

Backend Engineering Assignment

Please complete at least one of the tasks. Our preferred IDE is Visual Studio and the preferred NUnit framework is NUnit. We expect that your code is unit tested. Please send us a zip file or a link (e.g. GitHub) containing a working solution (solution file and code) and a short description how to run your code to get the desired result.

Task 1: Web Extraction

Write a data extractor that reads out content from `extraction.booking.html` and extracts the below listed information.

The attached screen capture (`screenshot-www-booking-com.png`) explains the colors below:

- Hotel name (red)
- Address (red)
- Classification / stars (red)
- Review points (pink)
- Number of reviews (pink)
- Description (blue)
- Room categories (green)
- Alternative hotels (yellow)

Input

String, stream or file with html content taken from `extraction.booking.html`.

Output

Required output format: JSON string.

Task 2: Reporting

Generate an excel report based on raw data (`hotelrates.json`) that has a similar structure to the screen capture (`screenshot-excel-report.png`).

LOS = length of stay (number of room nights)

The column `BREAKFAST_INCLUDED` is a Boolean variable (1: breakfast included, 0: breakfast excluded).

Input

String, stream, JsonObject or file based on the file hotelrates.json.

Output

Required output format: Excel file showing the look and feel of the screen capture.

Optional: Suggest an architecture on how to automate the process that an email is sent at time x attaching the report (frameworks, libraries, ready made solutions etc.: free of choice).

Task 3: Web Service / API

Write a RESTful web service including the parameters HotelID and ArrivalDate. The web service GET request imports the file (hotelsrates.json), filters the list by means of the parameters and returns a filtered list.

Input

Method: String, stream, JsonObject or file based on the file hotelsrates.json.

Browser: HotelID and ArrivalDate.

Output

Required output format: HTTP response with a JSON string body.



Enjoy the coding challenge and best of success!
If you have any questions please contact jobs@hqplus.de