

Activity: Choose an effective visualization type



Activity Overview

In this activity, you'll use stakeholder feedback and conduct a preliminary data exploration to choose an effective visualization type.

Choosing an effective visualization type is a skill that blends technical expertise with an understanding of both the data and the users. By strategically selecting visualization types that reveal the data's story in a way that resonates with users and meets their needs, cloud data analysts can craft impactful visualizations that drive informed decisions and shape meaningful outcomes.

Be sure to complete this activity before moving on. The next course item will quiz your comprehension, and then you'll be provided with a completed exemplar to compare to your own work.

Scenario

Review the following scenario. Then, access the supporting materials before moving on to the next course item to take the quiz.

Visualizations can help translate complex data into clear, concise, and engaging insights that make it easier for teams to collaborate and make data-driven decisions. As part of its strategy to improve ad optimization, the head of marketing at TheLook eCommerce has asked the data team to create a visualization that will display the top browsers used by website visitors. This data will be used to design targeted ad campaigns and ensure that the marketing team's ad placements meet their goals.

As a cloud data analyst, your task is to gather the information needed, such as stakeholder feedback and observations about the data's characteristics, to choose an effective visualization type. To understand the needs of the marketing team, you held a stakeholder meeting. During that meeting, the head of marketing discussed their expectations for the visualization and its intended use within the team. Using this feedback as well as a preliminary exploration of the data, you'll decide on an effective visualization.

First, you'll define the purpose of the visualization based on the stakeholder's feedback. Then, you'll consider the visualization's audience and brainstorm ways to make the visualization easily accessible to the users. Finally, you'll review the data and choose an effective visualization type based on both the users' needs and your observations of the data.

Step-By-Step Instructions

Consult the supporting materials to answer the quiz questions in the asset that follows. After you complete the quiz, you can compare your work to the exemplar provided.

Step 1: Access supporting materials

The following supporting materials will help you complete this activity. Keep them open as you proceed to the questions.



RIGHT CLICK LINKS TO OPEN IN NEW TAB



Link to template: [Visualization planner](#)

Link to supporting materials: [Looker Studio visualization library](#)

Step 2: Define the purpose of the visualization



At the stakeholder meeting, the head of marketing's top focus for the visualization was clear: identify the most popular browsers among website visitors. This data insight will allow the marketing team to tailor ad campaigns to those browsers to ensure maximum reach.

They also identified the following additional priorities for the visualization:

- Make it easy to visually compare the popularity of different browsers.
- Limit the results to only the top ten browsers.
- Focus on the relative popularity of each browser, not the precise number of visits for each visitor.

In this step, you'll use this feedback from the stakeholder meeting to define the visualization's purpose.

1. Open the **Visualization planner** template.
2. In the **Purpose** section, write a short, clear statement (2–3 sentences) that explains the intended use of this visualization. The statement should address the visualization's purpose by answering the following questions:
 - What is the key insight this visualization aims to demonstrate?
 - What data points are most important to understand the key insight?
 - How will users apply the key insight from the visualization to make data-driven decisions?

Step 3: Identify users' needs



The stakeholder meeting unveiled not just the purpose of the visualization but also its intended audience. The head of marketing explained the visualization would be a collaborative tool used by their diverse team to gain actionable insights.

They also highlighted some key considerations to ensure the visualization was accessible and user-friendly including:

- The visualization should be user-friendly to both those who are familiar with or new to data analysis.
- The tool will need to be accessible across different devices, including desktops, laptops, and mobile phones.
- Color should not be the only way to convey important insights.
- The visualization should be easily understood by first-time users, even those who are not familiar with the data.
- Accessibility is essential to ensure everyone can benefit from the tool.

In this step, you'll use this feedback from the stakeholder meeting to define the visualization's audience and make three suggestions to ensure the visualization meets the users' needs.

1. Refer to the **Visualization planner** template.
2. In the **Audience** section, write a short, clear statement (1–2 sentences) that defines the audience. The statement should address the following:
 - Who will be using the visualization?
 - What is their background and comfort level with data visualization?
3. Under the statement you just wrote, draft three suggestions (at least one sentence each) to help make the visualization easy to understand and accessible to all users. Consider the following in your response:
 - What level of complexity is needed to accurately present the information without overwhelming the audience?



