

**UE ARCHIBIGD**

**Synthèse mini-projet :  
VELOZEF**

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**Vélo  
Zef**

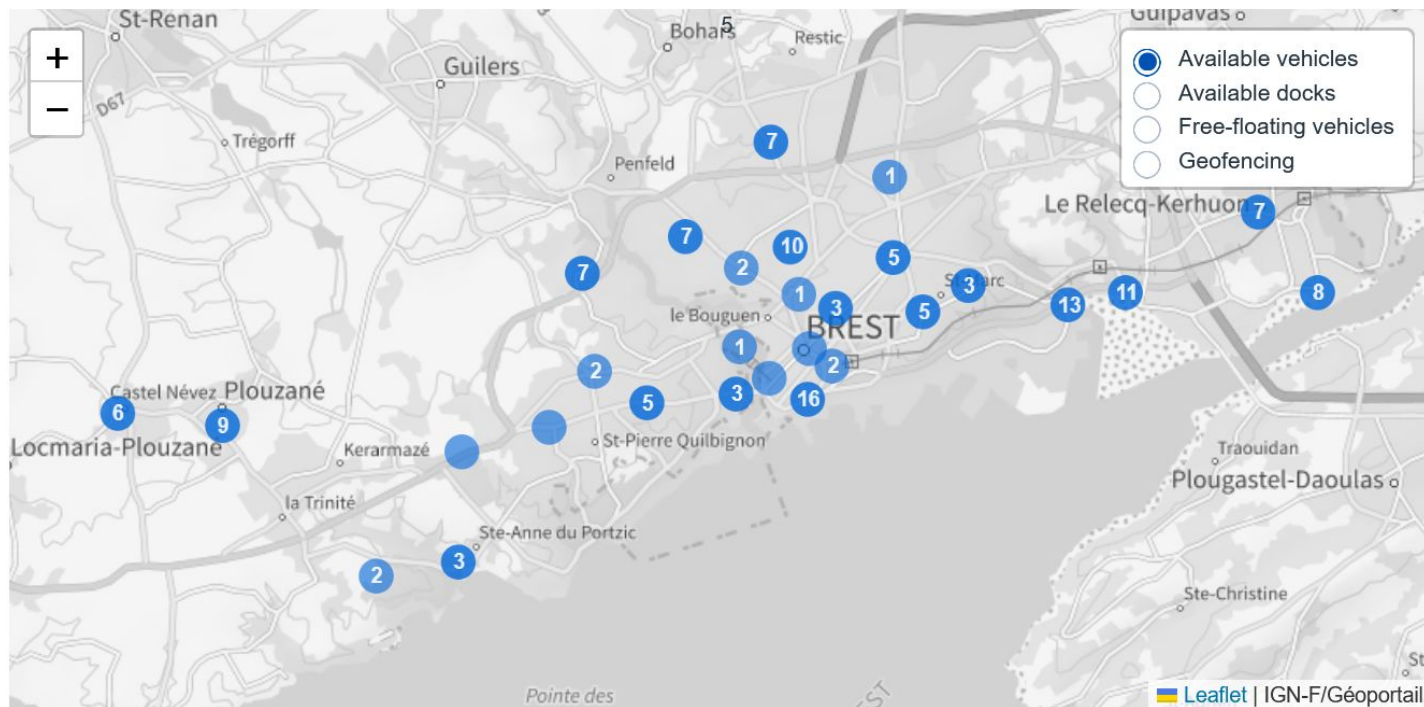


# Vélozef c'est...

**~100 000  
trajets à  
vélo**

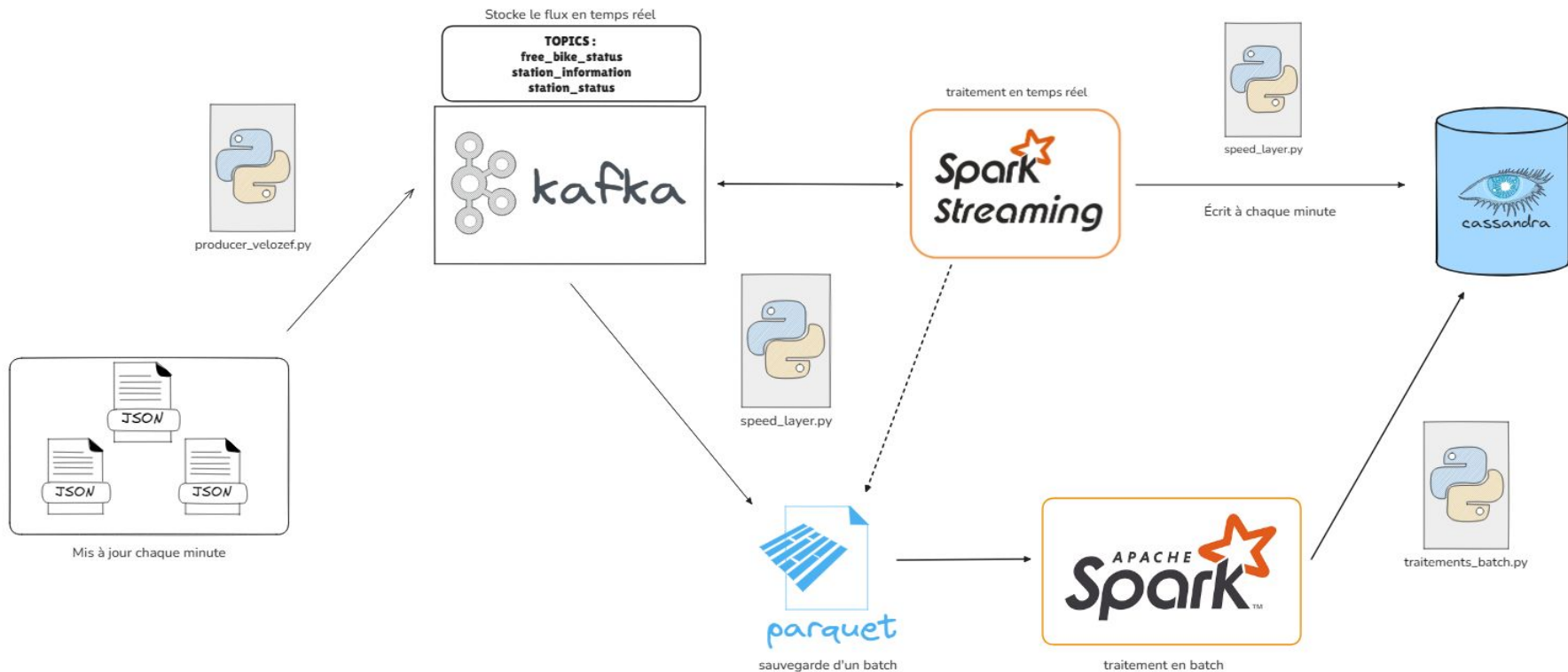
**185 Vélos  
29 stations**

**~9500  
Utilisateurs**



Real-time visualization of "Url du flux GBFS".

# Architecture utilisée



# Données récupérées

## station\_status :

- station\_id
- num\_bikes\_available
- num\_docks\_available
- last\_reported (timestamp unix)

## station\_information :

- station\_id
- name
- capacity : -> Nombre de vélos maximum hébergés dans une station

## free\_bike\_status :

- bike\_id
- station\_id
- last-reported
- is\_reserved -> Réserve par un utilisateur ( via l'application par exemple )
- is\_disabled -> N'est pas fonctionnel pour les utilisateurs
- Current\_range\_meters -> La distance maximal que peut parcourir un vélo

# Traitements en Streaming

- Nombre de stations vides.
- Nombre de stations pleines.
- Nombre de stations en saturation (n'ayant de la place que pour 3 vélos ou moins)
- Nombre total de docks disponibles sur le réseau vélozef.
- Nombre de vélos disponibles sur le réseau vélozef.



