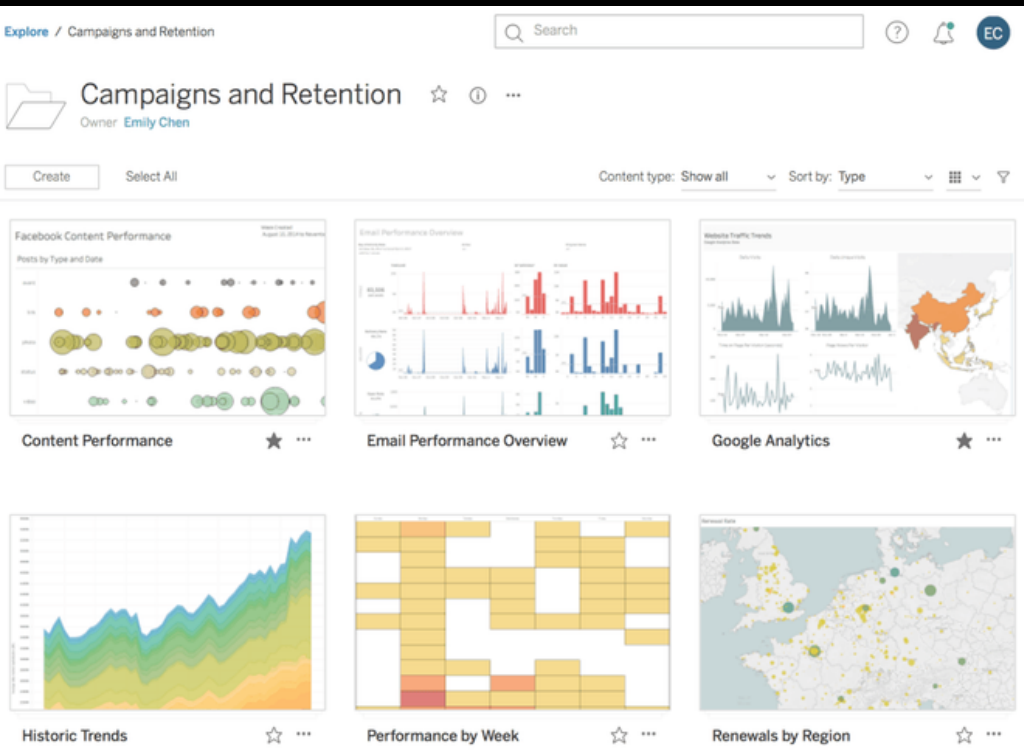
COMPREHENSIVE GUIDE TO INTERVIEWS FOR DATA SCIENCE



ZEP ANALYTICS

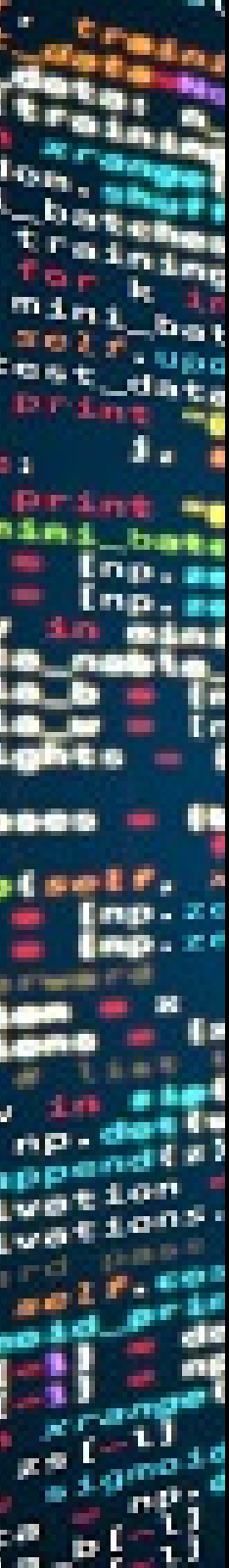
Introduction

We've curated this series of interview guides to accelerate your learning and your mastery of data science skills and tools.

From job-specific technical questions to tricky behavioral inquires and unexpected brainteasers and guesstimates, we will prepare you for any job candidacy in the fields of data science, data analytics, or BI analytics.

These guides are the result of our data analytics expertise, direct experience interviewing at companies, and countless conversations with job candidates. Its goal is to teach by example - not only by giving you a list of interview questions and their answers, but also by sharing the techniques and thought processes behind each question and the expected answer.

Become a global tech talent and unleash your next, best self with all the knowledge and tools to succeed in a data analytics interview with this series of guides.



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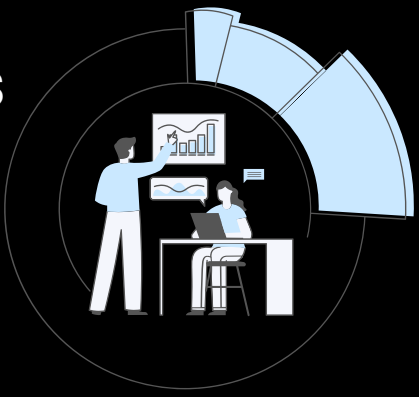

Data Science interview questions cover a wide scope of multidisciplinary topics. That means you can never be quite sure what challenges the interviewer(s) might send your way.

That being said, being familiar with the type of questions you can encounter is an important aspect of your preparation process.

Below you'll find examples of real-life questions and answers. Reviewing those should help you assess the areas you're confident in and where you should invest additional efforts to improve.

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1. What is data visualization?

Data visualization is the graphical representation of data or information. It provides visual context to information to help identify and infer trends, patterns, and outliers in data. Data visualization tools provide an accessible way to see and understand the data easily.

