```
2019-10-07 00:07:01,630 INFO org.apache.hadoop.yarn.client.RMProxy (main): Connecting to
ResourceManager at ip-172-31-29-44.ec2.internal/172.31.29.44:8032
2019-10-07 00:07:04,062 INFO org.apache.hadoop.mapreduce.lib.input.FileInputFormat (main):
Total input files to process : 1
2019-10-07 00:07:04,079 INFO com.hadoop.compression.lzo.GPLNativeCodeLoader (main): Loaded
native gpl library
2019-10-07 00:07:04,085 INFO com.hadoop.compression.lzo.LzoCodec (main): Successfully
loaded & initialized native-lzo library [hadoop-lzo rev
082e98ac708024722b9a71933768ecad2e086acc]
2019-10-07 00:07:04,190 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): number of
splits:20
2019-10-07 00:07:04,381 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): Submitting
tokens for job: job_1570405726040_0001
2019-10-07 00:07:05,121 INFO org.apache.hadoop.yarn.client.api.impl.YarnClientImpl (main):
Submitted application application_1570405726040_0001
2019-10-07 00:07:05,289 INFO org.apache.hadoop.mapreduce.Job (main): The url to track the
job: http://ip-172-31-29-44.ec2.internal:20888/proxy/application_1570405726040_0001/
2019-10-07 00:07:05,290 INFO org.apache.hadoop.mapreduce.Job (main): Running job:
job_1570405726040_0001
2019-10-07 00:07:17,490 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570405726040_0001 running in uber mode : false
2019-10-07 00:07:17,491 INFO org.apache.hadoop.mapreduce.Job (main):  map 0% reduce 0%
2019-10-07 00:07:39,670 INFO org.apache.hadoop.mapreduce.Job (main):  map 7% reduce 0%
2019-10-07 00:07:40,676 INFO org.apache.hadoop.mapreduce.Job (main):  map 10% reduce 0%
2019-10-07 00:07:41,683 INFO org.apache.hadoop.mapreduce.Job (main):  map 30% reduce 0%
2019-10-07 00:07:42,708 INFO org.apache.hadoop.mapreduce.Job (main):  map 60% reduce 0%
2019-10-07 00:07:43,715 INFO org.apache.hadoop.mapreduce.Job (main):  map 80% reduce 0%
2019-10-07 00:07:44,723 INFO org.apache.hadoop.mapreduce.Job (main):  map 85% reduce 0%
2019-10-07 00:07:45,729 INFO org.apache.hadoop.mapreduce.Job (main):  map 90% reduce 0%
2019-10-07 00:07:48,746 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 0%
2019-10-07 00:08:00,809 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 27%
2019-10-07 00:08:01,813 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 51%
2019-10-07 00:08:02,818 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 59%
2019-10-07 00:08:03,824 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 62%
2019-10-07 00:08:04,828 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 66%
2019-10-07 00:08:05,832 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 70%
2019-10-07 00:08:06,836 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 72%
2019-10-07 00:08:07,840 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 74%
2019-10-07 00:08:08,844 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 78%
2019-10-07 00:08:10,854 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 79%
2019-10-07 00:08:12,863 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 80%
2019-10-07 00:08:14,871 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 81%
2019-10-07 00:08:18,894 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 82%
2019-10-07 00:08:21,909 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 83%
2019-10-07 00:08:24,924 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 85%
2019-10-07 00:08:30,955 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 86%
2019-10-07 00:08:31,965 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 87%
2019-10-07 00:08:36,990 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 88%
2019-10-07 00:08:37,994 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 89%
2019-10-07 00:08:38,997 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 90%
2019-10-07 00:08:43,014 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 91%
2019-10-07 00:08:45,022 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 92%
2019-10-07 00:08:50,042 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 93%
