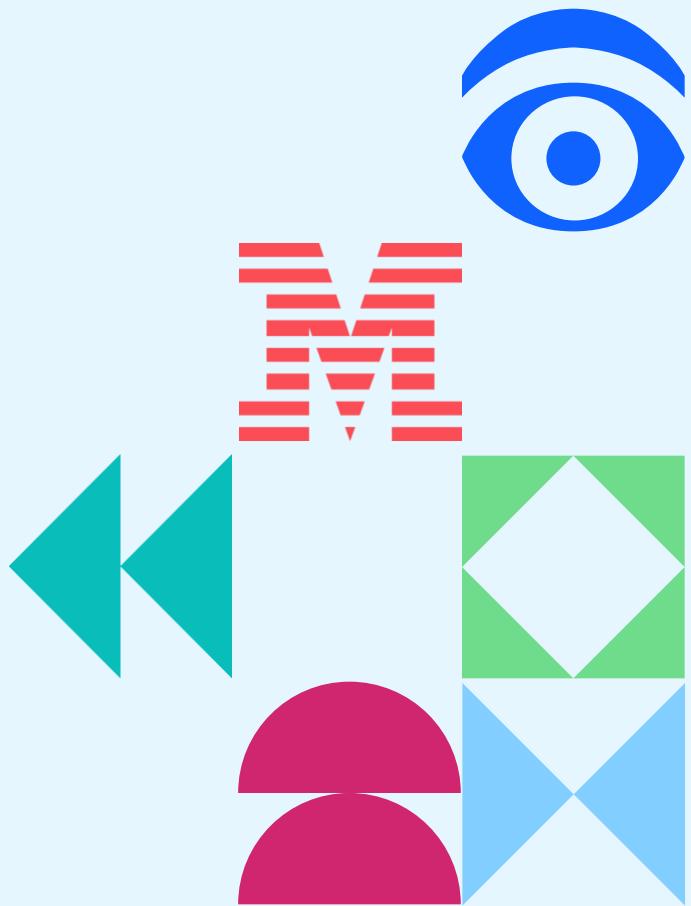


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Learn Data Visualization with Cognos Analytics

Hands-on lab guide



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1 Introduction

The goal of this lab is to demonstrate what ways you can visualize data in Cognos Analytics, show you how to do it, and explain why that would matter to your organization.

1.1 Why visualize data?

Have you ever heard of a “two pizza team?” If not, it is the concept that a working unit of people should be no bigger than a group you can feed with two pizzas. If the team gets bigger than that, it becomes more complicated to keep people on the same page and moving in the same direction.

So, what do you do when your team or your organization is bigger than that? You need to have systems in place that keep people aware of the shared vision and goals, and you need to have systems in place that provide visibility and accountability for people to move towards those shared organizational goals.

1.2 What is Cognos Analytics?

Cognos Analytics is a tool that helps organizations use data to provide that visibility and accountability needed.

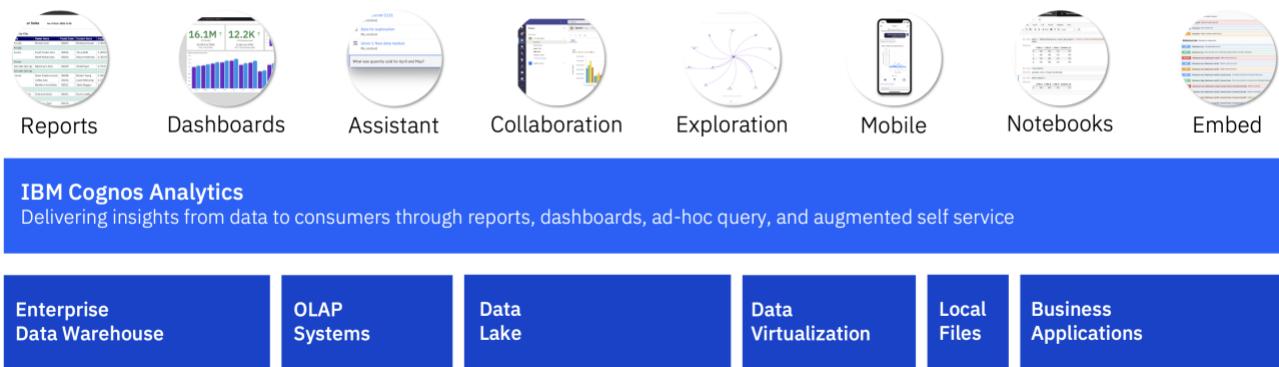
With Cognos Analytics, you can access, analyze, and distribute information about your organization to the people that need to be informed about and aligned on your priorities.

One of the many components of the Cognos Analytics capabilities is data visualization which we'll focus in on in this lab.

1.3 What kind of data to visualize in Cognos Analytics?

The data you can visualize in Cognos Analytics can come from a variety of sources. These sources can be “live” connections to your enterprise systems, or “stale” data that you upload at a point in time into the visualization tool. Typically, the official organizational data is stored in an enterprise data warehouse to ensure that is it accurate, complete, and secure. But increasingly, data can come from many other sources: it could come from a data lake or a data lakehouse which is a slightly less formalized place to store your data. Data could come from business applications or cloud services you might use as well. And of course, data could come from other people in your organization who have lots of data in Excel or CSV files.

Data Landscape

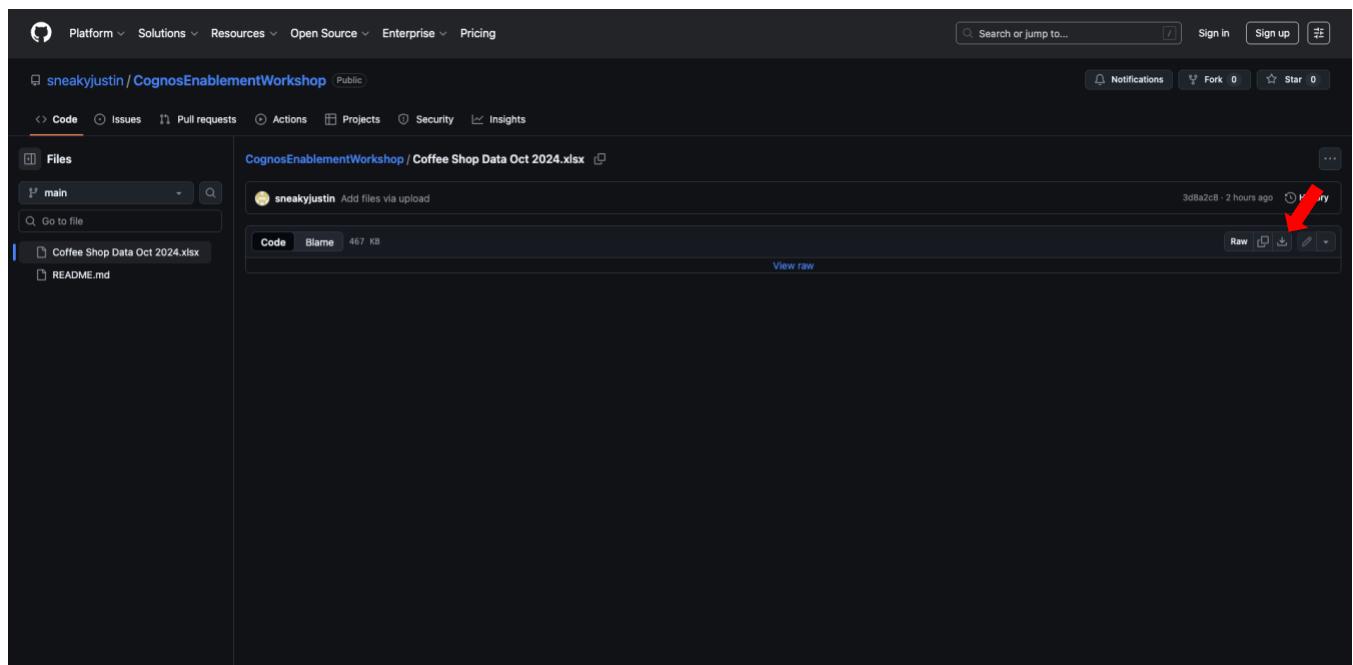


2 Creating your DataBeginning: Visualize data with automatic dashboards and the analytics Assistant

If our goal as stated before is to provide both visibility and accountability for our organization, we can start by visualizing data to understand more of what is going on. The easiest way to get started visualizing data is to let Cognos Analytics recommend and build visualizations of the data for you. If you know exactly what you're looking for in the data, you may not need to do this, but often it is easier to let the system recommend some starting points for you to consider as a launching point for your analysis. It's more interesting than starting from a blank page!

2.1 Locate your Data

Open the raw data file entitled **Coffee Shop Data October 2024**. This is available from the GitHub link [here](#).



This is a lot of information and it's not immediately apparent what you should learn from this data. The relationships between fields are not easy to see in this raw format.

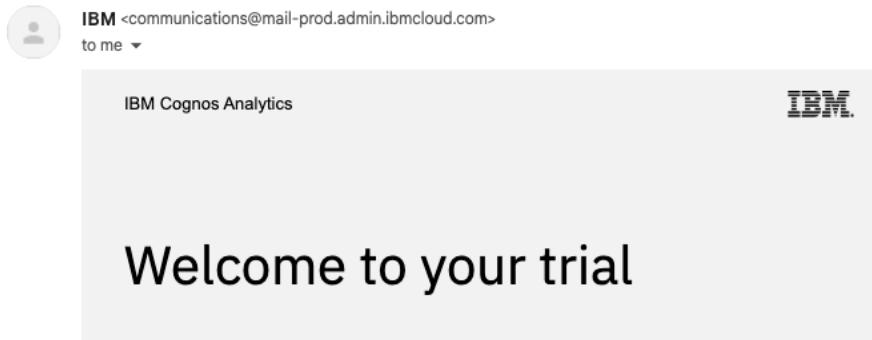
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Area Code	Date	Year	Month	Weekday	Market	Market Size	Product	Product Line	Product Type	State	Type	Inventory	Budget COGS	Budget Margin	Budget Profit	Budget Sales	COGS	Margin	Marketing	Profit	Sales	Total Expenses
978	1/1/23	2023	January	Tuesday	East	Major Market	Green Tea	Leaves	Tea	Massachusetts	Regular	456	30	50	40	80	32	48	8	45	90	20
971	1/1/23	2023	January	Tuesday	West	Small Market	Decaf Irish Cream	Beans	Coffee	Oregon	Decaf	364	70	100	70	170	57	83	18	65	157	43
971	1/1/23	2023	January	Tuesday	West	Small Market	Decaf Espresso	Beans	Espresso	Oregon	Decaf	1091	160	160	100	320	170	171	47	154	382	76
970	1/1/23	2023	January	Tuesday	Central	Major Market	Mint	Leaves	Herbal Tea	Colorado	Decaf	336	50	70	40	120	60	80	19	51	157	49
959	1/1/23	2023	January	Tuesday	East	Small Market	Darjeeling	Leaves	Tea	Connecticut	Regular	821	50	80	60	130	50	73	14	73	138	27
959	1/1/23	2023	January	Tuesday	West	Small Market	Colombian	Beans	Coffee	Connecticut	Regular	961	110	180	130	290	124	186	40	179	347	75
951	1/1/23	2023	January	Tuesday	West	Major Market	Decaf Espresso	Beans	Espresso	California	Decaf	1310	220	300	200	520	234	312	77	316	611	114
949	1/1/23	2023	January	Tuesday	West	Major Market	Colombian	Beans	Coffee	California	Regular	2101	340	500	370	840	271	407	94	408	759	152
937	1/1/23	2023	January	Tuesday	Central	Major Market	Decaf Espresso	Beans	Espresso	Ohio	Decaf	338	60	90	40	150	58	72	22	25	145	59
918	1/1/23	2023	January	Tuesday	South	Small Market	Decaf Irish Cream	Beans	Coffee	Oklahoma	Decaf	821	40	60	50	100	32	48	8	44	90	21
918	1/1/23	2023	January	Tuesday	South	Small Market	Chamomile	Leaves	Herbal Tea	Oklahoma	Decaf	312	50	60	20	110	54	66	20	20	134	56
904	1/1/23	2023	January	Tuesday	East	Major Market	Lemon	Leaves	Herbal Tea	Florida	Decaf	312	40	50	20	90	54	66	20	20	134	56
860	1/1/23	2023	January	Tuesday	East	Small Market	Mint	Leaves	Herbal Tea	Connecticut	Decaf	965	50	80	50	130	78	92	24	73	190	47
860	1/1/23	2023	January	Tuesday	East	Small Market	Lemon	Leaves	Herbal Tea	Connecticut	Decaf	494	60	80	40	140	85	105	32	62	213	68
850	1/1/23	2023	January	Tuesday	East	Major Market	Chamomile	Leaves	Herbal Tea	Florida	Decaf	623	30	50	30	80	48	62	15	53	123	29
816	1/1/23	2023	January	Tuesday	Central	Small Market	Green Tea	Leaves	Tea	Missouri	Regular	197	20	40	0	60	34	42	12	-6	85	48
815	1/1/23	2023	January	Tuesday	Central	Major Market	Earl Grey	Leaves	Tea	Illinois	Regular	558	60	90	40	150	72	108	23	84	201	57
815	1/1/23	2023	January	Tuesday	Central	Major Market	Colombian	Beans	Coffee	Illinois	Regular	862	150	210	130	360	144	201	47	173	386	94
813	1/1/23	2023	January	Tuesday	East	Major Market	Colombian	Beans	Coffee	Florida	Regular	651	80	110	70	190	84	126	27	105	235	61
808	1/1/23	2023	January	Tuesday	South	Major Market	Caffe Latte	Beans	Espresso	Texas	Regular	558	60	90	50	150	72	108	23	83	201	58
801	1/1/23	2023	January	Tuesday	West	Small Market	Earl Grey	Leaves	Tea	Utah	Regular	196	20	30	10	50	35	47	11	14	92	40
801	1/1/23	2023	January	Tuesday	West	Small Market	Decaf Irish Cream	Beans	Coffee	Utah	Decaf	494	100	130	70	230	85	105	32	61	213	69
801	1/1/23	2023	January	Tuesday	West	Small Market	Amaretto	Beans	Coffee	Utah	Regular	965	90	120	80	210	78	92	24	73	190	47
781	1/1/23	2023	January	Tuesday	East	Major Market	Lemon	Leaves	Herbal Tea	Massachusetts	Decaf	338	40	60	30	100	58	72	22	26	145	58
781	1/1/23	2023	January	Tuesday	East	Major Market	Darjeeling	Leaves	Tea	Massachusetts	Regular	821	30	50	40	80	32	48	8	45	90	20
771	1/1/23	2023	January	Tuesday	West	Small Market	Mint	Leaves	Herbal Tea	Nevada	Decaf	608	80	120	90	200	95	139	30	134	262	56
775	1/1/23	2023	January	Tuesday	West	Small Market	Lemon	Leaves	Herbal Tea	Nevada	Decaf	862	120	180	120	300	144	201	47	173	386	94
775	1/1/23	2023	January	Tuesday	West	Small Market	Green Tea	Leaves	Tea	Nevada	Regular	1419	160	-160	-240	0	245	-245	93	-552	19	132
775	1/1/23	2023	January	Tuesday	West	Small Market	Earl Grey	Leaves	Tea	Nevada	Regular	1459	150	160	100	310	228	228	63	220	510	91
775	1/1/23	2023	January	Tuesday	West	Small Market	Colombian	Beans	Coffee	Nevada	Regular	197	40	50	10	90	34	42	12	-5	85	47
775	1/1/23	2023	January	Tuesday	West	Small Market	Chamomile	Leaves	Herbal Tea	Nevada	Decaf	725	90	130	30	220	105	145	95	25	280	135
775	1/1/23	2023	January	Tuesday	West	Small Market	Caffe Mocha	Beans	Espresso	Nevada	Regular	821	10	30	20	40	18	27	5	16	50	18
773	1/1/23	2023	January	Tuesday	Central	Major Market	Lemon	Leaves	Herbal Tea	Illinois	Decaf	623	70	90	60	160	83	107	27	106	213	41
773	1/1/23	2023	January	Tuesday	Central	Major Market	Decaf Espresso	Beans	Espresso	Illinois	Decaf	1459	260	270	180	530	228	228	63	218	510	92
773	1/1/23	2023	January	Tuesday	Central	Major Market	Chamomile	Leaves	Herbal Tea	Illinois	Decaf	777	70	120	100	190	89	130	24	148	245	37
720	1/1/23	2023	January	Tuesday	Central	Major Market	Lemon	Leaves	Herbal Tea	Colorado	Decaf	435	50	80	20	130	63	87	57	0	168	91
720	1/1/23	2023	January	Tuesday	Central	Major Market	Colombian	Beans	Coffee	Colorado	Regular	623	80	110	80	190	83	107	27	106	213	41
720	1/1/23	2023	January	Tuesday	Central	Major Market	Chamomile	Leaves	Herbal Tea	Colorado	Decaf	1091	140	160	110	300	170	171	47	154	382	76
720	1/1/23	2023	January	Tuesday	Central	Major Market	Caffe Mocha	Beans	Espresso	Colorado	Regular	456	60	90	70	150	54	80	15	84	150	27
719	1/1/23	2023	January	Tuesday	Central	Major Market	Earl Grey	Leaves	Tea	Colorado	Regular	965	50	70	40	120	64	76	19	56	157	42