2. List the Tableau File Extensions.

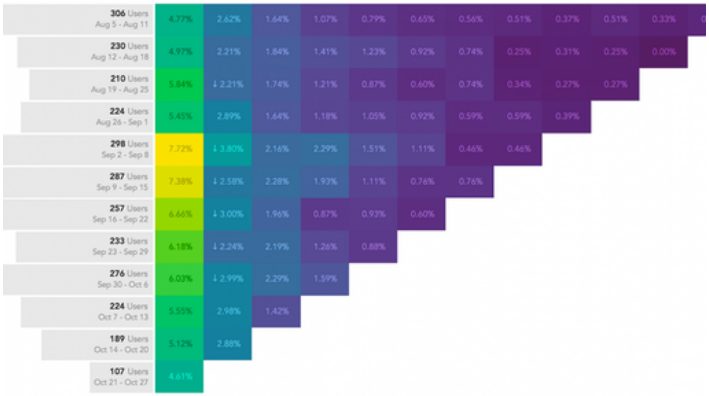
- Tableau Workbook (.twb)
- Tableau Data extract (.tde)
- Tableau Datasource (.tds)
- Tableau Packaged Datasource (.tdsx)
- Tableau Bookmark (.tbm)
- Tableau Map Source (.tms)
- Tableau Packaged Workbook (.twbx) – zip file containing .twb and external files.
- Tableau Preferences (.tps)

3. Define LOD Expression.

LOD Expression stands for Level of Detail Expression, and it is used to run complex queries involving many dimensions at the data sourcing level.

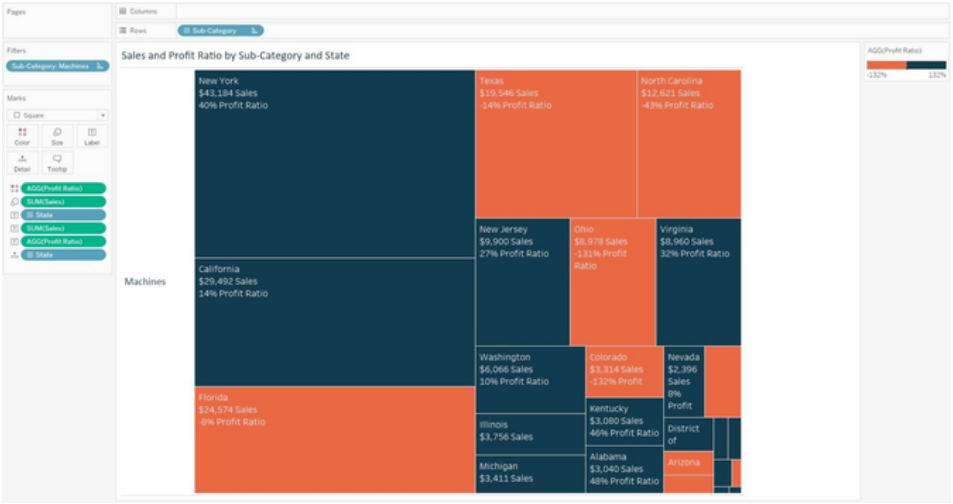
4. Define Heat Map.

A heat map is a graphical representation of data that uses the color-coding technique to represent different values of data. As the marks heat up due to their higher value, dark colors will be shown on the map.



5. Define TreeMap.

TreeMap is a visualization that organizes data hierarchically and shows them as a set of nested rectangles. The size and colors of rectangles are respective to the values of the data points they project. Parent rectangles will be tiled with their child elements.



6. What is the difference between a HeatMap and TreeMap?

Tree Map	Heat Map
It represents the data hierarchically and shows them as a set of nested rectangles.	It represents the data graphically which uses multiple colors to represent different values.
It is used for comparing the categories with colors, size, and it can also be used for illustrating the hierarchical data and part to whole relationships.	It is used for comparing the categories based on color and size. And also it is great in spotting the patterns based on the density of the information.
The colors and size of rectangles are respective to the values of the data points	When their values are higher or density of records, the data will represent in dark color.

7. What is a parameter in Tableau? How does it work?

Parameters are dynamic values, and we can replace the constant values in calculations.

8. What are the different data types in Tableau?

Data Type	Meaning	Examples
String	Character Sequence	'World'
Number (Whole)	Integers	1, 2, 3
Number (Decimal)	Floating Values	0.45
Date	Date	02/01/2015
Date & Time	Date & Time	01 January 2019 05:55:00 PM
Boolean	Logical Values	TRUE, FALSE
Geographic Values	Geographic Values	India, Italy, Canada

9. Define Page Shelf in Tableau.

Page shelf breaks the views into a series of pages. It displays an alternate view on each page. Due to this feature, you can analyze the effect of each field on the rest of the data in the view.

10. Define the story in Tableau.

The story can be defined as a collection of worksheets and dashboards used to convey the insights of data. A story can be used to show the connection between facts and outcomes that impact the decision-making process. A story can be published on the web or can be presented to the audience.

11. Give an overview of the fact and dimensions of tables.

Facts are numeric measures of data. They are stored in fact tables.

Fact tables store the type of data that will be analyzed by dimension tables. Fact tables have foreign keys associated with dimension tables.

Dimensions are descriptive attributes of data. Those will be stored in the dimensions table. For example, customer's information like name, number, and email will be stored in the dimension table.

12. State some ways to improve the performance of Tableau.

- Use an Extract to make workbooks run faster
- Reduce the scope of data to decrease the volume of data
- Reduce the number of marks on the view to avoid information overload
- Try to use integers or Booleans in calculations as they are much faster than strings
- Hide unused fields
- Use Context filters
- Reduce filter usage and use some alternative way to achieve the same result
- Use indexing in tables and use the same fields for filtering
- Remove unnecessary calculations and sheets

13. Explain different connection types in Tableau.

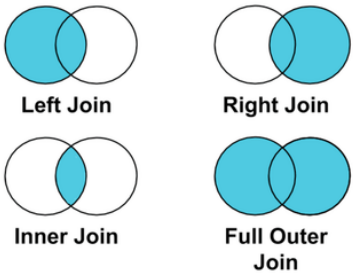
There are 2 connection types available in Tableau.

