Exp No: 7 **Date :**

CLOUD SIMULATION
MODEL CLOUD ENVIRONMENT USING CLOUD SIM

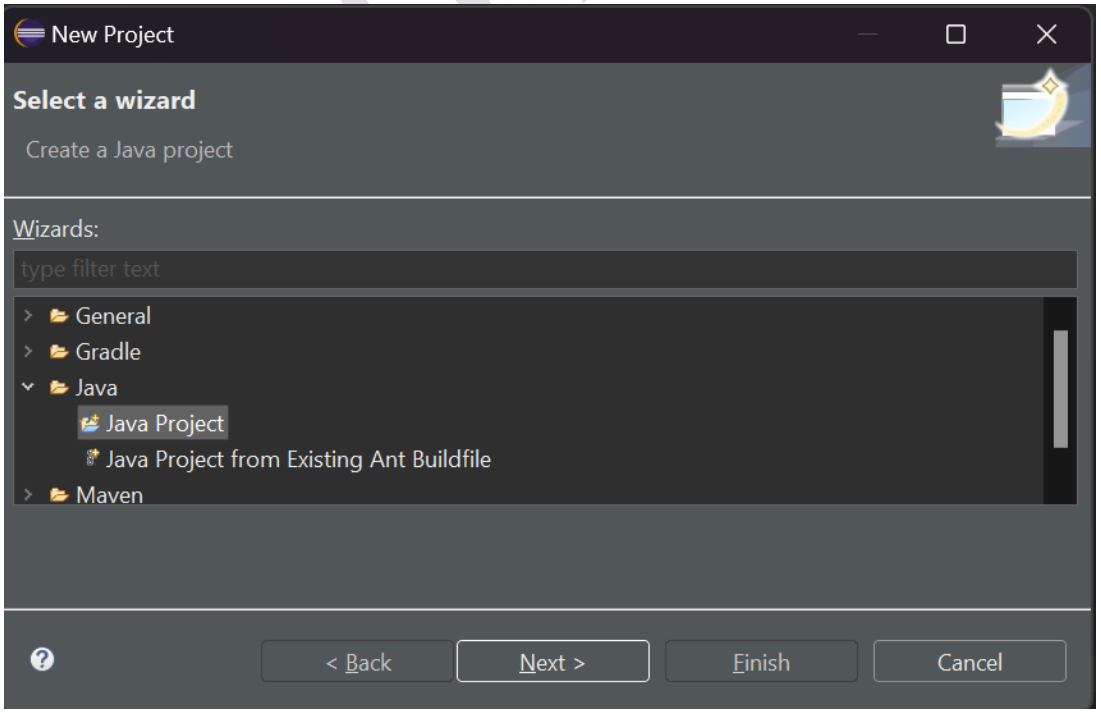
AIM:

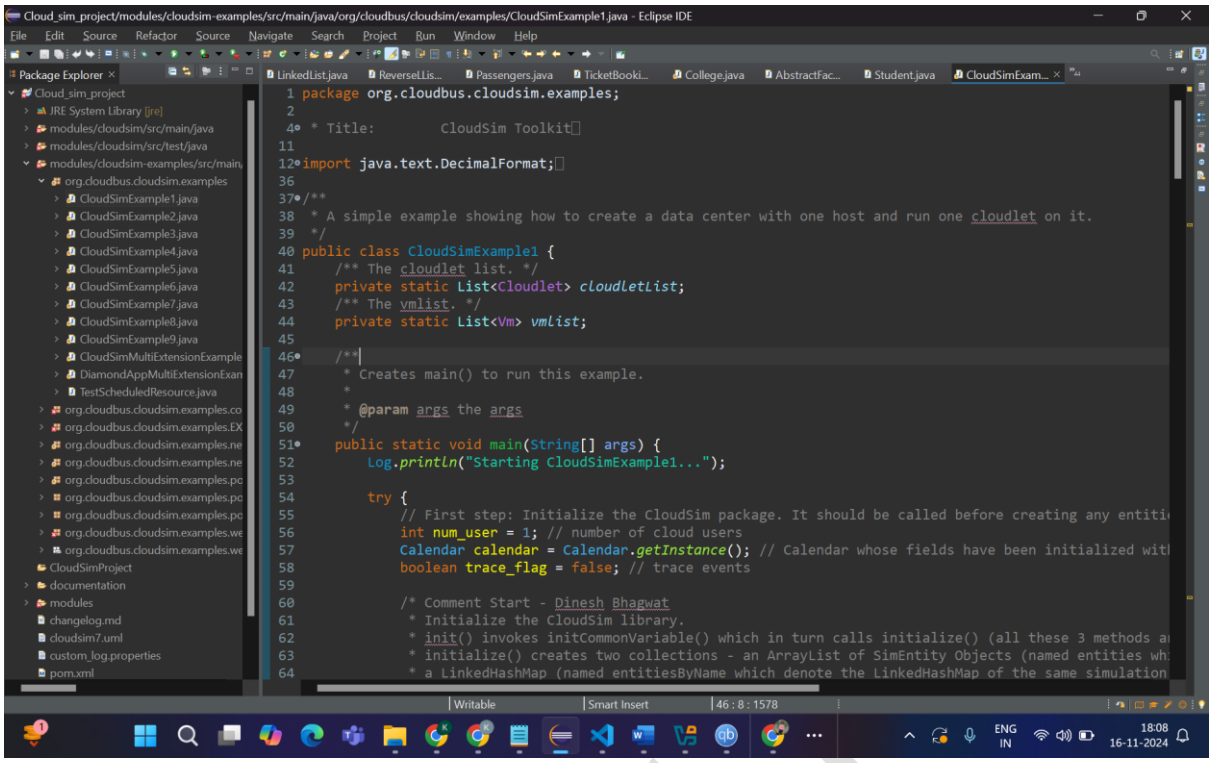
To model the cloud environment using cloud sim tools.

