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A COMPARATIVE ANALYSIS OF THE PERFORMANCE OF CLOUD COMPUTING WITH JAVA AND HADOOP

DALYA RAAD ABBAS[1] & SANJAY T. SINGH[2]

[1]M. Sc. Student, Department of CS & IT, SHIATS, Allahabad, Uttar Pradesh, India

Department of Computer Science, Ministry of Higher Education and Scientific Research, College of Science, Kirkuk University, Kirkuk, Iraq

[2]Assistant Professor, SHIATS, Allahabad, Uttar Pradesh, India

ABSTRACT

The software applications of the cloud computing caused accumulation in data, managing and distributing these data in an effective way and standard time had become an urgent need, hadoop is an open source software platform, had been developed by Apache to deal with these massive data using parallel processing.

In this paper both cloud computing and hadoop had been covered, constrained of both strong and weak points separately, the main goal of this paper is to merge both hadoop and cloud computing, address and analyze the performance of both when they work together, based on this tiny virtual cloud built, hadoop with single cluster installed, two scenarios proposed to examine and analyze the environment contained both cloud computing and hadoop, to make this analyzing near to the reality, the first case constrained of managing data with the tools of hadoop as a standard, the last case had been worked only with the cloud, these cases customized to be able to manage and distribute files of different kinds numeric or strings, these files of different sizes, the results had been showed that processing files of huge sizes had took very long time exceed one hour without hadoop, while processing these files with hadoop and cloud had showed significant improvement, the built environment which contain both hadoop and cloud computing, recorded high performance reached to 90%.

KEYWORDS: Cloud Computing, Hadoop, Java