IBM Cloud Pak for Business Automation Demos and Labs 2021

Operational Intelligence

IBM Business Automation Insights

Build Business Performance Center Dashboard

V 1.6

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1 Lab Introduction

In the labs, you will learn how to build and use Business Performance Center dashboard to provide insights into a mortgage application solution for line of business users.
This lab will consist of one Exercise:

1. Create Mortgage Solution Dashboard

1.1 Introduction to IBM Business Automation Insights

IBM Business Automation Insights uses Flink jobs and Kafka to ingest events and process events form IBM Cloud Pak for Business Automation platform runtimes such as processes, cases, decisions, or custom events from other applications. The captured events can be visualized in Business Performance Center or used data science applications. More information about BAI: https://ibm.box.com/v/IBM-BAI-Tech-Intro

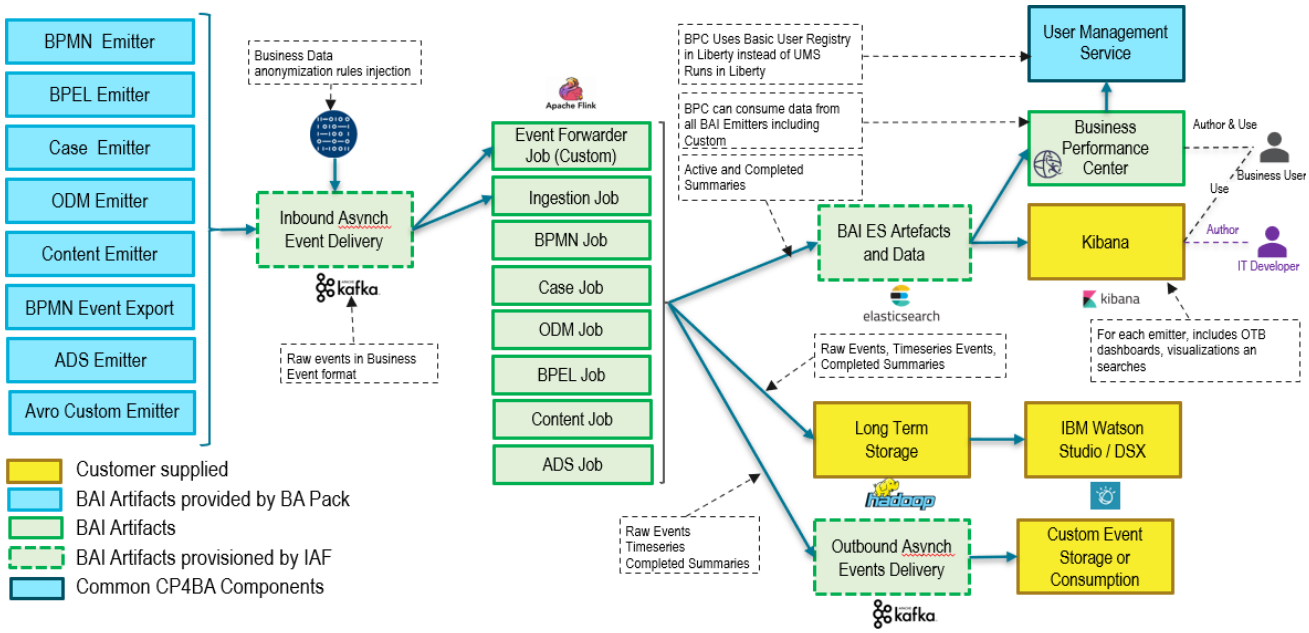


Figure 1. IBM Busines Automation Insights 20.0.1 Architecture

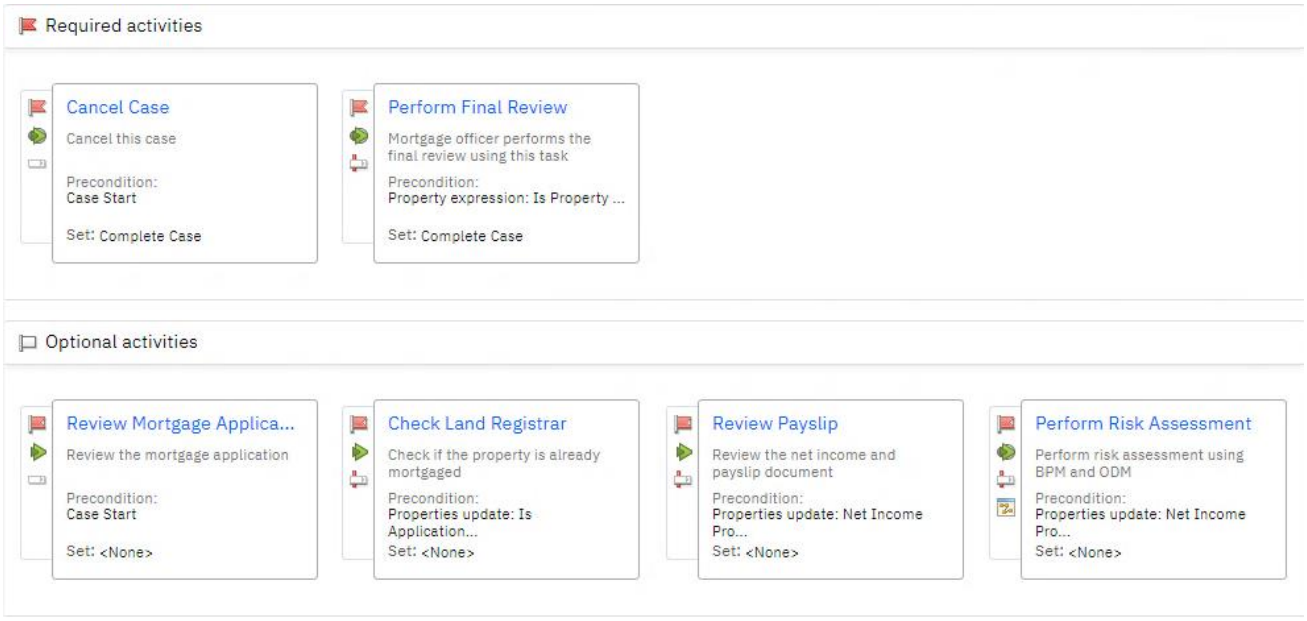
Business Performance Center (BPC), shown in Figure 1 above, is the no-code business monitoring application native to IBM Cloud Pak for Business Automation. Using BPC business users (with no IT assistance) can:

- design and share dashboards in minutes that capture business data in near real time and provide awareness of important business activities and processes.
- prepare, track, and design visualizations of *metrics*, *key performance indicators* (*KPIs*), and other measurements of business performance in customizable dashboards.

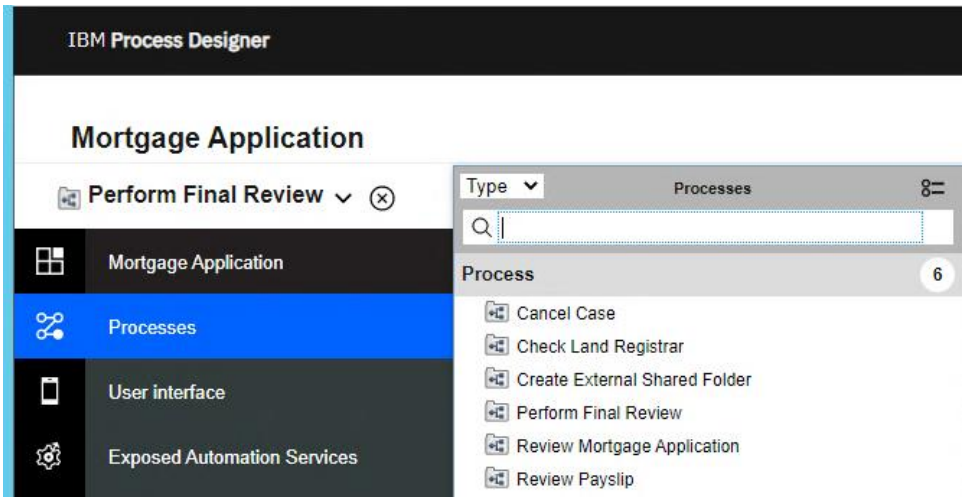
More information about BPC: https://ibm.box.com/v/BusinessPerformanceCenter

1.2 Lab Overview

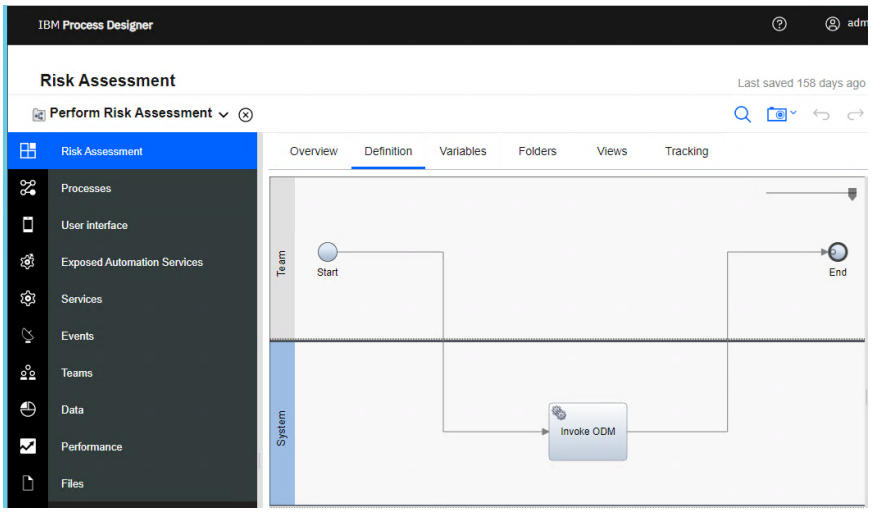
The solution used during the labs is *Mortgage Application* Case Solution. The core of the solution is a Case called *New Mortgage Application* Caste Type, containing activities which need to be performed, data, documents and conditions driving the processing.



The first five Case Activities are implement using automatically generated Process App (Mortgage Application)



The Perform Risk Assessment Activity is implement using a standalone Process App. This activity invokes an ODM decision.



