

Task description

Newsletter Subscription Service

Your CEO recently read something on Twitter about how micro-services, and Docker, and REST lead to game-changing increases in developer productivity. Now you are doomed to slice up your mysterious web application into tiny, trivial pieces, whenever a new feature has to be developed.

Currently, your job is to create a service that stores if a user is subscribed to your newsletter. Your service will be called by other services which will:

- tell you that someone subscribed to your newsletter or un-subscribed,
- ask you if a given user should receive the newsletter, or not.

The assignment is to define a REST API from these requirements which consumes and produces data in JSON format and to implement the service in Java or C# programming language. You may use any libraries and frameworks you feel comfortable solving this with.

Your deliverables

- The REST API specification.
- The program, and test code.
- Instructions for how to run and build your service.
- A description (bullet points) about what you would do if you had more time (more than 3-4 hours - just see below)

Conditions

You have to submit your solution as a .zip file that you will upload on one of the cloud services (e.g. Google Drive or Dropbox). You must develop the solution yourself. You may not let others help you, or search for existing solutions. Do not share your solutions with others or make it public, as to not encourage plagiarized submissions.

Bonus objectives

- Add another REST endpoint to list all users that subscribed before and/or after a given date.
- If your choice of technology allows it, make your service stateless, and persist the data to an (in-memory) database for easy testing.

Create a Dockerfile for your service and add a script to build the Docker image.

Hints

We care about your solution being correct, and maintainable (readable code, automated tests).

Please do not spend more than 3-4 hours on the solution and let us have your findings within the next 7 days. In case you have any questions, please don't hesitate to contact us.

We are happy to help.

Good luck and have fun!