

Data Analyst / Business Analyst Roadmap for All: 2025

Following is the roadmap to learn **Data Analyst** skills for a total beginner (**no coding or computer science background** needed). It includes FREE learning resources for technical skills (or tool skills) + soft (or core) skills + Practice + Showcasing your work to get interview calls + Cracking Interview.

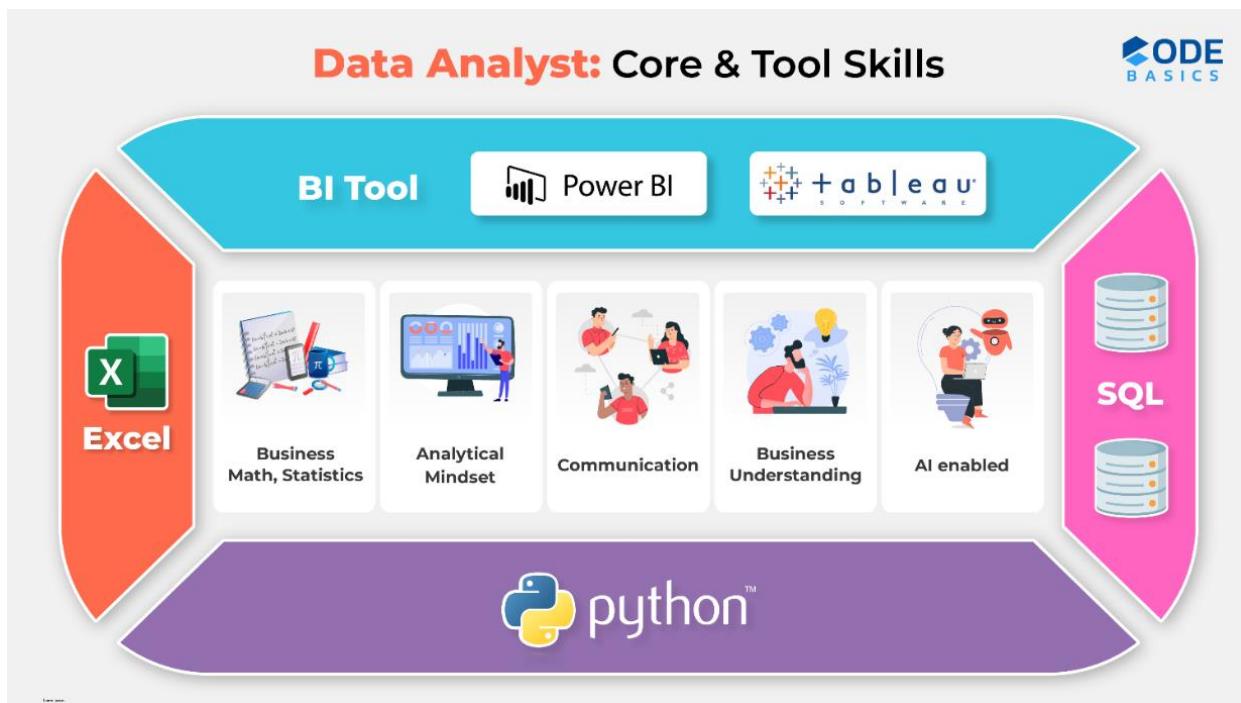
Total Duration: **3-6 Months**

1.5 hours in Tool Skills +

1 hour in Core Skills +

1.5 hours in practice /execution =

4 hours of dedication Every Day.



This roadmap will require you to do 4 major things

1. **Building Skills**
2. **Showing Skills**
3. **Research (Foundation Layer)**
4. **Preparing your mind & body**

You will perform all these 4 things simultaneously, to help yourself land a job / upskill in 2025 😊

Additionally, we've included supplementary learning at the end that will help you stand out in the job market.

Week 0: Fundamental Research + Preparing your Mind & Body

Research Questions Checklist

- Is there growth in the market for this role?
- Are people getting jobs for this role?
- Is it possible to transfer DA skills to other data roles in future?
- Is there reasonable pay for this role?
- Are there enough free resources for me to check my interest?
- Who are the big players (products) in my field of interest?
- Is there an active community of aspirants and professionals?
- What kind of problems are being solved in the industry using this field?
- Will this problem remain relevant in a few years to come with advancements in AI?
- Does this role align with my natural capabilities & interest?