2019-10-07 00:08:51,045 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 94%
```

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2019-10-07 00:08:55,059 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 95%
2019-10-07 00:08:57,065 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 96%
2019-10-07 00:09:03,097 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 97%
2019-10-07 00:09:09,119 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 98%
2019-10-07 00:09:16,149 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 99%
2019-10-07 00:09:38,226 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 100%
2019-10-07 00:09:43,310 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570405726040_0001 completed successfully
2019-10-07 00:09:43,460 INFO org.apache.hadoop.mapreduce.Job (main): Counters: 55
        File System Counters
                FILE: Number of bytes read=13601561
                FILE: Number of bytes written=34570431
                FILE: Number of read operations=0
                FILE: Number of large read operations=0
                FILE: Number of write operations=0
                HDFS: Number of bytes read=1900
                HDFS: Number of bytes written=0
                HDFS: Number of read operations=20
                HDFS: Number of large read operations=0
                HDFS: Number of write operations=0
                S3: Number of bytes read=1319506920
                S3: Number of bytes written=13639755451
                S3: Number of read operations=0
                S3: Number of large read operations=0
                S3: Number of write operations=0
        Job Counters
                Killed map tasks=1
                Launched map tasks=20
                Launched reduce tasks=19
                Data-local map tasks=20
                Total time spent by all maps in occupied slots (ms)=21368208
                Total time spent by all reduces in occupied slots (ms)=132519456
                Total time spent by all map tasks (ms)=445171
                Total time spent by all reduce tasks (ms)=1380411
                Total vcore-milliseconds taken by all map tasks=445171
                Total vcore-milliseconds taken by all reduce tasks=1380411
                Total megabyte-milliseconds taken by all map tasks=683782656
                Total megabyte-milliseconds taken by all reduce tasks=4240622592
        Map-Reduce Framework
                Map input records=85331845
                Map output records=2313136
                Map output bytes=28587122
                Map output materialized bytes=14347363
                Input split bytes=1900
                Combine input records=0
                Combine output records=0
                Reduce input groups=50000
                Reduce shuffle bytes=14347363
                Reduce input records=2313136
                Reduce output records=1205631383
                Spilled Records=4626272
                Shuffled Maps =380
                Failed Shuffles=0
                Merged Map outputs=380
                GC time elapsed (ms)=23075
```

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                        CPU time spent (ms)=1424560
                        Physical memory (bytes) snapshot=31586902016
                        Virtual memory (bytes) snapshot=154786291712
                        Total committed heap usage (bytes)=28490858496
                Shuffle Errors
                        BAD_ID=0
                        CONNECTION=0
                        IO_ERROR=0
                        WRONG_LENGTH=0
                        WRONG_MAP=0
                        WRONG_REDUCE=0
                File Input Format Counters
                        Bytes Read=1319506920
                File Output Format Counters
                        Bytes Written=13639755451
2019-10-07 00:09:43,565 INFO org.apache.hadoop.yarn.client.RMProxy (main): Connecting to
