

Tópicos Especiais em Banco de Dados
Trabalho Final

Ferramenta de monitoramento de geolocalização do BRT Rio

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Ferramenta de monitoramento de geolocalização do BRT



- Frota de 440 ônibus
- 440mil passageiros atendidos por dia

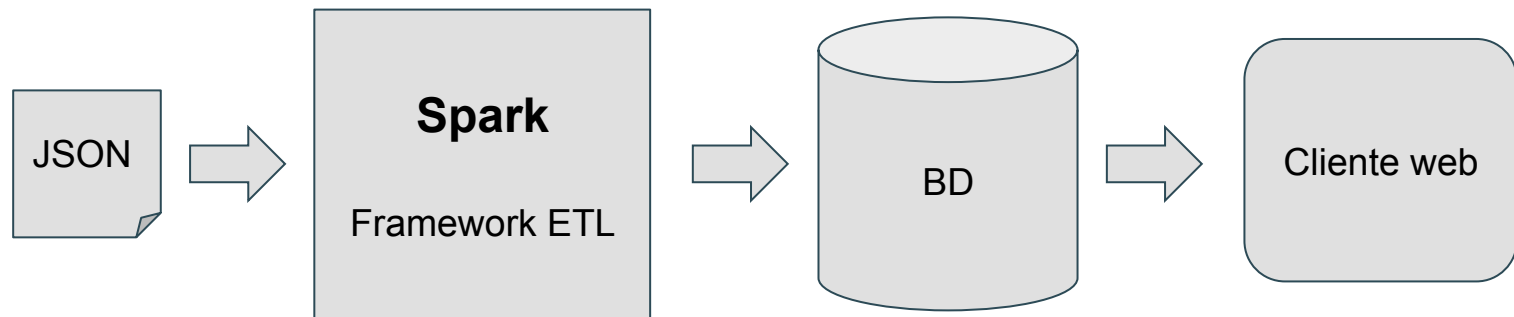
(fonte: brt.rio)

- Feed JSON atualizado a cada 1min, tamanho 150kB (aprox.)

