

Last updated: 2017-11-21

Getting started with Watson Analytics

IBM

Note

Before using this information and the product it supports, read the information in "Notices" on page 23.

Product Information

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Contents

Chapter 1. What is Watson Analytics?	1
Chapter 2. Uploading data	3
Chapter 3. Asking questions and discovering insights.	5
Chapter 4. Creating a display to share with others	15
Chapter 5. What's next?	21
Notices	23
Index	27

Chapter 1. What is Watson Analytics?

We all ask questions about our data every day.

Some of our questions are about a status or situation. What is the revenue by country in Europe? What is the trend of my product costs in the United States? What is the breakdown of revenue by country and product line? Some of our questions are about why something happened. Why did certain sales deals close while others did not? Why do some customers leave?

Asking questions and exploring your data is what IBM® Watson Analytics™ is all about.

When you discover new insights about your organization, you want to share them with other people in your organization. You can quickly and easily create beautiful dashboards and infographics.

In short, when it comes to data, we want to know what is happening, why it is happening, and what insights need to be communicated with others.

Watson Analytics can help you understand your data better and find insights that are hidden in your data. You can get answers and new insights to make confident decisions in minutes – all on your own.

Scenario for the tutorial

In this tutorial, you're a Human Resources manager who has been given a big project – you'll be leading a new training initiative for your entire global company. You want to better understand where the training budget is currently invested in all areas of the company because at this moment, you just know how it's spent in your area of the company.

We know your time is valuable. We created this tutorial to guide you through some basic concepts and features using a sample data asset so that you can quickly learn more about Watson Analytics and its innovative way of bringing you closer to your data. Then you can add your own data and start discovering new insights in your business.

Something to note before you start: the screen captures in this tutorial show the Professional edition of Watson Analytics in the Google Chrome browser. If you use a different browser or a different edition of Watson Analytics, the product may look a little different.

Accessibility features and the tutorial

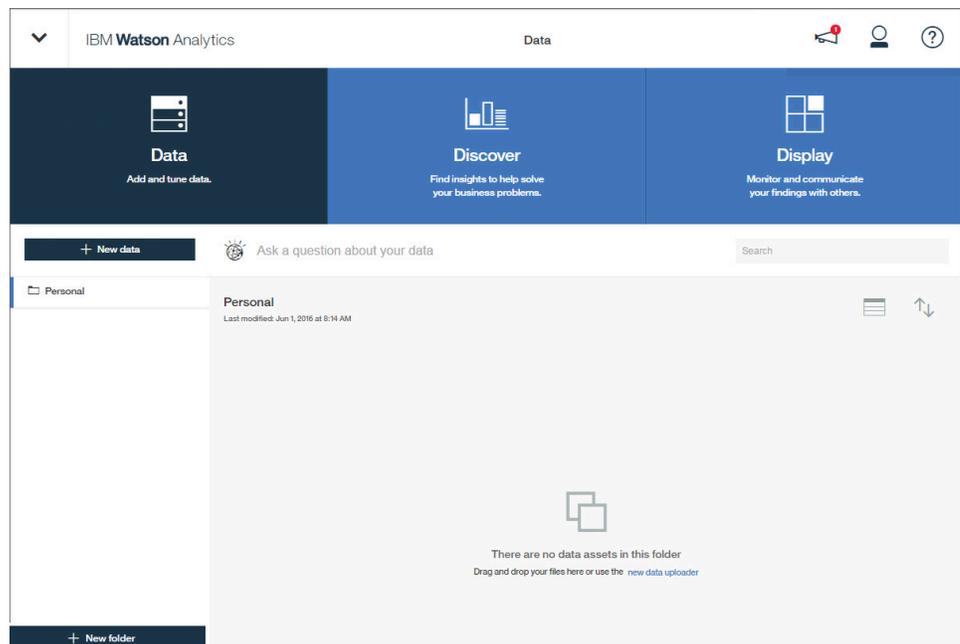
Watson Analytics HTML documentation has accessibility features. Go to IBM Knowledge Center (<https://www.ibm.com/support/knowledgecenter/SS4QC9/com.ibm.solutions.wa.doc/welcome.html>) for the accessible version of the documentation. PDF documents are supplemental and, as such, include no added accessibility features.

Chapter 2. Uploading data

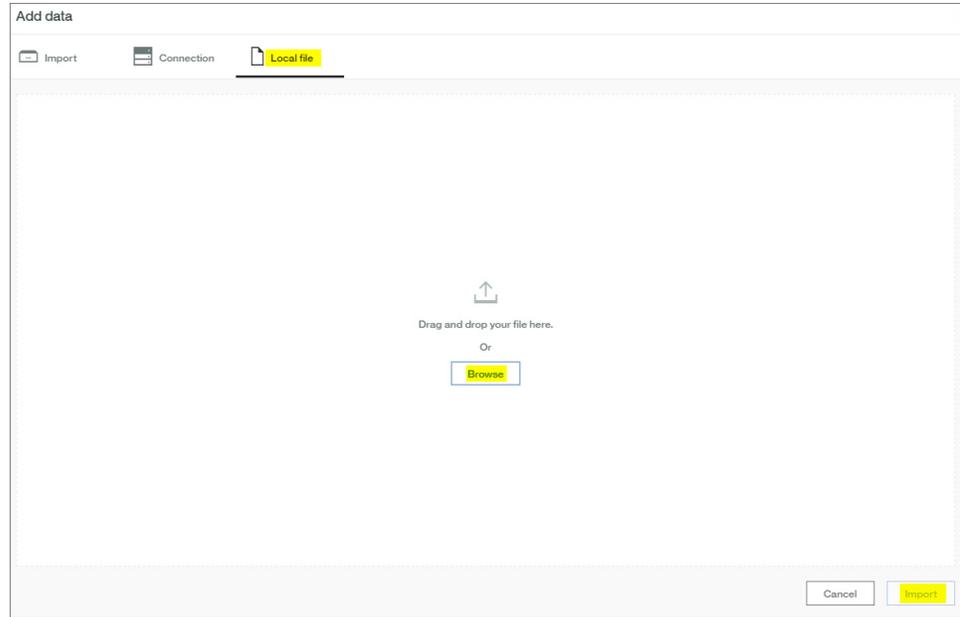
Let's start by getting data for the tutorial. There are lots of sample data assets on the IBM Watson Analytics Community, including the one that's used in this tutorial.

Procedure

1. Go to Human Resources Training on the Watson Analytics Resources page. (<https://www.ibm.com/communities/analytics/watson-analytics-blog/human-resources-training/>)
2. Select “IBM_HR_Training 2014-17.csv”. Depending on your browser, you may be asked what you want to do with it. Tap **Save**.
3. In Watson Analytics, tap **New data**.