WEF Report:

https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf

Reality Check: https://www.linkedin.com/posts/hemvad_data-aspirants-know-this-reality-1-this-activity-7261582534826717184-9imE

Suitability Test:

You can take this suitability test: <https://codebasics.io/find-your-match-da>

Scam Awareness:

There are many active scams targeting aspirants at various stages of the journey

Scam Awareness Course: <https://codebasics.io/courses/scam-awareness-course>

Preparing your Mind & Body

1. Accept that you are entering a competitive field
2. Train to use internet as your second brain
3. Disengage from "Victim" mindset people
4. Engage with "Hero" mindset people
5. Create a consistent sleep cycle
6. Eat mindfully, move regularly
7. Read any spiritual book

Week 1 and 2: Excel and Business Math/Statistics + LinkedIn Profile

- Excel**

- Topics
 - Basic Formulas: SUM, AVERAGE, PRODUCT, MEAN, MEDIAN, IF, SUMIF
 - Advanced Formulas: VLOOKUP, MATCH, INDEX
 - Pivot Tables
 - Basic Charting, Filters, Sorting
 - Power Query
 - Ignore VBA, Macros etc.
- Learning Resources
 - Track A
 - Business math using Excel: <https://youtu.be/npgbl8KYvN8>
 - Google templates gallery for personal finance: <https://docs.google.com/spreadsheets/u/0/?ftv=1>
 - Budget planner: <https://www.vertex42.com/ExcelTemplates/budgets.html>
 - Chandoo's YouTube channel: https://www.youtube.com/@chandoo_
 - Track B
 - Codebasics Excel course: <https://codebasics.io/courses/excel-mother-of-business-intelligence/>

- Business Math and Statistics**

- Topics:
 - Business Math
 - Arithmetic, Percentages
 - YoY (Year over year) Growth or Decline: When Apple grew from 50 to 60 million, what is the % growth? Answer: 20 %
 - If below is the cell phone sales breakdown, what is the % Market Share of iPhone? Answer: 42.10%
 - iPhone - 40 billion

- Samsun Galaxy -20 billion
 - Google Pixel – 5 billion
 - Others – 30 billion
- Basic Statistics
 - Mean, Median, Standard Deviation, Bell Curve, Percentile
- Learning Resources
 - Business math: <https://youtu.be/npgbl8KYvN8>
 - Business math (Hindi):
https://youtu.be/vtrbOri8lag?si=DNmHRAbQCof5N_6H
 - <https://www.khanacademy.org/>
 - Intro to percentage
<https://www.khanacademy.org/math/pre-algebra/xb4832e56:percentages#xb4832e56:intro-to-percents>
 - <https://www.mathsisfun.com/>

- **LinkedIn - Core Skill**

- Create a professional-looking LinkedIn profile.
 - Have a clear profile picture and banner image.
 - Add tags such as: Open to work etc.
 - Use this LinkedIn Checklist to create a profile: [Click here.](#)

- **Motivation**

- Fresher BCom to Data Analyst Podcast -> <https://bit.ly/46VtfJK>

- **Assignment**

(Use the assignment tracker: [Click here](#))

- **Upskilling**
 - Create your own budget based on your monthly expenses.
 - **Showing your work**
 - Post the template of your budget sheet on LinkedIn and share your learning experience. (*Tag Codebasics, Dhaval Patel and Hemanand Vadivel with the hashtag #daroadmap25 so we can engage to increase your visibility*)
 -  Insight: Only 60 among 100 aspirants continue further. You be one among them 😊

Week 3, 4, 5: BI tools (Power BI or Tableau) + LinkedIn Engagement + Domain Knowledge

More research:

Research on Trends:

- What is unified analytics?
- What is self-service BI?
- What is the significance of [Gartner magic quadrant for BI?](#)
- What are the leading tools in the area of BI?
- What is Microsoft Fabric?

