

ECE 9016B CLOUD COMPUTING
ASSIGNMENT 2
RESOURCE USAGE AGENT

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Cloud Usage Monitor:

It is a free software program responsible for collecting and process IT usage data. This manage and review operational process in cloud infrastructure. There are various kind of cloud monitoring like website monitor, DB monitor, cloud storage monitor etc. It has capability to manage huge volume in various distributed location.

Terms used in this assignment are as follows:

VIM (Virtualized Infrastructure Manager):

It is a tool for management of physical and virtualized resource. This keeps share of virtual resources to physical resource. Features are Virtualization support, interface to public cloud, dynamic resource allocation and high availability.

VM (Virtual Machine):

It is a mirroring of a computer system. It provide the functions of physical computer. There are 2 type of VM: System VM provide a functionality needed to execute whole OS and Process VM execute computer program in platform-independent environment.

Usage and Administration Portal:

This centralize the management controls to different cloud-based IT resource and can further provide resource usage port.

Timestamp:

It is a method for row versioning. It is a way to track time as total running of seconds. Helps in identification of time event. A time registered to a file when data added removed or modified.

In this assignment to implement how cloud usage monitor works, usage and admin portal created which is a simple authentication page consist of user name and password. Then comes the VM template has three instance of Basic, Large and Ultra Large and their configuration details and charges embedded with it.

Each resource usage event consist of set of data such as type of instance, starting and stopping time of each instance by user, id for each vm and user and usage charges. First user choose type of instance they going to work on and the parameters of the event are given. Timestamp is used for noting down start and stop time of particular instance user using it. The time is started and stopped multiple times. VM size can only be changed at end of each cycle. The charges calculated based on each VM instance and usage time. The total usage of charges are calculated and displayed finally tells the amount charged for user throughout using various VM.

Heroku:

It is a Platform as a Service, which support many programming language (java, node.js, python, PHP...). Here developer can build and run several applications. Heroku's Git server handles application repository pushes from permitted users.

Reference:

1. <https://guides.railsapps.org/rails-deploy-to-heroku.html>
2. https://patterns.arcitura.com/cloud-computing-patterns/mechanisms/cloud_usage_monitor
3. <https://devcenter.heroku.com/articles/getting-started-with-python>
4. <https://readwrite.com/2014/09/23/heroku-for-beginners-app-hosting-101/>