Interview Questions and Answers for Data Analyst

1. Tell me about yourself.

What they're really asking: What makes you the right fit for this job?

This question can sound broad and open-ended, but it's really about your relationship with data analytics. Keep your answer focused on your journey toward becoming a data analyst. What sparked your interest in the field? What data analyst skills do you bring from previous jobs or coursework?

As you formulate your answer, try to answer these three questions:
- What excites you about data analysis?
- What excites you about this role?
- What makes you the best candidate for the job?

An interviewer might also ask:
- What made you want to become a data analyst?
- What brought you here?
- How would you describe yourself as a data analyst?

2. What do data analysts do?

Do you understand the role and its value to the company?

If you're applying for a job as a data analyst, you likely know the basics of what data analysts do. Go beyond a simple dictionary definition to demonstrate your understanding of the role and its importance.

Outline the main tasks of a data analyst: identify, collect, clean, analyze, and interpret. Talk about how these tasks can lead to better business decisions, and be ready to explain the value of data-driven decision-making.

An interviewer might also ask:
- What is the process of data analysis?
- What steps do you take to solve a business problem?
- What is your process when you start a new project?

3. What was your most successful/most challenging data analysis project?

What are your strengths and weaknesses?

When an interviewer asks you this type of question, they're often looking to evaluate your strengths and weaknesses as a data analyst. How do you overcome challenges, and how do you measure the success of a data project?

Getting asked about a project you're proud of is your chance to highlight your skills and strengths. Do this by discussing your role in the project and what made it so successful. As you prepare your answer, take a look at the original job description. See if you can incorporate some of the skills and requirements listed.

If you get asked the negative version of the question (least successful or most challenging project), be honest as you focus your answer on lessons learned. Identify what went wrong—maybe your data was incomplete or your sample size was too small—and talk about what you'd do differently in the future to correct the error. We're human, and mistakes are a part of life. What's important here is your ability to learn from them.

An interviewer might also ask:
- Walk me through your portfolio.
- What is your greatest strength as a data analyst? How about your greatest weakness?
- Tell me about a data problem that challenged you.

4. What's the largest data set you've worked with?

Can you handle large data sets?

Many businesses have more data at their disposal than ever before. Hiring managers want to know you can work with large, complex data sets. Focus your answer on the size and type of data. How many entries and variables did you work with? What types of data were in the set?

The experience you highlight doesn't have to come from a job. You'll often have the chance to work with data sets of varying sizes and types as a part of a data analysis course, bootcamp, certificate program, or degree. As you put together a portfolio, you may also complete some independent projects where you find and analyze a data set. All of this is valid material to build your answer.

An interviewer might also ask:
- What type of data have you worked with in the past?

Data analysis process questions

The work of a data analyst involves a range of tasks and skills. Interviewers will likely ask questions specific to various parts of the data analysis process to evaluate how well you perform each step.

5. Explain how you would estimate … ?

What they're really asking: What's your thought process? Are you an analytical thinker?

With this type of question (sometimes called a guesstimate), the interviewer presents you with a problem to solve. How would you estimate the best month to offer a discount on shoes? How would you estimate the weekly profit of your favorite restaurant?

The purpose here is to evaluate your problem-solving ability and overall comfort working with numbers. Since this is about how you think, think out loud as you work through your answer.
- What types of data would you need?
- Where might you find that data?
- Once you have the data, how would you use it to calculate an estimate?

6. What is your process for cleaning data?

What they're really asking: How do you handle missing data, outliers, duplicate data, etc.?

As a data analyst, data preparation, also known as data cleaning or data cleansing, will often account for the majority of your time. A potential employer will want to know that you're familiar with the process and why it's important.

In your answer, briefly describe what data cleaning is and why it's important to the overall process. Then walk through the steps you typically take to clean a data set. Consider mentioning how you handle:
- Missing data
- Duplicate data
- Data from different sources

- Structural errors
- Outliers

An interviewer might also ask:
- How do you deal with messy data?
- What is data cleaning?

7. How do you explain technical concepts to a non-technical audience?

<mark>What they're really asking:</mark> How are your communication skills?

While drawing insights from data is a critical skill for a data analyst, communicating those insights to stakeholders, management, and non-technical co-workers is just as important.

Your answer should include the types of audiences you've presented to in the past (size, background, context). If you don't have a lot of experience presenting, you can still talk about how you'd present data findings differently depending on the audience.

