

## Assignment 28

### Q81 open source IaaS Software

- > Infrastructure as a Service is a service where an organization outsources the equipment used to support storage, hardware, servers and networking components.
- open Stack is an open source cloud computing project to provide an Infrastructure as a Service (IaaS) this integration is facilitated through public API's that each source offers.
- open Stack controls large pool of compute, storage and networking resources throughout a data center, all managed through a dashboard this gives administrators control while empowering their users to provision resources through a web interface, it delivers a massively scalable cloud operating system.
- The technology consists of a service of connected projects that controls pool of processing, storage and networking resources throughout a data center. All managed through a dashboard that gives admins control while empowering its users to provision resources through a web interface.

## Q:2 open Source PaaS Software.

- Platform as a Service is a category of cloud computing services which offers a way to support the compute lifecycle of delivery web Applications & Services via the Cloud.
- OPA (previously known as openShift origin) is a PaaS computing platform as a service product from Red hat. It is an application platform where application developers and teams can build, test, deploy and run their Applications with take care of Infrastructure middleware & management so that developers can focus on their App.
- OPA enables you to create, deploy and manage Applications within the cloud. It provides devOps space, CPU resources, memory, network connectivity and an archive of logs, servers, dependency on the type of application being deployed a template file system layout is provided. OPA also generates limited DNS so your Application is Accessible online.
- It provides support for a wide variety of language run times and dot frameworks including Java EE, Ruby, PHP, Python, Perl, MongoDB, MySQL or PostgreSQL.



### Q3 Open Source SaaS Software

=> SaaS is a distribution model where a third party is trusted with the responsibility of hosting applications and make them available for customers with the help of internet.

- Cloudify is an open source cloud orchestration framework. It helps in the automation of the entire lifecycle of an application. Cloudify enables users to deploy the application in two ways.

- 1.] By opting for CLI only
- 2.] By opting for the Cloudify manager

- Application configurations are defined through a blueprints that are developed on YAML DSL Configuration files. These blueprints have complete information regarding the application lifecycle starting from installation to its monitoring.

#### Features

1. Local Blueprints
2. Governance & Security
3. Blueprinting modeling
4. TOSCA orchestration
5. Built-in node types

## Q:4 open Source cloud Simulator Software

- CloudSim or Cloudsim is a new, highly generalized and extensible java based simulation toolkit, and currently regarded as software fragment.
- It support several core functionalities like Scheduling & processing of event, the creation of CloudSim entities, communication among components and the management of the simulation clock.

CloudSim has been developed by the Cloud Laboratory of the Computer Science & Software Engineering department of the University of Melbourne.

This toolkit enables seamless modeling simulation and experience Future cloud Computing and Application Services

### \* Features

- Support modeling and simulation of large scale CC data centers.
- Support modeling and simulation of virtual server hosts, along with customisable policy for provisioning host resources to virtual machines.
- Support dynamic inclusion of simulation event discontinuations.
- Support the creation of various data center network topology, message passing Application



## QOS open Source Distributed System Software.

- This Apache Hadoop Project develop open source software of reliable, scalable, distributed computing.
- The Apache Hadoop Software library is a F/W that allows for distributed processing of large data sets across clusters - by computers using simple models.
- It is designed to scale up from single servers to thousands of machines each offering local computation & storage rather than relying on h/w to deliver high-availability the library itself is designed to detect and handle failures at the application layer, so delivering highly available service on top of a cluster of computers of which which may be prone to failure.
- Hadoop Common & The Common utilities must support the other Hadoop modules.
- \* Hadoop distributed file system 2. HDFS is a distributed file system that provides high-throughput access to application data.
- \* Hadoop YARN is a framework for job scheduling and cluster resource management.