DA FAQ Navigator:

We have collected all the questions asked by aspirants, added our responses and resources: <https://codebasics.io/da-navigator>

Offline Community:

Here is an offline community made by data folks for the data folks

Indian Data Club (Discord): <https://discord.com/invite/SQ3rU3ddFq>

Indian Data Club (LinkedIn): <https://www.linkedin.com/company/indian-data-club>

- **Power BI**

- Topics

- Connecting to different data sources
 - Data transformation in Power Query
 - Creating metrics using DAX & Data Modelling
 - Creating visuals
 - Dashboarding
 - Publishing to Power BI Service

- Learning Resources

- Track A (Project Based Learning)
 - Sales insights Power BI project: <https://bit.ly/3C1WKgA>
 - Hospitality Insights Project: <https://bit.ly/3DPBcoj>
 - Cricket T20 Project: <https://bit.ly/3j5I7ID>
 - HR data analytics project: <https://bit.ly/41vxcUz>

- YT Channels to Follow:
 - [Curbal](#)
 - [Guy in a cube](#)
 - [How to Power BI](#)
 - [Learnwidwiggs](#)
 - Track B
 - My Power BI course that can make you job-ready: <https://codebasics.io/courses/power-bi-data-analysis-with-end-to-end-project>

- **Tableau**
 - Codebasics sales insights project: <http://bit.ly/3YQSBFV>
 - Hindi codebasics sales insights project: <https://bit.ly/3hZXUCb>
- **Should I learn Power BI or Tableau?**
 - If someone asks me to pick between Power BI and Tableau, I always suggest Power BI as it is growing in popularity as compared to Tableau.
 - This Gartner research shows Power BI is leading a BI game: [Check here.](#)
- **LinkedIn - Core Skill**
 - Start following prominent data analytics influencers!
 - Hemanand Vadivel: <https://www.linkedin.com/in/hemvad/>
 - Injae Park: <https://www.linkedin.com/in/injae-park/>
 - Shashank Singh: <https://bit.ly/4apSv7>
 - Raghavan P: <https://www.linkedin.com/in/raghavan-rp/>
 - Naveen S: <https://www.linkedin.com/in/naveen-s6/>
 - Alex the Analyst: <https://www.linkedin.com/in/alex-freberg/>
 - Munna Das: <https://www.linkedin.com/in/munnadas/>
 - Thodupunuri Bharath: <https://www.linkedin.com/in/thodupunuri-bharath/>
 - Luke barousse: <https://www.linkedin.com/in/luke-b/>
 - Ian K: <https://www.linkedin.com/in/ian-klosowicz/>
 - Hariharan S: <https://www.linkedin.com/in/hariharan14/>
 - Brian Julius: <https://www.linkedin.com/in/brianjuliusdc/>

- Increase engagement!
 - Start commenting meaningfully on data analytics and career-related posts
 - Helps network with others working in the industry build connections.
 - Learning and brainstorming opportunity
- **Business Fundamentals / Domain Knowledge - Core Skill**
 - Get a basic understanding of Domains and Functions
 - [Link to detailed post](#)
 - Learn business concepts from ThinkSchool and other YT Case Studies
 - Example: How Amul beat competition using analytics:
<https://youtu.be/nnwqtZiYMxQ>
 - Learn P&L fundamentals
 - There are many data analyst positions in finance department of any company and learning P&L is super important for this role
 - Resource: Investopedia
 - Power BI course for integrated business and tech learning.
- **Discord - Core Skill**
 - Start asking questions and get help from the community. These posts show how to ask questions the right way:
 - <https://bit.ly/3I70Ebl>
 - <https://bit.ly/3tezRFi>
- **Motivation**
 - Mom with career break to Data Analyst: <https://bit.ly/3MI2uRc>
- **Assignment**
 - **Upskilling**
 - Do one unguided project from this list: <https://bit.ly/43v4Ni2>
 - Read and understand P&L statements of at least 3 public companies

- **Show your work**

- Make a post on the unguided project on LinkedIn:

- Example: <https://bit.ly/4737ckl>

- (Tag *Codebasics, Dhaval Patel and Hemanand Vadivel* with the hashtag *#daroadmap24* so we can engage to increase your visibility)

- Make sure you are making at least 1 meaningful comment every day!

-  Insight: Only 40 among 100 aspirants continue further. You be one among them 😊

Week 6, 7 and 8: SQL + ATS Resume + Project Portfolio

Research

- What are the projects your professional connections working on?
- What are the 2 major reasons professionals are growing in their career?
- What strategies do people who land jobs use?