data.rio

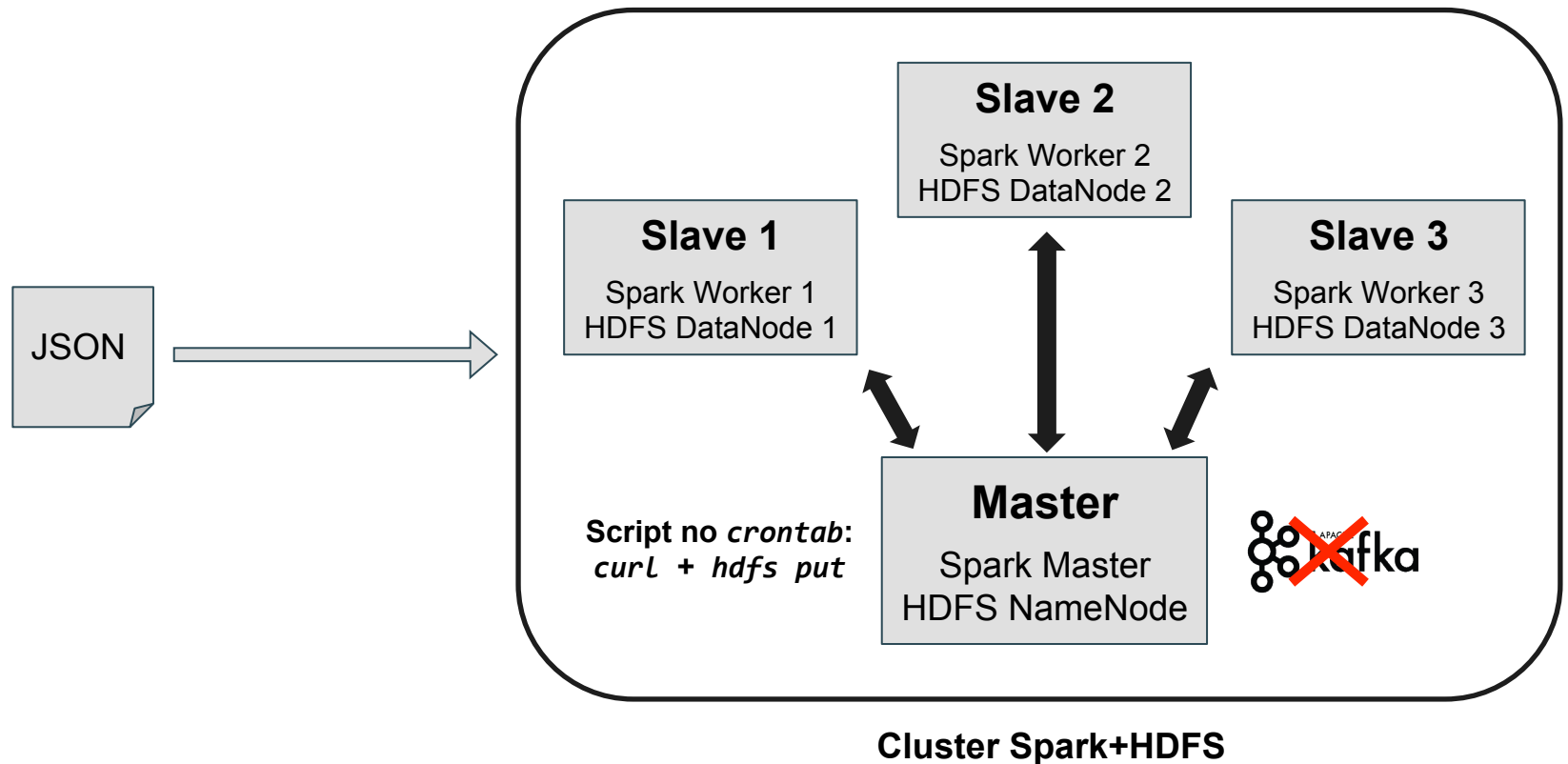
linc.prefeitura.rio

Proposta de trabalho



- Posicionamento lat/lon no mapa
- Filtro por linha
