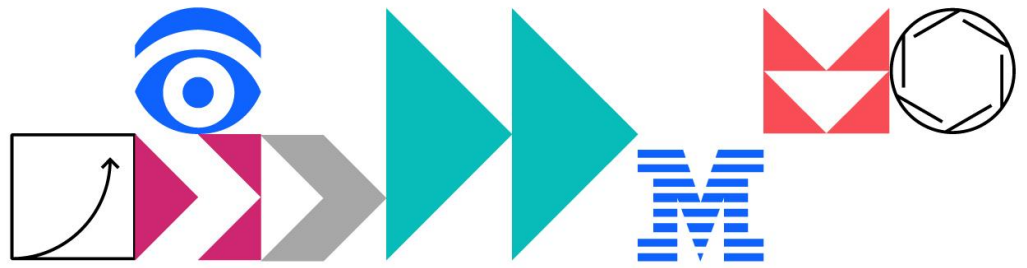




IBM TechXchange



Learn how you can use Business Performance Center to monitor the success of your organization

Session 4236

Lab Exercise Guide

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1 Lab Introduction

In the lab, you will learn how to build and use the Business Performance Center to create dashboards and provide insights into a Client Onboarding solution for a line of business users.

1.1 Introduction to IBM Business Automation Insights

IBM Business Automation Insights (BAI) processes event data from the connected IBM Business Automation products so that you can derive insights into the performance of your business. You can use this data to drive automation and visualize the state of the KPIs in dashboards that matter most to the line of business in near real-time.

See a high-level BAI architecture in the figure below. Additional technical information is available in the [Appendix](#) of this lab guide.

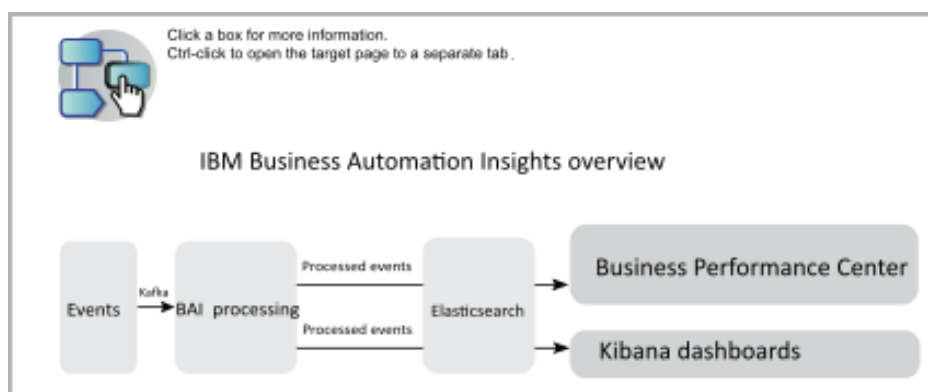


Figure 1. IBM Business Automation Insights Architecture

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 essential business activities and processes.
- Prepare, track, and design visualizations of metrics, key performance indicators (KPIs), and other business performance measurements in customizable dashboards.

1.2 Lab Overview

The solution used during the labs is the *Client Onboarding* workflow automation implemented as a Case with several BPMN processes that implement case activities. The automation contains a single Case Type *Client Onboarding Request*, which includes activities that need to be performed, data, documents, and conditions that drive the processing.

[Automations](#) / [Client Onboarding](#) / Case Type

Client Onboarding Request

The screenshot shows the 'Activities' tab for the 'Client Onboarding Request' Case Type. The interface includes tabs for Case Type, Properties, Views, Case Folders, Stages, Rules, and Activities. The 'Activities' tab is active, showing a list of activities categorized into 'Required activities' and 'Optional activities'.

Required activities:

- Initialize Request:** File selected documents to the Case folder and handle pending. Precondition: Case Start. Set: <None>.
- Notification:** Notify the client and client rep that the review has been. Precondition: Stage started: Notification. Set: <None>.
- Perform Scoreboarding:** Scoreboard the client (Classifies them into a segment and assess. Precondition: Stage started: Scoreboarding. Set: <None>.
- Update Backend Systems:** Update backend systems with client information. Precondition: Stage started: Backend Systems Up... Set: <None>.

Optional activities:

- Review Client Documents:** Renew any new documents coming in from the client. Precondition: Documents: Any document Property ... Set: <None>.

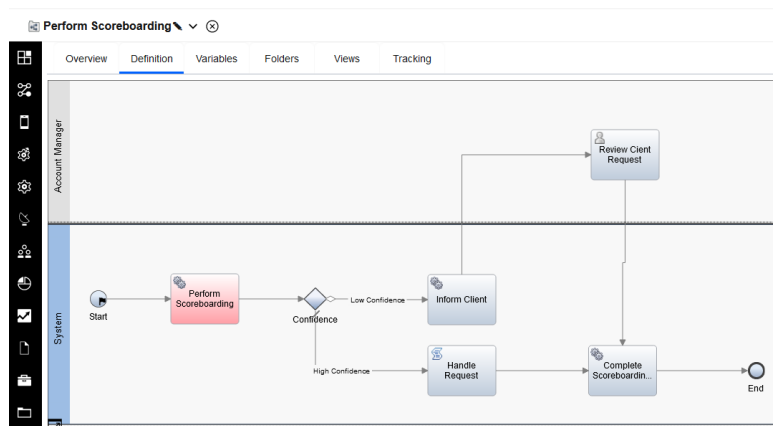
Figure 2. Client Onboarding Solution

BPMN processes (shown below) implement all five Case Activities above in an automatically generated Process App (Client Onboarding).

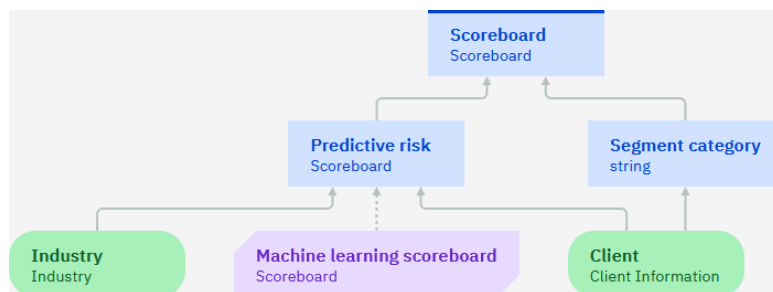
The screenshot shows the IBM Automation interface. The top navigation bar includes 'Business automations / Client Onboarding'. The left sidebar has a menu with 'Client Onboarding', 'Processes', 'User interface', and 'Exposed Automation Services'. The 'Processes' menu item is selected, showing a list of BPMN processes in the main area. The list includes:

- Initialize Request
- New Client Onboarding Request
- Notification
- Perform Scoreboarding
- Review Client Documents
- Update Backend Systems

The *Perform Scoreboarding* Activity (highlighted red below) is particularly interesting. It uses Automation Services to invoke Scoreboard decisions implemented using Automation Decision Services (ADS).



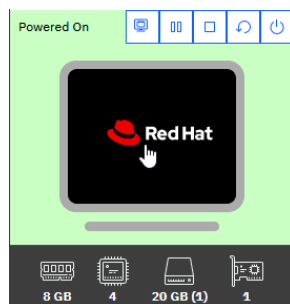
The Scoreboard ADS decision determines if a client is risky using a Machine Learning-based predictive model and classifies the client into a segment.



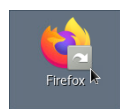
When authoring one of the Charts on the dashboard, you will be using data generated by the above decision.

1.3 Lab Setup

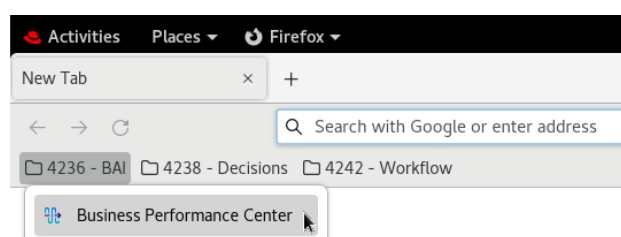
_1. Click the **“Red Hat” image** to start the RHEL VM you will be using to complete this lab.



_2. Double click the **Firefox icon** on the RHEL desktop.

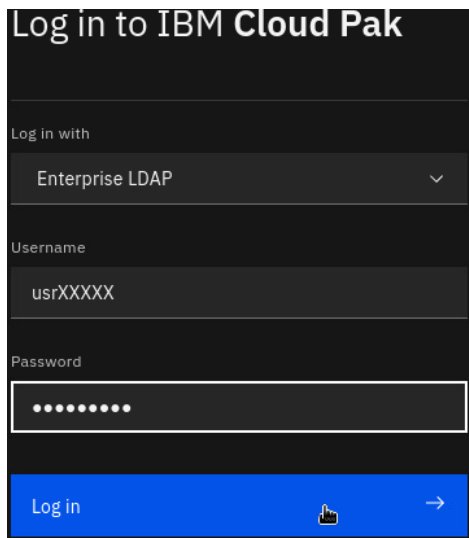


_3. In the Firefox Web browser, Open **4236 – BAI** toolbar folder and select **Business Performance Center**



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_4. For *Username* and *Password* enter your **student credentials** and click **Log in**.



The screenshot shows the 'Log in to IBM Cloud Pak' login page. It features a dark theme with a blue 'Log in' button at the bottom. The form includes a 'Log in with' dropdown menu set to 'Enterprise LDAP', a 'Username' field containing 'usrXXXXX', and a 'Password' field with masked characters. A small icon of a person is visible next to the 'Log in' button.

Log in to IBM Cloud Pak

Log in with

Enterprise LDAP

Username

usrXXXXX

Password

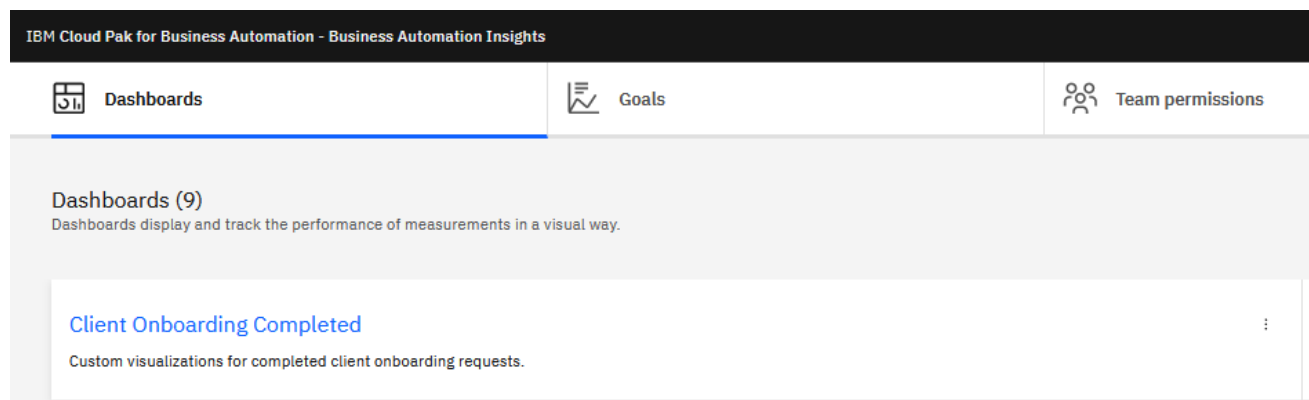
Log in

2 Exercise: Create Client Onboarding Workflow 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 near real-time business insight into the *Client Onboarding* workflow.