- Open the Google Chrome web browser in an incognito tab and go to your email. You should have received a link from IBM regarding access to your Cognos instance that looks like the screenshot below. Clicking on

Access trial is where you'll be able to access your Cognos instance.

Start your IBM Cognos Analytics on Cloud - Trial! ➔ Inbox x



Welcome to the IBM Cognos Analytics on Cloud - Trial 30-day free trial! Your trial is now set up and ready to use.

Subscription ID
514701172

Subscription expiration
January 1, 2026

Account name
IBM

Subscription name
IBM Cognos Analytics on Cloud - Trial

Get started now by accessing your trial. You can also manage your subscription at My IBM.

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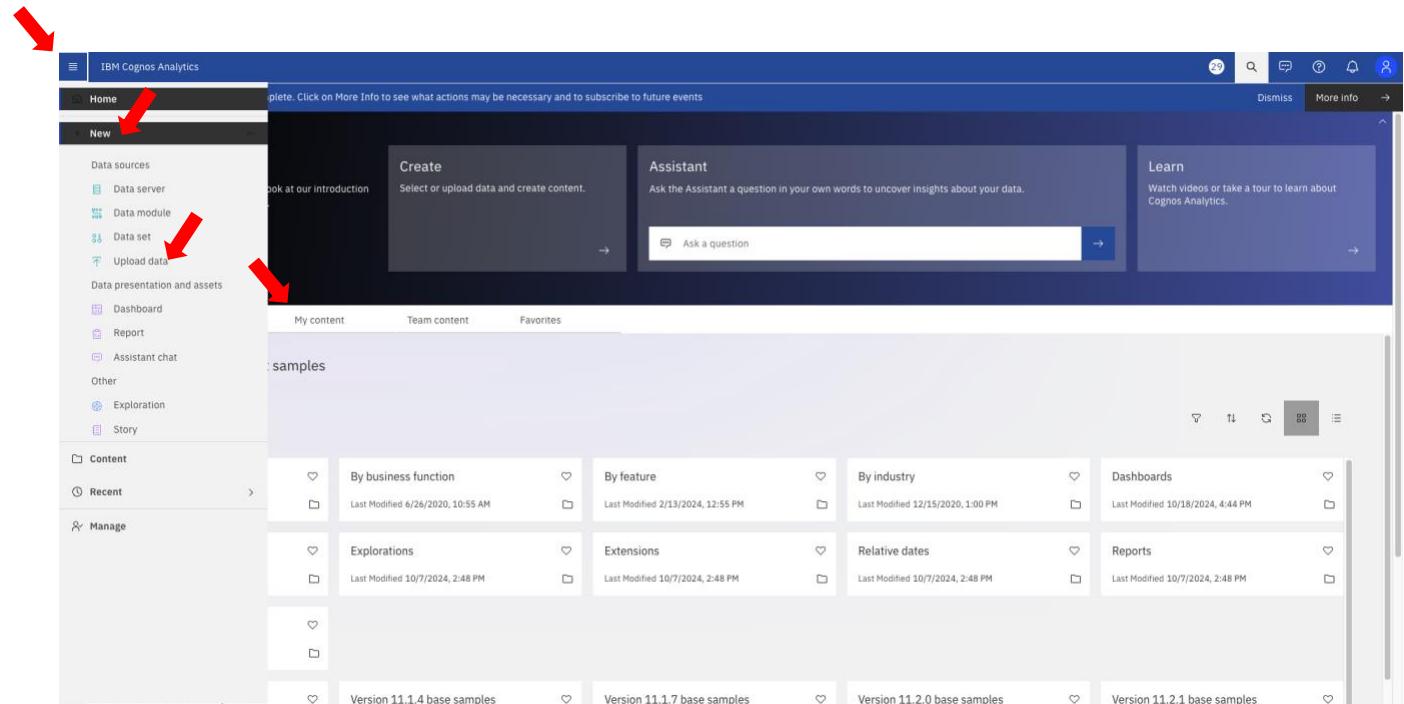
[Manage subscription](#)



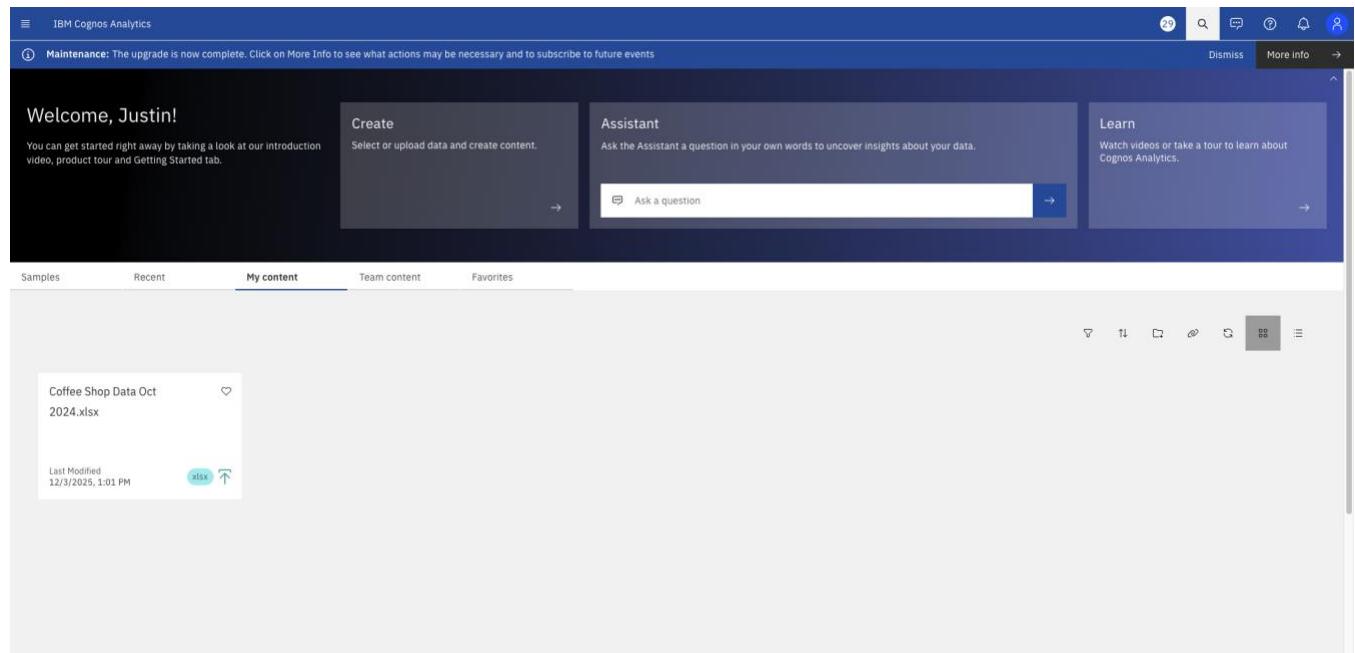
Thank you for choosing IBM.

After you have the file navigate into your Cognos Web Browser and click on the My content section in the middle of your screen FIRST. This makes sure the file gets uploaded to the proper space and click on the hamburger menu in the top left, select new and then Upload data.

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From there it will bring you to your downloads folder and select the Coffee Shop excel file and open it to upload it to Cognos. Cognos will begin reading and analyzing the file and once successfully uploaded you should see it in your My content folder.



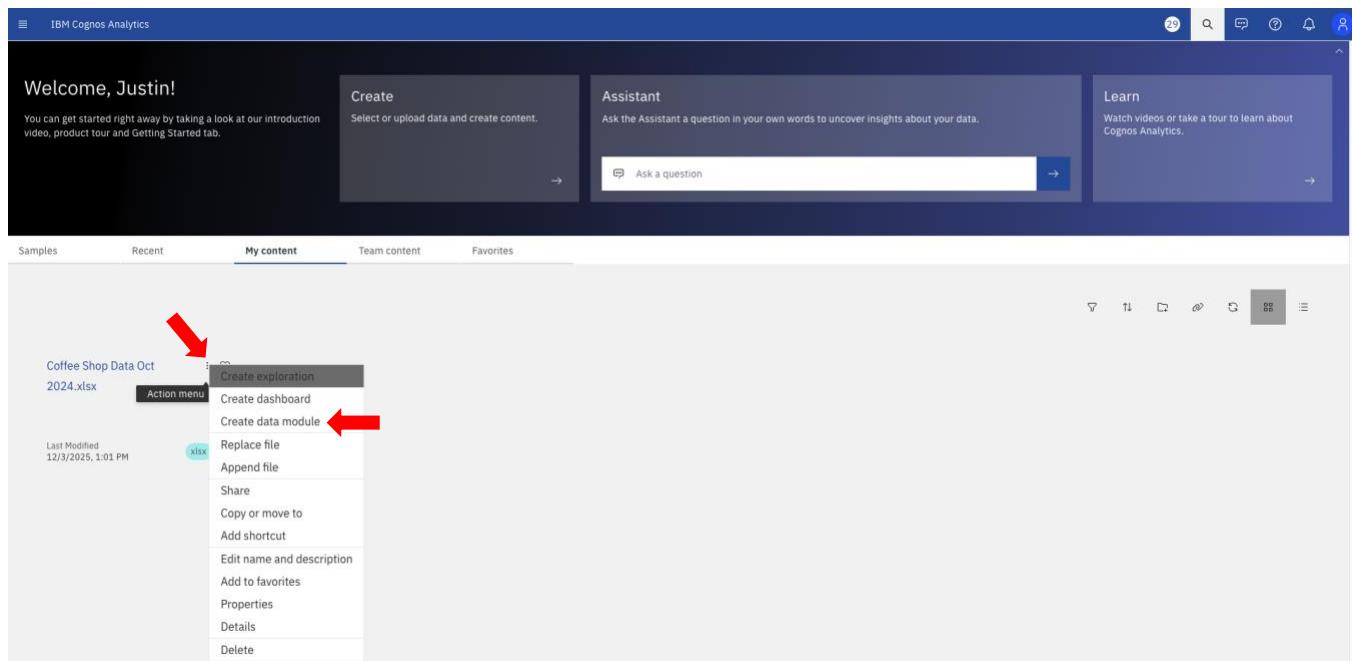
2.2 Creating a data module

Data modules in Cognos are important because they let you clean, combine, and shape your data directly inside the platform without relying on IT or external modeling tools. They provide a flexible, reusable data foundation

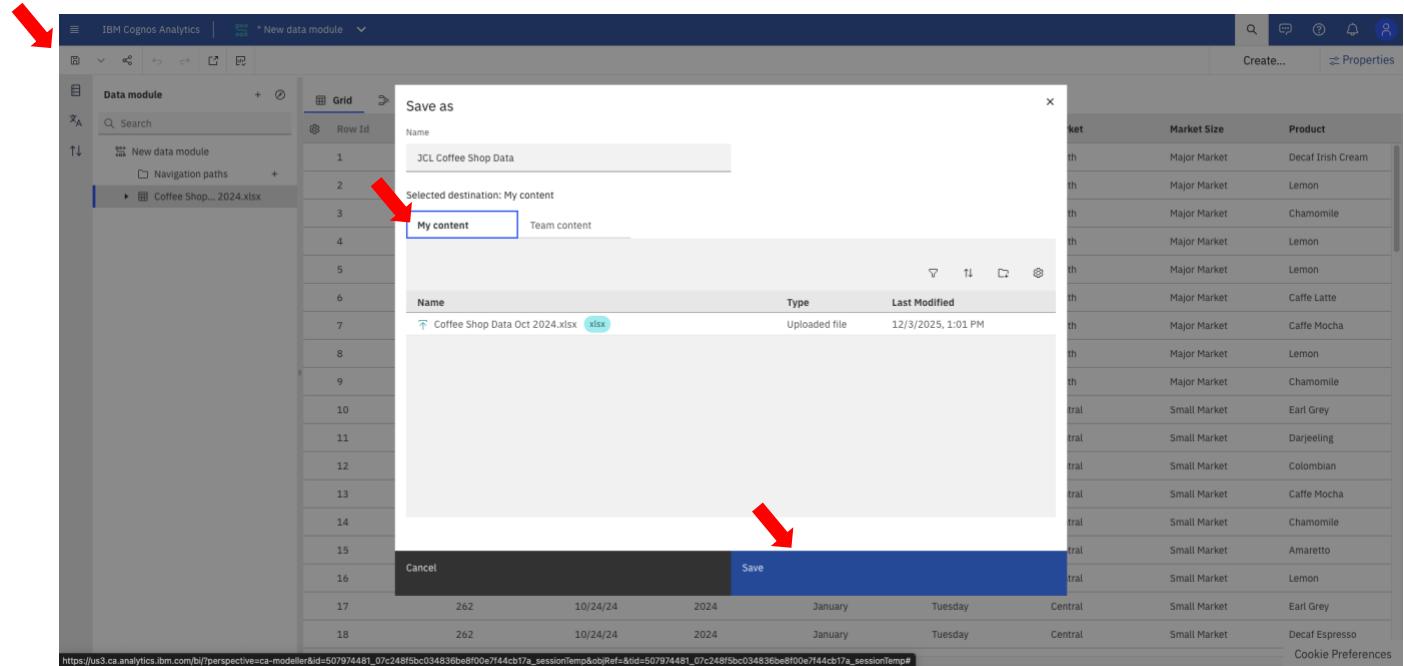
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that ensures reports and dashboards stay consistent and easy to maintain. We will now create a data module from the uploaded excel file.