- Extract: Extract is a snapshot of data that will be extracted from the data source and put into the Tableau repository. This snapshot can be refreshed periodically fully or incrementally. This can be scheduled in Tableau Server.
- Live: It creates a direct connection to the data source and data will be fetched directly from tables. So, data will be up to date and consistent. But, this also affects access speed.

14. What are the different Joins in Tableau?

Tableau works the same as SQL. So, it supports all Joins possible in SQL. For instance:

- Left Outer Join
- Right Outer Join
- Full Outer Join
- Inner Join

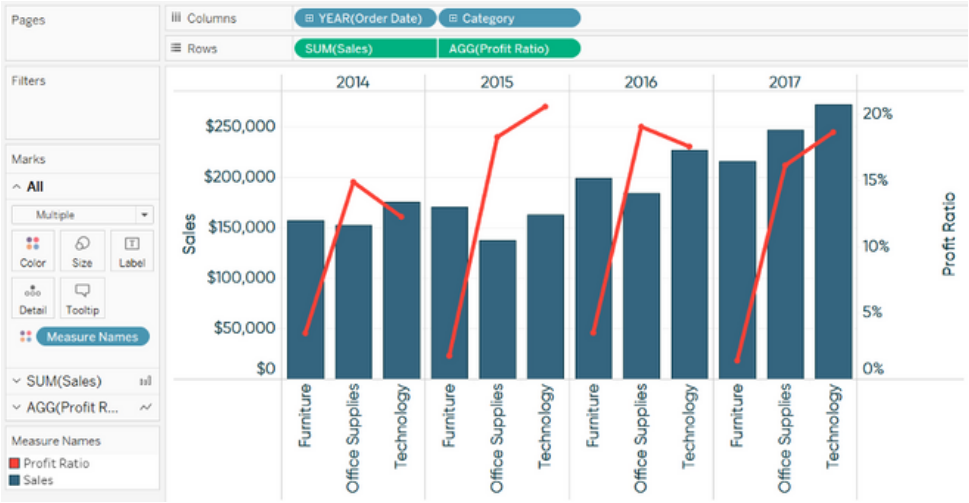


15. What is Data Modelling?

Data modelling is the analysis of data objects that are used in a business or other context and also used as identification of the relationships among these data objects. It is the first step of doing object-oriented programming.

16. Define Dual-axis.

Dual-axis is used to show 2 measures in a single graph. It allows you to compare 2 measures at once. Many websites like Indeed use this Dual-axis to show the comparisons and growth rate.



17. Define blended axis.

Multiple measures can be shared in a single axis so that all the marks will be shown in a single pane. We can blend measures by dragging the 1st measure on one axis and the 2nd on the existing axis.

18. Explain the limitation of context filters in Tableau.

Whenever we set a context filter, Tableau generates a temp table that needs to refresh every time the view is triggered. Therefore, if the context filter is changed in the database, it needs to recompute the temp table, so the performance will be decreased.

19. Define shelves and sets.

- Shelves: Every worksheet in Tableau will have shelves such as columns, rows, marks, filters, pages, and more. By placing filters on shelves we can build our own visualization structure. We can control the marks by including or excluding data.
- Sets: The sets are used to compute a condition on which the dataset will be prepared. Data will be grouped together based on a condition. Fields that are responsible for grouping are known as assets. For example – students having grades of more than 70%.

20. What is Mark Card in Tableau?

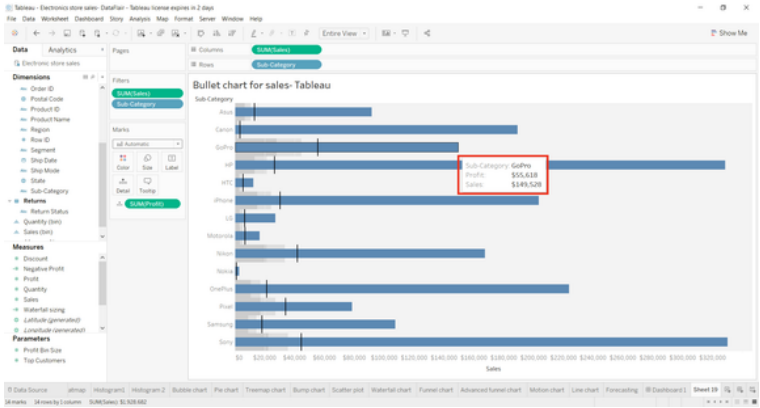
It is a card to the left of the view where we can drag fields and control mark properties like color, size, type, shape, detail, label, and tooltip.

21. Define published data source.

When you are ready to make a data source available to other tableau desktop users, you can publish it to the tableau server or online. You could also make it available by saving it as like you would an embedded excel or text file.

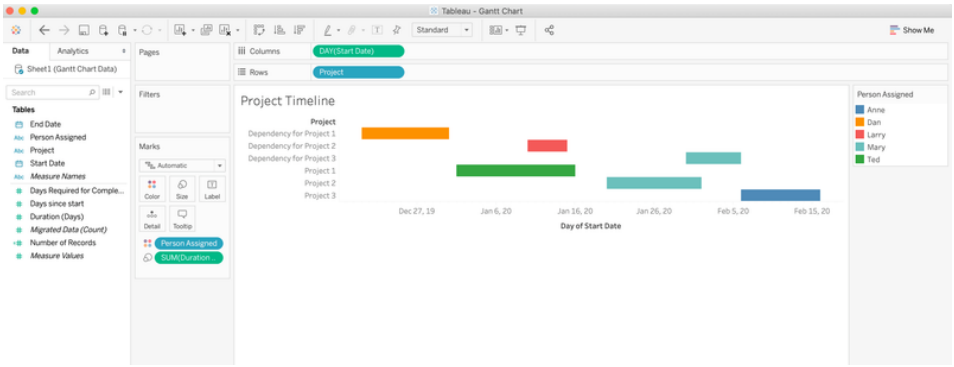
22. Define Bullet graph.

