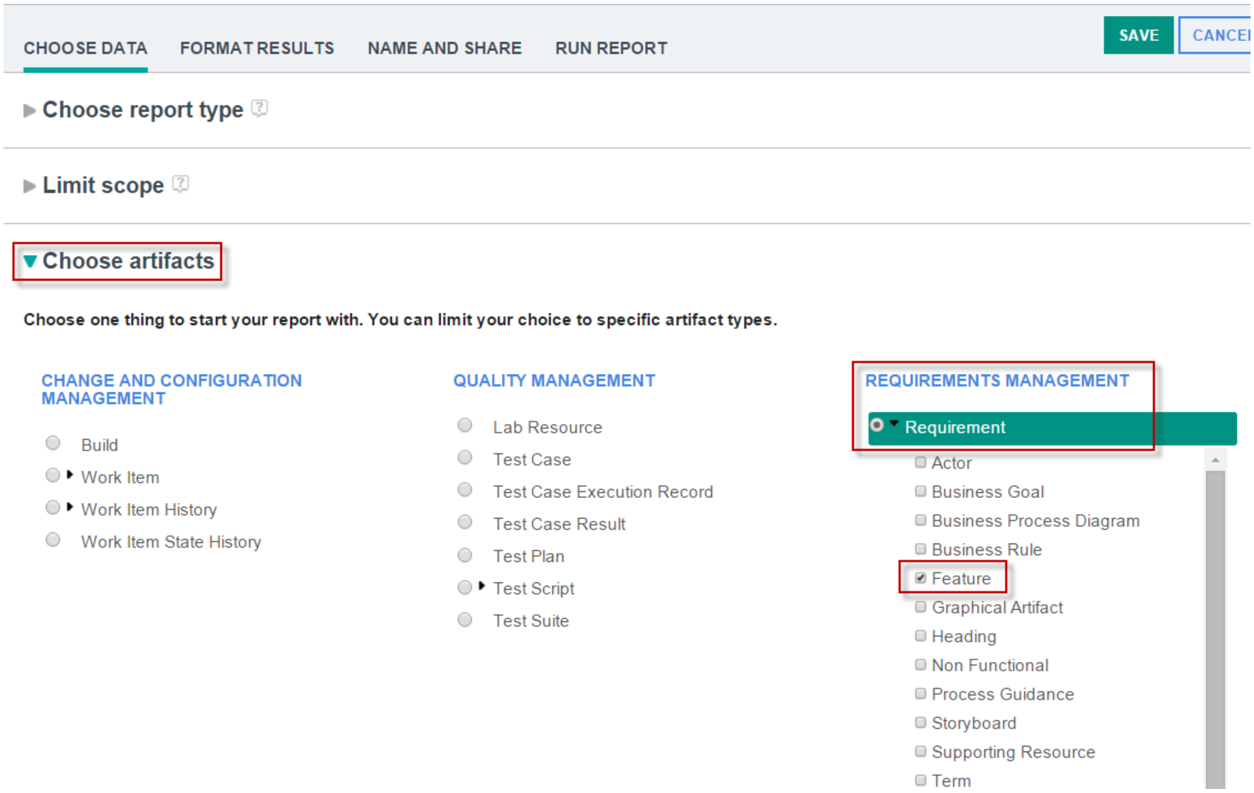
Leave the report type set to the default: **Current Data**

Click **Continue** to select the scope of this report. This list comes from the data source, and is filtered by the projects you have access to.

You can see public project areas and projects you belong to. However, if you have different permissions for accessing the data than your colleagues, the same report will produce different results when you run it.

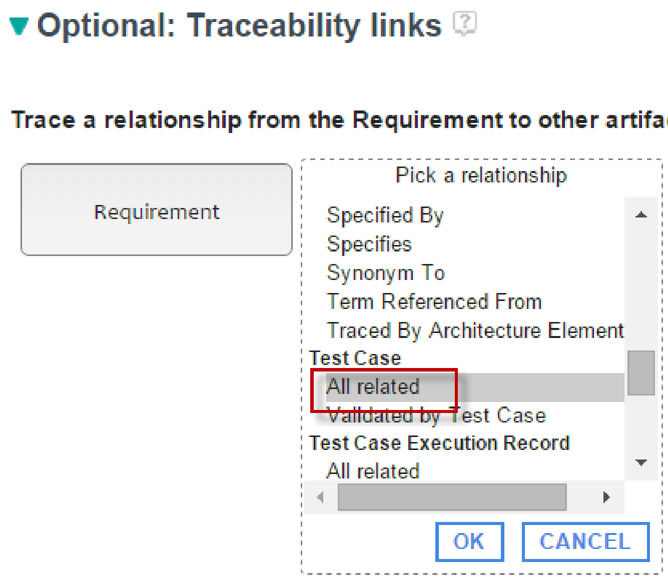
Select the **JKE Banking (Quality Management), and JKE Banking (Requirements Management)** projects. You can type in the Search filter to narrow down the list if you have access to many projects in the repository.

Click **Continue** to select the artifact type. Under the **Requirements Management** section, expand the **Requirement** twisty, and select the **Feature** requirement type.



Click **Continue** or select the **Optional: Traceability links** section to open it.

Click **Add Relationship.** Under the **Test Case** heading, select **All Related** and click **OK.**



Your report needs to include all requirements, whether or not they have test cases. Select **Optional** to help identify gaps in your test coverage.

Relationship links include all the relationship types available for that artifact. For example, to show that a requirement is validated by a test case, select the Related Test Case relationship. In the Set Conditions section, you can create a condition for the specific relationship. The Jazz Reporting Service can show 1-to-1 and 1-to-many traceability relationships.

Required returns only results for which a relationship exists between artifacts. If selected, only the requirements that have related test cases are shown. **Required** does not help you identify gaps in your test coverage. **Optional** returns all results regardless of the existence of a relationship.

You may want to run this report with **Required** and then **Optional** set to explore the differences in the results.

You can change the labels of the artifacts when defining the relationships for the report, or later when you format the results display. Double click on the **Requirements** label to change it to **Feature**, if desired.

You can remove relationships and artifacts by clicking the **X** on an item; this removes the selected item and all others to the right. You can also click **Back** to remove the most recent item or relationship pair in the list.

At this point it is a good time to Preview your report. Select **Format Results** tab and click **Refresh** to see what the report looks like so far.

Project (Feature)	Feature ID	Feature (linked with URL)	Test Case ID	Test Case (linked with URL)
JKE Banking (Requirements Management)	110	Organizations may apply with an initial request	8	Organizations may apply with an initial request
	148	Donors will receive confirmation and receipt	14	Donors will receive confirmation and receipt
	163	Requests sent in form of email	5	Process email requests
	168	Customers can nominate an organization for the program	10	Customers can Nominate an Organization
	178	Donor Dividend Allocation Criteria	16	Donor dividend allocation conforms to stated criteria
	181	Organizations can apply	15	Organizations can Apply

Previewing your report is typically most efficient after you select the artifacts to report on, build traceability links, and select the projects to report on. You can also preview the report results as a table or a graph..

In the preview, depending on the sample set displayed, you may notice 1-to-many relationship between the requirements and the test cases. They are displayed all in the same test case row.

If you make changes and want to preview again, click **Refresh** to generate a new preview display. This section can always be collapsed when you don't need to see a preview of the report.

Set Conditions for the report

In this section, you will add conditions that further refine the results of your report.

Go back to the **Choose Data** tab.

Scroll down and click **Set Conditions** to expand this section. Click **Add Condition**.

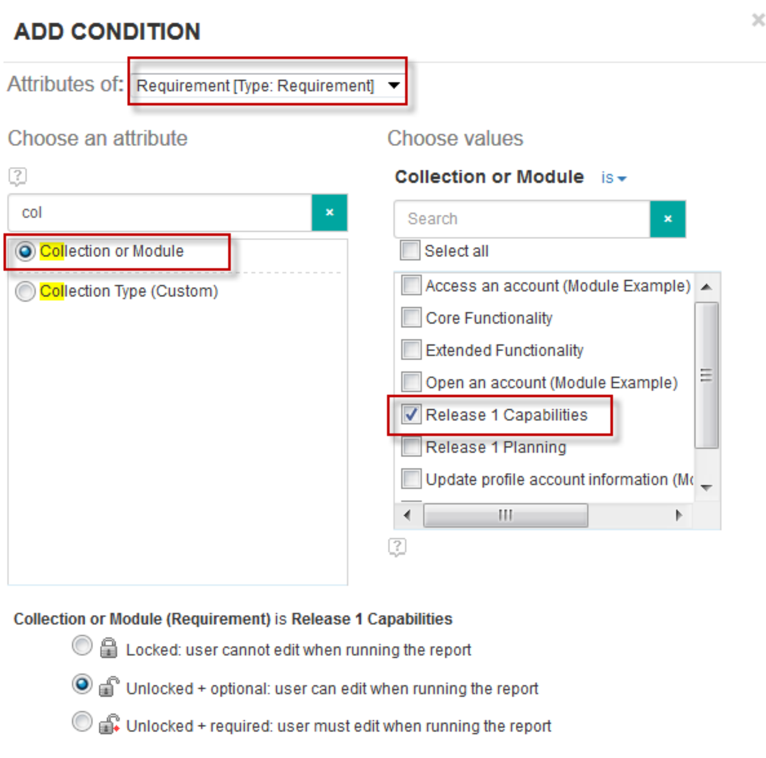
When you add a condition, make sure the correct artifact is selected from the "Attributes of" menu. This list comes from your selections in the Artifact type and Traceability Links sections of the Report Builder.

Start by specifying conditions for the requirements you want added to the report. For this report, you only want to see requirements from a specific collection or module that your project has named “Release 1 Capabilities”. You can search for an attribute name, or scroll the list to find it.

Type ‘col’ in the attribute search filter or scroll to find the **Collection or Module** attribute.

Select it and then on the right-hand side, select the **Release 1 Capabilities** collection.

Click **ADD.**

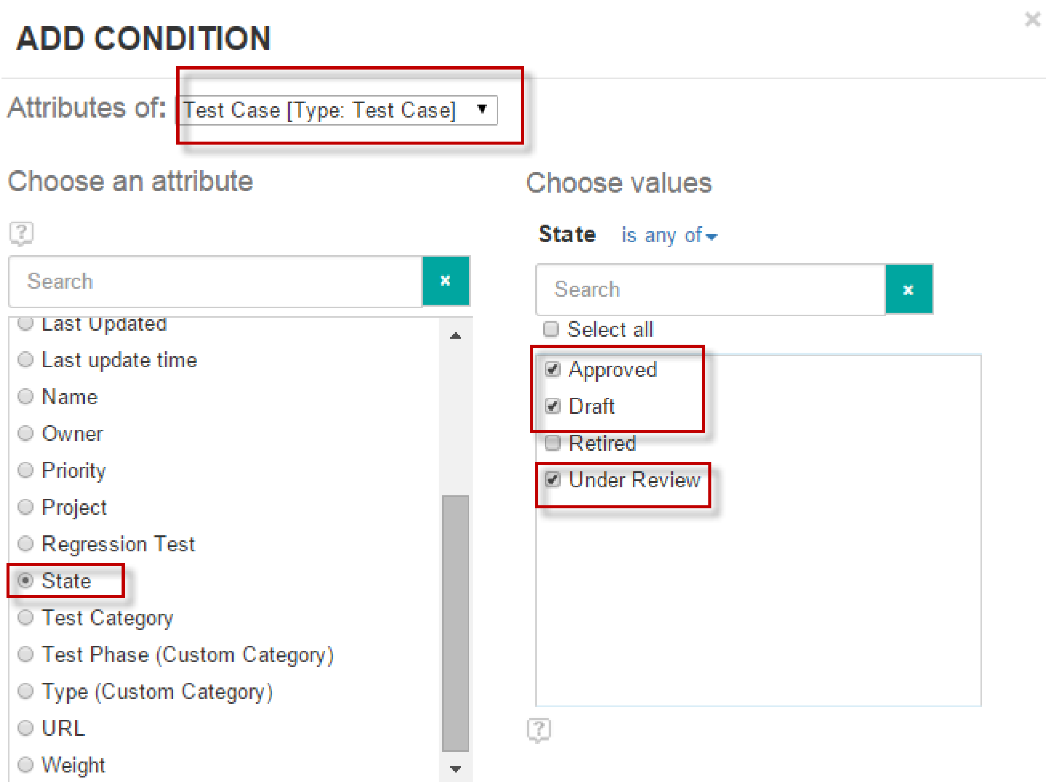


Notice that after you create and save each condition, it is added to the “saved conditions” list at the top of the section, and to **My Choices** on the right. To modify a specific condition, click the pencil beside it.

Optional: You can choose to preview your report again by switching to the **Format Results** tab and clicking **Refresh** to see how the report content has changed.

Next, select **Test Case[Type: Test Case]** in the Attributes dropdown. Set a condition to filter on test cases with the following states: Approved, Draft, or Under Review.

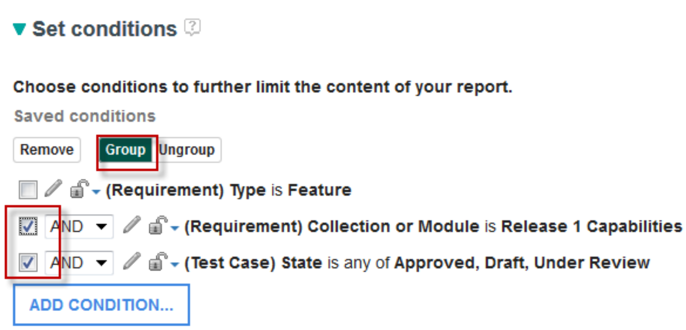
Click **Add & Close**.



