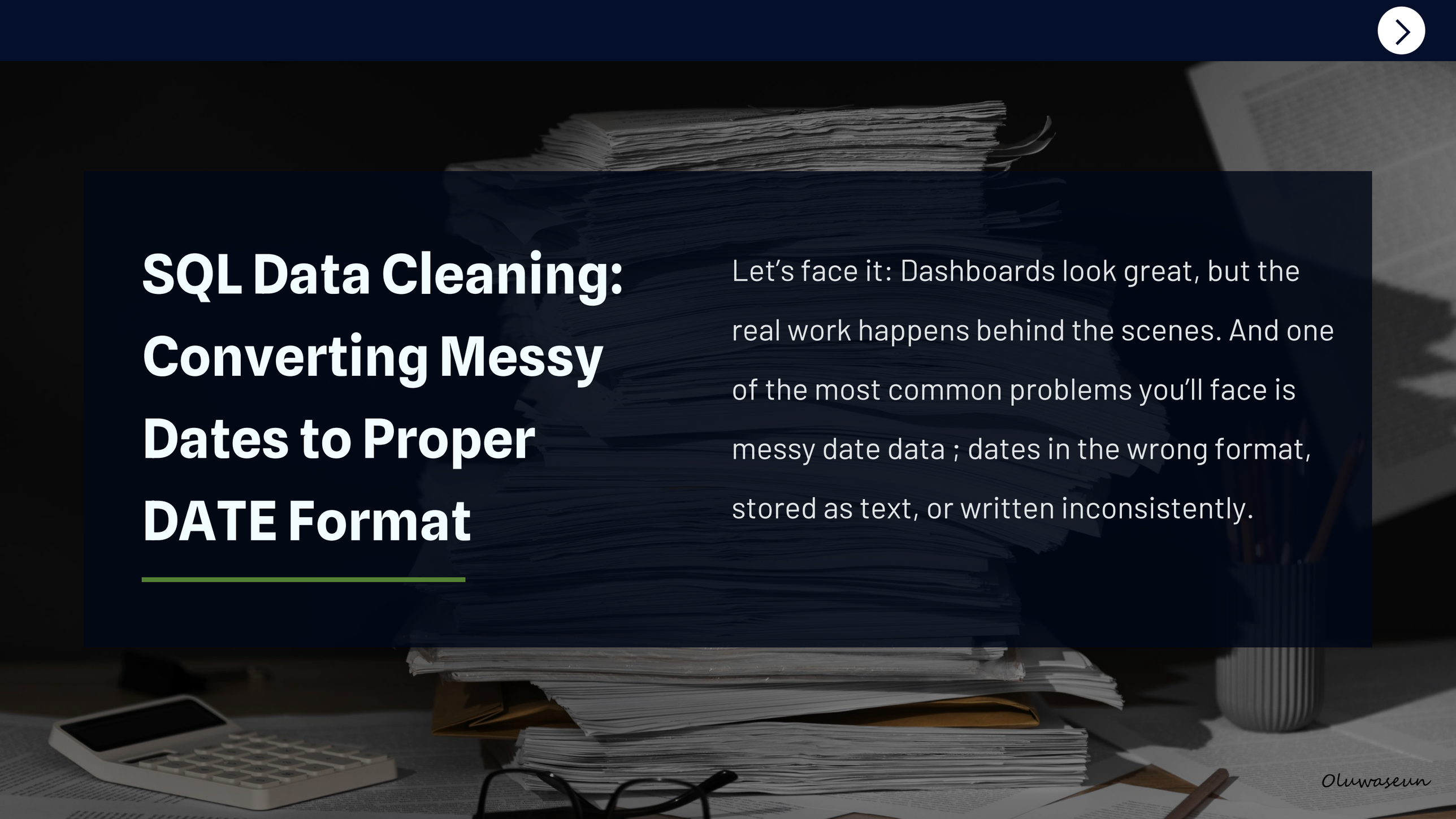
SQL Data Cleaning: Converting Messy Dates to Proper DATE Format

Let’s face it: Dashboards look great, but the real work happens behind the scenes. And one of the most common problems you’ll face is messy date data ; dates in the wrong format, stored as text, or written inconsistently.