A bullet graph is a variant of Bar graph. It is responsible for comparing the performance of one measure with other measures.



23. Define Gantt chart.

Gantt Chart displays the progress of value over the period. It consists of bars along with the time axis. It is a project management tool. Here, each bar is a measure of a task in the project framework.



24. Define a Histogram chart.

A histogram chart shows the distribution of continuous information over a certain period of time. This chart helps us to find extreme points, gaps, unusual values, and more concentrated values.

25. What are the file size limitations with Tableau?

In Tableau, there are no limitations with the file sizes. Moreover, there is no row or column limit to import the data.

26. What is Tableau Reader?

Tableau Reader is a free desktop application, where you can read and interact with the Tableau packaged workbooks. It can only open the files but cannot create new connections to the workbook.

27. What is the difference between published data and embedded data sources?

The published data source contains connection information that is independent of workbooks and can be used by multiple workbooks.

The embedded data source contains connection information but it is associated with the workbooks.

28. What is the Hierarchy in Tableau?

With Tableau, you can easily create hierarchies to keep your data neat. It is built into your data, so you can easily manage or organize the data.

29. What is a Column chart?

A column chart visualizes the data as a set of rectangle columns, as their lengths are proportional to values when they represent the data. The horizontal axis shows the category to which they belong, and the vertical axis shows the values.

30. What is the Bar Chart in Tableau?

The bar chart visualizes the data as a set of rectangle bars, as their values are proportional to lengths when they represent the data. The vertical axis shows the category to which they belong to and the horizontal axis shows the values. So, the bar chart is a vertical version of the Column chart.

31. What is a Line Chart?

The line chart is a popular type of diagrammatic way for visualizing the data. It connects the individual data points to view the data. We can easily visualize the series of values, see trends over time, and/or predict future values. The horizontal axis holds the category to which it belongs and the vertical axis holds the values.

32. What is a Stacked Bar chart?

Stacked Bar Charts are composed of multiple bars stacked horizontally, one below the other. The length of the bar depends on the value in the data point.

33. What is a Stacked Column Chart?

Stacked Column Charts are composed of multiple bars stacked vertically, one on another. The length of the bar depends on the value in the data point.

34. What is an Area Chart?

An area chart is similar to a line chart; the area between the x-axis and lines will be coloured or patterned. These charts are typically used to represent accumulated totals over time and are the conventional way to display stacked lines.

35. What is Context Filter?

Context Filters are applied to the data rows before any other filters. They are limited to views, but they can be applied on selected sheets. They define Aggregation and Disaggregation of data in Tableau.

36. What are the products offered by Tableau? Explain a few things about them.

Tableau has 4 main products.

- Tableau Prep:

Tableau Prep is responsible for preparing data for analysis. This tool provides 3 coordinated views which provide us with a complete picture of data.

- Tableau Desktop:

Tableau Desktop is the place where the analysis happens. It has powerful drag and drops analytics which is very easy to use. Through the desktop, you get your data insights quickly.

- Tableau Online:

Tableau Online is a secure and scalable self-service analytics cloud tool. You can use it anywhere, anytime and it has eliminated the complexities of IT.

- Tableau Server:

From small to large enterprises, Tableau Server is used for fulfilling their BI requirements. This is an on-premise solution. This tool can take data from anywhere and share it across the organization through desktop or mobile browsers.

37. Differentiate parameters and filters in Tableau.

Filters are the simpler and straightforward feature in Tableau. It applies to dimensions or measures directly. For example, to only show Florida or Kansas in a State dimension, we can apply the filter on that. In Tableau, there are multiple UI options available for filters like radio buttons, drop-down lists, checkboxes, sliders, and more. Filters on sheets are also available in Tableau.

Parameters are like variables. They are complex and more powerful. Like a variable, a parameter can be used in calculations. So, that means, it only allows a single value. Parameters have the same UI options except for checkboxes because checkboxes don't have a single value. For example, we can create a parameter for interest rate and period, and then we can use these parameters to calculate interest and principal payments.

38. Explain the types of filters available in Tableau.

Filters are used to provide the correct information to viewers after removing unnecessary data. There are various types of filters available in Tableau.

- Extract Filters

Extract filters are used to apply filters on extracted data from the data source. For this filter, data is extracted from the data source and placed into the Tableau data repository.

- Datasource Filters

Datasource filters are the same as extract filters. They also work on the extracted dataset. The only difference is that it works with both live and extract connections.

- Context Filters

Context Filters are applied on the data rows before any other filters. They are limited to views, but they can be applied on selected sheets. They define Aggregation and Disaggregation of data in Tableau.

- Dimension Filters

Dimension filters are used to apply filters on dimensions in worksheets. Dimension filters are applied through the top or bottom conditions, formula, and wildcard match.

- Measure Filters

Measure filters are applied to the values present in the measures.

39. Differentiate between Tiled and Floating in dashboards.

In a tiled layout, items don't overlap. The layout will be adjusted according to dashboard size. In the floating layout, items can be placed on some other layers. Floating items can have fixed positions and sizes.

40. Categorize dimensions in Tableau.

Dimensions are divided into 9 various categories:

- Slowly ever-changing dimension:

The value of the dimension changes over an amount of time for slowly ever-changing dimensions.

- Chop-chop ever-changing Dimension:

Value in the dimension is rapidly changing for chop-chop ever-changing dimensions. Example – Age (It changes every second)

- Unchanged Dimension:

Values are constant for unchanged dimensions. Example – Traffic Signals

- Shrunken Dimension:

A set of 1 dimension is termed as Shrunken Dimension. Example – A week is Shrunken dimension for the month

- Junk Dimension:

Junk values or unrelated dimensions are termed as Junk Dimension.

- Conformed Dimension:

If any dimension is provided by various business areas, then such a dimension is termed as Conformed Dimension. Example – Time (9-5) for any company

- Degenerated Dimension:

Degenerated dimensions have primary keys only.

