Java Engineer Test Task

Your task is to build a simple search engine using Java.

Expected implementation time is: 4 - 8 hours.

Design goals

abstraction (the ability to use the resulting system without knowing all of its internal details)
modularity (the ability to factor the system into smaller, simpler pieces that can be more easily understood and/or replaced with other pieces)

Requirements

The system should have two pieces:

1. clients that makes requests to
2. servers, which send responses for requests

Normally the client and server would be located on different machines and communicate over a network on a particular numerical port, but in your case they will run on the same machine (and still communicate using ports). Clients and servers should be written in Java, and the transport should be handled using HTTP.

A simple search engine

Your service should work with small documents where each document contains a series of tokens (words). To keep things simple document can be represented as String.
The usage model of your service:

1. Put documents into the search engine by key
2. Get document by key
3. Search on a string of tokens to return keys of all documents that contain all tokens in the set

For index persistence you can use a simple in-memory store.

To keep things simple we can assume that there will be no overwrites of a key with a new document.

You should not use existing tools like Lucene based solution, Sphinx or similar.

Simplest static configuration could be used (no service discovery, replicas, balancing etc.).

Deliverables

* Code as a github project
* Installation and running instructions in README.md
* Tests
* Information about spent time