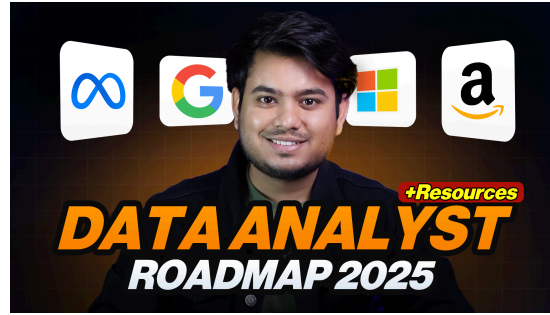


# Data Analyst Roadmap 2025



[Watch Full Video](#)

Data Analyst Roadmap 2025-26 (Job Oriented)										
Non - Tech	Primary	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days
	Choose any 2 Streams	Excel & PowerBI / Tableau (Basics)		Dashboarding Data (Intermediate)		Excel (Adv)	Dax (Adv)	Plugins / Toppings		
		SQL (Basics)		Python (Basics)		SQL (Adv)	Python (Adv)	Projects & Resume Building		
		1st Month	2nd Month		3rd Month		4th Month			
Tech	Primary	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days
	Choose any 2 Streams	Python (Basic + Advance)		Excel (Basic + Intermediate)		Plugins / Toppings			Cloud Certification	
		SQL (Basic + Advance)		Dashboards (Power BI / Tableau) (Adv)		Projects & Resume Building				
		1st Month	2nd Month		3rd Month			4th Month		
Working Professional	Primary	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days	15 Days
	Focus on Your Stream	Excel & Power BI (Basics)		SQL (Basics) PowerBI (Adv)		SQL (Adv)		Python (Basics + Adv)		
						Excel (Adv)		Projects & Resume Building		
		1st Month	2nd Month		3rd Month		4th Month		5th Month	

## Join the Data Community:

Checkout Latest Data Videos - <https://www.youtube.com/@TopVarSity/videos>

Connect on LinkedIn - <https://www.linkedin.com/in/vishalkhole/>

Connect on Instagram - <https://www.instagram.com/analystvishal/>

## Free Resources:

Free Data Analyst Course Hindi - [Link](#)

Free Data Analyst Courses - [Link](#)

Free Domain Certificates - [Link](#)

Data Analyst Resumes - [Link](#)

Data Analyst Job Scenario - [Link](#)

## Projects:

Ola Project - [Link](#)

Healthcare Project - [Link](#)

Top 5 Data Analytics Projects - [Link](#)

# Data Analyst Roadmap 2025

## Excel

### \*Basic Excel Skills

- 1. Basic Navigation:**
    - Excel Interface and Shortcuts
    - Workbook and Worksheet Basics
  - 2. Data Entry:**
    - Formatting Cells (Numbers, Dates, Text)
    - Copy, Paste, Autofill, Flash Fill
  - 3. Basic Formulas and Functions:**
    - Arithmetic Operations
    - Logical Operators (AND, OR, NOT)
- 

### \* Intermediate Excel Skills

- 4. Data Cleaning and Preparation:**
    - Text Functions (LEFT, RIGHT, MID, TRIM, LEN)
    - Find & Replace
    - Removing Duplicates
    - Splitting and Merging Data (Text to Columns)
  - 5. Conditional Formatting:**
    - Highlighting Rules
    - Custom Conditional Formatting
  - 6. Functions for Analysis:**
    - LOOKUP (VLOOKUP, HLOOKUP, XLOOKUP)
    - MATCH and INDEX
    - IF, IFS, COUNTIF, SUMIF
  - 7. Date and Time Functions:**
    - TODAY, NOW
    - DATEDIF, YEAR, MONTH, DAY
    - NETWORKDAYS, WORKDAY
- 

### \*Advanced Excel Skills

- 8. Pivot Tables and Charts:**
  - Creating and Customizing Pivot Tables
  - Grouping and Filtering in Pivot Tables
  - Pivot Charts
- 9. Data Visualization:**