- Role enjoying Dimension:

If one dimension is employed in multiple roles, then they are termed as Role enjoying Dimensions. Example – Date for e-commerce site order (Date of Order, Date of Shipment, Date of delivery)

- Inferred Dimension:

Empty dimensions are called inferred dimensions. They are usually used in ETL. Example – Customer email which they may not enter while submitting a form will be filled as null.

41. What is VIZQL in Tableau?

VIZQL is Visual Inquiry Language. It is a combination of VIZ and SQL. It is similar to SQL language. But instead of SQL commands, the VIZQL language converts data queries into visual images.

42. Explain the disaggregation and aggregation of data in Tableau.

- Aggregation

The process of summarizing the data and viewing a single numeric value is called aggregation. Example – sum/avg of salary for each employee.

- Disaggregation

The process of viewing each transaction for analyzing all the measures both dependently and independently. Example – individual salary transactions for each employee.

43. State the components of the dashboard.

The dashboard consists of 5 components.

- Web: it consists of a web page embedded in the dashboard.
- Horizontal component: it is a horizontal layout container in which we can add objects.
- Vertical component: it is a vertical layout container in which we can add objects.
- Image Extract: it allows you to upload an image to the dashboard from a computer.
- Text: it is a small Wordpad where we can format and edit the text.

44. Differentiate between discrete and continuous data roles in Tableau.

Discrete data roles consist of values that are separate and distinct. Discrete data roles can take individual values within a range. For Example – cancer patients in the hospital, no. of threads in a sheet, etc. Discrete values are displayed as blue icons in the data window and blue pills on shelves. Discrete fields can be sorted.

Continuous data roles consist of any value within the finite or infinite intervals. For Example – age, unit price, order quantity. Continuous values are displayed as green icons in the data window and green pills on shelves. Continuous fields cannot be sorted.

45. What is the difference between Traditional BI Tools and Tableau?

Traditional BI Architecture has hardware limitations. Tableau does not have dependencies. It does not support in-memory, multi-thread, and multi-core computing. It supports memory when using advanced technologies. It has a predefined view of data. It uses predictive analysis for various business operations.

46. Define performance testing in terms of Tableau.

We can check the performance of Tableau in the following 2 ways.

We can create performance recordings to keep track of performance details of main events while interacting with workbooks. Then, these performance metrics can be viewed by the user and analyzed.

47. What is the difference between .twb and .twbx extensions?

- .twb:

.twb means Tableau workbook. .twb is an XML sheet, it stores the data about your documents, stories, and dashboards. This file is a reference to the source file such as Excel or tde. This file will be linked to your source file when you save the TWB file. If you want to share your workbook, you need to send both the workbook and data source file.

- .twbx:

It is a compressed file, where you have all files. It includes data source files, twb, and other files to produce the workbook. TWBX is obsolete for sharing because it will share the copy of the file instead of an original source file. .twbx is used for reports and we can view them using the Tableau viewer.

48. How do you create a calculated field in Tableau?

Step 1: Select Analysis -> drop down will open -> Select create calculated field
Step 2: Calculation Editor Box will open, give the name to the calculated field.
Step 3: Enter a formula in the calculation editor.
Example: Sum(Profits)/Sum(Sales).
Step 4: Click, Ok.
Now, the new calculated field will be added to the data pane.

49. Are there any limitations of parameters in Tableau? If yes, give details.

Tableau dashboard allows the representation of parameters in four ways only. They don't allow multiple values like a filter does. They only allow a single value.

50. State some reasons for the low performance of Tableau. Explain in detail.

- Filters - filters need to create an extra query and if used in large numbers and inefficiently then they can reduce the performance. So, it is advised to use filters only whenever it is mandatory
- Live connection - Tableau extract works much better in comparison with a live connection.
- Data sources - a wrong query to a wrong data source can reduce performance. Also, the data source's performance can also affect Tableau's performance.

51. State some ways to improve the performance of Tableau.

- Use an Extract to make workbooks run faster
- Reduce the scope of data to decrease the volume of data
- Reduce the number of marks on the view to avoid information overload
- Try to use integers or Booleans in calculations as they are much faster than strings
- Hide unused fields
- Use Context filters
- Reduce filter usage and use some alternative way to achieve the same result
- Use indexing in tables and use the same fields for filtering
- Remove unnecessary calculations and sheets

52. What are different ways to use parameters in Tableau?

- Filters
- Calculated fields
- Actions
- Measure-swaps
- Changing views
- Auto-updates

53. Can we see SQL generated by Tableau Desktop?

Tableau Desktop Log files are placed in C:Users/My Documents/My Tableau Repository. In the case of a live connection to any data source, check the log file "log.txt" and "tabprotosrv.txt" files. In case of extract connection to any data source, check the "tdeserver.txt" file which has detailed information about queries.

54. Can we remove the All options from a Tableau auto-filter?

Go to the Segment filter, Click on the small drop arrow which is on the right side. Select Customize. Then we can visible a small dropbox under customize, uncheck the option for " All" Value.

55. Which one is better? Extract or Live connection?

Extract connection is better than live connection because extract connection can be used from anywhere, anytime without connecting to the database. We can construct our own visualizations on it irrespective of the database connection.

56. Where can we apply global filters?

Global filters can be applied to sheets, stories, and dashboards.

57. How can we add custom colour to Tableau?

To add custom colour in Tableau, we need to follow 3 steps

- Generate custom colour code and create it in "Preferences.tps"
- Navigate to Documents→ My Table Repository→ Preferences.tps
- Add a note for custom colour code

58. Can we create cascading filters without using context filters?

Cascading filters means filter2 values are dependent on filter1 values. For Example, filter1 is country and if we select "India" for filter1, filter2 values should show all Indian states. We can achieve this by using the option "Only Relevant Values".