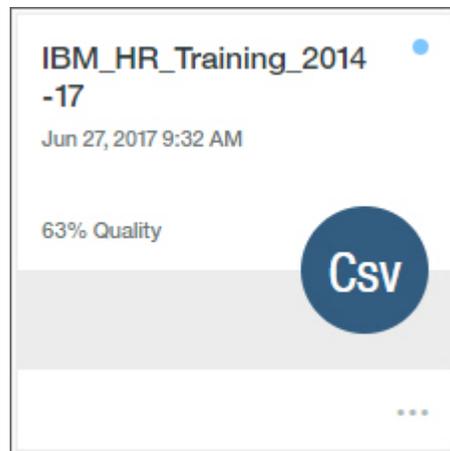
4. Tap **Local file** and browse to where you saved “IBM_HR_Training 2014-17.csv”.



5. Tap the **Import** button.

While uploading the file, Watson Analytics analyzes the data and metadata, creates hierarchies from the metadata, and identifies concepts to use in analyses.

The data asset appears as a tile in the **Data** landing page and you're ready to get to work.



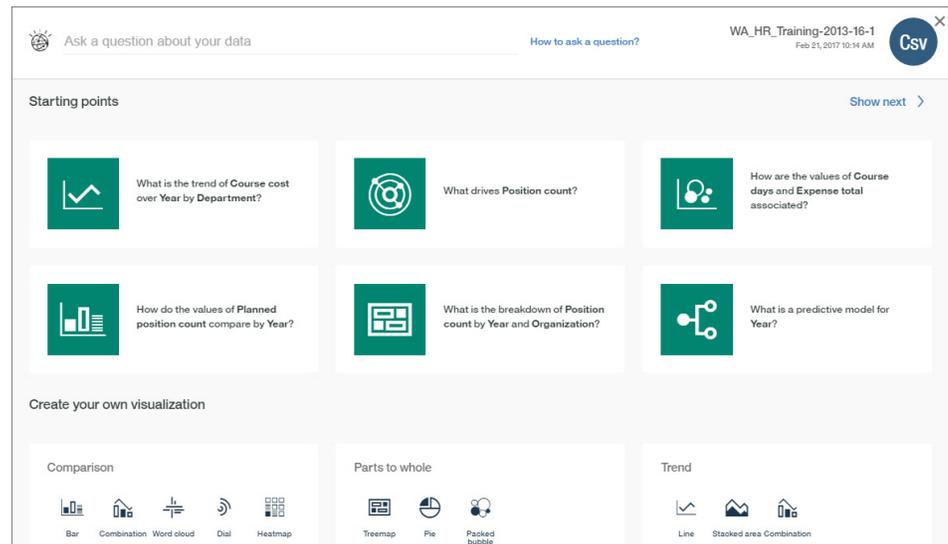
6. You can refine the data by filtering it or adding calculations or changing the properties. But we won't refine it in this tutorial. To learn about refining your data, see [Refining data assets](#).

Chapter 3. Asking questions and discovering insights

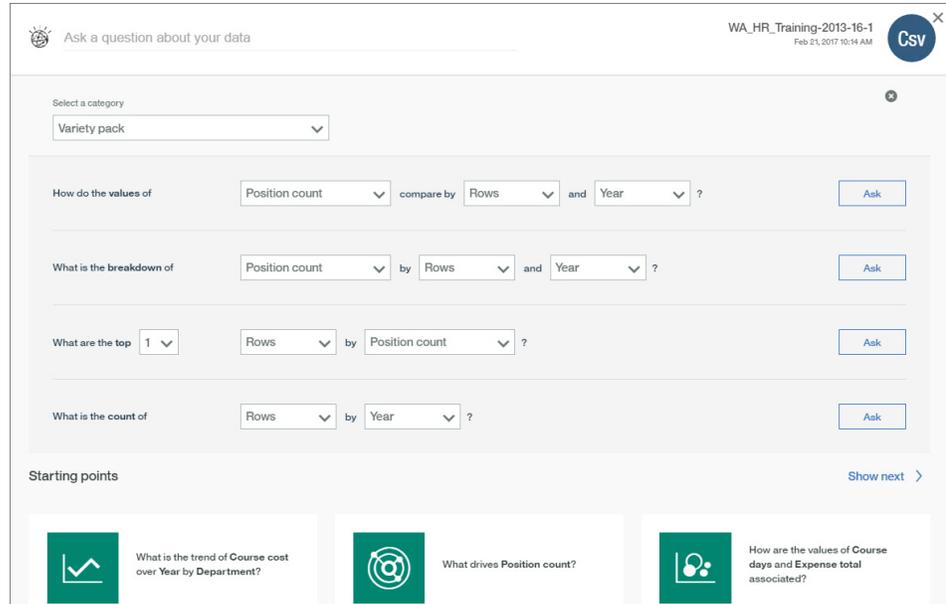
Now that you've added sample data, let's start discovering new insights in the data.

Procedure

1. On the **Data** landing page, tap the “WA_HR_Training 2013-16-1” tile. You can ask a question, select a starting point that we created for you after analyzing your data, or create a visualization on your own. Let's ask a question.

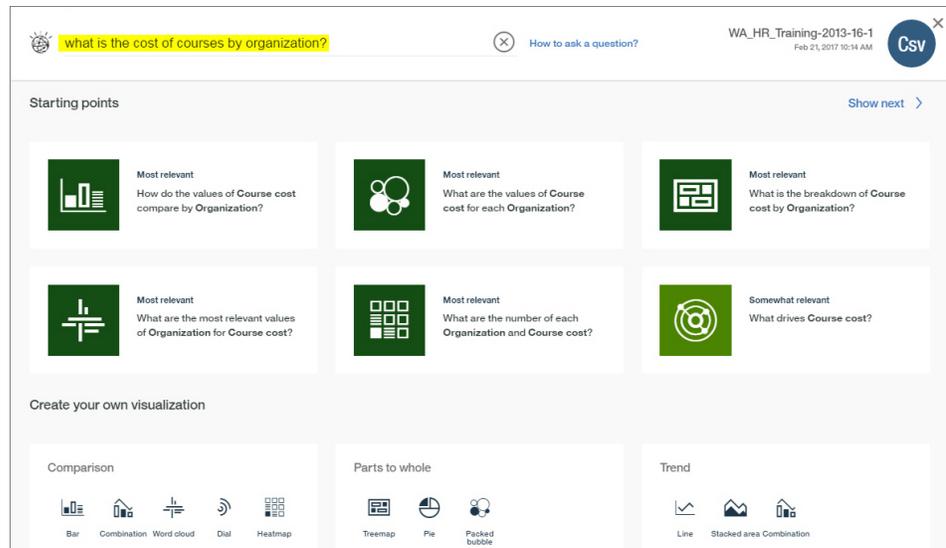


2. If you're wondering how to ask a question, there's a coach to help you. Tap **How to ask a question**. You see categories of questions. Take some time to look through the questions in each category. If you select one of the questions, you'll see a new set of starting points.