The ODM Decision (called *compute borrower scores*) is implemented as a table.

compute borrower scores > **salary score**

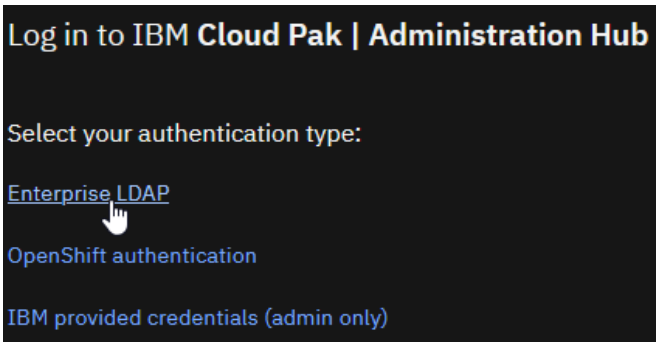
	Yearly income		Salary score
	min	max	
1	< 10,000		21
2	10,000	20,000	50
3	20,000	30,000	80
4	30,000	50,000	120
5	50,000	80,000	150
6	80,000	120,000	200
7	120,000	200,000	250
8	≥ 200,000		300

1.3 Lab Setup Instructions

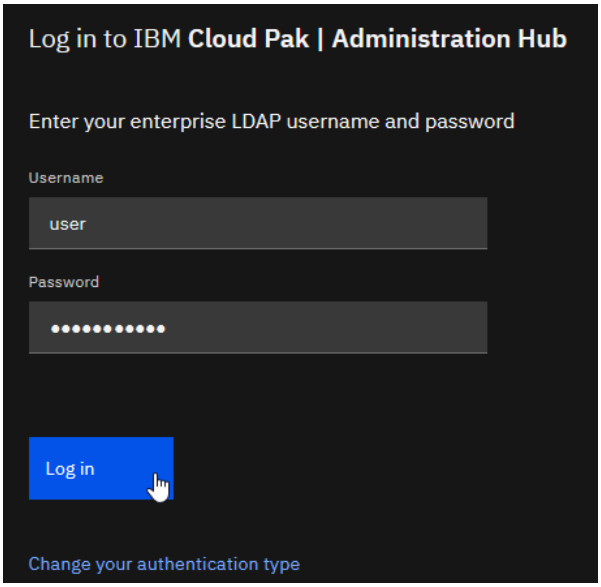
_1. If you are performing this lab as a part of an IBM event, access the document that lists the available systems and URLs along with login instructions. For this lab, you will need to access **IBM Business Performance Center**.

_2. Paste the Business Performance Center URL to your web browser.

_3. Select **Enterprise LDAP** login option



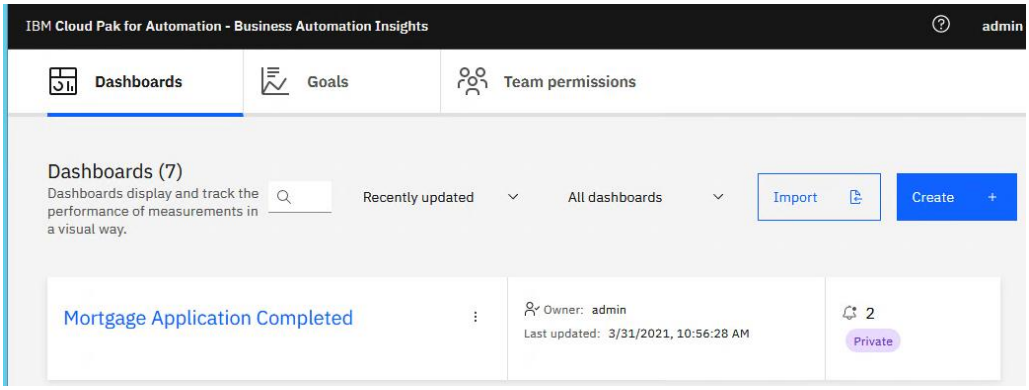
_4. Enter the supplied to you *Username* and *Password* and then click **Log in**



2 Exercise: Create Mortgage Solution Dashboard

2.1 Introduction

In this lab exercise you will use BPC to create a business dashboard that will enable a business user to get a real time business insight into mortgage processing.
Note that all the events (including the BPMN Processes, the Mortgage Application Case and the ODM Decision) were already generated for you.
A reference version of the dashboard you will be building in the lab exercise (called **Mortgage Application Completed**) has already been built for you. If you like, you can refer to it when building your own version of the dashboard.



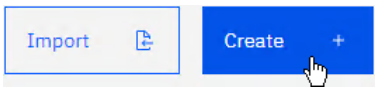
2.2 Exercise Instructions

In this lab exercise you will author and configure the following BPC artifacts:

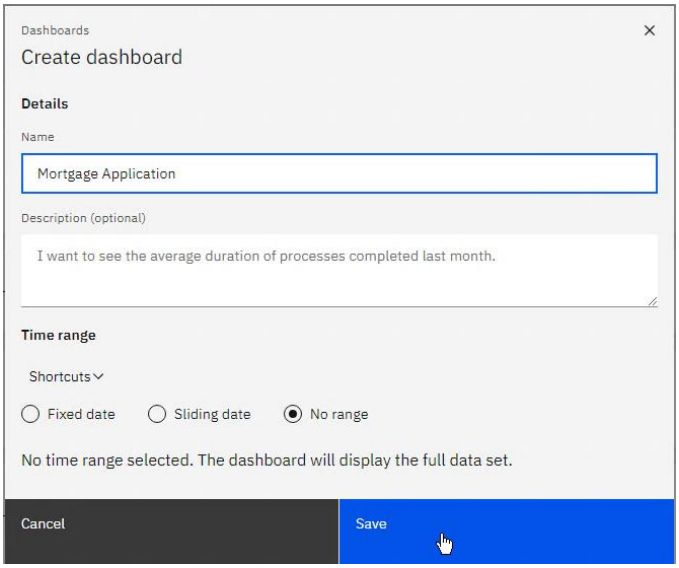
- A Mortgage Application **Dashboard**
- **Charts** used in the Mortgage A dashboard
- A Chart **Alert**
- A **Goal** to group related Charts

2.2.1 Create a Dashboard

_1. Click **Create +**

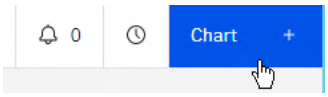


_2. For *Name* enter **Mortgage Application** and click **Save**



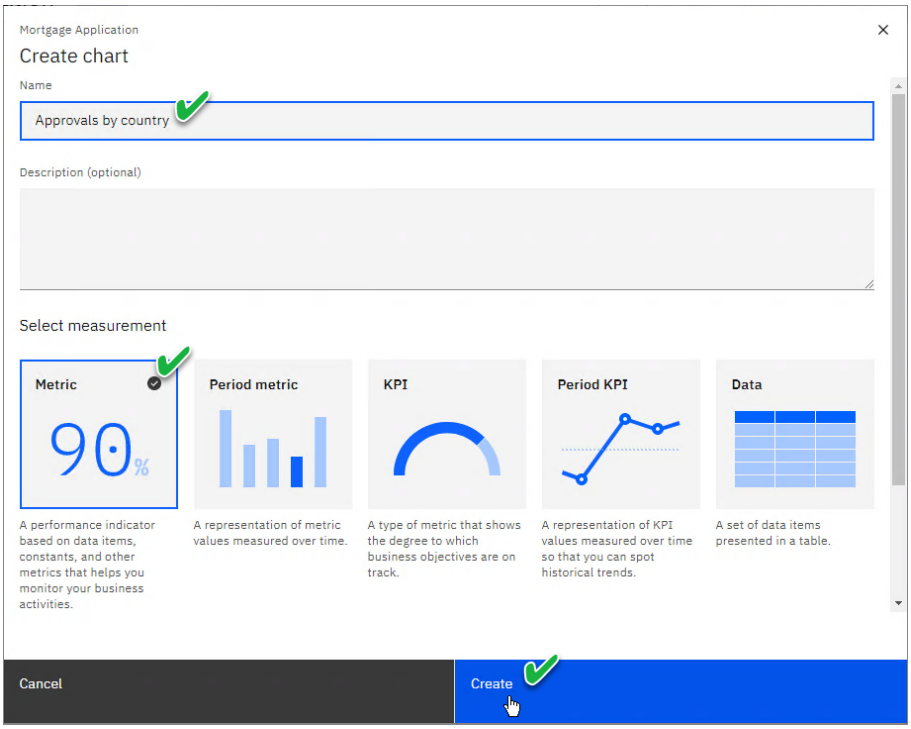
2.2.2 Create "Approvals by country" Chart

_1. Click **Chart +**



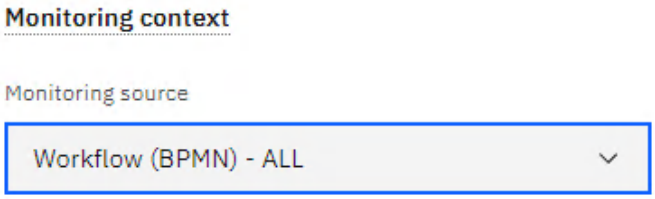
_2. Enter the following and then click **Create**

Item	Value
Name	Approvals by country
Select measurement	Metric



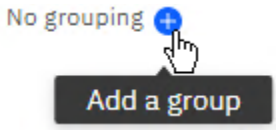
2.2.2.1 Select Data

_1. For *Monitoring source* select **Workflow (BPMN) – ALL**



This will select events from all the BPMN Processes. To restrict the data to the BPMN Processes associated with the Mortgage Application Solution, we will filter the data in the Filters tab.

_2. Click **Add a group +** button **twice** to add two Group by entries.



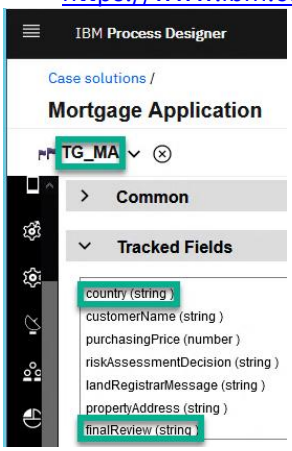
_3. For each group select the following values from the dropdown list:

Group	Value	Description
1	country (data > TG_MA) – (keyword)	Country of the mortgage application
2	finalReview (data > TG_MA) – (keyword)	Boolean value indicating if the application was approved or rejected

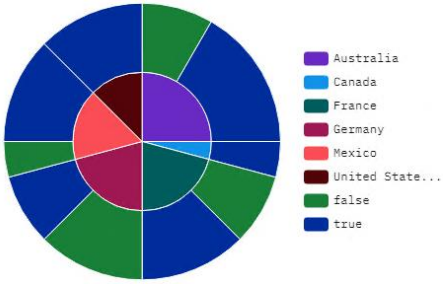
Your *Group by* setting should look exactly like this:

Notes:

- The TG_MA is the name of the Tracking Group in the Mortgage Application Process App
- To learn more about Tracking Groups in Business Automation Workflow see: https://www.ibm.com/docs/en/baw/20.x?topic=data-tracking-groups-process-variables



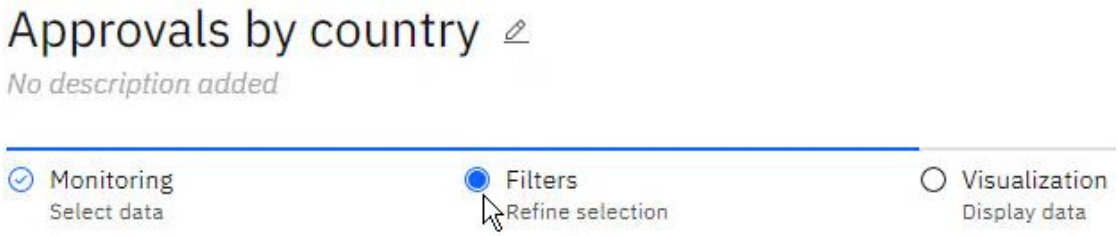
- The **Group by order** setting reflects nesting of a measure in the pie. The group on top (country) is the inner part of the pie.



