

Cloud Cluster

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Abstract: Cloud computing refers to the delivery of computing resources over the Internet. Without storing the data on the external hard drive or updating applications for your needs. Cloud computing involves deploying groups of remote servers and software networks that allow centralized data storage and online access to computer services or resources. Cloud service includes storage of online file, webmail, and online business applications. Cloud computing is a pool of shared resources, which includes space for data storage, efficient computer processing and specialized corporate and user applications. This paper introduces a technique to provide an application which can be deployed into the cloud to access the data

online. To achieve this we are using cloud as “Software as a Service” (SaaS).

Keywords: Cloud, cloud computing, SaaS.

I. INTRODUCTION

Cloud computing is a recently evolved computing terminology based on utility and consumption of computing resources. Cloud computing is the delivery of computing services over the Internet. Cloud services allow both individuals and businesses to use software and hardware managed by third parties which are present at remote locations. The cloud computing allows accessing to information and computer resources from any remote locations where network connection is available. The

cloud computing promises to radically change the way computer application and services are constructed delivered and managed.

Cloud can be private, public or hybrid.

A private cloud is a virtual data center that operates within a firewall. Private clouds are highly conceptualized, joined together by large number of IT infrastructure into resource pools and privately owned and managed.

A public cloud is a cloud model in which services, like applications and data storage are generally used over the internet. In this model, a third-party provider delivers the cloud service over the Internet. Public cloud services has pay-per-usage mode, typically by the minute or the hour. Leading public cloud providers include Amazon Web Services (AWS), Microsoft Azure, IBM/Soft Layer and Google Compute Engine.

Hybrid cloud is a combination of public cloud services and private cloud. The aim of hybrid cloud is to create a single, automated, scalable environment which can take all the advantages of a public cloud infrastructure provides.

The cloud computing service models are Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). In Software as a Service model, a pre-made application, along with any required hardware, software, network and operating system are provided. In PaaS model, the customers are provided with an

operating system, network and hardware and they install or develop their own applications. The IaaS model just provides network and hardware and the customer installs or develops its own operating systems, applications and software.

II. LITERATURE REVIEW

This paper discusses the dynamic nature of cloud computing and explain how it builds the applications on established trends while changing the way that enterprises uses to build and deploy the applications in the cloud. It proceeds to discuss the architectural considerations that cloud architects must make while designing a cloud-based applications. Cloud computing supports every aspects like, server, data storage, computer networks etc [1].

This paper will reintroduce and reiterate some of the traditional concepts and discuss how they may evolve the concept of cloud computing. This paper also introduces the concept such as elasticity that has evolved due to the dynamic nature of the cloud. This paper is divided into two sections.

In the first section, we describe an example of an application that is currently under production using the on-demand infrastructure provided by Amazon Web Services. In this application the developer can perform pattern-matching from millions of web documents.

In the second section, this paper discusses some best practices for using various Amazon Web Services such as - Amazon S3, Amazon SQS, Amazon Simple DB and Amazon

EC2 - to build industrial-strength measurable applications [2].

In this paper, a survey on various platforms of cloud, foundation, their arrangements and infrastructure services and their capabilities used in some of the leading software companies of the world is presented. The software as a service (SaaS) approach frees the users from the need to buy and maintain information technology (IT) infrastructure, but it also causes many new anomalies to developers to write new applications [3].

This paper presents the new trend which opens the doors for the Small and Medium enterprise(SME) organization for their survival and to compete with large organization with their Skills. Low entry cost allowing startup companies to deploy new technology products quickly. Cloud computing allows the user to access servers, Centralised database, software, and any of the network equipment. The leading Web services companies have built their businesses around innovative new approaches to IT infrastructure that maximize data centric management and efficiency that have given them a distinct advantage over competitors[4].

III. METHODOLOGY

Cloud computing is a type of computing that relies on *sharing computing resources* rather than having local servers or personal devices to handle applications. In cloud computing, the word cloud (also phrased as "the cloud") is used as a

metaphor for ("*the Internet*") so the word *cloud computing* refers "a type of Internet-based computing," in which different applications and services like storage and servers are delivered to the computers and devices of an organization through the Internet. Cloud computing is different from grid computing, a type of computing in which unused processing cycles of all computers in a network are harnessed to solve problems for any stand-alone machine.

The cloud computing provides basically three types of services:

1. Infrastructure as a Service (IaaS): Infrastructure as a service provides companies with computing resources which includes servers, storage, and networking on a pay-per-use basis.
2. Software as a Service (SaaS): Software as a service (SaaS) runs on distant computers "in the cloud" that are owned and operated by others and that connect to the user computers via the Internet and, generally, a web browser.
3. Platform as a Service (PaaS): Platform as a service provides a cloud-based environment with everything required to support the complete life cycle of building and delivering web-based (cloud) applications—without the cost and complexity of buying and managing the underlying hardware, software, provisioning and hosting.



Fig: Cloud

The benefits of Software-as-a-Service (SaaS) is to understand the fundamental benefits of today's online, on-demand software solutions.

The following are the advantages of Software as a Service (SaaS).

1. *Limited risk:* SaaS provides limited risk for operation in the cloud.
2. *Rapid deployment:* SaaS solutions provides quick deployment of our application in the cloud one does not require trained people for deploying it.
3. *Greater Utilization:* SaaS solutions are designed keeping in mind the end user. The end user may or may not be a trained person thus it has greater utilization than other services.
4. *Better Reliability and Security:* Despite various concerns raised about the reliability and security of SaaS solutions, the truth is that there have been very few security breaches among SaaS.
Thus by reading the above mentioned advantages one should come to a conclusion that software as

a Service is very easy among the other services and our project is being done in Software as a Service (SaaS).