You now have three conditions set up. You can further refine your results by choosing to group or ungroup conditions. Grouping attributes can help when you add three or more conditions.

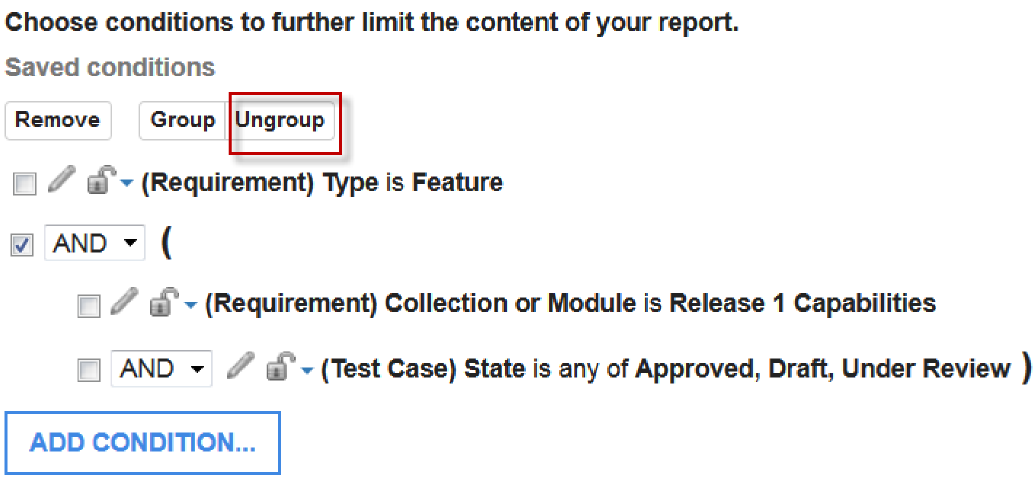
You can only group conditions that are next to each other in the Saved conditions list.

Explore how grouping the two new conditions changes the results preview. Group the conditions by selecting the checkbox next to each condition and click **Group.**



Notice the parentheses that are added after you click **Group.** Refresh the results in the preview pane. Next, change the operator to **OR.** Refresh the results and notice any changes.

Remove the grouping of the two conditions by selecting the grouping and clicking **Ungroup.**



Format the report

Now that it looks like the report contains the information you want (requirements from the collection, and the test case coverage), make the report look like you want by including specific columns and rewording any column headings.

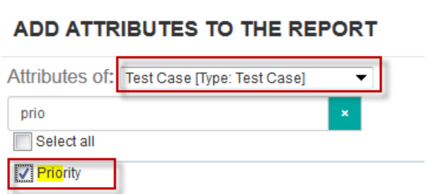
Click the **Format Results** tab.

There will be some default columns based on the artifacts and types you are reporting on.

Name and URL fields are combined automatically to create artifact links. Do NOT remove either of these columns if you want links in the final report.

You may want different columns depending on how you will use the report and who will be the audience for the report.

Add a column to show the priority of the test cases. Select the **Test case : Type Test case** artifact type from the **Attributes** menu, select **Priority** and click **Add**.



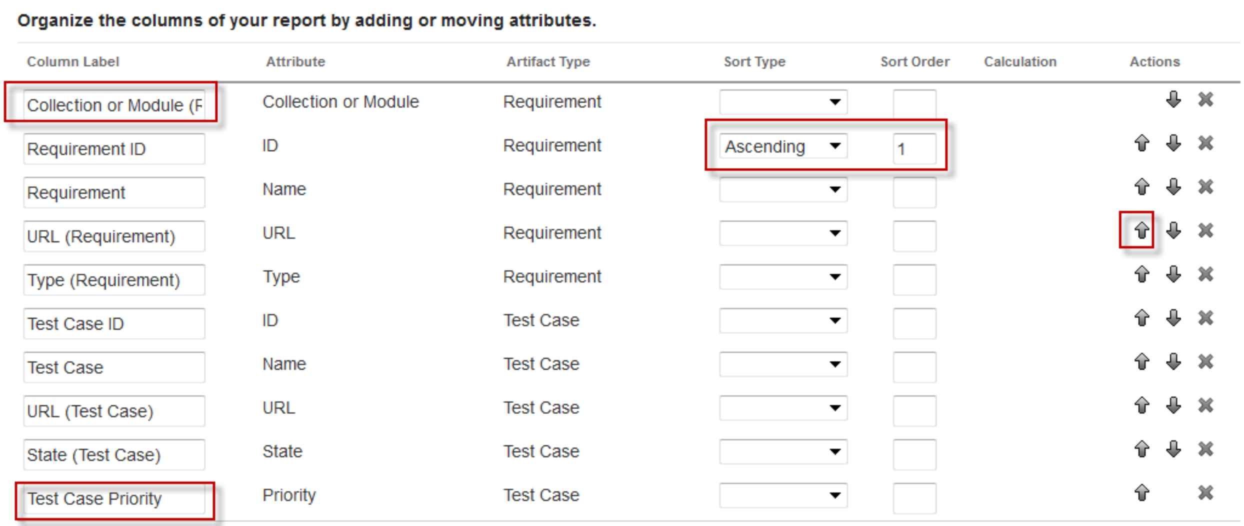
Columns can be renamed or removed.

Rename ‘Priority’ to ‘Test Case Priority’ and remove the Project column by clicking the x on the right (click **OK** when prompted to confirm).

Columns can also be rearranged. Use the arrows in the Actions column to move the Collection or Module column to the top of the list. The rest should remain as-is.

Artifacts in the report can also be sorted by order and type. Sort requirements by Feature ID in ascending order.

Note: The sort order field is filled automatically as you specify how to sort columns.



Organize the columns of your report by adding or moving attributes.

Column Label	Attribute	Artifact Type	Sort Type	Sort Order	Calculation	Actions
Collection or Module (F	Collection or Module	Requirement				
Requirement ID	ID	Requirement	Ascending	1		
Requirement	Name	Requirement				
URL (Requirement)	URL	Requirement				
Type (Requirement)	Type	Requirement				
Test Case ID	ID	Test Case				
Test Case	Name	Test Case				
URL (Test Case)	URL	Test Case				
State (Test Case)	State	Test Case				
Test Case Priority	Priority	Test Case				

Now we are done formatting the report, click **Continue.**

Name and share the report with your colleagues. Name the report: **Release 1 Capabilities: Test Coverage and Status.**

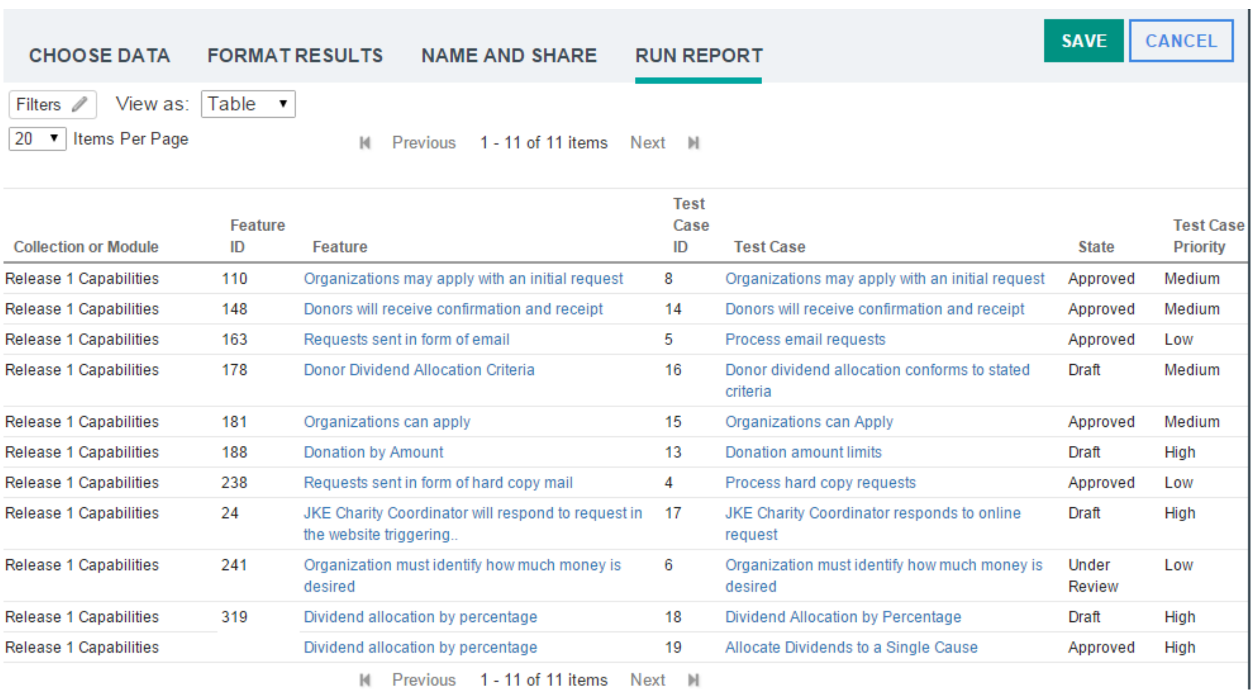
Add a description to help colleagues understand what’s in your report. Add this description: *Test coverage report for Release 1 capabilities: shows requirements and their associated test cases, and identifies gaps in test coverage (requirements without test cases), and status of test cases.*

As seen earlier in this workshop, making the report public adds this report to the JRS widget catalog for use in a dashboard.

In addition to publishing the report to the catalog by making its visibility public, you can also add tags to make the report easy to find or to group it with other related reports.

Remember that tags are used as categories in the JRS widget catalog.

Click **Save** and view the results by clicking **Run Report**.



Collection or Module	Feature ID	Feature	Test Case ID	Test Case	State	Test Case Priority
Release 1 Capabilities	110	Organizations may apply with an initial request	8	Organizations may apply with an initial request	Approved	Medium
Release 1 Capabilities	148	Donors will receive confirmation and receipt	14	Donors will receive confirmation and receipt	Approved	Medium
Release 1 Capabilities	163	Requests sent in form of email	5	Process email requests	Approved	Low
Release 1 Capabilities	178	Donor Dividend Allocation Criteria	16	Donor dividend allocation conforms to stated criteria	Draft	Medium
Release 1 Capabilities	181	Organizations can apply	15	Organizations can Apply	Approved	Medium
Release 1 Capabilities	188	Donation by Amount	13	Donation amount limits	Draft	High
Release 1 Capabilities	238	Requests sent in form of hard copy mail	4	Process hard copy requests	Approved	Low
Release 1 Capabilities	24	JKE Charity Coordinator will respond to request in the website triggering..	17	JKE Charity Coordinator responds to online request	Draft	High
Release 1 Capabilities	241	Organization must identify how much money is desired	6	Organization must identify how much money is desired	Under Review	Low
Release 1 Capabilities	319	Dividend allocation by percentage	18	Dividend Allocation by Percentage	Draft	High
Release 1 Capabilities		Dividend allocation by percentage	19	Allocate Dividends to a Single Cause	Approved	High

Exercise 4: Summary Reports

In an earlier version of JRS, one could create a summary report as a graph (bar chart) that counted the number of rows for a particular set of values of a column. However, the configuration was somewhat limited, and one could not limit the set of values to report on. There were also potential performance issues because the summary totals were counted after the report query had been run on the data source. Starting with version 6.0, there is now first class support for summary reports for count, sum, maximum, minimum, or average values for all values or particular values of an attribute.

In this lab, you will

- Create a summary report of all defect work items and their severity for each team area
- Add a calculated value column for stop ship (Blocker, Critical and Major) defects
- Add a calculated value column for minor and Normal severity defects
- Add a calculated value column for the total number of defects
- Drill down to display the work items that contribute to a particular summary value

Create a summary report

Let's create a summary report of all defects and severity values for each component.

Login to Report Builder as Marco, if not already.

From the Report Builder dropdown, select **Build**.

For the report type, leave the default set to **Current Data**. Click **Continue**.

Under **Limit Scope**, select the JKE Banking (Change Management) project area. Click **Continue**.

Select **Work item -> defect** in the Choose artifacts section. Click **Continue**.

Since you aren't adding other artifacts or conditions, click **Format Results** to open that tab.

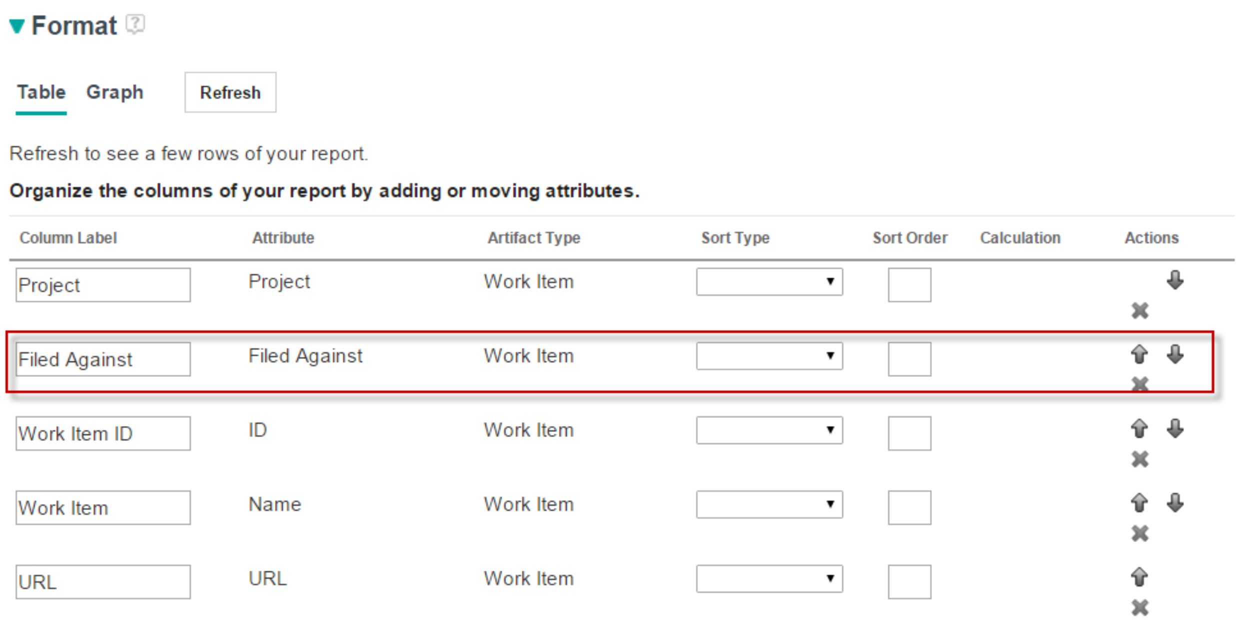
Since we want to organize the summaries by team area, we should remove the **Type** column and add a column for **Filed Against**. You should know how to do this by now.