From the same page hover next to the heart on the uploaded excel file and 3 dots should appear. Once the dots appear left click on it and then select Create data module.



Once your data module has been created feel free to explore the data in the format and expand the arrow to see all the columns within the data set. Data modules allow you to do all sorts of great things such as perform custom calculations, filter specific columns of data and much more. For today's lab we can leave the data module as is simply hit the save button and name your data module with your 3 initials (First Middle Last) followed by Coffee Shop Data. So as an example mine would be JCL Coffee Shop Data. Be SURE to save it in My content and you can do so by selecting the My content tab. Screenshot with arrows below.



You now have a data module that we can begin creating a dashboard from!

3 Beginning: Visualize data with automatic dashboards and the analytics Assistant

If our goal as stated before is to provide both visibility and accountability for our organization, we can start by visualizing data to understand more of what is going on. The easiest way to get started visualizing data is to let Cognos Analytics recommend and build visualizations of the data for you. If you know exactly what you're looking for in the data, you may not need to do this, but often it is easier to let the system recommend some starting points for you to consider as a launching point for your analysis. It's more interesting than starting from a blank page!

3.1 Identify the data you want to visualize

Now you get to pick what you want to do with this data module. You could explore the data, use the analytics Assistant, build a dashboard, or a report.

We'll start by using the assistant to automatically create a dashboard for us. To do this first click on the assistant chat box in the top right corner of the home screen.

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Welcome, Justin!

You can get started right away by taking a look at our introduction video, product tour and Getting Started tab.

Create Select or upload data and create content.

Assistant Ask the Assistant a question in your own words to uncover insights about your data.

Learn Watch videos or take a tour to learn about Cognos Analytics.

Samples Recent My content Team content Favorites

Coffee Shop Data Oct 2024.xlsx JCL Coffee Shop Data JCL Coffee Shop Report

Last Modified 12/3/2025, 1:01 PM Last Modified 12/3/2025, 1:11 PM Last Modified 12/3/2025, 2:25 PM

You'll then be brought to the assistant screen where you need to select a source for the assistant to work on. The Cognos Assistant is a powerful traditional AI Assistant but does not use generative AI or agents so it does require additional prompting. Select the data module you just created which should be in "My content". (note if you have Agentic AI checked please uncheck it for this Lab, we do have agents coming to Cognos soon but this is still in preview)

No source Select

@Cognos Welcome to Assistant

Select a source to get started

Use a sample data source Recommended Explore the Assistant features with sample data.

Select sample data source

Use your own data source Recommended Find insights from your own data with the Assistant.

Select my data source

Learn more about using the Assistant >

Ask a question

Open X

My content **Team content**

Name	Type	Last Modified
 Coffee Shop Data Oct 2024.xlsx xlsx	Uploaded file	12/3/2025, 1:01 PM
 JCL Coffee Shop Data	Data module	12/3/2025, 1:11 PM

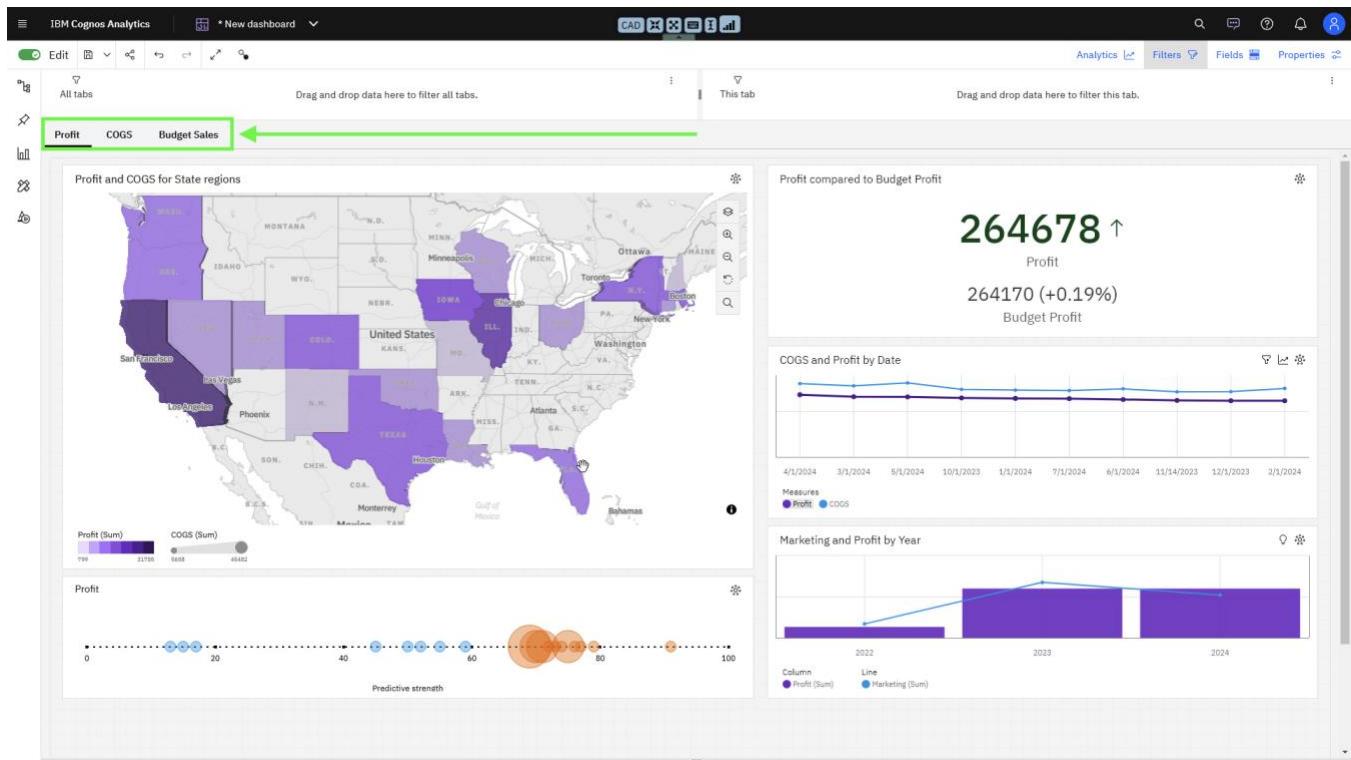
Cancel Open

From here you can type in the prompt “Create dashboard” and the assistant will automatically generate a dashboard for you and bring you to the next page.

3.2 Explore the automatically generated visualizations to understand your data

Voila! Because Cognos Analytics has analyzed the data that you uploaded to try to understand the data profile, it was able to make recommendations about what might be interesting to visualize.

Notice that there are multiple tabs – each focused on a different metric (aka KPI or important quantifiable measure) from your data set.

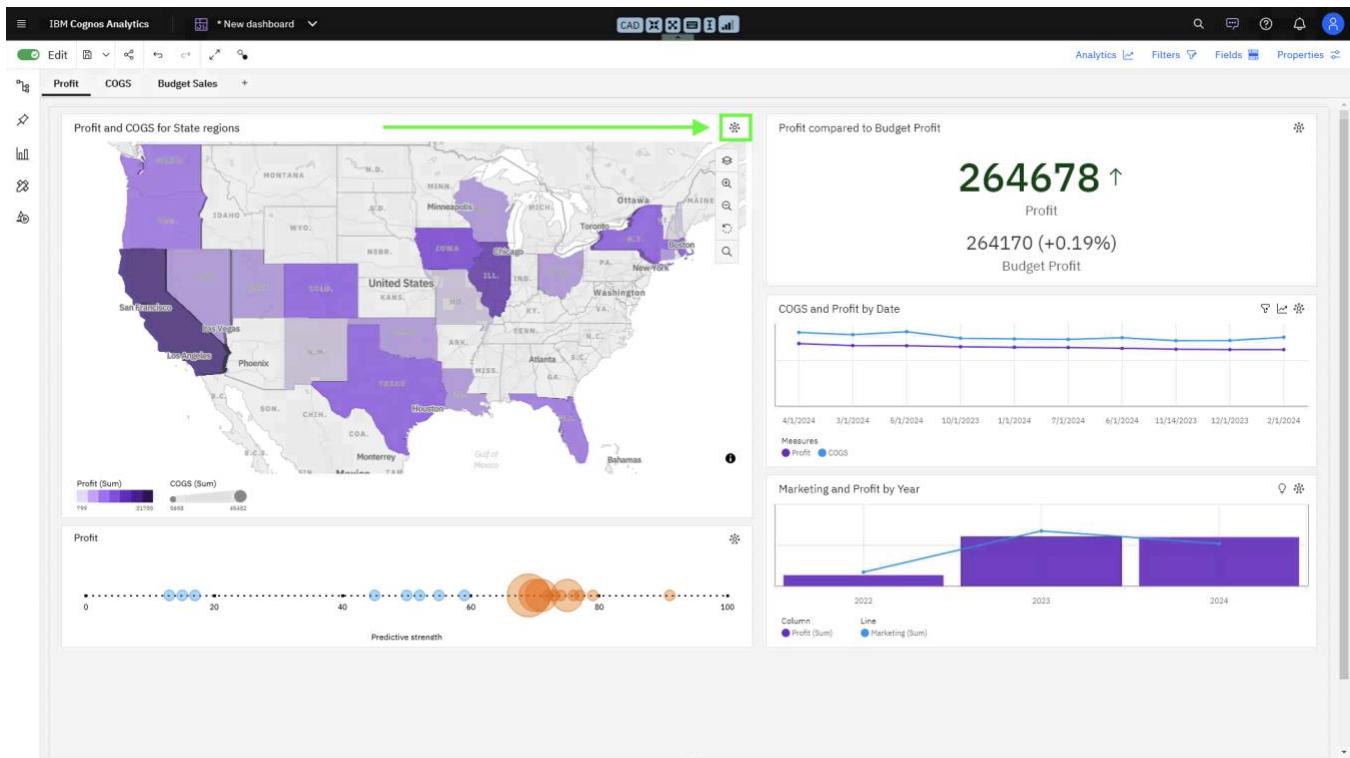


As you navigate through the tabs, you'll see the metrics can be better understood by comparing or slicing the metrics by different dimensions to answer different questions like "how much did we sell each month?" "How much did we sell in each state?" or "How much did we sell compared to how much we spent?"

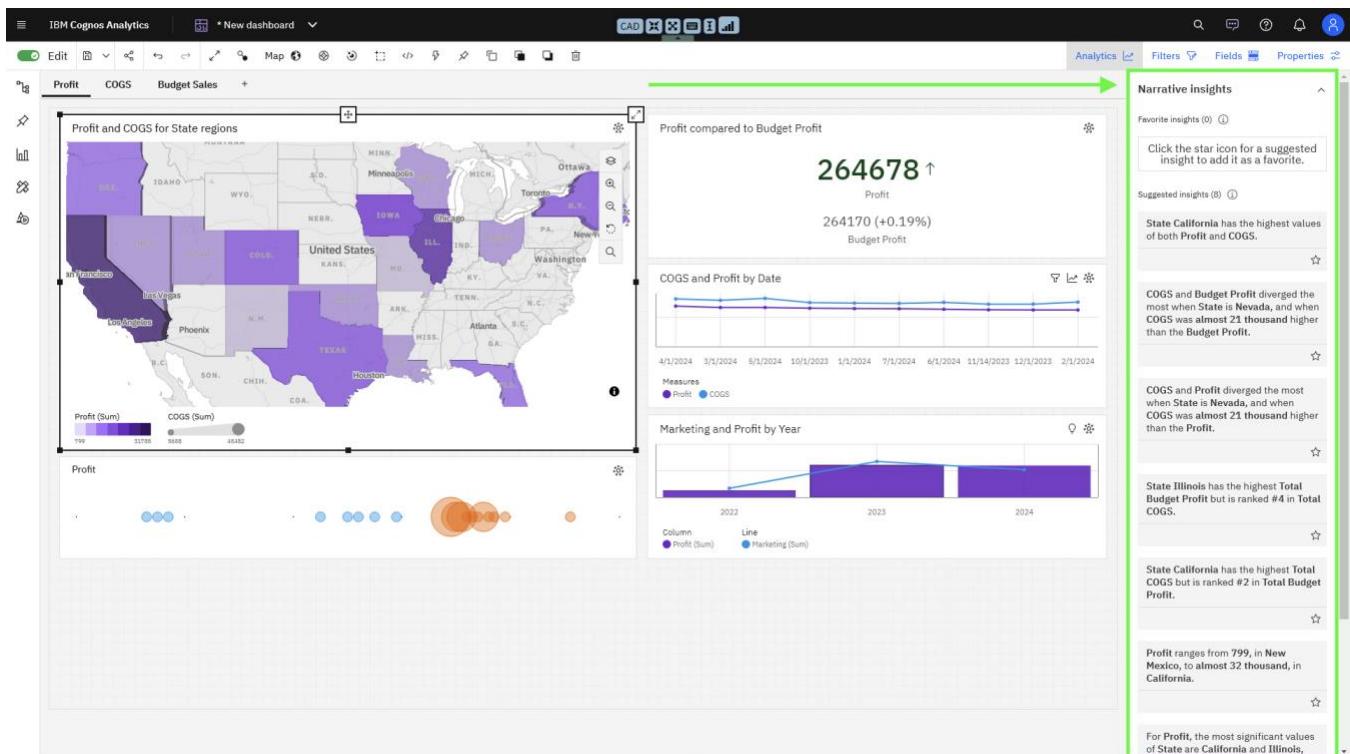
On the first tab of the generated dashboard, check out the way that the automatic dashboard answers these questions above. Do you have a better understanding of some of the key insights in your dataset?

