Share your knowledge for better society

Which best describes how TextInputFormat processes input files and line breaks?

A.
Input file splits may cross line breaks. A line that crosses file splits is read by the RecordReader of the split that contains the beginning of the broken line.

B.
Input file splits may cross line breaks. A line that crosses file splits is read by the RecordReaders of both splits containing the broken line.

C.
The input file is split exactly at the line breaks, so each RecordReader will read a series of complete lines.

D.
Input file splits may cross line breaks. A line that crosses file splits is ignored.

E.
Input file splits may cross line breaks. A line that crosses file splits is read by the RecordReader of the split that contains the end of the broken line.

Hadoop CCD 410 Certification Dumps

26
AUG 2015

by Venu A+ve | posted in: Interview | 0

On a cluster running MapReduce v1 (MRv1), a TaskTracker heartbeats into the JobTracker on your cluster, and alerts the JobTracker it has an open map task slot.
What determines how the JobTracker assigns each map task to a TaskTracker?

A.
The amount of RAM installed on the TaskTracker node.

B.
The amount of free disk space on the TaskTracker node.

C.
The number and speed of CPU cores on the TaskTracker node.

D.
The average system load on the TaskTracker node over the past fifteen (15) minutes.

E.
The location of the InsputSplit to be processed in relation to the location of the node.

For each intermediate key, each reducer task can emit:

A.
As many final key-value pairs as desired. There are no restrictions on the types of those keyvalue pairs (i.e., they can be heterogeneous).

B.
As many final key-value pairs as desired, but they must have the same type as the intermediate key-value pairs.

C.
As many final key-value pairs as desired, as long as all the keys have the same type and all the values have the same type.

D.

One final key-value pair per value associated with the key; no restrictions on the type.

E.
One final key-value pair per key; no restrictions on the type.

All keys used for intermediate output from mappers must:

A.
Implement a splittable compression algorithm.

B.
Be a subclass of FileInputFormat.

C.
Implement WritableComparable.

D.
Override isSplitable.

E.
Implement a comparator for speedy sorting.

Indentify which best defines a SequenceFile?

A.
A SequenceFile contains a binary encoding of an arbitrary number of homogeneous Writable objects

B.
A SequenceFile contains a binary encoding of an arbitrary number of heterogeneous Writable objects

C.
A SequenceFile contains a binary encoding of an arbitrary number of WritableComparable objects, in sorted order.

D.
A SequenceFile contains a binary encoding of an arbitrary number key-value pairs. Each key must be the same type. Each value must be the same type.

A client application creates an HDFS file named foo.txt with a replication factor of 3. Identify which best describes the file access rules in HDFS if the file has a single block that is stored on data nodes A, B and C?

A.
The file will be marked as corrupted if data node B fails during the creation of the file.

B.
Each data node locks the local file to prohibit concurrent readers and writers of the file.

C.
Each data node stores a copy of the file in the local file system with the same name as the HDFS file.

D.
The file can be accessed if at least one of the data nodes storing the file is available.

In a MapReduce job, you want each of your input files processed by a single map task. How do you configure a MapReduce job so that a single map task processes each input file regardless of how many blocks the input file occupies?

A.
Increase the parameter that controls minimum split size in the job configuration.

B.
Write a custom MapRunner that iterates over all key-value pairs in the entire file.

C.
Set the number of mappers equal to the number of input files you want to process.

D.
Write a custom FileInputFormat and override the method isSplitable to always return false.

Which process describes the lifecycle of a Mapper?

A.

The JobTracker calls the TaskTracker's configure () method, then its map () method and finally its close () method.

B.
The TaskTracker spawns a new Mapper to process all records in a single input split.

C.
The TaskTracker spawns a new Mapper to process each key-value pair.

D.
The JobTracker spawns a new Mapper to process all records in a single file.

Determine which best describes when the reduce method is first called in a MapReduce job?

A.
Reducers start copying intermediate key-value pairs from each Mapper as soon as it has completed. The programmer can configure in the job what percentage of the intermediate data should arrive before the reduce method begins.

B.
Reducers start copying intermediate key-value pairs from each Mapper as soon as it has completed. The reduce method is called only after all intermediate data has been copied and sorted.

C.
Reduce methods and map methods all start at the beginning of a job, in order to provide optimal performance for map-only or reduce-only jobs.

D.
Reducers start copying intermediate key-value pairs from each Mapper as soon as it has completed. The reduce method is called as soon as the intermediate key-value pairs start to arrive.

