# Challenge Introduction

* The response to the programming challenge can be implemented in your language of choice
* Create a docker image for your application

# Challenge #1 - Programming

## Introduction

Create a dockerized web service that has two endpoints:

1. /messages takes a message (a string) as a POST and returns the SHA256 hash digest of that message (in hexadecimal format)
2. /messages/<hash> is a GET request that returns the original message. A request to a non-existent <hash> should return a 404 error.

## Example

|  |  |
| --- | --- |
|  | Let’s say you publish to [https://mywebsite.com/](http://yourwebsite.com/) (you don’t need a custom domain for this project, any IP address we can access will do):  $ curl -X POST -H "Content-Type: application/json" -d '{"message": "foo"}' [https://mywebsite.com/messages](http://yourwebsite.com/)  {  "digest": "2c26b46b68ffc68ff99b453c1d30413413422d706483bfa0f98a5e886266e7ae"  }  You can calculate that your result is correct on the command line:  $ echo -n "foo" | shasum -a 256  2c26b46b68ffc68ff99b453c1d30413413422d706483bfa0f98a5e886266e7ae -  You can now query your service for the original message:  $ curl https://mywebsite.com/messages/2c26b46b68ffc68ff99b453c1d30413413422d706483bfa0f98a5e886266e7ae  {  "message": "foo"  }  $ curl -i https://mywebsite.com/messages/aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa  HTTP/1.0 404 NOT FOUND  Content-Type: application/json  Content-Length: 36  Server: Werkzeug/0.11.5 Python/3.5.1  Date: Wed, 31 Aug 2016 14:21:11 GMT  {  "err\_msg": "Message not found"  }  (your specifics may vary, all that matters is that you get a 404) |

Hint: When does ordering of messages you POST vs digests you GET matter?

Deploy the application according to the following guidelines -

* The service should be restarted if it crashes
* Capture the logs and have them rotate
* Configure SSL for the service

## How to Submit

* Send us your source code by email or online repository
* Send us example curl calls by email or online repository
* Host the docker image on Docker Hub or online repository
* Please include instructions for running the app
* Include at least a few sentences to answer the following question: How would your implementation scale if this were a high throughput service, and how could you improve that?