3.3 Explore insights automatically generated about visualized data

While some people interpret information better visually, others may prefer text. See how Cognos Analytics can draw out highlights from a visualization (and even from data not displayed in the visualization) into a text format by clicking on the "narrative insights" icon in the top right corner of visualizations on the dashboard. For starters, click the icon in the top right-hand corner of the map.



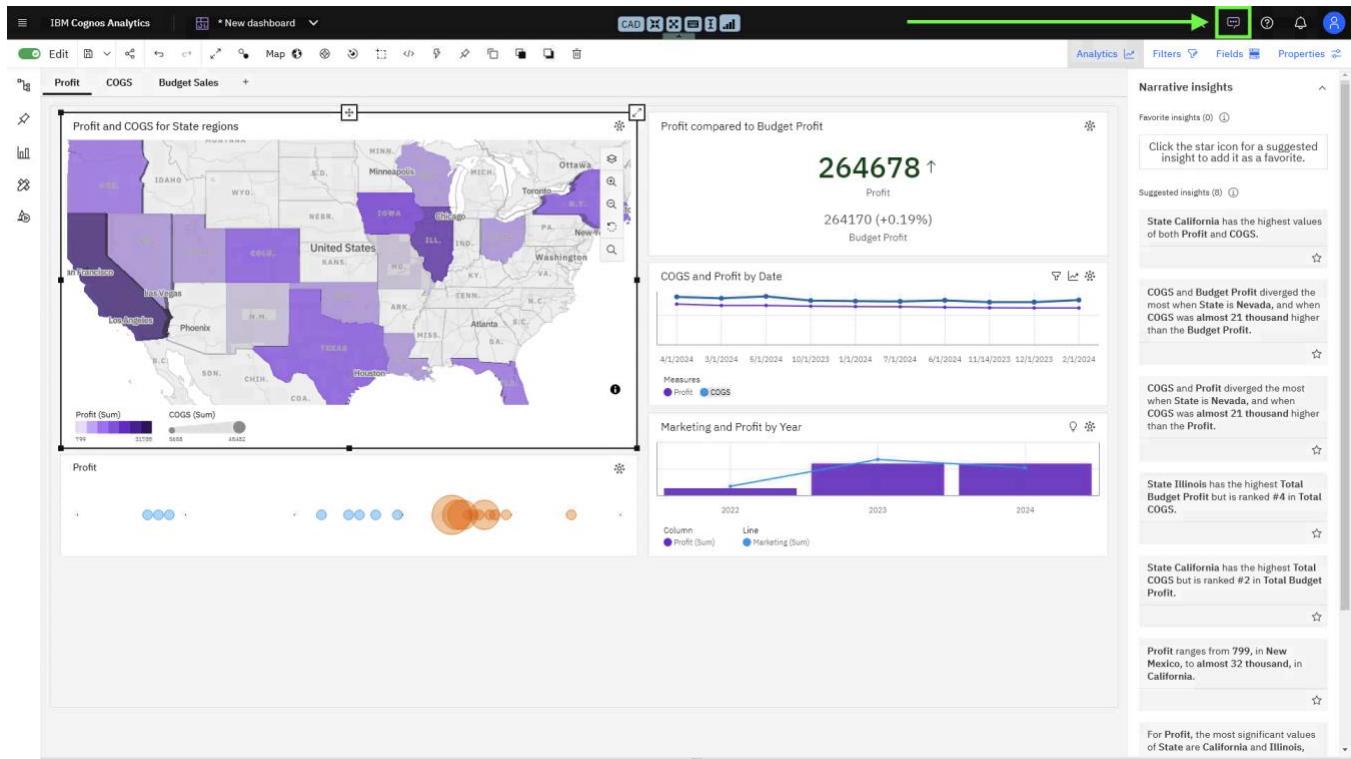
Here, Cognos Analytics highlights information that may be important to note – sometimes it even includes highlights from data not visible in the visualization itself. See if there are any insight you might have missed if you looked at the map visualization alone.



3.4 Getting additional answers from the Assistant

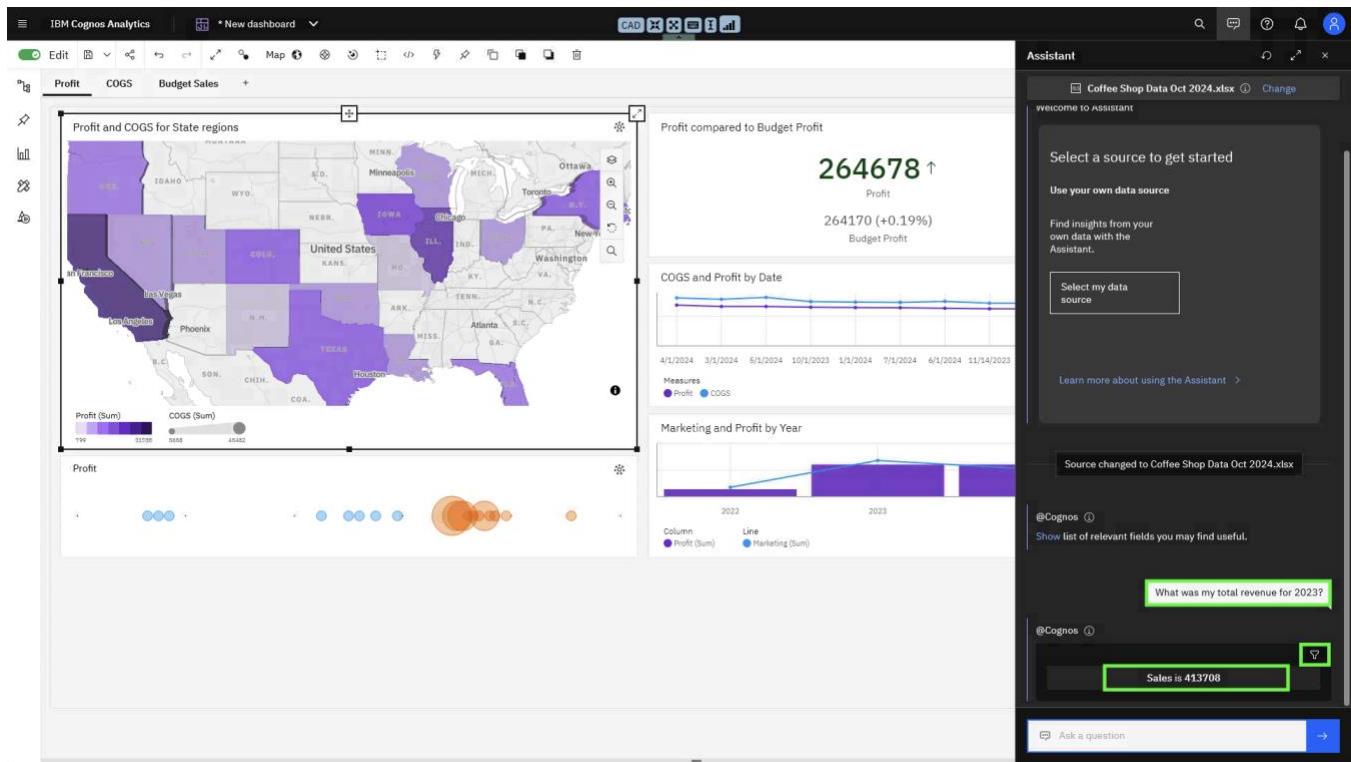
You can also use the Assistant to get answers to follow on questions or build additional visualizations for you on topics of your interest.

To try it, open the Assistant side panel in the top right corner of the screen:



Enter the question “What was my total revenue for 2023?”

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You can see the generated response in the assistant panel.

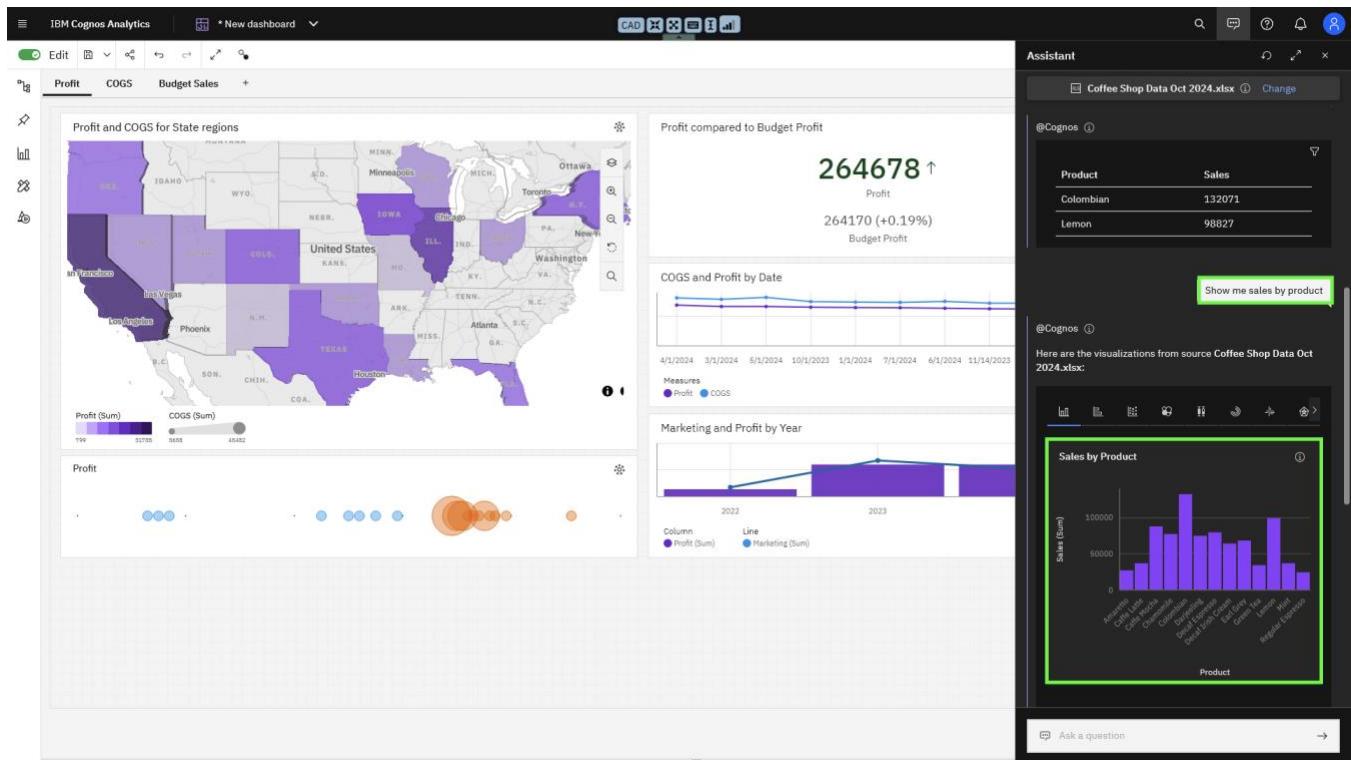
BONUS: Hover over the filter icon beside the response to confirm the dates used to calculate the response.

EXTRA BONUS: Try another question like “What are the top two product types by sales?”

Next, see how Cognos Analytics can generate answers to your questions in the form of a data visualization.

Try entering “Show me sales by product”