You have written a Mapper which invokes the following five calls to the OutputColletor.collect method:
output.collect (new Text ("Apple"), new Text ("Red")) ;
output.collect (new Text ("Banana"), new Text ("Yellow")) ;
output.collect (new Text ("Apple"), new Text ("Yellow")) ;
output.collect (new Text ("Cherry"), new Text ("Red")) ;
output.collect (new Text ("Apple"), new Text ("Green")) ;
How many times will the Reducer's reduce method be invoked?

A.
6

B.
3

C.
1

D.
0

E.
5

To process input key-value pairs, your mapper needs to lead a 512 MB data file in memory. What is the best way to accomplish this?

A.
Serialize the data file, insert in it the JobConf object, and read the data into memory in the configure method of the mapper.

B.
Place the data file in the DistributedCache and read the data into memory in the map method of the mapper.

C.
Place the data file in the DataCache and read the data into memory in the configure method of the mapper.

D.
Place the data file in the DistributedCache and read the data into memory in the configure method of the mapper.

In a MapReduce job, the reducer receives all values associated with same key. Which statement best describes the ordering of these values?

A.
The values are in sorted order.

B.
The values are arbitrarily ordered, and the ordering may vary from run to run of the same MapReduce job.

C.
The values are arbitrary ordered, but multiple runs of the same MapReduce job will always have the same ordering.

D.
Since the values come from mapper outputs, the reducers will receive contiguous sections of sorted values.

You need to create a job that does frequency analysis on input data. You will do this by writing a Mapper that uses TextInputFormat and splits each value (a line of text from an input file) into individual characters. For each one of these characters, you will emit the character as a key and an InputWritable as the value. As this will produce proportionally more intermediate data than input data, which two resources should you expect to be bottlenecks?

A.
Processor and network I/O

B.
Disk I/O and network I/O

C.
Processor and RAM

D.
Processor and disk I/O

Your client application submits a MapReduce job to your Hadoop cluster. Identify the Hadoop daemon on which the Hadoop framework will look for an available slot schedule a MapReduce operation.

A.
TaskTracker

B.
NameNode

C.
DataNode

D.
JobTracker

E.
Secondary NameNode

You want to count the number of occurrences for each unique word in the supplied input data. You've decided to implement this by having your mapper tokenize each word and emit a literal value 1, and then have your reducer increment a counter for each literal 1 it receives. After successful implementing this, it occurs to you that you could optimize this by specifying a combiner. Will you be able to reuse your existing Reduces as your combiner in this case and why or why not?

A.
Yes, because the sum operation is both associative and commutative and the input and output types to the reduce method match.

B.
No, because the sum operation in the reducer is incompatible with the operation of a Combiner.

C.
No, because the Reducer and Combiner are separate interfaces.

D.
No, because the Combiner is incompatible with a mapper which doesn't use the same data type for both the key and value.

E.
Yes, because Java is a polymorphic object-oriented language and thus reducer code can be reused as a combiner.

Which project gives you a distributed, Scalable, data store that allows you random, realtime read/write access to hundreds of terabytes of data?

A.
HBase

B.
Hue

C.
Pig

D.
Hive

E.
Oozie

F.
Flume

G.
Sqoop

You use the hadoop fs –put command to write a 300 MB file using and HDFS block size of 64 MB. Just after this command has finished writing 200 MB of this file, what would another user see when trying to access this life?

A.
They would see Hadoop throw an ConcurrentFileAccessException when they try to access this file.

B.
They would see the current state of the file, up to the last bit written by the command.

C.
They would see the current of the file through the last completed block.

D.
They would see no content until the whole file written and closed.

Identify the tool best suited to import a portion of a relational database every day as files into HDFS, and generate Java classes to interact with that imported data?

A.
Oozie

B.
Flume

C.
Pig

D.
Hue

E.
Hive

F.
Sqoop

G.
fuse-dfs

You have a directory named jobdata in HDFS that contains four files: _first.txt, second.txt, .third.txt and #data.txt. How many files will be processed by the FileInputFormat.setInputPaths () command when it's given a path object representing this directory?

A.
Four, all files will be processed

B.
Three, the pound sign is an invalid character for HDFS file names

Three, the pound sign is an invalid character for HDFS file names

C.
Two, file names with a leading period or underscore are ignored

D.
None, the directory cannot be named jobdata

E.
One, no special characters can prefix the name of an input file

A combiner reduces:

A.
The number of values across different keys in the iterator supplied to a single reduce method call.

B.
The amount of intermediate data that must be transferred between the mapper and reducer.

C.
The number of input files a mapper must process.

D.
The number of output files a reducer must produce.

You write MapReduce job to process 100 files in HDFS. Your MapReduce algorithm uses TextInputFormat: the mapper applies a regular expression over input values and emits key-values pairs with the key consisting of the matching text, and the value containing the filename and byte offset. Determine the difference between setting the number of reduces to one and settings the number of reducers to zero.