ResourceManager at ip-172-31-29-44.ec2.internal/172.31.29.44:8032
2019-10-07 00:09:43,810 INFO org.apache.hadoop.mapreduce.lib.input.FileInputFormat (main):
Total input files to process : 19
2019-10-07 00:09:43,914 INFO org.apache.hadoop.mapreduce.lib.input.FileInputFormat (main):
Total input files to process : 1
2019-10-07 00:09:44,038 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): number of
splits:230
2019-10-07 00:09:44,083 INFO org.apache.hadoop.mapreduce.JobSubmitter (main): Submitting
tokens for job: job_1570405726040_0002
2019-10-07 00:09:44,120 INFO org.apache.hadoop.yarn.client.api.impl.YarnClientImpl (main):
Submitted application application_1570405726040_0002
2019-10-07 00:09:44,130 INFO org.apache.hadoop.mapreduce.Job (main): The url to track the
job: http://ip-172-31-29-44.ec2.internal:20888/proxy/application_1570405726040_0002/
2019-10-07 00:09:44,130 INFO org.apache.hadoop.mapreduce.Job (main): Running job:
job_1570405726040_0002
2019-10-07 00:09:56,296 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570405726040_0002 running in uber mode : false
2019-10-07 00:09:56,296 INFO org.apache.hadoop.mapreduce.Job (main):  map 0% reduce 0%
2019-10-07 00:10:24,457 INFO org.apache.hadoop.mapreduce.Job (main):  map 1% reduce 0%
2019-10-07 00:10:32,493 INFO org.apache.hadoop.mapreduce.Job (main):  map 2% reduce 0%
2019-10-07 00:10:33,499 INFO org.apache.hadoop.mapreduce.Job (main):  map 3% reduce 0%
2019-10-07 00:10:35,511 INFO org.apache.hadoop.mapreduce.Job (main):  map 4% reduce 0%
2019-10-07 00:10:36,517 INFO org.apache.hadoop.mapreduce.Job (main):  map 6% reduce 0%
2019-10-07 00:10:37,526 INFO org.apache.hadoop.mapreduce.Job (main):  map 7% reduce 0%
2019-10-07 00:10:38,529 INFO org.apache.hadoop.mapreduce.Job (main):  map 9% reduce 0%
2019-10-07 00:10:39,536 INFO org.apache.hadoop.mapreduce.Job (main):  map 10% reduce 0%
2019-10-07 00:10:41,544 INFO org.apache.hadoop.mapreduce.Job (main):  map 11% reduce 0%
2019-10-07 00:11:04,629 INFO org.apache.hadoop.mapreduce.Job (main):  map 12% reduce 0%
2019-10-07 00:11:19,681 INFO org.apache.hadoop.mapreduce.Job (main):  map 13% reduce 0%
2019-10-07 00:11:21,695 INFO org.apache.hadoop.mapreduce.Job (main):  map 14% reduce 0%
2019-10-07 00:11:23,705 INFO org.apache.hadoop.mapreduce.Job (main):  map 15% reduce 0%
2019-10-07 00:11:25,719 INFO org.apache.hadoop.mapreduce.Job (main):  map 16% reduce 0%
2019-10-07 00:11:26,728 INFO org.apache.hadoop.mapreduce.Job (main):  map 17% reduce 0%
2019-10-07 00:11:46,804 INFO org.apache.hadoop.mapreduce.Job (main):  map 18% reduce 0%
2019-10-07 00:11:51,821 INFO org.apache.hadoop.mapreduce.Job (main):  map 19% reduce 0%
2019-10-07 00:11:54,831 INFO org.apache.hadoop.mapreduce.Job (main):  map 19% reduce 1%
2019-10-07 00:11:55,834 INFO org.apache.hadoop.mapreduce.Job (main):  map 21% reduce 1%
2019-10-07 00:11:57,840 INFO org.apache.hadoop.mapreduce.Job (main):  map 22% reduce 1%
2019-10-07 00:12:01,853 INFO org.apache.hadoop.mapreduce.Job (main):  map 23% reduce 1%
```

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2019-10-07 00:12:03,862 INFO org.apache.hadoop.mapreduce.Job (main):  map 24% reduce 1%
2019-10-07 00:12:04,865 INFO org.apache.hadoop.mapreduce.Job (main):  map 25% reduce 1%
2019-10-07 00:12:06,871 INFO org.apache.hadoop.mapreduce.Job (main):  map 26% reduce 1%
2019-10-07 00:12:09,880 INFO org.apache.hadoop.mapreduce.Job (main):  map 27% reduce 1%
2019-10-07 00:12:16,911 INFO org.apache.hadoop.mapreduce.Job (main):  map 28% reduce 1%
2019-10-07 00:12:27,948 INFO org.apache.hadoop.mapreduce.Job (main):  map 29% reduce 1%
2019-10-07 00:12:36,975 INFO org.apache.hadoop.mapreduce.Job (main):  map 30% reduce 1%
2019-10-07 00:12:46,001 INFO org.apache.hadoop.mapreduce.Job (main):  map 31% reduce 1%
2019-10-07 00:12:48,012 INFO org.apache.hadoop.mapreduce.Job (main):  map 32% reduce 1%
2019-10-07 00:12:51,023 INFO org.apache.hadoop.mapreduce.Job (main):  map 33% reduce 1%
