

BACKEND TASK

Following are the APIs created:-

- 1) Create Survey
- 2) Take A Survey
- 3) Getting Results of a particular Survey
- 4) Getting Results of all created Surveys (Extra API)

➔ Code has been written in Java with Spring Boot.

➔ For running the Code, I would suggest to run it on Eclipse because it has better support than other IDE for Maven projects.

Steps To Run The Code in Eclipse-

➔ Following is the link of git <https://github.com/Meet03/Backend-Task.git>

➔ I am attaching the same zip file in email.

➔ After downloading the zip file, extract it in some folder.

➔ Open Eclipse

➔ Click on File→Import→Maven→Existing Maven Projects.

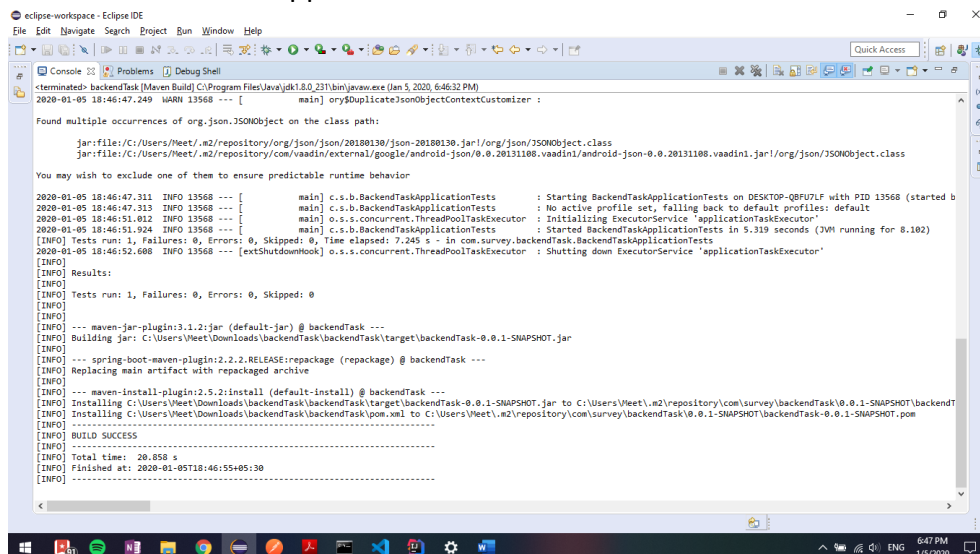
➔ Then select the location of the extracted folder

➔ Now you will be able to see the Project 'backendTask' on project Explorer panel on left side.

➔ Right click that folder and then select Run As→ Maven Build

➔ Now in 'Goals' field enter "clean install" and then click on run.

➔ Automatically Console of Eclipse will open and then after successful build this screen at the end of build will appear.



```
eclipse-workspace - Eclipse IDE
File Edit Navigate Search Project Run Window Help

<terminated> backendTask [Maven Build] C:\Program Files\Java\jdk1.8.0_231\bin\java.exe (Jan 5, 2020, 6:46:32 PM)
2020-01-05 18:46:47.249 WARN 13568 --- [main] org.springframework.context.annotation.AnnotationMethodProcessingException :
Found multiple occurrences of org.json.JSONException on the class path:
jar:file:/C:/Users/Meet/.m2/repository/org/json/json/20180130/json-20180130.jar!/org/json/JSONException.class
jar:file:/C:/Users/Meet/.m2/repository/com/vaadin/external/google/android-json/0.0.20131108.vaadin1.jar!/org/json/JSONException.class

You may wish to exclude one of them to ensure predictable runtime behavior

2020-01-05 18:46:47.311 INFO 13568 --- [main] c.s.b.BackendTaskApplicationTests : Starting BackendTaskApplicationTests on DESKTOP-QBFU7LF with PID 13568 (started b
2020-01-05 18:46:47.313 INFO 13568 --- [main] c.s.b.BackendTaskApplicationTests : No active profile set, falling back to default profiles: default
2020-01-05 18:46:51.012 INFO 13568 --- [main] o.s.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2020-01-05 18:46:51.924 INFO 13568 --- [main] c.s.b.BackendTaskApplicationTests : Started BackendTaskApplicationTests in 5.319 seconds (JVM running for 8.102)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 7.245 s - in com.survey.backendTask.BackendTaskApplicationTests
2020-01-05 18:46:52.688 INFO 13568 --- [extShutdownHook] o.s.s.concurrent.ThreadPoolTaskExecutor : Shutting down ExecutorService 'applicationTaskExecutor'
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.1.2:jar (default-jar) @ backendTask ---
[INFO] Building jar: C:\Users\Meet\Downloads\backendTask\backendTask\target\backendTask-0.0.1-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:2.2.2.RELEASE:repackage (repackage) @ backendTask ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ backendTask ---
[INFO] Installing C:\Users\Meet\Downloads\backendTask\backendTask\target\backendTask-0.0.1-SNAPSHOT.jar to C:\Users\Meet\.m2\repository\com\survey\backendTask\0.0.1-SNAPSHOT\backendT
[INFO] Installing C:\Users\Meet\Downloads\backendTask\backendTask\pom.xml to C:\Users\Meet\.m2\repository\com\survey\backendTask\0.0.1-SNAPSHOT\backendTask-0.0.1-SNAPSHOT.pom
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 20.858 s
[INFO] Finished at: 2020-01-05T18:46:55+05:30
[INFO]
```

