

Frontier Programming Challenge for Developer Candidates

Through this challenge, we would like to give developer candidates an opportunity to "flex their development and creative muscles," so to speak. This challenge is a start-to-finish mini-project that involves some pretty standard day-to-day work that one would encounter as a developer at Frontier.

We have included a real data file from the World Bank (one of our data sources) in CSV format. You will need to parse the information out of this file and insert it into a database. You will be creating the database schema from scratch and writing a script to generate the insert statements from the CSV data. Once you have the data in a database, you will be writing a simple web application to query the database and display the information.

While we would prefer to see React and SQL, you are welcome to use whatever web application / database technology you wish to meet the requirements. At Frontier, we generally use Node.js, React, and MySQL to build web apps. While we prefer to see those technologies or similar technologies used in your solution, they're by no means a hard requirement. New technologies can be learned. We want to see that you understand the basics of full-stack web development. For the remaining instructions, we will assume that you are using SQL to store the data. This is not "closed book;" you are welcome to email us with questions and of course may google whatever you want.

Spend as much time as you wish researching and developing this project, but to give you an idea of relative complexity, it takes most candidates approximately 8 - 12 hours to implement a suitable solution.

Some guidance

1. Create a SQL schema based on the data in the CSV file
 - a. Use SQL client of your choice to create one or more tables, depending on how you would like the data to be structured.
 - b. Try a few INSERT / SELECT statements to make sure everything looks good.
2. Implement a script to parse data from the csv and insert it into the database
 - a. Load the file.
 - b. Generate insert statements to import all of the data.
 - c. Connect to the database and execute the insert statements.
3. Build a web app to display the data. Creativity is encouraged.
 - a. Open connection to your database.
 - b. Query your table and show all of the results.

Take the opportunity to showcase or highlight any of your strengths or skills in any part of this challenge.

Follow up:

We will discuss your implementation at a follow-up interview. We will cover the following items:

- Database schema design choices
- Implementation approach / methodology for data processing script
- Implementation approach / methodology for display page
- Limitations or possible failure points for script and page
- Sticking points
- Lessons learned