**Website Monitoring Tool**

We are planning to build a monitoring tool that can track uptime/downtime of any web site.

for Eg , Application can check on defined frequency if http://www.google.com is UP/ Down.

Its Up if internet is connected and should report down if you are disconnected from internet.

Below are the high level requirements that needs to be built as part of this application.

**Back End Test**

As part of the Spring boot Application, Create REST APIs(GET , PUT, POST ,DELETE).

1. A user of the API should be able to register new checks.

A check should have a website name, website url, and Frequency to monitor. Frequency can be either in minutes or hours.

2. A user of the API should be able to view all the checks.

3. A user of the API should be able to filter checks by interval or website name. This means

users of the API should be able to fetch all the 5 minutes frequency checks or they

should be able to fetch all the checks that have “API” in their name.

4. A user of the API should be able to deactivate a specific check.

5. A user of the API should be able to activate a specific check.

6. A user of the API should be able to view the status of a website. For example, if a

user asks to view uptime ​https://google.com​ and your system is monitoring it then you should return following in the response:

a. A status message that tells whether website is UP or DOWN

b. If website is UP then it should tell Uptime of a website. Uptime is the time since the time application is up

c. If website is DOWN then it should tell Downtime of the website. Downtime is the time since the application is down.

d. Average response time of the website.

7. A user should get a notification in an email when application is down. Application will

be considered down if three consecutive checks fail. You don’t have to send an actual message. Just write a message on the console. The email address to send notification as we all as number of consecutive failed checks should be configurable.

Use Below all technologies for coding

* Java 8, Java Streams, Java Scheduler ,Spring Boot,Spring security.
* JUNIT for automated test cases.
* Maven for building executable Jar
* DockerFile for create docker image

**Good to have --**

All Api should be secured with authentication JWT token.

All Apis request should be get redirected using Netflix Zuul Gateway (or Spring Cloud Gateway)

**Front End TEST**

As part of the Angular Application,

1. User should design two screens, one for Login and one for dashboard to display all checks.
2. Login page contains two user input box(username and password) and a login button.
3. Use In memory username/password for authentication if API not available.
4. Dashboard page should contain a table it should be a responsive design. You can use any HTML bootstrap table or any third party framework for displaying in grid.
5. Call GET checks API to fetch data and display in grid.
6. Table should contains following columns, Apply Filter if possible
   1. Website Name,
   2. Website URL,
   3. Frequency monitor time,
   4. Site Status,
7. Your dashboard should allow you add check , update check & delete check using backend APIs.
8. Feel free to use your imagination in UX/UI Design.

Use Below all technologies for coding

* Node, Angular 6 or above , HTML5, CSS3/SCSS
* Bootstrap or Angular Material