

Roadmap to Become a Data Analyst with Free Resources.

Who is a Data Analyst? A data analyst is a professional who gathers, processes and analyzes data to help organizations make informed decisions. Their role involves cleaning and organizing raw data, identifying key metrics, and presenting their findings in a way that's easy to understand, helping businesses solve problems and improve efficiency. A data analyst bridges the gap between raw data and actionable business strategies.

Key Skills to Become a Data Analyst

Key skills for data analysts include:

1. Data Cleaning & Preparation: Ensuring raw data is cleaned, structured, and ready for analysis.
2. Statistical Knowledge & Mathematics: A strong foundation in basic statistics and math to analyze trends and patterns.
3. Data Visualization: Ability to present data insights clearly using tools like Power BI, Tableau, or Excel.
4. Programming Languages: Proficiency in SQL, and optionally Python or R, for data querying and manipulation.
5. Critical Thinking: The skill to analyze data, ask meaningful questions, and interpret results effectively.
6. Communication: Clearly presenting insights and reports to both technical and non-technical audiences.
7. Data Storytelling: Translating data into compelling narratives that drive decision-making.
8. Domain Knowledge: Understanding the business context and industry-specific knowledge to tackle scenario-based questions and provide relevant insights.

Tools Required?

Excel: Essential for data cleaning, analysis, and creating basic reports.

SQL: Key for querying databases and extracting meaningful data.

Visualization Tools (Power BI or Tableau): Crucial for presenting data insights through interactive visuals.

Python or R: Powerful for advanced data analysis and statistical computations.

Mathematics & Statistics: Fundamental for interpreting data trends and performing deeper analyses.

Machine Learning: Enhances data analysis by enabling predictive modeling and automation.

Excel (Duration - 1 Month)

To help you get started -

Language (Hindi) - [YouTube: Excel Full Course for Data Analysis with Projects \[2 Hours\] | Exc...](#)

Language (English) -

[YouTube: MS EXCEL Full Course for Beginners in 3 HOURS \(FREE\) - 2024 Edition](#)

Project - [YouTube: EXCEL Full PROJECT for Data Analysis with Practical \[2 Hours\] | End-to-End...](#)

Excel Practice - <https://excelexercises.com/>

SQL (Duration - 2 Months)

To help you get started -

Language (Hindi) - [YouTube: SQL Full Course for Data Analytics in 1 HOUR 🔥 | Learn SQL for ...](#)

Language (English) - [YouTube: MySQL for Data Analytics Full Course with Practical \[2024\] | Le...](#)

Practice SQL Questions on these websites-

<https://www.hackerrank.com/>

https://sqlzoo.net/wiki/SQL_Tutorial

<https://datalemur.com/>

<https://leetcode.com/>

SQL Project -

[YouTube: SQL For Data Analysis Full Portfolio Project with Practical \[1Hour\] | End-to-End SQL P...](#)

Visualization (Duration - 1-1.5 Months)

To help you get started with Power BI -

▶ **Power BI Full Course in 6 Hours | Learn Power BI for Beginners with Project - 2024 Edition**

Project Ideas -

<https://www.projectpro.io/article/power-bi-microsoft-projects-examples-and-ideas-for-practice/533>

DAX Formulas -  [Dax formulas wscube.pdf](#)

Maths and Stats (Duration - 2 weeks) - ChatGPT

Descriptive Statistics: Mean, median, mode, standard deviation, and variance for summarizing data.

Probability: Basic probability concepts, distributions, and conditional probability.

Inferential Statistics: Hypothesis testing, confidence intervals, and p-values for drawing conclusions from data samples.

Linear Algebra: Useful for data manipulation, especially in machine learning algorithms.

Correlation & Regression: Understanding relationships between variables and predicting outcomes.

Time Series Analysis: For analyzing data over time and identifying trends.

Python (Duration - 1-2) Months

To help you get started -

▶ **Data Analytics FULL Course for Beginners to Pro in 29 HOURS - 2024 Edition**
Till 13:28:44

Questions for Logic Building in Python -

▶ **100+ Python Programs with Practicals for Beginners** 🔥🐍

Pandas Practice Questions - <https://leetcode.com/>

Data Cleaning in Python -

▶ **Data Cleaning Full Course for Data Science, Data Analysis, Machine Learning [FREE]** ...

Project - ▶ **Complete Data Analytics Portfolio Project with Python and SQL in 2 Hours** | ...

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Thank You