A.
There is no difference in output between the two settings.

B.
With zero reducers, no reducer runs and the job throws an exception. With one reducer, instances of matching patterns are stored in a single file on HDFS.

C.
With zero reducers, all instances of matching patterns are gathered together in one file on HDFS. With one reducer, instances of matching patterns are stored in multiple files on HDFS.

D.
With zero reducers, instances of matching patterns are stored in multiple files on HDFS. With one reducer, all instances of matching patterns are gathered together in one file on HDFS.

In a MapReduce job with 500 map tasks, how many map task attempts will there be?

A.
It depends on the number of reduces in the job.

B.
Between 500 and 1000.

C.
At most 500.

D.
At least 500.

E.
Exactly 500.

MapReduce v2 (MRv2/YARN) splits which major functions of the JobTracker into separate daemons? Select two.

A.
Heath states checks (heartbeats)

B.
Resource management

C.
Job scheduling/monitoring

D.
Job coordination between the ResourceManager and NodeManager

job coordination between the ResourceManager and NodeManager

E.
Launching tasks

F.
Managing file system metadata

G.
MapReduce metric reporting

H.
Managing tasks

Table metadata in Hive is:

A.
Stored as metadata on the NameNode.

B.
Stored along with the data in HDFS.

C.
Stored in the Metastore.

D.
Stored in ZooKeeper.

What types of algorithms are difficult to express in MapReduce v1 (MRv1)?

A.
Algorithms that require applying the same mathematical function to large numbers of individual binary records.

B.
Relational operations on large amounts of structured and semi-structured data.

C.
Algorithms that require global, sharing states.

D.
Large-scale graph algorithms that require one-step link traversal.

E.
Text analysis algorithms on large collections of unstructured text (e.g, Web crawls).

In the reducer, the MapReduce API provides you with an iterator over Writable values. What does calling the next () method return?

A.
It returns a reference to a different Writable object time.

B.
It returns a reference to a Writable object from an object pool.

C.
It returns a reference to the same Writable object each time, but populated with different data.

D.
It returns a reference to a Writable object. The API leaves unspecified whether this is a reused object or a new object.

E.
It returns a reference to the same Writable object if the next value is the same as the previous value, or a new Writable object otherwise.

You need to run the same job many times with minor variations. Rather than hardcoding all job configuration options in your drive code, you've decided to have your Driver subclass org.apache.hadoop.conf.Configured and implement the org.apache.hadoop.util.Tool interface. Indentify which invocation correctly passes.mapred.job.name with a value of Example to Hadoop?

A.
hadoop "mapred.job.name=Example" MyDriver input output

B.
hadoop MyDriver mapred.job.name=Example input output

C

C.
hadoop MyDrive -D mapred.job.name=Example input output

D.
hadoop setproperty mapred.job.name=Example MyDriver input output

E.
hadoop setproperty ("mapred.job.name=Example") MyDriver input output

You want to understand more about how users browse your public website, such as which pages they visit prior to placing an order. You have a farm of 200 web servers hosting your website. How will you gather this data for your analysis?

A.
Ingest the server web logs into HDFS using Flume.

B.
Write a MapReduce job, with the web servers for mappers, and the Hadoop cluster nodes for reduces.

C.
Import all users' clicks from your OLTP databases into Hadoop, using Sqoop.

D.
Channel these clickstreams inot Hadoop using Hadoop Streaming.

E.
Sample the weblogs from the web servers, copying them into Hadoop using curl.

MapReduce v2 (MRv2/YARN) is designed to address which two issues?

A.
Single point of failure in the NameNode.

B.
Resource pressure on the JobTracker.

C.
HDFS latency.

D.
Ability to run frameworks other than MapReduce, such as MPI.

E.
Reduce complexity of the MapReduce APIs.

F.
Standardize on a single MapReduce API.

You are developing a MapReduce job for sales reporting. The mapper will process input keys representing the year (IntWritable) and input values representing product indentifies (Text). Indentify what determines the data types used by the Mapper for a given job.

A.
The key and value types specified in the JobConf.setMapInputKeyClass and JobConf.setMapInputValuesClass methods

B.
The data types specified in HADOOP_MAP_DATATYPES environment variable

C.
The mapper-specification.xml file submitted with the job determine the mapper's input key and value types.

D.
The InputFormat used by the job determines the mapper's input key and value types.

Identify the MapReduce v2 (MRv2 / YARN) daemon responsible for launching application containers and monitoring application resource usage?

