Experiment 1.3

Student Name: Manish Singh Barolia **UID:** 21BCS5712
Branch: BE-CSE **Section/Group**: NTPP_601-A
Semester: 6th **Date of Performance:** 05-02-2024
Subject Name: Cloud Computing and Distributed Systems
Subject Code: 21CSP-378

1. Aim:

Installation of Cloud Sim tool and IDE.

2. Objective:

To install cloud sim tool, IDE, and simulate core functionality of the cloud.

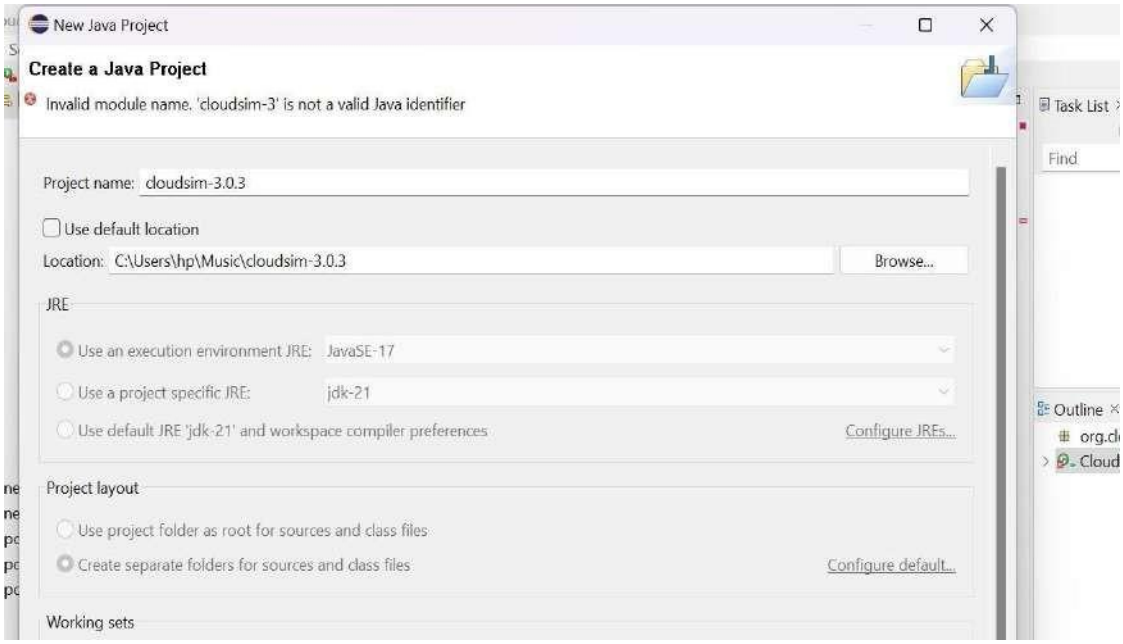
3. Discription:

Step 1: Install Eclipse IDE for Java developers.

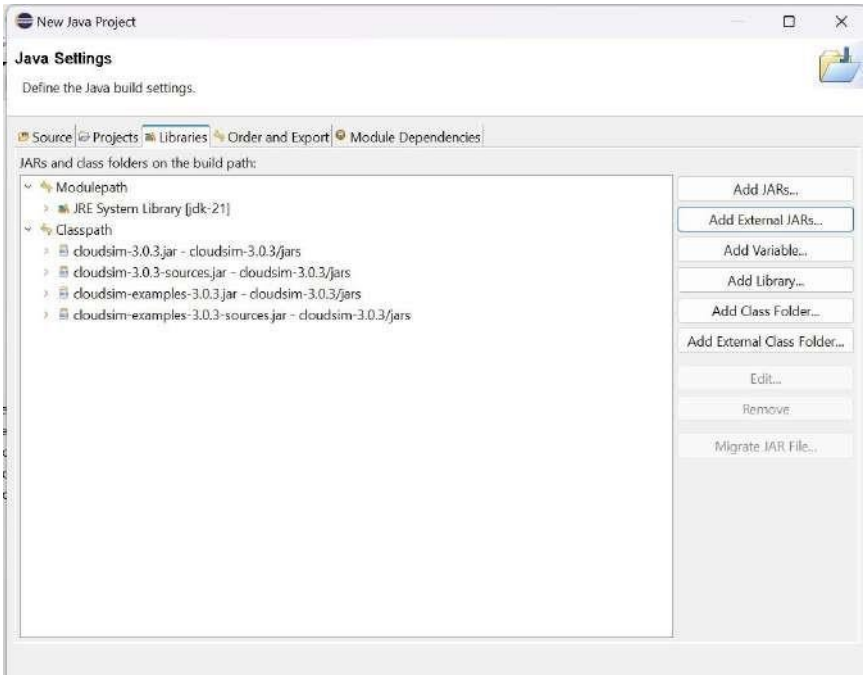
Step 2: Download the Cloud Sim source Code.

