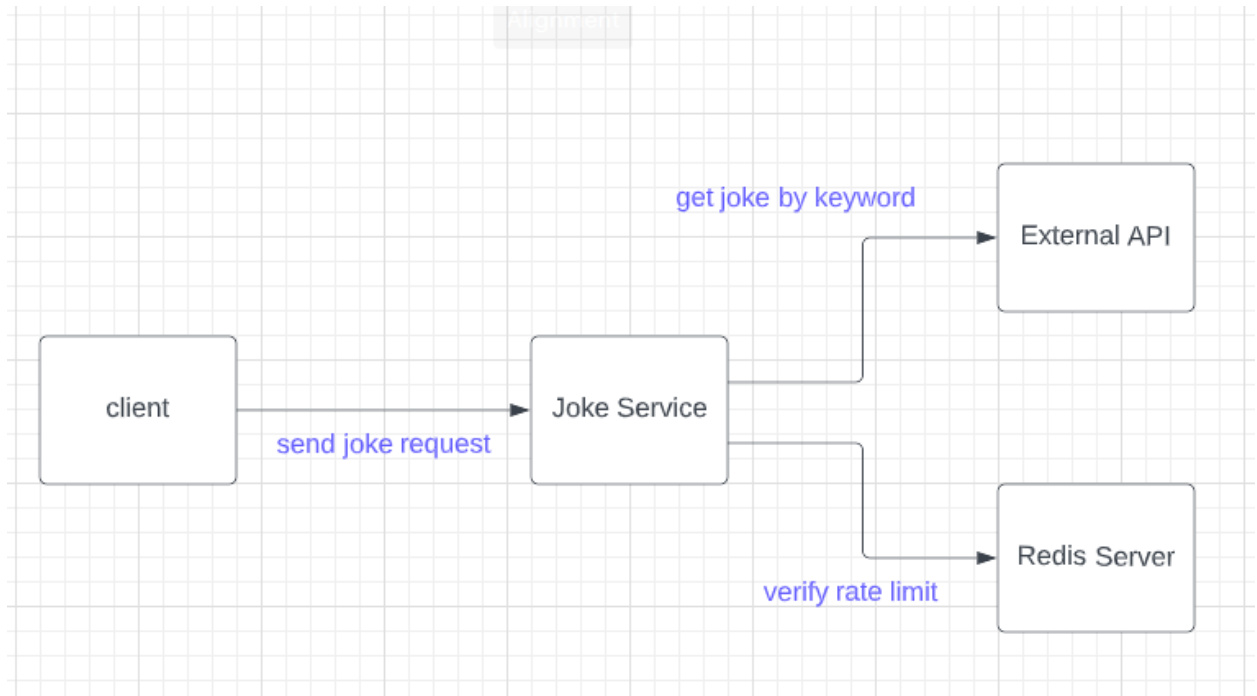


Joke System demo overview

1. Overview system architecture

- This system is used to demo for Finx in a demo test. We can use the diagram below to show an overview about this.



- Clients call an api to joke service developed by us, with this keyword system will send to redis server to store key/value and check exist with an interval time. If it exceeds rate, redis server will return 1, if not it will return 0.
- The Joke service based on the result returned by the redis server will pass/not pass requests to the external server to get the search result.
- If the system has a rate limit, it will return **“too many requests”** otherwise it will return the result search and filter by condition to fully match words.

2. Technologies

- We used dropwizard framework, redis server to store key/value and rate limit and rest API, Java 11.

3. Setup

Get source code from git at <https://github.com/simanhpv/jokes.git>

- Create redis account or setup a redis on local machine like this

```
simanh@DESKTOP-N2D63VE: ~  
^C  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$ sudo service redis-server start  
[sudo] password for simanh:  
Starting redis-server: redis-server.  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$  
simanh@DESKTOP-N2D63VE:~$
```

- Change server url and port in config file (develop-dev.yml file) points to redis server

```
*application-dev.yml X  
7 currentLogFilename: ./log/joke-service.log  
8 threshold: ALL  
9 queueSize: 512  
10 discardingThreshold: 0  
11 archive: true  
12 archivedLogFilenamePattern: ./log/joke-service-%d.log  
13 archivedFileCount: 5  
14 timeZone: UTC  
15 logFormat: "%-5p [%d{ISO8601,UTC}] %c: %m%n%rEx"  
16 bufferSize: 8KiB  
17 immediateFlush: true  
18  
19 server:  
20 applicationConnectors:  
21 - type: http  
22 port: 8080  
23 jokeApi:  
24 host: api.chucknorris.io  
25 baseUrl: https://api.chucknorris.io/jokes/  
26 endPoint: search/  
27  
28 rateLimit:  
29 redisHost: localhost  
30 redisPort: 6379  
31  
32
```