2019-10-07 00:12:53,031 INFO org.apache.hadoop.mapreduce.Job (main):  map 34% reduce 1%
2019-10-07 00:12:57,052 INFO org.apache.hadoop.mapreduce.Job (main):  map 34% reduce 2%
2019-10-07 00:13:05,079 INFO org.apache.hadoop.mapreduce.Job (main):  map 35% reduce 2%
2019-10-07 00:13:09,095 INFO org.apache.hadoop.mapreduce.Job (main):  map 36% reduce 2%
2019-10-07 00:13:14,112 INFO org.apache.hadoop.mapreduce.Job (main):  map 37% reduce 2%
2019-10-07 00:13:16,117 INFO org.apache.hadoop.mapreduce.Job (main):  map 37% reduce 3%
2019-10-07 00:13:20,129 INFO org.apache.hadoop.mapreduce.Job (main):  map 38% reduce 3%
2019-10-07 00:13:25,148 INFO org.apache.hadoop.mapreduce.Job (main):  map 39% reduce 3%
2019-10-07 00:13:28,158 INFO org.apache.hadoop.mapreduce.Job (main):  map 40% reduce 3%
2019-10-07 00:13:31,169 INFO org.apache.hadoop.mapreduce.Job (main):  map 41% reduce 4%
2019-10-07 00:13:33,176 INFO org.apache.hadoop.mapreduce.Job (main):  map 42% reduce 4%
2019-10-07 00:13:35,184 INFO org.apache.hadoop.mapreduce.Job (main):  map 43% reduce 4%
2019-10-07 00:13:40,199 INFO org.apache.hadoop.mapreduce.Job (main):  map 44% reduce 4%
2019-10-07 00:13:51,241 INFO org.apache.hadoop.mapreduce.Job (main):  map 45% reduce 4%
2019-10-07 00:13:53,247 INFO org.apache.hadoop.mapreduce.Job (main):  map 45% reduce 5%
2019-10-07 00:13:57,259 INFO org.apache.hadoop.mapreduce.Job (main):  map 46% reduce 5%
2019-10-07 00:14:01,269 INFO org.apache.hadoop.mapreduce.Job (main):  map 47% reduce 5%
2019-10-07 00:14:15,324 INFO org.apache.hadoop.mapreduce.Job (main):  map 48% reduce 5%
2019-10-07 00:14:16,327 INFO org.apache.hadoop.mapreduce.Job (main):  map 49% reduce 5%
2019-10-07 00:14:19,335 INFO org.apache.hadoop.mapreduce.Job (main):  map 50% reduce 5%
2019-10-07 00:14:21,346 INFO org.apache.hadoop.mapreduce.Job (main):  map 50% reduce 6%
2019-10-07 00:14:23,352 INFO org.apache.hadoop.mapreduce.Job (main):  map 51% reduce 6%
2019-10-07 00:14:32,379 INFO org.apache.hadoop.mapreduce.Job (main):  map 51% reduce 7%
2019-10-07 00:14:33,381 INFO org.apache.hadoop.mapreduce.Job (main):  map 52% reduce 7%
2019-10-07 00:14:41,402 INFO org.apache.hadoop.mapreduce.Job (main):  map 53% reduce 7%
2019-10-07 00:14:49,425 INFO org.apache.hadoop.mapreduce.Job (main):  map 54% reduce 7%
2019-10-07 00:14:53,438 INFO org.apache.hadoop.mapreduce.Job (main):  map 54% reduce 8%
2019-10-07 00:14:55,443 INFO org.apache.hadoop.mapreduce.Job (main):  map 55% reduce 8%
2019-10-07 00:14:59,457 INFO org.apache.hadoop.mapreduce.Job (main):  map 56% reduce 8%
2019-10-07 00:15:02,465 INFO org.apache.hadoop.mapreduce.Job (main):  map 57% reduce 8%
2019-10-07 00:15:06,480 INFO org.apache.hadoop.mapreduce.Job (main):  map 58% reduce 8%
2019-10-07 00:15:13,501 INFO org.apache.hadoop.mapreduce.Job (main):  map 59% reduce 9%
2019-10-07 00:15:21,533 INFO org.apache.hadoop.mapreduce.Job (main):  map 60% reduce 9%
2019-10-07 00:15:27,553 INFO org.apache.hadoop.mapreduce.Job (main):  map 61% reduce 9%
2019-10-07 00:15:37,582 INFO org.apache.hadoop.mapreduce.Job (main):  map 62% reduce 9%
2019-10-07 00:15:46,608 INFO org.apache.hadoop.mapreduce.Job (main):  map 63% reduce 9%
2019-10-07 00:15:50,623 INFO org.apache.hadoop.mapreduce.Job (main):  map 64% reduce 9%
2019-10-07 00:15:52,628 INFO org.apache.hadoop.mapreduce.Job (main):  map 64% reduce 10%
2019-10-07 00:15:55,644 INFO org.apache.hadoop.mapreduce.Job (main):  map 65% reduce 10%
2019-10-07 00:16:00,660 INFO org.apache.hadoop.mapreduce.Job (main):  map 66% reduce 10%
2019-10-07 00:16:05,686 INFO org.apache.hadoop.mapreduce.Job (main):  map 67% reduce 10%
2019-10-07 00:16:19,724 INFO org.apache.hadoop.mapreduce.Job (main):  map 68% reduce 10%
2019-10-07 00:16:23,738 INFO org.apache.hadoop.mapreduce.Job (main):  map 69% reduce 10%
2019-10-07 00:16:25,747 INFO org.apache.hadoop.mapreduce.Job (main):  map 69% reduce 11%
2019-10-07 00:16:29,757 INFO org.apache.hadoop.mapreduce.Job (main):  map 70% reduce 11%
