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ACCESS AND RETRIEVE THE DATA IN THE CLOUD BY USING PYTHON

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Abstract— Now a day's all the on-premise technologies are converted into Cloud based Technologies in software Industries. Cloud computing architecture is the most powerful foremost architecture for computer computation. Cloud computing providing services based on use and pay manner. This paper provides a concise evaluation of the cloud computing technologies. Along with the technologies is also discuss , how the data can be accessed from the cloud with the help of the python packages.

Keywords— Cloud computing, services, PaaS, IaaS, On-premise, Bucket.

I.INTRODUCTION

In the field of cloud network technology, cloud computing is defined as the collection of networks, here the network is interconnection of the different clouds (private, public). The end user can use the services of cloud computing based on the requirement, rather than fitting their own physical infrastructure. For the small scale companies arrangement of infrastructure is the very complex and cost module, with the help of the cloud service providers they can obtain their infrastructures on demand base. Based on the usage of the services the e users need to pay [2].

Now the business people may concentrate on the functional requirements rather than the non-functional requirements.

The cloud users are facing security issues even though because of the cost cutting feature the small scale business people are comfortably started their business. The business people shifted some non-functional burden on the cloud providers. In the cloud computing network , different clouds are connected and provides services based on their requirements on demand base. [1]. Therefore the software and hardware requirements at the user side are decreased.

Based on the following features , the cloud computing provides services to the users.

- Provide services without compromise the quality.
- Based on the user requirement it provides all the varieties of Resources.-
- Based on use and pay manner it provides services
- Compare on-premise cost is less.

Fig 1 Cloud Network

II. EVOLUTION OF CLOUD COMPUTING

According to John McCarthy, like water electricity, the cloud computing even be sold sort of a utility. [3]. In 2002, Amazon started Amazon Web Services(AWS) and they were providing the services(Storage, software and infrastructure) to the vendors, top companies in the world like Microsoft, Google, Oracle and HP also began to provide cloud services [4]. Nowadays the normal person also uses the cloud services to store their files and photos example Google Photos, Google Drive, and iCloud etc. In future cloud computing will become the fundamental need all technical industries.

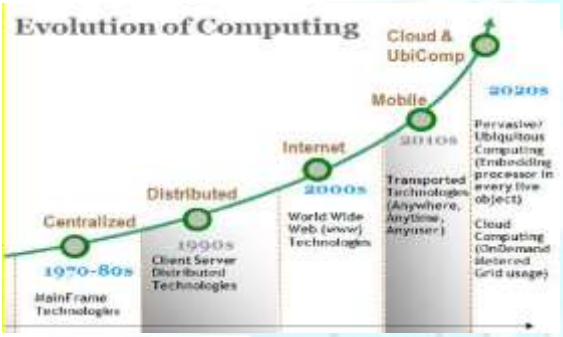


Fig 2 Evolution in Cloud Computing Technologies

III. CLOUD COMPUTING COMPONENTS

The following are the three basic components in cloud computing:

Client computers

Distributed servers

Data centers.

Client Computers: With the help of the client computers , the End user can interact with the cloud.

Distributed Servers: In cloud networking strategy the services are distributed among servers in various places but the end the user assumes like they as working with one erver only.

Data Centers: This is the main components in the cloud computing, the owners can store their data in Data centers and the data is stored in secure manner in different servers, which helps to recover the data easily.

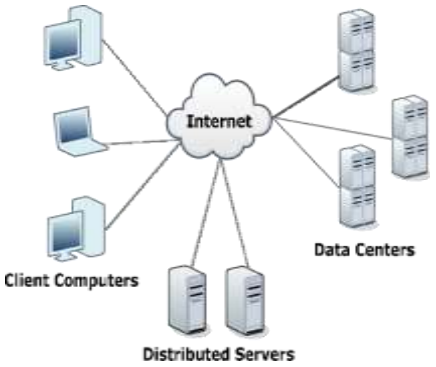


Fig 3 . Different Components in cloud computing

IV. SERVICES OF CLOUD COMPUTING

Cloud computing services are classified into three categories: They are SaaS (Software as a Service), PaaS (Platform as a Service) and IaaS (Infrastructure as a Service) [1]. So, the cloud vendors provides software , infrastructure and platform as a services to the users. By these three services, the cloud computing increasing rapidly in the enterprises.