Hint: Try to organize your report column groupings from left to right which will result in a more user friendly report display.

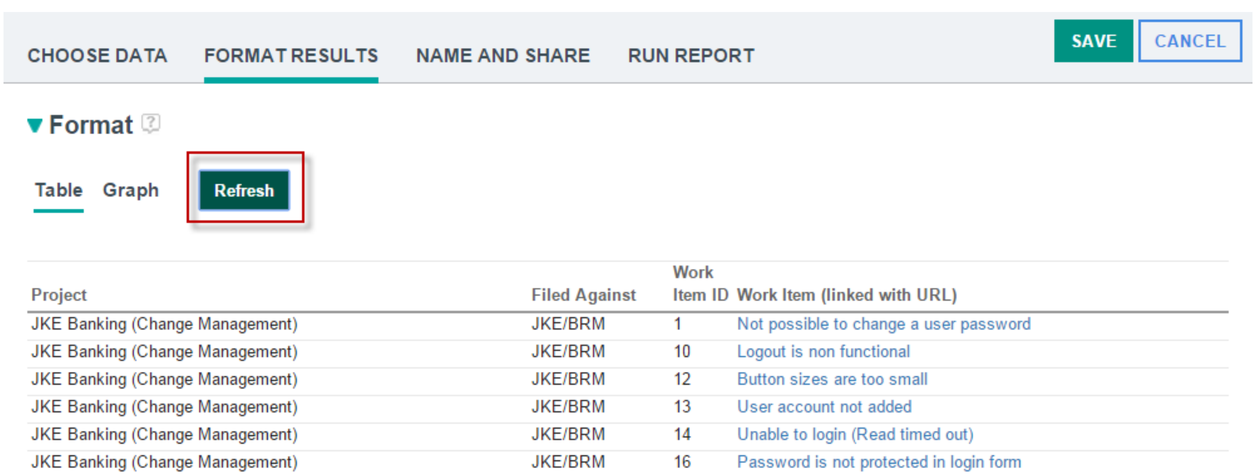
Hint: (Shortcut) Hit Enter key will continue moving a column up or down in same direction.

Move the **Filed Against** field up so that it is the 2nd row.

The **Columns** pane should like this:



Preview the report results by clicking Refresh.



Now let’s run the report to see the actual report results display, not just a preview.

CHOOSE DATA | FORMAT RESULTS | NAME AND SHARE | RUN REPORT | SAVE | CANCEL

Filters

20 Items Per Page — Previous 1 - 20 of 34 items Next

Project	Filed Against	Work Item ID	Work Item
JKE Banking (Change Management)	JKE/BRM	1	Not possible to change a user password
JKE Banking (Change Management)	JKE/BRM	10	Logout is non functional
JKE Banking (Change Management)	JKE/BRM	12	Button sizes are too small
JKE Banking (Change Management)	JKE/BRM	13	User account not added
JKE Banking (Change Management)	JKE/BRM	14	Unable to login (Read timed out)
JKE Banking (Change Management)	JKE/BRM	16	Password is not protected in login form
JKE Banking (Change Management)	JKE/BRM	18	Banner is not transparent
JKE Banking (Change Management)	JKE/BRM	2	Allow to edit user details
JKE Banking (Change Management)	JKE/BRM	20	Browser Exception
JKE Banking (Change Management)	JKE/BRM	23	Search is not finding this term
JKE Banking (Change Management)	JKE/BRM	25	Logout is not working anymore
JKE Banking (Change Management)	JKE/BRM	27	Improve link colors
JKE Banking (Change Management)	JKE/BRM	3	Allow a user to create a dashboard of information
JKE Banking (Change Management)	JKE/BRM	37	SWT Exception
JKE Banking (Change Management)	JKE/BRM	5	Improve loan calculation algorithm
JKE Banking (Change Management)	JKE/BRM	7	Offer more services related to loans
JKE Banking (Change Management)	JKE/Banking Logic	9	To many messages logged in the console
JKE Banking (Change Management)	JKE/Database	22	Calculation error
JKE Banking (Change Management)	JKE/Java UI	35	Running out of SWT handles
JKE Banking (Change Management)	JKE/Java UI	36	Found this SWT Exception in the logs

Previous 1 - 20 of 34 items Next

Hint: Notice that the project and team area attributes are repeated for each result row. Can this be collapsed? Yes, there is a formatting tip explained in Appendix A that shows how to do this.

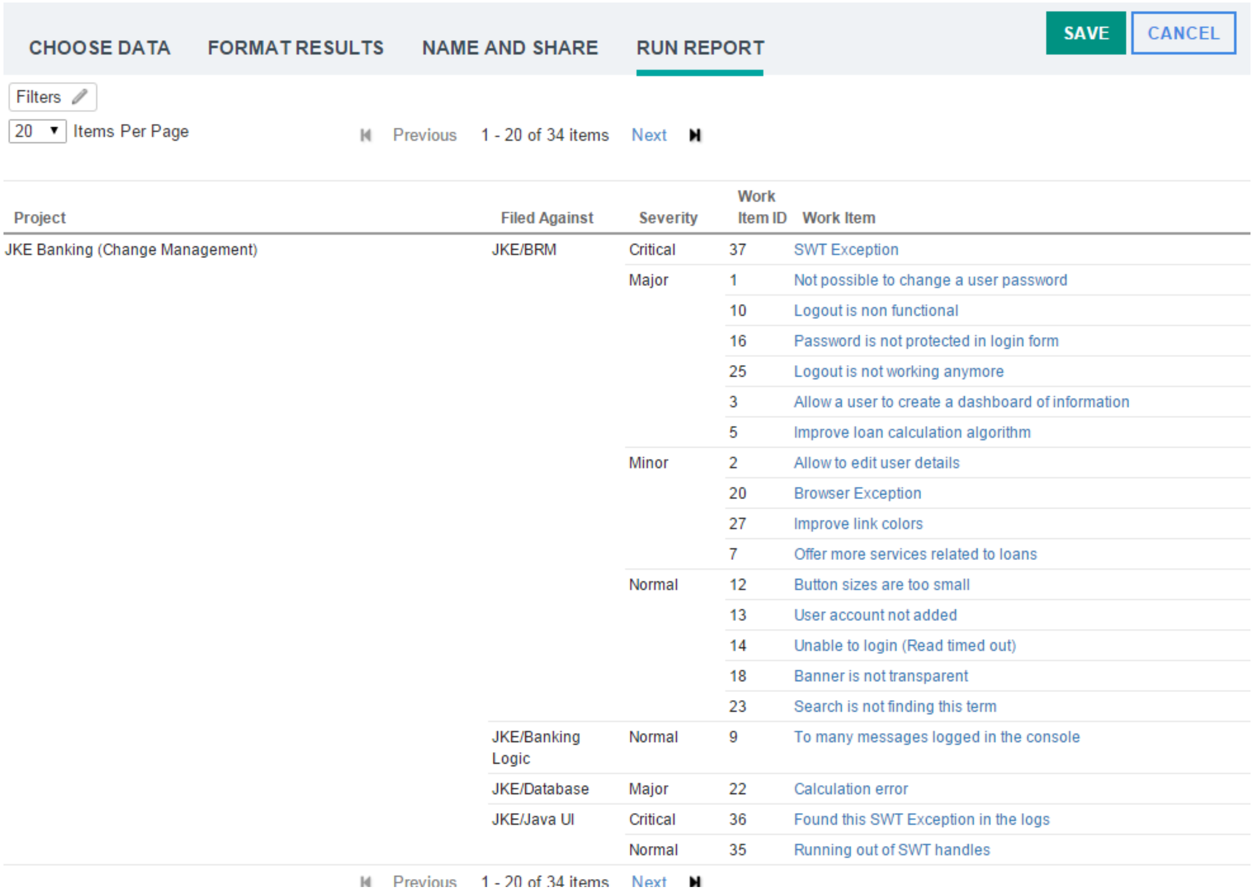
Now let's add the Severity attribute column. Select the **Format Results** tab.

Add the Severity attribute as a column. Make the Severity column the 3rd column. Then apply a sort order sequentially to the first three columns as shown here:

Organize the columns of your report by adding or moving attributes.

Column Label	Attribute	Artifact Type	Sort Type	Sort Order	Calculation	Actions
Project	Project	Work Item	Ascending	1		
Filed Against	Filed Against	Work Item	Ascending	2		
Severity	Severity	Work Item	Ascending	3		

This formatting will result in the following report display:



CHOOSE DATA FORMAT RESULTS NAME AND SHARE RUN REPORT SAVE CANCEL

Filters

20 Items Per Page Previous 1 - 20 of 34 items Next

Project	Filed Against	Severity	Work Item ID	Work Item
JKE Banking (Change Management)	JKE/BRM	Critical	37	SWT Exception
		Major	1	Not possible to change a user password
			10	Logout is non functional
			16	Password is not protected in login form
			25	Logout is not working anymore
			3	Allow a user to create a dashboard of information
			5	Improve loan calculation algorithm
		Minor	2	Allow to edit user details
			20	Browser Exception
			27	Improve link colors
			7	Offer more services related to loans
		Normal	12	Button sizes are too small
			13	User account not added
			14	Unable to login (Read timed out)
			18	Banner is not transparent
			23	Search is not finding this term
	JKE/Banking Logic	Normal	9	To many messages logged in the console
	JKE/Database	Major	22	Calculation error
	JKE/Java UI	Critical	36	Found this SWT Exception in the logs
		Normal	35	Running out of SWT handles

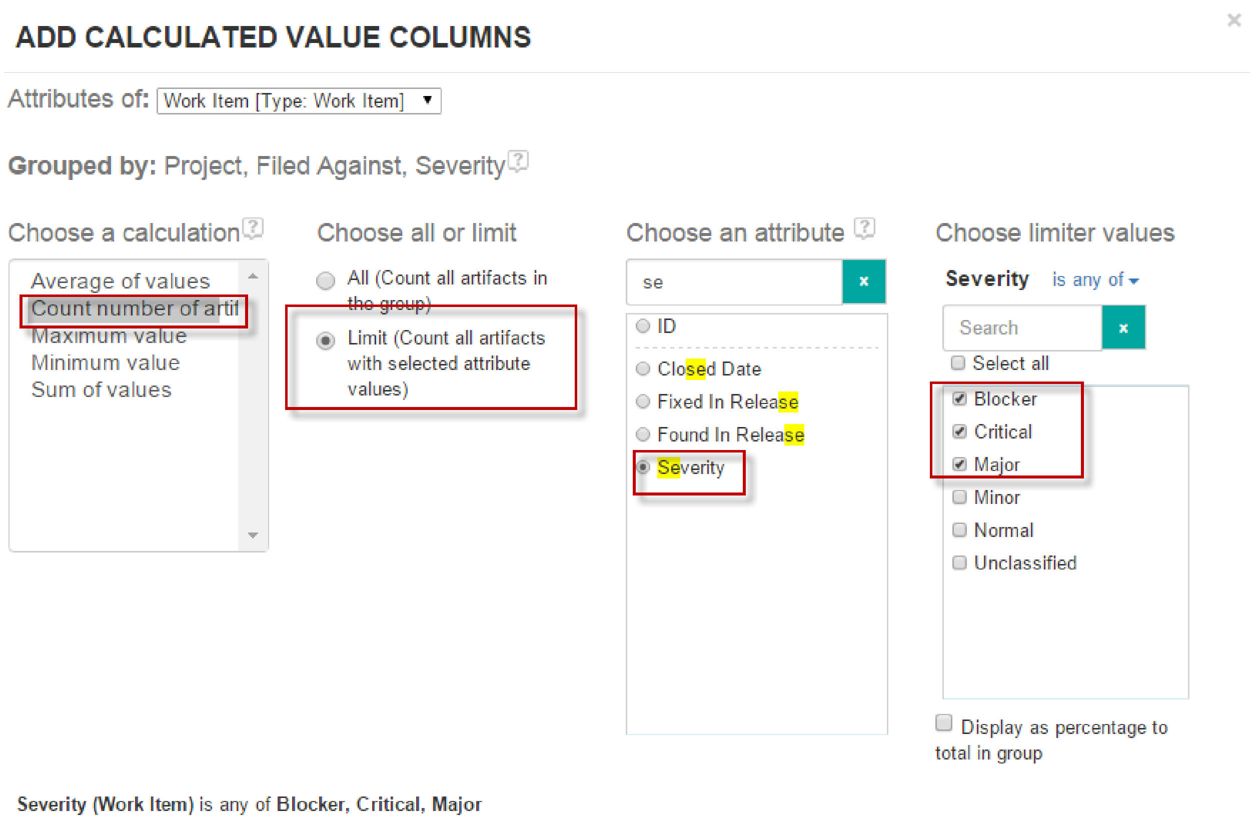
Previous 1 - 20 of 34 items Next

Note: The sorting applied to the first three columns and their position as the first three columns from left to right is what causes the report display to group all the results by project, team area and severity.