In addition to built-in dashboards delivered with BPC that provide you with many great generic charts for workflow, decisions, and content, a reference version of the dashboard specific to the Client Onboarding business metrics and KPIs that you will build in the lab exercise (called **Client Onboarding Completed**) has already been built for you.



If you like, you can refer to it when building your dashboard version.

2.2 Exercise Instructions

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

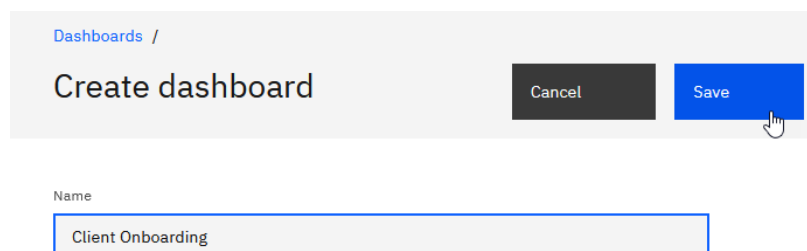
- Client Onboarding **Dashboard**
- **Charts** used in the Client Onboarding dashboard
- A chart **Alert**
- A **Goal** to group related charts

2.2.1 Create a Dashboard

_1. Click **Create +**



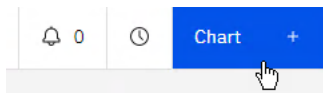
_2. For *Name*, enter **Client Onboarding** and click **Save**



2.2.2 Create "Average Revenue from Service Fees for Approved Clients" Chart

This gauge chart will show the average revenue from service fees for approved clients.

_1. Click **chart +**



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

Item	Value
Name	Average Revenue from Service Fees for Approved Clients
Select measurement	KPI

Client Onboarding ×

Create chart

Name

Average Revenue from Service Fees for Approved Clients

Description (optional)

Select measurement

Metric

A performance indicator based on data items, constants, and other metrics that helps you

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

Cancel

Create

2.2.2.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding ▼

This will select events from the Client Onboarding workflow.

_2. In *Aggregation*, for *Function* select **Average** and *Data item* select **CO_ServicesFee (data) – (long)**

Aggregation

Function

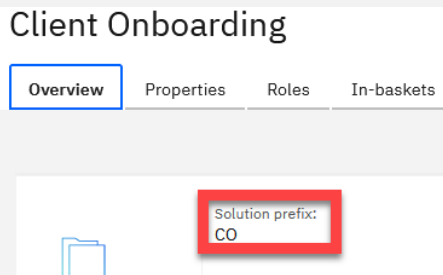
Average ▼

Data item

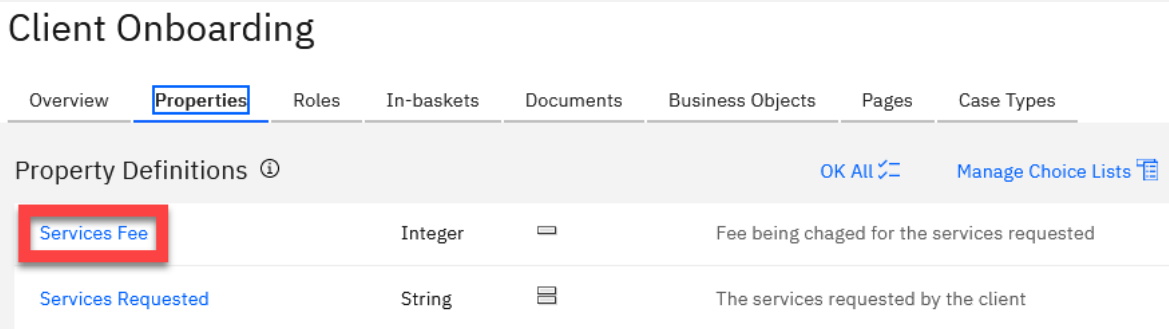
CO_ServicesFee (data) - (long) ▼

If you wonder how this Case Property was sent to BAI, look at these comments...

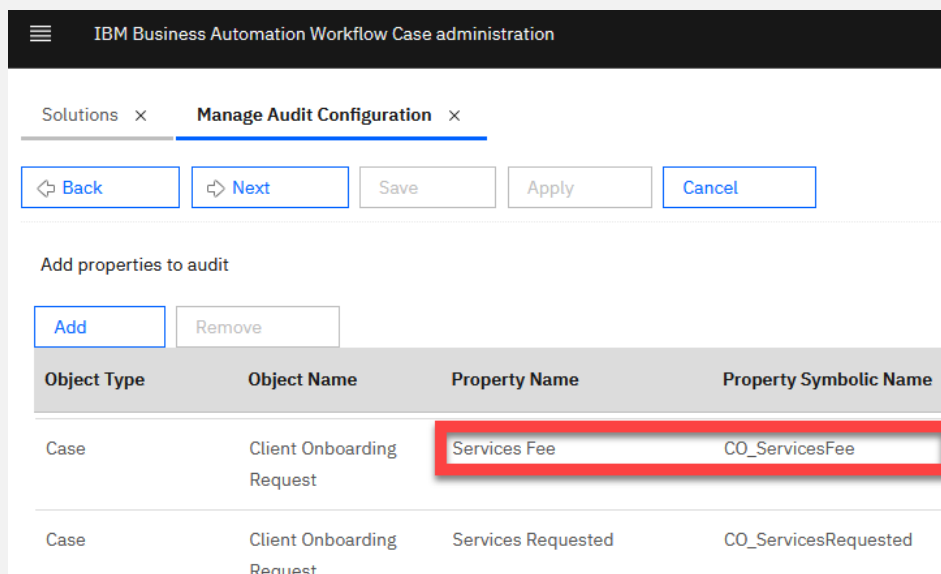
CO in CO_ServicesFee is the Client Onboarding Solution prefix.



ServicesFee in CO_ServicesFee is the name of the Client Onboarding case property.

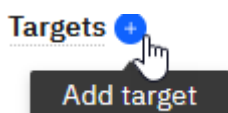


For BAI Case Emitter to add this property to the emitted events, the Client Onboarding Audit Configuration includes this property.




_3. To continue the lab...

Click **Targets +**



_4. For *Value* enter **80000**

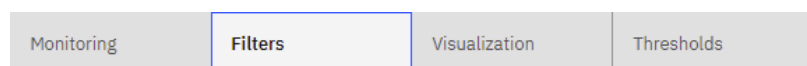
Targets 

Label	Value	
New target	80,000	

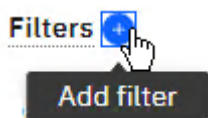
2.2.2.2 Define Filter Data

When selecting the Monitoring source, you specified **Workflow (Case) – Client Onboarding**. This setting allows you to work with the instances of the Client Onboarding workflow. Filters allow you to select specific data you want to display in your chart.

_1. Select the **Filters** tab





_2. Click the **Filter +** button.



_3. Select the following values from the dropdown list:

Item	Value
Data item	CO_ApprovalStatus (data) – (keyword)
Operator	=
Value	Approved

Your Filter setting should look exactly like this:

Data item	Operator	Value
CO_ApprovalStatus (data) - (keyword) 	= 	Approved

2.2.2.3 Define Visualization

This setting allows you to customize your Chart display settings.

_1. Select the **Visualization** tab



_2. Enter the following values:

Item	Value
Min	0
Max	100000
Unit	\$

Your Gauge setting should look exactly like this:

Gauge settings

Min	Max
0	100,000
Unit	
\$	

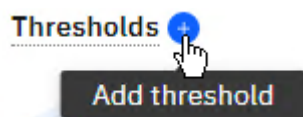
2.2.2.4 Define Thresholds

This setting allows you to customize the Gauge threshold setting.

_1. Select the **Thresholds** tab.

Monitoring	Filters	Visualization	Thresholds
------------	---------	---------------	------------

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



_3. For each group, enter the following values:




Threshold	Data item	Value
1	Threshold name	Below
	Value	30000
	Range name 1	Poor
	Range name 2	Good
2	Threshold name	Above
	Value	80000
	Range name	Excellent

Your Thresholds setting should look exactly like this:

Thresholds +

Threshold name	Value	Range name	Start	End
Below	30,000	Poor	min	30,000
		Range name	Start	End
		Average	30,000	80,000
Threshold name	Value	Range name	Start	End
Above	80,000	Excellent	80,000	max

_4. Click the color patch next to 30,000 and then select the **Red color patch** from the palette.

Start	End	
min	30,000	
30,000	80,000	
80,000	max	

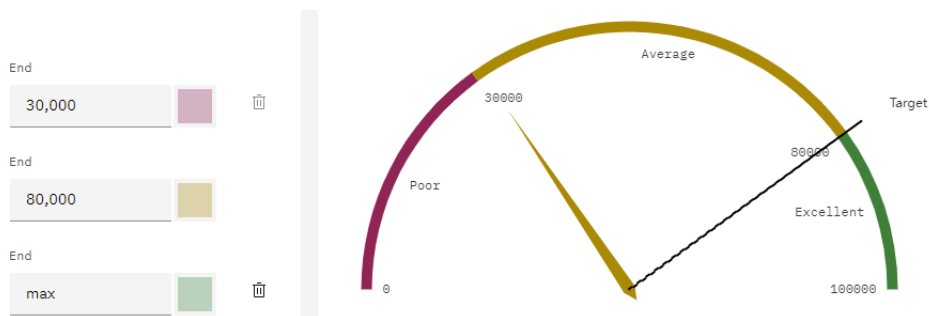
Custom

#6929c4

_5. Using the above steps, customize the other two colors.

Item	Value
80,000	Yellow
max	Green

The color settings should look exactly like this:

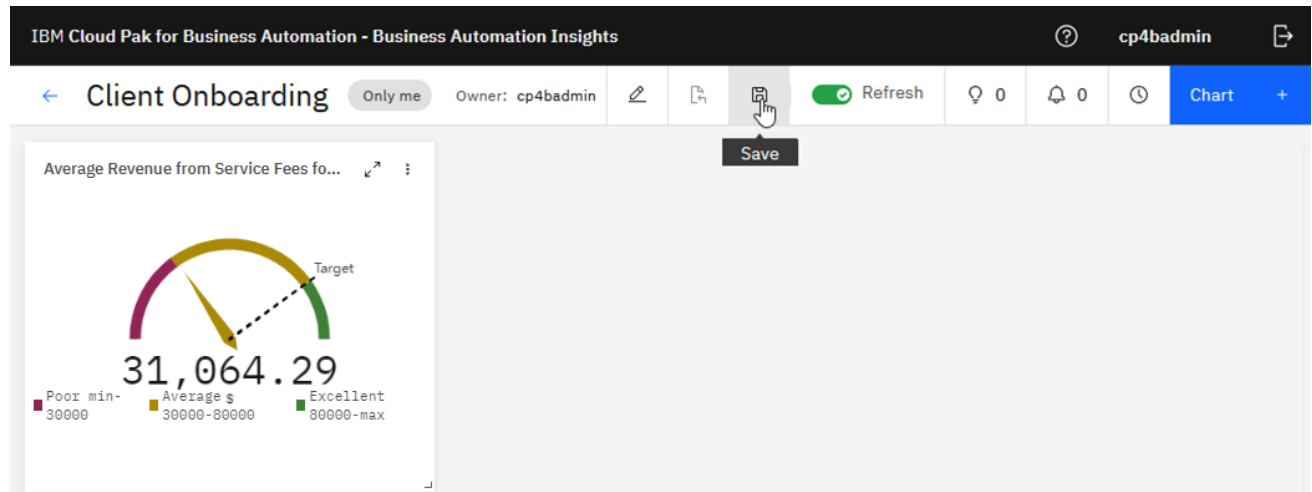


_6. Click **Done**

?
⌂

Cancel
Done

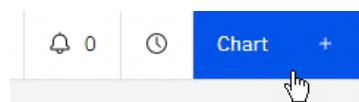
_7. Click the **Save icon** on the toolbar above the dashboard to save your work!