59. How can we display the top and bottom 5 of records in a single Tableau view?

To achieve this, we need to create 3 views

- View1 which contains the top 5 records
- View2 which contains the bottom 5 records
- View3 which is a join of View1 and View2

60. State a few charts which we should not use with valid reasons.

Below here are few charts which we should avoid.

- 3D Charts: Visual representation of numbers in 3D charts will be skewed and makes it difficult to compare and analyze.
- Pie Charts: Pie charts are not as accurate as bar charts. In Pie charts, we have areas and angles to compare instead of length in a bar chart. Areas and angles cannot be analyzed with ease.
- Donut Charts: This is the same as Pie chart, but here, we have a hole in the middle to make it look like a donut. Due to that hole, we need to compare arc length with other arcs to analyze the values.

61. Do we have any way of handling null values in Tableau?

Tableau cannot plot null values on-axis. So, it will display an indicator at the lower right corner of the view. Once you click on that indicator, you have options to handle null values.

Below are the options available to handle null values:

- Filter Data – If you choose this option, null values will be filtered out from the view.
- Show Data at Default Position – It replaces the null value with the default value and shows the data at the default position on-axis. These default values depend on the data type of field.

62. Do we have any data limitations in Tableau Public?

Yes, Tableau Public can only allow 10 million rows to users for data visualization.

63. Can we download views or workbooks from the server? If yes, in which data formats?

We can download views or workbooks from the server. But, data formats available to us depend on the permissions granted by site administrators or content owners.
Image: .png format
Data: .csv file.
We can also download selected sheets into PDF format, but while generating PDF, web page objects won't be included.

64. Can we use unused columns (Columns that are not used in reports but data source has columns) in Tableau Filters?

Yes, we can use unused columns in tableau filters.
Let us consider one example.
In data source, I have column like emp_id, emp_name, emp_sal, emp_dep, emp_designation. But, in reports, I am using emp_name in columns and emp-sal in rows. I can use emp_designation on filters.

65. What is the benefit of the Tableau extract file over the live connection?

Extract files can be used without any connections and you can build your own visualization without connecting to the database.

66. How many tables can be joined in Tableau? 32.

67. Can we place an excel file in a shared location and use it to develop a report and refresh it in regular intervals?

Yes, we can place an excel file in a shared location and we can use it to develop a report, but for better performance, we need to extract the file.

68. How do we conduct testing in Tableau?

We can conduct testing in Tableau by using tools and the easiest way is using the desktop application.

69. Can you get values from two different sources as a single input into a parameter?

Tableau is currently not supporting the multi-valued parameters. As Tableau parameters are not dynamic, we cannot filter the list of values at runtime.

70. How do you optimize the performance of the dashboard?

- Minimize the number of fields or records.
- Reduce the marks (data points) in your view (remove unneeded dimensions).
- Reduce the number of filters.
- Use an include or continuous data filter.
- Use action filters and parameters.
- Reduce the number of nested calculations.
- Remove custom SQL.

71. Design a view in a map such that if a user selects any state, the cities under that state have to show profit and sales.

If you want to show the profit and sales of each and every city under the state in the same worksheet, then follow a few steps.

The data which you want to display under the state must be in the same worksheet.

- Double click on the state filled.
- Drag the city and drop it under the state (Mark Card).
- Drag the Sales and drop into the size.
- Drag the Profit and drop it into the color.
- Click on the size legend and increase the size (75%).
- Give a right-click on State filled and select show filter.
- Select the state and check whether you got the required view or not.
- In the View, Size indicates the Sales, and Color indicates the profit of the respective state(which you have selected).

72. How can you set permissions or protect data in Tableau Public?

Tableau does not have any security permissions or to protect data in Tableau public. Whatever we share in Tableau public, can be viewed by all users. There is no security option in Tableau public.

73. If I delete a workbook from Tableau public and there are links to it on other blogs and web locations, what happens to them?

Tableau public is like a repository: if you delete anything in Tableau public the data will be lost, even if links are in other locations and blogs. We cannot access those links.

74. Can you create relational joins in Tableau without creating a new table?

Yes, we can create relational joins in Tableau without creating a new table.

75. When publishing workbooks on Tableau online, sometimes an error about needing to extract appears. Why does this happen?

It happens when the user is trying to publish the workbook which is connected to the internal or local server.

76. Can parameters have a drop-down list?

Yes, Parameters have their own drop-down list, which enables the users to view the data entries that are available in the parameter during the creation.

77. How can we use groups in calculation fields?

Option 1:

We can create the group by using the calculated field.

- Step 1: Select Analysis-> click the calculated field
- Step 2: Enter the field name (a dialogue box will appear)
- Step 3: Enter the calculation -> Click Ok.

Example:

IF [Container]='Jumbo Box' then 'Big Containers'
ELSEIF [Container]='Jumbo Drum' then 'Big Containers'
ELSEIF [Container]='Large Box' then 'Big Containers'
ELSEIF [Container]='Medium Box' then 'Midsize Containers'
ELSEIF [Container]='Wrap Bag' then 'Midsize Containers'
ELSEIF [Container]='Small Box' then 'Little Containers'
ELSEIF [Container]='Small Pack' then 'Little Containers'
END

The above calculation creates the group with four values: Little Containers, Big Containers, Small Containers, Midsize Containers.

Option 2:
Create a set from the group, and use the set in the calculated field.

- Step 1: Right-click on the Data Pane and then select Create Set.
- Step 2: Create a set dialogue box that will open, Enter the field name. Select the group, on the general tab.
- Step 3: Click Ok.

78. How can we automate reports in Tableau?

When we are publishing the reports to Tableau Server, there is an option to schedule the report - just select the time when you want to refresh the data.

79. Which databases give the best performance when connected live?

Native Database.

80. What are the challenges faced when working with huge volumes of data?

- View running will be slow.
- Data Extraction.
- Alignment issues with data.
- Testing Data.