# Résultats

window_start	window_end	empty_count	full_count	saturation_count	total_bikes_available	total_docks_available
2025-03-24 18:56:00.000000+0000	2025-03-24 18:57:00.000000+0000	3	1	9	152	144
2025-03-26 16:13:00.000000+0000	2025-03-26 16:14:00.000000+0000	3	0	10	140	151
2025-03-26 16:26:00.000000+0000	2025-03-26 16:27:00.000000+0000	4	1	10	144	150
2025-03-26 16:31:00.000000+0000	2025-03-26 16:32:00.000000+0000	5	2	10	136	154
2025-03-26 17:11:00.000000+0000	2025-03-26 17:12:00.000000+0000	3	2	11	138	152
2025-03-26 17:02:00.000000+0000	2025-03-26 17:03:00.000000+0000	2	1	12	138	151
2025-03-26 16:20:00.000000+0000	2025-03-26 16:21:00.000000+0000	4	1	10	143	150
2025-03-26 17:13:00.000000+0000	2025-03-26 17:14:00.000000+0000	3	2	11	138	152
2025-03-26 17:06:00.000000+0000	2025-03-26 17:07:00.000000+0000	2	0	12	134	155
2025-03-26 16:22:00.000000+0000	2025-03-26 16:23:00.000000+0000	4	1	10	144	150
2025-03-26 16:57:00.000000+0000	2025-03-26 16:58:00.000000+0000	5	1	12	133	156
2025-03-26 16:46:00.000000+0000	2025-03-26 16:47:00.000000+0000	6	1	10	133	157
2025-03-26 16:15:00.000000+0000	2025-03-26 16:16:00.000000+0000	4	0	10	140	150
2025-03-26 16:37:00.000000+0000	2025-03-26 16:38:00.000000+0000	4	2	10	138	152
2025-03-26 17:01:00.000000+0000	2025-03-26 17:02:00.000000+0000	3	1	12	137	152
2025-03-26 16:29:00.000000+0000	2025-03-26 16:30:00.000000+0000	5	1	10	141	150
2025-03-26 16:58:00.000000+0000	2025-03-26 16:59:00.000000+0000	5	1	12	132	157
2025-03-24 18:57:00.000000+0000	2025-03-24 18:58:00.000000+0000	3	1	9	152	144
2025-03-26 17:12:00.000000+0000	2025-03-26 17:13:00.000000+0000	3	2	11	138	152
2025-03-26 16:45:00.000000+0000	2025-03-26 16:46:00.000000+0000	5	1	10	135	156
2025-03-26 16:24:00.000000+0000	2025-03-26 16:25:00.000000+0000	4	1	10	143	150
2025-03-26 17:14:00.000000+0000	2025-03-26 17:15:00.000000+0000	3	1	11	138	151



# Streaming : Vélos abandonnés ?

- Vélos à priori “disponibles” mais n’étant rattachés à aucune station (station\_id = “”)



status ;	
window_end	abandoned_bikes_count
2025-03-26 16:58:00.000000+0000	8
2025-03-26 17:12:00.000000+0000	5
2025-03-26 16:14:00.000000+0000	5
2025-03-26 16:21:00.000000+0000	2
2025-03-26 17:07:00.000000+0000	6
2025-03-26 16:57:00.000000+0000	8
2025-03-26 16:18:00.000000+0000	3
2025-03-26 17:08:00.000000+0000	6
2025-03-26 17:02:00.000000+0000	6
2025-03-24 18:58:00.000000+0000	3
2025-03-26 16:59:00.000000+0000	8
2025-03-26 16:55:00.000000+0000	7
2025-03-26 16:24:00.000000+0000	2

# Les vélos en pleine charge

- Les 3 meilleurs vélos qui peuvent rouler le plus loin possible



name	station_id	timestamp
Patinoire	cirqbnkg3q5td18hqnn0	2025-03-28 01:53:37.000000+0000
Patinoire	cirqbnkg3q5td18hqnn0	2025-03-28 01:53:37.000000+0000
Kérinou	cirqbo4g3q5td18hqo20	2025-03-28 01:53:37.000000+0000



# Les vélos réservés ou en panne

- Les vélos qui sont soit réservé par un utilisateur ou bien ils sont tombés en panne.



bike_id	situation	station_id
e89685e2-27cc-4ff0-8f2d-4ece96502596	DISABLED	cirqbmkg3q5td18hqn8g
8f5c6104-2a35-4d17-8338-ad2a8573066d	DISABLED	cirqbo4g3q5td18hqo20
079f59b3-ac07-4080-afad-02b29cfb44c5	DISABLED	
024e18c6-8349-47de-827b-7be5d27ff62d	DISABLED	
6851354d-ba1c-4a08-9b92-0526caef61e7	DISABLED	
aefdc98f-5853-4409-9c01-ce0f58ad9e91	DISABLED	
3f4c9799-9e41-4273-9595-49ec2522413b	DISABLED	cirqbhsg3q5td18hqi80

# Traitements en batch

- Nombre de docks disponibles en moyenne à chaque heure
- Nombre de vélos disponibles en moyenne à chaque heure
- Nombre de minutes où la station était pleine
- Nombre de minutes où la station était vide