- Heatmap de velocidade diário/semanal

Arquitetura e Fluxo de dados

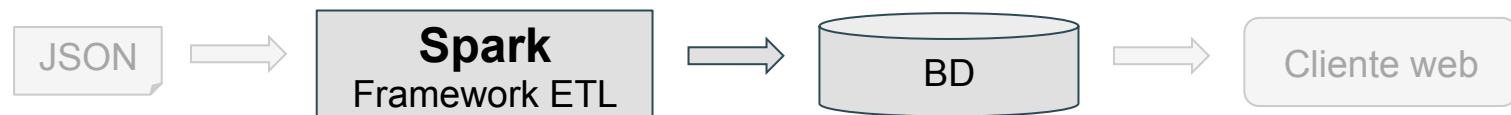
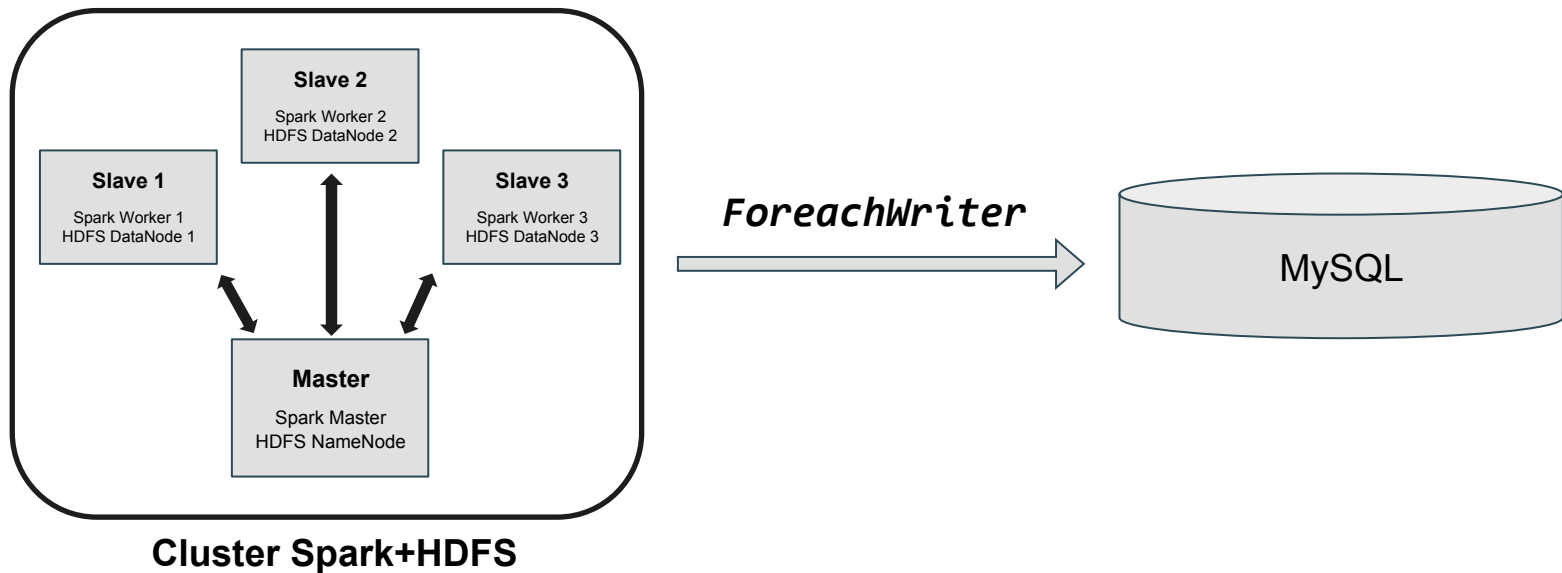