- ➔ Now after this, go to backendTask→src/main/java →com.survey.backendTask
- ➔ Now you can see a java file named 'BackendTaskApplication.java', right click that file and go to Run As →java Application
- ➔ Now after that console will automatically appear and you will be able to see following screen.

The screenshot shows the Eclipse IDE's console window. At the top, there's a logo for 'Spring Boot' and the text 'Spring Boot :: (v2.2.2.RELEASE)'. Below this, the console displays a series of log messages from the application's startup. The messages indicate that the application is running on Tomcat 9.0.29, which has been initialized with port(s) 8080 (http). The application is identified as 'BackendTaskApplication' and is running on the 'DESKTOP-QBFU7LF' machine with PID 6264. The console also shows the initialization of the Spring embedded WebApplicationContext and the starting of the Servlet engine. The final message states that the application started successfully in 5.173 seconds.

```

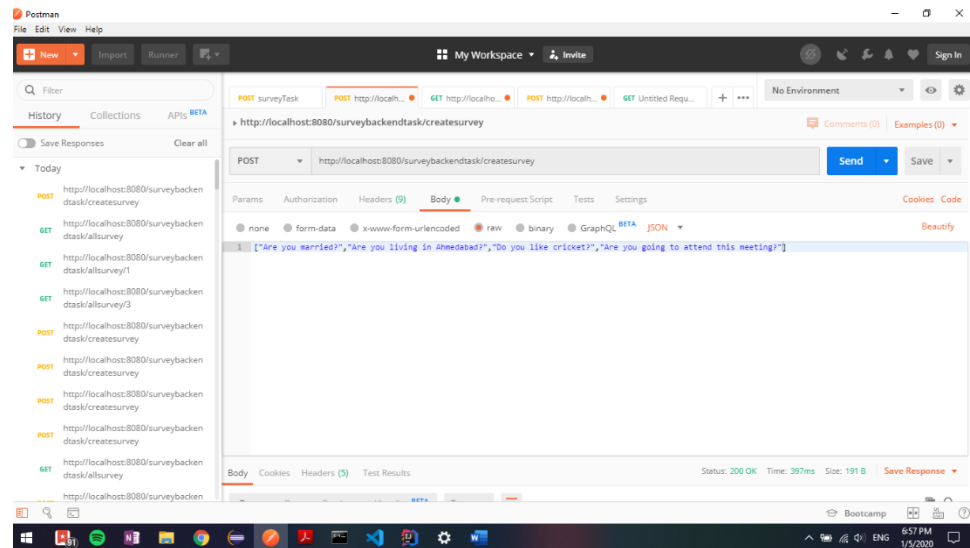
2020-01-05 18:50:15.701 INFO 6264 --- [main] c.s.backendTask.BackendTaskApplication : Starting BackendTaskApplication on DESKTOP-QBFU7LF with PID 6264 (C:\Users\Meet\Do
2020-01-05 18:50:15.716 INFO 6264 --- [main] c.s.backendTask.BackendTaskApplication : No active profile set, falling back to default profiles: default
2020-01-05 18:50:18.751 INFO 6264 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2020-01-05 18:50:18.773 INFO 6264 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2020-01-05 18:50:18.773 INFO 6264 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.29]
2020-01-05 18:50:18.957 INFO 6264 --- [main] o.s.a.c.c.c.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2020-01-05 18:50:18.957 INFO 6264 --- [main] o.s.web.context.ContextLoader : Root WebApplicationContext: initialization completed in 3098 ms
2020-01-05 18:50:19.384 INFO 6264 --- [main] o.s.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2020-01-05 18:50:19.984 INFO 6264 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
2020-01-05 18:50:19.991 INFO 6264 --- [main] c.s.backendTask.BackendTaskApplication : Started BackendTaskApplication in 5.173 seconds (3VM running for 5.957)