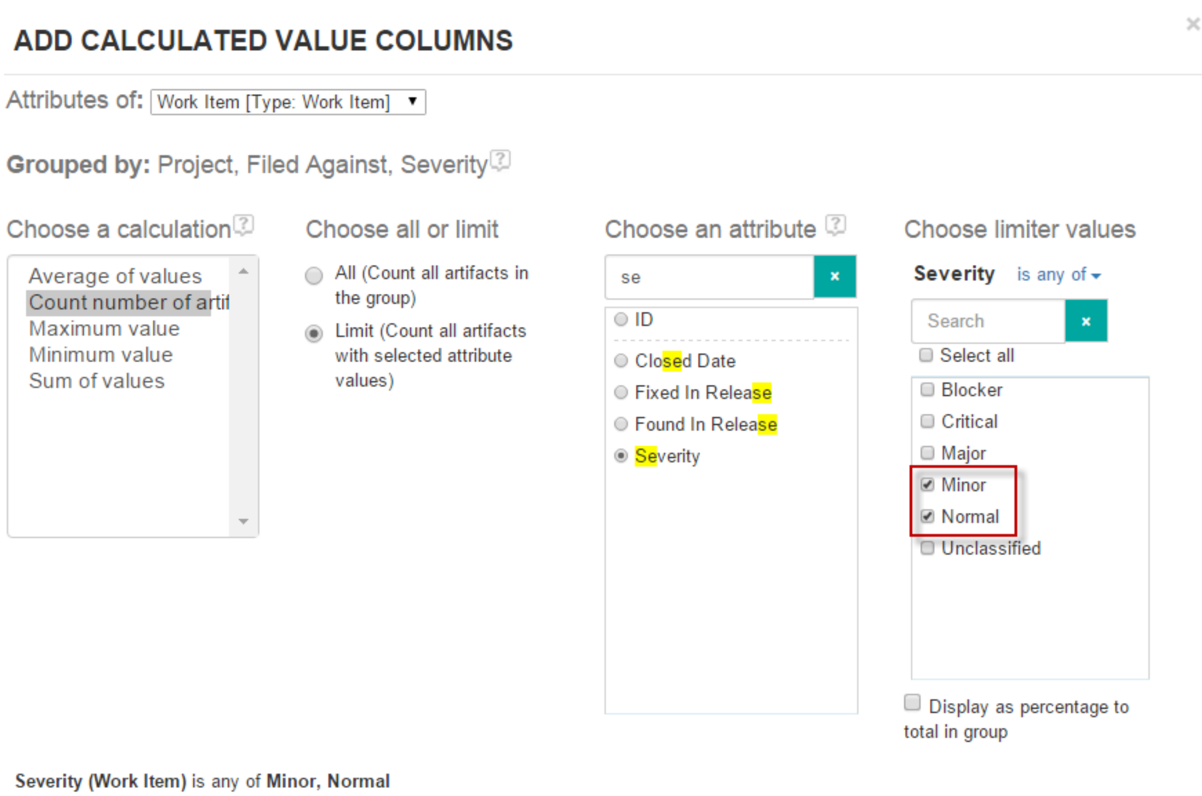
Now, let's add the calculated value columns for the stop ship severity defects (Blocker, Critical and Major), the lower severity defects (Minor and Normal), and the total number of defects by severity.

Go back to the **Format Results** tab.

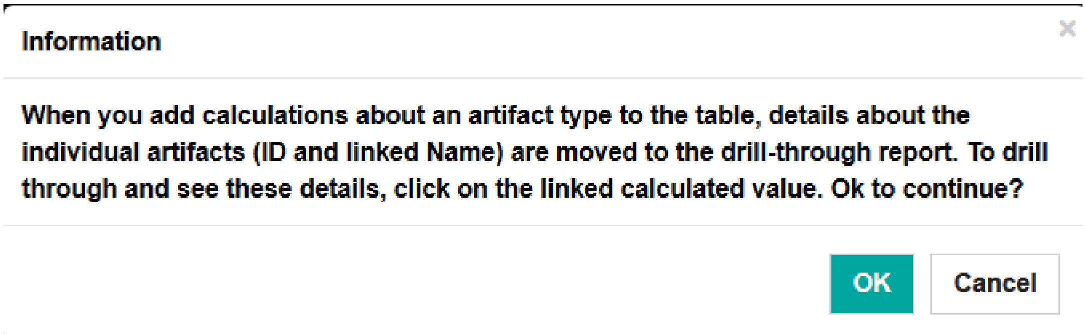
Click the **Add calculated value columns** button. Select **Count number of artifacts**, and then **Limit (Count all artifacts with selected attribute values).** Choose the **Severity** attribute and set the **limiter values** to Critical, Blocker and Major. Click **Add**.



Add another calculated value column for the lower severity defect count. Click **Add and Close.**



You will see this dialog box which explains what will happen to some of the existing columns in your report definition.



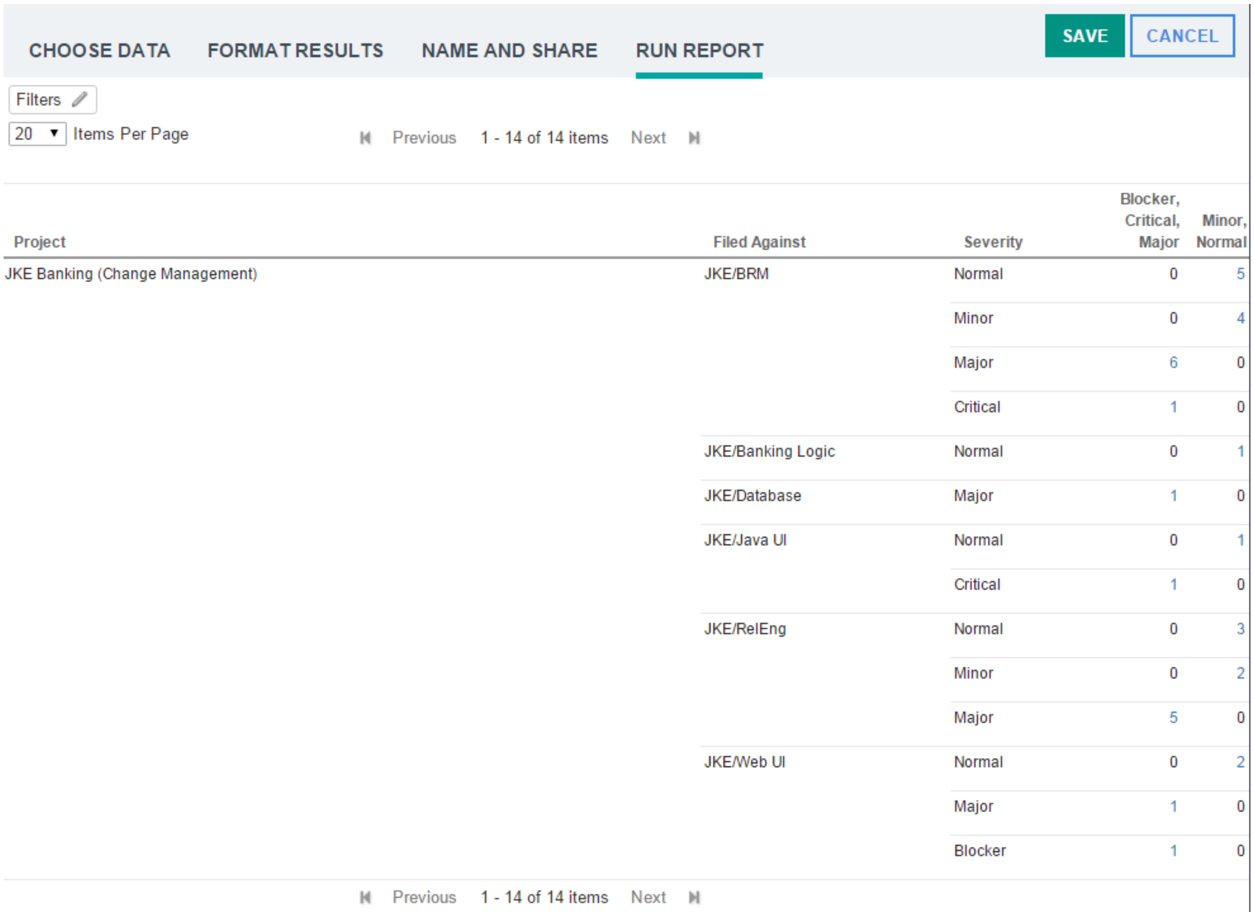
Click **OK** to continue.

Change the **Column Labels** for the Severity columns to read **Blocker, Critical, Major** (for the high-severity column) and **Minor, Normal.** The report columns should now look as follows:

Organize the columns of your report by adding or moving attributes.

Column Label	Attribute	Artifact Type	Sort Type	Sort Order	Calculation	Actions
Project	Project	Work Item	Ascending	1		
Filed Against	Filed Against	Work Item	Ascending	2		
Severity	Severity	Work Item				
Blocker, Critical, M	Severity	Work Item			Count total number of artifacts: is any of Blocker, Critical, Major	
Minor, Normal	Severity	Work Item			Count total number of artifacts: is any of Minor, Normal	

Let's run the report to view the results.



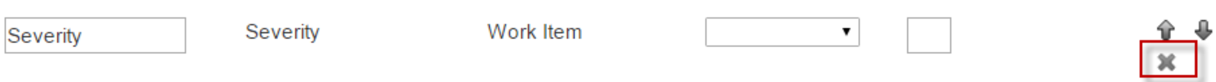
Project	Filed Against	Severity	Blocker, Critical, Major	Minor, Normal
JKE Banking (Change Management)	JKE/BRM	Normal	0	5
		Minor	0	4
		Major	6	0
		Critical	1	0
	JKE/Banking Logic	Normal	0	1
	JKE/Database	Major	1	0
	JKE/Java UI	Normal	0	1
		Critical	1	0
	JKE/RelEng	Normal	0	3
		Minor	0	2
		Major	5	0
	JKE/Web UI	Normal	0	2
		Major	1	0
		Blocker	1	0

Add calculated value for Total number of defects

Now, let's add another calculated value for the total number of defects for each team area. Let's remove the severity attribute from the columns so we can calculate a total based on the grouping of the columns left.

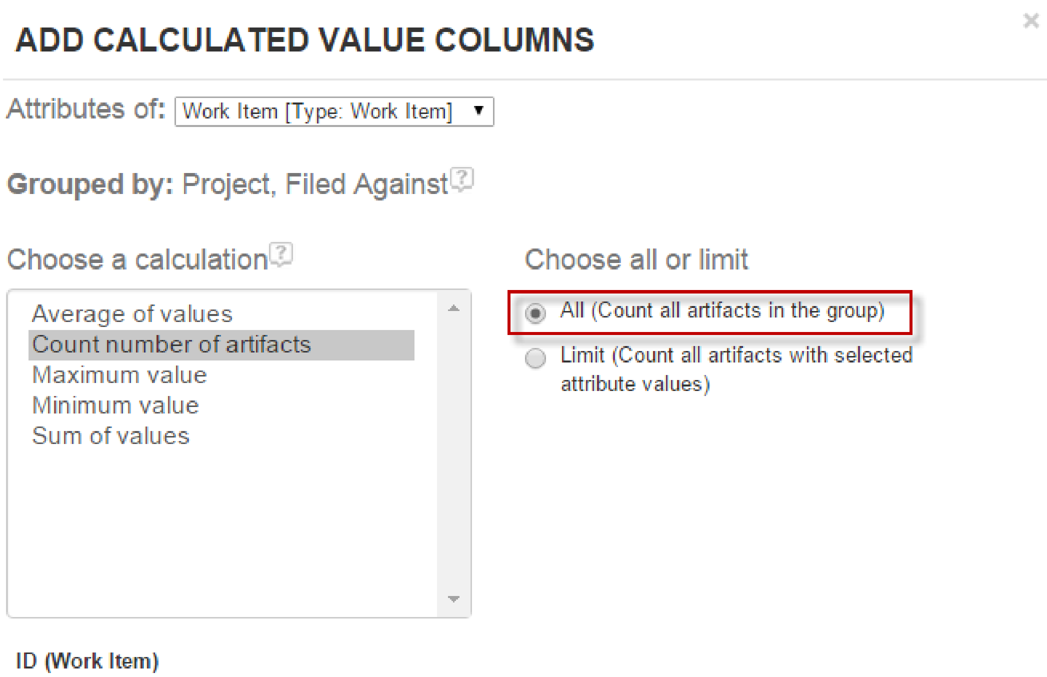
Select **Format Results** tab.

Remove the Severity attribute.



Click the **Add calculated value columns** button. Select **Count number of artifacts**, select **All (Count all artifacts in the group).**

Click **Add and Close**.



Rename the new column to **Total # of defects.**

The preview now shows a breakdown of all the defects filed against a team area by severity as well as the total overall.

Project	Filed Against	Blocker, Critical, Major	Minor, Normal	Total # of defects
JKE Banking (Change Management)	JKE/BRM	7	9	16
	JKE/Banking Logic	0	1	1
	JKE/Database	1	0	1
	JKE/Java UI	1	1	2
	JKE/RelEng	5	5	10
	JKE/Web UI	2	2	4

Name the report and Save it to your My Reports folder for later use.

Explore Drill-down

Now that we have finished adding the three calculated columns, let's explore the drill-down feature. This feature allows you to click on any of the calculated column entries to display the work items that contribute to that specific summary entry.