1.(SaaS): In order to develop a project enterprises needs some legacy and new software, all are not available in open market, p based on their requirement they need to buy software. Some cloud vendors provides software as a service on demand base. Now the user can simply access the software and develop their projects and improve their business[5]. The SaaS users no need e to buy software or hardware, maintain, and update the software , just they must have an online connection to access the software .

2. (PaaS): Here platform indicate the development environment, so the cloud vendors provides an environment in order to execute or run an application. Now the consumer has freedom to construct his/her own application which will run on the vendor's infrastructure [6]. PaaS providers offers a predefined composition of software s and servers to get the management capacity of the application . LAMP (Linux, Apache MySQL and PHP) is the one of the example for PaaS.

IaaS: It is a cloud computing service where the vendor provides the infrastructure to eht user based on demand. Instead of purchasing

hardware the user obtain his required infrastructure by use and pay manner. Compare to SaaS and PaaS , Iaas provides the lowest level control of resources in the cloud[7-8],

Fig 4 Cloud Computing Services

V. TYPES OF CLOUD

They are three types of clouds:

- Public Cloud:
- Private Cloud and
- Hybrid Cloud.
- Public Cloud: The general public cloud be a computing service supplied by the third party vendors in top the general public over the internet [9]. These services are available for any users who want to them and they need to pay the amount for the services they consumed. Public cloud is working on the principal of multitenancy.
- Private Cloud: Private cloud can offered services by only chosen users. These service vendors provides services over the private network [10].
- Hybrid Cloud: It is a heterogeneous distributed system combining the services of public and private cloud. In hybrid cloud private and public cloud act as an independent component and the applications are shared among the components. [12].

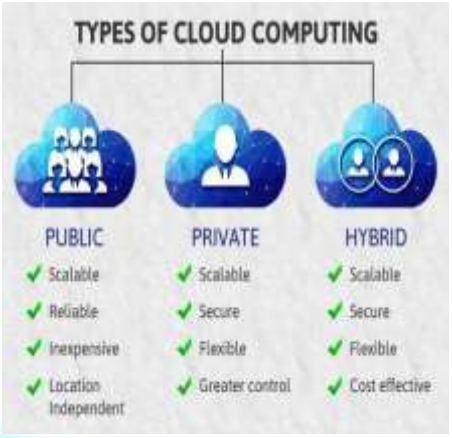


Fig 5. Sorts of Cloud Computing.

VI .METHODOLOGY

Amazon Web Service (AWS)is a platform that offers scalable, flexible and cost-effecting cloud computing solution. In AWS, an Amazon S3 bucket is a public cloud storage resource , used to to store data in secure manner. S3 indicates Simple Storage Service . These buckets are similar to file folders where we can store data, images and metadata. From this we are going to retrieve data and accessing data without opening the aws console in the browser

In order to retrieve the data from the bucket we used Phycharm. Phycharm, is the Python IDE for python

Steps for retrieving, accessing the data in s3 bucket

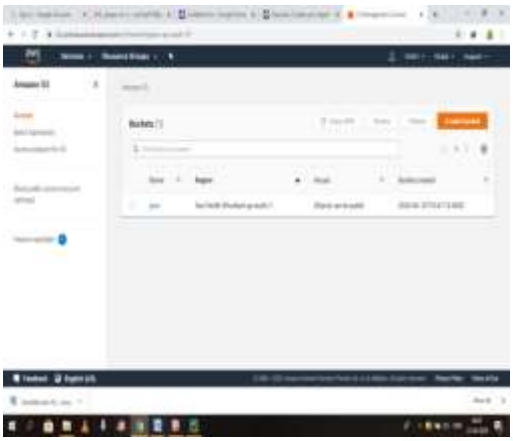
a. Download phycharm and install it link for downloading: https://www.jetbrains.com/pycharm/

