Online Java Compiler Using Cloud Computing For Android Mobile

Savita K.[1]., Durairaj[2]

[1]MCA Final Year, Veltech Technical University, Avadi, Chennai-62, India

[2]Assistannt Professor, Veltech Technical University, Avadi, Chennai-62, India

Abstract: *As we know that SAAS is a compatible services of cloud computing .It means so many services providing in cloud. Our Proposed deals with the Online Java Compiler in Android Phones. The Android phone does not compile the java program without Cloud environment. The number of smart mobile users using the mobile application and day to day increase the social application but smart phone is not providing the pc like functionality. The Android Machine provided the hardware resources such as CPUs, memory and batteries which remains imperfect. To solve this problem, connect the smart mobile to powerful cloud server .Our paper for using the SAAS service for online compile java program. We propose a conceptual architecture of android phone as a server stage, which enables user Android applications on cloud via internet or network. Android is mainly design for physical smart phone. In this paper, we propose system that without installing software in smart phone using and accessing that software through the clod server. We are sing the java software in cloud server and accessing that software through the smart mobile phone and execute the program in smart phone. The smart phone connects to the cloud server after that sing the java software. In my proposed* system using the java software in server side and connect through the internet .The smart *system using the java software in server side and connect through the internet .The smart phone is using run the java program inside the cloud server.*

Keyword: Cloud computing, java compiler, Load Balancing, cloud server

1. Introduction

The number of android users and mobile application offerings are growing rapidly and Android mobile users using the mobile application and day to day increase the social application but smart phone are not providing the pc like functionality, which requires powerful processors, abundant memory and long-lasting battery life. However, their hardware today is still very limited and application developers are forced to take these limitations into consideration. We propose a conceptual architecture of android as a server Platform, which enables user Android applications on cloud server via network. Android is mainly design for physical smart phone. In this paper, we propose system that without installing software in smart phone using and accessing that software through the cloud server. A number of service provider's provide the online storage services to Android mobile users in attempt to alleviate the limit of Android phone storages. However, to the best of our knowledge, there is still no service that offers full computation resources to Android phone users. In this paper, we propose "Online Java Compiler Using Cloud Computing for Android Mobile", which provides cloud computing environment specifically for Android phone users. It allows users to create virtual Android phone images in the cloud and to remotely run their mobile applications in these images as they would locally. We propose system that without installing software in smart phone using and accessing that software through the clod server. We are using the java software in cloud server and accessing that software through the smart mobile phone and execute the program in smart phone. The motivation to allow Android phone users to easily tap into the power of the cloud and to free themselves from the limit of processing power, memory and battery life of a physical Android phone. Using our system, Android phone users can choose to install their mobile applications either locally or in the cloud. The

Android mobile connect to the cloud server after that using the java software. In my proposed system using the java software in server side and connect through the internet .The smart phone is using run the java program inside the cloud server

The Android mobile is a running application remotely in the cloud and number of advantages, such as avoiding unrelated applications from accessing data, continuing to run applications on the background and opening up new ways to use Android phones. This paper presents the design and implementation of "Online Java Compiler Using Cloud Computing for Android Mobile". Section II describes the basic design of our system and Section III describes a proof-of-concept prototype that we have implemented.

2. Problem Statement

Cloud computing is the upcoming area in the real Networks and providing the cloud services, but using this Cloud Computing Resource only Computer like Hardware is required. Managing the Cloud Computing through Mobile is not an easy job till now. Cloud integrative Mobile Applications are not in Use. Smart mobile users using the mobile applications and day to day increase the social network applications but smart phone are not providing the pc like functionality. A mobile dose not providing the pc type of function and create the so many problem. In this paper for solve the existing of the problem. Smart phone user does not use so many software. Smart phone does not providing the function than pc because processor and hardware resource are limited. Cloud computing is not easy to manage though the mobiles and it is very generate the problem for services. Smart phone user using mobile internet connection it is not easy to connect with remote network and user face the so many problems. Smart phone

user does not user for easily ways of the connect through the cloud.

3. Problem Definition

We propose a conceptual architecture of android phone as a server stage, which enables user Android applications on cloud via internet or network. Android is mainly design for physical smart phone. In this paper, we propose system that without installing software in smart phone using and accessing that software through the cloud server. We are sing the java software in cloud server and accessing that software through the smart mobile phone and execute the program in smart phone Cloud Computing Application can be initiated using Android Smart Phones. We are implementing Software as a Service for Cloud Computing .it is providing the service for using the software services .SAAS is the Cloud Computing Resource which their using for the service of Software without installing that Software in the User Device . Here, we are compiling the Java Code using Android Smart Phones without installing Java Software in the Android mobile Phone. The implements is the Cloud Computing Architecture for Mobile Devices.(i.e.)Android. Android mobile user can utilize software as a service (SAAS) Process from the cloud server, without installing the software in the user Android mobile. We can compile the Java Code using Android Smart Phones without installing Java Software in the Mobile Phone. It provides the portability for the user to compile programs. It reduces the time for the user. Compiler code analysis that effectively reduce the transferred data size.