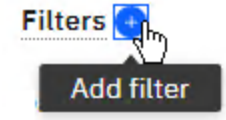
2.2.2.2 Filter Data

When selecting Monitoring source you specified **Workflow (BPMN) – ALL.** This setting allows you to work with the data from all the BPMN processes. Filters allow you to select specific data you want to display in your Chart.

_1. Select **Filters** tab



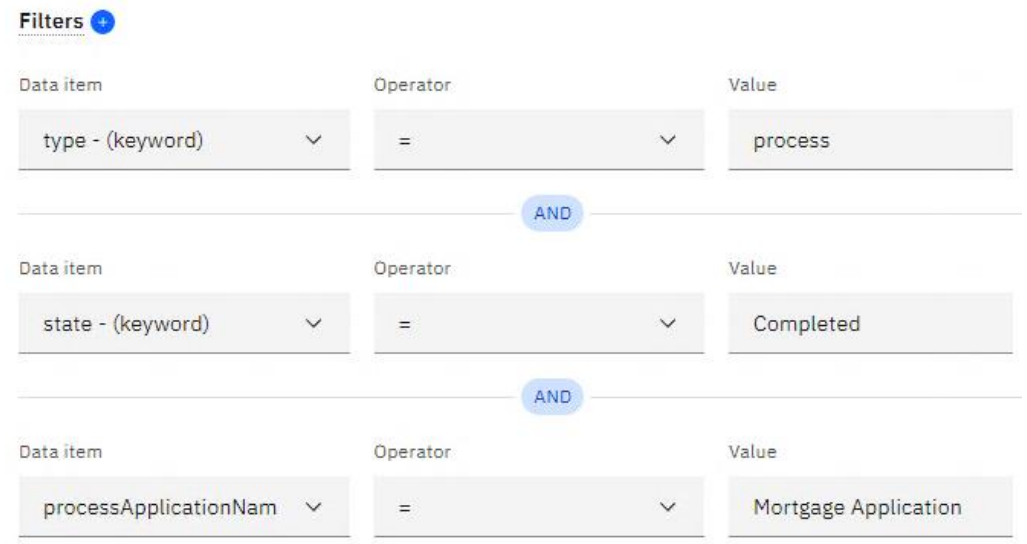
_2. Click **Filter +** button **3 times** to add three Filters.



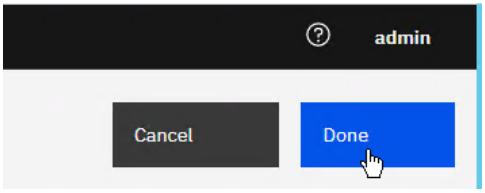
_3. For each group select the following values from the dropdown list:

Group	Data item	Value
1	type – (keyword)	process
2	state – (keyword)	Completed
3	processApplicationName – (keyword)	Mortgage Application

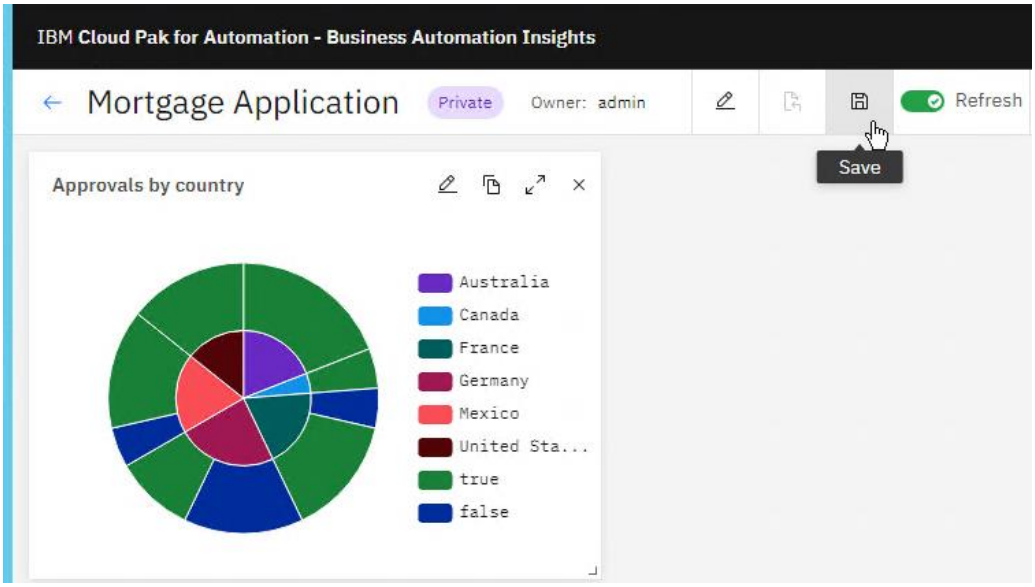
Your Filters setting should look exactly like this:



_4. Click **Done**

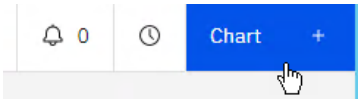


_5. Click **Save** to save you work!



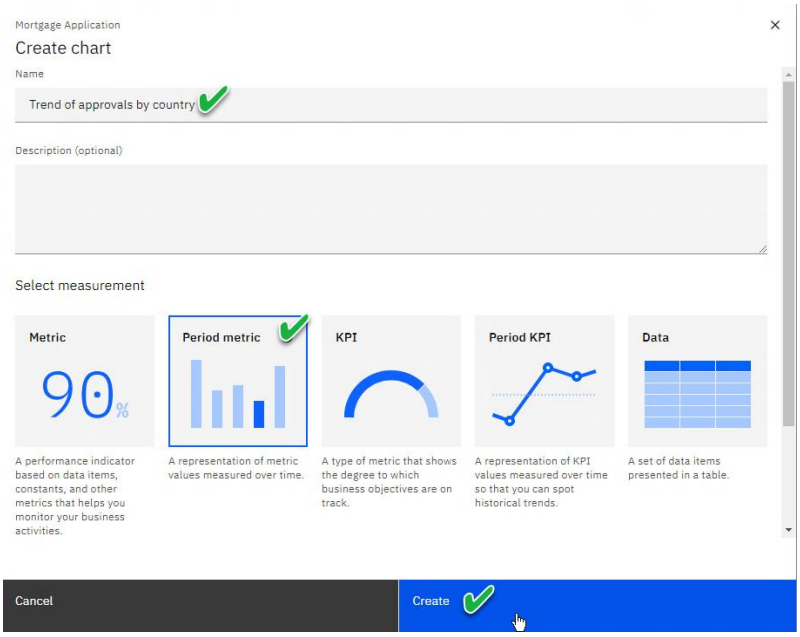
2.2.3 Create “Trend of approvals by country” Chart

_1. Click **Chart +**



_2. Enter the following and then click **Create**

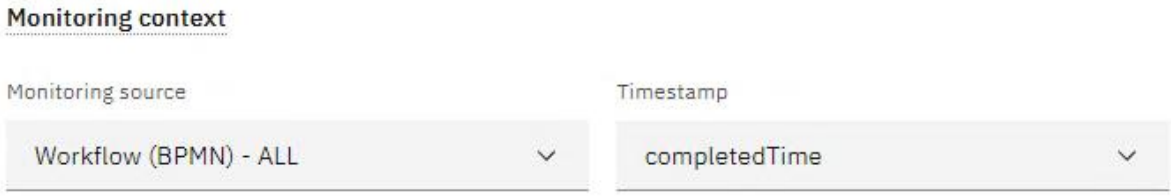
Item	Value
Name	Trend of approvals by country
Select measurement	Periodic Metric



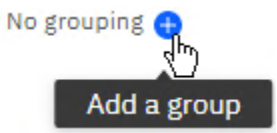
2.2.3.1 Select Data

_1. For *Monitoring context* select the following:

Item	Value
Monitoring source	Workflow (BPMN) – ALL
Timestamp	completedTime



_2. Click **Add a group +** button

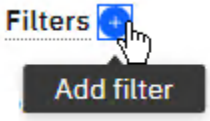


_3. For *Group by* select **country (data > TG_MA) – (keyword)**

2.2.3.2 Filter Data

_1. Select **Filters and predictions** tab

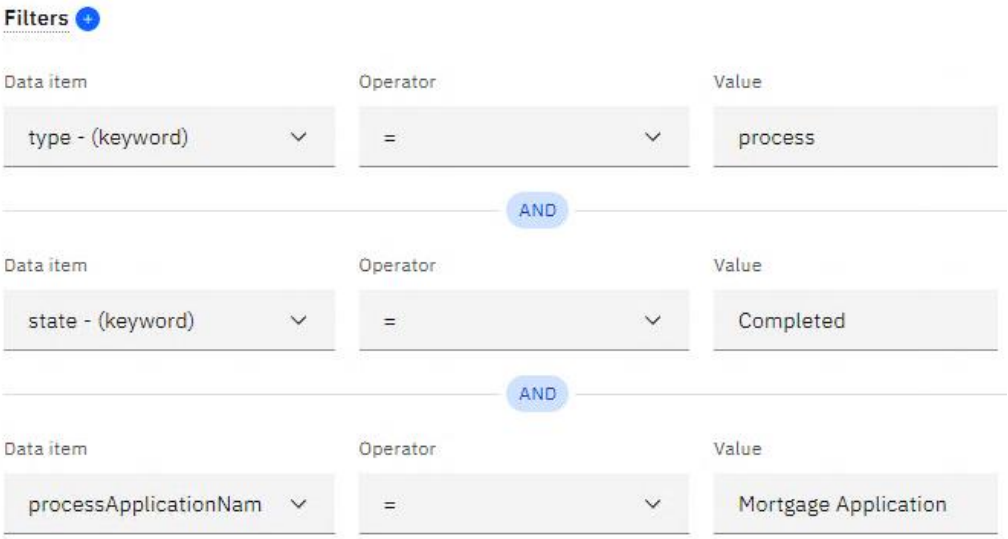
_2. Click **Filter +** button **3 times** to add three Filters.



