

Exercise 01

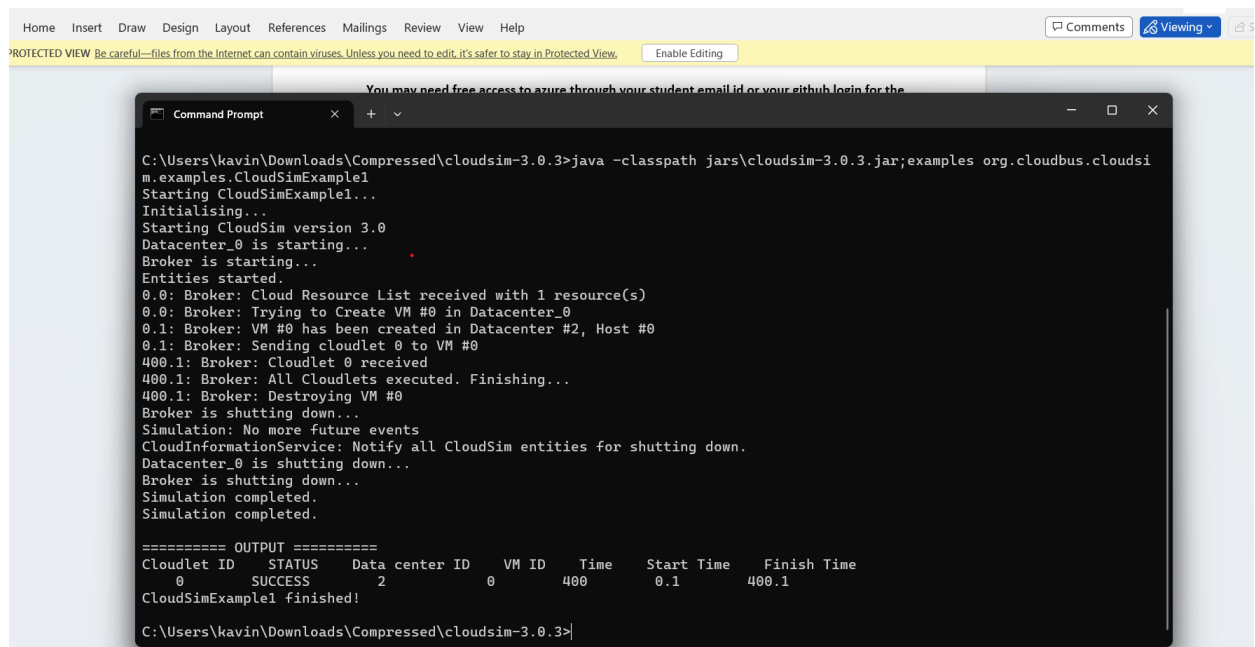
1.Cloud Service Type: The cloud service type used in this exercise is IaaS (Infrastructure as a Service).

IaaS provides virtualized computing resources over the internet. In this case, you will be provisioning a virtual machine (VM) on Azure and configuring it as a LAMP server.

2.Cloud Architecture: The cloud architecture used here is public cloud.

Public cloud refers to a cloud infrastructure that is owned and operated by a third-party cloud service provider, in this case, Microsoft Azure. The resources and services are shared among multiple users and accessed over the internet.

Exercise 02



The screenshot shows a Microsoft Word document in Protected View. A Command Prompt window is open, displaying the execution of a Java program named CloudSimExample1. The program simulates a cloud environment where a VM is created, a cloudlet is executed, and the VM is destroyed. The output includes a table summarizing the cloudlet execution.

```
C:\Users\kavin\Downloads\Compressed\cloudsim-3.0.3>java -classpath jars\cloudsim-3.0.3.jar;examples org.cloudbus.cloudsim.examples.CloudSimExample1
Starting CloudSimExample1...
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 1 resource(s)
0.0: Broker: Trying to Create VM #0 in Datacenter_0
0.1: Broker: VM #0 has been created in Datacenter #2, Host #0
0.1: Broker: Sending cloudlet 0 to VM #0
400.1: Broker: Cloudlet 0 received
400.1: Broker: All Cloudlets executed. Finishing...
400.1: Broker: Destroying VM #0
Broker is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
Broker is shutting down...
Simulation completed.
Simulation completed.

===== OUTPUT =====
Cloudlet ID   STATUS   Data center ID   VM ID   Time   Start Time   Finish Time
0            SUCCESS   2               0       400    0.1          400.1
CloudSimExample1 finished!

C:\Users\kavin\Downloads\Compressed\cloudsim-3.0.3>
```

```
Command Prompt
Datacenter_0 is starting...
Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 1 resource(s)
0.0: Broker: Trying to Create VM #0 in Datacenter_0
0.0: Broker: Trying to Create VM #1 in Datacenter_0
0.1: Broker: VM #0 has been created in Datacenter #2, Host #0
0.1: Broker: VM #1 has been created in Datacenter #2, Host #0
0.1: Broker: Sending cloudlet 0 to VM #0
0.1: Broker: Sending cloudlet 1 to VM #1
1000.1: Broker: Cloudlet 0 received
1000.1: Broker: Cloudlet 1 received
1000.1: Broker: All Cloudlets executed. Finishing...
1000.1: Broker: Destroying VM #0
1000.1: Broker: Destroying VM #1
Broker is shutting down...
Simulation: No more future events
CloudInformationService: Notify all CloudSim entities for shutting down.
Datacenter_0 is shutting down...
Broker is shutting down...
Simulation completed.
Simulation completed.

===== OUTPUT =====
Cloudlet ID   STATUS   Data center ID   VM ID   Time   Start Time   Finish Time
0            SUCCESS   2                0       1000    0.1          1000.1
1            SUCCESS   2                1       1000    0.1          1000.1
CloudSimExample2 finished!

C:\Users\kavin\Downloads\Compressed\cloudsim-3.0.3>
```

1.DatacenterBroker:

In CloudSim, a DatacenterBroker represents a broker or an intermediary between cloud service customers (users) and the cloud infrastructure. It acts as a mediator for requesting and provisioning cloud resources on behalf of users. The DatacenterBroker is responsible for managing the lifecycle of Cloudlets.

2.Cloudlet:

A Cloudlet represents a task or workload submitted by a user to the cloud infrastructure for execution. It can be considered as a unit of work that needs to be processed by the cloud. Cloudlets have properties such as length (in MI or CPU cycles), required RAM, and required storage.

3. Host:

In CloudSim, a Host represents a physical machine or server in the cloud infrastructure. It is responsible for executing Cloudlets and providing computing resources to the cloud users. A Host has attributes such as processing capacity, memory capacity, and storage capacity.