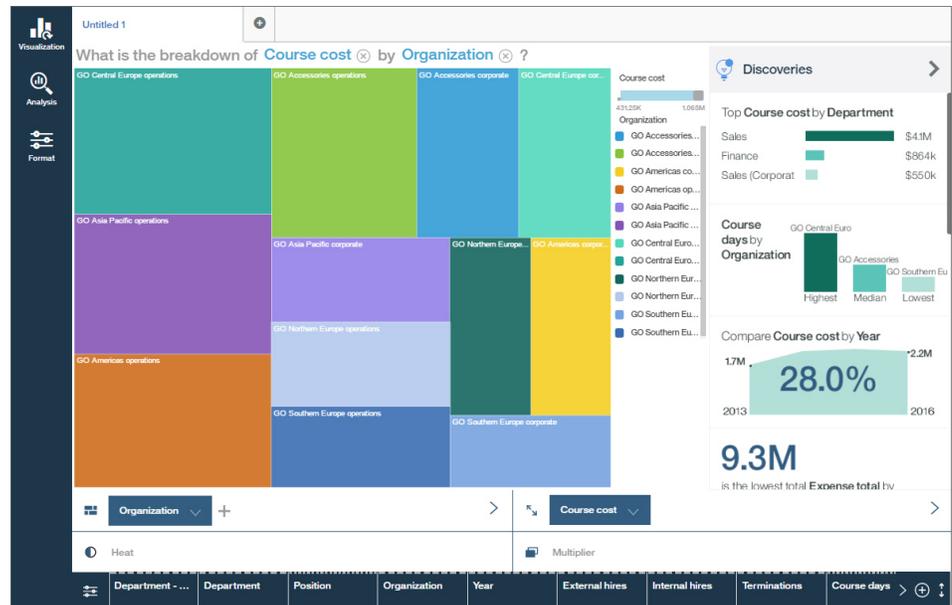
- But for the tutorial, tap the **Close** icon  to return to previous page where we will ask the question "what is the cost of courses by organization?" Press Enter.

The question provides a context for the starting points so now the new starting points are marked as most relevant or somewhat relevant. Starting points are sorted by relevancy starting with the most relevant.

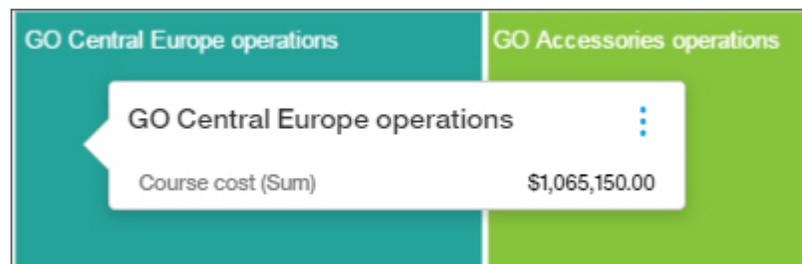


- Select the "What is the breakdown of Course cost by Organization?" starting point.

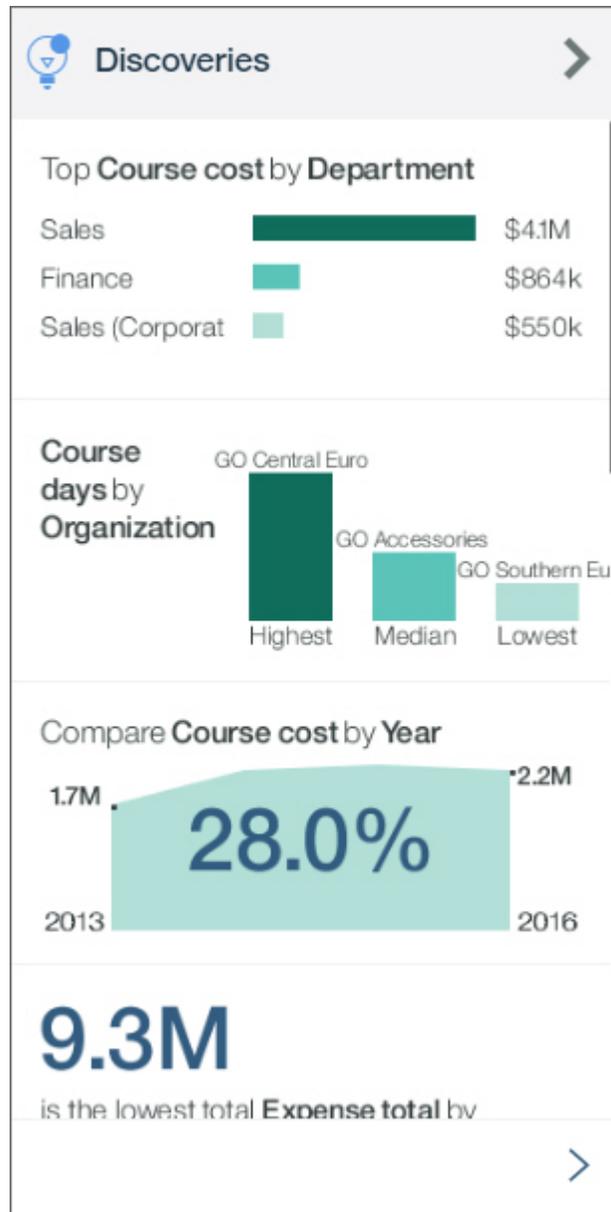
Take a look at the visualization, which is a tree map. The size of each box in the tree map tells you the amount of training spent by each organization.



- You can easily get more details about the data that a part of a visualization represents. Let's look at the numbers for one of the largest boxes. Touch and hold, or hover over, "GO Central Europe operations".



Before going further, take a look at the **Discoveries** panel.



Without you having to do a thing, IBM Watson Analytics identifies patterns and associations in your data and automatically creates other starting points for you to explore. As you change the data in the visualization, you'll see new starting points that reflect the changes you make. Because Watson Analytics is constantly improving the smarts that create these starting points, you might not see the same discoveries that are shown in the tutorial.

You'll get to use the **Discoveries** panel later in the tutorial.

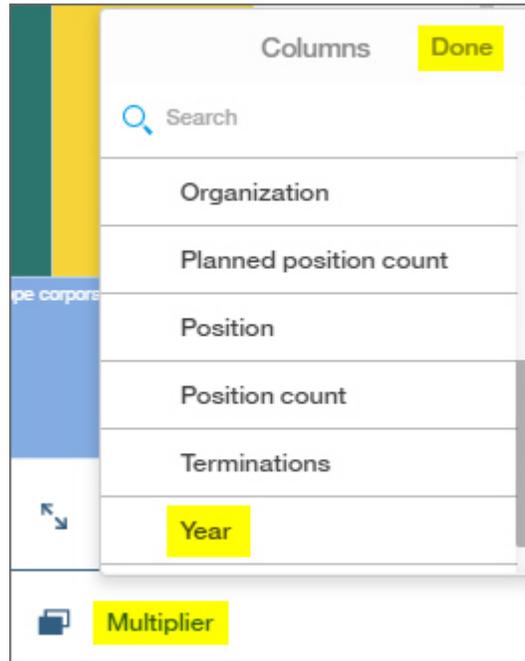
- This visualization shows you data for all years but let's find out how costs have evolved over time. The data slots at the bottom of the window show where you can add data.