2.2.3 Create "Approvals by Industry" Chart

This hierarchical pie chart will show the state of each industry's approvals (Approved, Rejected, Under Review).

_1. Click **Chart +**



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

Item	Value
Name	Approvals by Industry
Select measurement	Metric

Client Onboarding

Create chart

×

Name

Approvals by Industry ✓

Description (optional)

Select measurement

Metric

90%

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

Cancel

Create ✓

2.2.3.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. Click **Group by +** button two times

Group by +

_3. Enter the following values for the *Group by* entries:

Item	Value
1	CO_ApprovalStatus (data) – (keyword)
2	CO_Industry (data) – (keyword)

Group by +

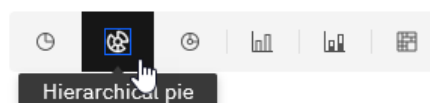
CO_ApprovalStatus (data) - (keyword)

CO_Industry (data) - (keyword)

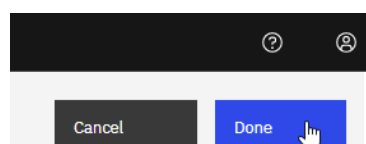
_4. For chart, type select **Hierarchical pie**

Metric

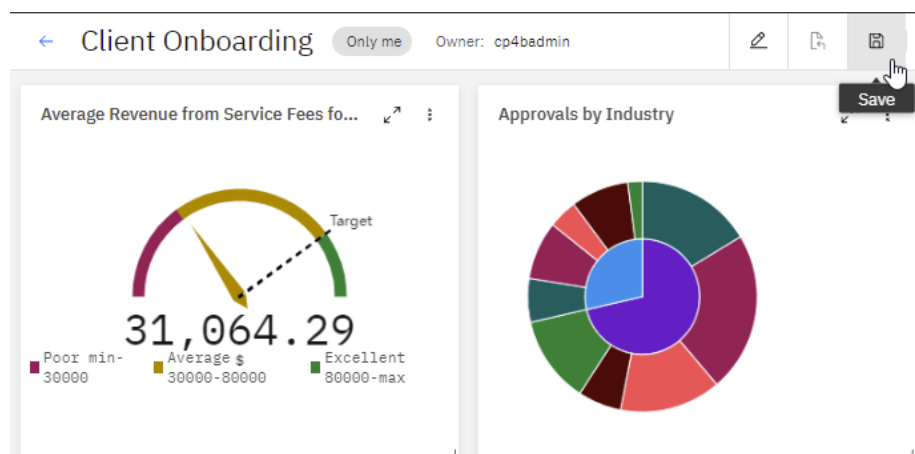
Hierarchical pie



_5. Click **Done**



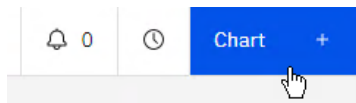
_6. Click the **Save** icon on the toolbar above the dashboard to save your work!



2.2.4 Create "Services Subscription by Industry with Drilldowns" Chart

This pie chart will show the service subscriptions by industry. Another feature of this chart is drilling down by service > industry > country.

_1. Click **Chart +**



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

Item	Value
Name	Services Subscription by Industry with Drilldowns
Select measurement	Metric

Client Onboarding

×

Create chart

Name

Services Subscription by Industry with Drilldowns ✓

Description (optional)

Select measurement

Metric ✓

90%

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

Cancel

Create ✓

2.2.4.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

▼

_2. Click **Group by +** button three times

Group by +


_3. Enter the following values for the *Group by* entries:

Item	Value
1	CO_Industry (data) – (keyword)
2	CO_ServiceRequested (data) – (keyword)
3	CO_AddressCountry (data) – (keyword)


_4. Drill down groups should look exactly like this:


Group by 

You can drill-down to get the details of each group on the chart.

CO_Industry (data) - (keyword) 

The following groups may be accessed by drilling-down into the chart:

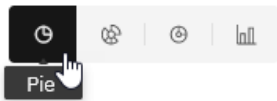
CO_ServicesRequested (data) - (keyword) 

CO_AddressCountry (data) - (keyword) 

_5. For chart type, select **Pie** (this should be the default)

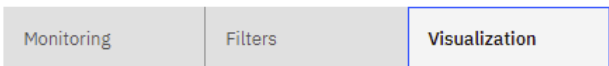
Metric

Pie



2.2.4.2 Define Visualization Information

_1. Click the **Visualization** tab



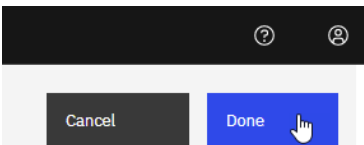
_2. For *Pie settings > unit* enter **Drill-down Legend**

Pie settings

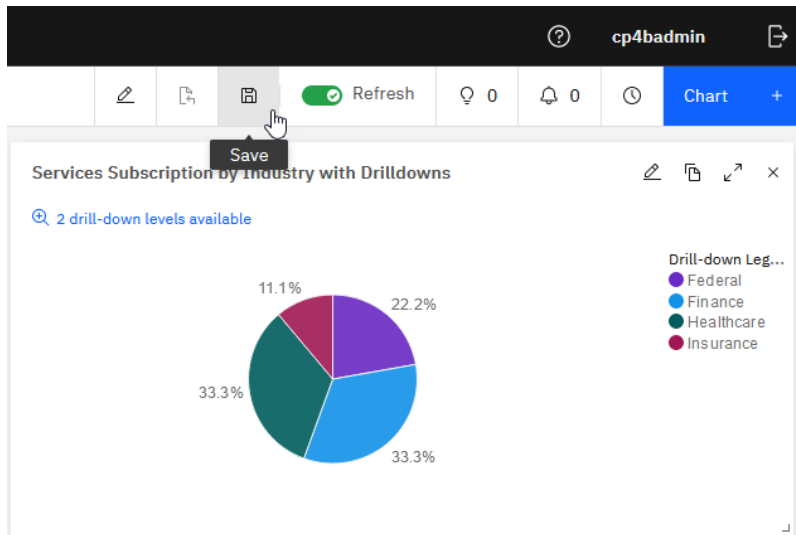
Unit

Drill-down Legend

_3. Click **Done**

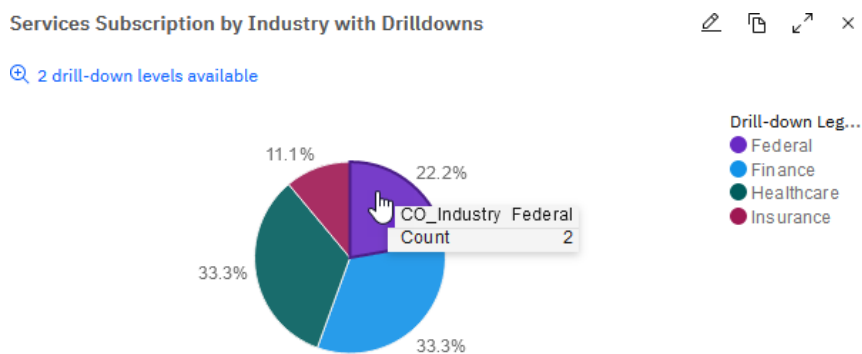


_4. On the toolbar above the Dashboard, click the **Save** icon to save your work!

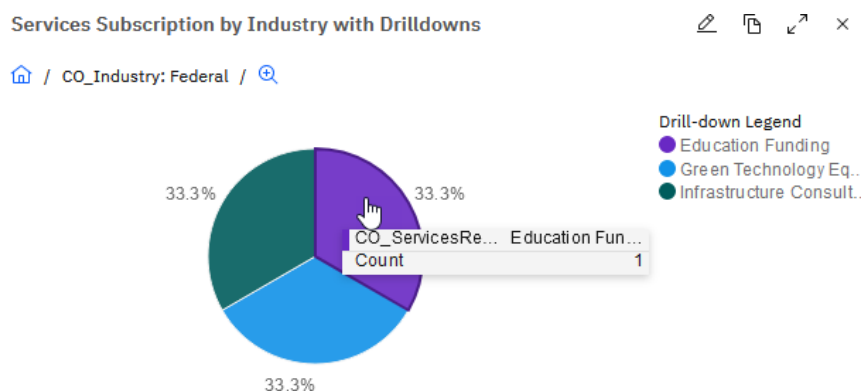


2.2.4.3 Explore Drill-down capability

_1. Select the first drill-down level by clicking on **Federal** Industry

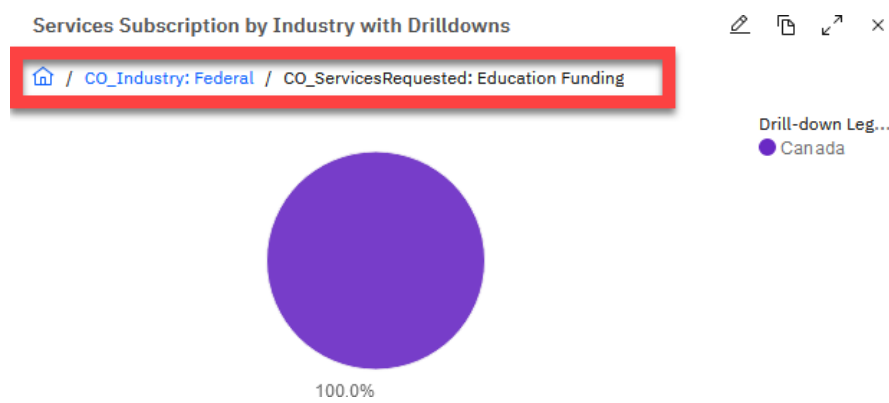


_2. Select the second drill-down level by clicking on **Education Funding** Service

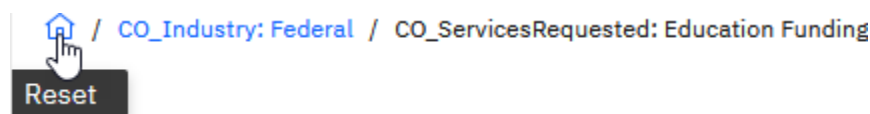


_3. You should now see all the countries for *Federal > Education Funding* grouping.

_4. Note the breadcrumbs.



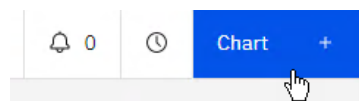
_5. Click **Reset** to get back to the original view



2.2.5 Create "Highest Service Fee by Industry Sector" Chart

This bar chart will show the highest service fee by industry sector.