# Résultats

station_id	computation_timestamp	empty_occurrences_24h	full_occurrences_24h	hour_avg_bikes_avail	hour_avg_docks_avail	name
cirqc2cg3q5td18hr120	2025-03-27 14:37:30.735000+0000	0	0	7.8882	2.1118	Plage du Moulin Blanc
cirqb1kg3q5td18hqm7g	2025-03-27 14:37:30.735000+0000	0	76	9.36646	0.863354	Recouvrance
cirqbskg3q5td18hqmqg	2025-03-27 14:37:30.735000+0000	59	0	0.708075	9.29193	Saint-Pierre
cirqbucg3q5td18hqst0	2025-03-27 14:37:30.735000+0000	0	0	1	9	Porte de Plouzané
cirqbo4g3q5td18hqo20	2025-03-27 14:37:30.735000+0000	0	98	9.71429	1.49068	Kérinou
cirqbhsq3q5td18hqi80	2025-03-27 14:37:30.735000+0000	98	0	0.857143	9.0559	Liberté
cirqbpg3q5td18hqp1g	2025-03-27 14:37:30.735000+0000	0	0	7.43478	1.56522	Europe
cirqc2kg3q5td18hr1gg	2025-03-27 14:37:30.735000+0000	0	0	6.57764	3.42236	Mairie du Relecq-Kerhuon
cirqc0cg3q5td18hquug	2025-03-27 14:37:30.735000+0000	94	0	0.944099	9.04348	Technopôle
cirqbisg3q5td18hqqj0	2025-03-27 14:37:30.735000+0000	53	0	1.3354	8.58385	Château
cirqbicg3q5td18hqisg	2025-03-27 14:37:30.735000+0000	2	0	1.7205	8.26087	Gares
cirqbqsg3q5td18hqq00	2025-03-27 14:37:30.735000+0000	0	157	10.6087	0.024845	Port du Moulin Blanc
cirqc1sg3q5td18hr090	2025-03-27 14:37:30.735000+0000	0	0	5.63354	4.29814	Bourg de Plouzané
cirqbvsg3q5td18hqua0	2025-03-27 14:37:30.735000+0000	0	0	2.6646	7.3354	Plage de Sainte-Anne
cirqbnkg3q5td18hqnn0	2025-03-27 14:37:30.735000+0000	0	136	10.60248	0.15528	Patinoire
cirqc14g3q5td18hqvj0	2025-03-27 14:37:30.735000+0000	0	16	9.09938	0.900621	Mairie de Plouzané
cirqc34g3q5td18hrltg	2025-03-27 14:37:30.735000+0000	0	0	8.3913	1.6087	La Corniche
cirqbmkg3q5td18hqmt0	2025-03-27 14:37:30.735000+0000	4	0	2.63354	7.34161	Ateliers des Capucins
cirqbrcg3q5td18hqq5g	2025-03-27 14:37:30.735000+0000	51	0	0.89441	9.09938	Vali Hir
cirqbqcg3q5td18hqp1g	2025-03-27 14:37:30.735000+0000	63	0	0.689441	9.31056	Saint-Marc
cirqbusg3q5td18hqtbg	2025-03-27 14:37:30.735000+0000	0	0	5	5	CHRU Cavale Blanche
cirqbp4g3q5td18hqo10	2025-03-27 14:37:30.735000+0000	53	0	1.40994	8.57143	Place de Strasbourg
cirqbq4g3q5td18hqp0	2025-03-27 14:37:30.735000+0000	38	0	1.08696	8.75776	Guelmeur
cirqbn4g3q5td18hqnfq	2025-03-27 14:37:30.735000+0000	0	123	10.21118	0.236025	Universités
cirqbksq3q5td18hqlf0	2025-03-27 14:37:30.735000+0000	48	0	1.1677	8.82609	Albert 1er
cirqbjkg3q5td18hqlkbg	2025-03-27 14:37:30.735000+0000	0	65	8.68323	1.40994	Quai de la Douane
cirqbokg3q5td18hqob0	2025-03-27 14:37:30.735000+0000	0	0	4.13665	5.86335	Place des F.F.I.
cirqbmkg3q5td18hqng8g	2025-03-27 14:37:30.735000+0000	0	0	4.2795	5.71429	Quatre Moulins
cirqbjsg3q5td18hqlkt0	2025-03-27 14:37:30.735000+0000	0	0	4.92547	4.96894	Saint-Martin

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