# Data Analyst Roadmap 2025

- Line, Bar, Pie, Scatter Charts
  - Sparklines
  - Dynamic Charts (Using Named Ranges)
- 10. Data Analysis Tools:**
- Goal Seek
  - Solver
  - Scenario Manager
- 11. Advanced Formulas:**
- Nested Functions
  - Array Formulas (SEQUENCE, FILTER, SORT, UNIQUE)
  - Advanced Logical Functions (SWITCH)
- 12. Error Handling:**
- IFERROR, ISERROR
- 

## **Data Management**

- 13. Data Import and Export:**
- Importing Data from CSV, Text, or SQL
  - Power Query Basics
- 14. Database Functions:**
- DSUM, DAVERAGE, DCOUNT
- 15. Data Validation:**
- Drop-down Lists
  - Custom Rules
- 16. Named Ranges:**
- Creating and Managing Named Ranges
  - Using Named Ranges in Formulas
- 

## **Statistical Analysis**

- 19. Descriptive Statistics:**
- AVERAGE, MEDIAN, MODE
  - VAR, STDEV
  - FREQUENCY
- 20. Regression and Forecasting:**
- Trendlines
  - LINEST, FORECAST
- 21. Correlation:**
- CORREL
  - COVAR

# Data Analyst Roadmap 2025

## SQL

### \*Basic SQL

- 1. Introduction to SQL:**
    - What is SQL?
    - SQL Syntax and Structure
    - Database Concepts (Tables, Rows, Columns)
  - 2. Basic Queries:**
    - SELECT Statement
    - Filtering with WHERE Clause
    - Sorting with ORDER BY
  - 3. Basic Functions:**
    - Aggregate Functions (COUNT, SUM, AVG, MIN, MAX)
    - String Functions (UPPER, LOWER, CONCAT)
    - Date Functions (NOW, CURDATE, YEAR, MONTH)
- 

### \*Intermediate SQL

- 4. Joins:**
    - INNER JOIN
    - LEFT JOIN (or LEFT OUTER JOIN)
    - RIGHT JOIN (or RIGHT OUTER JOIN)
    - FULL JOIN (or FULL OUTER JOIN)
    - CROSS JOIN
  - 5. Subqueries:**
    - Single-row Subqueries
    - Multi-row Subqueries
    - Correlated Subqueries
  - 6. Grouping and Aggregation:**
    - GROUP BY Clause
    - HAVING Clause
    - Combining WHERE and HAVING
  - 7. Data Manipulation:**
    - INSERT INTO
    - UPDATE
    - DELETE
  - 8. Aliases:**
    - Column Aliases
    - Table Aliases
-

# Data Analyst Roadmap 2025

## \*Advanced SQL

9. **Advanced Joins:**
    - Self Joins
    - Equi and Non-equi Joins
  10. **Window Functions:**
    - ROW\_NUMBER
    - RANK, DENSE\_RANK
    - NTILE
    - PARTITION BY Clause
  11. **Set Operations:**
    - UNION and UNION ALL
    - INTERSECT
    - EXCEPT
  12. **Case Statements:**
    - Using CASE for Conditional Queries
  13. **Advanced Functions:**
    - COALESCE
    - NULLIF
    - CAST and CONVERT
- 

## \*Database Management

14. **Schema Design:**
    - Understanding Primary Keys and Foreign Keys
    - Constraints (NOT NULL, UNIQUE, DEFAULT)
    - Indexes
  15. **Views:**
    - Creating and Managing Views
    - Advantages of Views
  16. **Stored Procedures and Functions:**
    - Writing Stored Procedures
    - User-defined Functions
  17. **Triggers:**
    - What are Triggers?
    - Using Triggers for Automation
- 