_1. Click **chart +**



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

Item	Value
Name	Highest Service Fee by Industry Sector
Select measurement	Metric

2.2.5.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. In *Aggregation*, for *Function* select **Max** and for *Data item* select **CO_ServicesFee(data) – (long)**

Aggregation

Function

Max

Data item


CO_ServicesFee (data) - (long)

_3. Click **Group by +** button

Group by

_4. Enter **CO_Industry (data) – (keyword)**

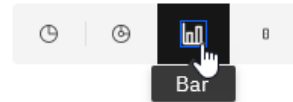
Group by 

CO_Industry (data) - (keyword) 

_5. For chart type, select **Bar**

Metric

Bar



2.2.5.2 Define Visualization Information

_1. Click **Visualization** tab

Monitoring Filters Visualization

_2. For Bar settings, enter:

Item	Value
X-axis label	Industry
Y-axis label	Maximum Service Fee [\$]

Bar settings

X axis label

Industry


Y axis label

Maximum Service Fee [\$]

_3. Click **Done**

?

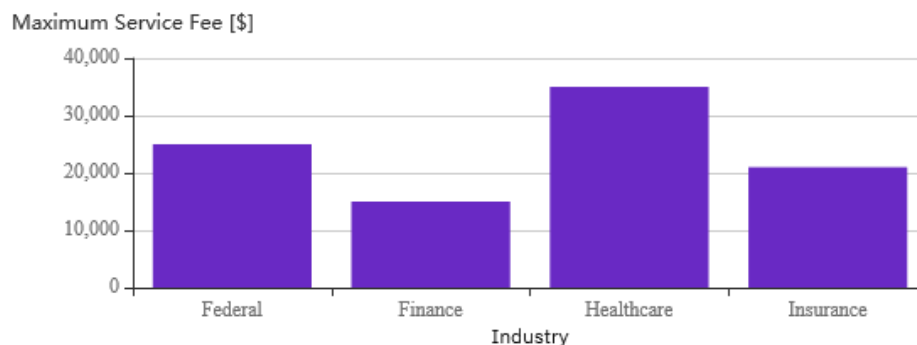
Cancel

Done 

_4. Click the **Save** icon on the toolbar above the dashboard to save your work!

Your chart should look similar to this:

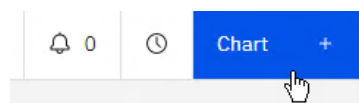
Highest Service Fee by Industry Sector



2.2.6 Create “Approval Count of High-Risk Cases” Chart

This bar chart will show the approval counts for high-risk cases in a given period. High-risk cases are identified by the decision service (which uses a Machine Learning (ML) service to score risk level). This is an essential metric, indicating that the approver overrode the ML model decision. Therefore, the ML model may be inaccurate and need re-training.

_1. Click **Chart +**



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

Item	Value
Name	Approval Count of High-Risk Cases
Select measurement	Period metric

2.2.6.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. On *Interval*, change the setting to **Minutes(s)**

Interval

Time interval

Custom

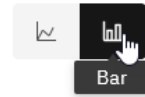
Every 1

Minute(s)

_3. For chart type, select **Bar**

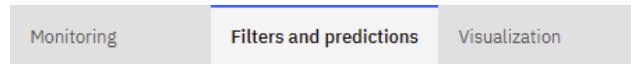
Period metric

Bar

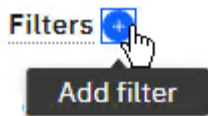


2.2.6.2 Define Filters and Predictions

_1. Select **Filters and predictions** tab



_2. Click the **Filter +** button twice to add two filters.



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

Group	Data item	Operator	Value
1	CO_HighRisk (data) – (boolean)	=	true
2	CO_ApprovalStatus (data) – (keyword)	=	Approved

Your Filters setting should look exactly like this:

Filters +

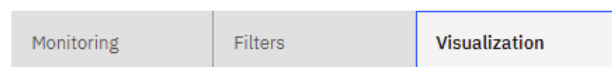
Data item	Operator	Value
CO_HighRisk (data) - (boolean) ▼	= ▼	true

AND

Data item	Operator	Value
CO_ApprovalStatus (data) - (keyword) ▼	= ▼	Approved

2.2.6.3 Define Visualization Information

_1. Click **Visualization** tab



_2. For Bar settings, enter:

Item	Value
X-axis label	Date
Y-axis label	Approvals

Trend settings

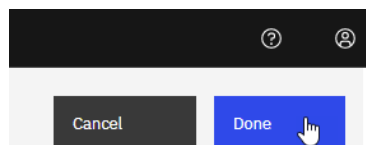
X axis label

Date

Y axis label

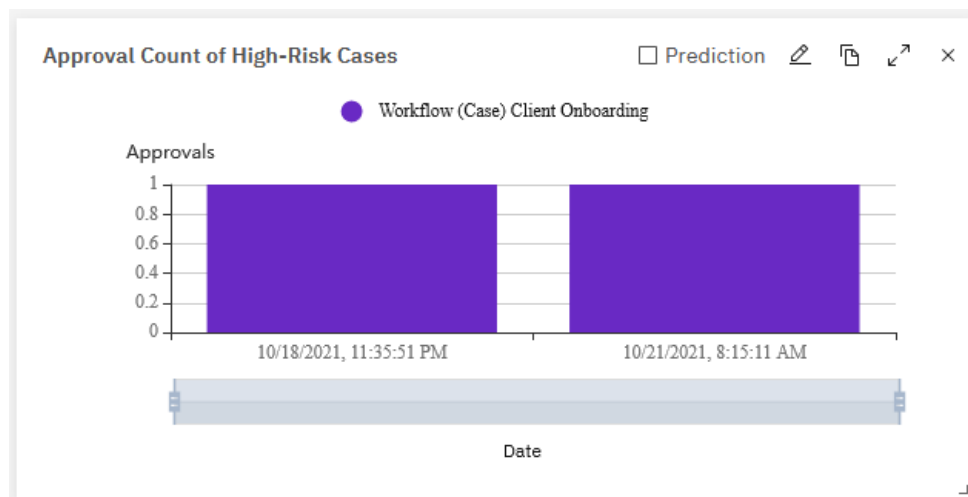
Approvals

_3. Click **Done**



_4. Click the **Save** icon on the toolbar above the dashboard to save your work!

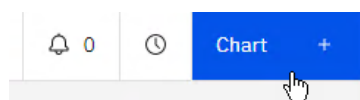
Your chart should look similar to this.



2.2.7 Create "Average Approval Confidence by Industry Sector and Revenue" Chart

You will now create a bubble chart. The bubble color will indicate the industry. The bubble size will indicate how many cases were under a given industry. The bubbles will be positioned in a grid with X-Axis as the average revenue and Y-Axis as the average approval confidence level.

_1. Click **Chart +**



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

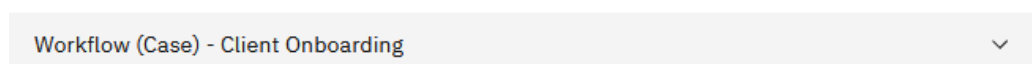
Item	Value
Name	Average Approval Confidence by Industry Sector and Revenue
Select measurement	Metric

2.2.7.1 Define Monitoring Information

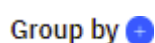
_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source



_2. Click **Group by +** button



_3. Select **CO_Industry (data) – (keyword)**

CO_Industry (data) - (keyword) ▼

_4. Click the **Aggregation +** button twice to add two aggregations



Note that two Aggregations were added below Count

Aggregation

Function	Data item
Count ▼	Select a data item ▼
Sum ▼	CO_AnnualRevenue (data) - (long) ▼
Sum ▼	CO_CompanyAge (data) - (long) ▼

_5. For the two new aggregations, select the following values from the dropdown list:

Aggregation	Function	Data item
2	Average	CO_AnnualRvenue (data) – (long)
3	Average	CO_RiskConfidence(data) – (float)

_6. Use the **Down Arrow** on the Count aggregation to move it to the bottom (make it the last aggregation).

Function

Count ▼

Data item

Select a data item ▼

↑

↓

🗑️

Your aggregations setting should look exactly like this:

Aggregation

Function	Data item			
Average ▼	CO_AnnualRevenue (data) - (long) ▼	↑	↓	🗑️
Average ▼	CO_RiskConfidence (data) - (float) ▼	↑	↓	🗑️
Count ▼	Select a data item ▼	↑	↓	🗑️

2.2.7.2 Define Visualization Information

_1. Click **Visualization** tab

Monitoring

Filters

Visualization

_2. For Bubble settings, enter:

Item	Value
X-axis label	Average Company Revenue
Y-axis label	Average Approval Confidence Level

Bubble settings

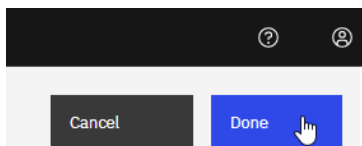
X axis label

Average Company Revenue

Y axis label

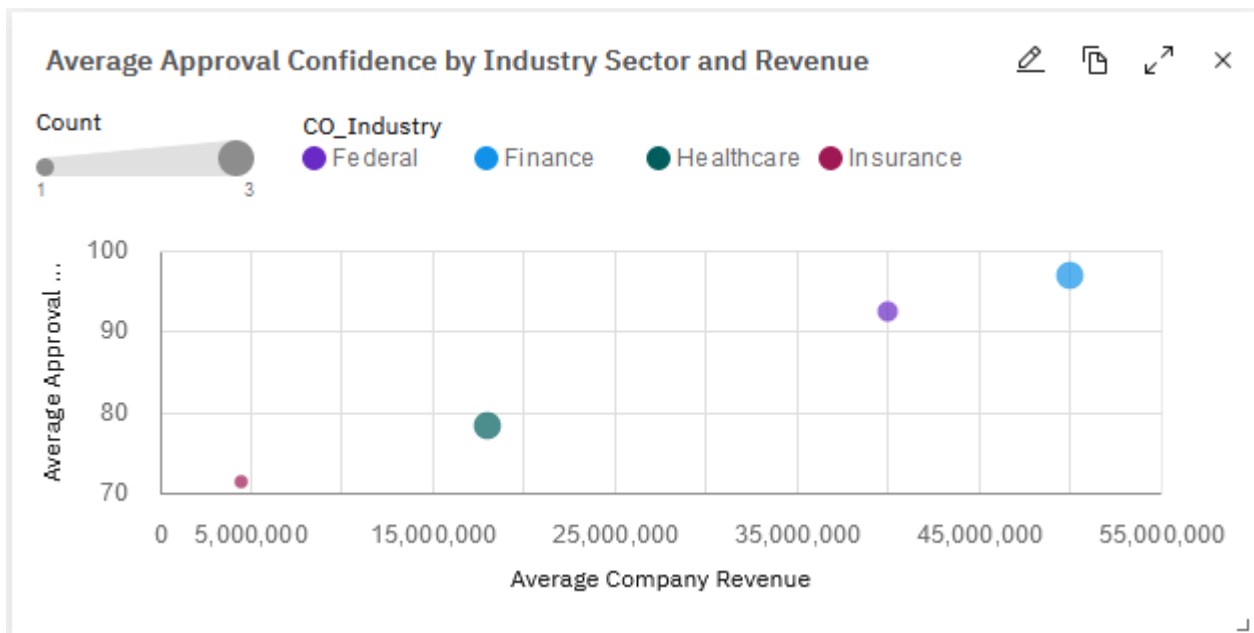
Average Approval Confidence Level

_3. Click **Done**



_4. On the toolbar about the dashboard, click the **Save** icon to save your work!

