STUDENT GRADE EVALUATION USING MAPREDUCE

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ABSTRACT

Grading in education is the process of applying standardized measurements of varying levels of achievement in a course.

Grades can be assigned as letters (generally A through F), as a range (for example 1 to 6), as a percentage of a total number of questions answered correctly, or as a number out of a possible total (for example out of 20 or 100).In some countries, all grades from all current classes are aranged to create a grade point average (GPA) for the marking period. The GPA is calculated by taking the number of grade points a student earned in a given period of time of middle school through high school. The GPA can be used by potential employers or educational institutions to assess and compare applicants. A *cumulative grade point average* is a calculation of the average of all of a student's grades for all of his or her complete education career. Here we take a file which contains data about marks, subjects, date of a exam of a student we then apply MapReduce technique and generate student grade list.

General Terms

Hadoop

MapReduce

Hadoop Distributed File System

Keywords

MR- MapReduce

HDFS-Hadoop Distributed File System

Jar –Java Archive

1. INTRODUCTION

Apache Hadoop is a set of algorithms (an open-source software framework) for distributed storage and distributed processing of very large data sets (Big Data) on computer clustersbuilt from commodity hardware. All the modules in Hadoop are designed with a fundamental assumption that hardware failures (of individual machines, or racks of machines) are commonplace and thus should be automatically handled in software by the framework.

The core of Apache Hadoop consists of a storage part (Hadoop Distributed File System (HDFS)) and a processing part (MapReduce). Hadoop splits files into large blocks (default 64MB or 128MB) and distributes the blocks amongst the nodes in the cluster. To process the data, Hadoop Map/Reduce transfers code (specifically Jar files) to nodes that have the required data.

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2. Existing System

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3. Proposed System

The GPA is calculated by taking the number of grade points a student earned in a given periodof time of middle school through high school. The GPA can be used by potential employers or educational institutions to assess and compare applicants. A *cumulative grade point average* is a calculation of the average of all of a student's grades for all of his or her complete education career. Here we take a file which contains data about marks, subjects, date of a exam of a student we then apply MapReduce technique and generate student grade list.

4. Screen Shots

Fig 4.1 Submitting job

Fig 4.2 MapReduce Started

Fig 4.3 MapReduce tasks getting executed

Fig 4.4 Chained MapReduce Triggered

Fig 4.5 Chained MapReduce getting Started

Fig 4.6 Output directory

Fig 4.7 Output in the part-r-00000 file

5. SYSTEM CONFIGURATION

Hardware System Configuration

Processor   -   Pentium-III

Speed   -   1.1 Ghz

RAM   -   1 GB (min)

Hard Disk -   20 GB

Key Board -   Standard Windows Keyboard

Mouse   -   Two or Three Button Mouse

Monitor   -   SVGA

Software System Configuration

Operating
System   -   Linux (Preferably Fedora)
Server
Cluster   -   Hadoop-1.2.1

Tools Used -   Java 1.6

6. REFERENCES

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