A.
ResourceManager

B.
NodeManager

C.
ApplicationMaster

D.
ApplicationMasterService

E.
TaskTracker

F.
JobTracker

Which best describes how TextInputFormat processes input files and line breaks?

A.
Input file splits may cross line breaks. A line that crosses file splits is read by the RecordReader of the split that contains the beginning of the broken line.

B.
Input file splits may cross line breaks. A line that crosses file splits is read by the RecordReaders of both splits containing the broken line.

C.
The input file is split exactly at the line breaks, so each RecordReader will read a series of complete lines.

D.
Input file splits may cross line breaks. A line that crosses file splits is ignored.

E.
Input file splits may cross line breaks. A line that crosses file splits is read by the RecordReader of the split that contains the end of the broken line.

For each input key-value pair, mappers can emit:

A.
As many intermediate key-value pairs as designed. There are no restrictions on the types of those key-value pairs (i.e., they can be heterogeneous).

B.
As many intermediate key-value pairs as designed, but they cannot be of the same type as the input key-value pair.

C.
One intermediate key-value pair, of a different type.

D.
One intermediate key-value pair, but of the same type.

E.
As many intermediate key-value pairs as designed, as long as all the keys have the same types and all the values have the same type.

You have the following key-value pairs as output from your Map task:
(the, 1)
(fox, 1)
(faster, 1)
(than, 1)
(the, 1)
(dog, 1)
How many keys will be passed to the Reducer's reduce method?

A.
Six

B.
Five

C.
Four

D.
Two

E.
One

F.
Three

You have user profile records in your OLPT database, that you want to join with web logs you have already ingested into the Hadoop file system. How will you obtain these user records?

A.
HDFS command

B.
Pig LOAD command

C.
Sqoop import

D.
Hive LOAD DATA command

E.
Ingest with Flume agents

F.
Ingest with Hadoop Streaming

What is the disadvantage of using multiple reducers with the default HashPartitioner and distributing your workload across you cluster?

A.
You will not be able to compress the intermediate data.

B.
You will longer be able to take advantage of a Combiner.

C.
By using multiple reducers with the default HashPartitioner, output files may not be in globally sorted order.

D.
There are no concerns with this approach. It is always advisable to use multiple reduces.

The Hadoop framework provides a mechanism for coping with machine issues such as faulty configuration or impending hardware failure. MapReduce detects that one or a number of machines are performing poorly and starts more copies of a map or reduce task. All the tasks run simultaneously and the task finish first are used. This is called:

A.
Combine

B.
IdentityMapper

C.
IdentityReducer

D.
Default Partitioner

E.
Speculative Execution

Given a directory of files with the following structure: line number, tab character, string:
Example:
1abialkjfjkaoasdfjksdlkjhqweroij
2kadfjhuwqounahagtnbvaswslmnbfgy
3kjfteiomndscxeqalkzhtopedkfsikj
You want to send each line as one record to your Mapper. Which InputFormat should you use to complete the line: conf.setInputFormat (____.class) ; ?

A.
SequenceFileAsTextInputFormat

B.
SequenceFileInputFormat

C.
KeyValueFileInputFormat

D.
BDBInputFormat

You need to perform statistical analysis in your MapReduce job and would like to call methods in

the Apache Commons Math library, which is distributed as a 1.3 megabyte Java archive (JAR) file. Which is the best way to make this library available to your MapReducer job at runtime?

A.
Have your system administrator copy the JAR to all nodes in the cluster and set its location in the HADOOP_CLASSPATH environment variable before you submit your job.

B.
Have your system administrator place the JAR file on a Web server accessible to all cluster nodes and then set the HTTP_JAR_URL environment variable to its location.

C.
When submitting the job on the command line, specify the -libjars option followed by the JAR file path.

D.
Package your code and the Apache Commands Math library into a zip file named JobJar.zip

which the reduce method of a given Reducer can be called?

Posted by seenagape on May 31, 2015 +1 0 Go to comments

When is the earliest point at which the reduce method of a given Reducer can be called?

A.
As soon as at least one mapper has finished processing its input split.

B.
As soon as a mapper has emitted at least one record.

C.
Not until all mappers have finished processing all records.

D.
It depends on the InputFormat used for the job.

Which interface should your class implement?

Posted by seenagape on May 31, 2015 +1 0 Go to comments

You are developing a combiner that takes as input Text keys, IntWritable values, and emits Text keys, IntWritable values. Which interface should your class implement?