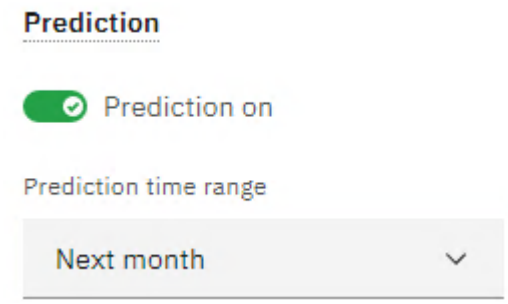
_3. For each group select the following values from the dropdown list:

Group	Data item	Value
1	type – (keyword)	process
2	state – (keyword)	Completed
3	processApplicationName – (keyword)	Mortgage Application

Your Filters setting should look exactly like this:

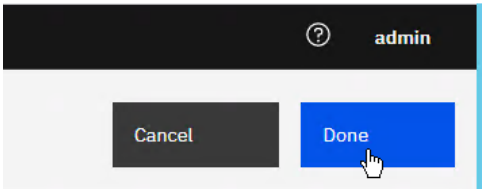


_4. Click **Prediction on** and for *Perdition time range* select **Next month**

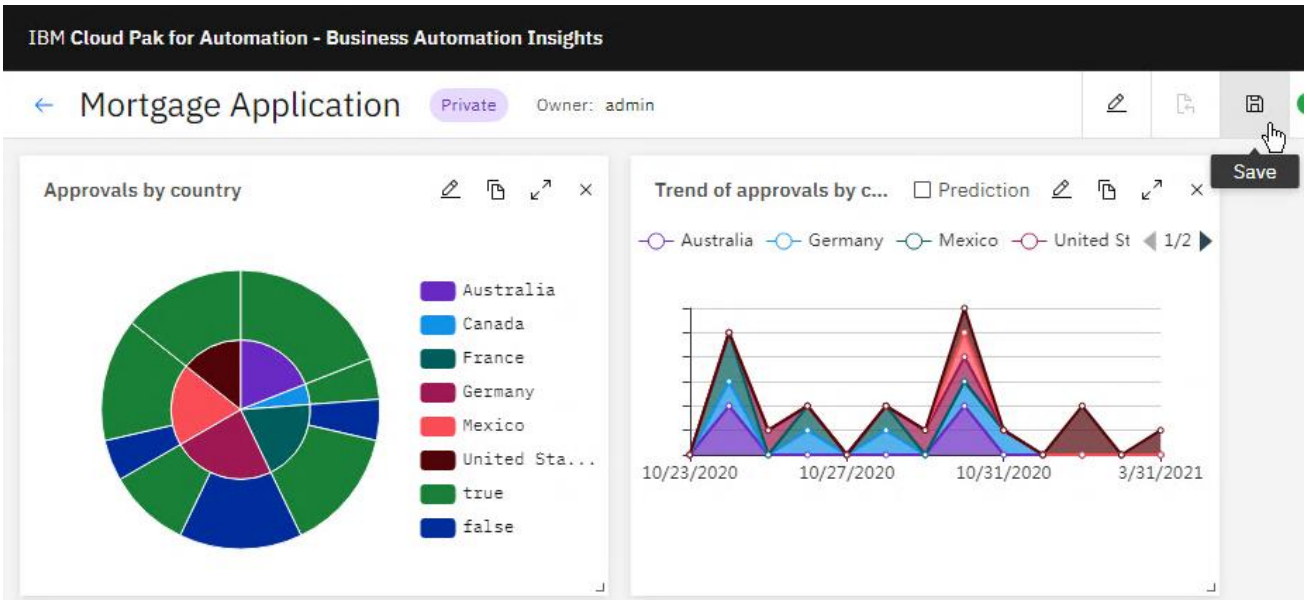


> A prediction for period metrics and KPIs projects your historical data into a possible future, and provides you a visual representation of past, current, and potential trends. Knowing these trends can inform your decisions and actions before an eventual situation arises.

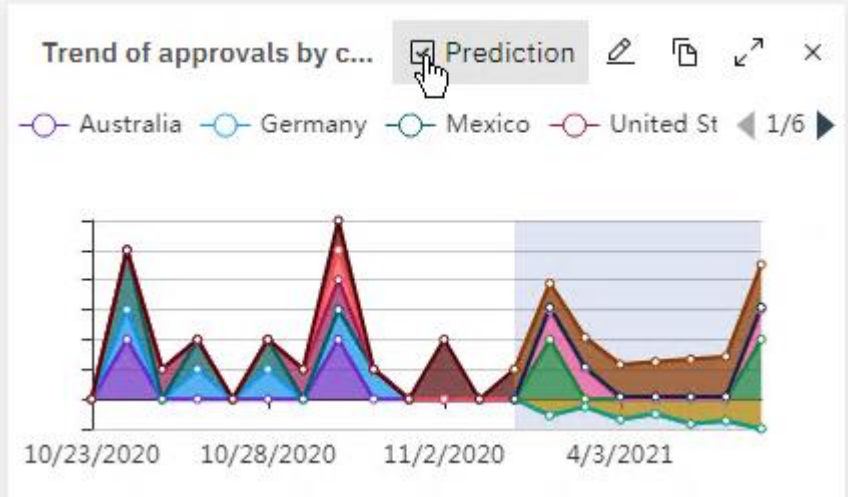
_5. Click **Done**



_6. Click **Save** to save you work!



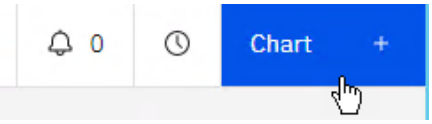
_7. Click **Prediction** check box to enable KPI prediction



> Note the negative KPI prediction value. When there is a clear downward trend, the model will continue to follow the trend and you end up with negative values even for variables that cannot be negative.

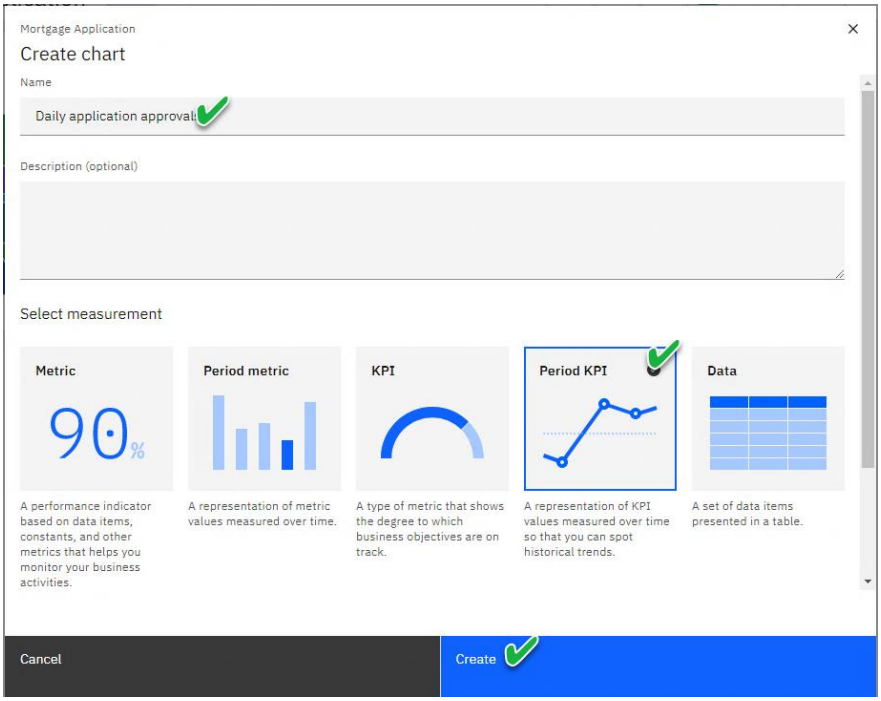
2.2.4 Create "Daily application approvals" Chart

_1. Click **Chart +**



_2. Enter the following and then click **Create**

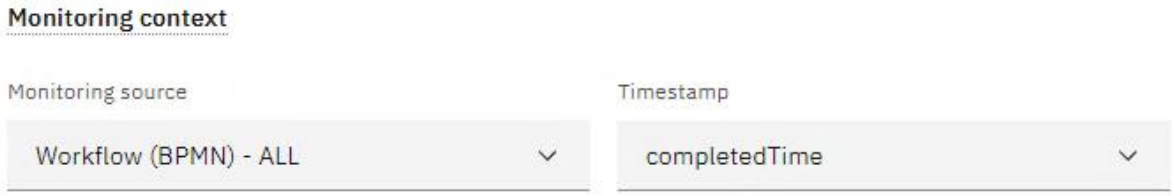
Item	Value
Name	Daily application approvals
Select measurement	Periodic KPI



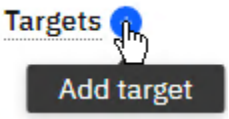
2.2.4.1 Select Data

_1. For *Monitoring context* select the following:

Item	Value
Monitoring source	Workflow (BPMN) – ALL
Timestamp	completedTime



_2. Click **Targets +** button

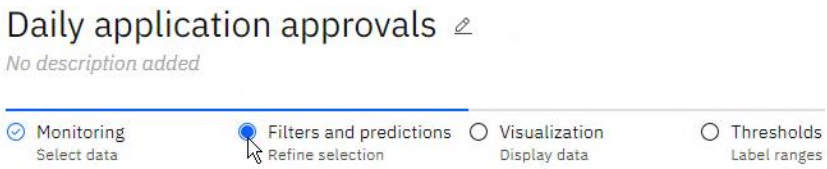


_3. For *Value* enter **2**

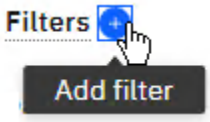
_4. In the top right corner select the **Bar Chart** icon

2.2.4.2 Filter Data

_1. Select **Filters and predictions** tab



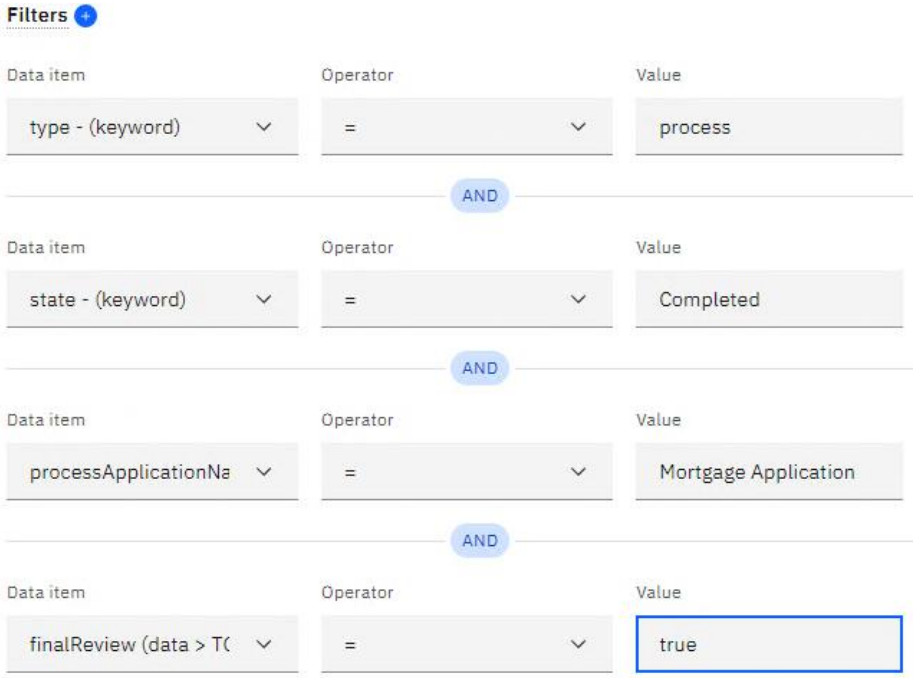
Click **Filter +** button **4 times** to add three Filters.



