# Study on Cloudsim and Google Cloud to Host Web Page

Smitha Krishnan[1], Dr.B.G Prasanthi[2]
[1]*Assistant Prof*
*SB College, Changanassey1, STJosephcollege2,Bengaluru*

***Abstract -*** Technology is growing and that everything cloud be made easy with cloud storage. So for more advanced features the cloud need to be developed so came the concept of multi cloud. Security, Load balancing, standardization are all major concern,. Working with real cloud is not always possible for scholars so came the tool cloudSim

***Keywords*** - Cloud Computing, Cloud Simulators, GCP

## I. INTRODUCTION

The effectiveness of cloud computing depends on the performance as the business needs require low cost and efficient resources for usage.
Scalability and dynamic configuration are the major issues in cloud performance analysis
For instance, finding out which service component might be the mainsource of the issue when the system performance does not satisfy the expectation, or speci-fying the critical paths among execution paths could be challenging [4]

## II. SIMULATION OF CLOUD ENVIRONMENT

Simulation is an important aspect in the area of research. as the scholars may need to check if the algorithms are working, they need a tool to implement it. also the analysis can be concentrated on specific component to determine the performance.

**Advantages of Simulation:**

i). Low risk: users can test and verify the results and identify the risk involved in.
ii). No expertise: to use simulation tools no need of special experts only programming skill required.
iii). No capital cost involved: we can download the tool and use.
iv). Good result - As we can run the code many number of times the result is always good.

**A. CloudSim -** Under different user and system requirement it is difficult to measure the performance. CloudSim tackles this problem. It is able to model large scale Cloud environments on single node. It also supports the network topologies simulations and federated Cloud environments. It can create and manage multiple independent virtual services on one datacenter with the capability of working as space or time shared allocations[5] CloudSim [6] is a famous simulator for cloud parameters developed in the CLOUDS Laboratory, at the Computer Science and Software Engineering Department of the University of Melbourne.
The programming language is Java, It lacked GUI interface. So other simulators have been built based on it.
Install CloudSim with eclipse (In Windows Ma-chine) [8]

**Step-1:** Download eclipse and extract it to a particular directory. http://www.eclipse.org/downloads/
**Step-2:** Download CloudSim and extract it to a particular directory. http://code.google.com/p/cloudsim/downloads/list
**Step-3:** Download Michael Thomas Flanagan's Java Scientific and Numerical Library. For that follow following link and copy it to cloudsim directory http://www.ee.ucl.ac.uk/~mflanaga/java/
**Step-4:** Open eclipse IDE go to New Java Project and select your projects.
**Step-5:** Specify Project name as CloudSim, untick the use default location option and select extracted CloudSim folder. Click finish. It might take some time to finish.
How To Organize Coading[7]

- Start
- Init CloudSim
- Create Datacenter
- Crete PE List and Host Add to Java list.
- Add PE list to Host List.
- Create Java List of Storage.
- Add All PE list, Host List and Storage to Data center Characteristics.
- Create datacenter with VM allocation policy.
- Create Data center Broker
- Create VM
- Add to VM List
- Add to Broker
- Create CloudLet
- Add to list
- Add to Broker
- Start Simulation
- Stop Simulation
- Print Out put

**B. Characteristics Of Cloudsim[17] -** The kernel of CloudSim toolkit is mentioned below . It provides:

i). Assistance for simulation of wide ranging Cloud computing data centers.
ii). Assistance for simulation of application repositories.
iii). Assistance for simulation of energy-conscious computational assets
iv). Assistance for modelling and simulation of virtualized hosts, with tailor-made policies for provisioning host machines to virtual Machines
v). Assistance for modelling and simulation of federated clouds
vi). Assistance for modelling and simulation of data centre network topologies as well as message- flowing applications.

vii). Assistance for active incorporation of simulation parameters, stop and continue of simulation

viii). Assistance for user-defined strategies for provision of physical machine to virtual machines and strategies for allocation of physical machine assets to virtual machines.

## III. INTRODUCTION TO GOOGLE CLOUD PLATFORM[16]

With Google Cloud Platform (GCP), you can build, test, and deploy applications on Google's highly-scalable and reliable infrastructure for your web, mobile, and back-end solutions. The cloud storage IS reliability, scalability, and secure. Google Cloud Storage reduces these burdens, allowing you to store, retrieve, share, and analyze your data, day after day, without worrying about maintenance, scaling up or down or hardware and firmware upgrades[ ]

**GCP -** GCP is a collection of of physical elements, and (VMs) The location of each data centre is in Central US, Western Europe, and East Asia. Collection of zones forms region isolated from each other .Each zone is named that combines a letter identifier with the name of the region.