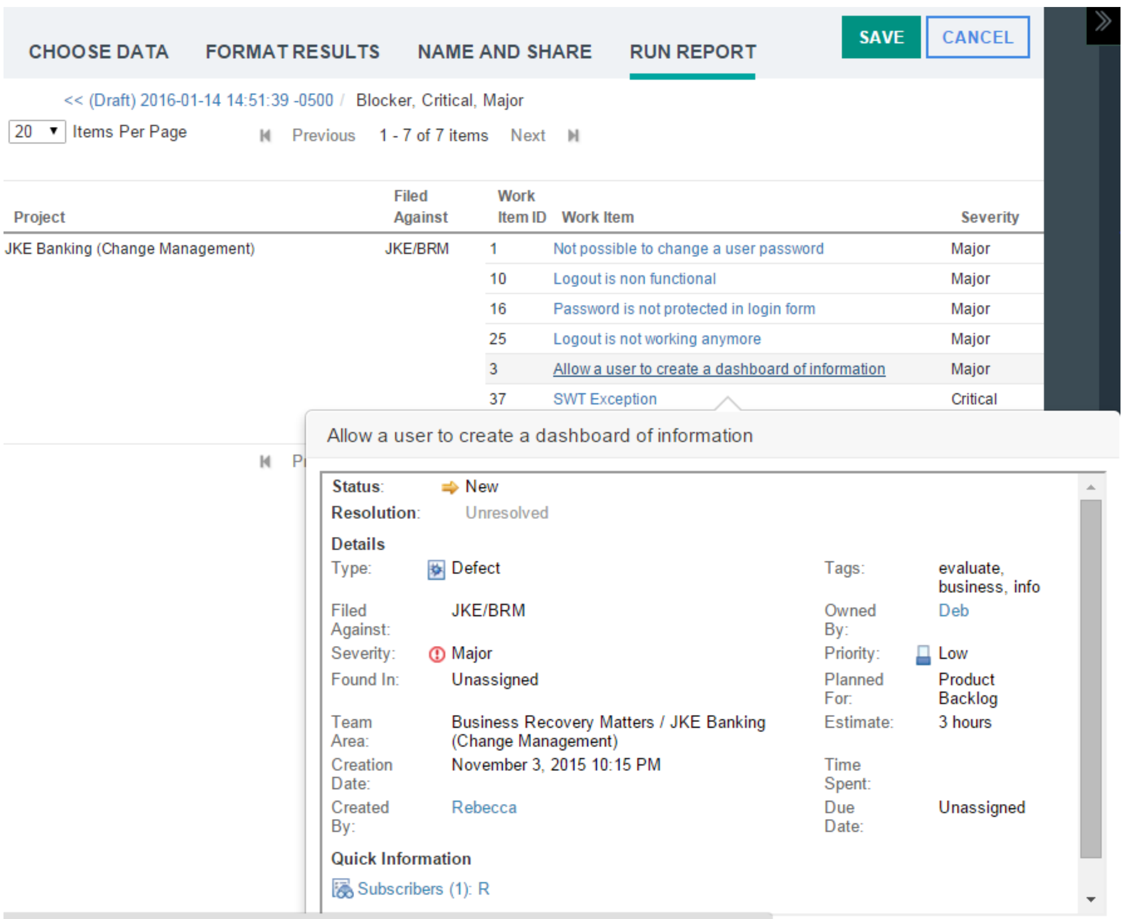
Select **Run report** tab, or run the report from the My Reports folder.

Click on any of the totals calculated for the defect summary report, for example, the 7 stop-ship (blocker, critical, and major) defects filed against JKE/BRM.

Notice that a listing is generated of those 7 defects where you can examine the details of each defect.

If the numbers are different, just disregard as they do not affect the exercise objective.

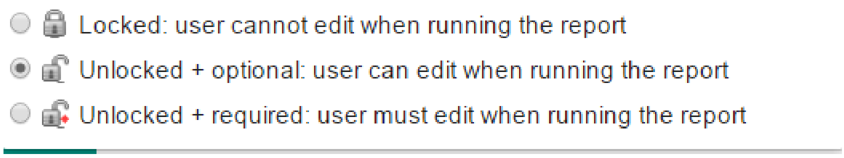
Rich hover can be used to examine individual artifact details and you can also open the work item in another browser tab.



Exercise 5: Dynamic Filters

In 5.0.x release, it was not possible to change conditions of a report without editing a report. A condition determines what artifacts appear in a report. You can now set conditions that can be set at run-time using the Filters dropdown menu, even after the report has been added to the dashboard or when it is run in the report viewer.

There is also support for locking the conditions of a report. There are three options: Locked (you can’t change the condition), Unlocked +optional (the user is allowed to change the condition), or Unlocked + required (the user has to change the condition).



The report author chooses from these options when building the report.

In this lab, you will

- change the conditions of a report that has already been added to a dashboard
- Lock the conditions of a report

Open the JKE Banking (Change Management) project dashboard. You can use the CLM->CCM bookmark in the browser toolbar.

Go to the Reports tab.

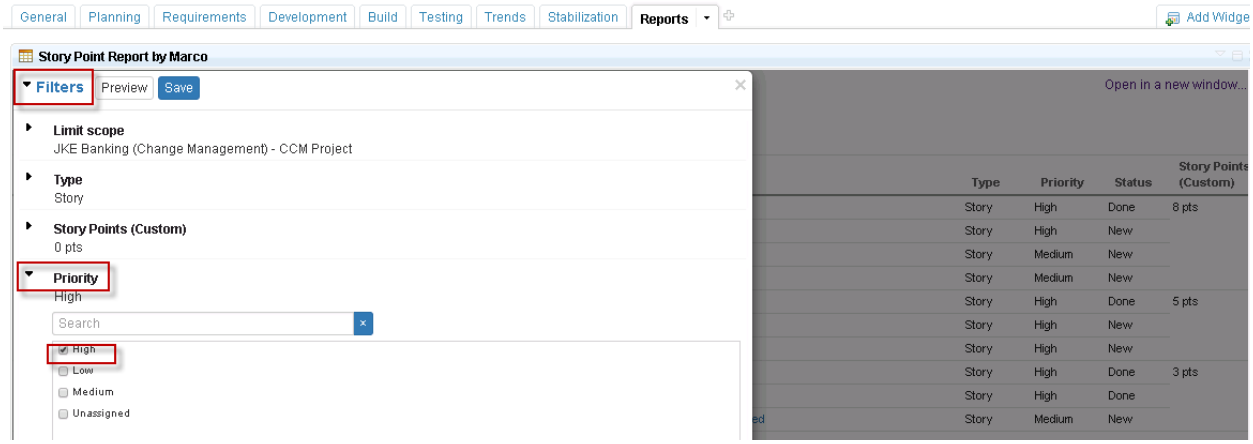
Locate the Story Point Report by Marco widget, which is already on the dashboard from a previous exercise.

Let’s change the conditions for this dashboard report by using the Filters menu.

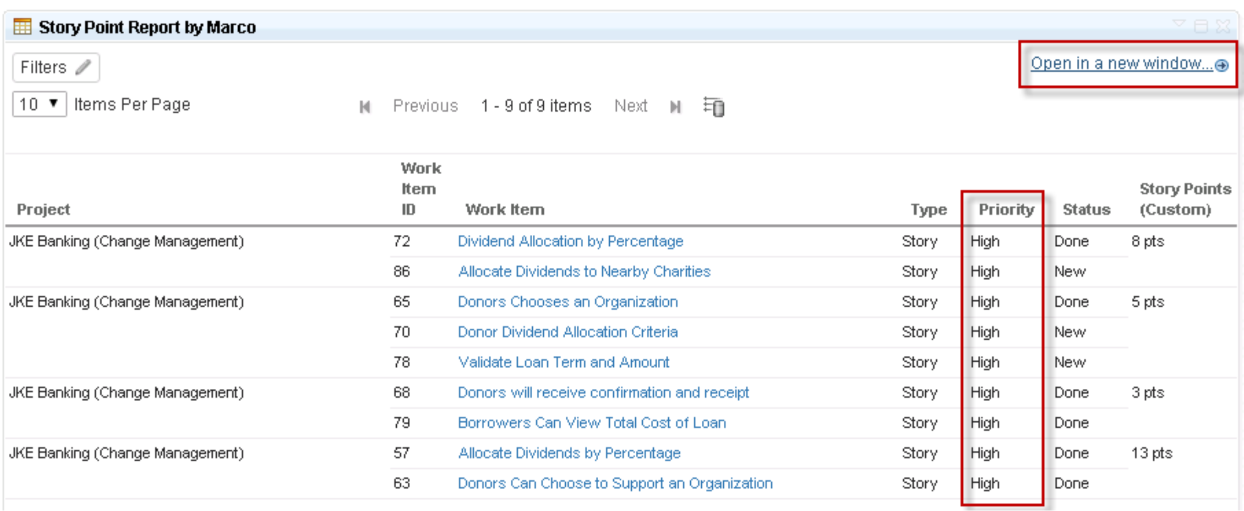
> Notice that we don’t have to edit the report back in the Report Builder. You did not lock the conditions when you created the report.

Expand the Priority section and check the **High** checkbox to only display High priority stories in the dashboard.

You can optionally Preview the results or click **Save**.



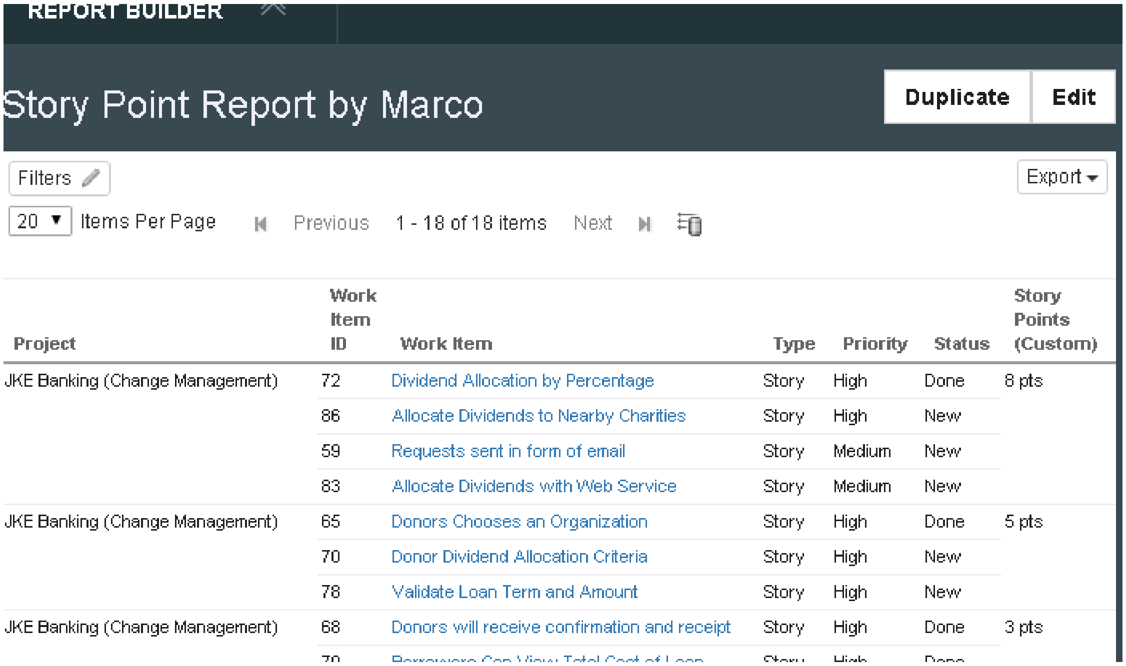
The results look as follows:



Project	Work Item ID	Work Item	Type	Priority	Status	Story Points (Custom)
JKE Banking (Change Management)	72	Dividend Allocation by Percentage	Story	High	Done	8 pts
	86	Allocate Dividends to Nearby Charities	Story	High	New	
JKE Banking (Change Management)	65	Donors Chooses an Organization	Story	High	Done	5 pts
	70	Donor Dividend Allocation Criteria	Story	High	New	
	78	Validate Loan Term and Amount	Story	High	New	
JKE Banking (Change Management)	68	Donors will receive confirmation and receipt	Story	High	Done	3 pts
	79	Borrowers Can View Total Cost of Loan	Story	High	Done	
JKE Banking (Change Management)	57	Allocate Dividends by Percentage	Story	High	Done	13 pts
	63	Donors Can Choose to Support an Organization	Story	High	Done	

Now let's navigate to the report in the Report Builder and note that the conditions have not changed there. From the upper-right corner of the widget, click **Open in a new window…**

When the report is run in Report Builder, it uses the original conditions so all Stories regardless of priority are displayed.



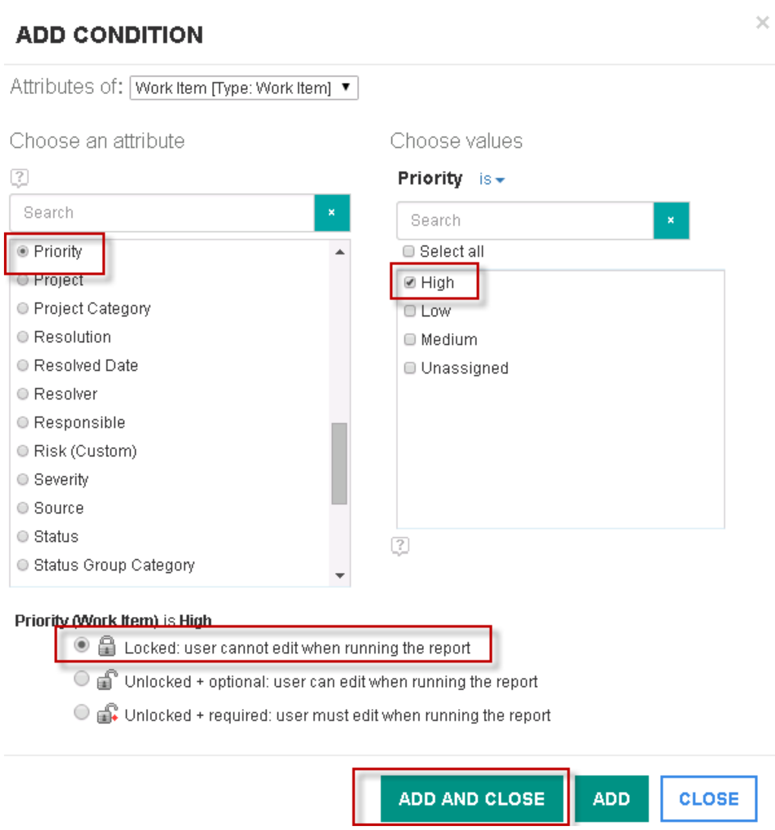
Let’s make a copy of the report and add a condition for High Priority. Then we will choose to lock the condition.

