

Kafka Boost

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Agenda

- What Is Kafka
- Why Do you need KafkaBoost?
- What is KafkaBoost?
- Architecture
- Frontend
- Backend
- What's Next for KafkaBoost?



What Is Kafka

- Apache Kafka is a distributed event streaming platform.
- It's used to build real-time data pipelines and stream processing applications.
- Kafka handles high-throughput, low-latency message processing across systems.



Why Do you need KafkaBoost?

The Problem:

In standard Kafka, all messages are treated equally, regardless of urgency.

This can cause delays in processing critical events (e.g., system failures, urgent notifications).

Businesses relying on real-time decision-making can't afford these delays.



Why Do you need KafkaBoost?

Our Users:

Teams handling real-time alert systems, incident management, and high-priority task queues.

Use cases in healthcare, finance, and IoT where time-sensitive data must be prioritized.



What is KafkaBoost?

KafkaBoost is a custom extension built on top of Apache Kafka that introduces message prioritization to Kafka consumers.

Key Features:

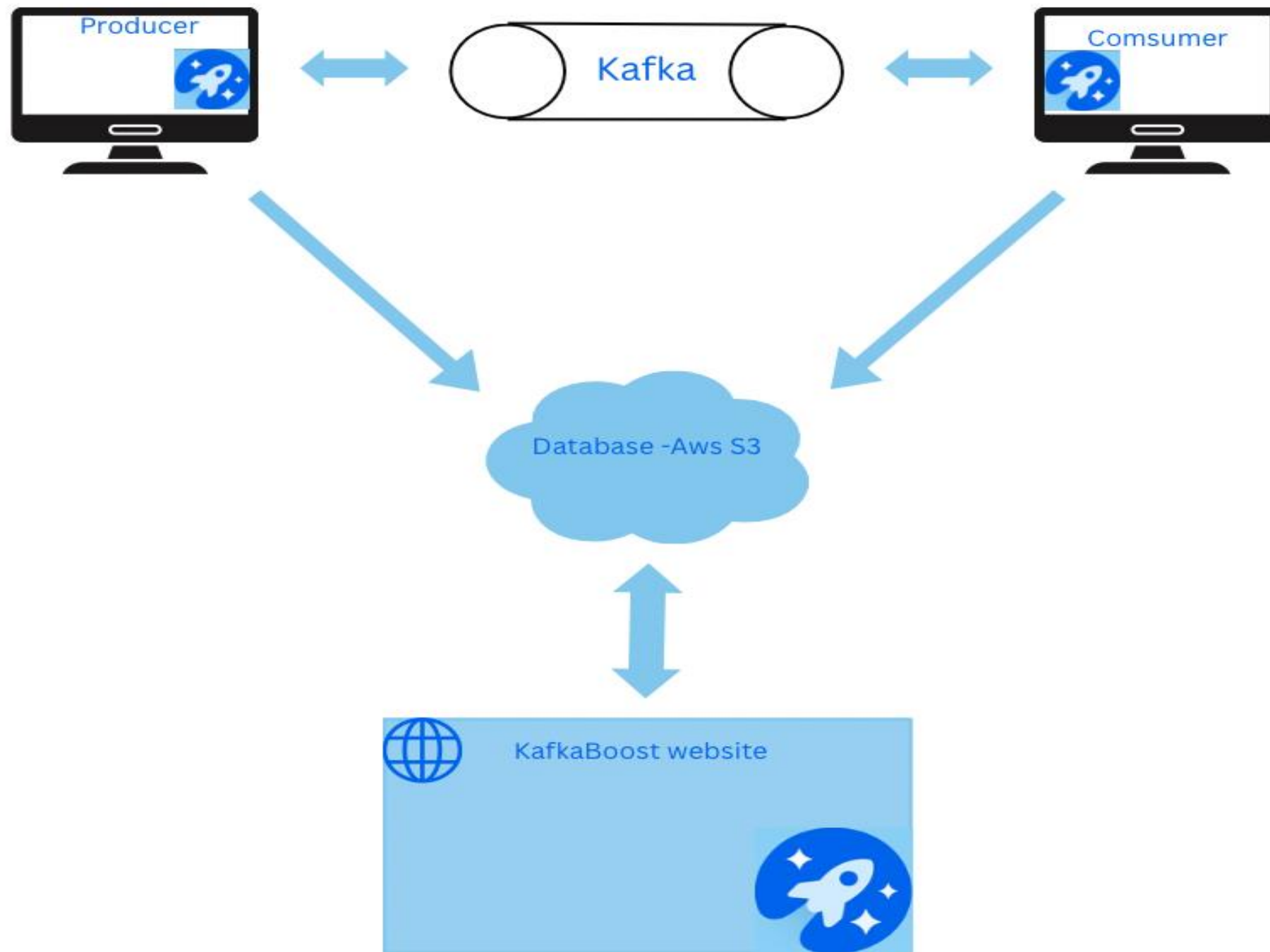
- Prioritized Message Handling – High-priority messages are processed before low-priority ones.