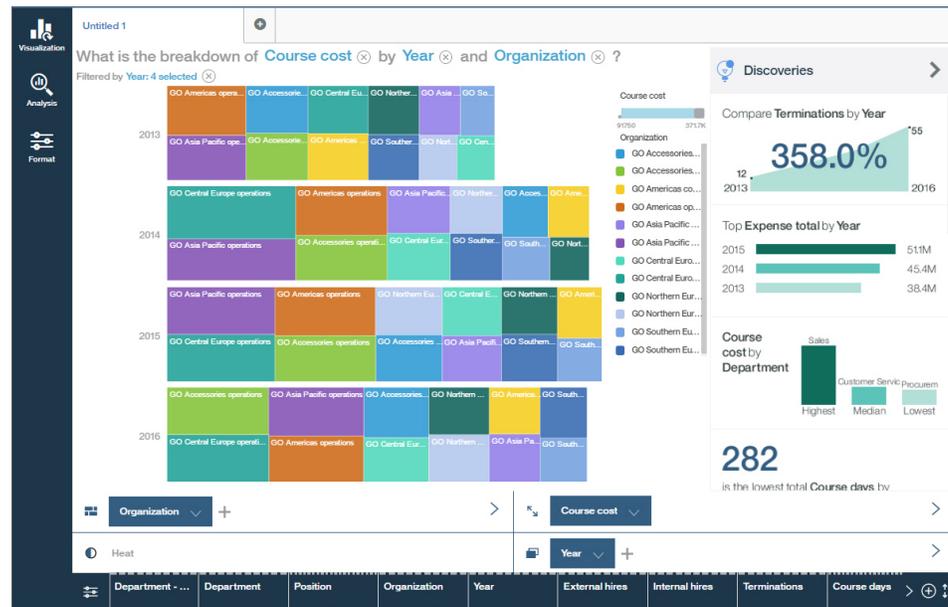
Complete the following actions:

- Tap the **Multiplier** data slot.

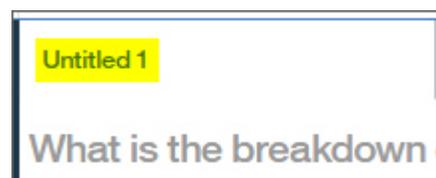
- b. Scroll down and tap **Year**.
- c. Tap **Done**.



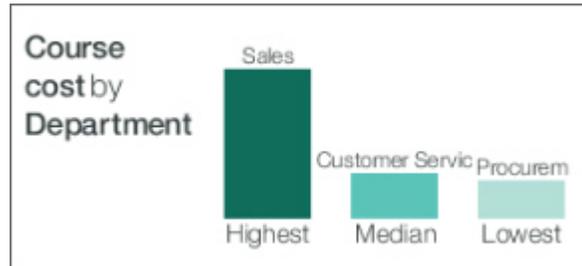
You see the cost for courses by year.



- 7. Double-click the "Untitled 1" tab above the visualization and change it to "Course cost".



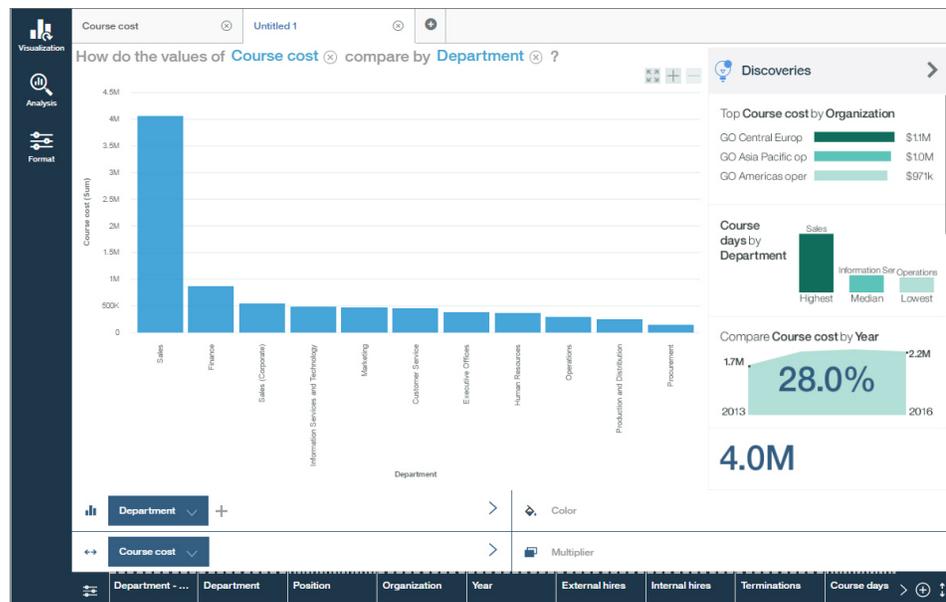
- To explore the data from other perspectives, let's add one of the starting points from the **Discoveries** panel now. Tap "Course cost by Department".



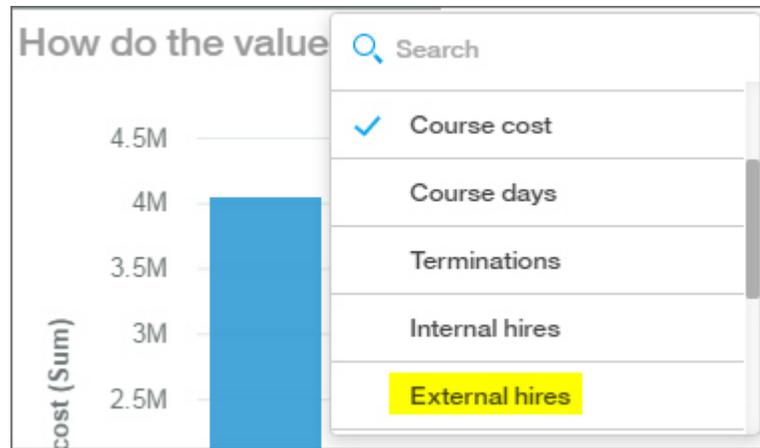
Improvements are constantly being made to the smarts that create the starting points and you might not see this discovery in the panel. If this has happened, complete these actions:

- Tap next to the "Course cost" tab.
- Enter the question "how do the values of course cost compare by department?"
- Select the starting point with the same name.