Step 3: Download the Common Math package from the Apache website.

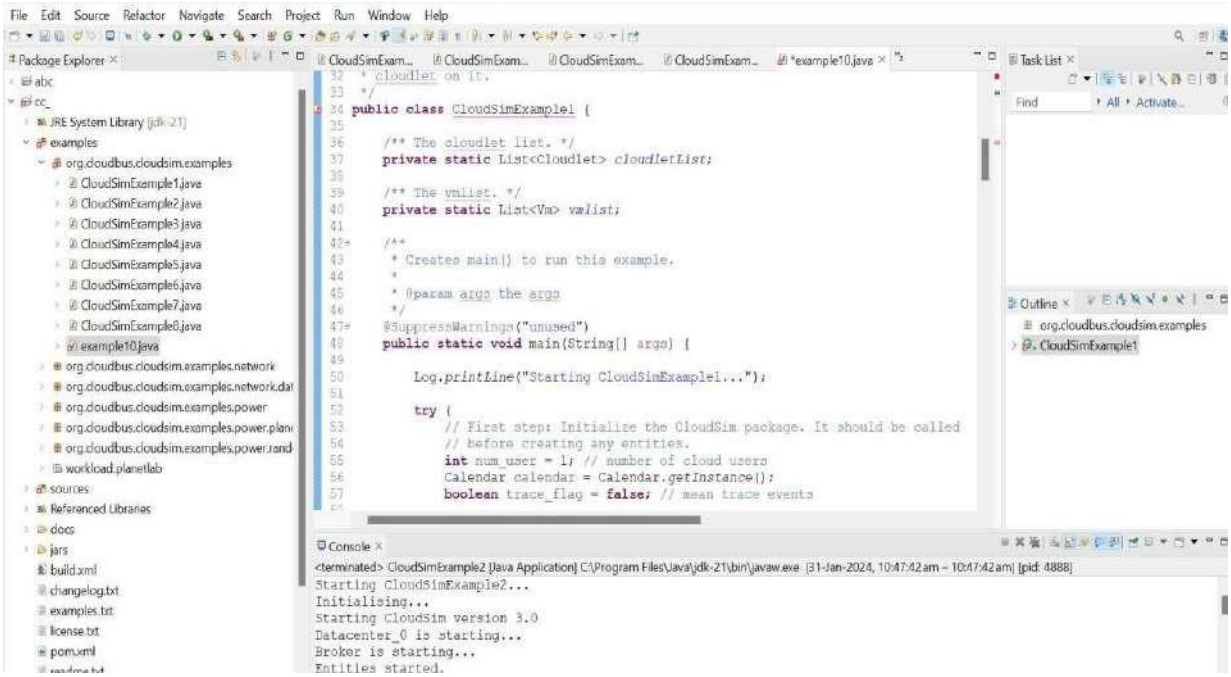
Step 4: Open Eclipse IDE, create a new Java project, and add the path of Cloud sim Source code.



