

Wheelzy Technical Interview Answers

- 1) SQL database tables creation script is located in **Exercise_1 project >>**

DbScripts folder:

- **1-Database_creation_script.sql** : Database and tables creation
- **2-Insert_test_data_script.sql** : Test data insertion script
- **3-Exercise1_query.sql** : SQL query to show data required

Exercise_1 project >> Exercise_1 class contains the method to get data required by Entity Framework.

- 2) What would you do if you had data that doesn't change often but it's used pretty much all the time?

The better approach is to have the data in memory cache, avoiding to get that data from database any time we need it.

Having data in cache is extremely fast against getting from database, and we can update the cache every x time.

Would it make a difference if you have more than one instance of your application?

Talking about the data that doesn't change often, have more than one application's instance wouldn't make a difference to get data faster.

But, it can improve the performance when the application has many requests at the same time. With this approach we can apply different strategies, like Load Balancer, to respond to all the requests without issues or delays.

- 3) **Exercise_3 project >> Exercise_3 class** contains **UpdateCustomersBalanceByInvoices** method.

Explanation: Looking for a better performance, the idea was decrease the times we do database operations (like Gets, Updates or Inserts data).

So, we obtain distinct CustomerIds from Invoices list in memory, and get all the Customers from database with the CustomerIds previously obtained.

Having, in memory, all the Customers that we need to update, we go through the invoices list and update every Customer balance.

At the end, we are going to do "SaveChanges()" updating all the Customers information on the Database.

So, as result, we decrease from 2 db operations for every Invoice in the Invoices list (original implementation), to only 2 db operations for all the process (new implementation).

- 4) **Exercise_4 project >> Exercise_4 class** contains **GetOrders** method.
- 5) **Exercise_5 project >> Exercise_5 class** contains **ReadAndNormalizeCsFiles** method.

Exercise_5.Test project >> ExerciseTests class contains unit testings.