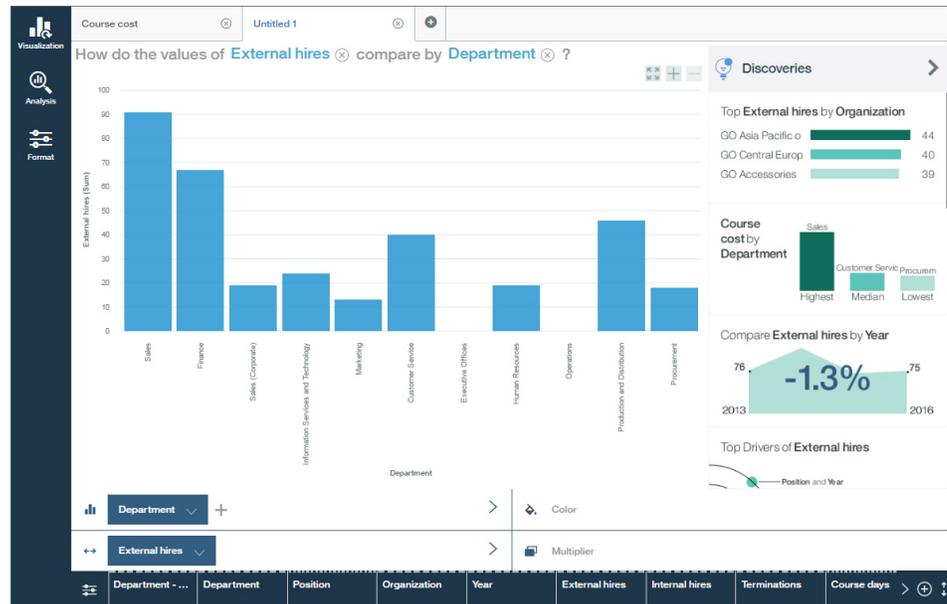
On a new tab, you see course costs by department.



- Let's find out how many new hires are planned for each department. Tap **Course cost** in the interactive title for the visualization. Tap **External hires**. When you tap the blue text in the title, you see the most relevant columns first but you can select any column.



You see that the Sales departments hire the most external people followed by the Finance departments.

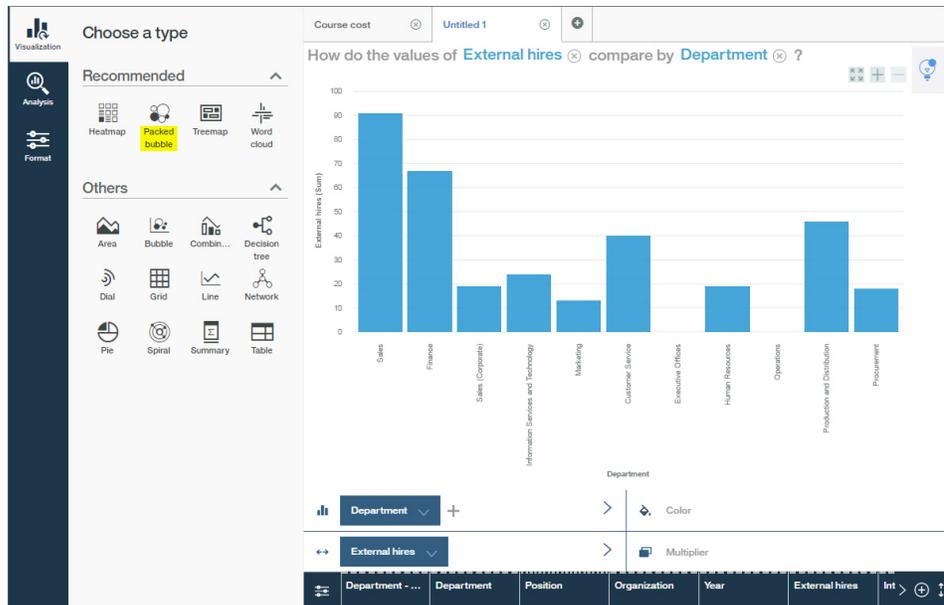


- Let's use a different visualization type for this discovery. Tap the **Visualization types** icon and select **Packed bubble**.

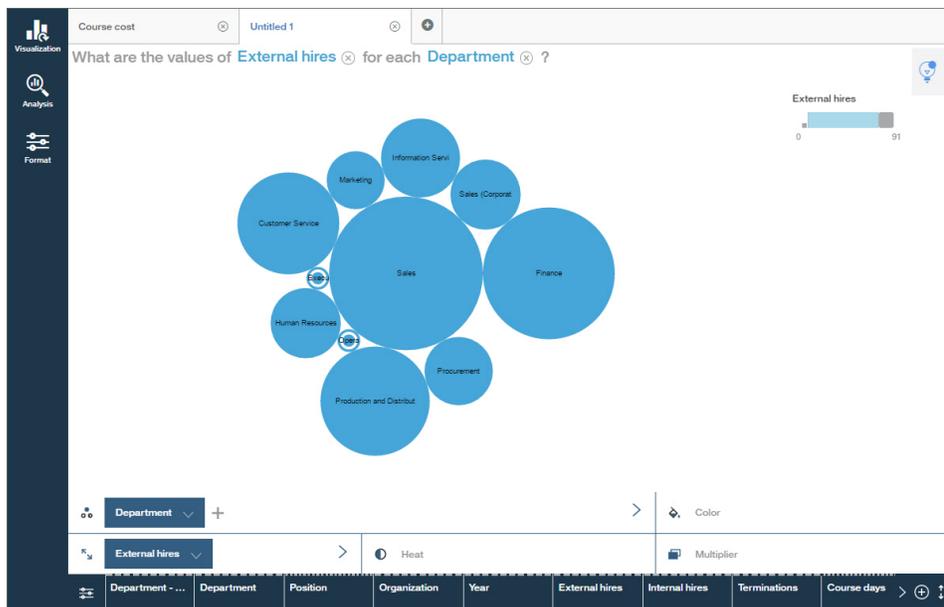


Notice how the **Discoveries** panel is automatically closed. To reopen it, tap the **Discoveries** icon.





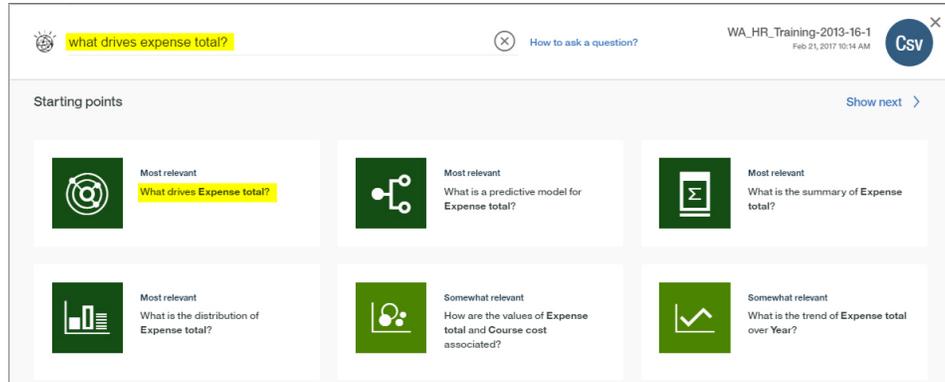
- Close the **Visualization** side panel and change the “Untitled 1” tab to “External hires”.