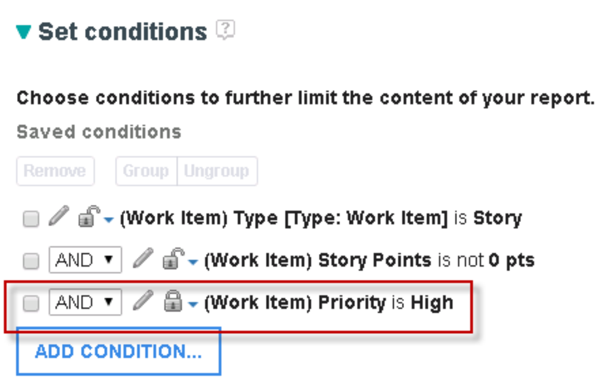
From the top right, select Duplicate. Give the report a different name and set the sharing to Public so we can find the copy in the dashboard widget catalog.

Switch to the **Choose Data** tab.

Add a condition for the **Priority** attribute set to **High**.

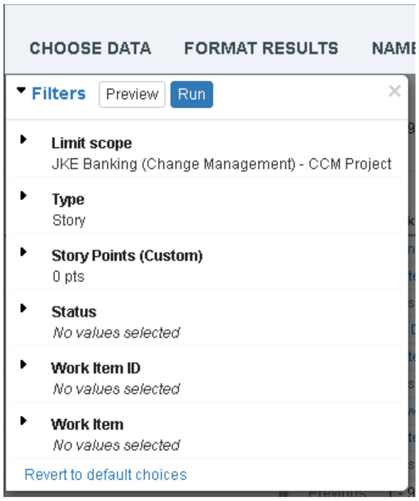
Lock the condition, then click **Add and Close.** Notice the new condition has a closed lock icon, indicating it’s locked.





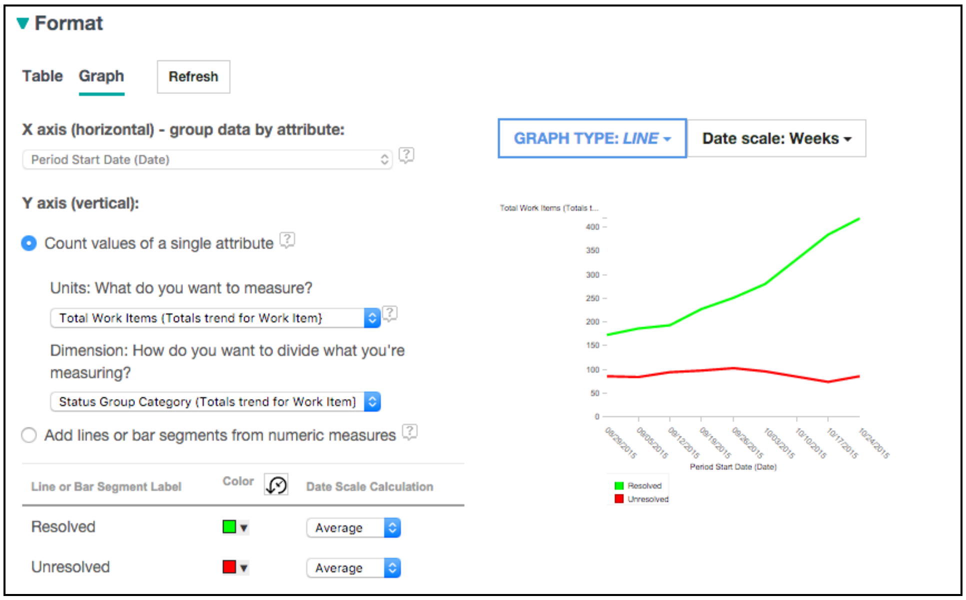
Run the report.

Open the Filters dropdown. Notice that there is no option for modifying the Priority attribute value.



Exercise 6: Historical Trend reports

In this lab, you will explore how to create a historical trend report. The Report Builder now supports the creation of historical trending metrics that show information over time. Any team member can use the Report Builder wizard to produce custom trending reports that focus on specific types of their project data and show changes over time. It supports not only one single historical metric but the ability to visualize multiple historical trends in a single report for comparison. And when it's imperative to show the target for one of the axis, then the report can have a goal line placed into the axis to show the trend along with the target.



Remember that historical trend reports require changes to the data in the CLM repository over multiple days. If no changes have been made or no data collection update for the data warehouse has been made, these types of reports will not display any useful information.

In this lab, you will

- Build a report that displays the trend of resolved vs unresolved workitems over period of three months.
- Modify the report to color the graph to easily distinguish the resolved vs unresolved metric

Build report

IMPORTANT: Note that the results on this VM image may differ from the results on a production system

Login to Report Builder as Marco.

Select **Build** from the Report Builder menu.

Select ***Historical Trends (Time Series)*** as Report Type and click **Continue.**

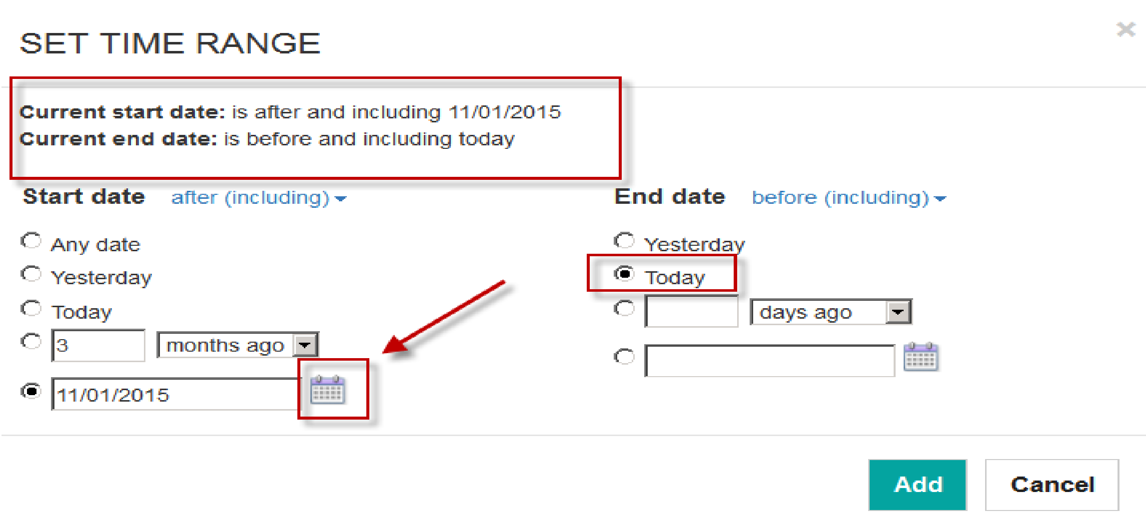
Under **Limit Scope**, select JKE Banking (Change Management) project area and click **Continue.**

For artifact trends, select ***Workitem->Totals*** and click **Continue**.

> **Note** : Adding multiple trends on a historical trend report is supported. There will be a Jazz.net article published that goes into more detail. The article will also provide a definition of all the trend metrics.

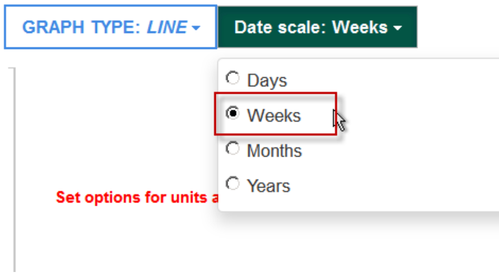
Click **Set Time range**… and add a time range from 11/1/2015 to Today. Use the calendar button; do not enter the date manually. Click **Add.**

> **Important:** It is important that you set a reasonable time range when creating historical trend reports. Historical trend reports query against a vast set of data and potentially across multiple project areas. Some reports can take a long time to run if they are not filtered to a smaller subset of data

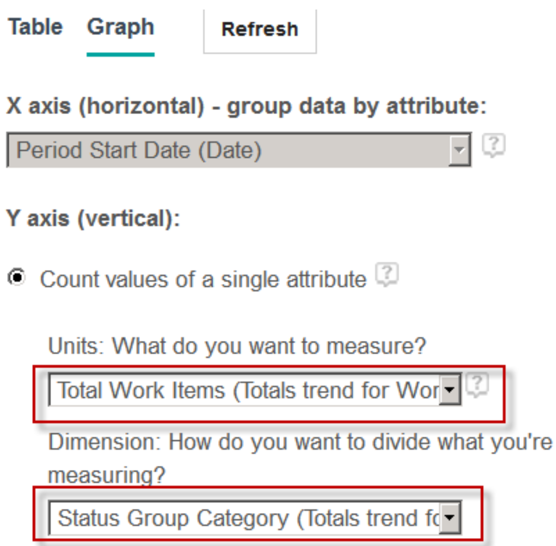


Switch to the Format Results tab. By default, the graph format is selected for historical trend reports

Set the Date scale of the graph to weeks:



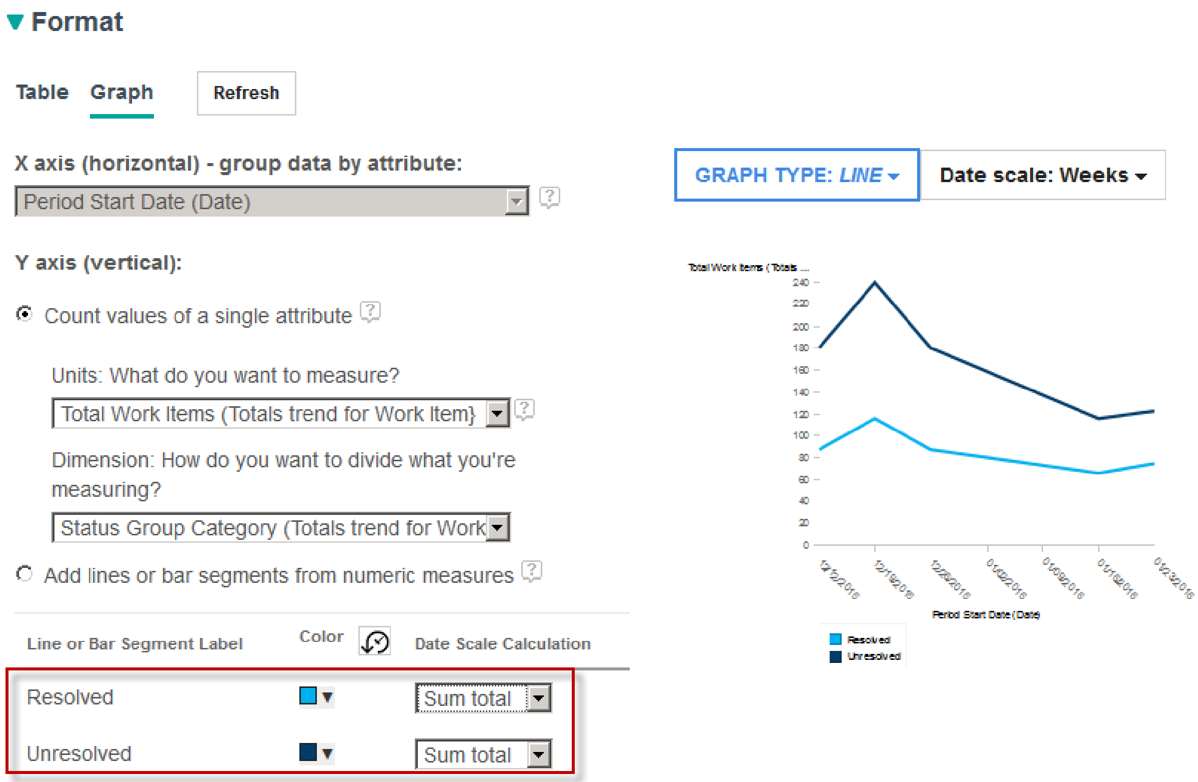
For the Y axis, select the unit of what to measure to **Total Work items,** and Dimension to **Status Group Category.**



As specific units and dimensions are added, note how the graph changes.

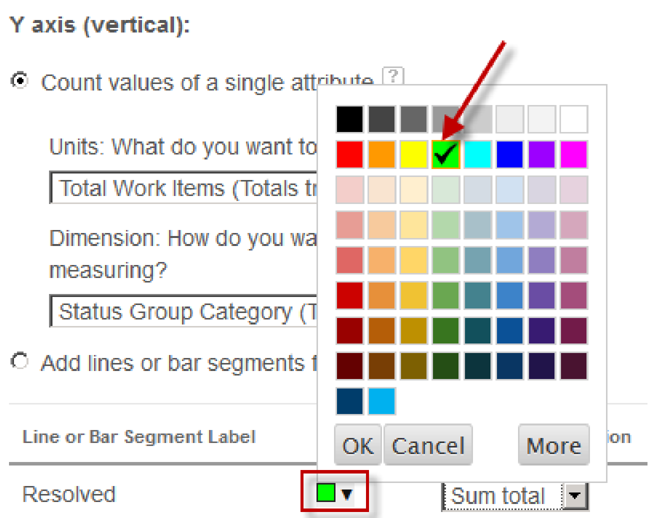
There should now be a graph with two lines in the preview. In this report, we are dividing the total work items by status group category. Status group category provides two groupings: Resolved and Unresolved.