- **SQL**

- Topics
 - Basics of relational databases
 - Basic Queries: SELECT, WHERE LIKE, DISTINCT, BETWEEN, GROUP BY, ORDER BY
 - Advanced Queries: CTE, Subqueries, Window Functions
 - Joins: Left, Right, Inner, Full
 - Stored procedures and functions
 - No need to learn database creation, indexes, triggers etc. as those things are rarely used by data analysts.
- Learning Resources
 - Track A
 - Free SQL Tutorial with exercises:
<https://www.youtube.com/watch?v=Rm0xH2VpfI0>
 - Khan academy: <https://bit.ly/3WFku20>
 - <https://www.w3schools.com/sql/>
 - <https://sqlbolt.com/>

- Track B
 - SQL course for data professionals:
<https://codebasics.io/courses/sql-beginner-to-advanced-for-data-professionals>
- **Presentation - Core Skills**
 - Learn presentation skills
 - Death by PowerPoint:
<https://www.youtube.com/watch?v=lwpi1Lm6dFo>
- **ATS Resume Preparation**
 - Resumes are dying but not dead yet. Focus more on online presence.
 - Here is the resume tips video along with some templates you can use for your data analyst resume:
<https://www.youtube.com/watch?v=buQSI8NLOMw>
 - Use this checklist to ensure you have the right ATS Resume: [Check here.](#)
- **Portfolio Building Resources:**

You need a portfolio website in 2025. You can build your portfolio by using these free resources.

 - [Novypro](#)
 - Helpful to add Power BI and Excel Projects.
 - [Linktree](#)
 - Helpful to add multiple links in one page.
 - [GitHub](#)
 - Another way to add projects and showcase it to hiring managers.
 - [Codebasics Portfolio Website](#)
 - This is part of Codebasics Data Analyst Bootcamp.
 - Example Portfolios: <https://codebasics.io/portfolio/>
- **Assignment**
 - **Upskilling**
 - Participate in SQL resume project challenge: <https://bit.ly/40x3YEF>

- **Showing your work**

□ Add a link of your projects in your resume and LinkedIn.

(Tag *Codebasics, Dhaval Patel and Hemanand Vadivel* with the hashtag *#daroadmap24* so we can engage to increase your visibility)

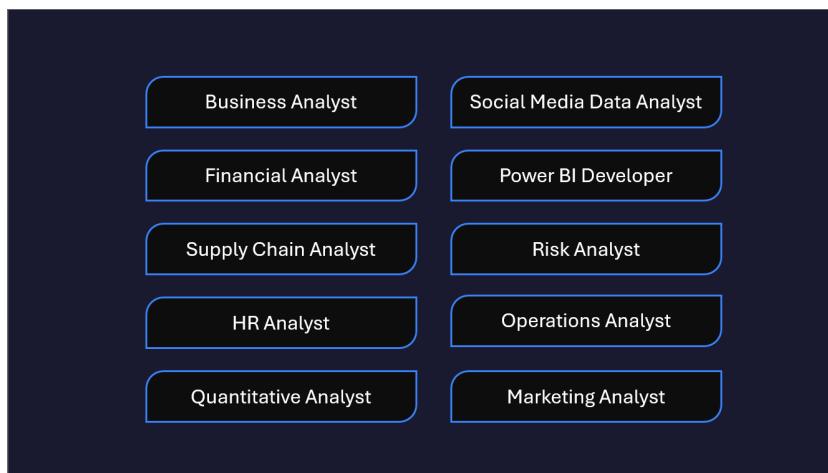
💡 Insight: Only 30 among 100 aspirants continue further. You be one among them 😊

Week 9 & 10: Python and Pandas + Leveraging AI Tools + More Domain Knowledge

Research

Career Roles Related to Data Analytics:

When considering a career in analytics, it's common to first think of the Data Analyst role, but there are numerous other exciting opportunities across various industries. If you're learning data analytics, expand your prospects by acquiring domain-specific knowledge to explore diverse roles related to data analytics. For example, if you have domain knowledge in a specific field like HR, then HR Analytics could be a promising career opportunity as a data analyst.



check out this resource to understand more about the career role related to data analytics: <https://codebasics.io/resources/data-analytics-and-beyond-career-paths-you-should-know>

