INTERNATIONAL JOURNAL OF PURE AND APPLIED RESEARCH IN ENGINEERING AND TECHNOLOGY

A PATH FOR HORIZING YOUR INNOVATIVE WORK

AN INTEGRATED TOOL FOR EXECUTION OF PROGRAMMING LANGUAGES ON CLOUD

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Abstract: The paper aims at creating a browser based IDE (Integrated Development Environment) for execution of programming languages on the cloud and an application in which multiple users can work online on same document. In the future researchers and developers will be able to install this framework on their own cloud infrastructures for programming and execution of codes. Because the advantage of cloud computing, many desktop application programs have been migrated into the cloud. This work deals with a web-based application that can be used remotely throughout any network connection. We can use any operating system to access it and making it platform independent. We can neglect installation on individual local system or maintenance work. The paper aims at creating a browser based Integrated Development Environment for execution of programming languages on the cloud and an application in which multiple numbers of users can work online(i.e. on cloud) on same document.

Keywords: Cloud Computing, IDE, IaaS, SaaS, PaaS, Time-tracking, Report, Backup, etc

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How to Cite This Article:

PAPER-QR CODE

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INTRODUCTION

Cloud computing provides computation, software, data access, and storage resources without requiring cloud users to know the location and other details of the computing infrastructure. In general, the amount of data is growing rapidly and the systems processing this data must deal with several data management challenges. Moshe Rappoport outlines the challenges as the four V's: the Volume, Variety, Velocity and Veracity. This big amount of data must be analyzed with innovated technologies to discover new knowledge [1][6].

The book presents the most up-to-date opportunities and challenges emerging in knowledge discovery in big data, helping readers develop the technical skills to design and develop data-intensive methods and processes.

According to the applied deployment model, the cloud infrastructure can be divided into public clouds, community clouds, private clouds, and hybrid clouds. The differences between these groups are the location, owner, payment, and user. Several different cloud platforms exist, such as Amazon Web Service (AWS), Eucalyptus, and so on. Each cloud infrastructure uses its own storage resources. At AWS it is called S3, at Eucalyptus they use Walrus. Walrus is an open source implementation of S3 and provides the same interface. Different types of service models can be accessed on a cloud computing platform - the most favorite types include Infrastructure as a service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS).

For the past decade, application developers have been forced into an increasingly complex labyrinth of multi-tiered hardware, complex OO frameworks and middleware and associated tools. Each year, developers have faced new frameworks and a sea of new APIs. Instead of making the life of application developers easier and reducing the cost of application development, these technologies have done just the opposite. We are only now beginning to understand the expense of the middleware legacy.

The good news is that application developers are on the verge of being liberated from the tyranny of middleware. Next Generation IT will leverage a new computing platform which makes the development and delivery of applications significantly easier than it is today. This new platform consists of Cloud Computing, Software as a Service and Dynamic Languages. Cloud Computing offers mainframe or better infrastructure through a small set of services delivered globally over the Internet. Software as a Service is a new delivery model which provides flexibility to both the provider and the customers. Dynamic languages and modern frameworks lower the barrier for application development and enable the rapid development of applications [1][5].

This paper with the creation of Integrated Development Environment for the programming language to code, compile, run, test and debug the code using the browser based IDE through the Internet and a web browser. The IDE will permit easy development, testing and debugging of applications and an application in that multiple user can work online on same document. The paper will be implementing online execution of multiple programming languages where the complier will use the processing and memory resources of cloud. The IDE can handle multiple projects and it helps developers save data and development processes in a remote server. Cloud computing is a model for providing computation, software, data access and storage services that do not require end-user knowledge of the physical location and configuration of the system that delivers the services[2].

In Cloud computing technology there are a set of important policy issues, which include issues of privacy, security, anonymity, telecommunications capacity, government surveillance, reliability among others. But the most important between them is security and how cloud provider assures it. Cloud computing is a very promising deployment model that can cope with the security limitations occurring in a public cloud environment [4].

