HUST

ĐẠI HỌC BÁCH KHOA HÀ NỘI

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

ONE LOVE. ONE FUTURE.

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BÁCH KHOA HÀ NỘI
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OF SCIENCE AND TECHNOLOGY

Hệ thống Thu thập, Lưu trữ, Xử lý và Phân tích Dữ liệu thời tiết dự báo thiên tai

Group: 9

ONE LOVE. ONE FUTURE.

Dataset

- 4 bo du lieu:

+ Historical Hourly Weather Data 2012-2017 NYC

+ Vehicle Collisions in NYC

+ Yellow Taxi NYC

+ 311 Service Requests NYC

Historical Hourly Weather Data

- Du lieu thoi tiet tinh theo gio o New York tu 2012-2017

```
--- Preview dữ liệu ---
              datetime  temperature  humidity  pressure weather_desc  \
0 2012-10-01 12:00:00        15.07      58.0    1012.0   few clouds
1 2012-10-01 13:00:00        15.07      58.0    1012.0   few clouds
2 2012-10-01 14:00:00        15.10      57.0    1012.0   few clouds
3 2012-10-01 15:00:00        15.18      57.0    1012.0   few clouds
4 2012-10-01 16:00:00        15.26      57.0    1012.0   few clouds

   wind_direction  wind_speed
0           260.0         7.0
1           260.0         7.0
2           260.0         7.0
3           260.0         7.0
4           260.0         7.0
```

Vehicle Collisions in NYC

- Du lieu cac vu tai nan tai thanh pho New York
- Cac truong thong tin quan trong: Datetime, So nguoi chet, so nguoi bi thuong, dia diem, nguyen nhan tai nan,...
- Tong so ban ghi: ~200.000 (2016)

Yellow Taxi NYC

- Du lieu taxi vang o thanh pho New York
- So ban ghi: ~(10.000.000) (2016)

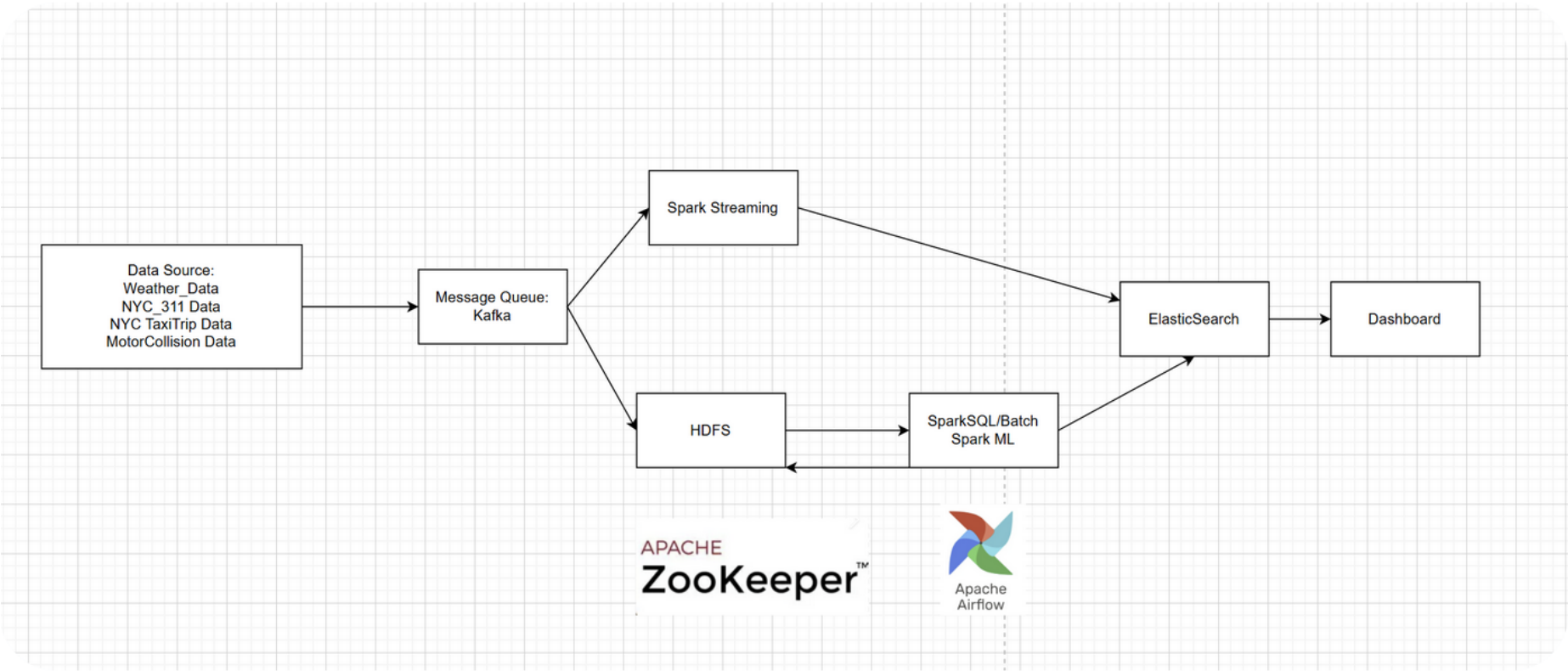
311 Request NewYork

- Du lieu phan nan cua dan cu New York gui ve
- So ban ghi (~2.200.000) (2016)

--- KẾT QUẢ KHAI PHÁ: THỜI TIẾT TÁC ĐỘNG GÌ ĐẾN KHIẾU NẠI? ---

	antecedents	consequents	support	confidence	lift
67	(Spike_DOOR, Weather_Cold)	(Spike_PLUMBING, Spike_HEAT)	0.051913	0.633333	9.658333
69	(Spike_PLUMBING, Weather_Cold)	(Spike_DOOR, Spike_HEAT)	0.051913	0.575758	8.104895
62	(Spike_DOOR, Spike_PLUMBING, Weather_Cold)	(Spike_HEAT)	0.051913	0.826087	7.752508
64	(Spike_DOOR, Spike_HEAT, Weather_Cold)	(Spike_PLUMBING)	0.051913	0.904762	6.758017
19	(Weather_Hot)	(Spike_WATER)	0.051913	0.513514	6.712355
44	(Spike_DOOR, Weather_Cold)	(Spike_HEAT)	0.057377	0.700000	6.569231
71	(Spike_HEAT, Weather_Cold)	(Spike_DOOR, Spike_PLUMBING)	0.051913	0.612903	6.409217
65	(Spike_PLUMBING, Weather_Cold, Spike_HEAT)	(Spike_DOOR)	0.051913	0.904762	6.020779
38	(Spike_PLUMBING, Weather_Cold)	(Spike_HEAT)	0.057377	0.636364	5.972028
57	(Spike_DOOR, Weather_Cold)	(Spike_PLUMBING)	0.062842	0.766667	5.726531

Pipeline trien khai



Kafka

- 4 producer, moi producer tuong ung voi 1 loai du lieu
- >=2 group consumer

Spark Streaming

SparkML

ElasticSearch

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THANK YOU !