

Online Language Compiler Using Cloud Computing For Android Mobile

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Abstract— The scope of cloud computing has increased speedily in the society. Users always need to store their information securely in the cloud. At the time of learning languages like C, C++, Java ... etc. The beginners had number of problem like to install compilers at desktop-pc. Some time student had to face the problem of configuring the compiler. So that they can't get execute the program successfully. And other problem is that if the users want to compile program on any other system they require again all processing to install and configuration problem. To solve these entire problems designing an online compiler to execute the program on different type of source code by one editor and also a well configured compiler providing services by servers. It is by creating a common server for different programming languages and to access under one roof.

Index Terms— Cloud Computing, Compiler, Online Compiler.

I. INTRODUCTION

At the time of learning languages like C, C++, Java, VB, CSharp ... etc. The beginners had number of problem like to install compilers at desktop-pc. Some time student had to face the problem of configuring the compiler. So that they can't get execute the program successfully. And other problem is that if the users want to compile program on any other system they require again all processing to install and configuration problem. To solve these entire problems I am thought of designing an online compiler to execute the program on different type of source code by one editor. And also a well configured compiler providing services by servers. Simply to create a common server for different programming language. To create a common interface for all programming language.

An online compiler has the same basic functionality as a conventional compiler, with one significant difference: all of a project or application's source code is stored and executed online through a web browser. Storing and executing source code online significantly reduces both the hardware and the software requirement of programmers when working on any given project. Modern online compilers are limited in their capabilities when compared to traditional compilers, however today's online compilers are capable of compiling Java, VB.net, C, HTML and C++. It gives benefits in mobility i.e., the primary purpose behind the development of online compilers is the mobility that they provide to programmers. This is only because of it require only a web browser and internet connection to access and edit code. This is in contrast to conventional compilers which require programmers to set up and store their code on a single computer. It can be access from anywhere using any device which has an internet connection. It can also give the benefits

to share our logic or code and do not have installation procedure i.e., you can spend your time on programming itself.

This system, called GADS, runs on Cloud environment, while the Java are adopted to ensure the system's interoperability and dynamic behavior. The project entitled Global Application Development Server is a new approach that implements a common server for different programming languages like JAVA, C, C++, HTML and VB. A remote user can create program through a source editor and can compile them from the server, through the internet. Global application development server is based on a system level application software project. This software deals with the globalization of multiple compilers. Online Compiler project's main idea is to help students who want to learn programming language without installing compiler in his system. This application works on web which works online. For e.g.: Students need to write java code and past in to online java compiler and press execute button system will send information to server via internet and compiler will test the code at server side and send result information to client within few seconds.

It focuses the normal users in world wide. The user won't bother about the system level processing. If users want to compile and execute the program written in editor, just click the execute button. Users can download their programs and save to their own profile only after admin activates that program. Users can view others program and test, execute download and copy to profile. An unauthorized user can write, execute, check others program and download. In present scenario usage of technology is widely increased mainly usage of internet had reached to every individual. So this application will save time and installing like entire java development kit or other compilers will be a time taking process so students can use this online application. This is platform independent application.

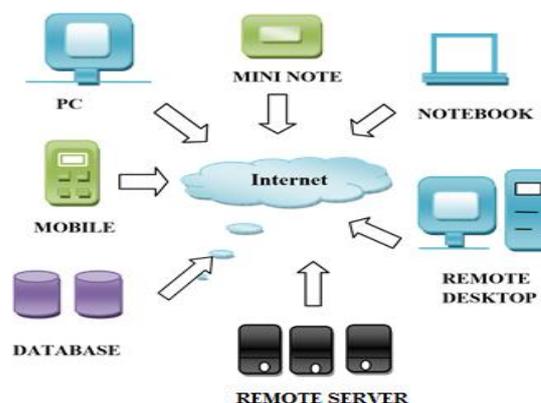


Fig. 1 Cloud Computing

II. RELATED WORKS

Cloud Computing is the widely used technique in the world. Software companies are the major cloud users in the world. By this their expenditure has reduced to 60%. The cloud provide more flexibility and low cost to make account and maintenance. SaaS – Software as a Service is the widely used feature of cloud computing. Here the cloud provide many software services via internet. Online Language Compiler Using Cloud Computing is a SaaS application. The software service that we are providing here is Compiler. This cloud application is highly automated and fast.