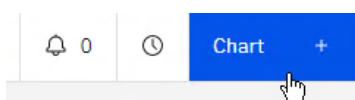
Your chart should look similar to this.



2.2.8 Create "Activity Duration Distribution in Case Completion" Chart

This doughnut chart will show the average time distribution among all activities required to complete a case.

_1. Click **Chart +**



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

Item	Value
Name	Activity Duration Distribution in Case Completion
Select measurement	Metric

2.2.8.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. Change the Aggregation values by setting *Function* to **Average** and *Data item* to **duration-seconds – (long)**

Aggregation +

Function

Average

Data item

duration-seconds - (long)

_3. Click **Group by +** button

Group by +

_4. Select **task-name – (keyword)**

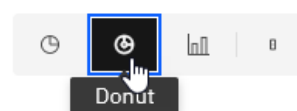
Group by +

task-name - (keyword)

_5. Set visualization type to **Donut**

Metric

Donut



2.2.8.2 Define Visualization Information

_1. Click **Visualization** tab

Monitoring Filters Visualization

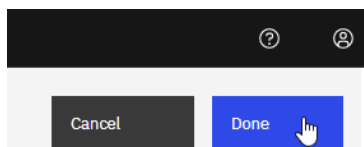
_2. For *Donut settings*, set *Unit* to **Activity**

Donut settings

Unit

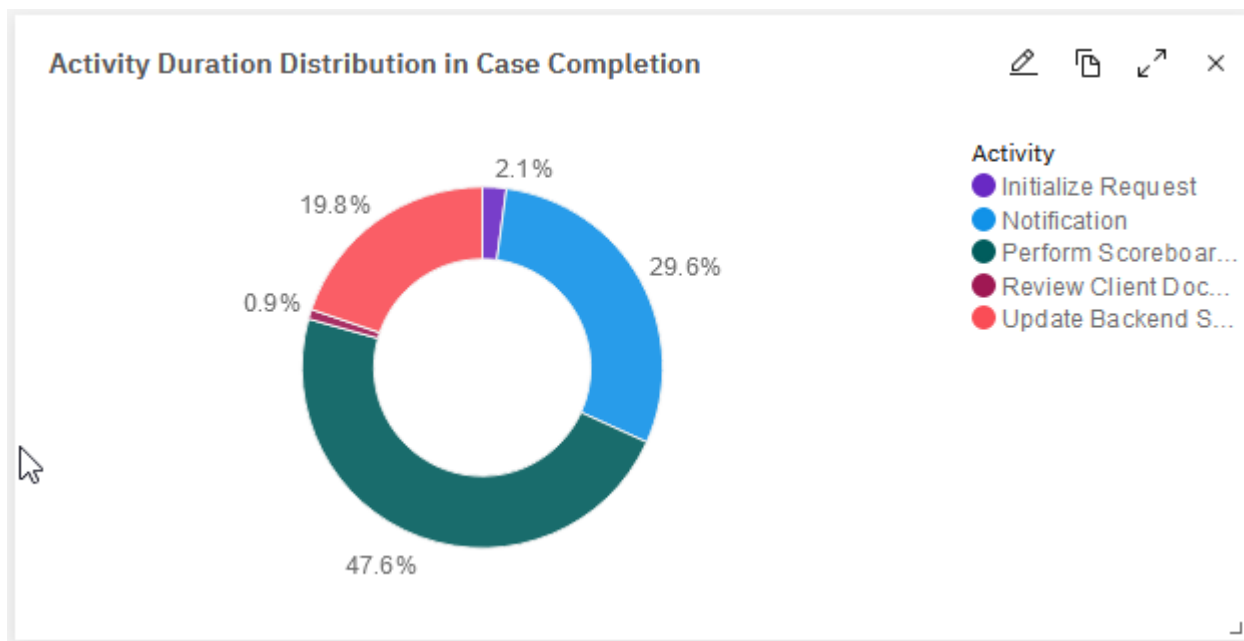
Activity

_3. Click **Done**



_4. Click the **Save** icon on the toolbar above the dashboard to save your work!

Your chart should look similar to this.



2.2.9 Create "Completed Cases per Day" Chart

This bar chart will show the number of cases completed in a time period.

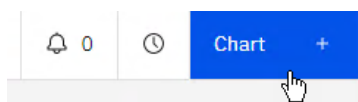
Note that the title states "per Day," but given the data set used for this lab, the scale set "per Minute".

This chart will also include two advanced features:

1. Predictions – predicts the number of cases completed in the future using one of the below algorithms. This is a very valuable tool to enable capacity human resources planning.
2. Alerts – provide visual indications when the number of cases completed falls below 2 in a given time period.

Note that depending on the data, KPI Predictions use one of the following algorithms: ARIMA, Seasonal ARIMA, or Exponential Smoothing.

_1. Click **Chart +**



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

Item	Value
Name	Completed Cases per Day
Select measurement	Period KPI

2.2.9.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding ▼

_2. On *Interval*, change the setting to **Minutes(s)**

Interval

Time interval

Custom ▼ Every 1 Minute(s) ▼

_3. Click **Targets +** button



_4. For *Label*, enter **Target** and for *Value*, enter **3**

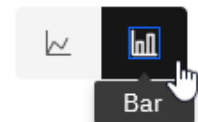
Targets +

Label	Value
Target	3

_5. For visualization, select **Bar**

Period KPI

Bar

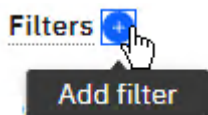


2.2.9.2 Define Filters

_1. Select the **Filters and predictions** tab

Monitoring **Filters and predictions** Visualization Thresholds

_2. Click the **Filter +** button twice to add two filters







_3. Select the following values for each Filter:

Filter	Data item	Operator	Value
1	type – (keyword)	=	case
2	state – (keyword)	=	Complete

Your Filter setting should look exactly like this:

Filters

Data item	Operator	Value
type - (keyword) 	= 	case
AND		
state - (keyword) 	= 	Complete

_4. Under **Prediction**, enable the slider to turn them on.

Prediction

 Prediction on

2.2.9.3 Define Visualization Information

_1. Click the **Visualization** tab

Monitoring	Filters	Visualization
------------	---------	----------------------

_2. For Trend settings, enter:

Item	Value
X-axis label	Date
Y-axis label	Completed Cases

Trend settings

X axis label

Y axis label

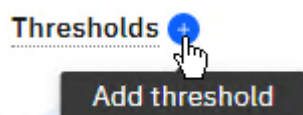
2.2.9.4 Define Thresholds

This setting allows you to customize the Gage threshold setting.

_1. Select **Thresholds** tab.

Monitoring	Filters	Visualization	Thresholds
------------	---------	---------------	-------------------

_2. Click the **Thresholds +** button twice to add two thresholds.



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

Threshold	Data item	Value
1	Threshold name	Case Completion Rate
	Value	2
	Range name 1	Low
	Range name 2	Normal
2	Threshold name	T2
	Value	5
	Range name	High

Your Thresholds setting should look exactly like this:

Thresholds

Threshold name	Value	Range name	Start	End
Case Completion Rate	2	Low	min	2

Range name	Start	End
Normal	2	5

Threshold name	Value	Range name	Start	End
T2	5	High	5	max

_4. Click the **Color patch** next to **Low** and then select the **Red color patch** from the palette

End

2

End

5

End

max

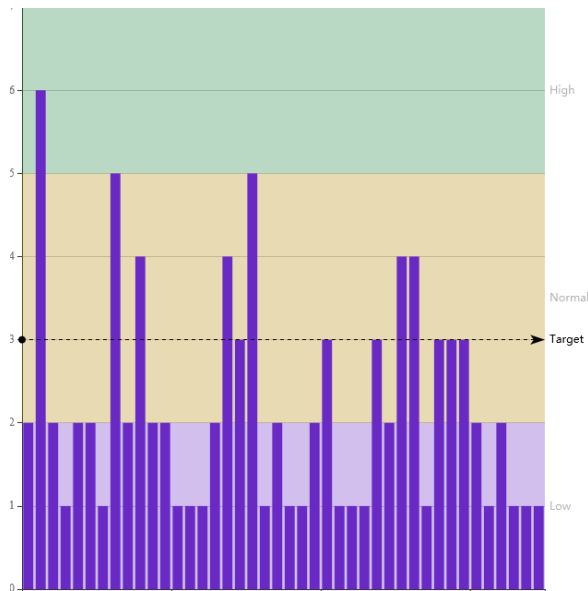
Custom

#fa4d56

_5. Using the above steps, customize the other two colors.

Item	Value
Normal	Yellow
High	Green

The color settings should look exactly like this:



2.2.9.5 Define Alert

This setting allows you to customize the Gage threshold setting.

_1. Click Alerts +



_2. Make sure threshold **Case Completion Rate** is selected



Case Completion Rate ▼

_3. Configure the alert using input values shown below

Item	Value
Alert if the value	Drops to or below the threshold
Message	The case completion rate is low.

Alerts +

Case Completion Rate ▾

Alert if the value

drops to or below the threshold ▾

Message

Case completion rate is low. ▴ ▾

Priority

High ▾

_4. Click **Done**

?
👤

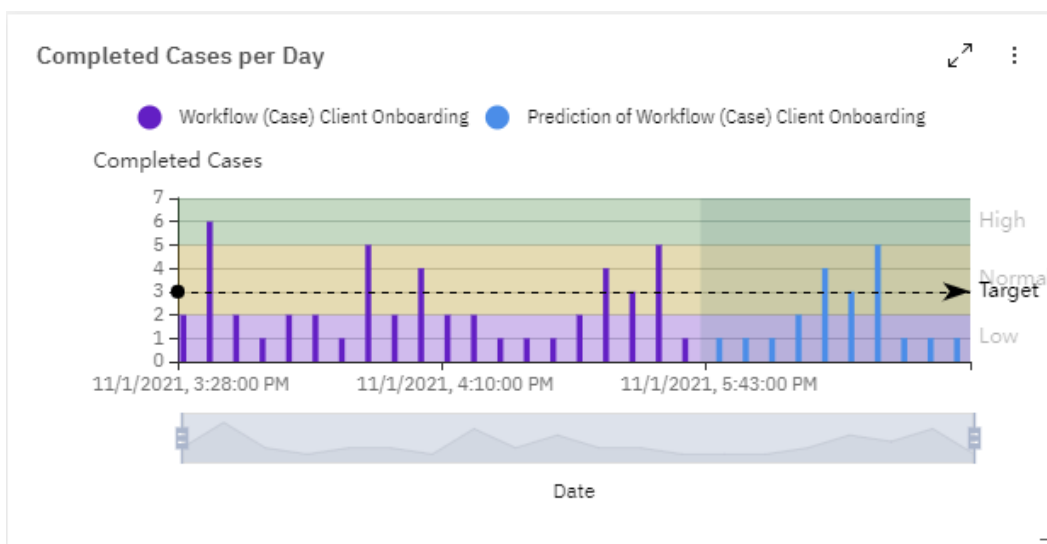
Cancel

Done 👉

Note, some alerts may appear temporarily on the right side of the dashboard, this is expected.

_5. Click the **Save** icon on the toolbar above the dashboard to save your work!

Your chart should look similar to this.