What is KafkaBoost?

- Custom Consumer Logic – Wraps the native Kafka consumer with a priority queue mechanism.
- Smart Scheduling – Supports customizable logic based on message content, headers, or metadata.
- Fully Compatible – Works with standard Kafka topics, producers, and brokers.





Frontend



Sign in / Log in page:

Sign In

Create Account

Email

Password



Sign in

[Forgot your password?](#)

Sign In

Create Account

Email

Password



Confirm Password



Create Account



Kafkaboost
Your request, our fastest track.

Settings History:

No previous settings found.

Define Priorities

Continue



Settings History:

No previous settings found.

Settings

Default Priority: 5

Max Priority: 10

Edit Settings

Topics +

Topic Name	Priority	Actions
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Value-Based Rules +

Role Name	Value	Priority	Actions
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Edit Settings

Topics +

Topic Name	Priority	Actions
test_topic	4	<button>Delete</button>

Value-Based Rules +

Role Name	Value	Priority	Actions
user_role	admin	7	<button>Delete</button>

Priority Boost +

Topic	Boost Min Value	Actions
test_topic	6	<button>Delete</button>

 Save All Settings



Kafkaboost
Your request, our fastest track.

Settings History:

- 25.5.2025, 13:50:27
- 25.5.2025, 13:50:27
- 25.5.2025, 13:41:35
- 25.5.2025, 13:34:24
- 25.5.2025, 12:26:22
- 24.5.2025, 11:05:00
- 24.5.2025, 10:53:22
- 24.5.2025, 10:21:47

Settings

Default Priority: 5

Max Priority: 10

[Edit Settings](#)

Topics +

Backend



```
F Running multi-topic test...
```

```
(Cleared and recreated topics: test_topic_1, test_topic_2
```

```
F Produced to test_topic_1: {'data': 'topic1_p10', 'priority': 10}
```

```
F Produced to test_topic_1: {'data': 'topic1_p5', 'priority': 5}
```

```
F Produced to test_topic_1: {'data': 'topic1_p9', 'priority': 9}
```

```

F Produced to test_topic_1: {'data': 'topic1_p8', 'priority': 8}

```

```
f Produced to test_topic_1: {'data': 'topic1_p4', 'priority': 4}
```

```
( Producer  
- Producer  
Total messages received: 10
```

7 Produce

1 Producec

```

k Produce Order of received messages (topic, data, priority):

```

```
└─ Produce topic1: topic1_p10 (priority 10)
```

```

Consumer topic2: topic2_p10 (priority 10)

```

```

F test_grc topic1: topic1_p9 (priority 9)
  Initiali

```

```

F Initial|
KafkaBot topic2: topic2_p9 (priority 9)

```

```

Polling topic1: topic1_p8 (priority 8)

```

```
4 Polling topic2: topic2_p8 (priority 8)
```

```
Process: topic1: topic1_p5 (priority 5)
```

```
Receiver topic2: topic2_p5 (priority 5)
```

```
1 Added new topic: topic1: topic1_p4 (priority 4)
```

```
Added new topic2: topic2_p4 (priority 4)
```

```
Added new message: {'data': 'topic2_p9', 'priority': 9}
```

```
Added new message: {'data': 'topic1_p8', 'priority': 8}
```

```
{ Added new message: {'data': 'topic2_p8', 'priority': 8}
  Added new message: {'data': 'topic1_p5', 'priority': 5}
```

```
{
  Added new message: { data: 'topic1 p5', priority: 5}
  Added new message: {'data': 'topic2 p5', 'priority': 5}
```

```
{ 'Added new message: {'data': 'topic1_p3', 'priority': 3}
```

```
{ 'Added new message: {'data': 'topic2_p4', 'priority': 4}
```


What's Next for KafkaBoost?

Backend Integration

Connect our database to the backend to enable live updates and real-time monitoring of message flows.



What's Next for KafkaBoost?

Boost Feature Expansion

- Upgrade the prioritization logic to support a "boost" mode, driven by a custom config file.
- Messages from specified topics (marked as high priority) are redirected to a dedicated boost topic.
- These are automatically prioritized and processed first by KafkaBoost consumers.



What's Next for KafkaBoost?

Web Dashboard Enhancements

- Add real-time statistics to the website:
 - Message counts by topic and priority level
 - Throughput and processing times



Questions?

