ONLINE COMPILER

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Abstract - *Compiler plays an important role in running programs. It converts source code written in the form of text into an executable format known as the object code. If compiler is made to run manually on every system it will cover a lot of space on the machine and it would also require proper configuration if it is not installed using default parameters. In today's world most of the applications and their associated interfaces are made to work online. So we have created online compiler, The main objective of such compiler is to facilitate any user such that programs of any language can be compiled and run without downloading any IDE (Integrated Development Environment) or compiler. No development kit is needed on client machine. This paper aims at describing an online compiler which helps in promoting platform independency. Cloud computing usage decreases the problem of storage space as well as portability. Using different types of compilers at a single interface enables a programmer to compile and remove all the bugs in an easy manner and also help in storing the bugs output conveniently.*

Key Words: Cloud Computing, Compiler, Online Compiler, Services, Virtualization.

1.INTRODUCTION

Cloud Computing provides a platform on which various applications can be manipulated, configured and customized online. Decades of plenty of research on utility and distributed computing, services based on networking and web served as a foundation basis for cloud computing. It provides various organizations or even any single individual to store, process or access the information even classified ones in their privately owned data centres. Virtualization is an important tool for such type of computing. It helps in dividing any computational device into various "virtual" devices executing their own respective task easily. Cloud computing employs various services and models like deployment models which explain the access type to the cloud and service models which refer to the type of service used in the cloud computing. So, basically it is served as the resource pooling system. It helps in minimizing various infrastructure related costs, providing service oriented architecture, helps in satisfying on demand services. Various other benefits of such computing are scalability, availability, greater performance, rapid elasticity, security, high quality hosting services.

1.1 Services of Cloud Computing

1. Platform as a Service (PAAS): It provides an effective runtime environment for development, standard toolkit and computing platform. It facilitates lower administrative overhead, lower total cost of ownership and scalable solutions. Various PAAS types are Application Delivery Only Environment, Open Platform as a Service, Stand one Development Environment and Add on Development Facilities. Special application models of PAAS are Integration Platform as a Service (iPAAS) and Data Platform as a Service (dPAAS).

2. Software as a Service (SAAS): This model facilitates end users to use various software applications as their services. Helpdesk applications, Human Resource Solutions are the examples of SAAS applications. Simplified maintenance and support to the cloud provider helps in reducing the IT cost and help business to maintain proper potential and economically sound for growth.

3. Infrastructure as a Service (IAAS): This service provides access to infrastructure details like data partitioning, virtual machine and storage. IAAS offers load balances, IP (Internet Protocol) addressing, virtual local area networking.

1.2 Advantages

1. Maintenance is easy.
2. Security: It helps in protecting information, infrastructure related to it and also provide data centralization.
3. Cost is effectively low.
4. Agility: It has the ability to adapt to any new change efficiently and rapidly.
5. API (Application Programming Interface): It helps in developing various interfaces which provide accessibility to cloud software interacting machine.

6. Multitenancy: Multiple tenants provide configuration, user management and various functional properties with the help of single or multiple instances of any software running on a server.

7. Independency of locations to any device: System or any applications can be accessed and managed using a web browser no matter whatever locations they are placed.

2. IMPLEMENTATION AND DATA DESIGN

Cloud computing is implemented in 3 tier architecture

A. Presentation Tier: It displays user interface components and also stateless components.
B. Business Logic Tier: It includes application based processing components.
C. Data Tier: It provides storage offerings and data access components.

Fig-1: Cloud Computing

Online Compiler provides the facility such that the same source code can be compiled and run in multiple programming languages. The user first creates a text editor for creation and correction of program files. This helps in creating simple front end which is platform independent and load files quickly. Assemblies can be generated dynamically during runtime. Now the text area is made to check whether it is empty or not. Use CompileParameterClass for invoking compiler parameters, CompileErrorClass for showing errors details and CompileResultClass for implementation of compilation process.
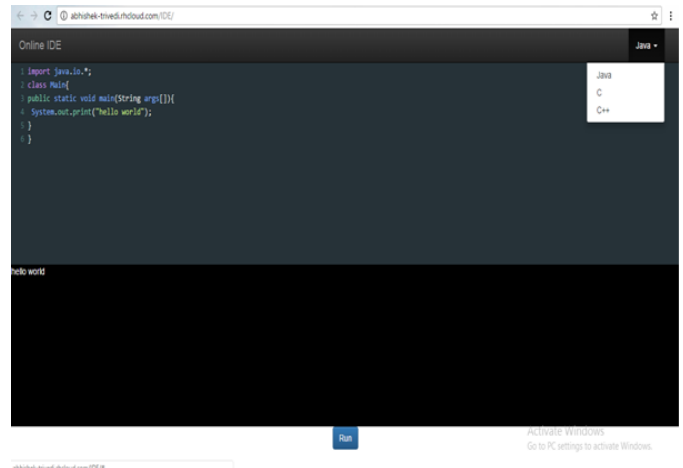

Fig-2: Online Compiler

3. CONCLUSION

In today's scenario, compiler is used by every machine separately. Thus it will help in avoiding the problem of installation of compiler separately. So, it aims at executing the program and code at centralized server. Another feature is that whenever upgradation advancement is done on any compiler, then that amendment is not required to be made on their respective individual machine.

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