**MODULE 3- DATABASE ESSENTIALS**

**WORK WITH DATABASES**

[**ALL ABOUT DATABASES**](https://www.coursera.org/learn/data-preparation/lecture/szLl7/all-about-databases)

Next step, we're going to learn all about databases. As a refresher, a **database is a collection of data stored in a computer system, but storage is just the beginning**. You'll discover how databases make it possible to find the exact piece of information you need for your analysis. You'll also learn how to **sort data** in order to zoom in on what you need to generate insightful reports and much more. Then we'll go even deeper, and I mean really, really deep. I'm talking about **metadata**. You've probably heard someone say, wow that's so meta. **Usually they're talking about something referencing back to itself or being completely self aware**. For example if a character in a book knows she's in a book, that's meta. If you make a documentary about making documentaries, that's also meta. And here at Google, I constantly analyze how I analyze data. That's definitely meta.

I do that to give my work a quality check to make sure my methods are fair. And to be certain that I'm paying attention to any biases that might affect the outcome. As an analyst, you should do this too. Sometimes we get a little too close to our data. So stepping back and asking ourselves if our processes make sense is key. But let's back up just a bit and define metadata. **Metadata is data about data**. Like I said: deep.

**Metadata is extremely important when working with databases**. Think of it like a reference guide. Without the guide all you have is a bunch of data with no context explaining what it means. Metadata tells you where the data comes from, when and how it was created, and what it's all about.

Up next, you'll learn how to take data from a database or another source and bring it into a spreadsheet. You'll do this either by importing it directly or by using SQL to generate the request. And once you have data in a spreadsheet, the possibilities are endless. Everything we're about to cover is a very important part of the Prepare phase of the data analysis process. It's how data analysts figure out which kind of data is going to be most helpful to them. If you have the right data, you're much more likely to be able to solve your business problems successfully.

[**DATABASE FEATURES AND COMPONENTS**](https://www.coursera.org/learn/data-preparation/lecture/JCWIr/database-features-and-components)

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[**MAXIMIZE DATABASES IN DATA ANALYTICS**](https://www.coursera.org/learn/data-preparation/supplement/uXqEX/maximize-databases-in-data-analytics)

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[**INSPECT A DATASET: A GUIDED, HANDS-ON TOUR**](https://www.coursera.org/learn/data-preparation/supplement/0FIHG/inspect-a-dataset-a-guided-hands-on-tour)

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[**TEST YOUR KNOWLEDGE ON WORKING WITH DATABASES**](https://www.coursera.org/learn/data-preparation/quiz/rz8nP/test-your-knowledge-on-working-with-databases)

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**MANAGE DATA WITH METADATA**

[**DEMYSTIFY METADATA**](https://www.coursera.org/learn/data-preparation/lecture/vsFl7/demystify-metadata)

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[**METADATA IS AS IMPORTANT AS THE DATA ITSELF**](https://www.coursera.org/learn/data-preparation/supplement/mdF9p/metadata-is-as-important-as-the-data-itself)

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[**METADATA AND METADATA REPOSITORIES**](https://www.coursera.org/learn/data-preparation/supplement/noiNb/metadata-and-metadata-repositories)

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[**MANAGE DATA WITH METADATA**](https://www.coursera.org/learn/data-preparation/lecture/C7QQB/manage-data-with-metadata)

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[**MEGAN: FUN WITH METADATA**](https://www.coursera.org/learn/data-preparation/lecture/bHqPA/megan-fun-with-metadata)

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[**TEST YOUR KNOWLEDGE ON METADATA**](https://www.coursera.org/learn/data-preparation/quiz/gIn3V/test-your-knowledge-on-metadata)

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**ACCESS DIFFERENT DATA SOURCES**

[**SO MANY PLACES TO FIND DATA**](https://www.coursera.org/learn/data-preparation/lecture/jj7B1/so-many-places-to-find-data)

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[**STEP-BY-STEP: IMPORT DATA FROM SPREADSHEETS AND DATABASES**](https://www.coursera.org/learn/data-preparation/supplement/esVz6/step-by-step-import-data-from-spreadsheets-and-databases)

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[**IMPORT DATA FROM SPREADSHEETS AND DATABASES**](https://www.coursera.org/learn/data-preparation/lecture/KCphN/import-data-from-spreadsheets-and-databases)