```

- ➔ It means your application is successfully running on Tomcat server with localhost and port number 8080.
- ➔ Now to hit the API, you may use Postman.

1) Create A Survey

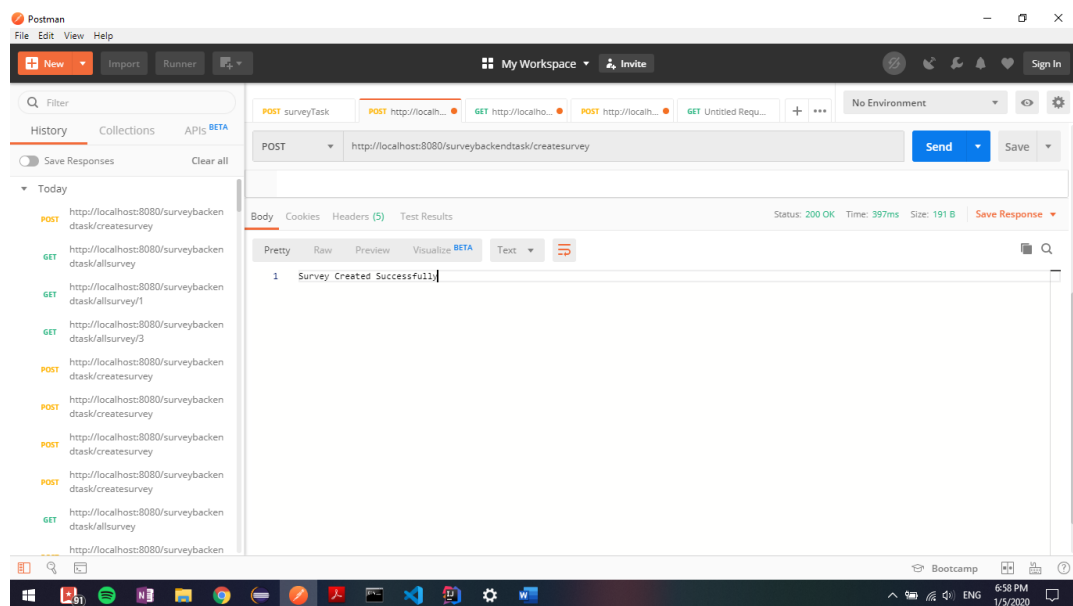
- a. Following is the screen of API endpoint and its request body parameters.



b) Endpoint is <http://localhost:8080/surveybackendtask/createsurvey> and in the body you can enter any number of questions you want.

c) Body part:- “[Are you married?","Are you living in Ahmedabad?","Do you like cricket?","Are you going to attend this meeting?"]” in JSON format

d) After running the API, following message will appear as response.



e) A survey Object will be created in the backend with SurveyId starting with 1 and so on and be added into an ArrayList containing all the created Surveys.