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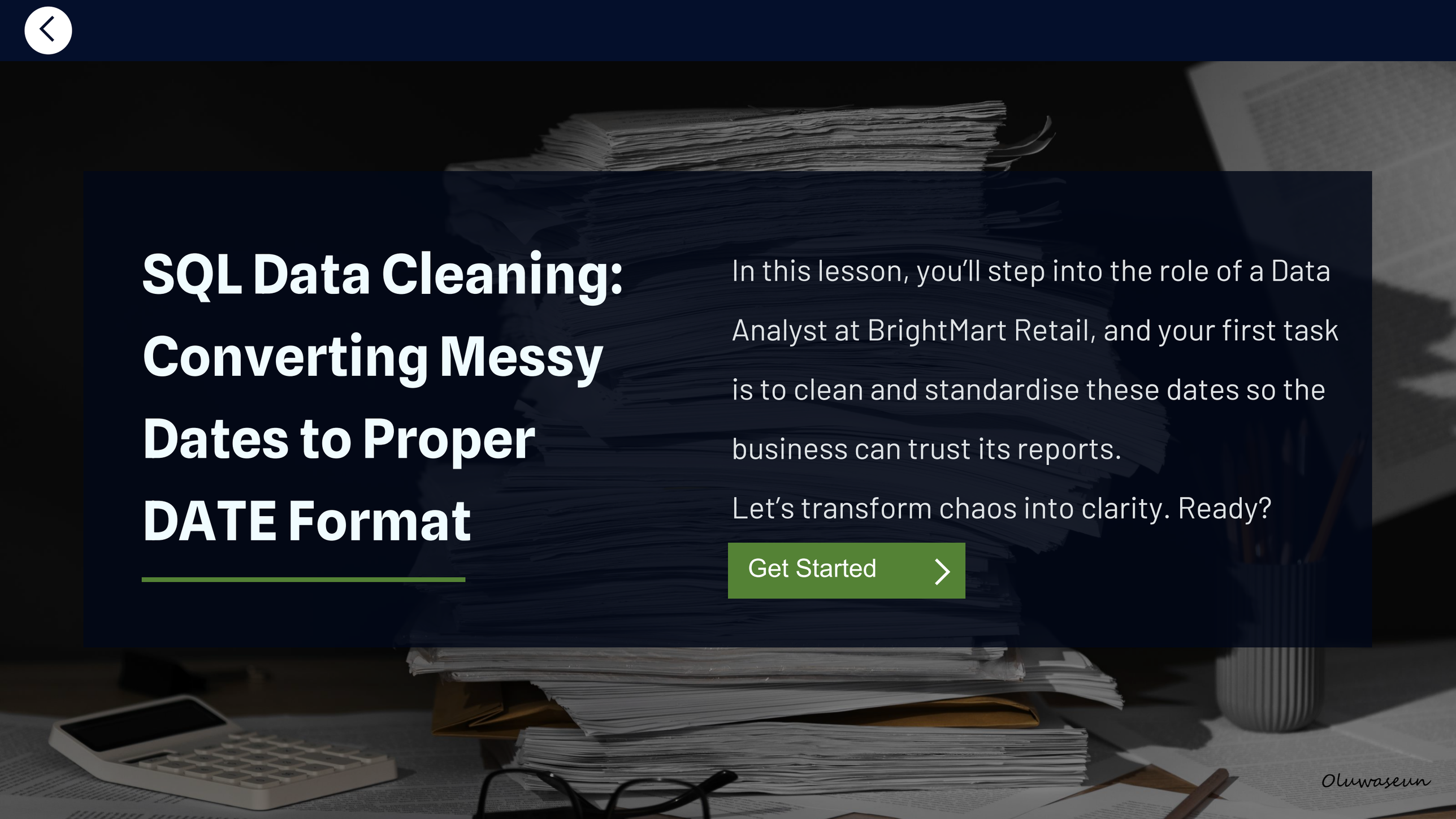
In this lesson, you'll step into the role of a Data Analyst at BrightMart Retail, and your first task is to clean and standardise these dates so the business can trust its reports.