81. State the limitation of context filters in Tableau.

Whenever we set a context filter, Tableau generates a temp table that needs to refresh each and every time the view is triggered. So, if the context filter will be changed, the database needs to recompute and rewrite the temp table, which in turn slows down the performance.

82. What is a marks card in Tableau?

There is a card to the left of the view where we can drag fields and control mark properties like colour, size, type, shape, detail, label, and tooltip.

83. Define a published data source.

The published data source has connection information in it. It is independent of any workbook and can be accessed by multiple workbooks.

84. Define blended axis.

Multiple measures can share a single axis so that all the marks will be shown in a single pane. We can blend measures by dragging the 1st measure on one axis and the 2nd on the existing axis.

85. Explain Tableau Data Extract.

A Tableau data extract is a compressed snapshot of data stored on disk. It is loaded into memory to render a Tableau.

86. Explain the primary differences between blending and joining in Tableau.

Joining terms is helpful when you are combining data from the same source. On the other hand, blending would require two completely defined data sources in your report.

87. Explain Longitude and Latitude in Tableau.

Longitude and Latitude (generated) fields are associated with the geographical detail present in the data. The dataset should consist of geographic information like City, Country, or State.

The longitude and latitude values are auto-generated in Tableau. These fields can be used to build maps in Tableau.

88. Explain Connect live.

Connect live creates a direct connection to the data source and speeds up access.

89. Define the term analytics pane concerning Tableau.

The analytics pane offers quick and easy access to everyday analytic objects in Tableau. It allows you to drag forecasts, reference and trend lines, and other objects into your view.

90. How can you perform load testing in Tableau?

Users can do load testing with the help of Tableau Server performance testing solution called TabJolt. However, this is third-party software that is not supported by tableau directly. Therefore, it may be installed using other open-source products.

91. Where can a developer use global filters?

A developer can use global filters in sheets, dashboards, and stories.

92. Explain the classification of Tableau.

Tableau is classified into two sections:

- Developer Tools:

The Tableau tools that are used for development, such as the creation of dashboards, charts, report generation, visualization, fall into this category. Tableau products, under this category, are the Tableau Desktop and Tableau Public.

- Sharing Tools:

As the name suggests, the purpose of the tool is to share the visualizations, reports, dashboards that were created using the developer tools. Products that fall into this category are Tableau Online, Server, and Reader.

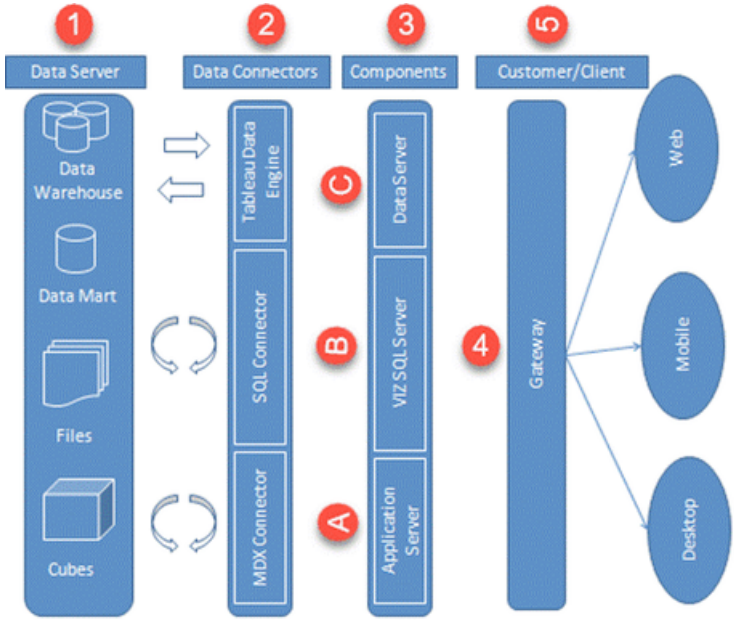
93. What is Set?

Set is a custom file that defines a data subset based on some computed condition or data point.

94. Explain story in Tableau.

A story is a sheet containing a dashboard or worksheet sequence that works together to convey particular information.

95. Explain the Tableau architecture.



Different components of Tableau architecture are:

- Data server:

The primary component of Tableau Architecture is the Data sources it can connect to it.

- Data Connectors:

The Data Connectors provide an interface to connect external data sources to the Tableau Data Server.

Components of Tableau Server:

1) Application Server:

The application server is used to provide the authentications and authorizations. It handles the administration and permission for web and mobile interfaces.

2) VizQL Server:
VizQL server is used to convert the queries from the data source into visualizations. Once the client request is forwarded to VizQL process, it sends the query directly to the data source and retrieves information in the form of images.

3) Gateway:
The gateway channelizes the requests from users to Tableau components. When the client makes a request, it is forwarded to the external load balancer for processing. The gateway works as a distributor of processes to various components.

4) Clients:
The dashboards and visualizations in Tableau server can be viewed and edited using different clients. The Clients are Tableau Desktop, web browser, and mobile applications.

96. What is the use of the toolbar Icon?

The toolbar icon presented below the menu bar can be used to edit the workbook using different features such as undo, redo, save, new data source, slideshow, and so on.

97. What is Page shelf in Tableau?

Page shelf can be used to view the visualization in video format by keeping the relevant filter on the page shelf.

98. Explain filter shelf in Tableau.

The filters that can control the visualization can be placed on the filter shelf, and the required dimensions or measures can be filtered in.

99. Explain bin in Tableau.

Bins are a user-defined set of data that are of equal intervals that stores data values according to or which fits in bin size.

100. Explain paged workbook.

A paged workbook in Tableau consists of different pages based on specific criteria.

101. Define shelves in Tableau.

The Shelves in Tableau are demarcated areas that are used for particular purposes. There are several shelves on a Tableau sheet- such as, Filter shelf, Page shelf, Rows and Column shelf, Marks shelf, etc.