For each group select the following values from the dropdown list:

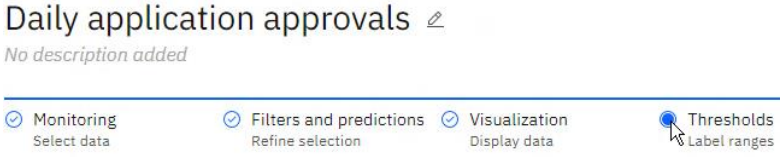
Filter	Data item	Value
1	type – (keyword)	process
2	state – (keyword)	Completed
3	processApplicationName – (keyword)	Mortgage Application
4	finalReview (data > TG_MA) – (keyword)	true

Your Filters setting should look exactly like this:



2.2.4.3 Define KPI Thresholds and Alerts

_1. Select **Thresholds** tab



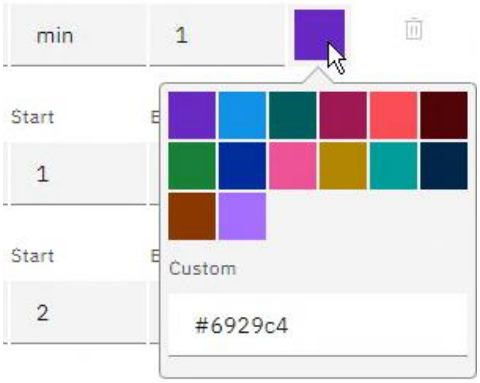
_2. Click **Thresholds +** button two times.

_3. For each group select the following values from the dropdown list:

Threshold	Data item	Value
1	Threshold name	Below
	Range name 1	Poor
	Range name 2	Good
2	Threshold name	Above
	Range name	Excellent

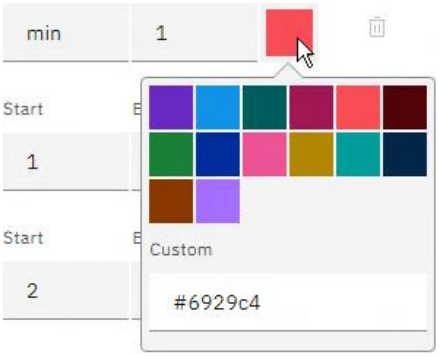
Your Thresholds setting should look exactly like this:

_4. Click **Purple Color patch**



_5. Click **Red color patch** from the palette

_6. To close the palette dropdown click the click **Red Color patch** on the Threshold



_7. For the remining Threshold use the steps above to change the colors

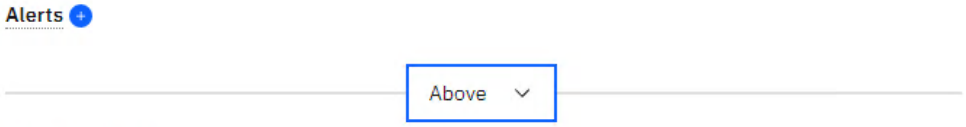
Threshold	Range name	Color
Below	Good	orange
Above	Excellent	green

Your Thresholds' color setting should look exactly like this:

_8. Click **Alerts +** button

For Alert target change the value for Below to **Above**

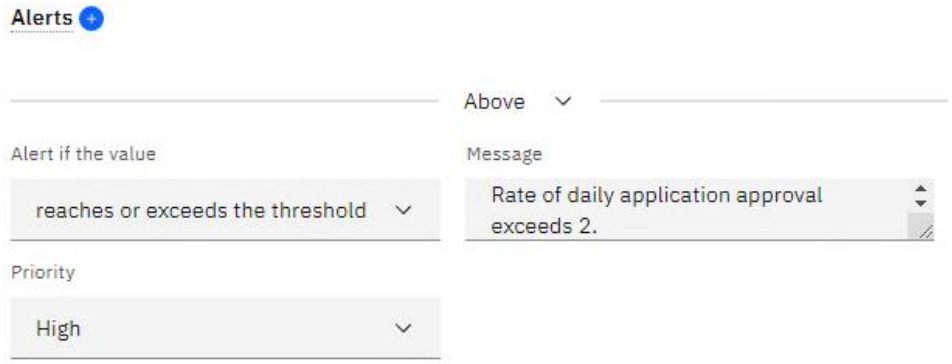
The new alert target should look exactly like this!



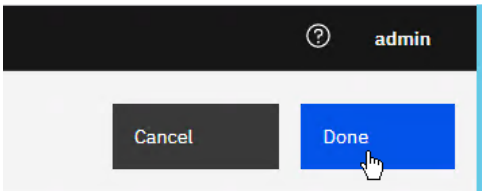
_9. For each group select the following values from the dropdown list:

Alert field	Data item
Alert if the value	Reaches of exceeds the threshold
Message	Rate of daily application approval exceeds 2.
Priority	High

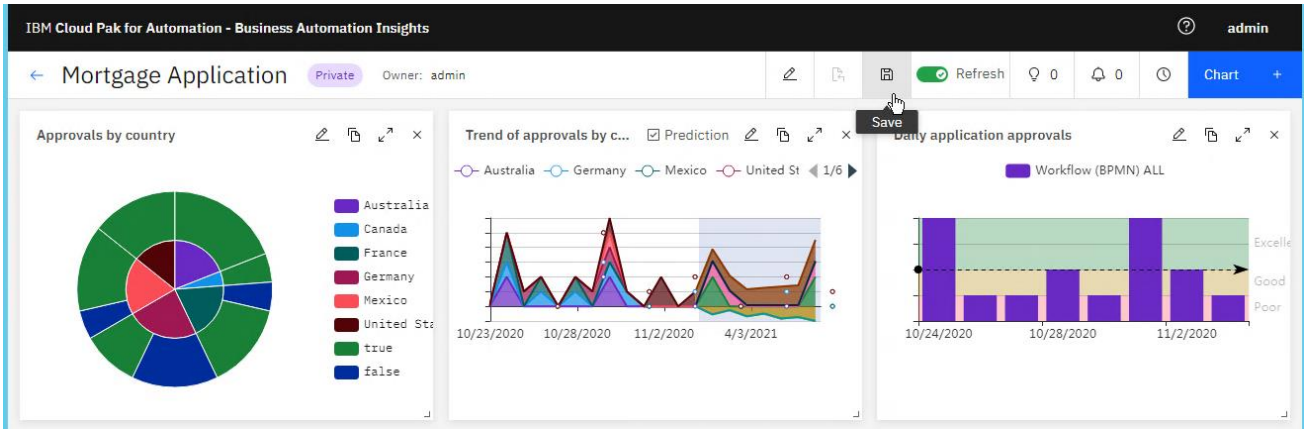
The alert should look exactly like this!



_10. Click **Done**

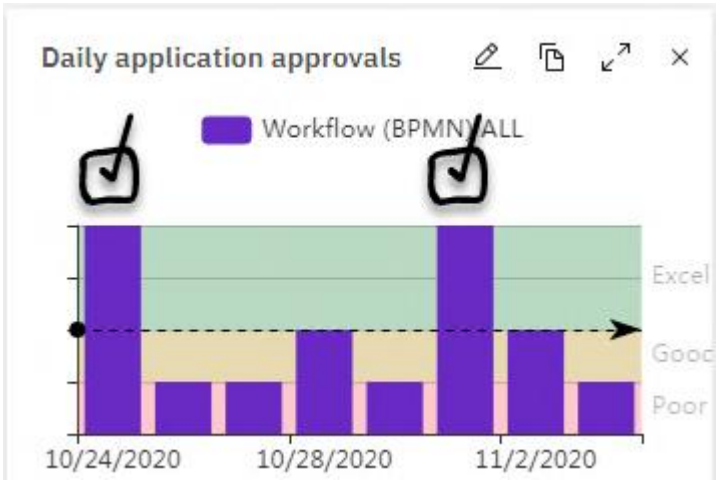


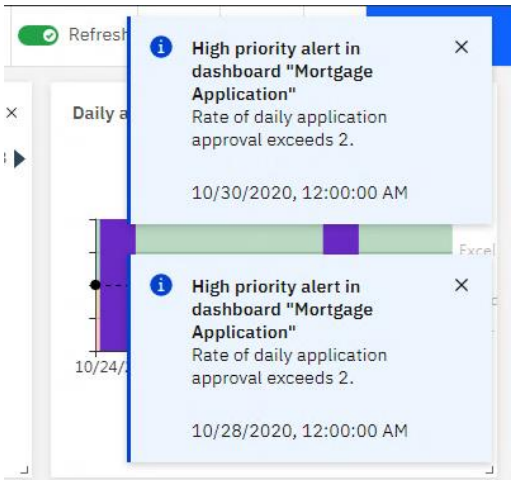
_11. Click **Save** to save you work!



Because on two separate days the appliction apporval reached and excedd two, you should now see two alerts!

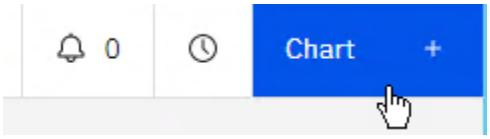
Note: you may need to wait a bit for the alerts to show up.





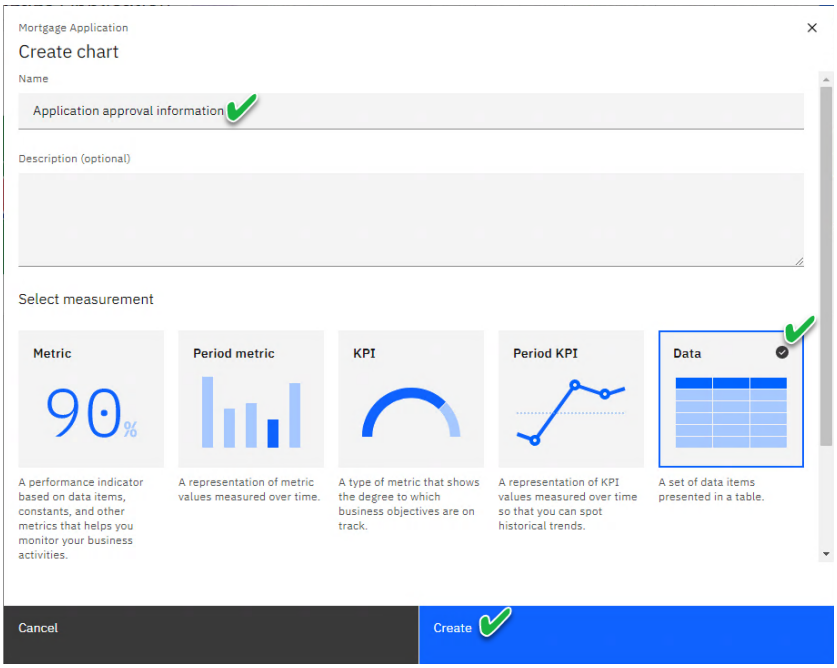
2.2.5 Create “Application approval information” Chart

_1. Click **Chart +**



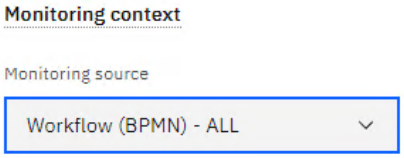
_2. Enter the following and then click **Create**