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2019-10-07 00:16:30,760 INFO org.apache.hadoop.mapreduce.Job (main):  map 71% reduce 11%
2019-10-07 00:16:35,781 INFO org.apache.hadoop.mapreduce.Job (main):  map 72% reduce 11%
2019-10-07 00:16:38,790 INFO org.apache.hadoop.mapreduce.Job (main):  map 73% reduce 11%
2019-10-07 00:16:47,816 INFO org.apache.hadoop.mapreduce.Job (main):  map 74% reduce 11%
2019-10-07 00:16:55,849 INFO org.apache.hadoop.mapreduce.Job (main):  map 75% reduce 11%
2019-10-07 00:17:03,875 INFO org.apache.hadoop.mapreduce.Job (main):  map 76% reduce 11%
2019-10-07 00:17:13,921 INFO org.apache.hadoop.mapreduce.Job (main):  map 77% reduce 12%
2019-10-07 00:17:16,931 INFO org.apache.hadoop.mapreduce.Job (main):  map 78% reduce 12%
2019-10-07 00:17:20,943 INFO org.apache.hadoop.mapreduce.Job (main):  map 79% reduce 12%
2019-10-07 00:17:24,952 INFO org.apache.hadoop.mapreduce.Job (main):  map 80% reduce 12%
2019-10-07 00:17:33,974 INFO org.apache.hadoop.mapreduce.Job (main):  map 81% reduce 12%
2019-10-07 00:17:44,014 INFO org.apache.hadoop.mapreduce.Job (main):  map 82% reduce 12%
2019-10-07 00:17:45,019 INFO org.apache.hadoop.mapreduce.Job (main):  map 82% reduce 13%
2019-10-07 00:17:51,038 INFO org.apache.hadoop.mapreduce.Job (main):  map 83% reduce 13%
2019-10-07 00:17:55,048 INFO org.apache.hadoop.mapreduce.Job (main):  map 84% reduce 13%
2019-10-07 00:18:00,060 INFO org.apache.hadoop.mapreduce.Job (main):  map 85% reduce 13%
2019-10-07 00:18:02,064 INFO org.apache.hadoop.mapreduce.Job (main):  map 86% reduce 13%
2019-10-07 00:18:05,076 INFO org.apache.hadoop.mapreduce.Job (main):  map 87% reduce 13%
2019-10-07 00:18:09,090 INFO org.apache.hadoop.mapreduce.Job (main):  map 88% reduce 13%
2019-10-07 00:18:16,116 INFO org.apache.hadoop.mapreduce.Job (main):  map 89% reduce 13%
2019-10-07 00:18:22,133 INFO org.apache.hadoop.mapreduce.Job (main):  map 89% reduce 14%
2019-10-07 00:18:29,149 INFO org.apache.hadoop.mapreduce.Job (main):  map 90% reduce 14%
2019-10-07 00:18:32,157 INFO org.apache.hadoop.mapreduce.Job (main):  map 91% reduce 14%
2019-10-07 00:18:35,165 INFO org.apache.hadoop.mapreduce.Job (main):  map 92% reduce 14%
2019-10-07 00:18:38,172 INFO org.apache.hadoop.mapreduce.Job (main):  map 93% reduce 14%
2019-10-07 00:18:42,187 INFO org.apache.hadoop.mapreduce.Job (main):  map 94% reduce 14%
2019-10-07 00:18:49,205 INFO org.apache.hadoop.mapreduce.Job (main):  map 95% reduce 14%
2019-10-07 00:18:54,218 INFO org.apache.hadoop.mapreduce.Job (main):  map 95% reduce 15%
2019-10-07 00:18:58,228 INFO org.apache.hadoop.mapreduce.Job (main):  map 96% reduce 15%
2019-10-07 00:19:00,233 INFO org.apache.hadoop.mapreduce.Job (main):  map 97% reduce 15%
2019-10-07 00:19:04,252 INFO org.apache.hadoop.mapreduce.Job (main):  map 98% reduce 15%
2019-10-07 00:19:11,268 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 17%
2019-10-07 00:19:13,272 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 19%
2019-10-07 00:19:14,276 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 22%
2019-10-07 00:19:16,283 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 24%
2019-10-07 00:19:17,285 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 26%
2019-10-07 00:19:19,290 INFO org.apache.hadoop.mapreduce.Job (main):  map 99% reduce 28%
2019-10-07 00:19:28,309 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 29%
2019-10-07 00:19:32,317 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 30%
2019-10-07 00:19:38,331 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 31%
2019-10-07 00:19:41,339 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 32%
2019-10-07 00:19:42,341 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 33%
2019-10-07 00:19:44,346 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 34%
2019-10-07 00:19:46,350 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 35%
2019-10-07 00:19:47,354 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 38%
2019-10-07 00:19:50,363 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 39%