Let's transform chaos into clarity. Ready?

Get Started



A Quick Moment of Reflection

How confident do you feel about cleaning dates in SQL?

- ○ High Confidence
- ○ Moderate Confidence
- ○ Low Confidence

Submit

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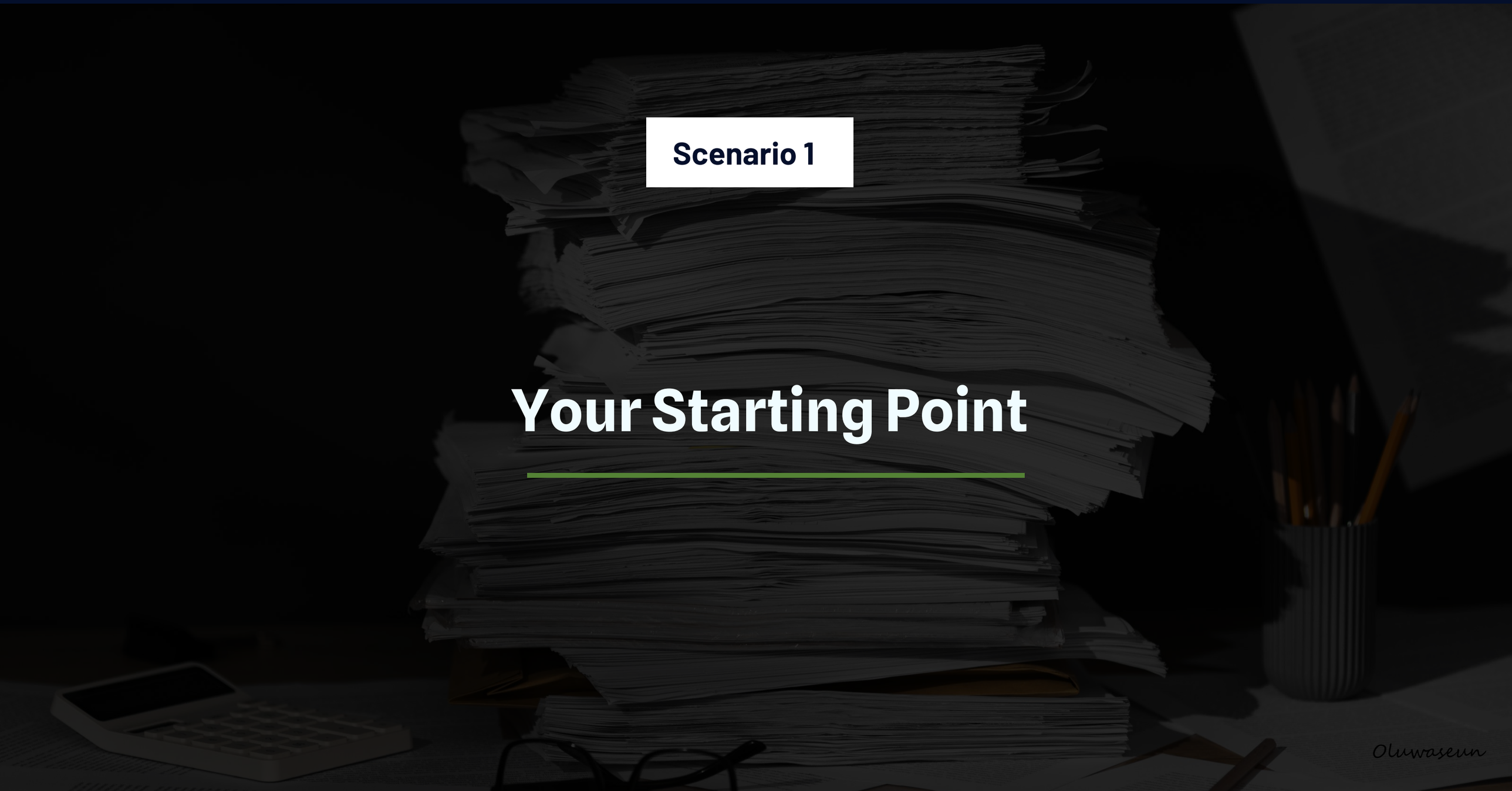
Scenario 1

