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# **CLOUD APPLICATION DEVELOPMENT**

## **OPENSTACK LAB EXPERIMENT – 12**

**OBJECTIVE:** Application Monitoring with Ceilometer in OpenStack

### **Introduction:**

Ceilometer is an open-source telemetry service that provides a centralized framework for collecting and processing monitoring data in OpenStack. It can be used to monitor various OpenStack resources, such as instances, volumes, and networks. In this lab, we demonstrate how to use Ceilometer to monitor the performance of an application running on an OpenStack instance.

### **Methods:**

To monitor an application using Ceilometer in OpenStack, we followed the following steps:

Step 1: Install Ceilometer on the OpenStack Controller Node

We installed Ceilometer on the OpenStack Controller Node by running the following command:

```
sudo apt-get install ceilometer-api ceilometer-collector ceilometer-agent-central ceilometer-agent-notification ceilometer-alarm-evaluator ceilometer-alarm-notifier python-ceilometerclient
```

Step 2: Create a new instance on OpenStack

Next, we created a new instance on OpenStack by logging in to the dashboard and navigating to the "Compute" section. From there, we clicked the "Launch Instance" button and filled out the required fields, including the instance name, flavor, and network.

Step 3: Install the application on the instance

We installed the application on the instance by logging in to the instance and running the required commands to install the application.

#### Step 4: Configure Ceilometer to monitor the application

We configured Ceilometer to monitor the application by creating a new alarm on the OpenStack dashboard. We navigated to the "Alarms" section and clicked the "Create Alarm" button. We selected the instance that the application was running on and set the alarm criteria to monitor the application's CPU usage.

#### Step 5: Test the application

We tested the application by running the application and generating load on the instance.

#### Step 6: Monitor the application using Ceilometer

We monitored the application using Ceilometer by checking the alarm status on the OpenStack dashboard. We were able to see the CPU usage of the application in real-time and receive notifications if the application exceeded the threshold set in the alarm.

### **Results:**

We were able to successfully monitor an application using Ceilometer in OpenStack. We installed Ceilometer on the OpenStack Controller Node and created a new instance on OpenStack. We installed the application on the instance and configured Ceilometer to monitor the application's CPU usage. We tested the application and generated load on the instance. We were able to monitor the application using Ceilometer and receive notifications if the application exceeded the threshold set in the alarm.

### **Conclusion:**

In conclusion, we demonstrated how to monitor an application using Ceilometer in OpenStack. By following these steps, we can use Ceilometer to monitor the performance of applications running on OpenStack instances. Ceilometer provides a centralized framework for collecting and processing monitoring data, making it easier to monitor various OpenStack resources. This lab provided us with a better understanding of how to use Ceilometer to monitor applications in OpenStack, which can be useful in a production environment to ensure the availability and performance of critical applications.