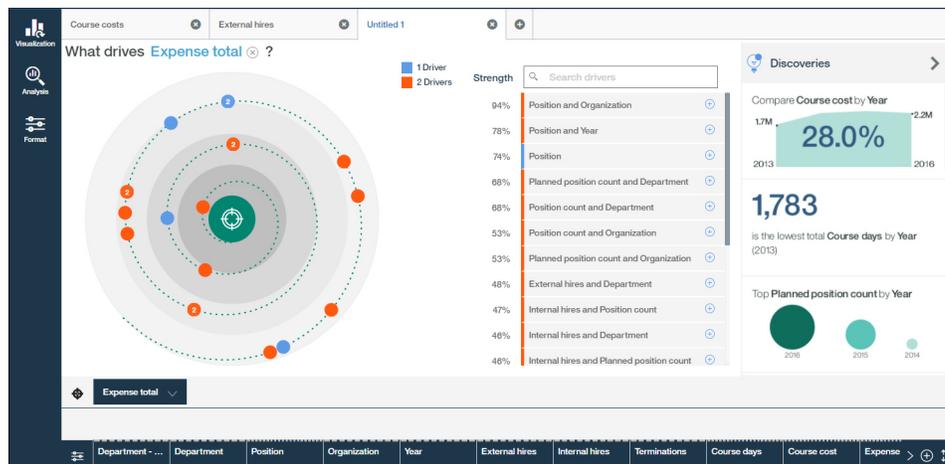
- We have info about costs and hiring. Now let's see what is driving expenses. To create a different starting point, tap the **Add tab** icon  next to the “External hires” tab.



- Ask the question “What drives expense total” and then select the starting point with the same name.



Watson Analytics applies statistical algorithms to the data to discover insights, patterns, and correlations in the data. The spiral visualization shows you the key drivers for the target, Expense total. The closer the driver is to the center, the stronger it is.



- To have more room for the visualization, tap the **Discoveries** icon to hide the **Discoveries** panel.

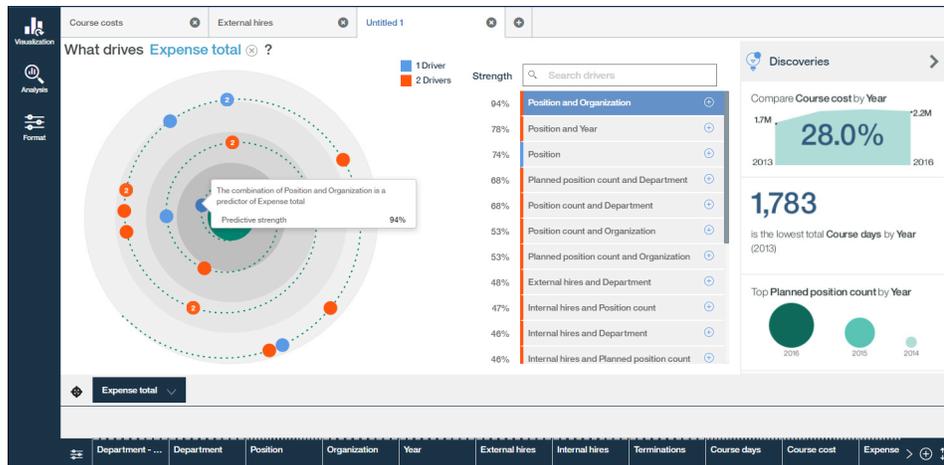


Then change the tab name to “Expense total”.

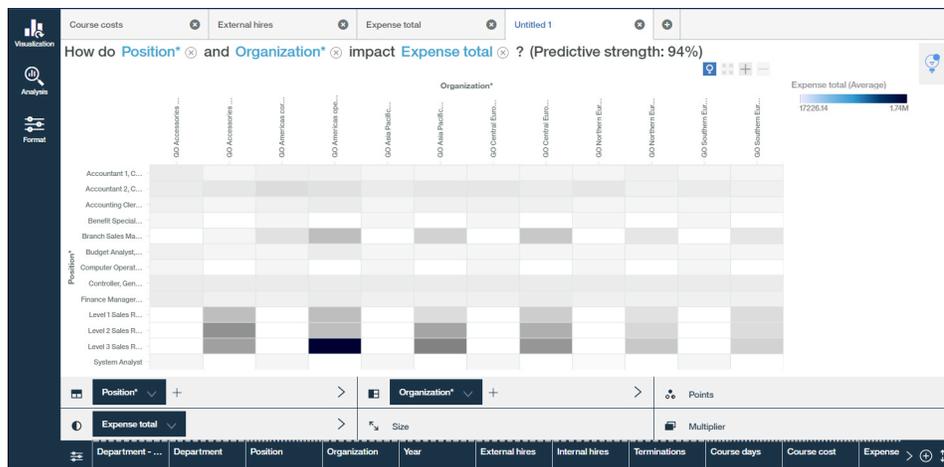


- Tap, or hover over, a dot in the spiral visualization to see which driver is highlighted in the **Drivers** list.

You see the predictive strength of each driver. Predictive strength measures how accurately a driver predicts a target. A driver of 100% perfectly predicts a target. In this case, the combination of Position and Organization impacts Expense total with 94% accuracy.



16. To add the detailed visualization for the **Position and Organization** driver, tap the **Add detailed visualization** icon next to it. 
- You see a new tab that contains information about how position and organization affect the target, Expense total.
17. To have more room for the visualization, hide the **Discoveries** panel.



18. Change the "Untitled 1" tab to "Drivers".
19. Save the discovery set in the **Personal** folder and name it "Tutorial - discoveries".
20. Return to the landing page.