Your Starting Point



You have just joined **BrightMart Retail** as a Data Analyst. Your manager gives you a dataset and explains:

“Our reports are failing because the dates in this file are inconsistent.

Some are text, some are mixed formats, and some aren’t dates at all.

We need you to fix this so our dashboards can run properly again.”

What is the first thing you would do?

- ○ Jump straight into transforming the messy date formats into proper DATE values.
- ○ Before making any changes, duplicate the table so the original data stays untouched.

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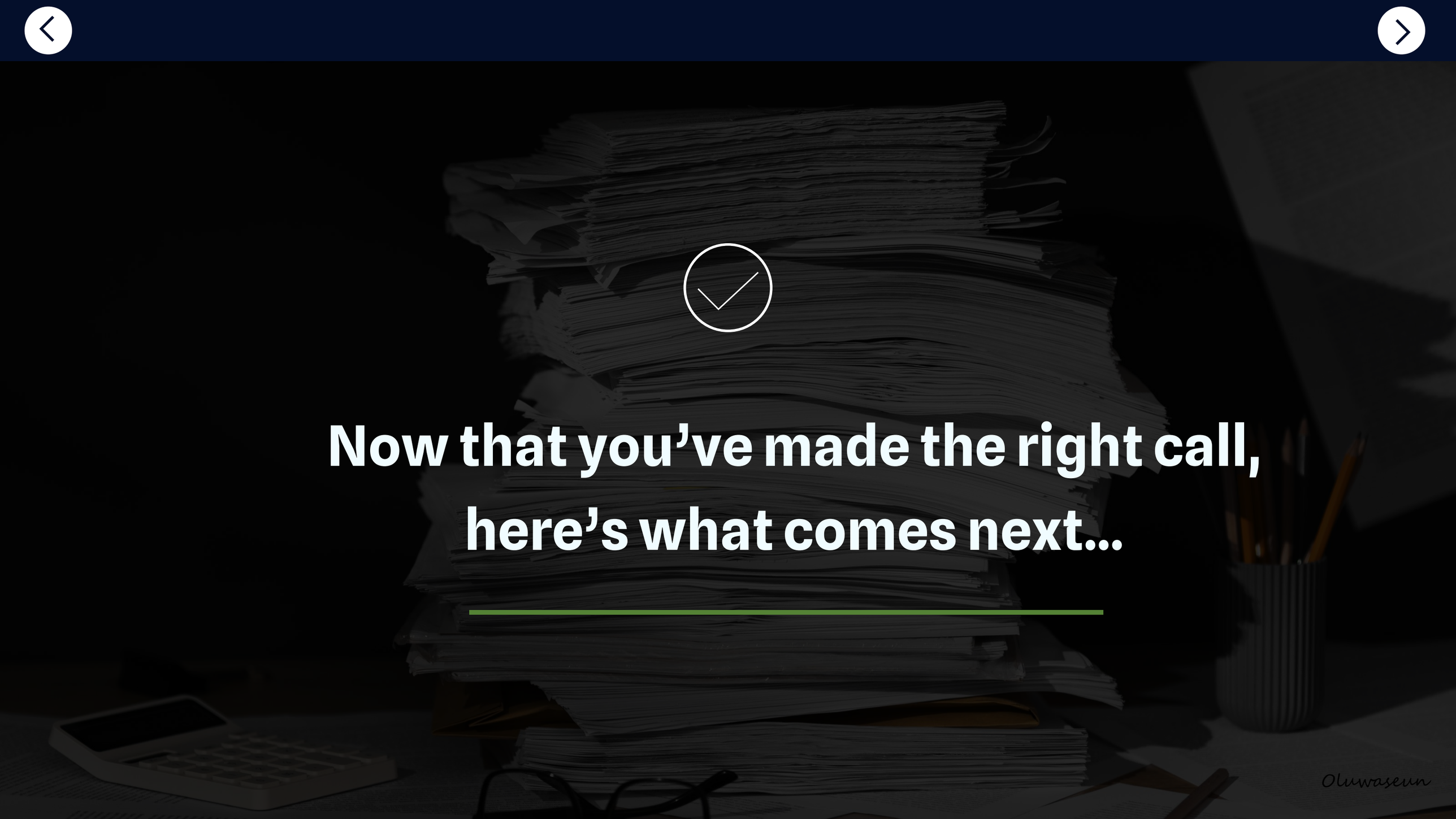
Now that you've made the right call,
here's what comes next...
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Before moving forward, ask yourself:

Do you think storing dates as text can cause issues in SQL?

- ○ Yes
- ○ No

Find out >

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Your Starting Point

You have spotted that the dates in test.mastersheet are stored as messy text.
Your manager wants clean, reliable dates that dashboards can trust.
To move forward, you now have three critical paths to explore.
Click each heading to reveal why it matters and what you'll do.

- Inspecting the Raw Date Column
- Backing Up the Original Date Values
- Testing How SQL Interprets Each Format

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Inspecting the Raw Date Column

Before cleaning anything, you need to understand how bad the problem is.
This step helps you:
Identify all the different date formats
Spot invalid entries (like "abc" or impossible dates)
Understand which values MySQL can't parse
Estimate how complex the cleaning process will be
This is your "diagnosis" phase — you can't fix what you don't understand.
It also shapes your cleaning strategy.

Backing Up the Original Date Values

Testing How SQL Interprets Each Format

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Inspecting the Raw Date Column

Backing Up the Original Date Values

Creating a backup column (e.g., Ship_Date_raw) ensures:
You can always recover the original text
Mistakes won't destroy important information.
You maintain a clean audit trail
You can compare before/after values when validating.
This backup becomes your safety net throughout the cleaning process.

Testing How SQL Interprets Each Format

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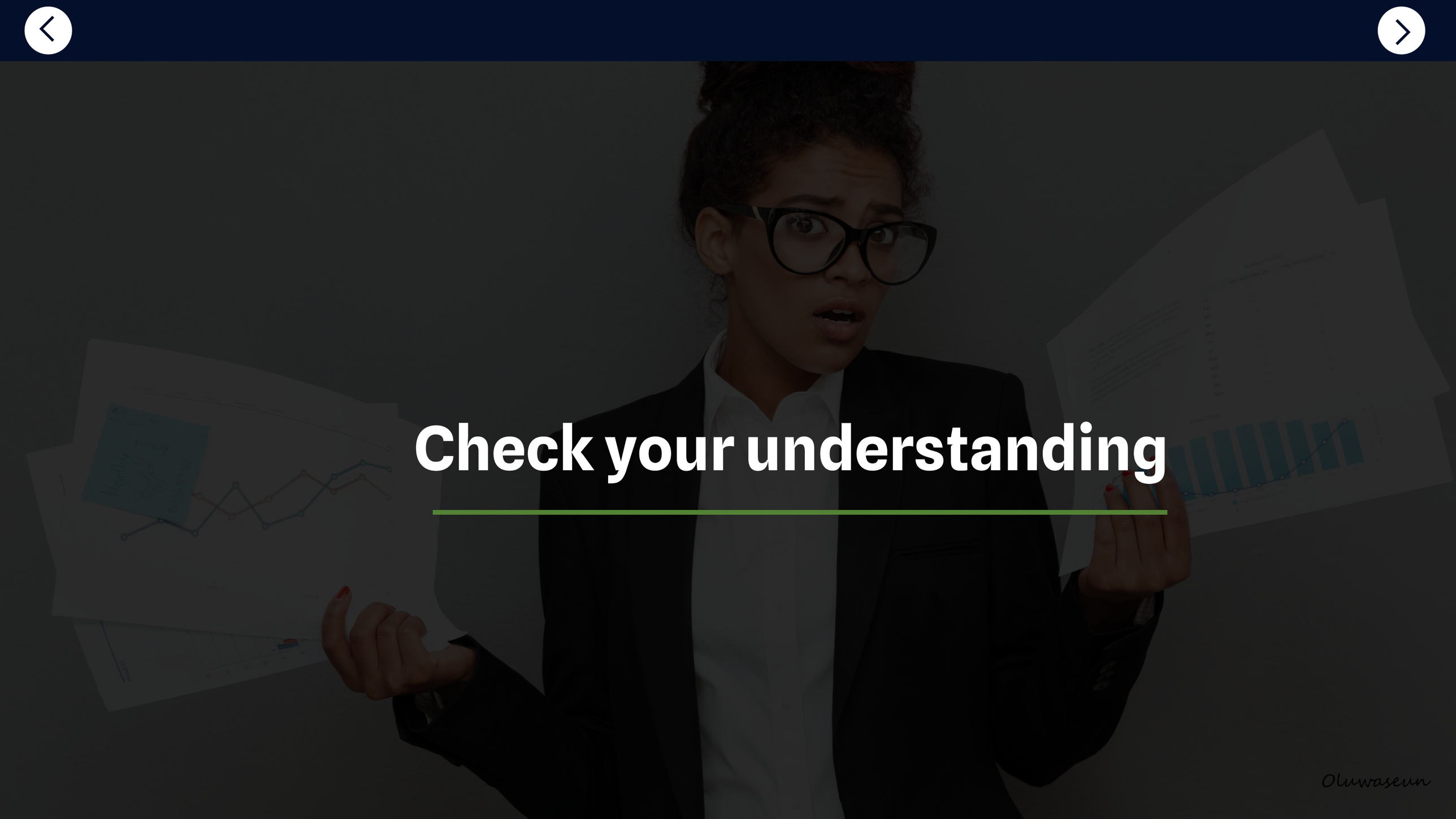
Testing How SQL Interprets Each Format

Now you test MySQL's ability to recognize the messy dates.
Using functions like STR_TO_DATE( ), you check:
Which formats can be parsed
Which ones return NULL
Whether your cleaning rule must support multiple patterns
How many values require manual correction
This step gives you clarity:
SQL can only fix what it can understand. Everything else will need a fallback or manual cleanup..


Check your understanding
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When you discover messy date formats in a table, what should you do before attempting any cleaning?

- Start converting all the dates immediately
- Inspect the raw date values to understand the formats
- Delete invalid dates and move on

Submit

Why is it important to create a backup column like Ship_Date_raw?

- To restore original values if something goes wrong
- So you can track how long the script takes to run
- To reduce the size of the table

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What does testing with STR_TO_DATE() help you discover?

- Which visualizations your dashboard should use
- How many rows are duplicates
- Whether MySQL can understand each date format

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You’ve shown a solid understanding of the core steps every analyst must take before cleaning messy date data and you're ready to move on and continue transforming those messy text dates into clean, reliable SQL Date values

Finish

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Congratulations on completing this module

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