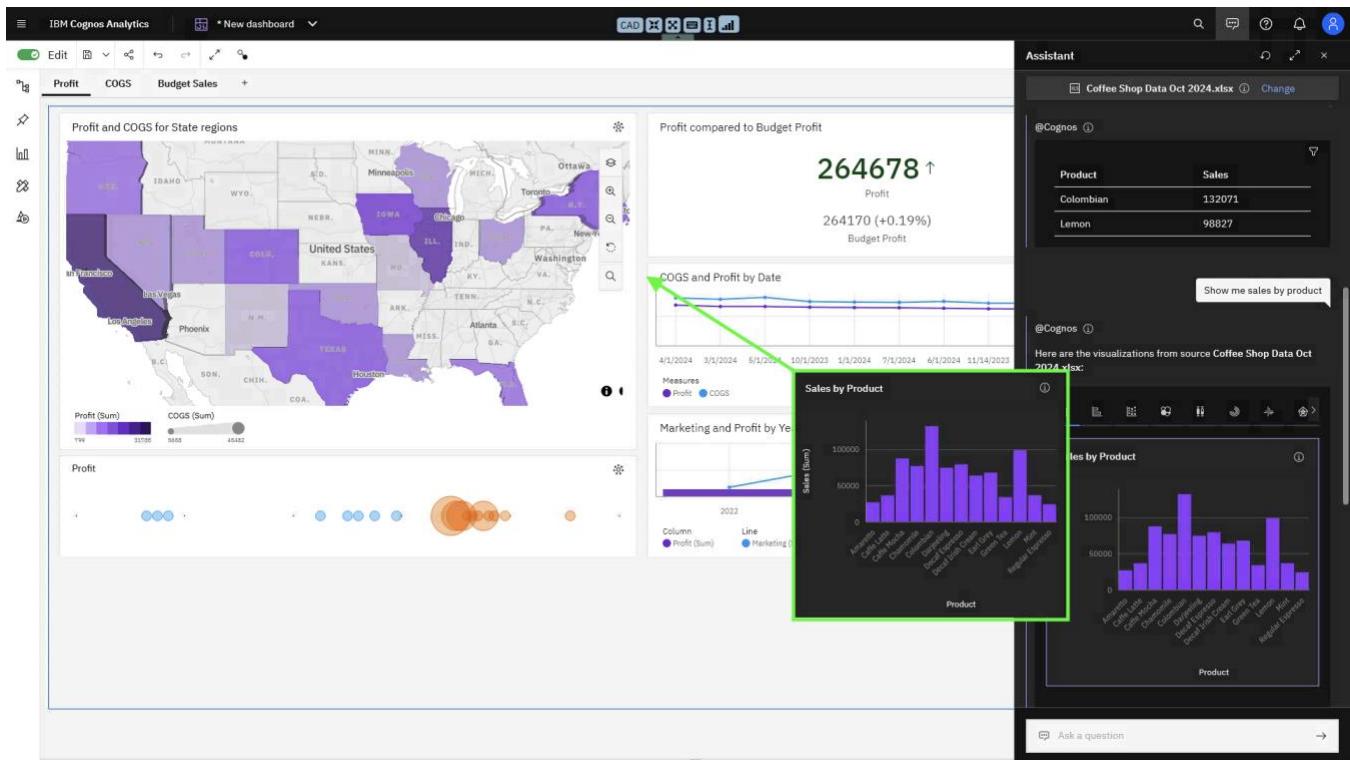
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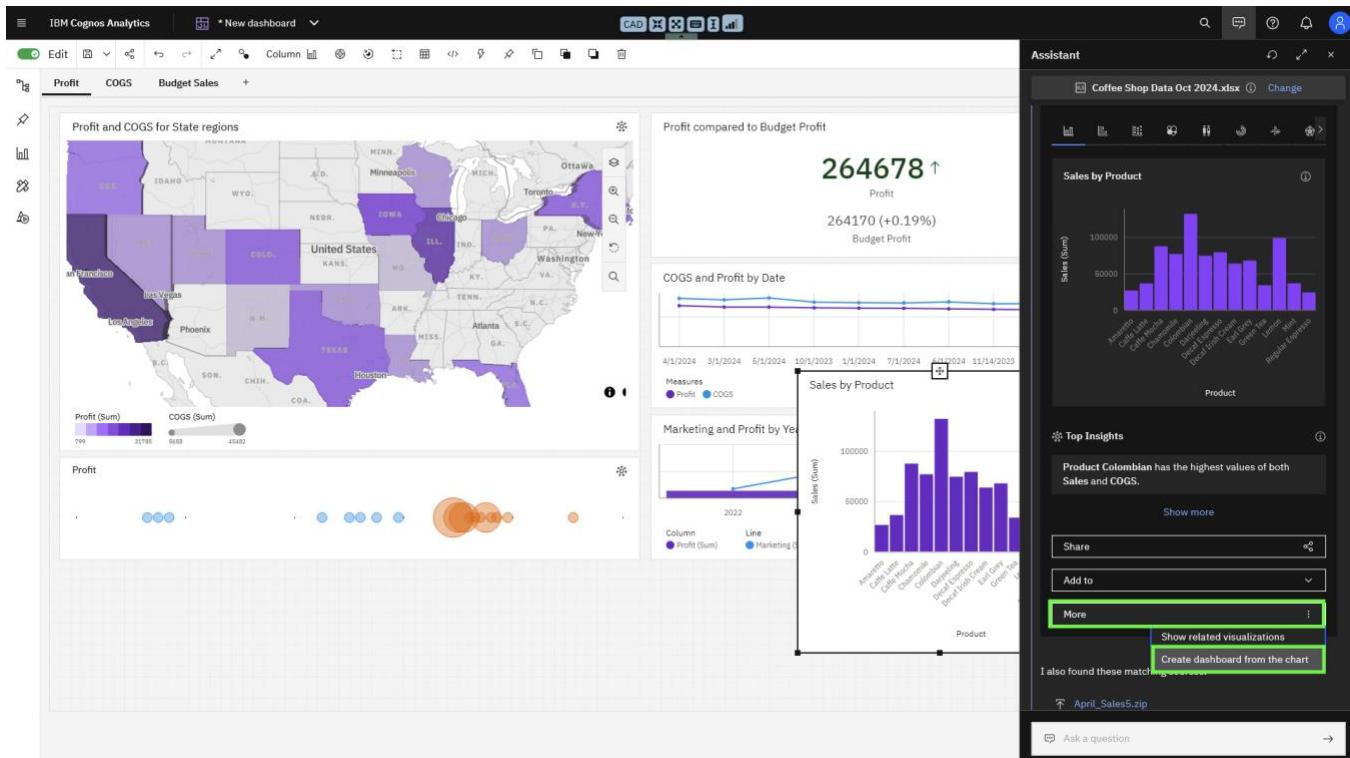
You can use this new visualization in the current dashboard or use it as the basis for an entirely new dashboard based on Sales and Products.

Try to drag the visualization onto your dashboard canvas.

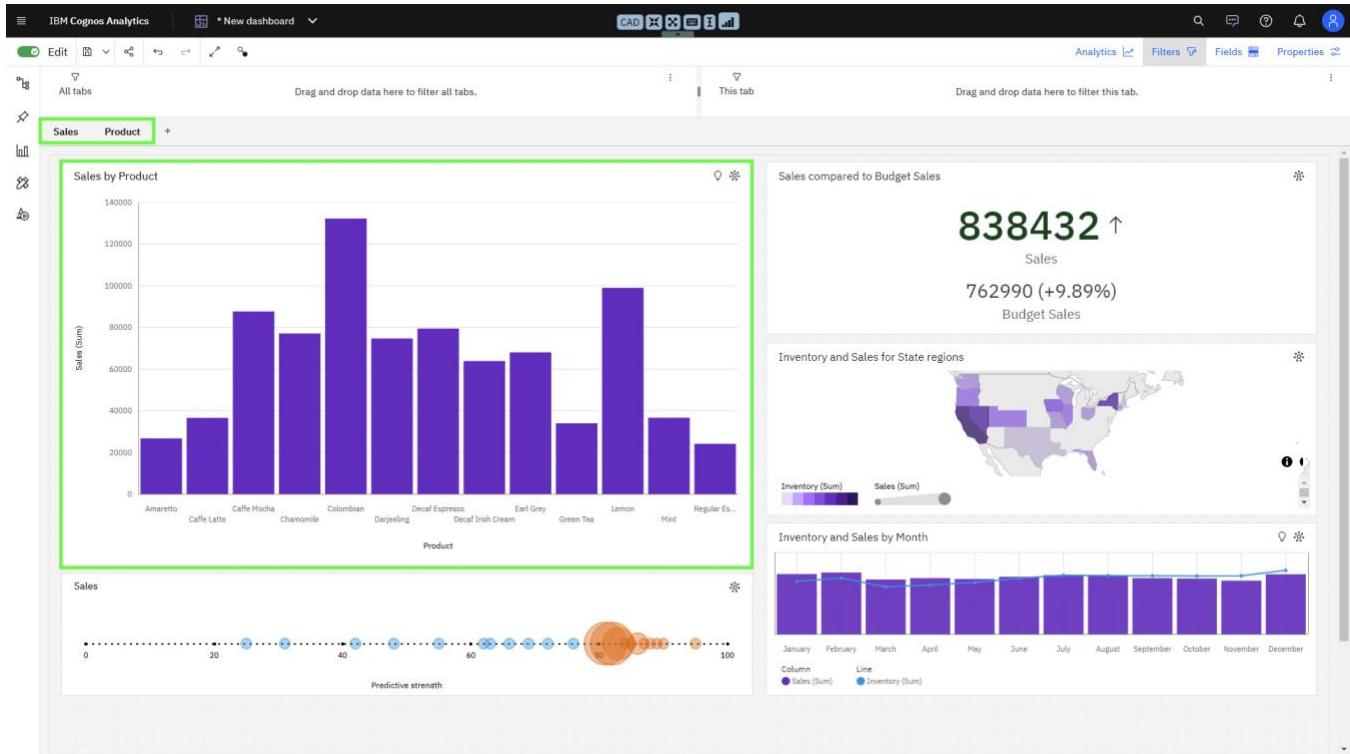
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Next, using the “More” options under the visualization, select, “Create dashboard from the chart”



You'll notice the visualization takes a prominent location in the new dashboard, and there are two tabs – one focused on Sales, and one on Product.



Congratulations! You've now seen how to use the automatic dashboard and visualization capabilities of Cognos Analytics. If you're ready for more, keep reading to learn how to build your own data visualizations manually.

4 Intermediate: Build your own visuals in a dashboard

4.1 Introduction to dashboards

Dashboards let you publish important metrics, KPIs, or information about your work in a format that team members can quickly check for understanding or progress. Dashboards can be an important tool to measure shared progress when you are trying to align people to work on shared goals.

Dashboards can contain summary numbers, calculations, charts, graphs, and more.

As an introduction to the various components available to you when building a Cognos dashboard, let's start by creating a new tab in the dashboard you already have open. To do this, click on the "+" icon to the right of the existing tabs.

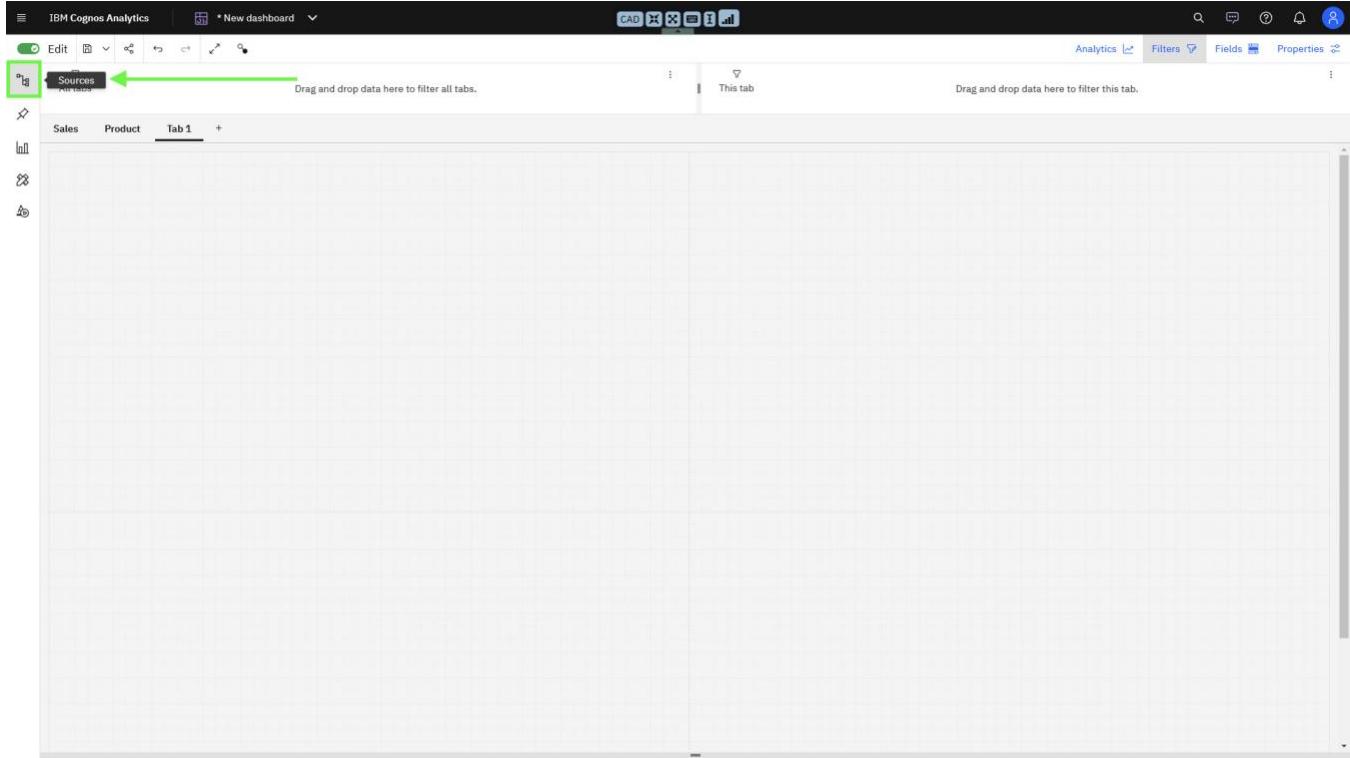
The screenshot shows a dashboard interface with a top navigation bar for 'IBM Cognos Analytics' and 'New dashboard'. Below the navigation are tabs for 'Sales' and 'Product'. A green arrow points from the 'Sales' tab area to the 'Product' tab. The dashboard contains four main visual components:

- Sales by Product:** A bar chart showing sales for various products. The Y-axis is 'Sales (\$m)' ranging from 0 to 140,000. The X-axis lists products: Amaretto, Caffe Latte, Caffe Mocha, Chamomile, Colombian, Darjeeling, Decaf Espresso, Decaf Irish Cream, Earl Grey, Green Tea, Lemon, Mint, and Regular Es... The highest sales are for Colombian.
- Sales compared to Budget Sales:** A summary card showing total sales of 838432 with a 9.89% increase over budget sales of 762990.
- Inventory and Sales for State regions:** A map of the United States where states are colored according to their inventory and sales levels.
- Inventory and Sales by Month:** A stacked bar chart showing monthly sales and inventory from January to December. The legend indicates Sales (Sum) in purple and Inventory (Sum) in blue.

Let's start with the 2x2 template. You can click the template and then the "Create" button or just double click the template to proceed. (Hint: If you want to change the template later, you can just click on the tab title and select "Change template".)

The screenshot shows the same dashboard as above, but with a 'Select a template' dialog box overlaid. The dialog has a title 'Select a template' and a subtitle 'drop data here to filter this tab.' It displays a grid of 12 dashed boxes representing different layout templates. One specific 2x2 grid template is highlighted with a green border. At the bottom of the dialog are 'Cancel' and 'Create' buttons. The rest of the dashboard remains visible in the background.

Open the “Sources” panel to see the data you have available to you.



4.2 Creating basic visualizations

Let's get started visualizing data! If you pick the data, Cognos can try to pick the best fit visualization type.

Drag “Sales” from your data tree to the canvas into the top left template square and into the square that turns blue and says, “Drop here to maximize.”

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The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Selected sources' pane displays a tree view of data from 'Coffee Shop Data Oct 2024.xlsx'. A green box highlights the 'Sales' node under the 'Sales' category. On the right, the main workspace shows a 'Tab 1' tab with a large KPI visualization. A green arrow points from the highlighted 'Sales' node in the source pane to the corresponding 'Sales' label in the visualization area.

Notice that creates a KPI visualization that summarises the total sales amount.

The screenshot shows the IBM Cognos Analytics interface. The 'Selected sources' pane on the left is identical to the previous one, showing the 'Sales' node highlighted. The main workspace on the right displays a large KPI visualization with the number '838432' in a prominent font. Below the number, the word 'Sales' is written. The entire visualization is contained within a rectangular frame with handles for resizing.

IBM TechXchange

Next, drag both “Product type” and “Profit” from the data tree on the left into the top right template box. (Hint: use CTRL+click to multiselect two or more fields at once.)

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Selected sources' pane is open, displaying a tree view of data from 'Coffee Shop Data Oct 2024.xlsx'. Two items are selected: 'Product Type' and 'Profit', which are highlighted with green boxes. In the center, a large number '838432' is displayed with the word 'Sales' below it. To the right, a template box contains the text 'Profit' and 'Product Type'. A green arrow points from the selected 'Product Type' and 'Profit' fields in the data tree to the template box.

Notice that this time, as you selected multiple fields, you get a different type of visualization that fits the data.

The screenshot shows the IBM Cognos Analytics interface. The 'Selected sources' pane is identical to the previous screenshot, showing the 'Coffee Shop Data Oct 2024.xlsx' tree. In the center, there is a large number '838432' with 'Sales' below it. To the right, a bar chart titled 'Profit by Product Type' is displayed. The x-axis is labeled 'Product Type' and shows four categories: 'Coffee', 'Espresso', 'HerbalTea', and 'Tea'. The y-axis is labeled 'Profit (\$)' and ranges from 0 to 80,000. The bars represent the profit for each product type: Coffee (~75,000), Espresso (~68,000), HerbalTea (~62,000), and Tea (~55,000).