1. LITERATURE SURVEY

2.1 Rafael A. Calvo, Senior Member, IEEE, Stephen T. O'Rourke, Janet Jones, Kalina Yacef, and Peter Reimann, "Collaborative Writing Support Tools on the Cloud", IEEE Transactions On Learning Technologies, Vol. 4, No. 1, January-March 2011

Description: Academic writing, individual or collaborative, is an essential skill for today's graduates. Author describes the architecture for a new collaborative writing support environment used to embed such collaborative learning activities in engineering courses. Write provides tools for managing collaborative and individual writing assignments in large cohorts. It outsources the writing tools and the storage of student content to third party cloud-computing vendors. Author further describes how using machine learning and NLP techniques, the architecture provides automated feedback, automatic question generation, and process analysis features.

2.2 Michael Miller, "Cloud Computing: Web-Based Applications"

Description: In this book author has explained some of the more popular applications-in particular, those that facilitate group collaboration. Miller has also explained ways to collaborate online such as Collaborating via Web-Based communication tools, via Social Network and Groupware. He has also explained the importance of cloud computing and their services.
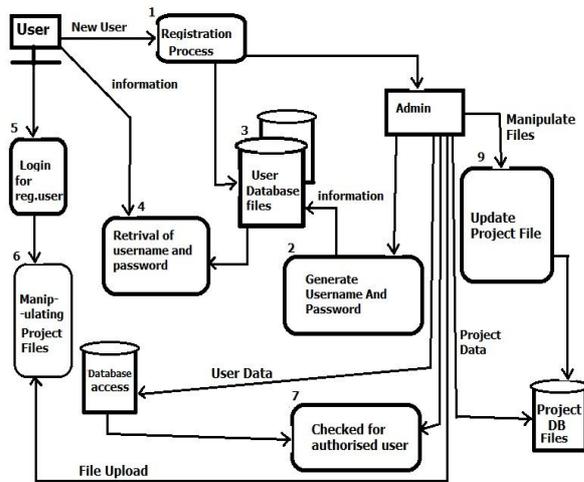
Fig-3.1 : Dataflow Diagram

3. DATA FLOW DIAGRAM FOR SYSTEM

In this module accepts the details of a new user and stores it in the User Database Files database. This module ensures that the user is registered before the first login. A registered user should login with his username and password to use the IDE. This module facilitates login and user authentication using User Database Files database.

In this the module permits valid users to create new projects with the name of their choice. They can also create new files within these projects. The details of the projects are stored in the Project DB Files database and those of the files are stored in Project DB Files database. In this the module permits valid users to open existing projects and files. The Database Access rights to the projects and files are checked from the Database access database.

In this the module permits the valid users to either delete certain files of a project or delete the entire project itself. The time at which the delete action is performed along with the User ID of the user who performs it is logged. In this module allows the valid users to save their projects and files. These projects are stored in Project DB Files database and the files are stored in Project DB Files database.

In this the module allows the users to compile their code by invoking a compiler. The result of compilation is displayed to the user. In this the module allows users to run the compiled code. The result of this action is displayed to the user. In this the module permits the users to insert breakpoints in the code for the purpose of debugging. In this the module permits valid users to

share the projects with other users. The User ID of the peer with whom the project is shared and the access rights granted are store in the Database access database [2][4].

4. ADVANTAGES

To develop cloud based web application which will support document management and will act as collaboration tool for online execution of program. User hierarchy like administrator, moderator, user programmer, designer, Interaction of team member using chat or comment section, Project, milestones and tasks, Time-tracking, reporting and backup system.

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5. CONCLUSION

In the world of cloud computing, both the industrial sector and education sector are paid more attention to the idea of programming on the cloud. Therefore the progress of online IDE is also promotes by this idea.

The paper provides an idea of creating & compiles code in the cloud. As compared to the current environment where each machine need to install compilers separately for every programming language. This would eliminate the need to install compilers separately. So we can check our code at the centralized server. Again the benefit of this research is that whenever the compiler package is to be upgraded it can be done automatically and easily without again installing it on every other machines.

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