Item	Value
Name	Application approval information
Select measurement	Data



2.2.5.1 Select Data

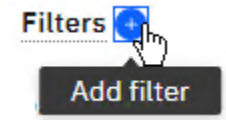
_1. For *Monitoring source* select **Workflow (BPMN) – ALL**



2.2.5.2 Filter Data

_1. Select **Filters** tab

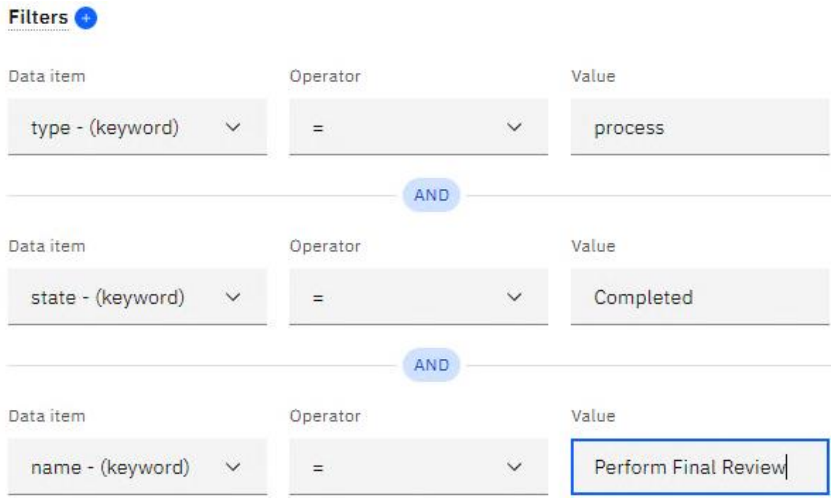
_2. Click **Filter +** button **3 times** to add three Filters.



_3. For each group select the following values from the dropdown list:

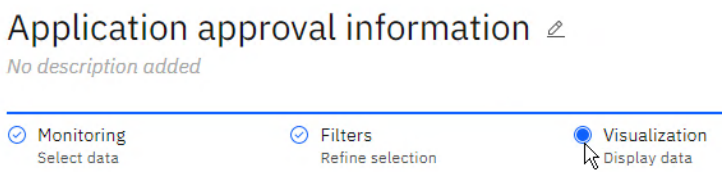
Group	Data item	Value
1	type – (keyword)	process
2	state – (keyword)	Completed
3	name – (keyword)	Perform Final Review

Your Filters setting should look exactly like this:

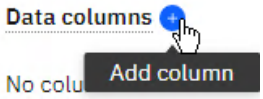


2.2.5.3 Visualize Data

_1. Select **Visualization** tab



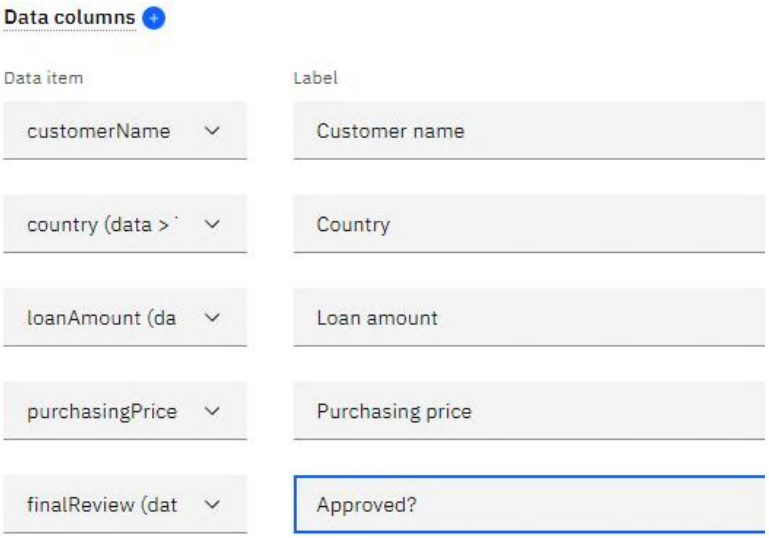
_2. Click **Data columns +** button **5 times** to add five data columns



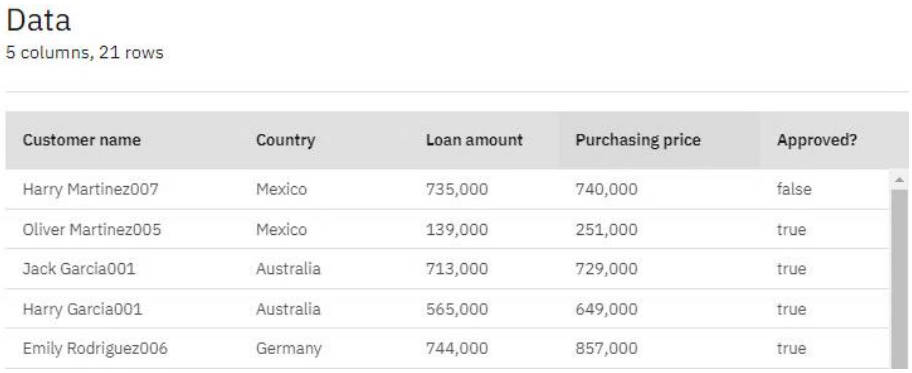
For each group select the following values from the dropdown list:

Data column	Data item	Label
1	customerName (data > TG_MA)	Customer name
2	country (data > TG_MA)	Country
3	loanAmount (data > TG_MA)	Loan amount
4	purchasingPrice (data > TG_MA)	Purchasing price
5	finalReview (data > TG_MA)	Approved?

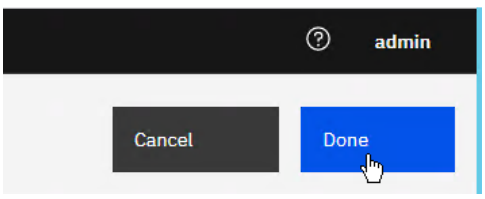
Your *Data columns* setting should look exactly like this:



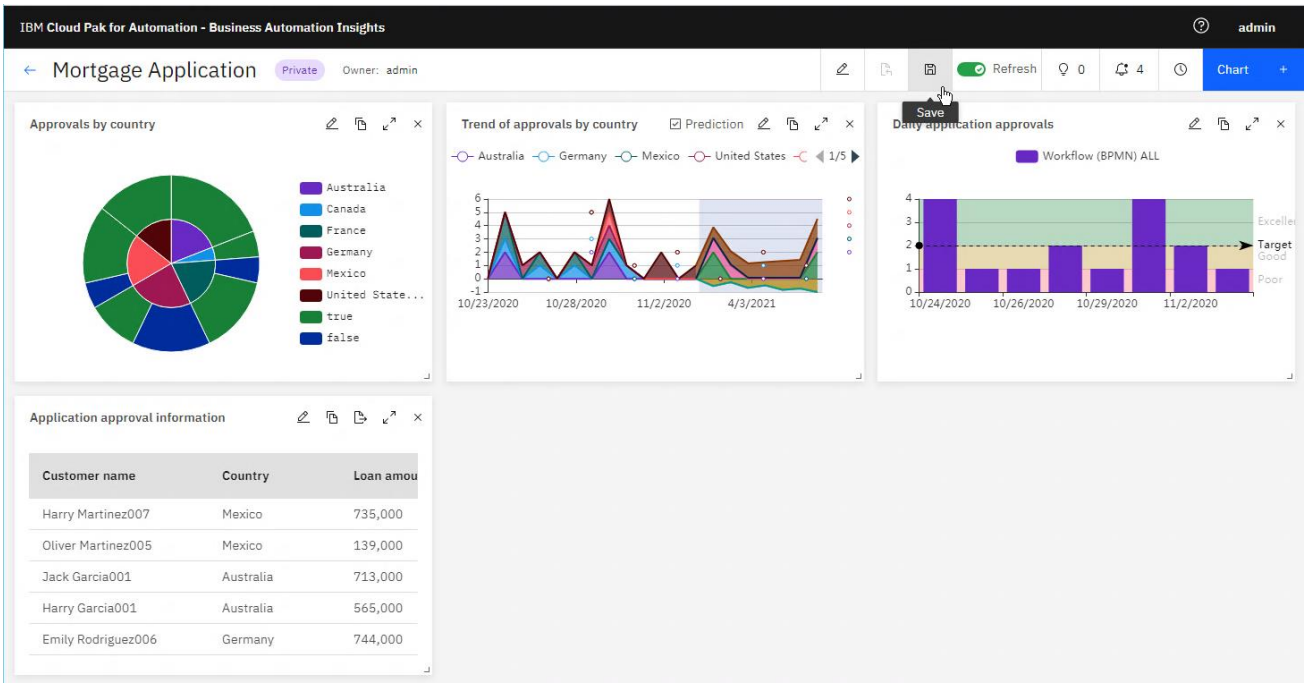
Also you should see the 21 rows of data!



_3. Click **Done**



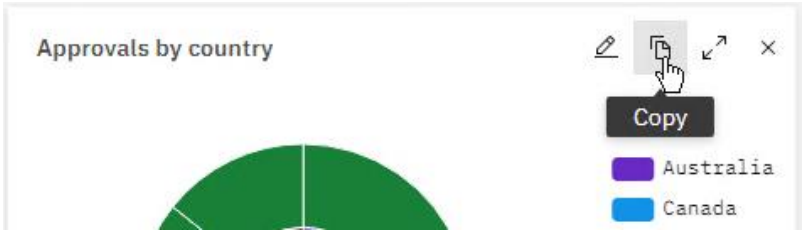
_4. Click **Save** to save you work!



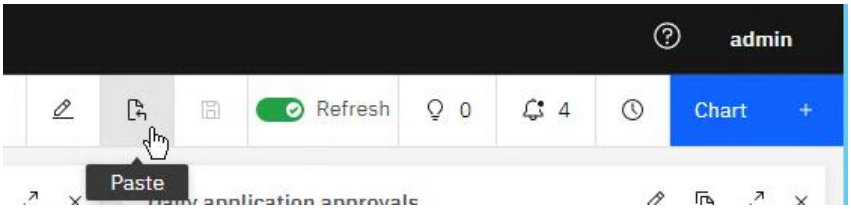
2.2.6 Create "Approvals by country heatmap" Chart

Since this chart is almost identical to the *Approval by country* chart, we will use copy-and-paste technique to create this chart from the *Approvals by country* chart.