2019-10-07 00:19:51,378 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 40%
2019-10-07 00:19:53,383 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 41%
2019-10-07 00:19:55,392 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 42%
2019-10-07 00:19:56,395 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 45%
2019-10-07 00:19:58,399 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 46%
2019-10-07 00:19:59,402 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 47%
2019-10-07 00:20:02,409 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 49%
2019-10-07 00:20:05,416 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 51%
2019-10-07 00:20:08,425 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 52%
```

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2019-10-07 00:20:09,427 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 53%
2019-10-07 00:20:11,432 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 54%
2019-10-07 00:20:12,434 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 55%
2019-10-07 00:20:14,439 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 56%
2019-10-07 00:20:15,441 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 57%
2019-10-07 00:20:17,447 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 58%
2019-10-07 00:20:19,451 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 59%
2019-10-07 00:20:20,453 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 60%
2019-10-07 00:20:21,456 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 61%
2019-10-07 00:20:23,462 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 62%
2019-10-07 00:20:25,467 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 63%
2019-10-07 00:20:26,469 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 64%
2019-10-07 00:20:27,471 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 65%
2019-10-07 00:20:29,476 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 66%
2019-10-07 00:20:31,481 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 67%
2019-10-07 00:20:33,486 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 68%
2019-10-07 00:20:36,493 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 69%
2019-10-07 00:20:39,501 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 70%
2019-10-07 00:20:40,504 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 71%
2019-10-07 00:20:41,506 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 72%
2019-10-07 00:20:44,516 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 73%
2019-10-07 00:20:45,518 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 74%
2019-10-07 00:20:47,523 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 76%
2019-10-07 00:20:50,530 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 77%
2019-10-07 00:20:51,533 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 78%
2019-10-07 00:20:53,537 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 79%
2019-10-07 00:20:54,539 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 80%
2019-10-07 00:20:56,546 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 81%
2019-10-07 00:20:57,549 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 82%
2019-10-07 00:20:59,553 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 83%
2019-10-07 00:21:01,558 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 84%
2019-10-07 00:21:02,560 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 85%
2019-10-07 00:21:04,565 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 86%
2019-10-07 00:21:05,567 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 87%
2019-10-07 00:21:07,573 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 88%
2019-10-07 00:21:09,578 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 89%
2019-10-07 00:21:10,580 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 90%
2019-10-07 00:21:11,583 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 91%
2019-10-07 00:21:13,589 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 92%