A.
Combiner <Text, IntWritable, Text, IntWritable>

B.
Mapper <Text, IntWritable, Text, IntWritable>

C.
Reducer <Text, Text, IntWritable, IntWritable>

D.
Reducer <Text, IntWritable, Text, IntWritable>

E.
Combiner <Text, Text, IntWritable, IntWritable>

Which describes how a client reads a file from HDFS?

A.
The client queries the NameNode for the block location(s). The NameNode returns the block location(s) to the client. The client reads the data directory off the DataNode(s).

B.
The client queries all DataNodes in parallel. The DataNode that contains the requested data responds directly to the client. The client reads the data directly off the DataNode.

C.
The client contacts the NameNode for the block location(s). The NameNode then queries the DataNodes for block locations. The DataNodes respond to the NameNode, and the NameNode redirects the client to the DataNode that holds the requested data block(s). The client then reads the data directly off the DataNode.

D.
The client contacts the NameNode for the block location(s). The NameNode contacts the DataNode that holds the requested data block. Data is transferred from the DataNode to the NameNode, and then from the NameNode to the client.

Indentify the utility that allows you to create and run MapReduce jobs with any executable or script as the mapper and/or the reducer?

A.
Oozie

B.
Sqoop

C.
Flume

D.
Hadoop Streaming

E.
mapred

Indentify the utility that allows you to create and run MapReduce jobs with any executable or script as the mapper and/or the reducer?

A.
Oozie

B.
Sqoop

C.
Flume

D.
Hadoop Streaming

E.
mapred

How are keys and values presented and passed to the reducers during a standard sort and shuffle phase of MapReduce?

A.
Keys are presented to reducer in sorted order; values for a given key are not sorted.

B.
Keys are presented to reducer in sorted order; values for a given key are sorted in ascending order.

C.
Keys are presented to a reducer in random order; values for a given key are not sorted.

D.
Keys are presented to a reducer in random order; values for a given key are sorted in ascending order.

Assuming default settings, which best describes the order of data provided to a reducer's reduce method:

A.
The keys given to a reducer aren't in a predictable order, but the values associated with those keys always are.

B.
Both the keys and values passed to a reducer always appear in sorted order.

C.
Neither keys nor values are in any predictable order.

D.
The keys given to a reducer are in sorted order but the values associated with each key are in no predictable order

You wrote a map function that throws a runtime exception when it encounters a control character in input data. The input supplied to your mapper contains twelve such characters totals, spread

across five file splits. The first four file splits each have two control characters and the last split has four control characters.

Indentify the number of failed task attempts you can expect when you run the job with mapred.max.map.attempts set to 4:

A.
You will have forty-eight failed task attempts

B.
You will have seventeen failed task attempts

C.
You will have five failed task attempts

D.
You will have twelve failed task attempts

E.
You will have twenty failed task attempts

You want to populate an associative array in order to perform a map-side join. You've decided to put this information in a text file, place that file into the DistributedCache and read it in your Mapper before any records are processed.
Indentify which method in the Mapper you should use to implement code for reading the file and populating the associative array?

A.
combine

B.
map

C.
init

D.
configure

You've written a MapReduce job that will process 500 million input records and generated 500 million key-value pairs. The data is not uniformly distributed. Your MapReduce job will create a significant amount of intermediate data that it needs to transfer between mappers and reduces which is a potential bottleneck. A custom implementation of which interface is most likely to reduce the amount of intermediate data transferred across the network?

A.
Partitioner

B.
OutputFormat

C.
WritableComparable

D.
Writable

E.
InputFormat

F.
Combiner

Can you use MapReduce to perform a relational join on two large tables sharing a key? Assume that the two tables are formatted as comma-separated files in HDFS.

A.
Yes.

B.
Yes, but only if one of the tables fits into memory

C.
Yes, so long as both tables fit into memory.

D.
No, MapReduce cannot perform relational operations

No, MapReduce cannot perform relational operations.

E.
No, but it can be done with either Pig or Hive.

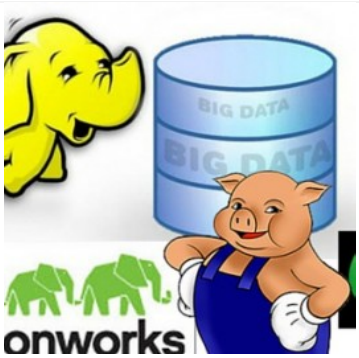
Share on Facebook Share on Twitter

About Author Latest Posts

Venu A+ve
I love exploring new technologies especially Hadoop and BigData ecosystems. I would like to share my knowledge through online.

Follow Venu A+ve:

Similar Posts



Hadoop Interview Questions

22/03/2015

Why use Hadoop? Hadoop can handels any type of data, in any quantity and leverages...

Previous Post Next Post