Arquitetura e Fluxo de dados

```
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow  command
* * * * * curl -N http://webapibrt.rio.rj.gov.br/api/v1/brt | bin/hdfs dfs -put - data/brt_$(date +%Y%m%d%H%M%S).json
```



Arquitetura e Fluxo de dados





Spark Master at spark://192.168.21.2:7077

URL: spark://192.168.21.2:7077

REST URL: spark://192.168.21.2:6066 (*cluster mode*)

Alive Workers: 3

Cores in use: 3 Total, 3 Used

Memory in use: 3.0 GB Total, 3.0 GB Used

Applications: 1 [Running](#), 68 [Completed](#)

Drivers: 0 Running, 4 Completed

Status: ALIVE

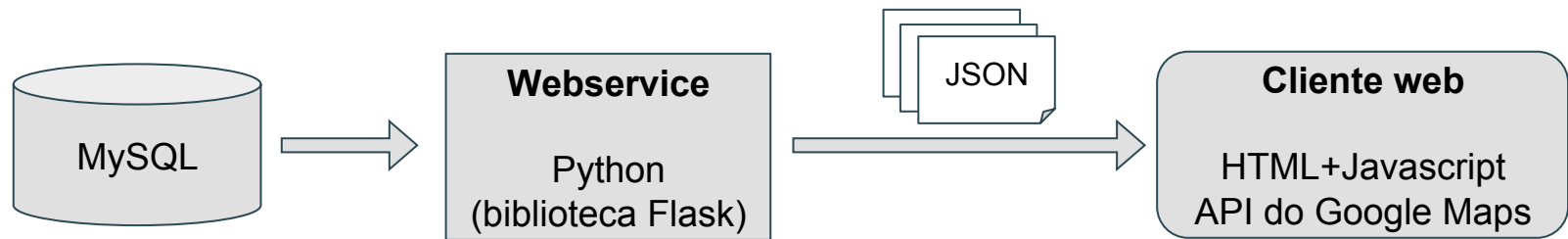
Workers

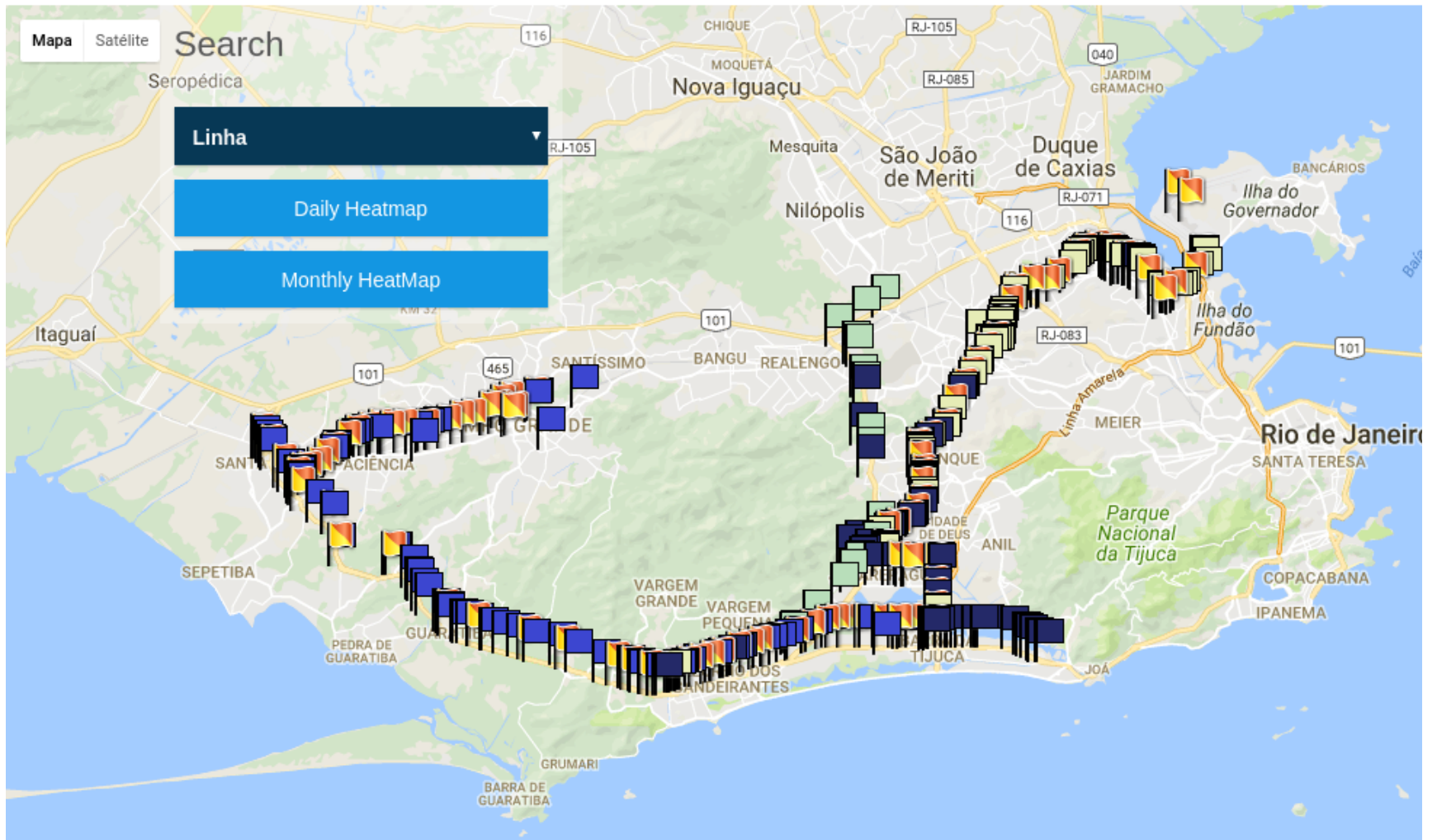
Worker Id	Address	State	Cores	Memory
worker-20170817175907-192.168.21.12-32985	192.168.21.12:32985	ALIVE	1 (1 Used)	1024.0 MB (1024.0 MB Used)
worker-20170817175907-192.168.21.13-36216	192.168.21.13:36216	ALIVE	1 (1 Used)	1024.0 MB (1024.0 MB Used)
worker-20170817175908-192.168.21.11-43508	192.168.21.11:43508	ALIVE	1 (1 Used)	1024.0 MB (1024.0 MB Used)