_1. On the *Approval by country* chart click **Copy**



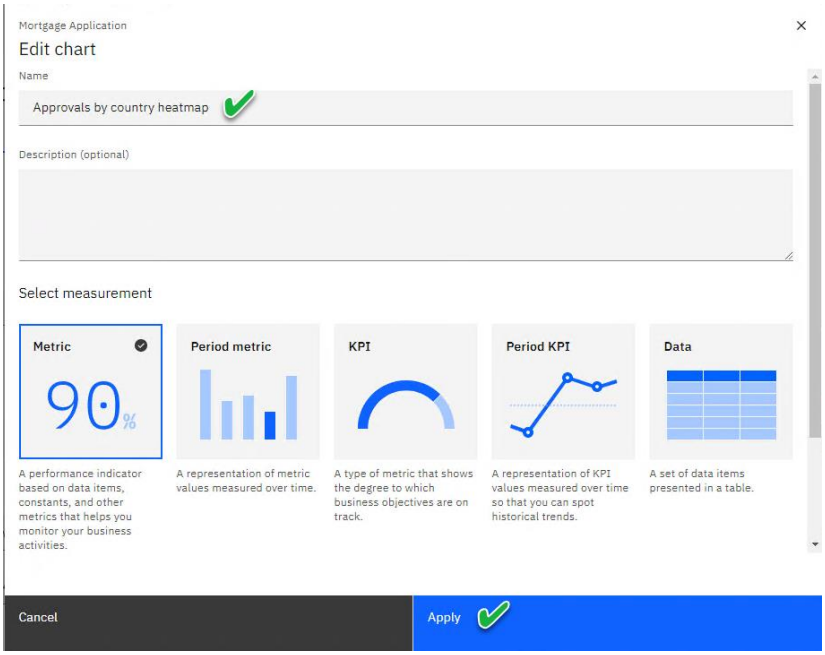
_2. On the *BPM main toolbar* click **Paste**



_3. On the copy of *Approval by country* chart click **Edit**

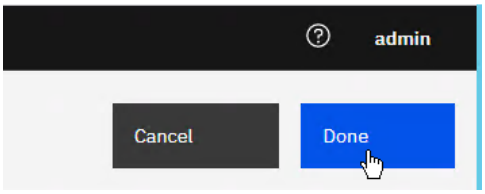
_4. Click **Edit configuration**

_5. For *Name* enter **Approvals by country heatmap** and then click **Apply**

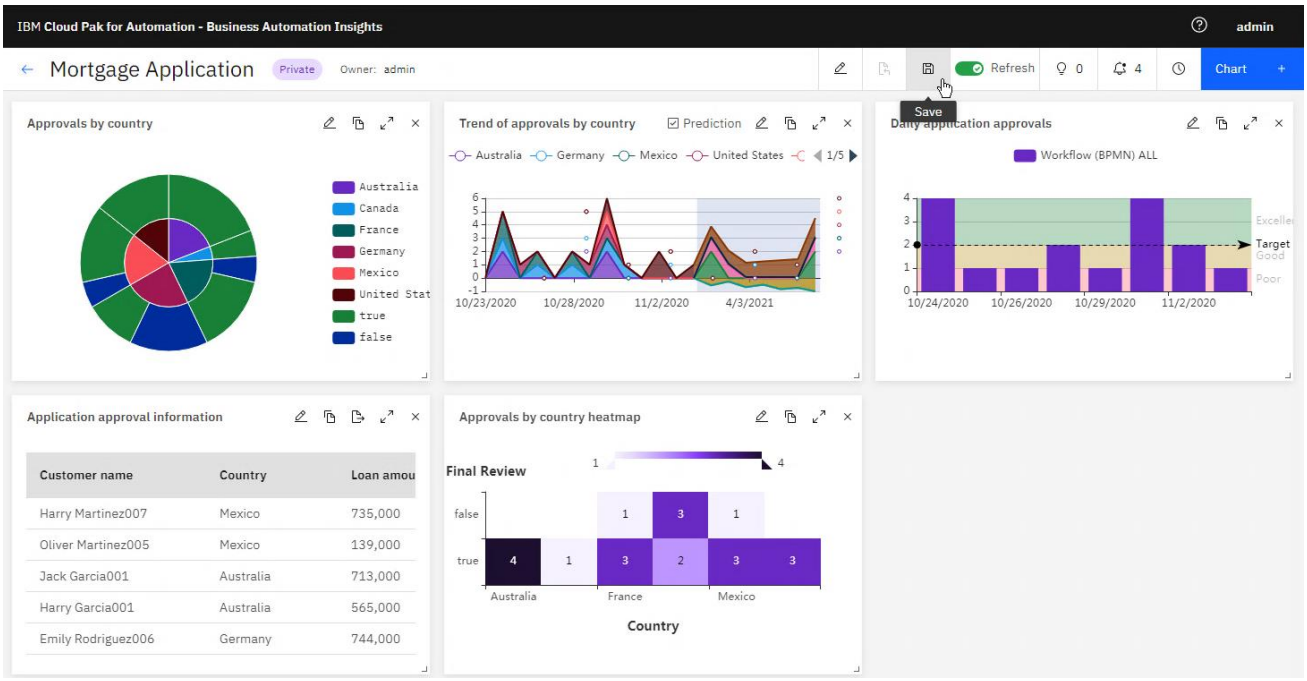


_6. Click **Heatmap** button to change the visualization type from *Pie* to **Heatmap**

_7. Click **Done**



_8. Click **Save** to save you work!

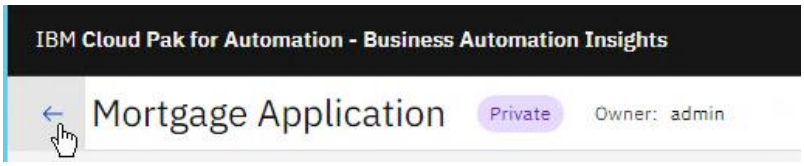


2.2.7 Create a Configure Goal

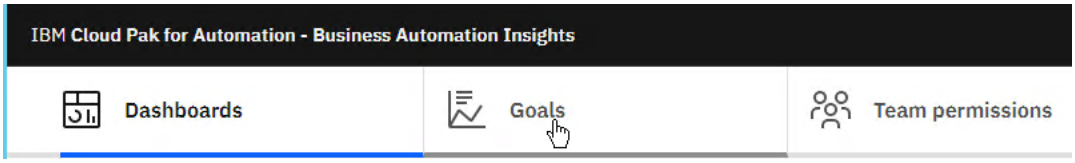
A Goal is a business statement that brings purpose and scope to your dashboards. Goals are used to aggregate charts within a dashboard and to give dashboards a busines purpose. Goals definition include the details of a specific objective you want to achieve, the time-frame for achieving an objective, and identifiers (categories and colors) for the goal.

2.2.7.1 Crete a Goal

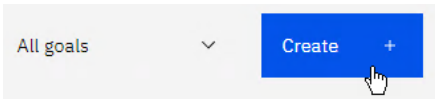
_1. Click the **Arrow** to the left of Mortgage Application dashboard



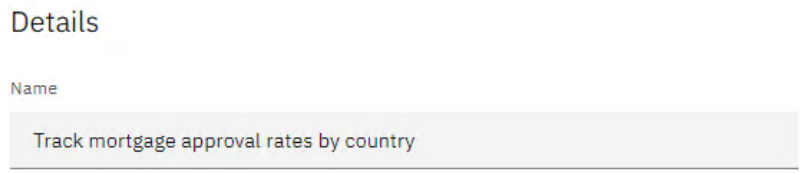
_2. Click **Goals**



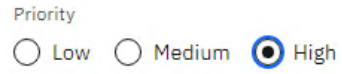
_3. Click **Create**



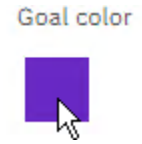
_4. For *Name* enter Track mortgage approval rates by country



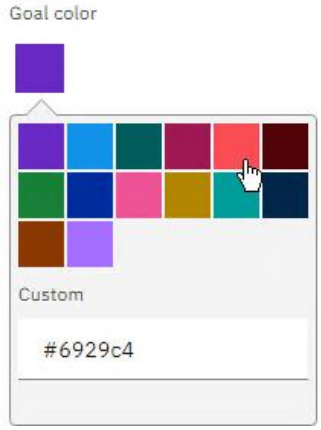
_5. For *Priority* select **High**



_6. Click *Goal color* purple color patch



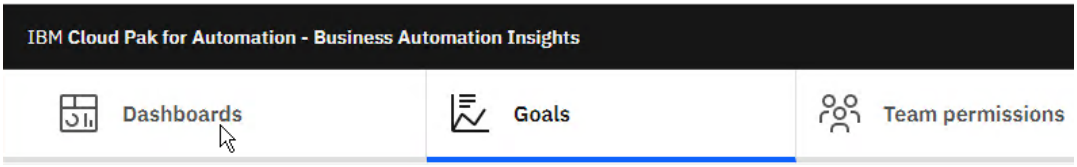
_7. Select **red** color patch



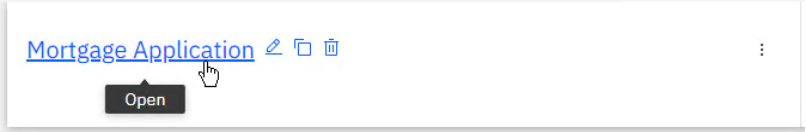
_8. Click **Save**

2.2.7.2 Set business goal for selected charts

_1. Click **Dashboards**

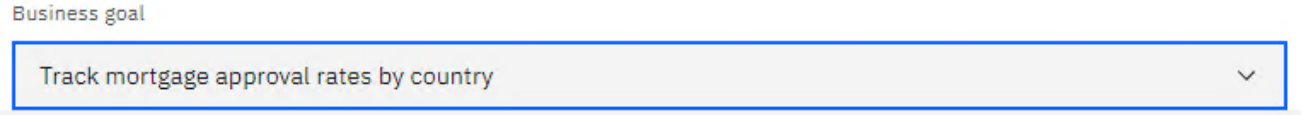


_2. Click Mortgage Application dashboard

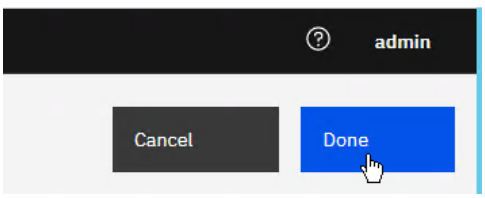


_3. On *Approvals by country* dashboard click **Edit** button

_4. For Business goal, from the drop-down list select **Track mortgage approval rates by country**

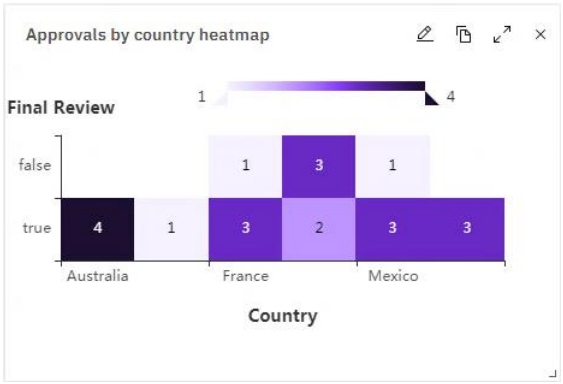


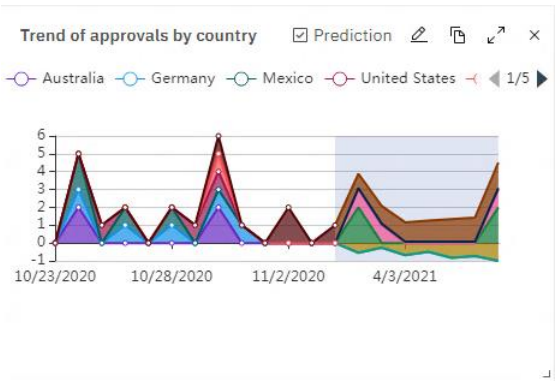
_5. Click **Done**



_6. Repeat the above steps to add a *Business Goal* to these two *Dashboards*:

- *Approvals by country heatmap*
- *Trend of approvals by country*

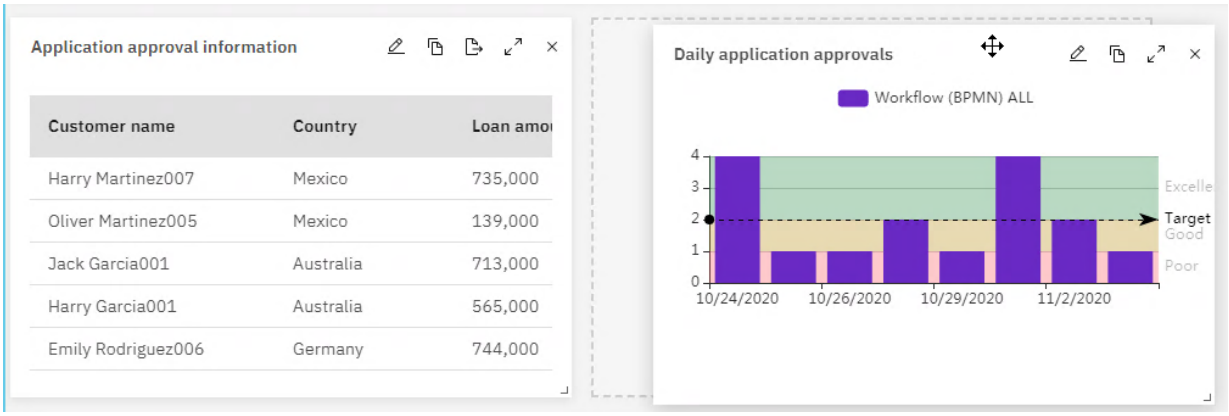




2.2.7.3 Change dashboard layout

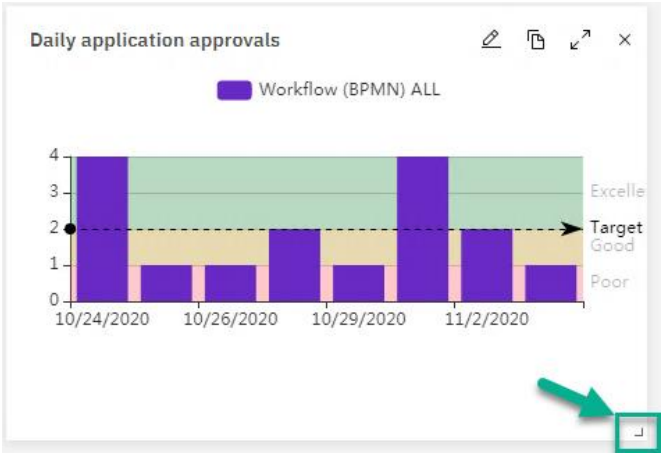
_1. Move **Daily application approvals** dashboard using these steps:

- **Click on it**
- When the crosshair cursor papers ✥, **hold the left mouse button**
- **Drag** the dashboard just to the right of the *Application approval information* dashboard

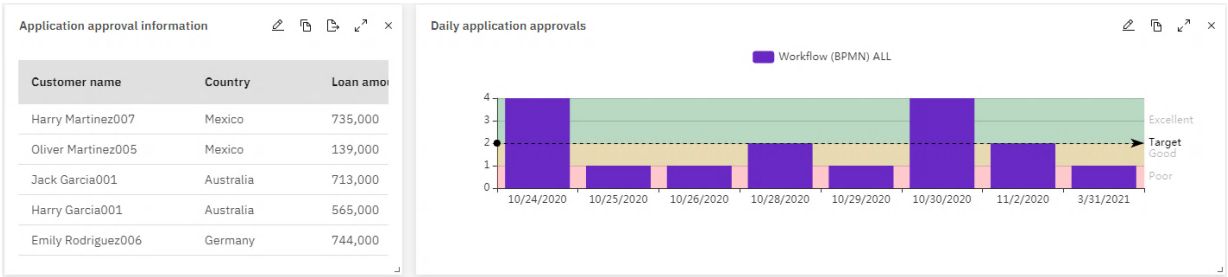


_2. Expand horizontally the **Daily application approvals** dashboard using these steps:

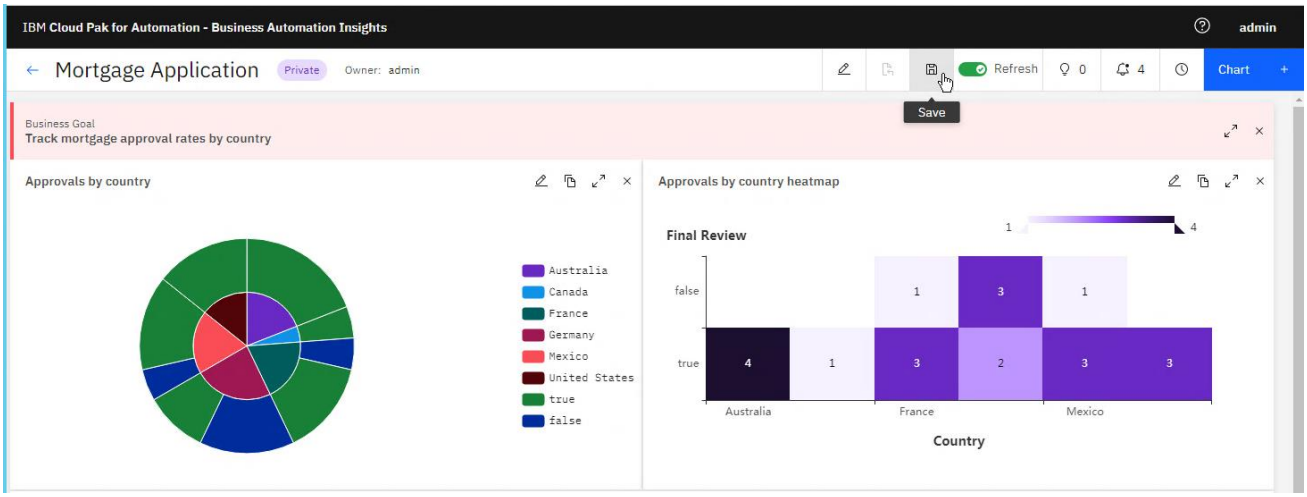
- Click **sizing icon** in the bottom right corner



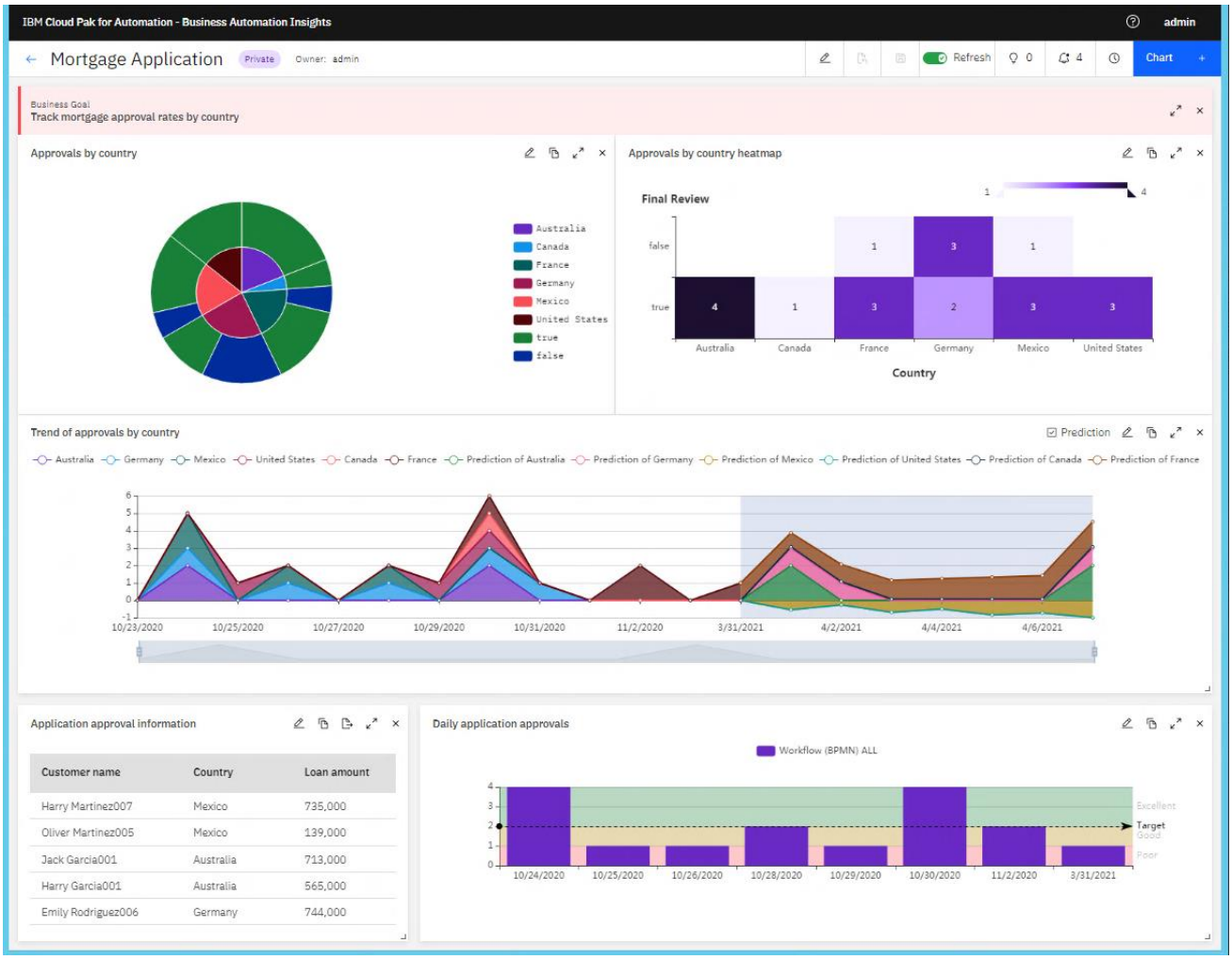
- **Hold the left mouse button**
- **Move the Dashboard** to the right until the dashboard filles up the horizontal space



_3. Click **Save** to save you work!



_4. Adjust the web browse's resolution (using **Ctrl -** keys) to fit the entire dashboard on the screen



2.3 Summary

In the labs, you will learned how to build and use Business Performance Center dashboard to provide insights into a mortgage application solution for line of business users. Specifically you learned how to create and configure the following BPC artifacts: Dashboards, Charts, Chart Alerts, and Goals.