An interviewer might also ask:
- What is your experience conducting presentations?
- Why are communication skills important to a data analyst?
- How do you present your findings to management?

8. Tell me about a time when you got unexpected results.

<mark>What they're really asking:</mark> Do you let the data or your expectations drive your analysis?

Effective data analysts let the data tell the story. After all, data-driven decisions are based on facts rather than intuition or gut feelings. When asking this question, an interviewer might be trying to determine:
- How you validate results to ensure accuracy
- How you overcome selection bias
- If you're able to find new business opportunities in surprising results

Be sure to describe the situation that surprised you and what you learned from it. This is your opportunity to demonstrate your natural curiosity and excitement to learn new things from data.

9. How would you go about measuring the performance of our company?

What they're really asking: Have you done your research?

Before your interview, be sure to do some research on the company, its business goals, and the larger industry. Think about the types of business problems that could be solved through data analysis, and what types of data you'd need to perform that analysis. Read up on how data is used by competitors and in the industry.

Show that you can be business-minded by tying this back to the company. How would this analysis bring value to their business?

Technical skill questions

Interviewers will be looking for candidates who can leverage a wide range of technical data analyst skills. These questions are geared toward evaluating your competency across several skills.

10. What data analytics software are you familiar with?

<mark>What they're really asking:</mark> Do you have basic competency with common tools? How much training will you need?

This is a good time to revisit the job listing to look for any software emphasized in the description. As you answer, explain how you've used that software (or something similar) in the past. Show your familiarity with the tool by using associated terminology.

Mention software solutions you've used for various stages of the data analysis process. You don't need to go into great detail here. What you used and what you used it for should suffice.

An interviewer might also ask:
- What data software have you used in the past?
- What data analytics software are you trained in?

11. What scripting languages are you trained in?

As a data analyst, you'll likely have to use SQL and a statistical programming language like R or Python. If you're already familiar with the language of choice at the company, you're applying to, great. If not, you can take this time to show enthusiasm for learning. Point out that your experience with one (or more) languages has set you up for success in learning new ones. Talk about how you're currently growing your skills.

Interviewer might also ask:
- What functions in SQL do you like most?
- Do you prefer R or Python?

12. What statistical methods have you used in data analysis?

<mark>What they're really asking:</mark> Do you have basic statistical knowledge?

Most entry-level data analyst roles will require at least a basic competency in statistics and an understanding of how statistical analysis ties into business goals. List the types of statistical calculations you've used in the past and what business insights those calculations yielded.

If you've ever worked with or created statistical models, be sure to mention that as well. If you're not already, familiarize yourself with the following statistical concepts:
- Mean
- Standard deviation
- Variance
- Regression
- Sample size
- Descriptive and inferential statistics

An interviewer might also ask:
- What is your knowledge of statistics?
- How have you used statistics in your work as a data analyst?

13. How have you used Excel for data analysis in the past?

Spreadsheets rank among the most common tools used by data analysts. It's common for interviews to include one or more questions meant to gauge your skill working with data in Microsoft Excel.

14. Explain the term…

<mark>What they're really asking:</mark> Are you familiar with the terminology of data analytics?

Throughout your interview, you may be asked to define a term or explain what it means. In most cases, the interviewer is trying to determine how well you know the field and how effective you are at communicating technical concepts in simple terms. While it's impossible to know what exact terms you may be asked about, here are a few you should be familiar with:
- Normal distribution
- Data wrangling
- KNN imputation method
- Clustering
- Outlier
- N-grams
- Statistical model

15. Can you describe the difference between … ?

Similar to the last type of question, these interview questions help determine your knowledge of analytics concepts by asking you to compare two related terms. Some pairs you might want to be familiar with include:
- Data mining vs. data profiling
- Quantitative vs. qualitative data
- Variance vs. covariance
- Univariate vs. bivariate vs. multivariate analysis
- Clustered vs. non-clustered index
- 1-sample T-test vs. 2-sample T-test in SQL
- Joining vs. blending in Tableau

The final question: Do you have any questions?

Almost every interview, regardless of field, ends with some variation of this question. This process is about you evaluating the company as much as it is about the company evaluating you. Come prepared with a few questions for your interviewer, but don't be afraid to ask any questions that came up during the interview as well. Some topics you can ask about include:

- What a typical day is like
- Expectations for your first 90 days
- Company culture and goals
- Your potential team and manager
- The interviewer's favorite part about the company