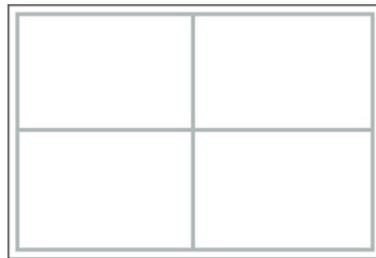


Chapter 4. Creating a display to share with others

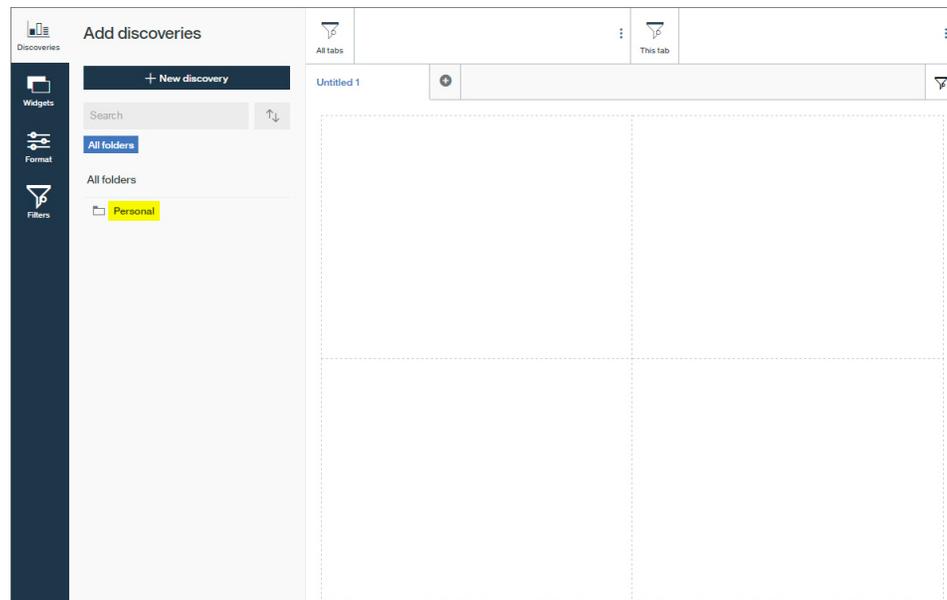
You can easily communicate the analysis and insights that you discover in IBM Watson Analytics by combining visualizations with text, images, and shapes. Create a dashboard, infographic, or Expert Storybook where you can monitor and share these insights. In this tutorial, let's create a dashboard.

Procedure

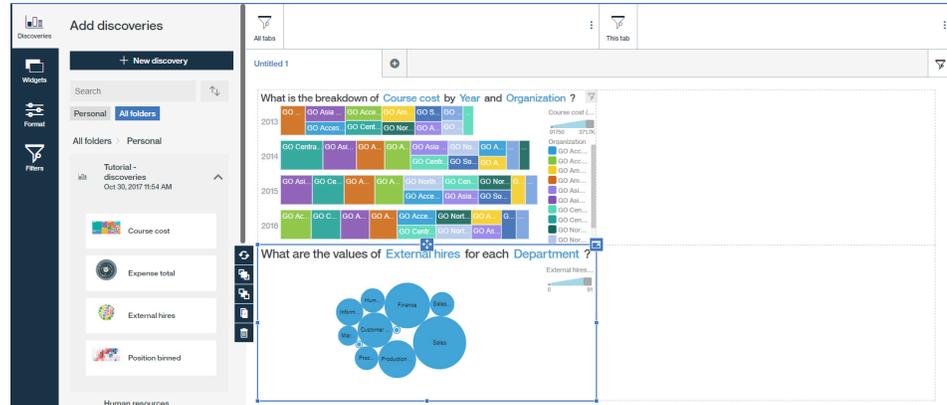
1. On the landing page, tap **Display** and then tap **New display**.
2. Complete the following actions:
 - a. Name the display "Tutorial - dashboard".
 - b. Ensure that the **Dashboard** display type is selected.
 - c. Tap **Create**.
3. You see predefined layouts that contain grid lines for easy arrangement and alignment of visualizations and other elements in a display. Let's select the layout that has 4 panes for our dashboard.



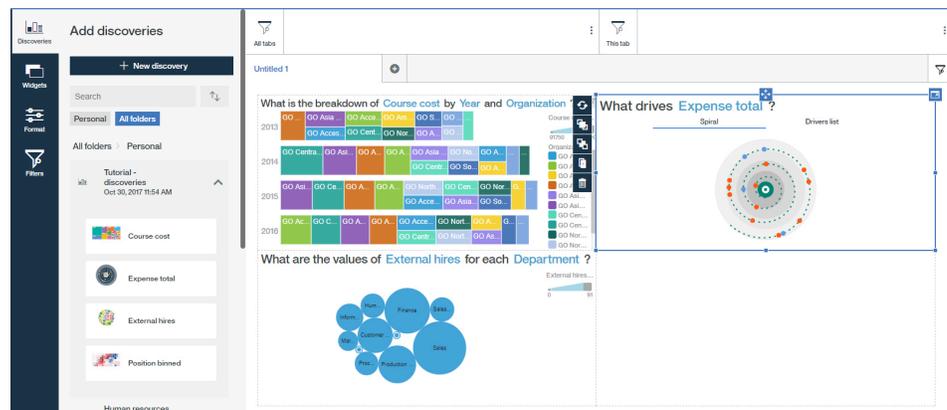
4. Let's add the discoveries that you created in **Discover**. Open the **Personal** folder to see your discovery set.



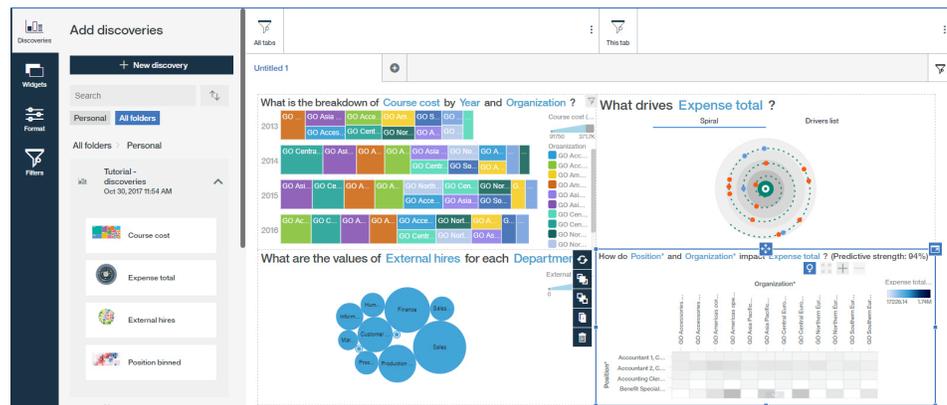
5. Expand "Tutorial - discoveries".