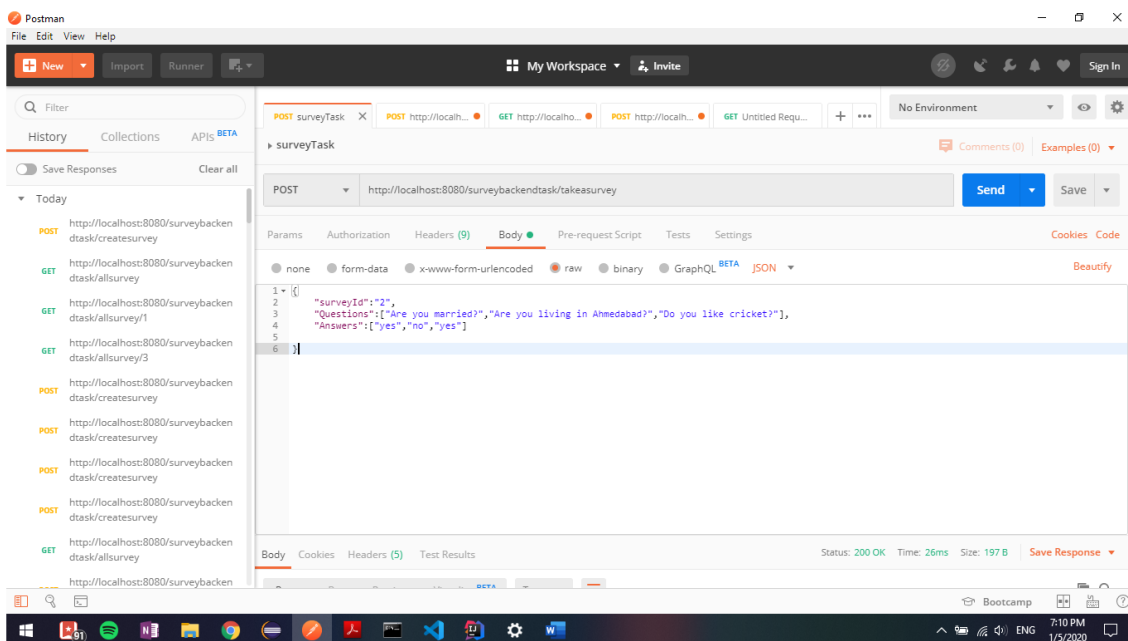
2) Take A Survey:-

a) This API will allow user to enter the SurveyId and the answers he want to add to those questions of chosen surveyId.

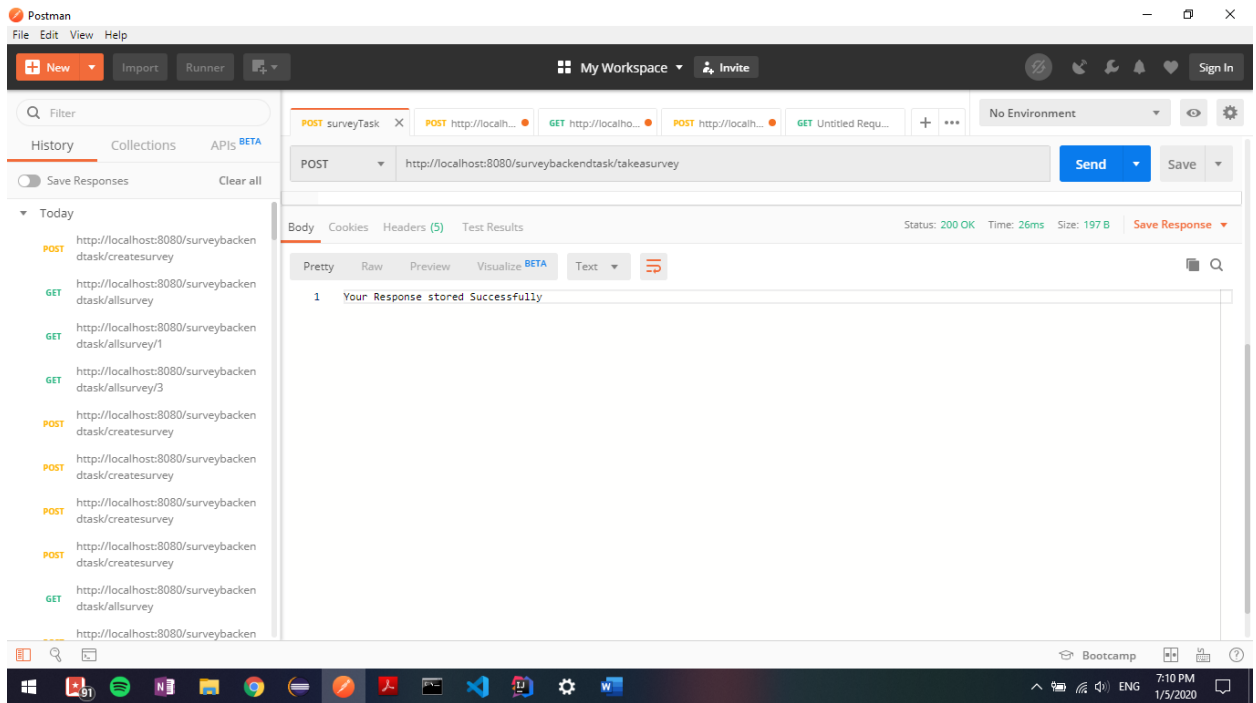
b) Following is the end point for the API <http://localhost:8080/surveybackendtask/takeasurvey> and in body you have enter JSON in the following format

```
{  
  "surveyId": "2",  
  "Questions": ["Are you married?", "Are you living in Ahmedabad?", "Do you like cricket?"],  
  "Answers": ["yes", "no", "yes"]  
}
```