- **Python**
 - Topics
 - Variables, Lists, Dictionaries, Tuples, If condition, for loops, functions, modules, file handling, classes and objects, exception handling
 - Learning Resources
 - Track A
 - Codebasics python tutorials (first 16)
- <https://bit.ly/3X6CCC7>
 - Codebasics python HINDI tutorials
- <https://bit.ly/3vmXrgw>
 - Make sure to work on exercises in these folders:
<https://github.com/codebasics/py/tree/master/Basics/Exercise>
 - Python Project: Large Scale Data Analysis
<https://youtu.be/1MGG75oUK7o?si=r1rRMabmYPxOCQAh>
 - Track B
 - Python course: <https://codebasics.io/courses/python-for-beginner-and-intermediate-learners>
- **Pandas**
 - Topics
 - Dataframe basics
 - Reading data from csv/excel files
 - Handling missing data
 - Group by, Concat, Merge
 - Resources
 - Codebasics pandas playlist
(first 9): <https://www.youtube.com/playlist?list=PLeo1K3hjS3uuASpe-1LjfG5f14Bnozjwy>
 - Kaggle datasets: <https://www.kaggle.com/datasets>
 - Kaggle notebooks: <https://www.kaggle.com/notebooks>

- **Project Management**

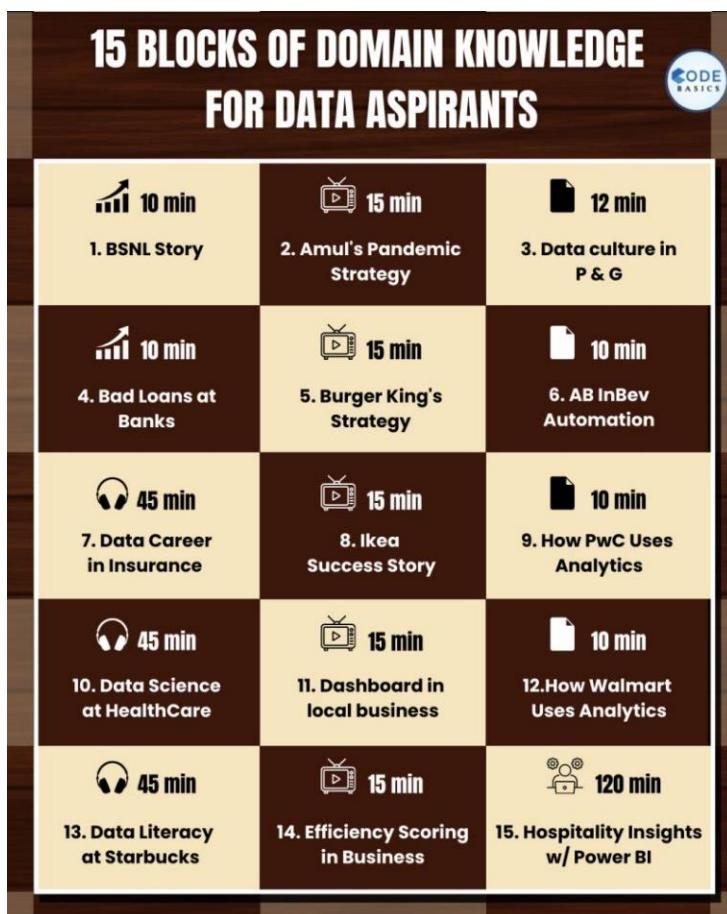
- Scrum: <https://scrumtrainingseries.com/>
- Kanban: <https://youtu.be/jf0tlbt9lx0>
- Tools: JIRA, Notion

- **Leveraging ChatGPT**

- 4 Technical Areas where you can leverage AI:
 - <https://bit.ly/3RSsf53>

- **Leveraging Domain Knowledge**

Build domain knowledge to understand how to use business terms along with numbers



All Links:

1. BSNL Story -> [Link](#)
2. Amul's pandemic strategy ->[Link](#)
3. P & G data culture -> [Link](#)

4. Bad loans at Banks -> [Link](#)
5. Burger King's Strategy ->[Link](#)
6. AB InBev Automation ->[Link](#)

7. Data Career in Insurance Industry -> [Link](#)
8. Ikea Case Study ->[Link](#)
9. PwC using Analytics -> [Link](#)

10. Data science at health care -> [Link](#)
11. Dashboard in local business -> [Link](#)
12. Walmart Using Power BI -> [Link](#)

13. Data Literacy at Starbucks -> [Link](#)
14. Efficiency Scoring in Business -> [Link](#)
15. Hospitality Insights -> [Link](#)