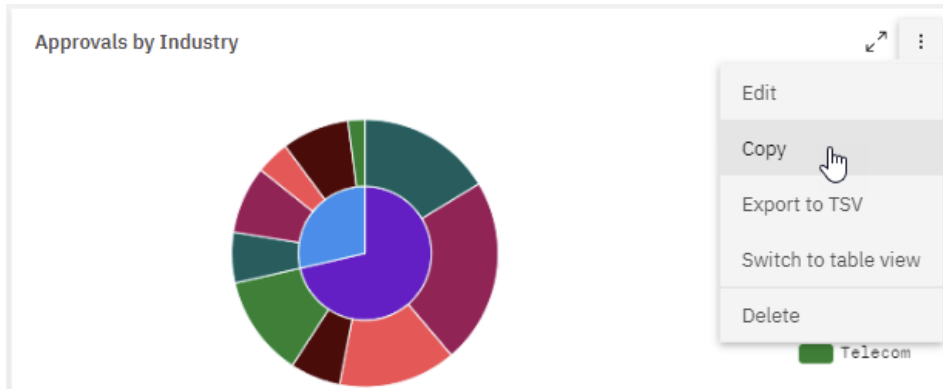


2.2.10 Create "Approvals by Industry Heatmap" Chart

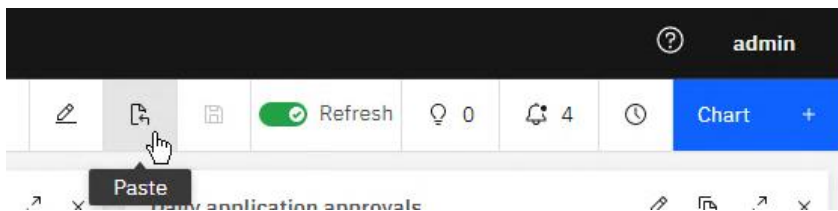
This heatmap chart will use the tile color intensity to indicate the count (the deeper the color, the higher the count). The tiles will be positioned in a grid. The X-Axis will represent the approvals state: approved/rejected/approval pending. The Y-Axis will reflect the industry.

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

_1. On the *Approvals by Industry* chart, click the **ellipses** and select **Copy**.



_2. On the toolbar above the dashboard, click **Paste**.



_3. On the *copy of Approval by Industry* chart, click the **ellipses** and select **Edit**.

_4. Next to the chart name, click **Edit configuration**.



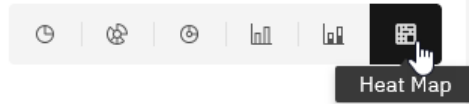
_5. For *Name*, enter **Approvals by Industry Heatmap** and then click **Apply**.

2.2.10.1 Define Monitoring Information

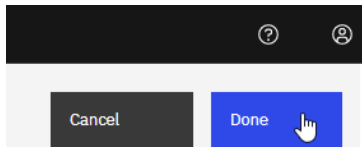
_1. For visualization, select **Heat Map**

Metric

Heat Map

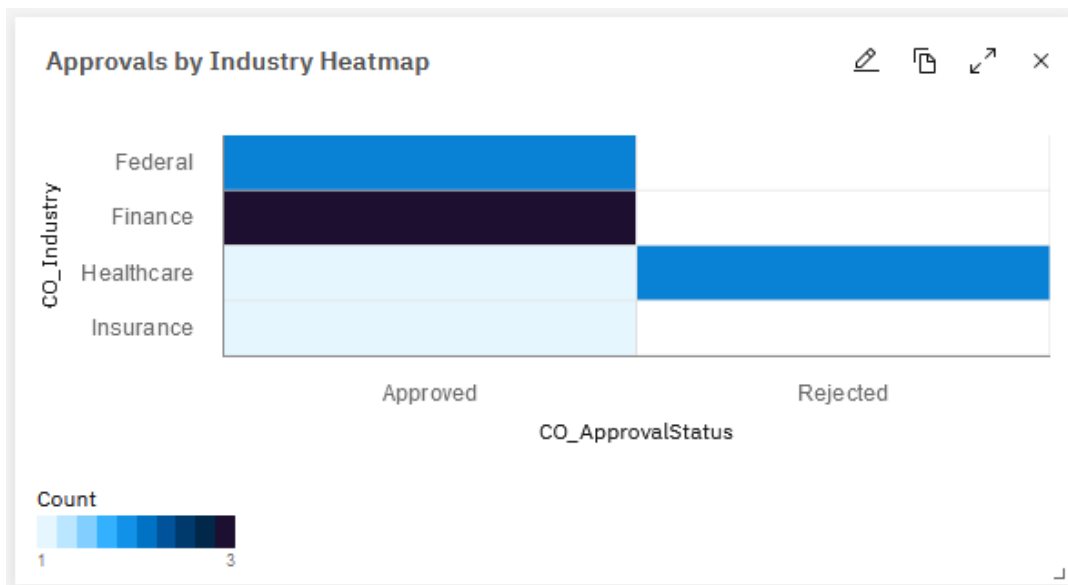


_2. Click **Done**



_3. Click the **Save** icon on the toolbar above the dashboard to save your work!

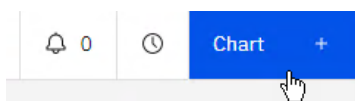
Your chart should look similar to this.



2.2.11 Create "Client Onboarding Data" Chart

You will be creating a Client Onboarding data chart. The data chart will contain columns representing selected Client Onboarding case properties.

_1. Click **Chart +**



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

Item	Value
Name	Client Onboarding Data
Select measurement	Data

Client Onboarding Completed

Edit chart

Name

Client Onboarding Data

Description (optional)

Select measurement

Metric

90%

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

2.2.11.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

2.2.11.2 Define Filters

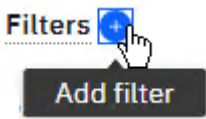
_1. Select **Filters** tab

Monitoring

Filters

Visualization

_2. Click the **Filter +** button three times to add three filters.











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

Group	Data item	Operator	Value
1	category – (keyword)	=	icm
2	type – (keyword)	=	case
3	state – (keyword)	=	Complete

Your Filters setting should look exactly like this:

Filters 

Data item	Operator	Value
category - (keyword) 	= 	icm
		
Data item	Operator	Value
type - (keyword) 	= 	case
		
Data item	Operator	Value
state - (keyword) 	= 	Complete

2.2.11.3 Define Visualization

_1. Select **Visualization** tab.

Monitoring	Filters	Visualization
------------	---------	---------------

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

Data columns 

No columns 

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

Data column	Data item	Label
1	CO_ServiceFee (data)	Service Fee
2	CO_Industry (data))	Industry
3	CO_AddressCountry (data)	Country
4	CO_ApprovalStatus (data)	Approved?
5	duration-seconds	Duration

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

Data columns

Data item	Label	
CO_ServicesFee (data) ▼	Service Fee	↑ ↓ 🗑️
CO_Industry (data) ▼	Industry	↑ ↓ 🗑️
CO_AddressCountry (data) ▼	Country	↑ ↓ 🗑️
CO_ApprovalStatus (data) ▼	Approved?	↑ ↓ 🗑️
duration-seconds ▼	Duration	↑ ↓ 🗑️

_4. Click the **Service Fee** column to sort the data by the Service Fee column.

Data

5 columns, 12 rows

Service Fee ↑	Industry	Country	Approved?	Duration
---------------	----------	---------	-----------	----------

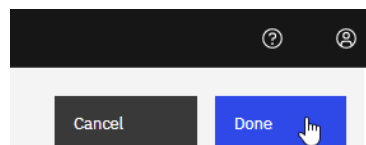
The data in the Data Chart should look similar to this.

Data

5 columns, 12 rows

Service Fee ▼	Industry	Country	Approved?	Duration
35,000	Healthcare	United States of America	Rejected	60
25,000	Federal	United States of America	Approved	71
21,000	Healthcare	United States of America	Approved	76
21,000	Healthcare	United States of America	Rejected	84
15,000	Finance	United States of America	Approved	51
15,000	Finance	United States of America	Approved	59
15,000	Federal	Canada	Approved	52
15,000	Finance	United States of America	Approved	59

_5. Click **Done**



_6. Click the **Save** icon on the toolbar above the dashboard to save your work!

_7. The chart should look similar to this.

Client Onboarding Data

Service Fee	Industry	Country	Approved?	Duration
220,000	Healthcare	USA	Approved	712
70,000	Insurance	Canada	Rejected	686
64,600	Insurance	Australia	Rejected	878
64,600	Insurance	Australia	Rejected	619
60,000	Healthcare	South Africa	Approved	81

Note:

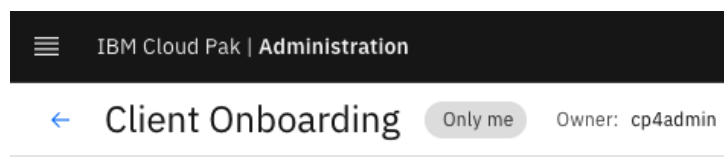
- You can sort the data in the chart. For example, in the screenshot above, the chart is sorted by the Service Fee column.
- You can export the data in the chart as a spreadsheet in the TSV format.

2.2.12 Create a Configure Goal

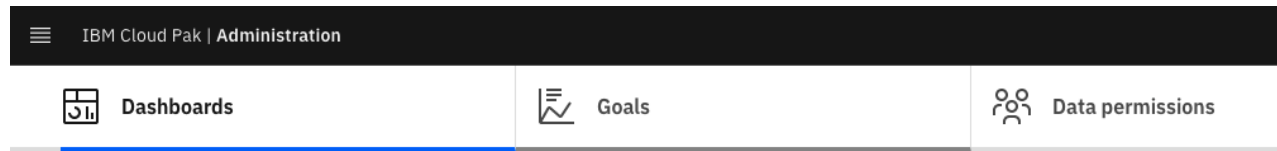
A Goal is a business statement that brings purpose and scope to your dashboards. Goals are used to aggregate charts within a dashboard and to give dashboards a business purpose. A goal's definition includes the details of a specific objective you want to achieve, the time frame for achieving an objective,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

2.2.12.1 Create a Goal

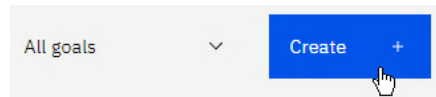
_1. Click the arrow to the left of the Client Onboarding dashboard



_2. Click **Goals**



_3. Click **Create**



_4. For *Name*, enter **Focus Corp's top Client Onboarding KPI**

_5. For *Description*, enter **Focus on the three top KPIs identified by the senior management team.**

_6. For *Priority*, select **High**

_7. Click *Goal color* to **Red**

_8. Your Goal definition should look exactly like this:

Details

Name

Focus Corp's top Client Onboarding KPI

Description (optional)

Focus on the three top KPI identified by senior management team.

Goal color



Goal specification

Goal classification (optional)

Enter category

Priority

☐ Low ☐ Medium ☒ High

Start date

☒ Now

☐ Custom

10/25/2021

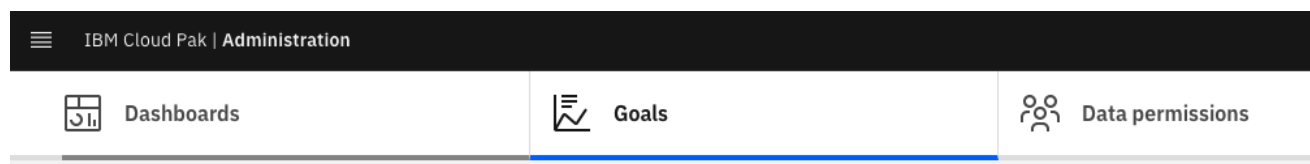


_9. Click **Save**



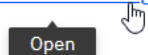
2.2.12.2 Set business goal for selected charts

_1. Click **Dashboards**.