c) Following is the screen of postman for the given API



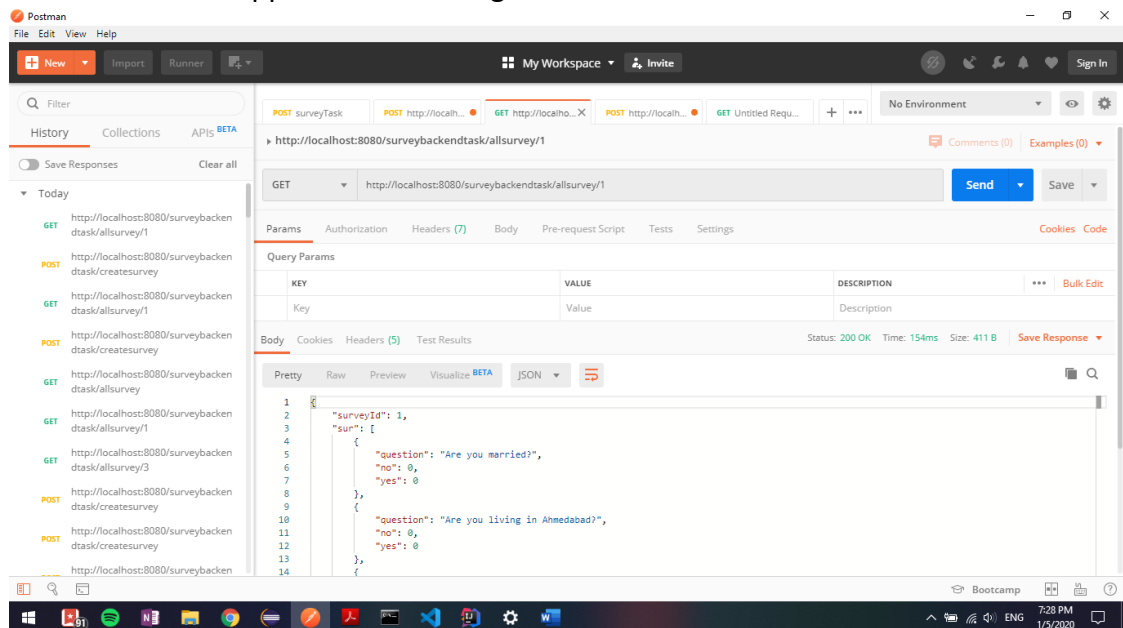
d) Following response will appear after running the API.



e) In the backend the answers get stored with the corresponding questions, as many times you hit the API, the count of 'yes' and 'no' gets on increasing.

3) Get Result of a Particular survey

- Following is the end point of given API <http://localhost:8080/surveybackendtask/allsurvey/1>
- Given screen will appear after running the API