From the word cloud it is clear that the server is not a single computer. The entire load is assigned to a number of distributed computers, rather than a remote server. This paper is discussing about the application field and merit of cloud computing. It do not need high level equipment, so it reduce the cost. A personal computer with internet connection or an Android mobile is enough. It provides privacy and security in dependable data storage center, so the user need not do the things such storing data, killing virus etc. This will be handled by the professionals. A user who has basic computer knowledge and programming skill can operate the application.

The characteristics of cloud computing are complex. Based on the nineteen basic characteristics we can distinguish cluster, grid and cloud computing systems. Cluster's resources are present in a single administrative domain with single entity. Grid system resources are located in administrative domain with multiple entity and management policy and distributed in nature. The cloud computing platform has the characteristics of both cluster resource and grid resource. A user without knowing much about the infrastructure can easily enjoy the services from the cloud computing. Strong fault tolerance, loose coupling, service oriented business models and easy to use are the main characteristics of cloud computing. There are many cloud computing systems available with it's own character. Platform as a Service, Software as a Service and Infrastructure as a Service are the three services provided by the cloud. Amazon EC2 provide infrastructure as a service. Microsoft and Google App Engine provide platform as a service. This paper discuss about software as a service. We can view the cloud computing in two different aspects. The first one is cloud infrastructure which is the building block of upper layer cloud application, second one is cloud application. Based on the above mentioned three services cloud computing is aiming to achieve two important goals in distributed computing, they are high availability and high scalability. Scalability deals with expanding of cloud infrastructure to very large scale even to thousands of nodes. Availability deals with services should available even when a number of nodes fault. SaaS provide applications via internet

to the customer. Sometimes the application execute off-line and update to server when internet connection established.

III. SYSTEM DESIGN

Technology is applied to generate online language compiler using Cloud Computing for Android Mobile in 3 tier architecture.

A. Data Layer (Back End):

Present in the Web Server which contains users account information.

B. Business Layer (Middle End)

Decision from application layer is done in this layer.

C. Application Layer (Front End)

User Interface that provide outputs and gets input from user.

D. Compile Option

This would take the code from the editor text area to the cloud server for its compilation, the code will redirect to corresponding compiler.

E. Execute Option

The user is provided with the links of all the executable files that were present in his or her folder and were already compiled at least once without errors.

IV. IMPLEMENTATION

The Online Language Compiler using Cloud Computing provide compilation and execution of different languages like C, C++, Java, Visual Basic, CSharp and HTML. The application will provide a user interface to enter programs of above mentioned programming languages. First of all the programmer should select the programming language that we have to use, then enter the program code. An execute button will be available to compile and execute the program. Each programming language will take it's own compiler to execute the program. Both the compilation result and execution result will be displayed in the output screen. The compilation result consists of name and version of compiler. If an error occurred in the program, the error will be displayed with compilation result. If no error is there the application will provide exact output. Almost all the features of programming language will be supported by the application. A user who has an account in the application can keep their valuable codes in the cloud server. A save button is also present. The user can reload the saved program to the program editor interface and can edit or correct the program. A web application and an Android application is present here. It will behave like a conventional program editor. But compilation and saving of program will carried out in the server side.

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Fig. 2 Source Code of VB



Fig. 3 Execution Result

V. CONCLUSION

In this paper ONLINE LANGUAGE COMPILER USING CLOUD COMPUTING FOR ANDROID MOBILE Online Programming allows the user to write and edit their programs. The programs then stored on could and the compilation of the programs will be managed by the cloud by forwarding the request to the required processor. The user can select their own programming language, while compiling program/code is written sends to the respected compiler. The Cloud platform proved is capable of supporting a melding of different services. The proposed system showed how web services and cloud services could be combined to eliminate the problem of storage. Many more applications are possible when taking into account, the cloud based services. This is the first time an Application providing Compiler of different languages as Web Application and Android Application via Cloud Computing.