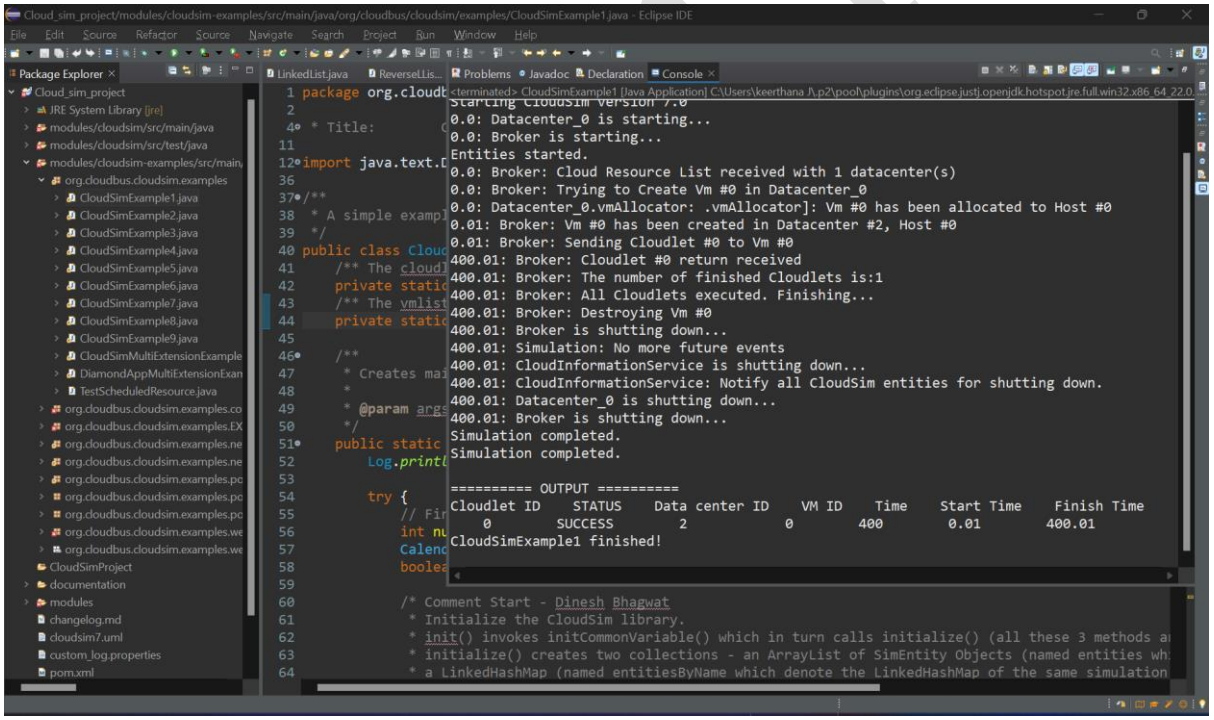
PROCEDURE:

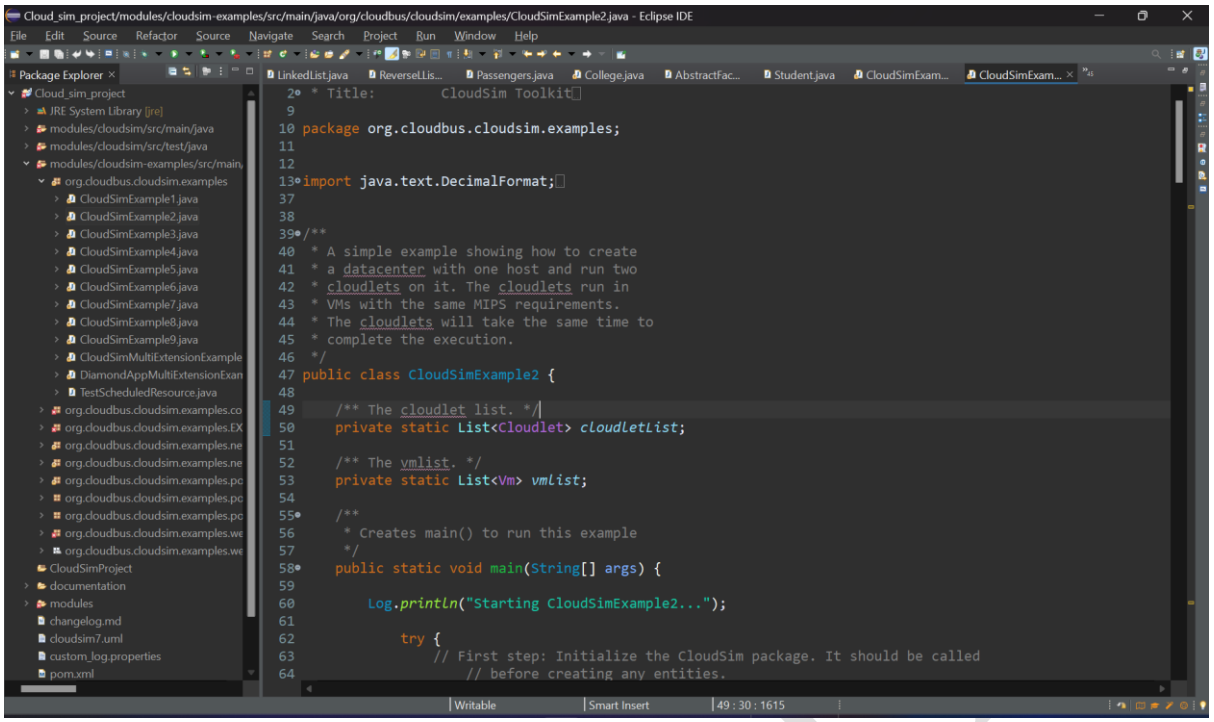
1. Now within the Eclipse window navigate the menu: File -> New -> Project, to open the new project wizard.
2. Select the 'Java Project' from the window popup and click Next.
3. Unselect the *'Use default location'* option and then click on *'Browse'* to open the path where you have unzipped the Cloudsim project and finally click Next to set project settings.
4. Now select the example program from folder examples from the unzipped folder.
5. Run the sample program