If you want to change the visualization type, you can select the toolbar item that shows the visualization type and select another from the dropdown. Visualizations that fit the number and type of data columns you selected appear as “Recommended visualizations” while the rest show up under “All visualizations.”

The screenshot shows the IBM Cognos Analytics interface. On the left, there is a sidebar with a tree view of "Selected sources / Coffee Shop Data Oct 2024.xlsx". The main area features a toolbar at the top with various icons. A green box highlights the "Column" icon in the toolbar. Below the toolbar is a dropdown menu titled "Recommended visualizations" which lists several chart types: Automatic, Column, Bar, Point, Packed bubble, Box plot, and Radial. A larger section below titled "All visualizations" lists many more chart types: Area, Bar, Box plot, Bubble, Bullet, Column, Crosstab, Data player, Data rich text, and Decision tree. To the right, a bar chart titled "Profit by Product Type" is displayed, showing profit in Euro for four product types: Coffee, Espresso, Herbal Tea, and Tea. The chart has a y-axis from 0 to 80,000 and an x-axis labeled "Product Type".

How do you choose the right visualization for your data? Choosing the right visualization depends on your data and what you want to extract from it. Generally, visualizations with at least one measure (ex: sales) and one category (ex: product type) are more insightful than those that only contain measures or categories.

4.3 Building additional visualization types

You can also create more advance chart types like tree maps, heatmaps, geographic maps, decision trees, etc..

Go to the visualization tab on the left side panel. Notice dozens of visualisations are available for use.

IBM TechXchange

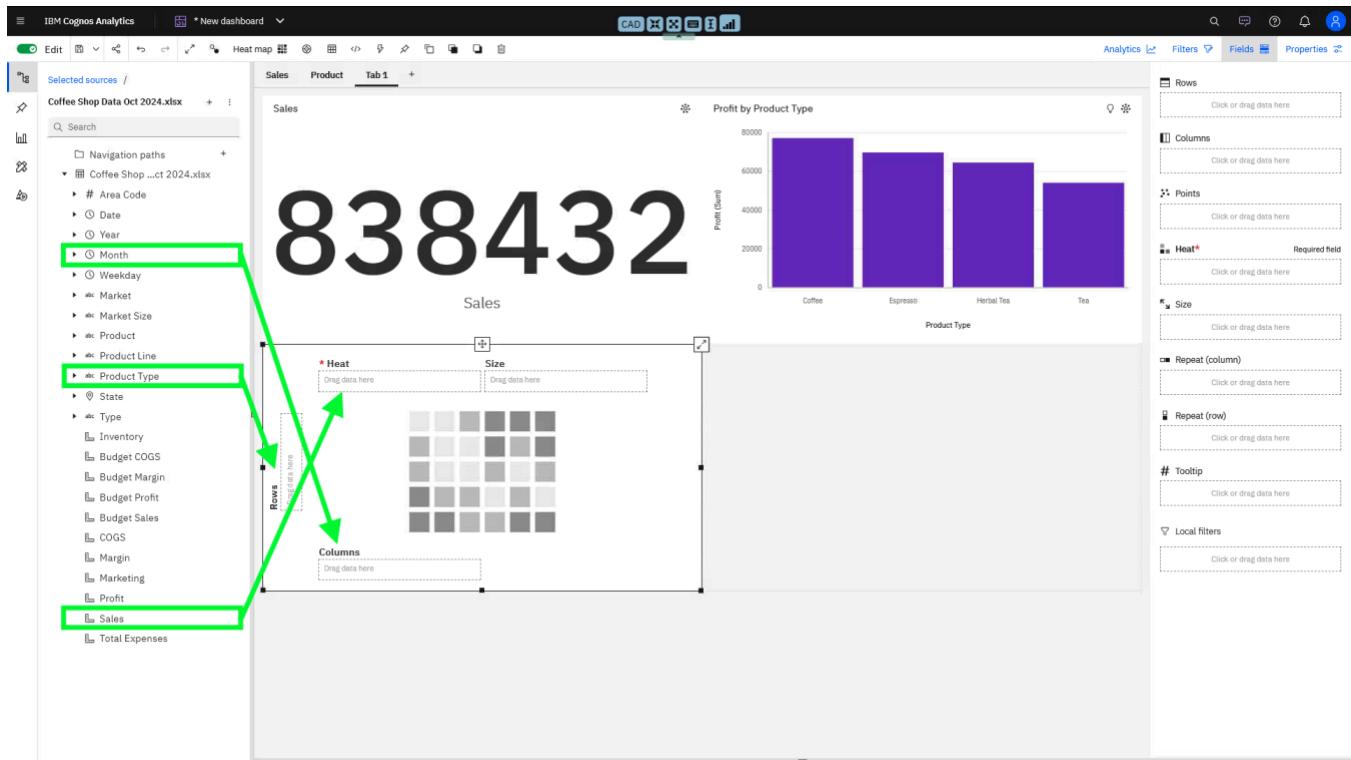
The screenshot shows the IBM Cognos Analytics interface. On the left, there is a sidebar titled "Visualizations" with various options like Area, Bar, Box plot, Bubble, Bullet, Column, Crosstab, Data rich text, Decision tree, Driver analysis, Drop-down list, Dual line, Heat map, Hierarchy bubble, KPI, Legacy map, Line, Line and column, List, Map, Marimekko, Network, Packed bubble, Pie, Point, and Radar. A green box highlights the "Heat map" icon. The main area has tabs for Sales, Product, and Tab 1. The Sales tab contains a large number "838432" and a bar chart titled "Profit by Product Type" showing profits for Coffee, Espresso, Herbal Tea, and Tea. The Product tab also contains a bar chart.

Double click the “heatmap” visualization, and it will populate in the next available template shape of the dashboard tab. (Alternatively, you can drag and drop it into the desired location.)

The screenshot shows the IBM Cognos Analytics interface with a "Heat map" visualization added to the dashboard. The sidebar on the left shows "Selected sources / Coffee Shop Data Oct 2024.xlsx". The main area has tabs for Sales, Product, and Tab 1. The Sales tab contains a large number "838432" and a bar chart titled "Profit by Product Type". The Product tab contains a heatmap visualization with "Rows" and "Columns" labeled, and a "Size" field. A green box highlights the "Heat" field in the heatmap's configuration panel. The right side of the screen shows a "Template shapes" panel with various options like Rows, Columns, Points, Heat*, Size, Repeat (column), Repeat (row), Tooltip, and Local filters.

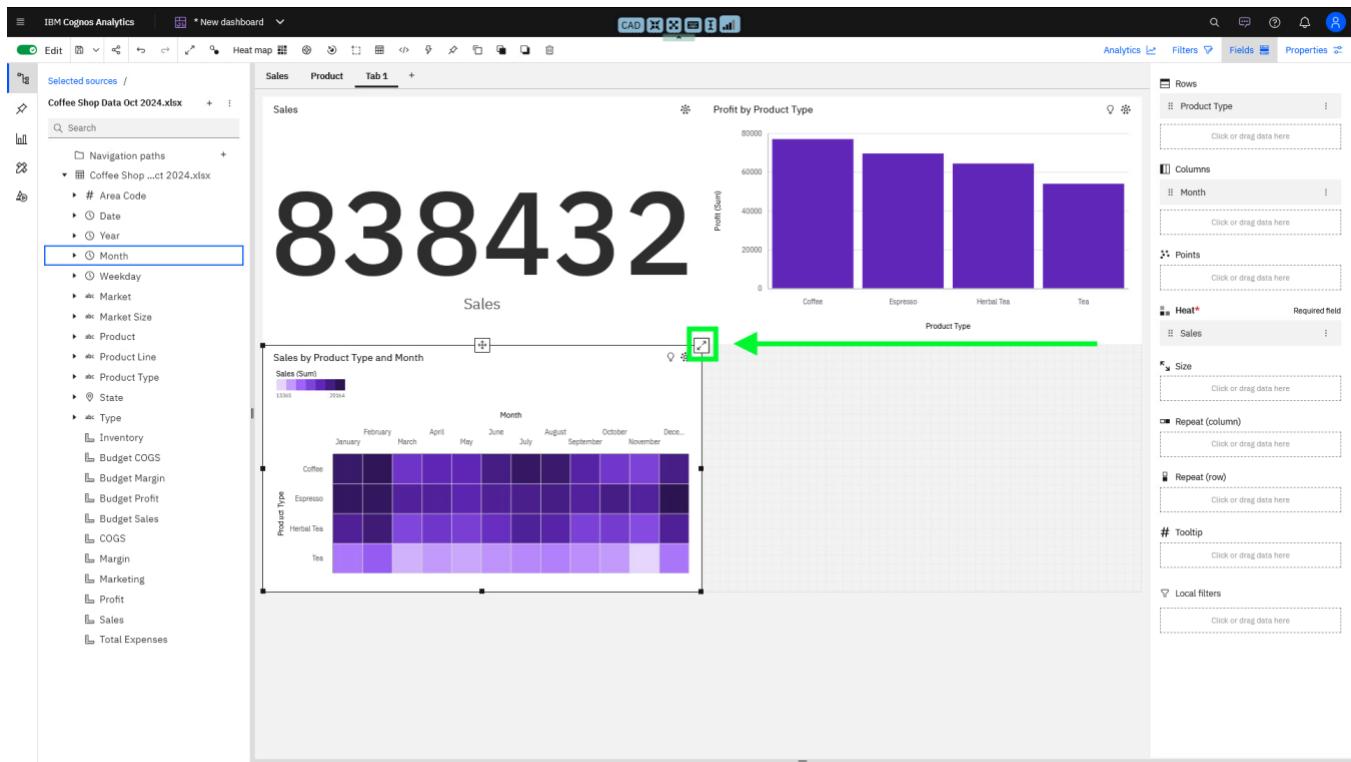
The “Fields” panel will open automatically. Add the following fields either dragging from the data tree or by typing into the slot.

- Start by adding “**Product Type**” to the Rows field
- Then add “**Month**” to the Columns field
- End by adding “**Sales**” to the Heat field (do this step last)

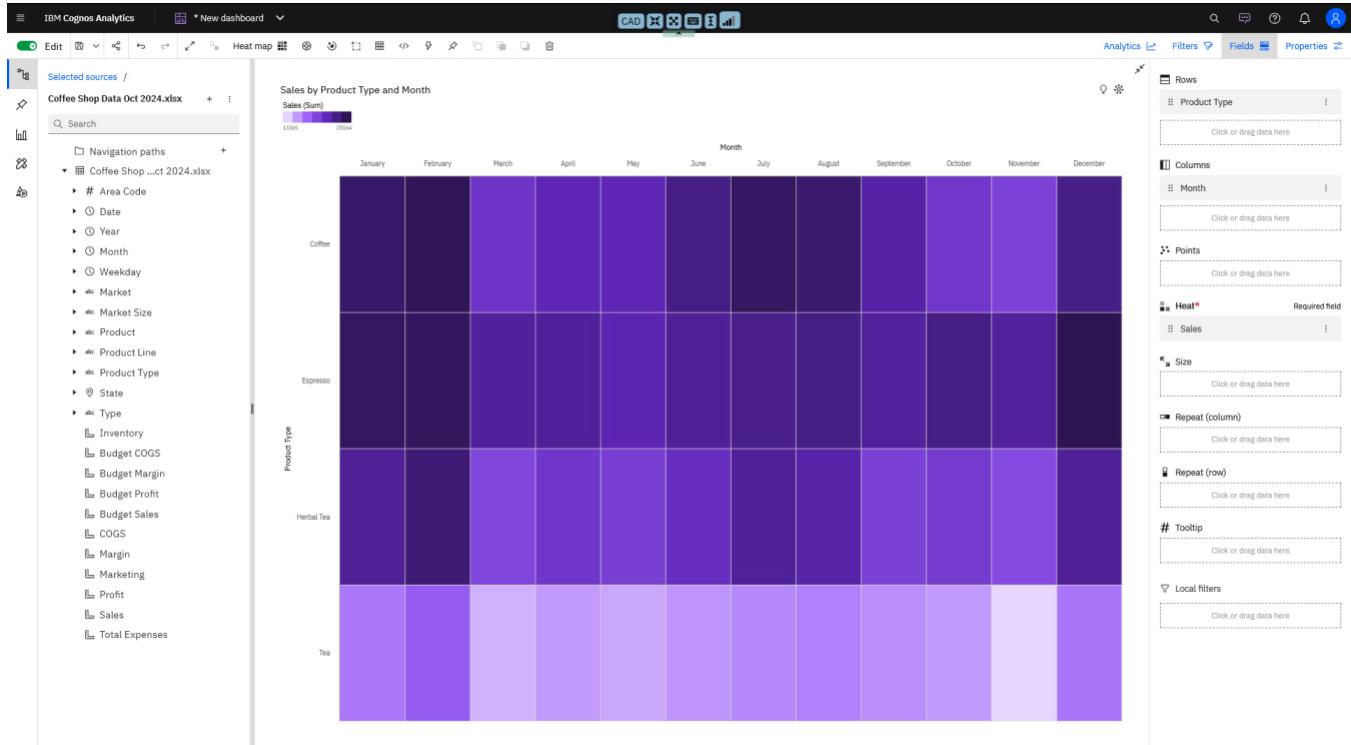


Great! Now you have a heat map showing visually what product types are selling the most in each month of the year. Expand the heatmap visualization to get a better view.

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The lighter colors represent lower sales numbers, and the darker boxes indicate higher sales numbers.



