# Analytics Engineering Challenge

## Intro

Welcome and congratulations on progressing to the Deel Analytics Engineering Challenge! ��

As discussed on the introduction call, we have an internal home task that we like our candidates to complete before moving forward in the interview process. Please follow along with the document and return the finalized prompt by the end of the current day - you should limit yourself to a single workday of effort.

For this task, you can use any analytical tools; however, we strongly advise you to utilize dbt. For context, this is our current data transformation tool and we utilize Snowflake for warehousing - we find this to be a helpful way to measure our candidate's experience and fit with Deel. Below we have included a helpful link to set up a dbt project.

**In your submission, attach all your code for us to review. If you worked on GitHub (or anything similar), please include the link to your repository.**

### Setup Link

dbt Setup

1. If you don't already have dbt installed, follow this guide.
2. Configure your profile to connect with your SQL database.
3. If you want to use dbt Cloud, you can follow the quickstart steps on the dbt documentation.

## Prompt

### Business Context

Deel clients can add funds to their Deel account using their credit and debit cards. Deel has partnered with Globepay to process all of these account funding credit and debit card transactions. Globepay is an industry-leading global payment processor and is able to process payments in many currencies from cards domiciled in many countries.

Deel has connectivity into Globepay using their API. Deel clients provide their credit and debit details within the Deel web application, Deel systems pass those credentials along with any relevant transaction details to Globepay for processing.

*Please see related files in the attached zip file.*

## Assignment

A Data Analyst at Deel has submitted a request for you to create a model to answer a few questions about payments. Three files have been provided in the request (attached to this document as files.zip) - however, no schema specifications were given.

### Part 1

For the first part of the challenge, please ingest and model the source data — try following the dbt modeling standards ⭐ .

1. Please include a document with information around:
    1. Preliminary data exploration
    2. Summary of your model architecture
    3. Lineage graphs
    4. Tips around macros, data validation, and documentation

### Part 2

For the second part of the challenge, please develop a production version of the model for the Data Analyst to utilize. This model should be able to answer these three questions at a minimum:

1. What is the acceptance rate over time?
2. List the countries where the amount of declined transactions went over $25M
3. Which transactions are missing chargeback data?

In addition to presenting the model, please provide the code (pseudo-code also suffices) for answering these questions. Feel free to provide the code, the actual answers, a brief description for the analyst, and any charts or images to help with the explanation.

As a reminder, you should limit yourself to a single workday and return the prompt by the end of the day. Good luck!