102. Define Hyper.

Hyper is a high-performance in-memory information engine innovation. It allows clients to analyze complex or large informational sets quickly. This can be done by proficiently assessing analytical questions which are in the value-based database.

103. What are Combined Sets?

Combined Sets in Tableau are handy to compare two existing sets for further analysis.

104. What is Backgrounder?

The backgrounder refreshes planned extracts, conveys notifications, and handle other assignments run in the background. The backgrounder is responsible for expending as much as the processor is accessible to finish the background action as fast as possible.

105. What is Aggregation?

Aggregation is the process of viewing measures or numeric values at higher and more summarized data.

106. Why use Disaggregation in Tableau?

Disaggregation is a Tableau used to view every row of the data source. It is useful while analyzing measures for both independent and dependent data in the view.

107. What are the limitations of setting channels?

The limitations of setting channels are:

- If the channel is changed by the customers on a regular basis, the database should be reprocessed and modify the short-lived table.
- The transient table needs to reload every time when the view is begun.

108. What is the Tableau data engine?

Tableau data engine manages to open, refresh, create, and query extracts of the user.

109. What is metadata in Tableau?

Metadata in tableau refers to the editing of original data in Tableau. It includes custom data and formatting of data.

110. Explain the dashboard lifecycle in Tableau.

Functional Knowledge: Business Analysts give a current functional knowledge of the organization.

Requirement Analysis: Requirements that are kept in consideration are:

- The requirement of the dashboard.
- How is data flowing in the current system?
- Blueprint or layout of the system.
- Dashboard scope.
- The value that is added to the business
- required tools for the development of the project and its costs.

Planning Phase: It includes:

- Timeline and needed resources.
- Work and leave plan.
- Dependencies and future challenges.

Methodologies to follow: Scrum, Agile, Waterfall, etc.

Technical Specs: It includes:

- Technical details.
- SQL, relations, and Joins.
- Credentials for database access.
- Business logic.

Development: It includes:

- Query generation.
- Connecting databases and creating dimension model
- Publish it to the server.
- Unit testing.

Q&A Testing: It includes:

- Functionality and UI testing.
- SQL testing and data validation
- Security testing
- Testing of applied customization.

Performance testing: Report opening time, with or without any webpage.

User Acceptance Testing (UAT): User validates data and functionality.

Production and Support: System is produced, and support is given once it goes live.

111. What is the use of marks cards?

Marks cards can be used to design the visualization. The data components of the visualization, like colour, size, shape, path, etc. used in the visualizations can be modified in the marks card.

112. What is the use of a custom data view?

A custom data view is used by tableau users to extend the normal data views to gain the advantage of additional features.

113. What is Tableau Table Report?

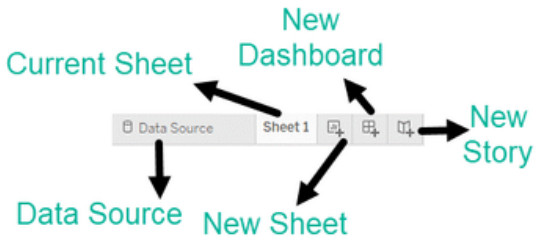
Table Report in Tableau provides the primary ways to display data in tabular format.

114. What is format pane?

A pane that contains formatting settings to control the worksheet and fields available in the view is called format pane. It appears on the left side of the tableau workbook.

115. Explain Tableau Navigation.

- Data Source: The addition of a new data source of modification of existing data sources can be done using the 'Data Source' tab present at the bottom of the Tableau Desktop Window.
- Current Sheet: Current Sheet can be viewed with the name of the sheet. All the sheets, dashboards, and storyboard present in the workbook can be viewed here.
- New Sheet: Can be used to create a new worksheet in the Tableau Workbook.
- New Dashboard: Can be used to create a new dashboard in the Tableau Workbook.
- New Storyboard: Can be used to create a new storyboard in the Tableau Workbook.



116. What are the types of Level of Detail?

There are three main types of LOD expressions.

- Fixed LOD:

It is a LOD expression that computes values using the mentioned dimensions without reference to any other dimensions.

- Include LOD:

This expression compute values using the mentioned dimensions along with those that are present in view.

- Exclude LOD:

These LOC expressions subtract dimensions from the view.

117. What is the use of trend lines?

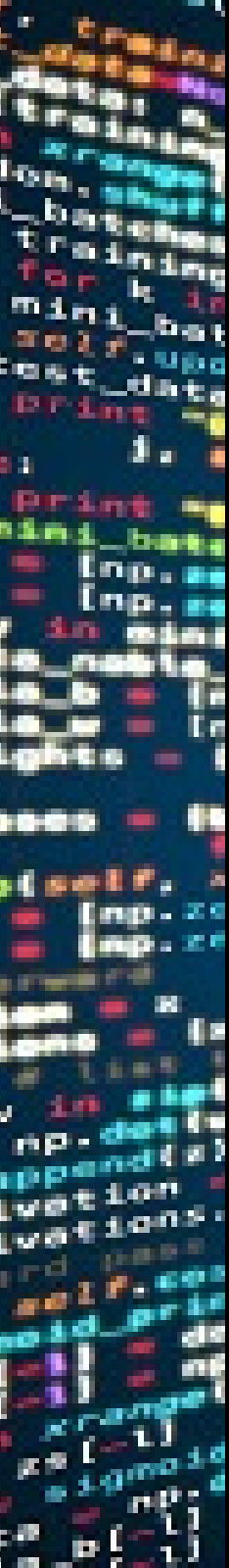
Trend lines are used to know the continuation of a trend of variables. It helps users to search the correlation between two or more variables. There is a wide range of mathematical models for establishing trend lines.

118. What are Data Labels in Tableau Reports?

Data Labels in Tableau reports or any other Business Intelligence reports play a vital role in understanding the report data.

119. What is Tableau Crosstab Report?

Table Crosstab in Tableau is the best way to display data in multi-level.



This brings our list of 110+ Tableau interview questions to an end.

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