# 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. The configuration of virtual server done via 3 instances: Basic, Large and Ultra Large and their functionalities given along with the usage cost for it. The usage time is calculated by finding difference in start and stop time. Finally, total charge of user found by adding up all charges with respect to time and instance they have used.

The data storage done by SQL creating tables for storing the time each user spent on using instances and the corresponding charges that has occurred. Here, “Heroku” cloud provider has taken role to host the services that has been implemented in local host.

**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/