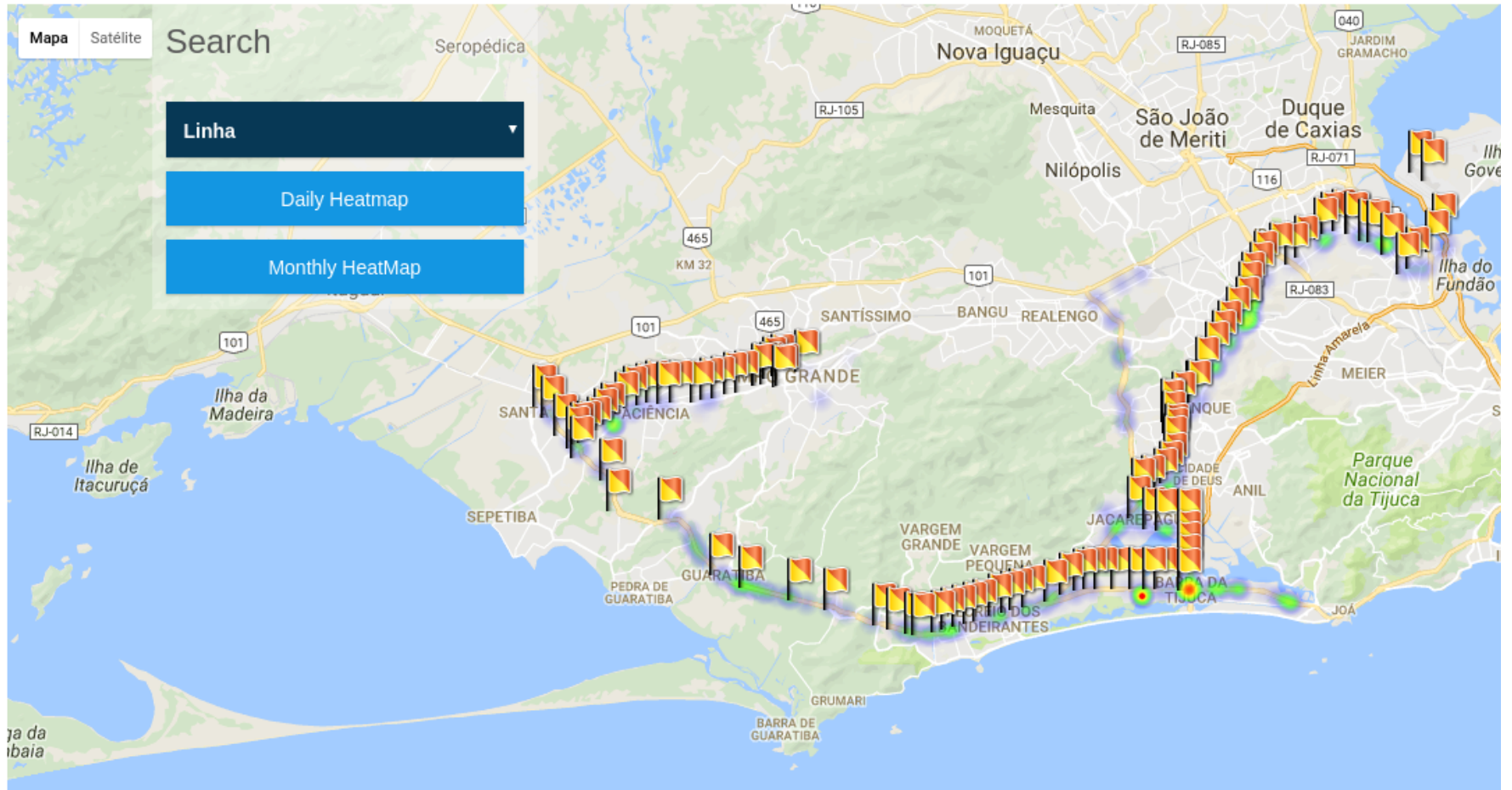
Running Applications

Application ID	Name	Cores	Memory per Executor	Submitted Time	User	State	Duration
app-20170818221152-0068 (kill)	BRTStreamReceiver	3	1024.0 MB	2017/08/18 22:11:52	ubuntu	RUNNING	59,5 h

Arquitetura e Fluxo de dados







Frontend

Teste do sistema

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