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[**IMPORT DATA DYNAMICALLY**](https://www.coursera.org/learn/data-preparation/supplement/2slzg/import-data-dynamically)

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[**EXPLORE PUBLIC DATASETS**](https://www.coursera.org/learn/data-preparation/supplement/8yrhM/explore-public-datasets)

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[**TEST YOUR KNOWLEDGE ON ACCESSING DATA SOURCES**](https://www.coursera.org/learn/data-preparation/quiz/2fOBQ/test-your-knowledge-on-accessing-data-sources)

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**SORT AND FILTER DATA**

[**SORT AND FILTER TO FOCUS ON RELEVANT DATA**](https://www.coursera.org/learn/data-preparation/lecture/LUq19/sort-and-filter-to-focus-on-relevant-data)

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[**HANDS-ON ACTIVITY: CLEAN DATA IN SPREADSHEETS WITH SORTING AND FILTERING**](https://www.coursera.org/learn/data-preparation/quiz/JY3Zv/hands-on-activity-clean-data-in-spreadsheets-with-sorting-and-filtering)

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[**SELF-REFLECTION: COMPARE DATABASES AND SPREADSHEETS**](https://www.coursera.org/learn/data-preparation/quiz/a1ShE/self-reflection-compare-databases-and-spreadsheets)

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[**TEST YOUR KNOWLEDGE ON SORTING AND FILTERING**](https://www.coursera.org/learn/data-preparation/quiz/HKePv/test-your-knowledge-on-sorting-and-filtering)

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**LARGE DATASETS IN SQL**

[**GET TO KNOW BIGQUERY, WITH SANDBOX AND BILLING OPTIONS**](https://www.coursera.org/learn/data-preparation/lecture/YCkys/get-to-know-bigquery-including-sandbox-and-billing-options)

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[**SET UP YOUR BIGQUERY ACCOUNT**](https://www.coursera.org/learn/data-preparation/supplement/DYOQK/set-up-your-bigquery-account)

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[**GET STARTED WITH BIGQUERY**](https://www.coursera.org/learn/data-preparation/supplement/7ctZ8/get-started-with-bigquery)

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[**STEP-BY-STEP: BIGQUERY IN ACTION**](https://www.coursera.org/learn/data-preparation/supplement/PZ6Sv/step-by-step-bigquery-in-action)

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[**BIGQUERY IN ACTION**](https://www.coursera.org/learn/data-preparation/lecture/H877e/bigquery-in-action)

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[**HANDS-ON ACTIVITY: INTRODUCTION TO BIGQUERY**](https://www.coursera.org/learn/data-preparation/quiz/OsfsT/hands-on-activity-introduction-to-bigquery)

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[**HANDS-ON ACTIVITY: CHOOSE THE RIGHT TOOL FOR THE JOB**](https://www.coursera.org/learn/data-preparation/quiz/KThkt/hands-on-activity-choose-the-right-tool-for-the-job)

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[**HANDS-ON ACTIVITY: MORE PRACTICE WITH SQL**](https://www.coursera.org/learn/data-preparation/quiz/vGN91/hands-on-activity-more-practice-with-sql)

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[**TEST YOUR KNOWLEDGE ON USING SQL WITH LARGE DATASETS**](https://www.coursera.org/learn/data-preparation/quiz/3UyRx/test-your-knowledge-on-using-sql-with-large-datasets)

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**MODULE 3 CHALLENGE**

[**GLOSSARY TERMS FROM MODULE 3**](https://www.coursera.org/learn/data-preparation/supplement/MOjTP/glossary-terms-from-module-3)

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**MODULE 4- ORGANIZE AND PROTECT DATA**

**BRING DATA TO ORDER**

[**CHALLENGE**](https://www.coursera.org/learn/data-preparation/exam/jZOOG/module-2-challenge)

**SECURE DATA**

**MODULE 4 CHALLENGE**

**MODULE 5- ENGAGE IN DATA COMMUNITY**

**CREATE OR ENHANCE YOUR ONLINE PRESENCE**

[**CHALLENGE**](https://www.coursera.org/learn/data-preparation/exam/jZOOG/module-2-challenge)

**BUILD A DATA ANALYTICS NETWORK**

**COURSE WRAP-UP**

**Stakeholders** are people that have invested time, interest, and resources into the projects that you'll be working on as a data analyst. In other words, **they hold stakes in what you're doing.** There's a good chance they'll need the work you do to perform their own needs.