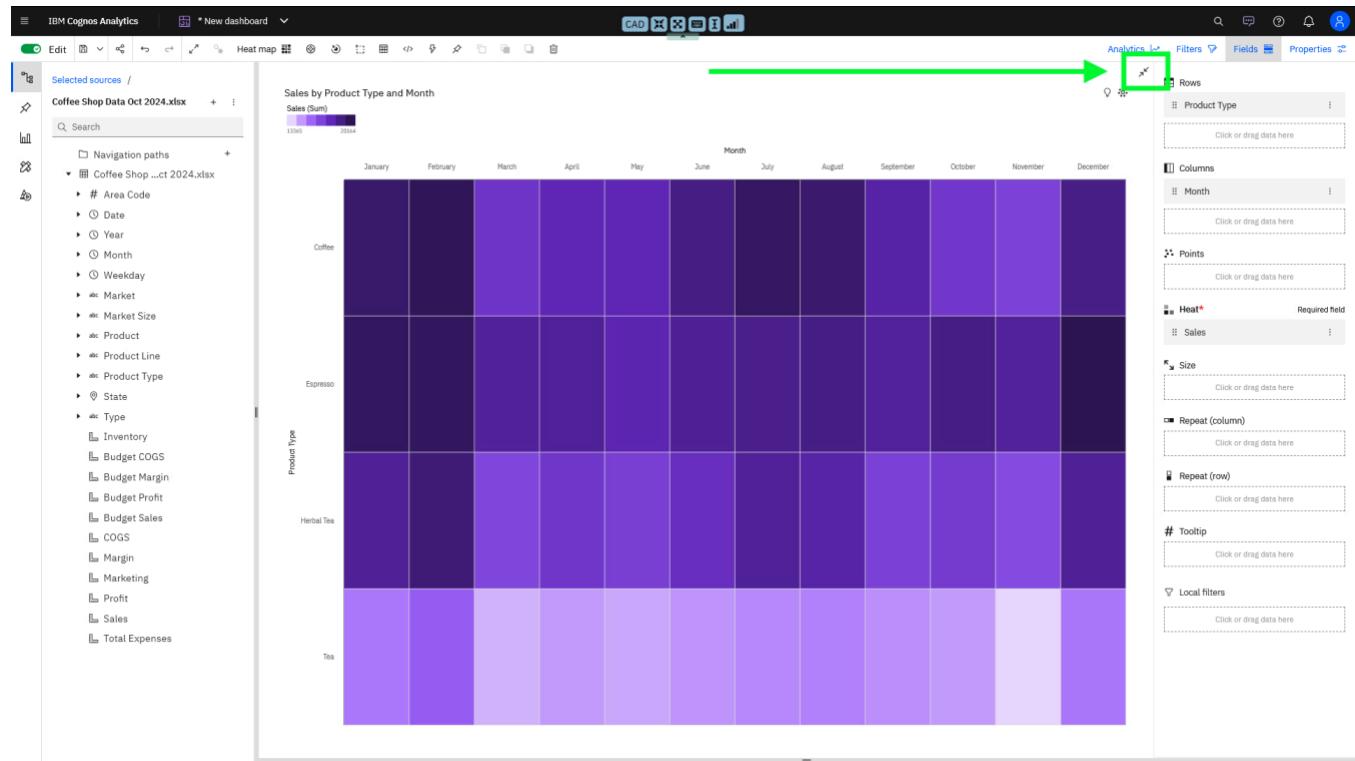
So what do we learn here? Here are a few things we could derive from this view:

1. Coffee drinks seem to be selling more than tea drinks.

2. It looks like all drinks are selling more in the colder months of December, January, and February.
3. Although the highest sales seem to be in the cold months, there seems to be an uplift to sales during the summer months as well – that might lead us towards further investigation to understand what is driving this behavior.

BONUS: See if you can replace the “Month” column with “Weekday” to find out what days of the week are most popular with customers as well. ☕

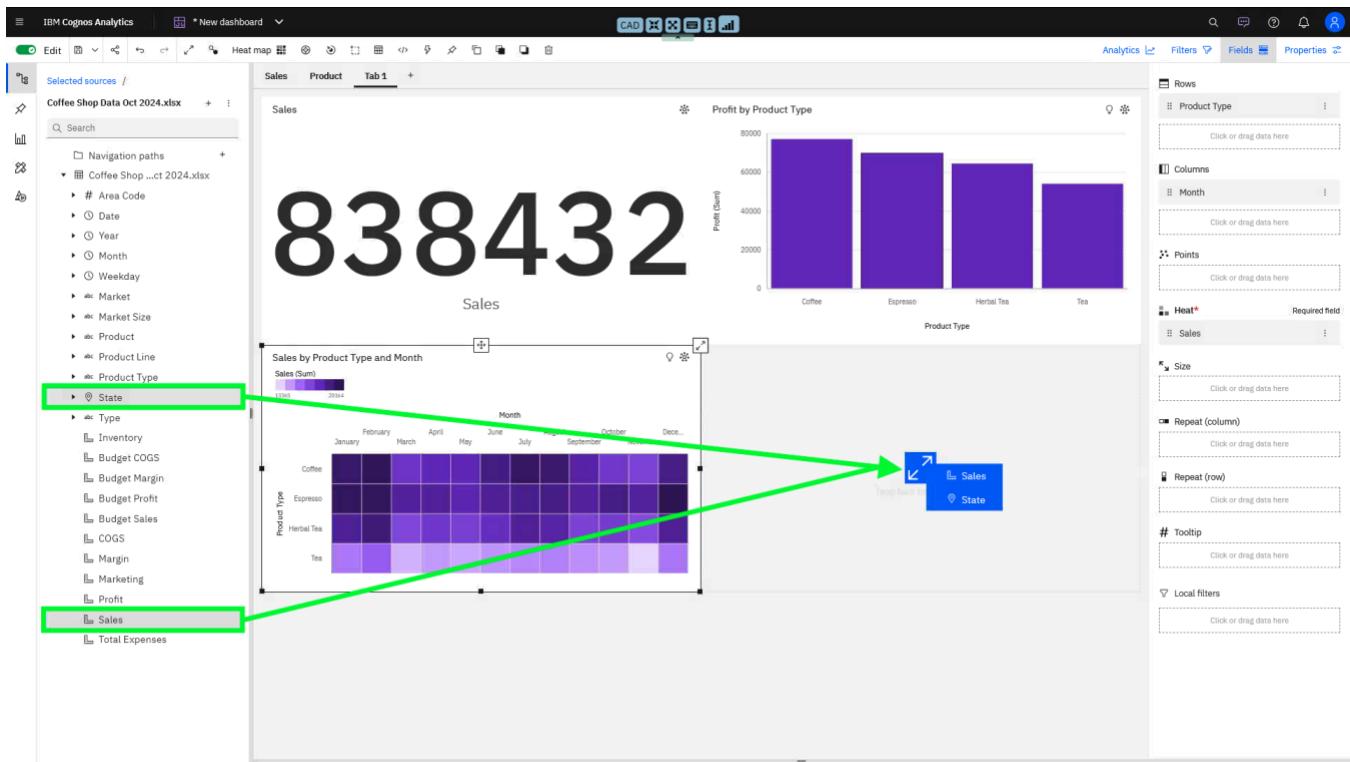
To minimize the heat map visualization, click the arrows in the top right corner.



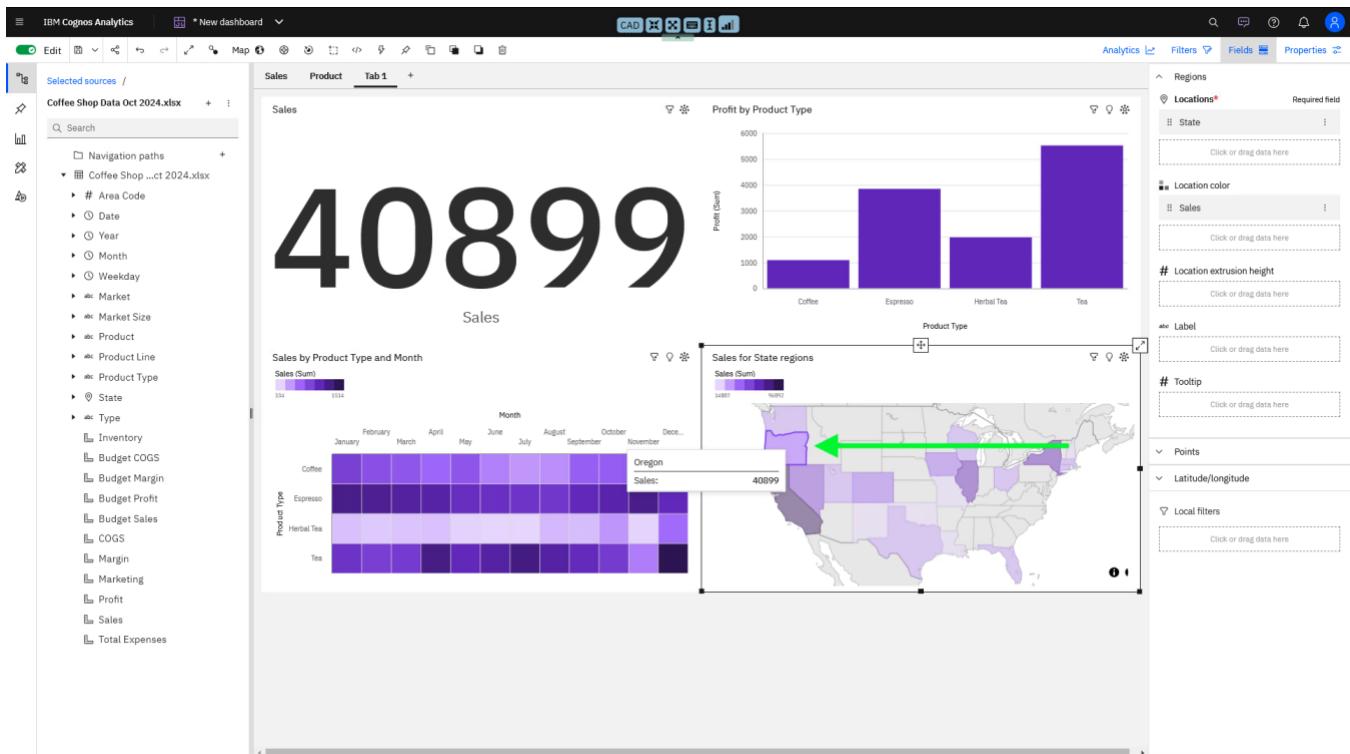
Now, let's add one more visualization to see where we are doing the most business.

Drag “State” and “Sales” to the bottom right quadrant and you will generate a map visualization that shows where your Sales are highest and lowest.

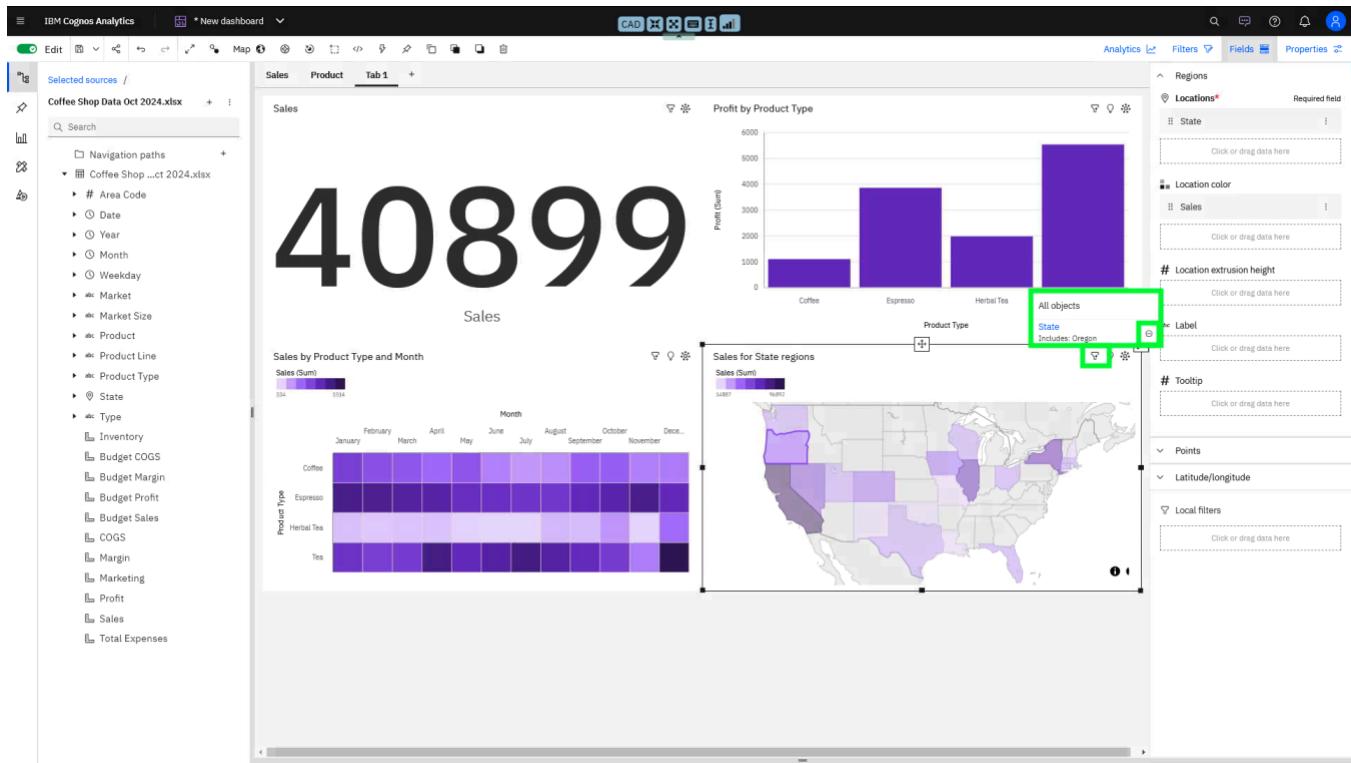
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When the map populates, click on a state to see the sales numbers for that state and the most popular products. When you click Oregon, for example, you see that sales of black tea are more popular than coffee drinks! What other states prefer tea over coffee? (Note: this is fictional data.)