b. You must have an account in aws

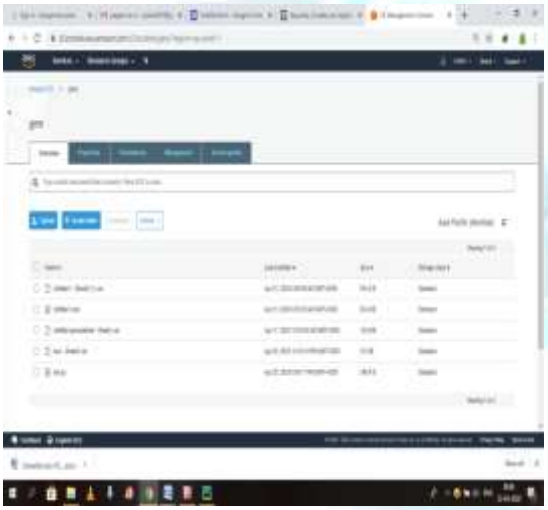
c. open your phycharm and install packages required and configure aws by using terminal

VII. RESULTS

This section presents the evaluation results of proposed method. Following figure represents, the number the files in the Amazon s3 bucket before applying the methodology.

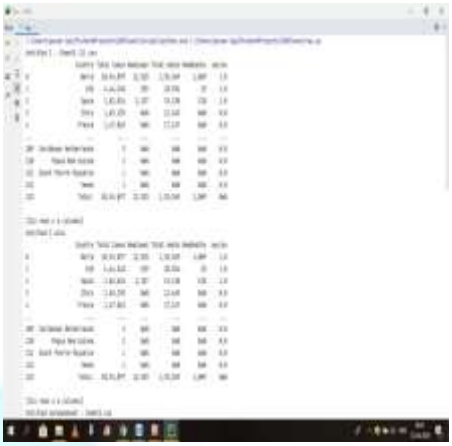


After applying my methodology. The list of files in the bucket can be presented in the below figure.



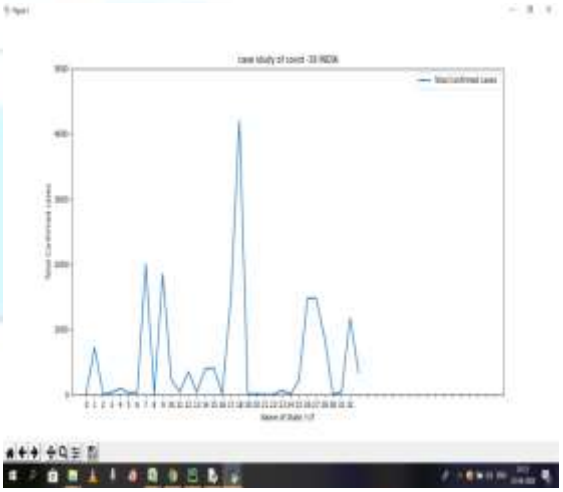
List of files in my bucket by using browser

Output : 1.List of file in the bucket in s3



Output : 2.Reading the data of file in the bucket

Output: 3 checking the attribute value: country from the data of file in the s3



Output: 4 plotting the csv file in bucket using python

VIII. BENEFITS OF CLOUD COMPUTING

1. Cost Saving: The cloud provides pay and use concept. Cloud users need to only procure the services what they need to develop their business.

Maintenance cost is very low as user has don't have to purchase infrastructure[2].

2. Flexibility: For small scale enterprises, cloud computing is more flexible. To develop their business, the cloud venders provides some services in freely manner so, as to manage their business cloud vendors provide flexibility.

3. Enhanced Security: The data stored in the public cloud can access by all the users, So, the vendors uses strong encryption mechanism, and access controls mechanism on cloud data.

III.CONCLUSION

- This paper provides a concise introduction of cloud computing, different types of clouds , evolution of clouds, varies components in cloud computing with advantages. Today approximately all small and big industries are using cloud services to manage their business. So, it is to clear that there is a major impact of cloud computing on society and industries.

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