- **Assignment**

- Make a LinkedIn project post with a video presentation.
 - Example post: <https://bit.ly/47WbRG9>
(Tag Codebasics, Dhaval Patel and Hemanand Vadivel with the hashtag #daroadmap25 so we can engage to increase your visibility)
 - Codebasics is promoting winning entries to employers. This way you can get interview calls. We do this in two ways.
 - We have a database of employers hiring for data analyst positions. We send the first 10 or 20 profiles based on their performance.
 - LinkedIn post by Dhaval (who has more than 150k followers and some of them are HR managers, data analytics senior managers): <https://bit.ly/3jnni5c>

- Discord: Start solving problems – this way you will be able to adopt to the problem-solving mindset

- 💡 Insight: Only 20 among 100 aspirants continue further. You be one among them 😊

Week 11, 12: Interview Prep & Practice

- **Interview Preparation**

- SQL interview preparation
 - Use this website: <https://datalemur.com/>
 - Also check this YouTube channel:
<https://www.youtube.com/@techTFQ>
- Power BI and other tech interview preparation
 - Shashank's YouTube Channel: [LearnWidGiggs](#)

- **DA Projects for Interview**

In the video, we have provided 6 solid projects: 3 solid guided projects and 3 un-guided projects.

For each project, you will learn:

- The technical and core skills you will acquire.
- How to effectively include these projects in your resume.
- How to articulate the details of these projects during an interview with a hiring manager.

Link: <https://youtu.be/prPBS6wbYA?si=weY6-Gy-XHKBUnM>

- **Practice Unguided Projects**

- [Provide Ad Hoc Insights to Management](#)
- [Provide Insights to the Executive Team/ Telecom Domain](#)
- [Solve a supply chain problem/ FMCG Domain](#)
- [Provide Insights to Marketing/ F&B Industry](#)

Explore the latest projects below ↗

CLICK HERE 

- **Job Applications**

- Cold emailing: https://youtu.be/tD_sQSzq6uY
- Job referrals. Use LinkedIn as much as you can!
 - Follow this method to approach professionals:
<https://bit.ly/3tezRFi>

- **Assignment**

- Participate in more resume project challenges.
 - These challenges help you improve technical skills, soft skills and business understanding.
 - (Tag Codebasics, Dhaval Patel and Hemanand Vadivel with the hashtag #daroadmap24 so we can engage to increase your visibility)
 - Post your work at least once in 2 weeks on LinkedIn.
 - Example post: <https://bit.ly/3WMTgGK> (Naveen S)
 - Make at least two posts per week.
 - Make at least two comments per week.
 - Discord server participation

💡 Insight: Only 5-10 among 100 aspirants reach until here and crack a job.
You be one among them 😊

Supplementary Learning:

If you have additional time, consider learning these supplementary learning to stand out in the job market. They not only enhance your current skill set but also open up new career paths.

- **Microsoft Fabric:**

Microsoft Fabric is a cloud-based analytics platform that brings together a suite of data management and analytics tools into a unified experience. It's designed to simplify how organizations collect, prepare, analyze, and share data insights.

Learning Resources: <https://youtu.be/hwwU8V48g-4?si=B-c3SsgVoSEEyFxp>

- **Power Automate:**

Power Automate is a service provided by Microsoft that helps you build workflows to automate time-consuming business tasks and processes across applications and services.

Learn from the documentation: <https://learn.microsoft.com/en-us/training/powerplatform/power-automate>

- **PL 300 Certificate:**

Hiring managers often use certifications to filter candidates. Nowadays, obtaining a certification online is easy, so it's important to choose ones that are more challenging to earn. One such certification is the PL-300 Microsoft Certification for Power BI. This certification is not easily attained and requires a solid level of Power BI skills, meeting the criteria that many hiring managers look for.

Syllabus and learning resources: <https://learn.microsoft.com/en-us/credentials/certifications/data-analyst-associate/?practice-assessment-type=certification>

<https://learn.microsoft.com/en-us/training/courses/pl-300t00>

- **Make Your Dashboard Look Unique:**

Understanding dashboard design can be tricky, but with the right guidance, transforming a simple dashboard into something stunning is entirely achievable. Check out this video to effortlessly enhance your design skills.

<https://codebasics.io/playback/how-to-transform-your-dashboards-from-simple-to-stunning>

- **Story Telling with Data:**

One of the core responsibilities of a data analyst is to convey insights from data to non-technical stakeholders. Data analysis involves more than just presenting visuals; it's about deriving insights from the data and representing them with supporting visuals. Check out this book to learn [storytelling with data](#).