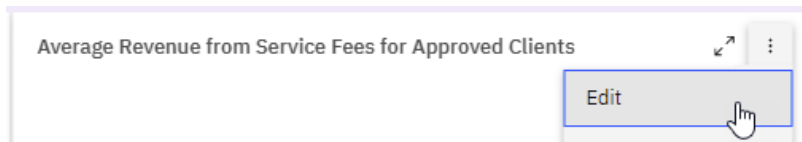


_2. Click **Client Onboarding** dashboard.

[Client Onboarding](#)

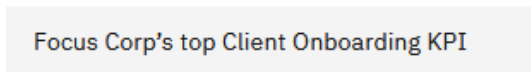


_3. On the Average Revenue from Service Fees for Approved Clients chart, click the **ellipses** and select **Edit**

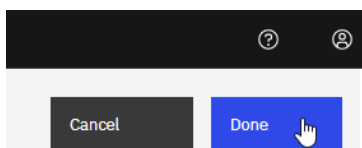


_4. For Business goal, from the dropdown list, select **Focus Corp's top Client Onboarding KPI**

Business goal

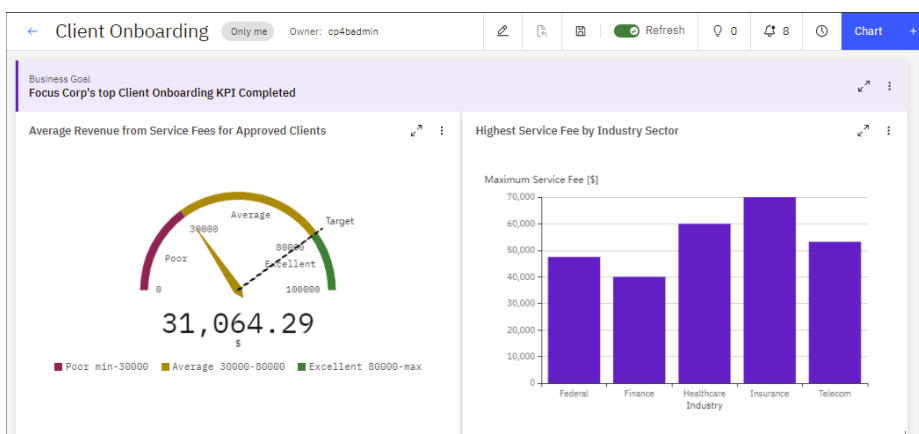


_5. Click **Done**



_6. Repeat the above steps to add a Business Goal to Highest Service Fee by Industry Sector

_7. The top of your dashboard should now look similar to this:

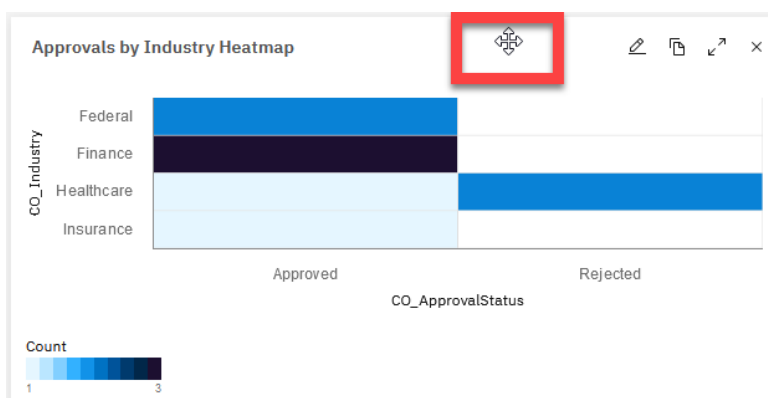


2.2.13 Change Dashboard Layout

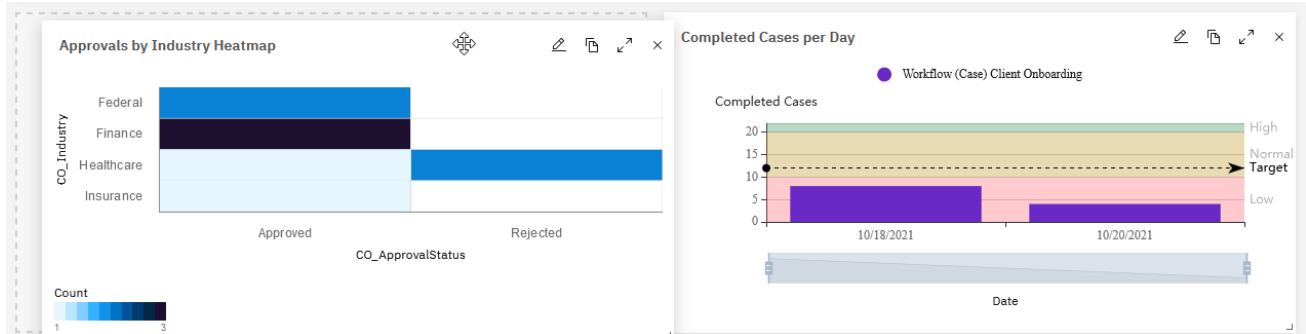
You will now customize your dashboard by moving and changing chart sizes.

2.2.13.1 Move Approvals by Industry Heatmap Chart

_1. Click and hold the title area on the *Approvals by Industry Heatmap* chart:

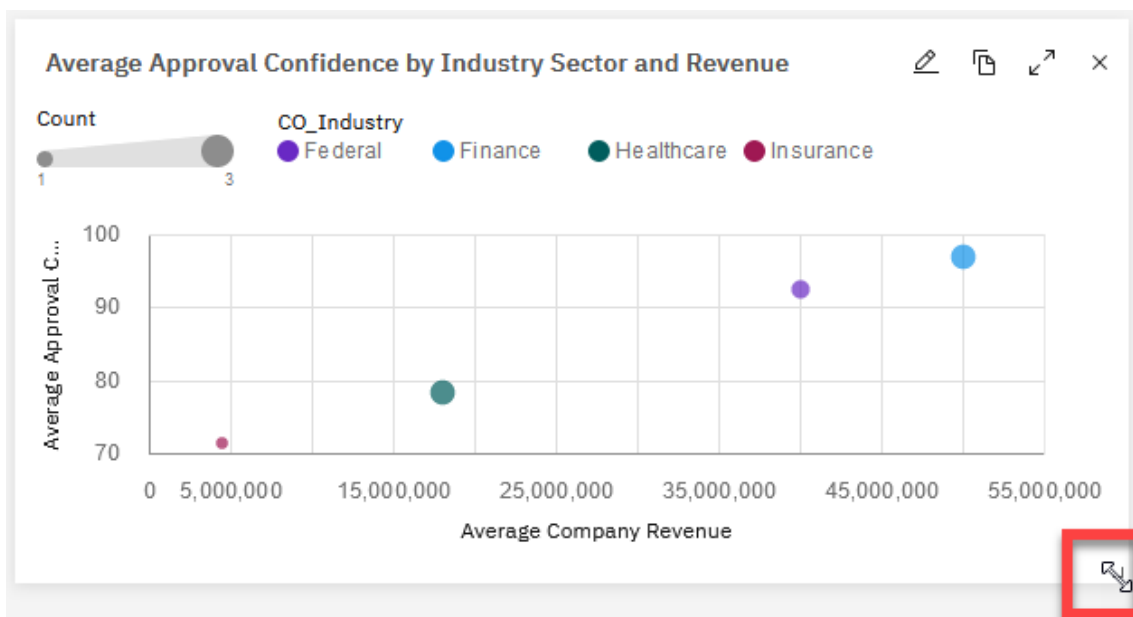


_2. Drag the chart to the empty area to the left of the Completed Cases per Day chart and release.

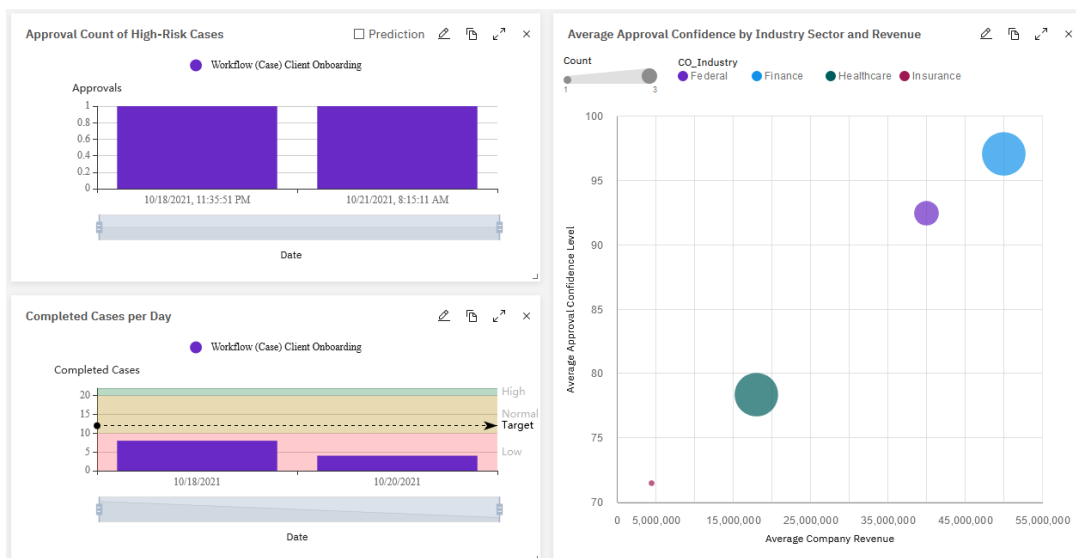


2.2.13.2 Expand chart Average Approval Confidence by Industry Sector and Revenue

_1. Click and hold the image expander in the bottom right corner of the **Average Approval Confidence by Industry Sector and Revenue** chart

