Table 1: Selected Flink Configuration Parameters

Configuration Parameters–Description	Range	Default
jobmanager.memory.process.size–Total memory size of the JobManager process, in MB.	1024-64000	8192
jobmanager.memory.jvm-overhead.fraction–Fraction of Total Process Memory to be reserved for JVM Overhead.	0.05-0.20	0.10
taskmanager.numberOfTaskSlots–The number of slots that a TaskManager offers.	3-32	8
taskmanager.memory.process.size–Total memory size of the TaskManager process, in MB.	4096-60000	8192
taskmanager.memory.jvm-overhead.fraction–Fraction of Total Process Memory to be reserved for JVM Overhead.	0.05-0.20	0.10
taskmanager.memory.segment-size–Size of memory buffers used by the network stack and the memory manager, in KB.	32-4096	32
taskmanager.memory.managed.fraction–Fraction of Total Flink Memory to be used as Managed Memory.	0.30-0.75	0.40
taskmanager.memory.network.fraction–Fraction of Total Flink Memory to be used as Network Memory.	0.05-0.50	0.10
taskmanager.memory.network.min–Min Network Memory size for TaskExecutors, in MB.	64-1024	64
taskmanager.memory.network.max–Max Network Memory size for TaskExecutors, in MB.	1024-10240	1024
taskmanager.runtime.max-fan–The maximal fan-in for external merge joins and fan-out for spilling hash tables.	100-200	128
taskmanager.runtime.sort-spilling-threshold–A sort operation starts spilling when this fraction of its memory budget is full.	0.6-0.9	0.8
taskmanager.runtime.hashjoin-bloom-filters–Flag to activate/deactivate bloom filters in the hybrid hash join implementation.	false, true	false
taskmanager.network.sort-shuffle.min-buffers–Minimum number of network buffers required per sort-merge blocking result partition.	64-1024	64
taskmanager.network.memory.floating-buffers-per-gate–Number of extra network buffers to use for each outgoing/incoming gate (result partition/input gate).	4-90	8
taskmanager.network.netty.sendReceiveBufferSize–The Netty send and receive buffer size.	763659-8388608	system buffersize
taskmanager.network.netty.client.numThreads–The number of Netty client threads.	1-16	8
taskmanager.network.netty.num-arenas–The number of Netty arenas.	1-16	8
taskmanager.network.netty.server.numThreads–The number of Netty server threads.	1-16	8
taskmanager.network.blocking-shuffle.compression.enabled–Boolean flag indicating whether the shuffle data will be compressed for blocking shuffle mode.	false, true	false
taskmanager.network.memory.buffers-per-channel–Number of exclusive network buffers to use for each outgoing/incoming channel (subpartition/inputchannel).	1-10	2
taskmanager.network.memory.max-buffers-per-channel–Number of max buffers that can be used for each channel.	10-100	10
akka.framesize–Maximum size of messages which are sent between the JobManager and the jobManagers, in MB.	6-20	10
akka.throughput–Number of messages that are processed in a batch before returning the thread to the pool.	5-40	15
fs.overwrite-files–Specifies whether file output writers should overwrite existing files by default.	false, true	false
fs.output.always-create-directory–File writers running with a parallelism larger than one create a directory for the output file path.	false, true	false
blob.fetch.num-concurrent–The config parameter defining the maximum number of concurrent BLOB fetches that the JobManager serves.	40-100	50
blob.fetch.retries–The config parameter defining number of retires for failed BLOB fetches.	1-20	5
blob.fetch.backlog–The config parameter defining the desired backlog of BLOB fetches on the JobManager.	500-2000	1000
blob.offload.minsize–The minimum size for messages to be offloaded to the BlobServer, in KB.	512-2048	1024
env.java.opts -XX:NewRatio–The ratio of old to young generation in JVM.	1-10	3
env.java.opts -XX:ParallelGCThreads–The number of GC threads in JVM.	1-4	4
env.java.opts -XX:GCTimeRatio–The ratio of GC time in JVM.	1-100	99
execution.buffer-timeout–The maximum time frequency (milliseconds) for the flushing of the output buffers, in ms.	0-1000	100
execution.checkpointing.interval–Gets the interval in which checkpoints are periodically scheduled, in ms.	10000-300000	180000
state.backend.rocksdb.block.blocksize–The approximate size of user data packed per block, in KB.	4-256	4
state.backend.rocksdb.block.cache-size–The amount of the cache for data blocks in RocksDB, in MB.	8-256	8
state.backend.rocksdb.memory.write-buffer-ratio–The maximum amount of memory that write buffers may take.	0.2-0.8	0.5
state.backend.rocksdb.thread.num–The maximum number of concurrent background flush and compaction jobs.	1-32	4