- run command `mvn clean package` to build project
- start app with the command `java -jar target/Joke-Service-finx-1.0.0-SNAPSHOT.jar server application-dev.yml`

```

D:\SimAnh\Projects\jokes\Joke-Service-Demo>java -jar target/Joke-Service-finx-1.0.0-SNAPSHOT.jar server application-dev.yml
INFO [2022-08-07 08:21:15,666] org.eclipse.jetty.util.log: Logging initialized @2247ms to org.eclipse.jetty.util.log.Slf4jLog
INFO [2022-08-07 08:21:15,760] io.dropwizard.server.DefaultServerFactory: Registering jersey handler with root path prefix: /
INFO [2022-08-07 08:21:15,764] io.dropwizard.server.DefaultServerFactory: Registering admin handler with root path prefix: /
INFO [2022-08-07 08:21:16,612] io.dropwizard.server.ServerFactory: Starting true
INFO [2022-08-07 08:21:16,730] org.eclipse.jetty.setuid.SetUIDListener: Opened application@1f03fba0{HTTP/1.1, (http/1.1)}{0.0.0.0:8080}
INFO [2022-08-07 08:21:16,731] org.eclipse.jetty.setuid.SetUIDListener: Opened admin@17dd671f{HTTP/1.1, (http/1.1)}{0.0.0.0:8081}
INFO [2022-08-07 08:21:16,737] org.eclipse.jetty.server.Server: jetty-9.4.48.v20220622; built: 2022-06-21T20:42:25.880Z; git: 6b67c5719d1f4
jvm 11.0.15+8-LTS-149
WARN [2022-08-07 08:21:17,188] org.glassfish.jersey.internal.inject.Providers: A provider com.finx.core.repository.JokeRepository registers
implement any provider interfaces applicable in the SERVER runtime. Due to constraint configuration problems the provider com.finx.core.rep
be ignored.
INFO [2022-08-07 08:21:17,364] io.dropwizard.jersey.DropwizardResourceConfig: The following paths were found for the configured resources:

GET /v1/api/joke (com.finx.api.JokeController)

INFO [2022-08-07 08:21:17,370] org.eclipse.jetty.server.handler.ContextHandler: Started i.d.j.MutableServletContextHandler@1a9ec80e(/,null,
INFO [2022-08-07 08:21:17,396] io.dropwizard.setup.AdminEnvironment: tasks =

POST /tasks/log-level (io.dropwizard.servlets.tasks.LogConfigurationTask)
POST /tasks/gc (io.dropwizard.servlets.tasks.GarbageCollectionTask)

INFO [2022-08-07 08:21:17,397] org.eclipse.jetty.server.handler.ContextHandler: Started i.d.j.MutableServletContextHandler@11c78080(/,null,
INFO [2022-08-07 08:21:17,429] org.eclipse.jetty.server.AbstractConnector: Started application@1f03fba0{HTTP/1.1, (http/1.1)}{0.0.0.0:8080}
INFO [2022-08-07 08:21:17,436] org.eclipse.jetty.server.AbstractConnector: Started admin@17dd671f{HTTP/1.1, (http/1.1)}{0.0.0.0:8081}
INFO [2022-08-07 08:21:17,437] org.eclipse.jetty.server.Server: Started @4020ms

```

4. Testing

- a. For request - can send request and get result from this

The screenshot shows a REST client interface with the following details:

- Request:** GET `localhost:8080/v1/api/joke?keyword=football`
- Query Params:**

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> keyword	football	
Key	Value	Description
- Response:** Status: 200 OK, Time: 1010 ms, Size: 1.75 KB. The response body is a JSON object:


```

{
  "categories": [
    "explicit"
  ],
  "created_at": "2020-01-05 13:42:19.324003",
  "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png",
  "id": "o7quf87osyal6bsxjndela",
  "updated_at": "2020-01-05 13:42:19.324003",
  "url": "https://api.chucknorris.io/jokes/o7quf87osyal6bsxjndela",
  "value": "As a teen, Chuck Norris had sex with every nun in a convent tucked away in the hills of Tuscany.
  Nine months later she gave birth to the 4070 Miami Dolphins, the only undefeated and untied football team in the NFL."
}