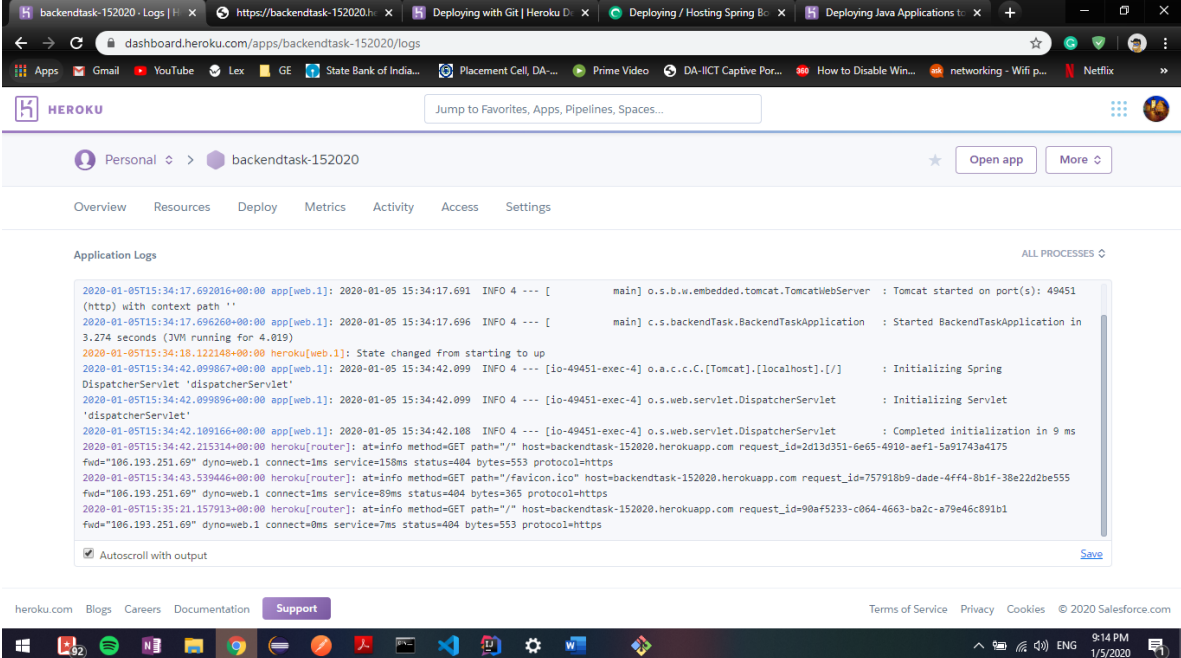


- c) This is a Get method so required SurveyId will be passed in the link itself and in Response the survey with its result and count of yes and no of individual question will appear on screen.

4) Getting results of all created Surveys (EXTRA).

- a) Following is the end point of given API <http://localhost:8080/surveybackendtask/allsurvey>
b) After running the API in response all the created survey will appear.

- ➔ I tried to Deploy this application to Heroku but I could not found out that why it was not running, Following screen appeared in the logs of Heroku.
➔ My Application even run for a while and then it got stopped.



```
2020-01-05T15:34:17.692016+00:00 app[web.1]: 2020-01-05 15:34:17.691 INFO 4 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 49451 (http) with context path ''
2020-01-05T15:34:17.696260+00:00 app[web.1]: 2020-01-05 15:34:17.696 INFO 4 --- [main] c.s.backendTask.BackendTaskApplication : Started BackendTaskApplication in 3.274 seconds (JVM running for 4.019)
2020-01-05T15:34:18.122348+00:00 heroku[web.1]: State changed from starting to up
2020-01-05T15:34:42.099867+00:00 app[web.1]: 2020-01-05 15:34:42.099 INFO 4 --- [io-49451-exec-4] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2020-01-05T15:34:42.099896+00:00 app[web.1]: 2020-01-05 15:34:42.099 INFO 4 --- [io-49451-exec-4] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2020-01-05T15:34:42.109166+00:00 app[web.1]: 2020-01-05 15:34:42.108 INFO 4 --- [io-49451-exec-4] o.s.web.servlet.DispatcherServlet : Completed initialization in 9 ms
2020-01-05T15:34:42.215314+00:00 heroku[router]: at=info method=GET path="/" host=backendtask-152020.herokuapp.com request_id=2d13d351-6e65-4910-ae1-5a91743a4175 fwd="106.193.251.69" dyno=web.1 connect=1ms service=158ms status=404 bytes=553 protocol=https
2020-01-05T15:34:43.539446+00:00 heroku[router]: at=info method=GET path="/favicon.ico" host=backendtask-152020.herokuapp.com request_id=757918b9-dade-4ff4-8b1f-38e22d2be555 fwd="106.193.251.69" dyno=web.1 connect=1ms service=89ms status=404 bytes=365 protocol=https
2020-01-05T15:35:21.157913+00:00 heroku[router]: at=info method=GET path="/" host=backendtask-152020.herokuapp.com request_id=90af5233-c064-4663-ba2c-a79e46c891b1 fwd="106.193.251.69" dyno=web.1 connect=0ms service=7ms status=404 bytes=553 protocol=https
```