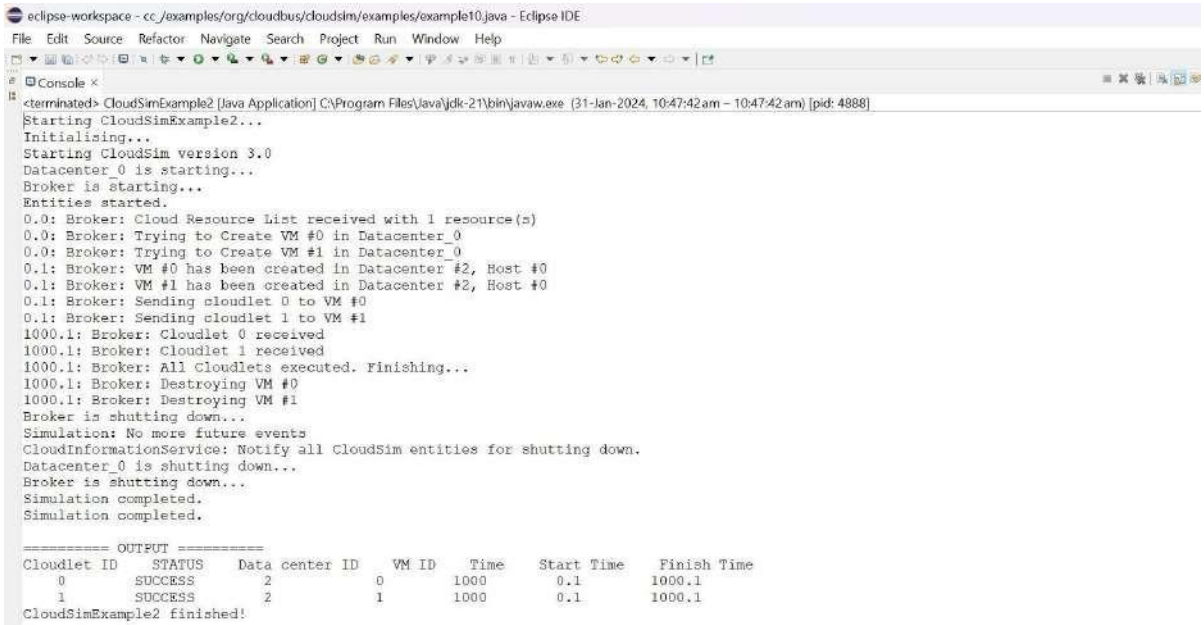
Step 5: Click on Next, then go to Libraries, add external JARs add the JAR file from the common math package downloaded from the Apache website, and then click on Finish.



Step 6: After configuring the new Project, go to file and open a new java executable file, Write the source code for the application and run the application.


File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
CloudSimExample1.java
CloudSimExample2.java
CloudSimExample3.java
CloudSimExample4.java
CloudSimExample5.java
CloudSimExample6.java
CloudSimExample7.java
CloudSimExample8.java
example10.java
public class CloudSimExample1 {
/** The cloudlet list. */
private static List<Cloudlet> cloudletList;
/** The vmlist. */
private static List<Vm> vmlist;
public static void main(String[] args) {
Log.printLine("Starting CloudSimExample1...");
try {
// First step: Initialize the CloudSim package. It should be called
// before creating any entities.
int num_user = 1; // number of cloud users
Calendar calendar = Calendar.getInstance();
boolean trace_flag = false; // mean trace events
Task List
Outline
org.cloudbus.cloudsim.examples
CloudSimExample1
Console
<terminated> CloudSimExample2 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (31-Jan-2024, 10:47:42 am – 10:47:42 am) [pid: 4888]
Starting CloudSimExample2...
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Broker is starting...
Entities started.

4. Output:


eclipse-workspace - cc_/examples/org/cloudbus/cloudsim/examples/example10.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Console
<terminated> CloudSimExample2 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (31-Jan-2024, 10:47:42 am – 10:47:42 am) [pid: 4888]
Starting CloudSimExample2...
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
0.0: 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!

Learning Outcome:

1. Understanding the process of downloading and installing Eclipse IDE.
2. Learn how to integrate external libraries into an IDE for development.
3. Understand the components and features of CloudSim for building cloud simulations.
4. Acquire practical skills in setting up a development environment for cloud simulation projects.