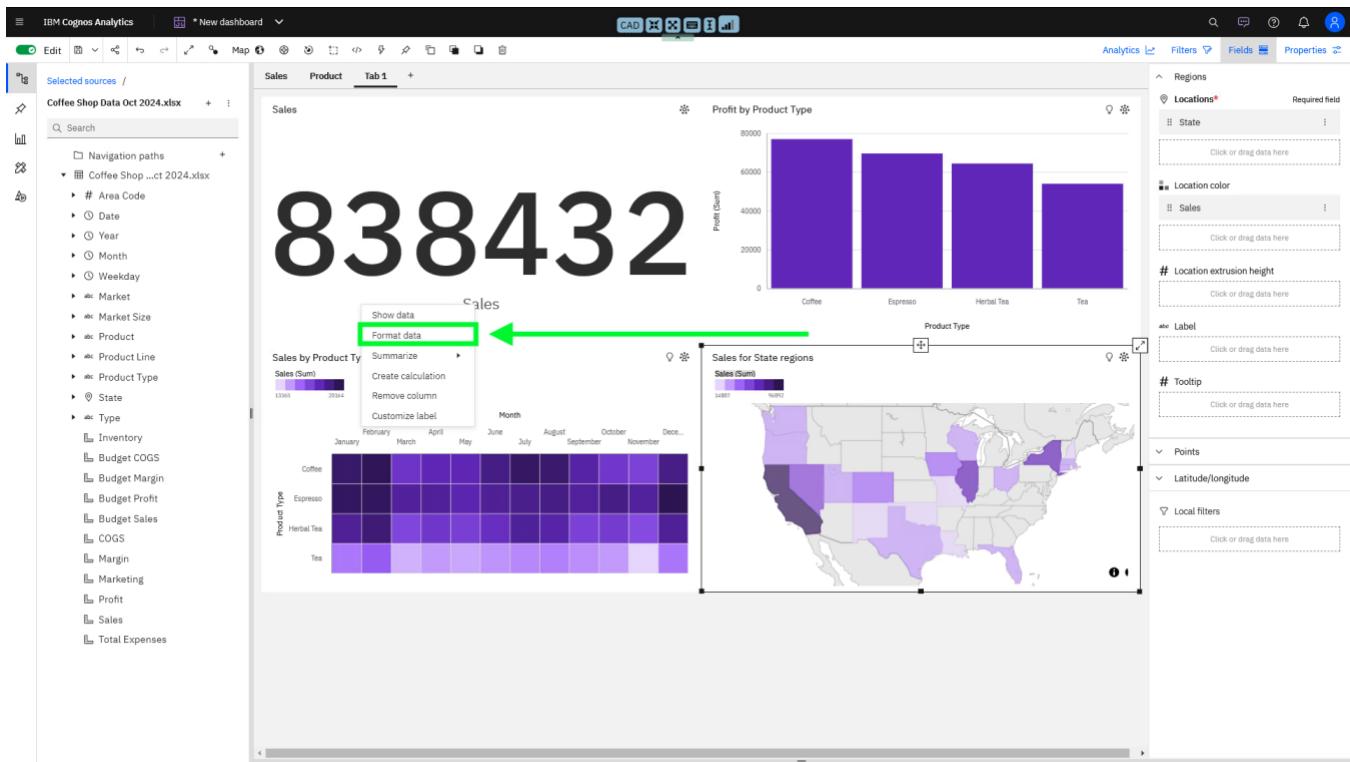
To remove filters, simply click the state again to unselect or click on the filter icon in the top right corner of the visualization and remove the applied filters.



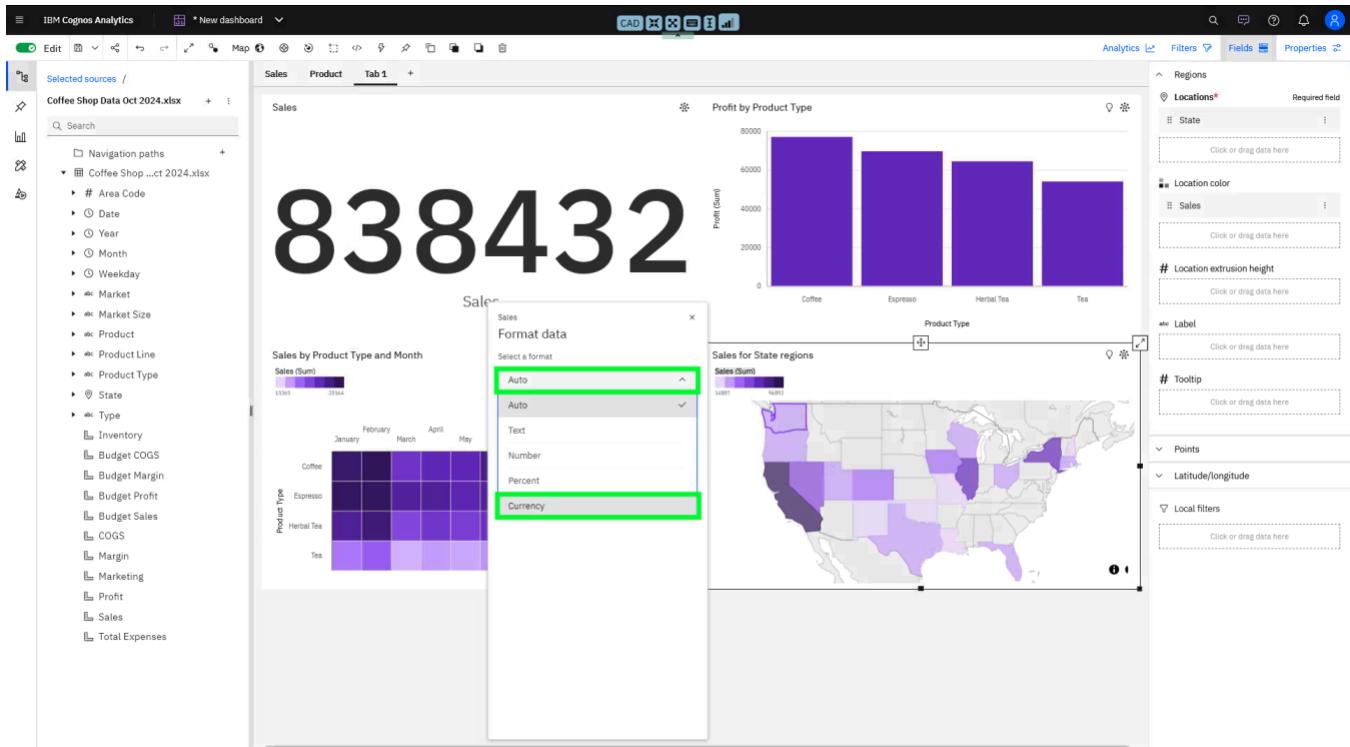
Now let's polish up the dashboard before sharing with colleagues.

Right click on the large Sales summary KPI and select “Format Data”

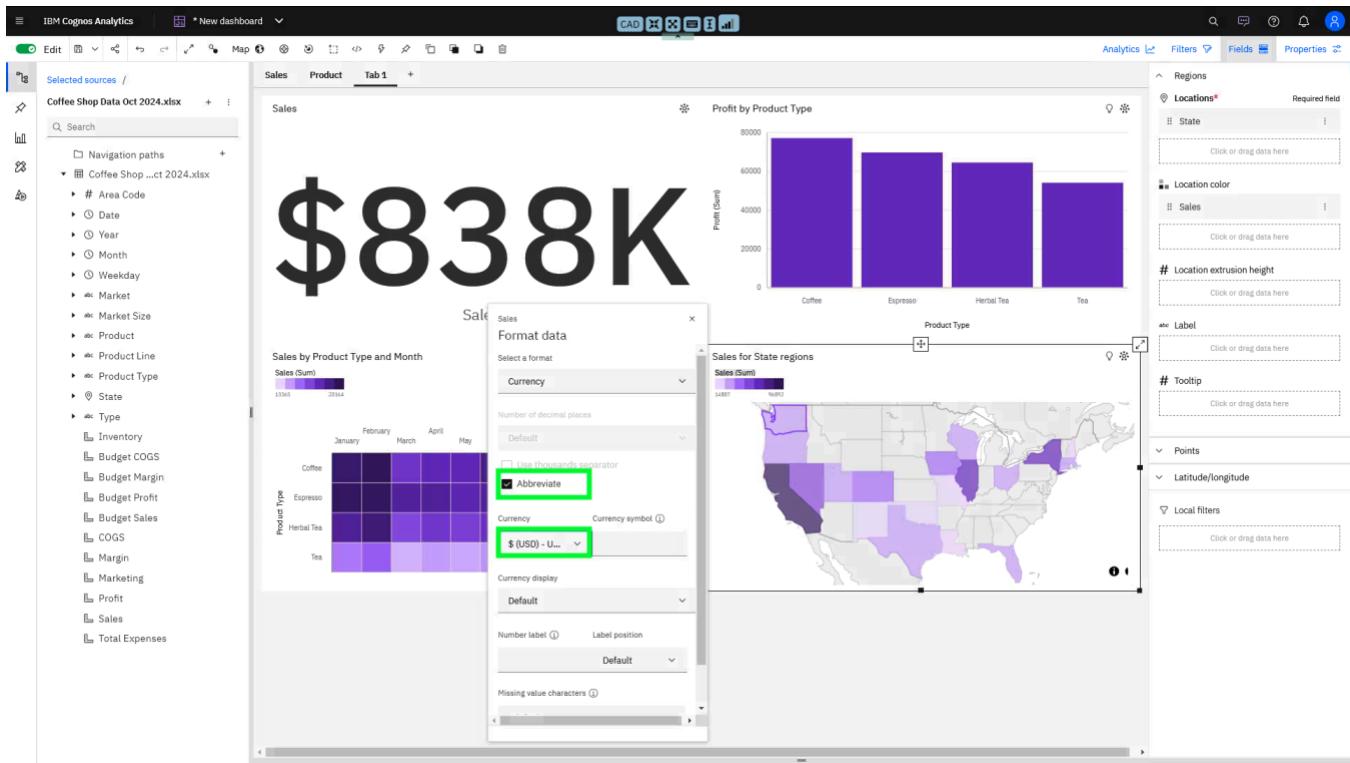
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In the drop-down menu, choose “Currency.”



Then check the box to “Abbreviate” the large number and set the currency symbol to \$ (USD). (Hint: it’s at the bottom of the list, so you can scroll all the way down to find it quickly.)



Next, let's set up how we want the dashboard to display on various screen sizes. Click into any empty grey space to select the dashboard canvas. Then in the top right corner, select “Properties.”

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This screenshot shows a dashboard titled "Sales" and "Product". It features a large, bold "\$838K" visualization. To its right is a bar chart titled "Profit by Product Type" showing profits for Coffee (~75k), Espresso (~65k), Herbal Tea (~60k), and Tea (~55k). Below these are two smaller charts: a heatmap titled "Sales by Product Type and Month" and a map titled "Sales for State regions". The sidebar on the left lists various data sources and navigation paths.

Choose “Absolute” and “Fit to Page.”

This screenshot shows the same dashboard as above, but with the "Properties" panel open on the right. The "Layout positioning" section is set to "Absolute" and "Default zoom value" is set to "Fit to page". Other settings visible include "Page size" (Preset: Screen 16:9), "Fit page" (disabled), and "Grid" options (Show grid, Snap to grid, Snap to objects, Show footer, Color and theme, Tab labels, Cascading filter settings, Visualization header icons, Advanced).

Lastly, flip out of edit mode into view mode to see a final draft of the dashboard you can share with others to interact with and explore!

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The screenshot shows a dashboard titled "Sales" with three main visualizations:

- Profit by Product Type:** A bar chart showing profit in dollars for four product types: Coffee (~75,000), Espresso (~68,000), Herbal Tea (~62,000), and Tea (~55,000).
- Sales by Product Type and Month:** A heatmap showing monthly sales for four product types across twelve months. The color scale ranges from dark purple (low sales) to light yellow (high sales). Sales generally increase over time for all products.
- Sales for State regions:** A choropleth map of the United States where states are colored based on total sales. Darker states include California, New York, and Illinois.

The left sidebar shows navigation paths and selected sources, including "Coffee Shop Data Oct 2024.xlsx". The right sidebar contains various dashboard properties and settings.

What new insights can you find by interacting with the different charts on this new tab now?!?

The screenshot is identical to the previous one, showing the same three charts and data. The "Edit" button in the top-left corner of the dashboard area is highlighted with a red box.

4.4 Interactivity, drill down, drill through, and performance

- Adding interactivity to visualizations
 - By default, all visualizations in a dashboard tab are connected if the data underneath is connected as well.
 - Click on one of the columns in your column chart at the top right quadrant of your dashboard tab
 - Notice that all the visualizations react accordingly. This is called brushing.
- Creating drilldowns
 - You can also drill down from one granularity to another through navigation paths
 - Make sure you are in “Edit” mode by toggling it on at the top left of your screen
 - Start by creating a new tab in your dashboard using the “+” symbol next to the existing tab
 - Select the default template option
 - Open your data tree from Sources and right click on “Year”
 - Select “Create Navigation Path”
 - Expand your dataset using the chevron
 - Add “Month” and “Weekday” beneath “Year” to create the navigation path and select “Okay”

Name Year - Weekday

Select and order the columns to use in the navigation path.

⋮	⌚ Year Coffee Shop Data Oct 2024.xlsx
⋮	⌚ Month Coffee Shop Data Oct 2024.xlsx
⋮	⌚ Weekday Coffee Shop Data Oct 2024.xlsx

- In your dashboard canvas, drag “Year”, “Product Type” and “Total Expenses” together to create a new visualization
- Right-click any data point and select “drill down”. This will drill down from “Year” to “Month”
 - You can repeat the same process to drill from “Month” to “Weekday”
- Caching Vizzes
 - Once you’re happy with your dashboard you can cache the data locally so that once it is loaded by any user, the interactions across visualizations like drill and brushing are seamless.
 - To do so, simply select all the visualizations in your first tab as an example and select the lightning bolt icon in the on-demand toolbar at the top.
 - Select “Create caches” and you’ll receive a notice when the caches are created. Data will then be loaded into them for future reference.

4.5 Filtering and sorting data

- Applying filters to visualizations
 - Go to the dashboard tab with the 4 viz that we created together
 - To filter visualizations simply select the Filter icon at the top right hand side of the screen and drag “Market”, as an example, to the “All tabs” filter dock and select “Central” and “South” options
 - The filter will get added with the selections referenced and the visualizations will filter accordingly
 - Adding filters to the “This tab” filter dock will only filter visualizations on a particular tab
- Sorting data within visualizations

- o Right-click the Profit axis of the column chart that measures “Profit” and “Product Type”
- o Select “Sort” and then “Descending” to order your data by column size

4.6 Sharing and collaboration

- Exporting visualizations and dashboards
 - o Select the “Share” icon from the on-demand toolbar at the top
 - o Select the “Export” tab
 - o Select “Export” at the bottom to export to PDF
- Sharing dashboards with others
 - o Select the “Share” icon from the on-demand toolbar
 - o On the “Send” tab you will see options to either email your dashboard link or integrations with slack and MS Teams if it has been set up.
- Embedding dashboards in other applications
 - o Ensure your dashboard is saved using the “Save” icon
 - o Click the “Share” icon from the on-demand toolbar
 - o Select the “Link” tab
 - o You will find both a link to share with others to access your dashboard and embed code to add to your web applications such as a customer portal.

5 Conclusion and next steps

Congrats! If you made it this far, you have explored many of the tools available in Cognos Analytics to provide visibility and accountability to your organization by better understanding and sharing data visualizations and summaries.

5.1 Implement a similar solution in your organization

If you’d like to start using Cognos Analytics in your organization, you can check out the following ways to get started:

- Cognos Analytics [30-day trial](#)
- Cognos Analytics [pricing](#)
- Contact our sales team to [book a discussion or demo](#)

5.2 Additional resources

Check out these resources for more information about Cognos Analytics:

- Cognos Analytics [documentation](#)

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- Cognos Analytics [YouTube playlist](#) on the IBM Support channel
- Cognos Analytics [case studies](#)

Thank you for your interest and for taking the time to learn about visualizing data in Cognos Analytics.

Now it's time to go help your organization drive improvement by using data to provide visibility and accountability to move towards your goals!