Change the Date scale calculation for each line segment to reflect a Sum total instead of an Average value.

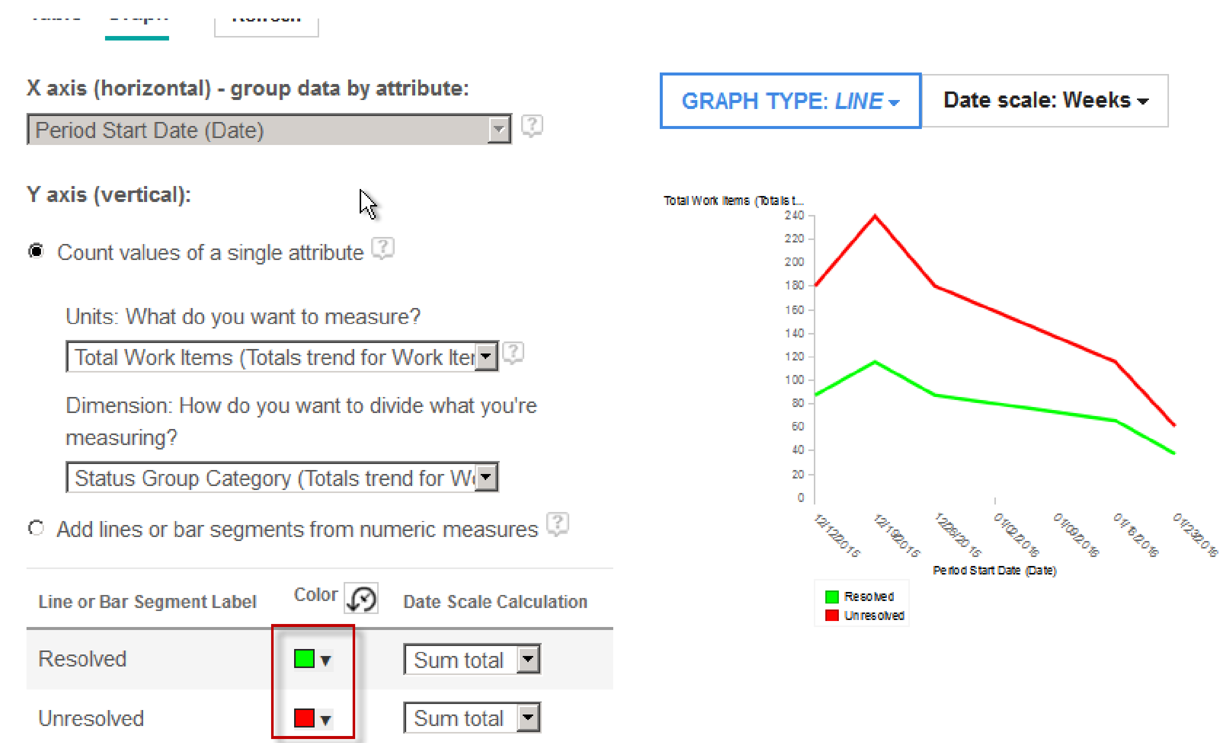


Now let’s change the color of the two line segments to something more meaningful like a green line for Resolved work items and a red line for Unresolved work items.

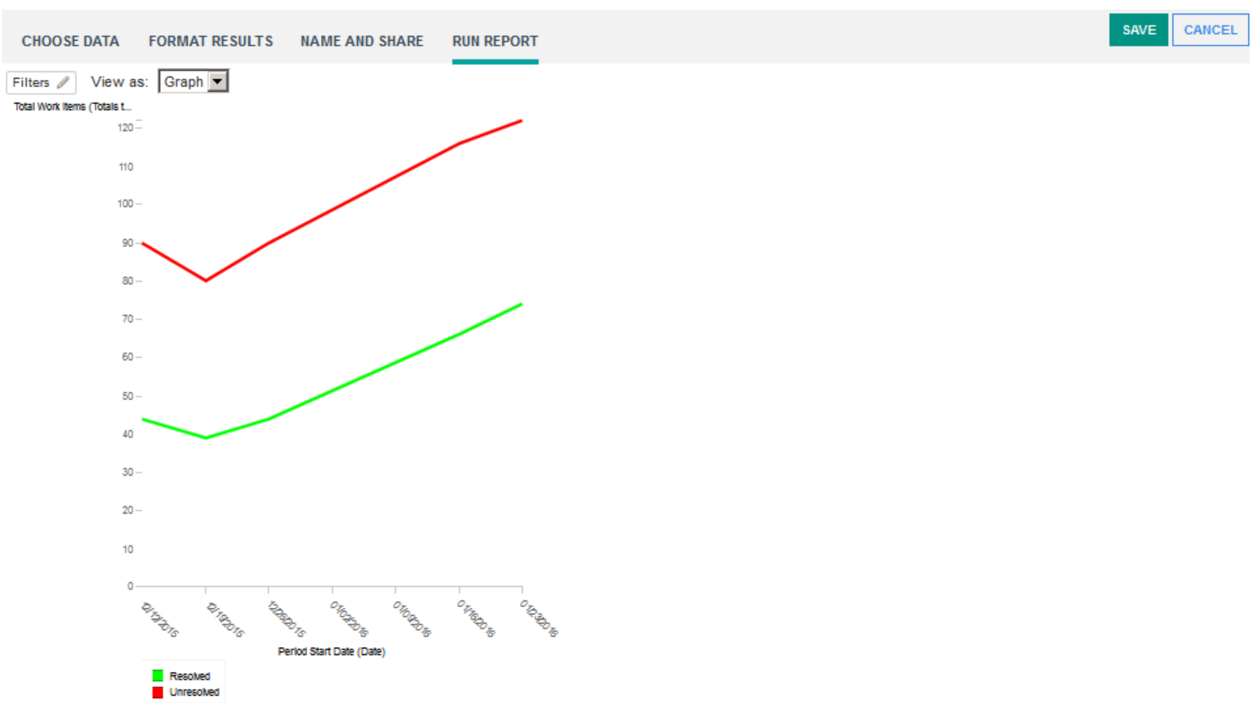
Click the color dropdown for the Resolved line.



Repeat to change the Unresolved line to red.



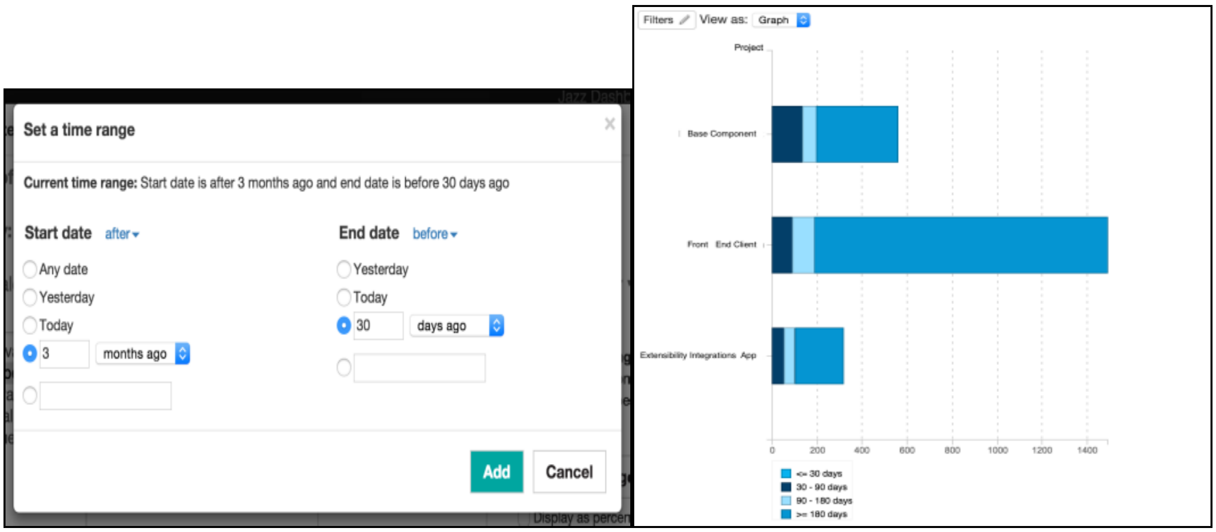
Run the report now by switching to the Run Report tab.



Note: In a production environment, you may expect to see a different result such as the total of unresolved defects going down and the total of resolved defects going up. Our VM image does not contain production data but rather a very rudimentary data set so the results may be unexpected.

Exercise 7: Aging reports

In this lab, you will explore how to create an aging report. Beyond historical trending reports, aging reports can let teams count artifacts based on a date range. In a previous release of JRS you could only add a condition for a single date, but not between two different dates. Now values can be added to a single report to show the age of the artifacts for a specific date range and then let the viewer drill into the report to see the specific items underneath.



In this lab, you will

- Build a report that displays the amount of defects created over two monthly periods

Build report

Login to Report Builder using Marco.

Select **Build** from the Report Builder menu.

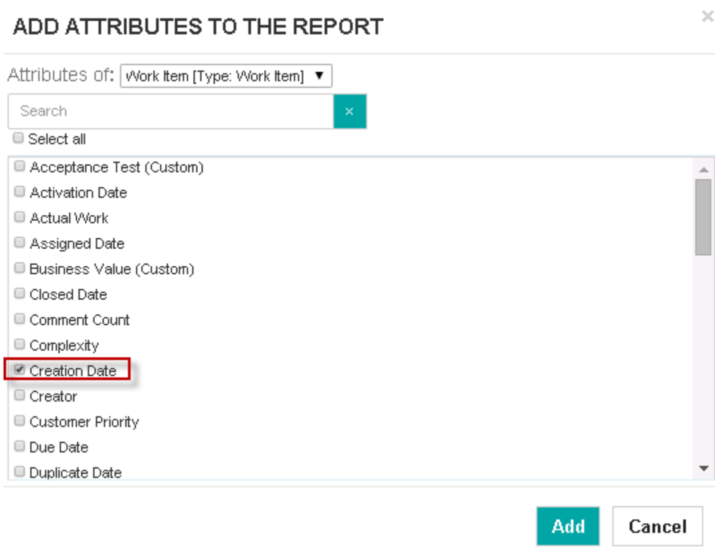
Select **Current Data** as Report Type

Select JKE Banking (Change Management)

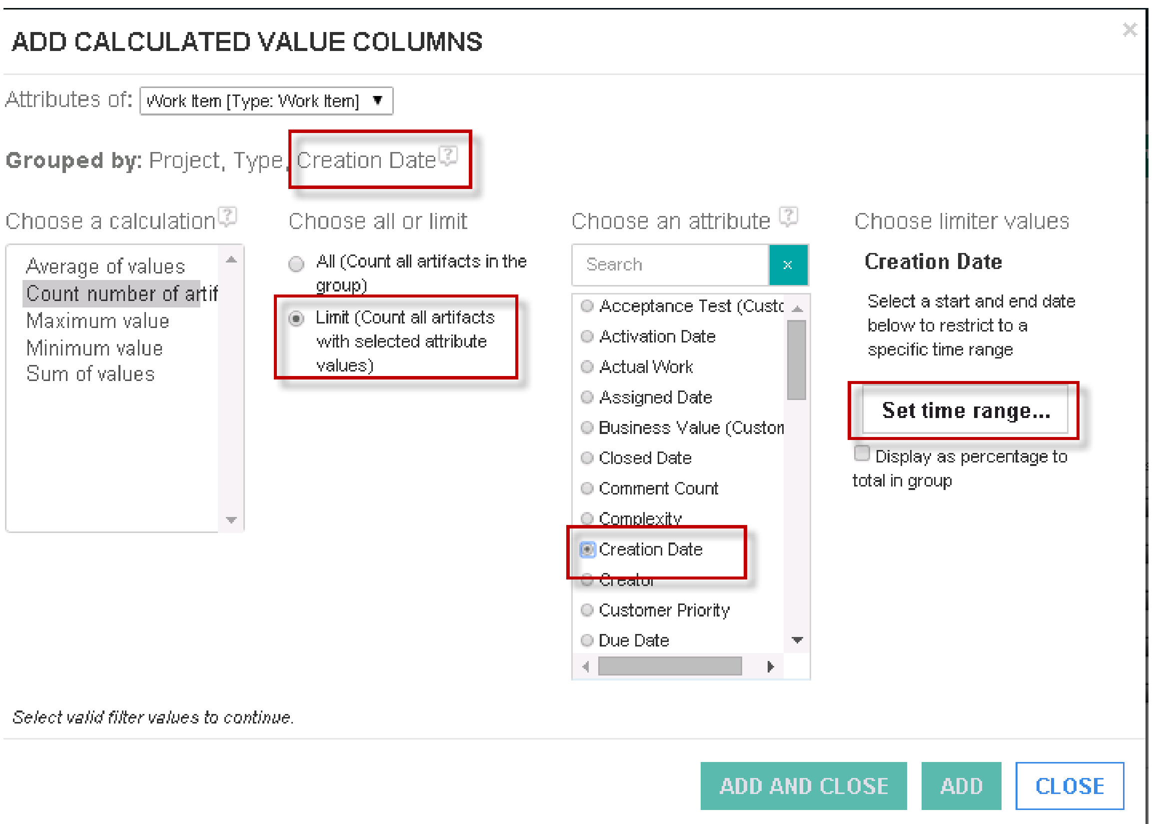
For the artifact type, expand Workitem and select Defect, Story, and Task. Click **Continue** three times to skip Traceability and Adding a condition.