DESCRIPTION:

Our project is divided into three modules based upon the functions used such as Registration module, Verification module and Homepage as follows:

- 1) **Registration Module:** In the registration module first a user needs to register him by providing necessary information such as name, email address and password. For this we are using SQL INSERT query to insert the information into the table IC_Registered. After successful registration the function SYSTEM.GUID.RESULT() will generate a random alphanumeric code which will be sent to email address provided by the user using NEW MAILADDRESS() function. If the above processes are successfully carried out the user will get access to his personal home page where he/she will be able to perform various operations such as uploading and downloading of files. The user will be able to view his personal files online without downloading them.
- 2) **Verification Module:** After the user has registered himself successfully, the user will get a unique alphanumeric verification code to his/her email-id. The random code generated by the system will have to enter during

login for the first time by the user. This is a onetime process (OTP). If the code entered by the user and the code generated by the system matches then the UPDATE SQL Query will update the status field from the table IC_Registered from Inactive to Active.

3) **Login Module:** In the login module a screen appears which contains two specific fields namely USER NAME and PASSWORD. Here using SqlConnection Class we have created a database named CloudDB.mdf. Here Session Key is used to store the value of user-id. Using SELECT query we are verifying the user-id and password entered by the user with the data stored in IC_Login table. If the user-id and password are matched, the user will be logged in.

4) **Homepage:** After the successful registration and passing the verification module the specific user will get access to his personal home page where he/she can perform various operations like uploading and downloading of doc files, pdf files, mp3 files, video files. Homepage will show list of file uploaded by user from user specific directory. We are using SWITCH CASE to select between different file formats. A DROPDOWN LIST will be shown to user from which he/she can choose the specific format like mp3, pdf, ppt, etc. to upload the file FILEUPLOAD Control is used. SERVER.MAPPATH() function is used to provide the path to store the file into the

specific directory. To play audio files online we use PSUEDOMP3 control of javascript and for online viewing of videos, we are using VIDEO control of html.

The main objective of our project is to provide online viewing of data without the need of downloading it. But if the user wishes to download a specific file for reference afterwards we have provided the option of download also. The browser provides feature to download the files.

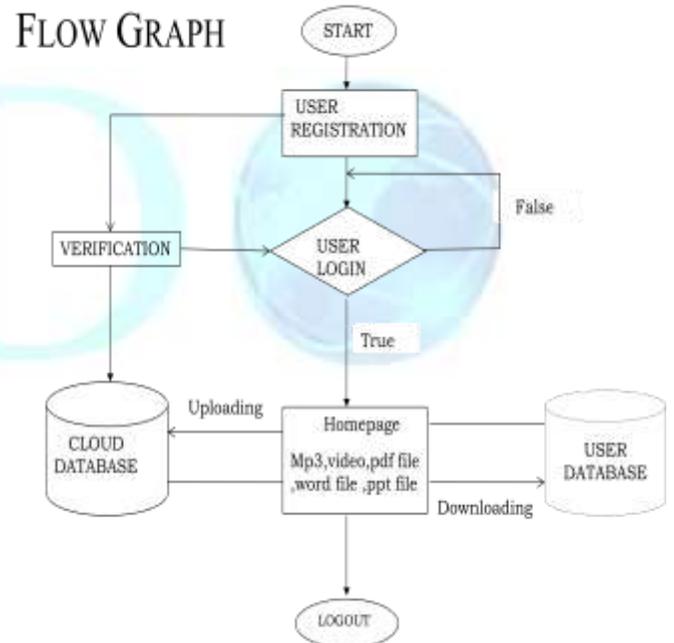


Figure: Flow Diagram of Working.

Snapshots:

1)Registration:



Figure1: Snapshot of Registration Page

This is the registration page in which the user has to provide name, e-mail id, Password.

2) Verification:



Figure 2: Snapshot of Verification Page

This is the Verification page in which user has to enter the random code which he has received at his email id.

3) Login:



Figure3: Snapshot of Login Page

This is the login page in which the user name and password will be provided by the user for login process.

4) HomePage:



Figure 4: Snapshot of Home Page



Figure 5: Snapshot of Audio Play List



Figure 6: Snapshot of Audio Player



Figure 7: Snapshot of Video Play List



Figure 8: Snapshot of Video Player



Figure 9: Snapshot of PDF Viewer

The above shown are the snapshots of the homepage and the various file formats provided in the homepage showing the audio player, video player, pdf viewer, etc.

Pdf, word, ppt file are accessed online using crystal report.

IV. CONCLUSION:

The study shows that the cloud which is a metaphor for (“the internet”) has various advantages in the twenty first century as cloud provides various function that are very useful for multinationals, small and medium enterprises. The functions provided by the cloud are server, centralized database. Cloud computing a recently evolved computing terminology based on utility and consumption of computing resources .Cloud computing is the delivery of computing services over the Internet. Cloud services allow individuals and businesses to use software and hardware that are managed by third parties at remote locations. The cloud computing model allows access to information and computer resources from anywhere that a network connection is available. The cloud computing promises to

radically change the way computer application and services are constructed delivered and managed.

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