8. Add "Expense total" to the top right pane.

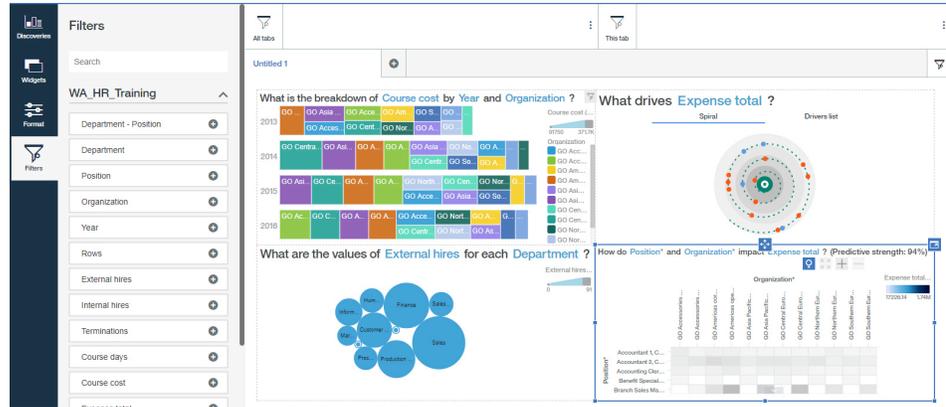


9. Add "Drivers" to the bottom right pane.

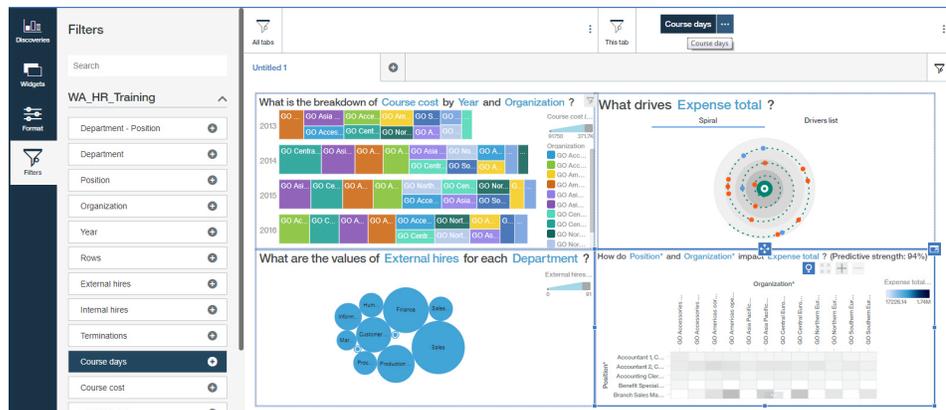


10. Let's add a filter to the current tab of the display to see the impact of the duration of courses on the visualizations. Tap the **Filters** icon.

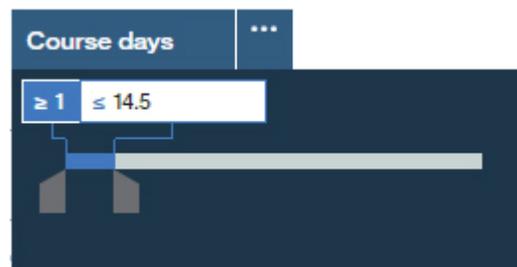




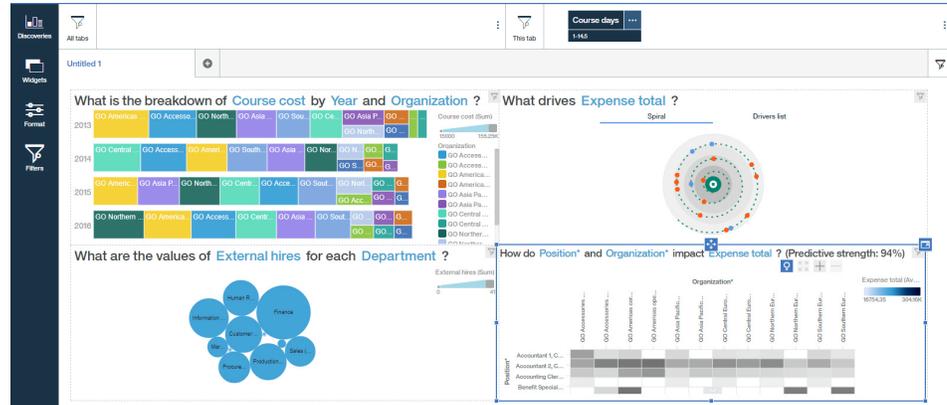
- Tap  next to **Course days** to add it to the **This tab** filter area. Close the **Filters** panel to have more room on the canvas.



- To apply the filter, tap **Course days** in the **This tab** filter area. Move the slider to show courses with a shorter duration, or type a new end point. We picked 14.5 as the end point but feel free to select a different one. As you move the slider, the visualizations change to reflect the filter.



- To close the filter box, tap **Course days** again. Info about what is filtered is shown in the **This tab** filter area and under the title for each visualization.



14. Save the dashboard to your **Personal** folder.
15. To find out how to enhance the dashboard, visit the **Docs** in the **Help** menu. Here are some ideas:
 - Add tabs to the display for additional discoveries.
 - Use text widgets to annotate the dashboard with descriptions or to add a title.
 - Provide more info by adding media and links to web pages.
 - Format the dashboard, such as changing the colors or theme.
 - Add images and shapes to add visual appeal.
16. Tap the **Share** icon  to share this dashboard. If you are using the Professional edition of Watson Analytics, you can also move it to a shared folder where other users in the account can use it.
17. Return to the landing page.



Chapter 5. What's next?

You learned how easy it is to get started with IBM Watson Analytics. Now you can add your own data and start discovering new insights about your business. Here are some tips to help you get going.

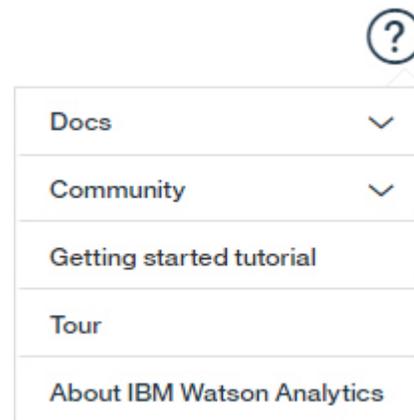
Add more data

You have several options for adding more data to Watson Analytics:

- In Watson Analytics, tap **New data**. Then, on the **Import** tab, tap **Sample data**.
- Add other sample data assets from the Watson Analytics community.
- Upload your own data. You might want to look at your data files to see whether the files need cleaning before uploading. Visit the Docs to learn about cleaning your data.

Learn more

There is much more you can do in Watson Analytics so check out the **Help** menu. Expand **Docs** or **Community** to see the sections that you can jump to.



Wait, there's more!

If you are subscribed to the Professional edition or the Plus edition of Watson Analytics, you have access to more types of data:

- Cognos[®] BI reports
- Databases such as IBM DB2[®], IBM dashDB[®], IBMSQL Database for Bluemix[®], Microsoft SQL Server, MySQL, Oracle, PostgreSQL

You also have access to other features such as:

- More storage space
- Larger data assets
- Accessing data in the cloud, such as Box, Dropbox, and Microsoft OneDrive
- Sharing assets with other users in the same account (Professional edition only)

If you want to upgrade to one of these editions, tap  and tap **Account settings**. Then tap **Learn more** under **Subscription** to start upgrading your subscription.

Have fun!

Let's recap: you learned how to upload data, how to ask questions and discover insights in the sample data, and how to create a dashboard. Now you're ready to use Watson Analytics with your data.

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Index

D

- dashboards
 - tutorial 15
- data
 - tutorial 3
- discovering
 - tutorial 5
- displays
 - tutorial 15

T

- tutorial
 - dashboard 15

- tutorial (*continued*)
 - discovering 5
 - overview 1
 - uploading data 3
 - what's next 21

U

- upgrading
 - editions 21
- uploading data
 - tutorial 3