**Services of GCP -** Wide range of GCP services are available which can be mixed and matched to match the infrastructure that is needed, and then add your code to it.

**Zonal, Regional and Global Resources -** Few resources can be accessed by any other resource, across regions and zones and few others by resources located in the same region.

Google App Engine is a web framework and cloud computing platform for developing and hosting web applications in Google-managed Data Centers.

**Who should use Google Cloud Storage? [16]**

- To Archive or back up data GCP is best for backup
- Share data with colleagues and partners Helpful if the data has a dynamic user base.
- Analyze large amounts of data –Tools available to manage large tools
- Serve static data for websites

## IV. COMPUTE ENGINE[18]

- Browse Google Cloud Platform
- Create a Project by selecting Google Cloud Platform Project
- Select Compute Engine
- Create Virtual Machine Instance
- Name the Instance and select zone
- Allocate Machine type, CPU, RAM required for the project
- Select Boot Disk Image
- Enable APIs in Identity and API access
- Allow both HTTP & HTTPS access to the firewall
- Configure VM Instance using Secure Shell
- Create Cloud DNS and Zone and domain for the project, with Name server as Data of DNS type NS and IP address of your Instance with the help of WHM

**GCP and SQL -**

1. Select Activate Google Cloud Shell
2. Create configuration file app.yaml
3. Export project from local host.
4. Select STORAGE and create a bucket to upload the sql file.
5. Database connectivity is established by creating Cloud SQL Instance
6. Open instance details and create new database
7. Edit the database connection query.
8. You can use this URL to open your hosted app.

## V. CONCLUSION

This paper presented the cloudsim tool by which many cloud project can be simulated and the GCP shows the real experience of working on cloud.

## VI. REFERENCES


[1]. Review on Collaboration of Multi Clouds, IJIRCE

[2]. A Survey of Cloud Computing Simulations and Cloud Testing

[3]. SECURITY ISSUES & COMPARISON OF EXISTING ALGORITHMS IN CLOUD TO SUPPORT MULTICLOUD INTERNATIONAL JOURNAL OF LATEST ENGINEERING RESEARCH AND APPLICATIONS (IJLERA) ISSN: 2455-7137

[4]. Haibo Mi, Huaimin Wang, Hua Cai, Yangfan Zhou3, Michael R Lyu, Zhenbang Chen, "P-Tracer: Path-based Performance Profiling in Cloud Computing Systems",36th IEE International Conference on Computer Software and Appli-cations, IEEE, 2012.]

[5]. International Journal of Networks and Communications 2013, 3(2): 45-52Grid and Cloud Computing Simulation Tools Mahdi Mollamotalebi1,*, Raheleh Maghami1, Abdul Samad Ismail2

[6]. International Journal of Advanced Research in Computer and Communication Engineering A Survey and Comparison of Various CloudSimulators Available for Cloud Environment Ramandeep Kaur1, Navtej Singh Ghumman2

[7]. http://www.cloudbus.org/cloudsim/

[8]. http://www.google.com

[9]. http://clousim-setup.blogspot.in/2013/01/running-and-using-cloud-analyst.html

[10]. CloudAnalyst: A CloudSim-based Toolfor Modelling and Analy-sis of LargeScale Cloud Computing Environments MEDC Project Report Bhathiya Wickremasinghes

[11]. .University of Luxembourg GreenCloud SimulatorUser Manual

[12]. GreenCloud: A Packet-Level Simulator of Energy-Aware Cloud Computing Data Centers

[13]. Suryateja, P. S.A Comparative Analysis of Cloud Simulators. International Journal of Modern Education and Computer Science

[14]. D. Kliazovich, P. Bouvry, and S. U. Khan, "GreenCloud: a pack-et-level simulator of energy-aware cloud computing data centers," IE

[15]. International Journal of Scientific & Engineering Research Volume 9, Issue 4, April-2018 175 ISSN 2229-5518 IJSER © 2018 http://www.ijser.org Setting Up Some of the Simulators of Cloud Computing &Cloud Testing

[16]. Google Cloud Storage – a simple way to store, protect, and share dataInternational Journal for Research in Applied

Science & Engineering Technology (IJRASET)ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887Volume 6 Issue IV, April 2018-

[17]. Analysis of Cloud Sim Toolkit for Implementing Energy Efficient Green Cloud Data Centers-International Journal for Research in Applied Science & Engineering Technology (IJRASET)ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887Volume 6 Issue IV, April 2018-

[18]. www.ajcetechblog.in