

# Kafka Streams

Check out the docs at Apache Kafka web site: <http://kafka.apache.org/documentation/streams/>

## Sub-pages:

- Using Kafka Streams:
  - [Usage Patterns](#)
  - [Application Reset Tool](#)
  - [Join Semantics](#)
  - [Streams FAQs](#)
  - [Data \(Re\)Processing Scenarios](#)
- Development:
  - [KIP overview by release](#)
  - [Development Plan](#)
  - [Discussions](#)
  - [Data \(Re\)Processing Scenarios](#)
  - [Kafka Streams DSL Grammar](#)
  - [Streams Runtime Architecture with New Threading](#)
- Internals:
  - [Data Management](#)
  - [Architecture](#)
  - [DSL Optimizer](#)

Find more links about Kafka Streams at [Kafka Ecosystem](#) page.

## Kafka Streams related KIPs:

Below is a list of KIPs that are not release yet. Go to [Kafka Streams KIP Overview](#) for KIPs by release (including discarded KIPs).

### Under discussion

- [KIP-406: GlobalStreamThread should honor custom reset policy](#)
- [KIP-424: Allow suppression of intermediate events based on wall clock time](#)
- [KIP-439: Cleanup built-in Store interfaces](#)
- [KIP-448: Add State Stores Unit Test Support to Kafka Streams Test Utils](#)
- [KIP-508: Make Suppression State Queriable](#)
- [KIP-513: Distinguish between Key and Value serdes in scala wrapper library for kafka streams](#)
- [KIP-540: Implement per key stream time tracking](#)
- [KIP-560: Auto infer external topic partitions in stream reset tool](#)
- [KIP-598: Augment TopologyDescription with store and source / sink serde information](#)
- [KIP-634: Complementary support for headers and record metadata in Kafka Streams DSL](#)
- [KIP-647: Add ability to handle late messages in streams-aggregation](#)
- [KIP-655: Windowed Distinct Operation for Kafka Streams API](#)
- [KIP-669: Preserve Source Partition in Kafka Streams from context](#)
- [KIP-674: Metric Reporter to Aggregate Metrics in Kafka Streams](#)
- [KIP-675: Convert KTable to a KStream using the previous value](#)
- [KIP-677: Migrating Topology methods to the Builder pattern](#)
- [KIP-718: Make KTable Join on Foreign key unopinionated](#)
- [KIP-747 Add support for basic aggregation APIs](#)
- [KIP-807: Refactor KafkaStreams exposed metadata hierarchy](#)
- [KIP-816: Topology changes without local state reset](#)
- [KIP-819: Merge multiple KStreams in one operation](#)
- [KIP-839: Provide builders for KafkaProducer/KafkaConsumer and KafkaStreams](#)
- [KIP-857: Streaming recursion in Kafka Streams](#)
- [KIP-924: customizable task assignment for Streams](#)
- [KIP-948: Allow custom prefix for internal topic names in Kafka Streams](#)
- [KIP-955: Add stream-table join on foreign key](#)
- [KIP-969: Support range Interactive Queries \(IQv2\) for Versioned State Stores](#)
- [KIP-989: RocksDB Iterator Metrics](#)
- [KIP-997: update WindowRangeQuery and unify WindowKeyQuery and WindowRangeQuery](#)
- [KIP-1027: Add MockFixedKeyProcessorContext](#)
- [KIP-1033: Add Kafka Streams exception handler for exceptions occurring during processing](#)
- [KIP-1034: Dead letter queue in Kafka Streams](#)
- [KIP-1035: StateStore managed changelog offsets](#)

### Adopted

- **inactive, not (fully) implemented (feel free to pick up):**
  - [KIP-149: Enabling key access in ValueTransformer, ValueMapper, and ValueJoiner](#) (partially implemented in v1.1)
  - [KIP-216: IQ should throw different exceptions for different errors](#)
  - [KIP-258: Allow to Store Record Timestamps in RocksDB](#) (partially implemented in v2.3)

- [KIP-300: Add Windowed KTable API in StreamsBuilder](#) (accepted but postponed because current code base does not allow to implement it as proposed)
- [KIP-328: Ability to suppress updates for KTables](#) (partially implemented in v2.1)
- [KIP-557: Add emit on change support for Kafka Streams](#) (~~partially implemented in v2.6~~ reverted again in 2.8.0, 2.7.1, and 2.6.2 due to potential data loss)
- [KIP-698: Add Explicit User Initialization of Broker-side State to Kafka Streams](#)
- [KIP-796: Interactive Query v2](#) (split up into multiple sub KIPs)
- [KIP-878: Internal Topic Autoscaling for Kafka Streams](#)
- **WIP (open PR / in review):**
  - [KIP-759: Unneeded repartition canceling](#)
  - [KIP-770: Replace "buffered.records.per.partition" & "cache.max.bytes.buffering" with "{statestore.cache}/{input.buffer}.max.bytes"](#) (partially implemented in 3.4)
  - [KIP-892: Transactional Semantics for StateStores](#)
  - [KIP-869: Improve Streams State Restoration Visibility](#) (partially implemented in 3.5)
- **next release Kafka 3.8 (merged):**
  - [KIP-813: Shareable State Stores](#)

### Inactive (feel free to pick up and resume the discussion):

- [KIP-95: Incremental Batch Processing for Kafka Streams](#)
- [KIP-159: Introducing Rich functions to Streams](#)
- [KIP-260: add primary join operation for Stream-Stream join \(WIP\)](#) (draft)
- [KIP-311: Async processing with dynamic scheduling in Kafka Streams](#)
- [KIP-314: KTable to GlobalKTable Bi-directional Join](#)
- [KIP-326: Schedulable KTable as Graph source](#)
- [KIP-335: Consider configurations for KafkaStreams](#)
- [KIP-362: Support dynamic gap session window](#)
- [KIP-408: Add Asynchronous Processing To Kafka Streams](#)
- [KIP-457: Add DISCONNECTED status to Kafka Streams](#)
- [KIP-459: Improve KafkaStreams#close](#)
- [KIP-463: Auto-configure non-default Serdes passed alongside the TopologyBuilder](#)
- [KIP-645: Replace Windows with a proper interface](#)
- [KIP-667: Remove deprecated methods from ReadOnlyWindowStore](#) (no KIP needed)
- [KIP-XXX: \[Streams\] Support multiple topic resolution in TopicNameExtractor](#) (draft)