3.1 Proposed Literature

In this java compiler application, so many works are performing like login, creating Program, saving, reset, updating error checking and executing. Here, in this project fist we are doing login with user id and password. If suppose that we are giving wrong id or pass then it will flash the message that user id and password is wrong. When user id and password is correct then it will go to next page. After that we will create a java program and we will save that program .Then we will compile the program if any error will occur then it will give the message and we can update that program and after compiling it will automatic generate class file on server .And last step is execution after doing compiling we can execute that file and it will show the output on user Android mobile. For doing this all process internet connection is necessary. Without using cloud server we can't access this application. In this project we are using cloud computing as SAAS (software as a service).It means without installing the java software in user device we can

compile and execute the java code in Android mobile. SAAS is a cloud computing resource. Here that all process is as follows:

- Create java program
- Compile the program
- Execute the program

3.2 System Architecture

In the system architecture it is the conceptual model which defines the structure, behavior and more views of the system. In architecture it is representing here that without installing software in device (Android smart phone) the android user is sending the request to the server and server is using cloud computing resource (SAAS) through that it is compiling the java code and it is sending the response through the server to the Android user. If error will occur then again it will compile the code and send the result to the android user through the server. It will show the overall development, behavior and implementation of the project in architecture.

3.3 Algorithm as a Solution

For accessing the java compiler, we proposed load balancing algorithm to access and compile the java programs.
Step 1: [calculate the load factor Lf] Lf = Total resources − Used resources
Step 2: [calculate the performance factor Pf] P1 = average (current response time) Pf = P1 − (previously calculated P1) Pf = Pf / (previous P1) * 100 // counting p in terms of previously calculated p1
Step 3: [calculate the future load factor FL using the mathematic model based on the historical data] FL(T) = Lf(T0) + (T − T0) Lf(T0,T1) + (T − T0) (T − T1) Lf(T0,T1,T2) + ... + (T − T0) (T − T1) …..(T − Tn) Lf(T0,T1,T2,…,Tn) ………(Newton's Divided Difference Formulae)
Step 4: If (FL (T) < 0) Then q = 0;
Step 5: [Find minimum of all q except the nodes with q value 0] Min q= min (all q's)
Step 6: [Find min_factor and divide all q by that factor] Min _factor = min _q Q = q / min _factor
Step 7: [Generate Dynamic Queue on base of Q]
Load –Balancing mainly contain three modules
- **Load on the server:** If the node having more space than it can handle more no of requests without degrading the performance. Thus here we are more interesting in free space.
- **Performance of server:** A request is send to the node at regular interval of time, and in response performance

factor is measured. It may be the case that the response time of node may change every time depending on the client usage of its resources.

- **Future load factor:** Future load on the server is calculated using the Newton's divided difference method based on the historical data which gives the information about load on each server for some predefined time periods. Future load on each server than can be calculated using the mathematical model. The above three parameters are used to build a new queue for further allocation. This information of the entire node is calculated by a mathematical function to count q-parameter value for each node. The pseudo code of the algorithm is as under

4. Conclusion

In this project we conclude with the proposal which is used to provide such types of application which can execute the java program on mobile using cloud server, earlier picture demonstrate the system architecture of working style of defined compiler. Load Balancing is the used for balancing the all element of compiler on cloud server. here following research is mainly focuses on 3 parameters for better utilization of resources which leads to efficient performance. The factors are load on server nodes, performance factor and future load factor which calculates the future load on nodes with help of predictive analysis method by Newton's divided difference formula.

5. Future Enhancement

Online Java Compiler Using cloud computing has allots of advantages and our proposal provide effective, efficient and simple technology for java program execution on the android mobile. This can be more flexible if it direct access or compile the java code without the internet, if the facility of our proposal inbuilt with android phones or other devices.

References

[1] M. Armbrust, A. Fox, R. Griffith, A. D. Joseph, R. H. Katz, A. Konwinski, G. Lee, D. A. Patterson, A. Rabkin, I. Stoica, and M. Zaharia, "Above the clouds: A berkeley view of cloud computing," EECS Department, University of California, Berkeley, Tech. Rep. UCB/EECS-2009-28, Feb 2009.

[2] L. M. Vaquero, L. Rodero-Merino, J. Caceres, and M. Lindner, "A break in the clouds: towards a cloud definition," *SIGCOMM Comput. Commun. Rev.*, vol. 39, no. 1, pp. 50–55, 2009.

[3] I. Foster and C. Kesselman, The Grid 2: Blueprint for a New Computing Infrastructure (The Morgan Kaufmann Series in Computer Architecture and Design). Morgan Kaufmann, November 2003.

[4] J. E. Smith and R. Nair, Virtual Machines: Versatile Platforms For Systems And Processes. Morgan Kaufmann, 2005.

[5] D. Gupta, L. Cherkasova, R. Gardner, and A. Vahdat, "Enforcing performance isolation across virtual machines in xen," in Proceedings of the ACM/IFIP/USENIX 2006 International Conference on Middleware (Middleware'06), New York, USA, 2006, pp. 342–362

[6] Aamir Nizam Ansari, Siddharth Patil, Arundhati Navada, Aditya Peshave, Venkatesh Borole (2010), "Online C/C++ Compiler using Cloud Computing", Multimedia Technology (ICMT).

[7] C.P.Bezemer and A.Zaidman, (2010), "Multi-Tenant SAAS Application: Maintenance Dream or Nightmare", Belgium: IWPSE-EVOL'10.

[8] E.Y.chen and M.Ito, (2010), "Virtual Smart phone over IP. Montreal", QC, Canada: IEEE WOWMOM.

[9] G.H-Canepa and D.Lee A Virtual, (2010) "Cloud Computiong Privoder for Mobile Devices", San Francisco: MCS'10.