

Realm Digital Simple Practical Assessment

Intermediate Developer

Overview

A requirement exists at Realm Digital to develop a service component that will send birthday wishes to employees.

This practical assessment will allow the candidate to demonstrate that he/she fully understands the concepts needed to write coherent software.

The solution should be simple but should demonstrate your understanding of software design concepts, and how to create maintainable well-structured software.

We estimate this would take 2 or 4 hours to complete.

A technical lead will review your solution and the interview process will include discussion of your design and implementation.

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The Objective

Design and implement a service component that will send birthday wishes to employees.

The service must extract a list of employees whose birthdays occur today using the Realm Digital Employee API and create a generic message E.g. "Happy Birthday {name 1}, {name 2}" and send the message to an email address configured for the component.

The following needs to be considered:

- Leap years.
- Employee exclusions. An exclusion can be any of the following:
 - The employee no longer works for Realm Digital;
 - The employee has not started working for Realm Digital;
 - Or the employee has been specifically configured to not receive birthday wishes.

The component must support being executed at most once for a specific employee's birthday wish, regardless of how many times the service is scheduled to run on a specific day.

Architecturally, the solution must be designed to support additional messaging functionality such as sending work anniversary messages.

Note: The work anniversary requirement does not need to be coded but the solution design should cater for the additional requirement.

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The Constraints

- Constraint 1: The code produced should be able to be compiled, at least. Even though a workable solution is preferred, the reviewer is more concerned with the quality of the design and implementation of the different component(s) in the solution.
- Constraint 2: The service component must utilise the Realm Digital Employee API. (See API Service below).

The Opportunity

- Goal 1: Demonstrate proper handling of web services.
- Goal 2: Demonstrate proper application layering.
- Goal 3: Demonstrate OOP concepts and principles.
- Goal 4: Demonstrate sound knowledge in design patterns & best practices.
- Goal 5: Demonstrate a design that is extensible.
- Goal 6: Demonstrate a design that is testable

API Service

<https://interview-assessment-1.realmdigital.co.za/>

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