You are not adding traceability or conditions, so go to the Format Results tab.

Add an attribute column for Creation Date.

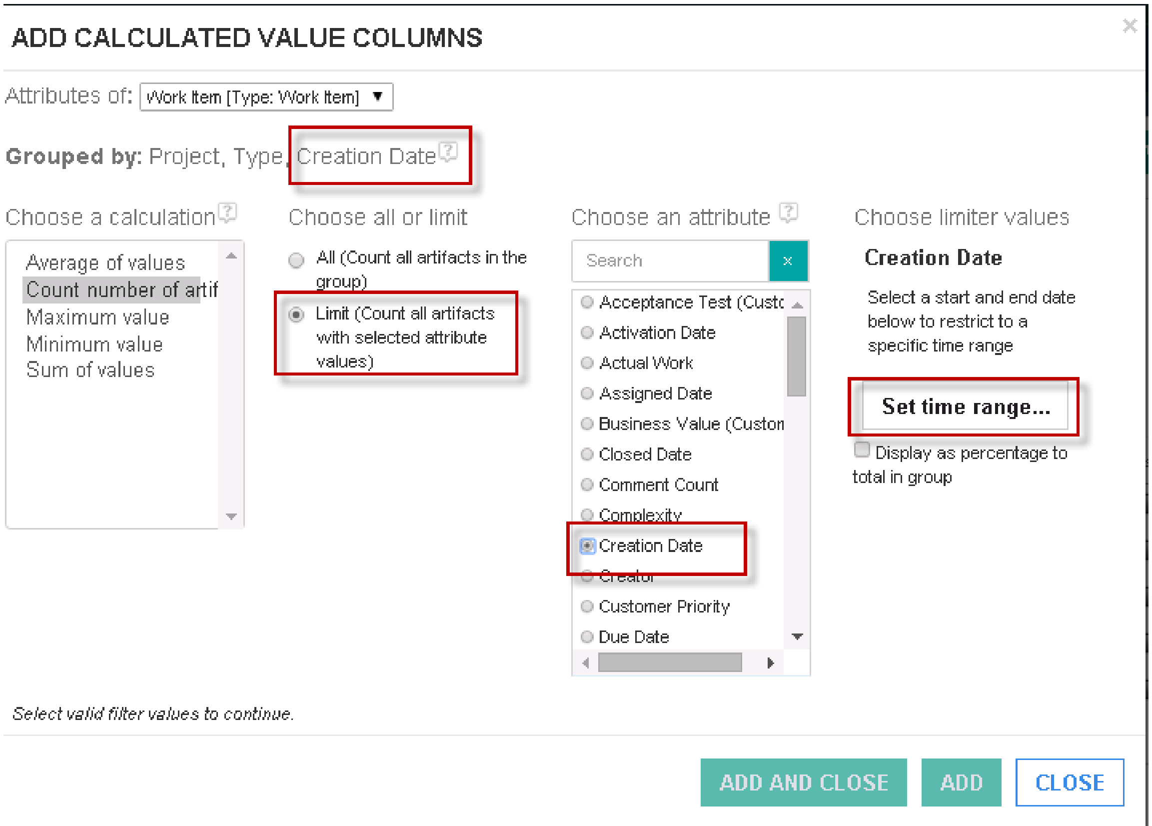


Select **Add calculated value columns**



Choose the calculation type: Count number of artifacts, and select **Limit** from the options on the right.

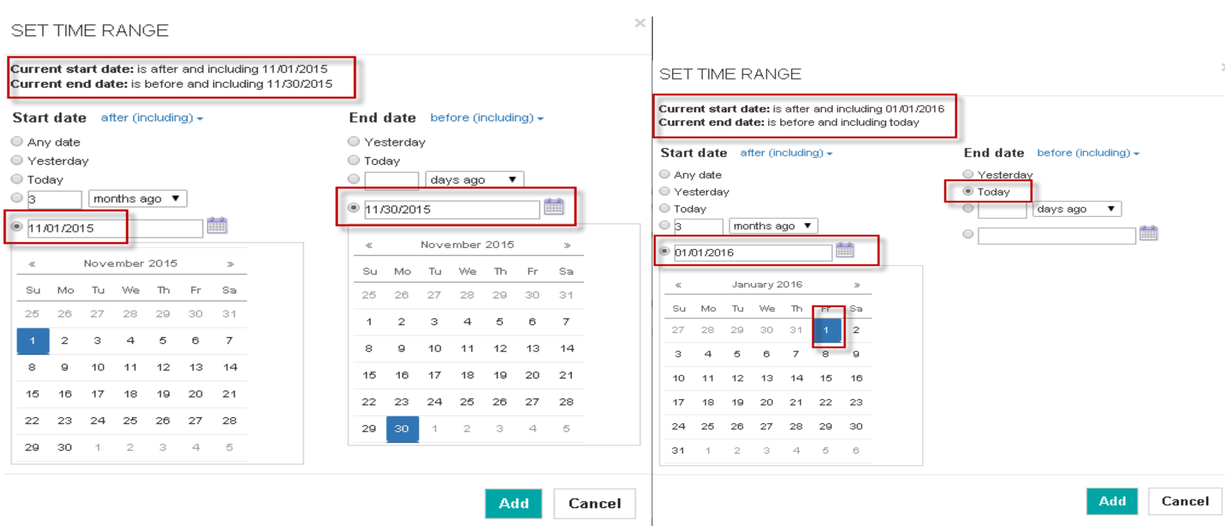
Choose the **Creation Date** attribute



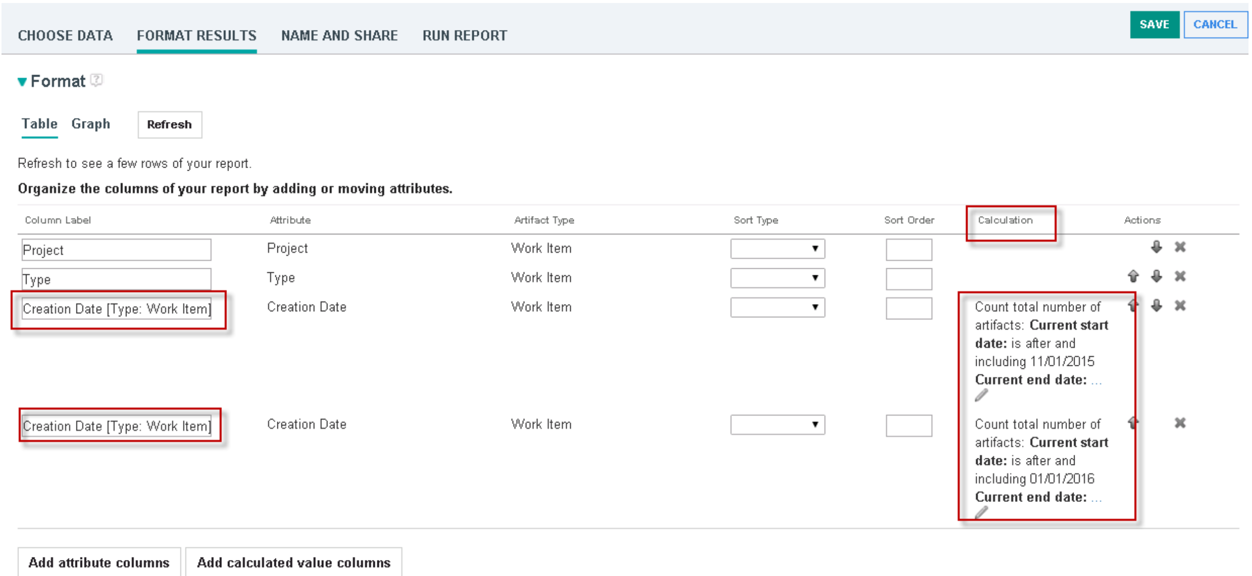
For limiter values, click **Set time range….** which will open another dialog.

Set the date range to be from Nov 1, 2015 through Nov 30, 2015. Click **Add**.

Click **Add** again to add another column. Add another date range for Jan 1, 2016 through today. Click **Add** to add the time range.



Click **Add and Close**. There should now be two calculated columns added.



Now let's rename the column labels for clarity in the report results.

Name the first calculated column: **Created Nov**

Name the second calculated column**: Created Jan**

Click **Refresh** to see a preview.

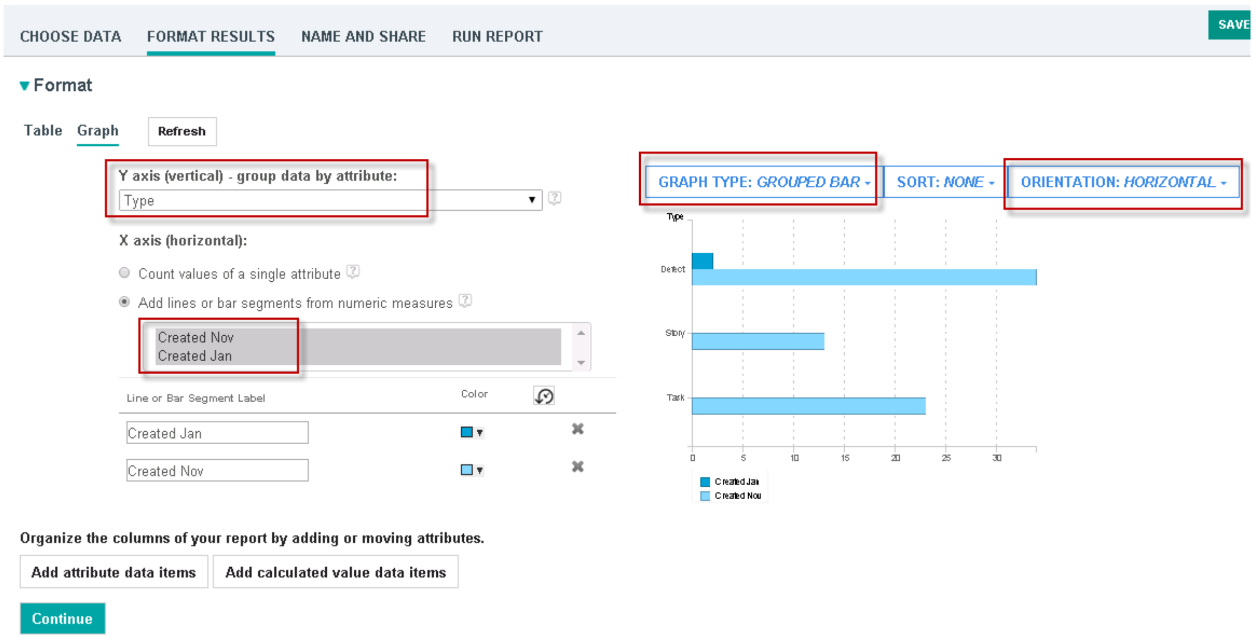
But we really want to see this as a graphical report in this exercise.

Select **Graph** as the format and let's explore the UI.

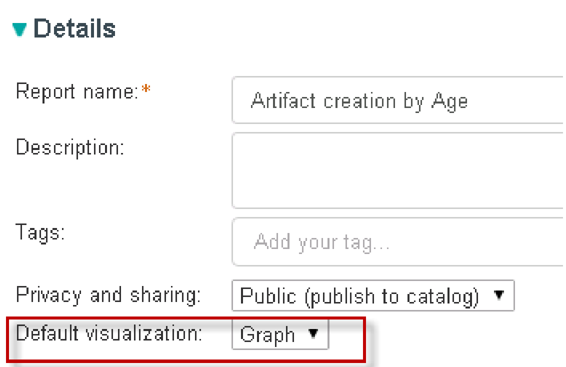
Switch the X axis to group the data by Type.

The Y axis shows the calculated columns with their updated labels.

Switch the orientation to horizontal so the artifact types are more visible.



Name and share the report. Make sure to select the Default visualization as Graph. This will ensure that the report results are displayed as a graph when it is run.



Run the report.

Note that the results from the data set in the VM may differ from the screenshot below.


CHOOSE DATA
FORMAT RESULTS
NAME AND SHARE
RUN REPORT
Filters
View as:
Graph
Type
Defect
Story
Task
0
5
10
15
20
25
30
Created Jan
Created No

Appendix A Tips and Tricks

The appendix explores some tips and tricks around formatting of report results as well as miscellaneous items.

Tip: Group attribute values in columns to span in a summary report

Work Item Project	Work Item Planned For	Work Item ID	Work Item (linked with URL)	Test Case ID	Test Case (linked with URL)
JKE Banking (Change Management)	Release 1.0	56	Donors Deposit Money Into a Pooled Assistance Fund	2	Donors Deposit Money Into a Pooled Assistance Fund
		58	Requests sent in form of hard copy mail	4	Process hard copy requests
		61	Allocate dividends by amount and frequency	7	Allocate dividends by amount and frequency
		67	Donation by amount	13	Donation amount limits
		86	Allocate Dividends to Nearby Charities	30	Mobile donor can donate to nearby charity
	Sprint 1	57	Allocate Dividends by Percentage	19	Allocate Dividends to a Single Cause

In order to achieve the report results displayed above, you should apply a sort type and sort order to the first three columns: Work Item project, Work Item Planned For and Work Item ID.

Tip: How to quickly re-order columns

After clicking the arrow up and arrow down buttons to reorder a column, use the Enter key as a shortcut to continue moving the column in the same direction.

Data caching indicator

This indicator displays how long the data shown in the results has been in the cache when you hover over it. If you click on it, it will clear the cache and refresh the data from the DW.