## Performance Optimization

18. **Query Optimization:**
  - Using Indexes

# Data Analyst Roadmap 2025

- Query Execution Plans
  - Avoiding Common Pitfalls (e.g., SELECT \*)
- 19. Database Normalization:**
- Normal Forms (1NF, 2NF, 3NF)
  - De-normalization Techniques
- 

## Data Analysis

- 20. Data Extraction:**
- Exporting Query Results
  - Connecting SQL to BI Tools (Tableau, Power BI)
- 21. Data Cleaning:**
- Handling NULL Values
  - Deduplication Techniques
- 22. Statistical Analysis:**
- Percentiles
  - Running Totals
  - Histograms with SQL
- 

## SQL for Big Data

- 23. Working with Large Datasets:**
- Using LIMIT and OFFSET
  - Partitioning and Bucketing
- 24. NoSQL Basics (Optional):**
- Difference Between SQL and NoSQL
  - Querying JSON Data in SQL (e.g., MySQL, PostgreSQL)
- 

## Security and Access

- 25. User Management:**
- Creating Users and Roles
  - Granting and Revoking Permissions
- 26. Database Security:**
- Preventing SQL Injection
  - Securing Sensitive Data

# Data Analyst Roadmap 2025

## Python

### \*Basic Python

- 1. Introduction to Python:**
    - Setting up Python Environment (Anaconda, Jupyter, etc.)
    - Python Syntax and Basic Structure
    - Writing and Running Python Scripts
  - 2. Basic Data Types:**
    - Integers, Floats, Strings, Booleans
    - Type Conversion
  - 3. Control Structures:**
    - Conditional Statements (if, elif, else)
    - Loops (for, while)
  - 4. Basic Functions:**
    - Defining and Calling Functions
    - Arguments and Return Values
- 

### \*Intermediate Python

- 5. Data Structures:**
    - Lists, Tuples, Sets, Dictionaries
    - List Comprehensions
  - 6. String Manipulation:**
    - String Methods (split, join, replace, etc.)
    - Regular Expressions (re module)
  - 7. Error Handling:**
    - Try-Except Blocks
    - Raising Exceptions
  - 8. File Handling:**
    - Reading and Writing Files
    - Working with CSV and Text Files
  - 9. Modules and Packages:**
    - Importing Modules
    - Using Standard Libraries (os, math, random)
- 

### \*Data Analysis in Python

- 10. NumPy:**
  - Arrays and Array Operations

# Data Analyst Roadmap 2025

- Indexing and Slicing
- Statistical Functions (mean, median, std)

## 11. **Pandas:**

- DataFrames and Series
- Data Cleaning (Handling Missing Data, Removing Duplicates)
- Data Aggregation (groupby, pivot tables)
- Merging and Joining DataFrames

## 12. **Matplotlib and Seaborn:**

- Basic Plotting (Line, Bar, Scatter)
- Customizing Plots
- Advanced Visualization (Heatmaps, Pairplots)

## 13. **Data Input and Output:**

- Reading/Writing CSV, Excel, and JSON files
  - Connecting to Databases using SQLAlchemy
- 

## **\*Advanced Python for Data Analysis**

### 14. **Data Wrangling:**

- Reshaping Data (Melt, Pivot)
- Feature Engineering
- Scaling and Normalization

### 15. **Exploratory Data Analysis (EDA):**

- Descriptive Statistics
- Correlation Analysis
- Outlier Detection

### 16. **Time Series Analysis:**

- DateTime in Python
  - Handling Time Series Data
  - Rolling, Expanding, and Window Functions
- 

## **Machine Learning Basics**

### 17. **Introduction to scikit-learn:**

- Train-Test Split
- Simple Regression and Classification Models
- Model Evaluation (Accuracy, Precision, Recall)

### 18. **Clustering:**

- K-means and Hierarchical Clustering
- Dimensionality Reduction (PCA)

### 19. **Text Analysis:**

- Tokenization and Word Frequencies



## Data Analyst Roadmap 2025

- Using nltk and TextBlob Libraries