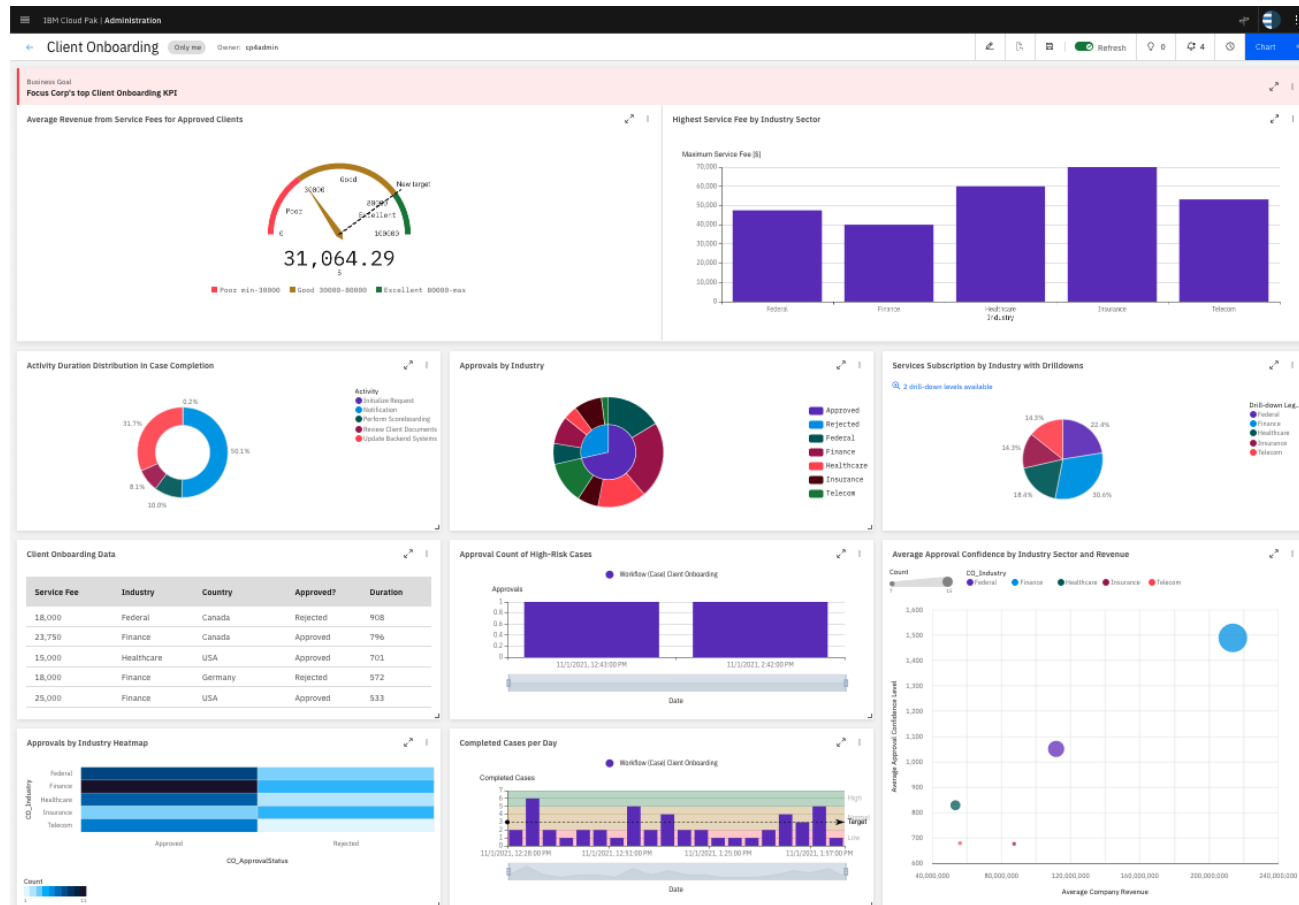


_2. Stretch the chart downwards until it achieves the height of two charts.



_3. Click the **Save** icon on the toolbar above the dashboard to save your work!

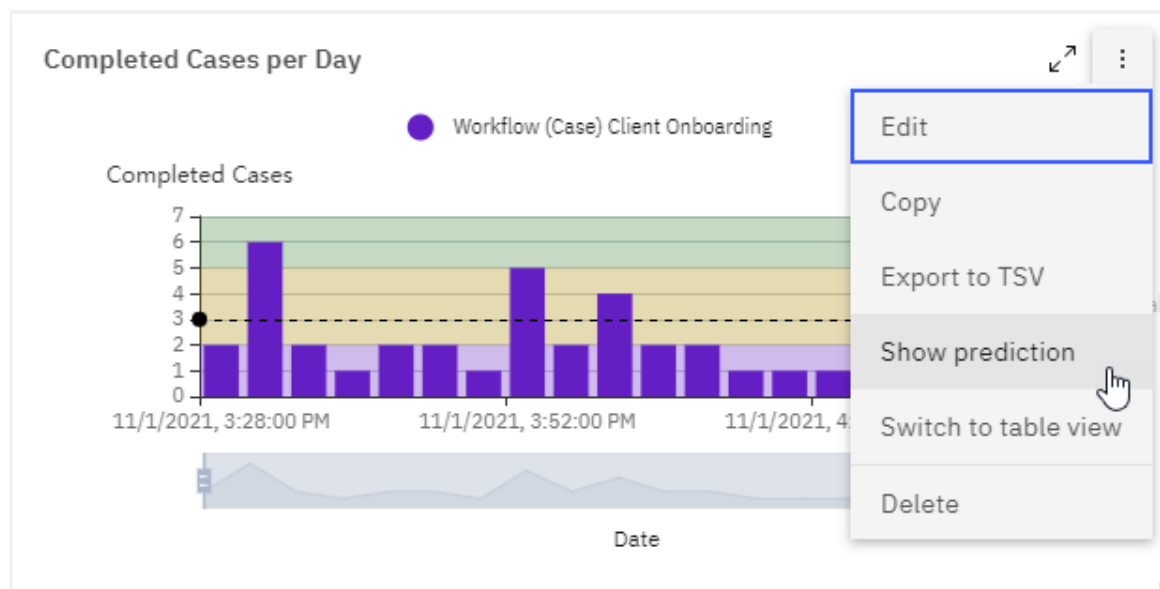
Your final version of the Client Onboarding Dashboard should now look similar to this:



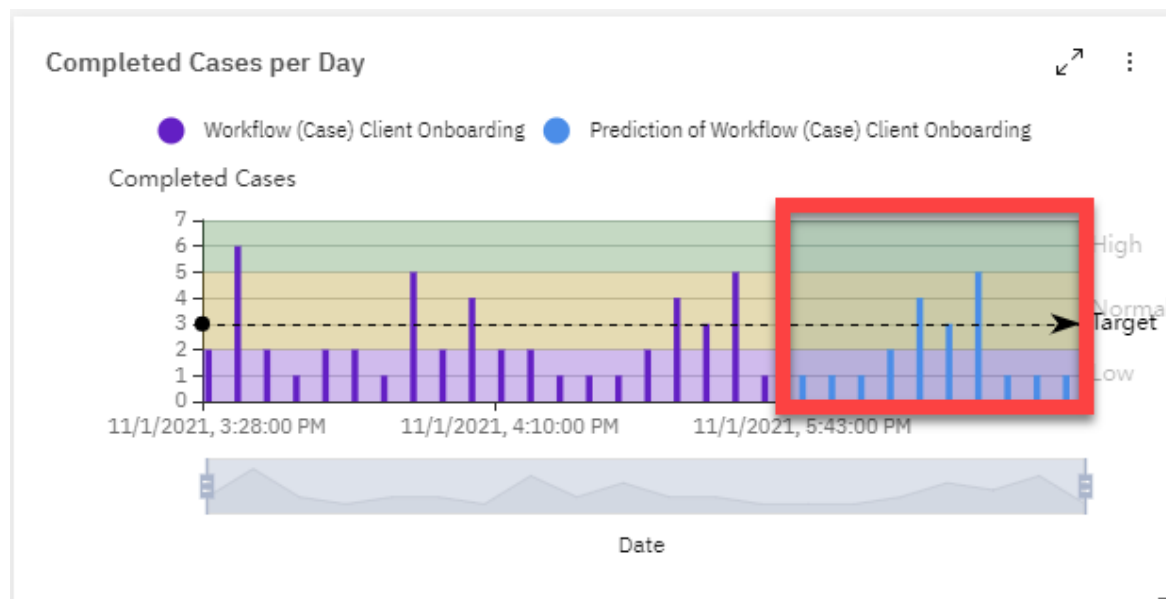
2.2.14 Explore Advanced Dashboard Features

2.2.14.1 KPI Predictions

1. Click the ellipses on the Completed Cases per Day chart and then select **Show prediction**.

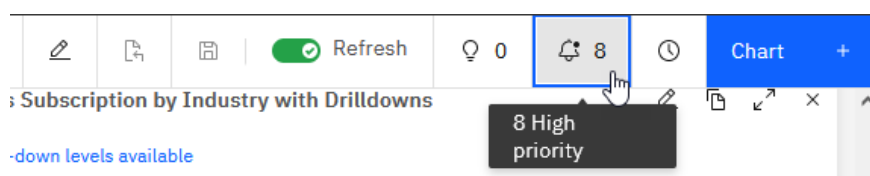


You should now see the predicted case completion rate information.



2.2.14.2 Dashboard Alerts

_1. Click the **Alert** icon in the toolbar above the dashboard.



You should now see all the alerts generated whenever the Case Completion Rate just reached or went below the lower threshold (2) you defined in the Completed Cases per Day Chart.



You may see a different number of alerts when other users work on the Client Onboarding case.

2.3 Summary

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

Appendix A. IBM Business Automation Insights Architecture

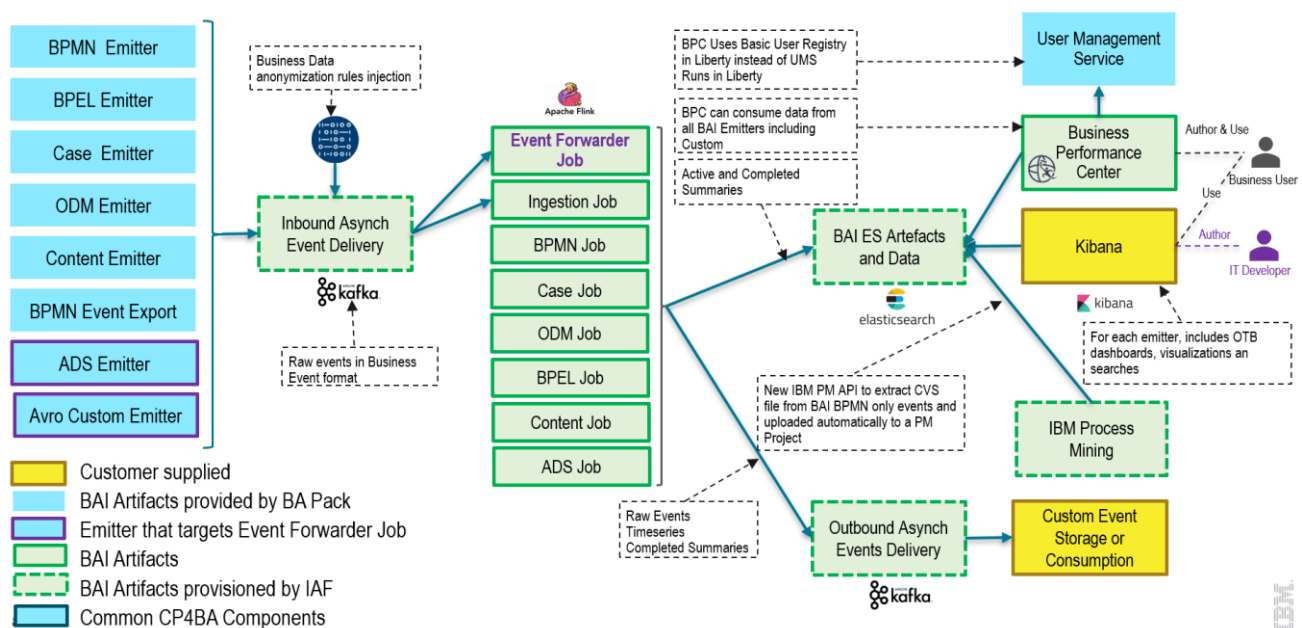


Figure 3. IBM Business Automation Insights Architecture – Full Detail

Additional presentation materials for IBMers and Business Partners:

- More technical information about BAI: <https://ibm.box.com/v/IBM-BAI-Tech-Intro>
- More technical details about BPC: <https://ibm.box.com/v/BusinessPerformanceCenter>