

1. Log useful information

Information about the request from the mobile phone:

- User-agent
- Parameter
- Request timestamp

Information about the request and reply to the 3rd party API:

- Request URL string
- Reply from API

Information about the reply to the mobile phone:

- Response timestamp
- JSON response
- Latency

2. Store the log information in a database

In my web app project:

Model: WikiModel.java, MongoConn.java

View: Dashboard.jsp

Controller: WikiServlet.java

MongoConn.java is used to do all database related operation. A MongoConn instance is created when the server is initialized.

The log data is parsed to the JSON format and inserted into MongoDB by calling mongoConn.storeData(String data) function after returning Android the response.

3. Display operations analytics and full logs on a web-based dashboard

3.1 Unique URL addresses a web interface dashboard for the web service:

<https://serene-cove-59508.herokuapp.com/AnalyticsData>

3.2 The dashboard displays 5 interesting operations analytics.

- Number of queries
- Last visit time
- Average latency
- Peak time (This would be useful when many people visit at the same time, and if the number of visitors at each timestamp is the same it shows last visit time by default)
- Top queries with total number of the request
- Top user-agents with total number of user-agents

3.3 The dashboard displays the full logs.

If the data is too long to fit in the table, it would be cast into 20 characters long.

Analytical Data:

Number of queries: 31

Last visit time: 2016-11-11 05:25:17

Average latency: 338 ms

Peak time: 2016-11-11 05:25:17

Top queries	Top user-agents
Hillary 8 Trump 6 Friends 4 President 4 trump 3	Dalvik/2.1.0 (Linux; U; Android 7.1.1; Android SDK built for x86/NPFI0D) 26 Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/50.0.2840.71 Safari/537.36 5

Log Data:

[illegible]

4. Deployed the web service to Heroku

The URL of my web service deployed to Heroku is

<https://serene-cove-59508.herokuapp.com>.

The search URL:

[https://serene-cove-59508.herokuapp.com/WikiServlet?search="+query](https://serene-cove-59508.herokuapp.com/WikiServlet?search=)

where query is the search term.

The dashboard URL:

<https://serene-cove-59508.herokuapp.com/AnalyticsData>