- How can labels effectively guide viewers and clarify the story the visualization tells?
- How can color be used effectively?
- What are some ways to make the visualization accessible for all users, including those with visual impairments, language barriers, and other diverse needs?

Step 4: Explore the data



In addition to defining the visualization's purpose and identifying users' needs, it is also important that the visualization type works with the data. This will ensure the visualization can be accurately interpreted and communicate meaningful insights.

In this step, you'll explore a table schema and the results of an exploratory query to identify the data's characteristics.

1. The data that you need for the visualization is located in the following table. Review the table's schema and locate the **device.browser** column.
2. Identify the data type of the **device.browser** column.

ga_sessions				
QUERY SHARE COPY SNAPSHOT DELETE REFRESH				
SCHEMA	DETAILS	PREVIEW	LINEAGE	
<input type="checkbox"/>	adContent		STRING	NULLABLE
<input type="checkbox"/>	adwordsClickInfo		RECORD	NULLABLE
<input type="checkbox"/>	isTrueDirect		BOOLEAN	NULLABLE
<input type="checkbox"/>	campaignCode		STRING	NULLABLE
<input type="checkbox"/>	device		RECORD	NULLABLE
<input type="checkbox"/>	browser		STRING	NULLABLE
<input type="checkbox"/>	browserVersion		STRING	NULLABLE
<input type="checkbox"/>	browserSize		STRING	NULLABLE
<input type="checkbox"/>	operatingSystem		STRING	NULLABLE
<input type="checkbox"/>	operatingSystemVersion		STRING	NULLABLE
<input type="checkbox"/>	isMobile		BOOLEAN	NULLABLE
<input type="checkbox"/>	mobileDeviceBranding		STRING	NULLABLE
<input type="checkbox"/>	mobileDeviceModel		STRING	NULLABLE
<input type="checkbox"/>	mobileInputSelector		STRING	NULLABLE
<input type="checkbox"/>	mobileDeviceInfo		STRING	NULLABLE
<input type="checkbox"/>	mobileDeviceMarketingName		STRING	NULLABLE

- Review the query and the results of the query:

```
SELECT device.browser, COUNT(*) AS total_browser_count
FROM `qwiklabs-XXX.ga_360_sessions.ga_sessions`
GROUP BY device.browser
ORDER BY total_browser_count DESC
LIMIT 10;
```

Query results

- Refer to the **Visualization planner** template.
- In the **Data** section, write your observations about the data (at least one sentence each). The observations should address the following:
 - What is the data type of the **device.browser** column?
 - How many columns are returned in the query results?
 - What is the data type of each column returned?
 - How many rows are returned?

Step 5: Choose an effective visualization type



Choosing an effective visualization type depends on carefully considering the visualization's purpose, users' needs, and your observations about the data.

In this step, you'll use the information you have gathered to choose a visualization.

- Refer to the **Visualization planner** template and review your observations.
- Using your observations as a guide, select a visualization type using the [Looker Studio](#)

[visualization library](#). The library allows you to explore visualization types and learn more about how each visualization is typically used.

3. In the **Visualization type** section, write your visualization choice. You can also use this space to sketch your visualization, if desired.

Step 6: Access the quiz and answer questions about creating a data lifecycle plan



Go to the next course item and answer the quiz questions. Then compare your work to the exemplar provided.

Pro Tip: Save the template

Finally, be sure to save a blank copy of the template you used to complete this activity. You can use it for further practice or in your professional projects. This template will help you work through your thought processes and demonstrate your experience to potential employers.

What to include in your response



Be sure to address the following criteria in your completed activity:

- The **Purpose** section should have 2–3 sentences that clearly define the visualization’s purpose based on the provided stakeholder feedback.
- The **Audience** section should have 1–2 sentences that clearly define the visualization’s audience.
- The **Audience** section should have three suggestions that address how to meet the users’ needs. Each suggestion should be at least one sentence long.
- The **Data** section should include the data type of the **device.browser** column.
- The **Data** section should include the data type of each column in the query results.
- The **Data** section should include the number of columns in the query results.
- The **Data** section should include the number of rows in the query results.
- The **Visualization type** section should identify one visualization type.