2019-10-07 00:21:15,594 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 93%
2019-10-07 00:21:16,596 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 94%
2019-10-07 00:21:17,599 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 95%
2019-10-07 00:21:19,603 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 96%
2019-10-07 00:21:20,606 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 97%
2019-10-07 00:21:22,611 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 98%
2019-10-07 00:21:23,613 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 99%
2019-10-07 00:21:29,626 INFO org.apache.hadoop.mapreduce.Job (main):  map 100% reduce 100%
2019-10-07 00:21:36,645 INFO org.apache.hadoop.mapreduce.Job (main): Job
job_1570405726040_0002 completed successfully
2019-10-07 00:21:36,676 INFO org.apache.hadoop.mapreduce.Job (main): Counters: 57
        File System Counters
                FILE: Number of bytes read=10657213427
                FILE: Number of bytes written=18471195081
                FILE: Number of read operations=0
                FILE: Number of large read operations=0
```

```
                FILE: Number of write operations=0
                HDFS: Number of bytes read=58630
                HDFS: Number of bytes written=0
                HDFS: Number of read operations=230
                HDFS: Number of large read operations=0
                HDFS: Number of write operations=0
                S3: Number of bytes read=14961277635
                S3: Number of bytes written=0
                S3: Number of read operations=0
                S3: Number of large read operations=0
                S3: Number of write operations=0
        Job Counters
                Killed map tasks=2
                Killed reduce tasks=2
                Launched map tasks=230
                Launched reduce tasks=21
                Data-local map tasks=230
                Total time spent by all maps in occupied slots (ms)=656211456
                Total time spent by all reduces in occupied slots (ms)=574625280
                Total time spent by all map tasks (ms)=13671072
                Total time spent by all reduce tasks (ms)=5985680
                Total vcore-milliseconds taken by all map tasks=13671072
                Total vcore-milliseconds taken by all reduce tasks=5985680
                Total megabyte-milliseconds taken by all map tasks=20998766592
                Total megabyte-milliseconds taken by all reduce tasks=18388008960
        Map-Reduce Framework
                Map input records=1290963228
                Map output records=1290963228
                Map output bytes=17455631887
                Map output materialized bytes=7942754023
                Input split bytes=58630
                Combine input records=0
                Combine output records=0
                Reduce input groups=387425048
                Reduce shuffle bytes=7942754023
                Reduce input records=1290963228
                Reduce output records=0
                Spilled Records=3750854118
                Shuffled Maps =4370
                Failed Shuffles=0
                Merged Map outputs=4370
                GC time elapsed (ms)=190092
                CPU time spent (ms)=8996580
                Physical memory (bytes) snapshot=187636383744
                Virtual memory (bytes) snapshot=850630541312
                Total committed heap usage (bytes)=171501944832
        Shuffle Errors
                BAD_ID=0
                CONNECTION=0
                IO_ERROR=0
                WRONG_LENGTH=0
                WRONG_MAP=0
                WRONG_REDUCE=0
        File Input Format Counters
                Bytes Read=0
```

```
            File Output Format Counters
                    Bytes Written=0
            tc.RSJoinTriangleCount$COUNTER
                    TriangleCount=36089721
2019-10-07 00:21:36,680 INFO tc.RSJoinTriangleCount (main): TriangleCount:12029907
```