```

- ```
simanh@DESKTOP-N2D63VE: ~
#!/bin/bash
max=100
for i in `seq 2 $max`
do
 curl -X "GET" "http://localhost:8080/v1/api/joke?keyword=news"
 echo "i = $i"
done
```

```

root@simanh@DESKTOP-NJZSVE:- # curl -X GET https://api.chucknorris.io/jokes/random
{"categories": [], "created_at": "2020-01-05 13:42:23.484883", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "40_r0v8VQwqKDN7Q9RzTg", "updated_at": "2020-01-05 13:42:23.484883", "url": "https://api.chucknorris.io/jokes/40_r0v8VQwqKDN7Q9RzTg"}, {"categories": ["injury"], "created_at": "2020-01-05 13:42:23.888681", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "PRlXkUHG4WMMVIA", "updated_at": "2020-01-05 13:42:23.888681", "url": "https://api.chucknorris.io/jokes/PRlXkUHG4WMMVIA"}, {"categories": ["nba"], "created_at": "2020-01-05 13:42:23.888681", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "PC3_23_888681", "updated_at": "2020-01-05 13:42:23.888681", "url": "https://api.chucknorris.io/jokes/PC3_23_888681"}, {"categories": ["packers"], "created_at": "2020-01-05 13:42:23.888681", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "KFLmeDeSiJaYXBtRLENov", "updated_at": "2020-01-05 13:42:23.888681", "url": "https://api.chucknorris.io/jokes/KFLmeDeSiJaYXBtRLENov"}, {"categories": [" Madden Football 18 ", "chuck norris back in 2020 ", "giants beat us 17-14, coincidence? you be the judge... "], "created_at": "2020-01-05 13:42:25.905266", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "HlIEjvcuSU-ZuIeBTSXXWA", "updated_at": "2020-01-05 13:42:25.905266", "url": "https://api.chucknorris.io/jokes/HlIEjvcuSU-ZuIeBTSXXWA"}, {"categories": ["baseball team", "football team if you count all of the bastards."], "created_at": "2020-01-05 13:42:26.766831", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "pY3V-pHXRIKuG0D3rC6oeg", "updated_at": "2020-01-05 13:42:26.766831", "url": "https://api.chucknorris.io/jokes/pY3V-pHXRIKuG0D3rC6oeg"}, {"categories": ["semiholes"], "created_at": "2020-01-05 13:42:26.766831", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "BaCRi_XLTdeIJZILDOyGHM", "updated_at": "2020-01-05 13:42:26.766831", "url": "https://api.chucknorris.io/jokes/BaCRi_XLTdeIJZILDOyGHM"}, {"categories": [" Madden Football 18 ", "he uses his foot and your balls."], "created_at": "2020-01-05 13:42:26.766831", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "qT4m-NANRFcqp2-znsBow", "updated_at": "2020-01-05 13:42:26.766831", "url": "https://api.chucknorris.io/jokes/qT4m-NANRFcqp2-znsBow"}, {"categories": [" Tom Brady can throw a football 68 yards. Chuck Norris can throw Tom Brady five times as far. "], "created_at": "2020-01-05 13:42:29.855523", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "Kq-Q7k7IBKES8Kyly5xSe", "updated_at": "2020-01-05 13:42:29.855523", "url": "https://api.chucknorris.io/jokes/Kq-Q7k7IBKES8Kyly5xSe"}, {"categories": ["explicit"], "created_at": "2020-01-05 13:42:29.855523", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "Kq-Q7k7IBKES8Kyly5xSe", "updated_at": "2020-01-05 13:42:29.855523", "url": "https://api.chucknorris.io/jokes/Kq-Q7k7IBKES8Kyly5xSe"}, {"categories": ["pig", "knocking down illang me", "pon-pons."], "created_at": "2020-01-05 13:42:30.730109", "icon_url": "https://assets.chucknorris.host/img/avatar/chuck-norris.png", "id": "2020-01-05 13:42:30.730109", "updated_at": "2020-01-05 13:42:30.730109", "url": "https://api.chucknorris.io/jokes/2020-01-05 13:42:30.730109"}]

```

- Understand how to build applications with the dropwizard framework and can handle it within a short time.
- API work well and can integrate with externalize api and system (redis server)

- Within short time, system can not cover all Unit Tests
- Can not develop all requirements from your company.
- Code not perfect as expected.