Also, check out our [resource page](#) to access free and content-rich resources. Follow us on our [WhatsApp channel](#) to get updates on resources published every week.

How can I access guided learning all in one place with practical job assistance?

If you need guided learning with a high quality learning resources along with practical job assistance then check this affordable data analyst bootcamp by codebasics: <https://codebasics.io/bootcamps/data-analytics-bootcamp-with-practical-job-assistance>

The bootcamp will help you save time compared to free learning resources. Also, it will provide job, interview assistance along with a virtual internship  

Tips for effective learning

- **Spend less time in consuming information, more time in**
 - Digesting
 - Implementing
 - Sharing
- **Group learning**
 - Use **partner-and-group-finder** channel on codebasics discord server for group study and hold each other accountable for the progress of your study plan. Here is the discord server link: [Discord](#)

Final Checklist/ Concluding Actions Checklist:

The more boxes you tick, the closer you get to opening the door to your first data analyst job! 🎉

DATA ANALYST ASPIRANT CHECKLIST		
EXCEL	POWER BI	SQL / PYTHON
<input type="checkbox"/> LOOK UPS	<input type="checkbox"/> POWER QUERY	<input type="checkbox"/> BIG 6 STATEMENTS
<input type="checkbox"/> PIVOT TABLE	<input type="checkbox"/> DAX & DATA MODELING	<input type="checkbox"/> JOINS, CTEs, WINDOW
<input type="checkbox"/> POWER QUERY	<input type="checkbox"/> DASHBOARD DESIGN	<input type="checkbox"/> STORED PROCEDURES
<input type="checkbox"/> BASIC MATH & STATS	<input type="checkbox"/> PBI SERVICE	<input type="checkbox"/> PANDAS - DF BASICS
AI ENABLED / MINDSET	BUSINESS ACUMEN	COMMUNICATION
<input type="checkbox"/> GOOGLING SKILL	<input type="checkbox"/> REVENUE, PROFIT	<input type="checkbox"/> PRESENT INSIGHTS
<input type="checkbox"/> USING CHATGPT / BARD	<input type="checkbox"/> MARKET SHARE	<input type="checkbox"/> WRITE EMAILS
<input type="checkbox"/> CONTINUOUS LEARNING	<input type="checkbox"/> BASICS OF ANY 2 DOMAINS	<input type="checkbox"/> STAKEHOLDER MGMT
<input type="checkbox"/> PROBLEM SOLVING	<input type="checkbox"/> FINANCE, SALES METRICS	<input type="checkbox"/> PROJECT MGT TOOLS
RESUME	LINKEDIN	PORTFOLIO
<input type="checkbox"/> ATS CHECKED	<input type="checkbox"/> GOOD DP + BANNER	<input type="checkbox"/> 4+ BUSINESS PROJECTS
<input type="checkbox"/> CURATED FOR JD	<input type="checkbox"/> 10 ENDORSED SKILLS	<input type="checkbox"/> 1 PER TOOL
<input type="checkbox"/> STAR METHOD USED	<input type="checkbox"/> 3 RECOMMENDATIONS	<input type="checkbox"/> INSIGHTS DECK
<input type="checkbox"/> PORTFOLIO LINK	<input type="checkbox"/> LINK TO PORTFOLIO	<input type="checkbox"/> VIDEO PRESENTATION

Other Relevant Resources

How to land job as a fresher (scientific approach): <https://bit.ly/41xuZYv>

Summary

Prepare your Mind & Body

1. Accept that you are entering a competitive field
2. Train to use internet as your second brain
3. Disengage from "Victim" mindset people
4. Engage with "Hero" mindset people
5. Create a consistent sleep cycle
6. Eat mindfully, move regularly
7. Read any spiritual book

Acquire Skills - Get Job Ready

8. Do thorough research on market condition / resources
9. Filter the noise and learn from right resources
10. Practice until you get it in muscle memory
11. Understand domains and functions
12. Do multiple unguided projects
13. Find a learning community

Show proof of work & Land a Job

14. Get your LinkedIn profile right
15. Create a resume with 90+ ATS
16. Build a project portfolio website
17. Keep doing open source projects
18. Keep posting your work on LinkedIn
19. Participate in offline networking sessions
20. Reach out to people on LinkedIn w/ proof of work
21. Apply sensibly - treat each JD as a question paper

All the best! 