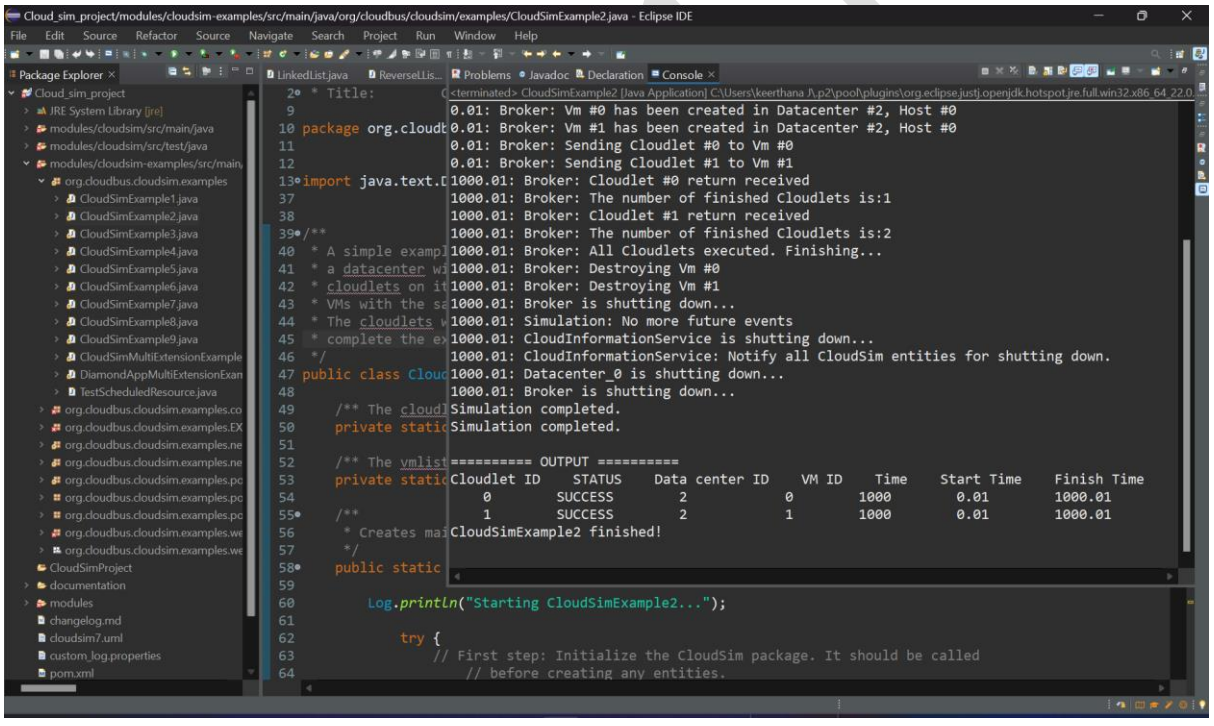
OUTPUT:

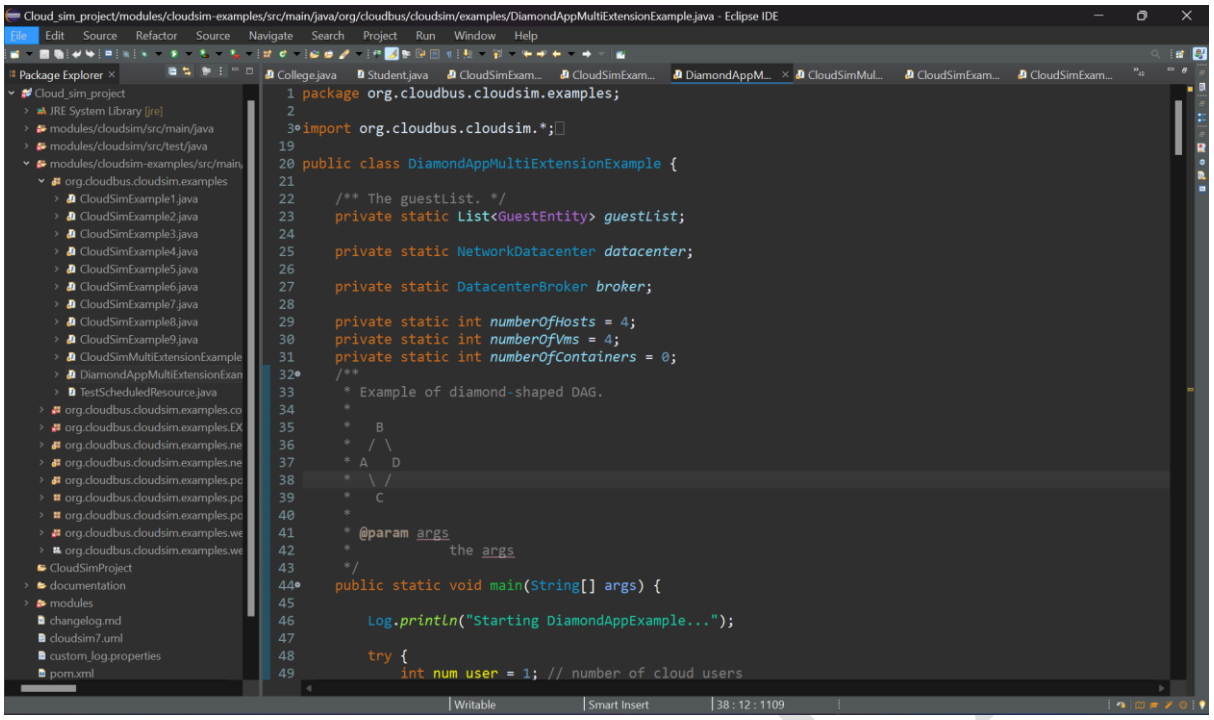


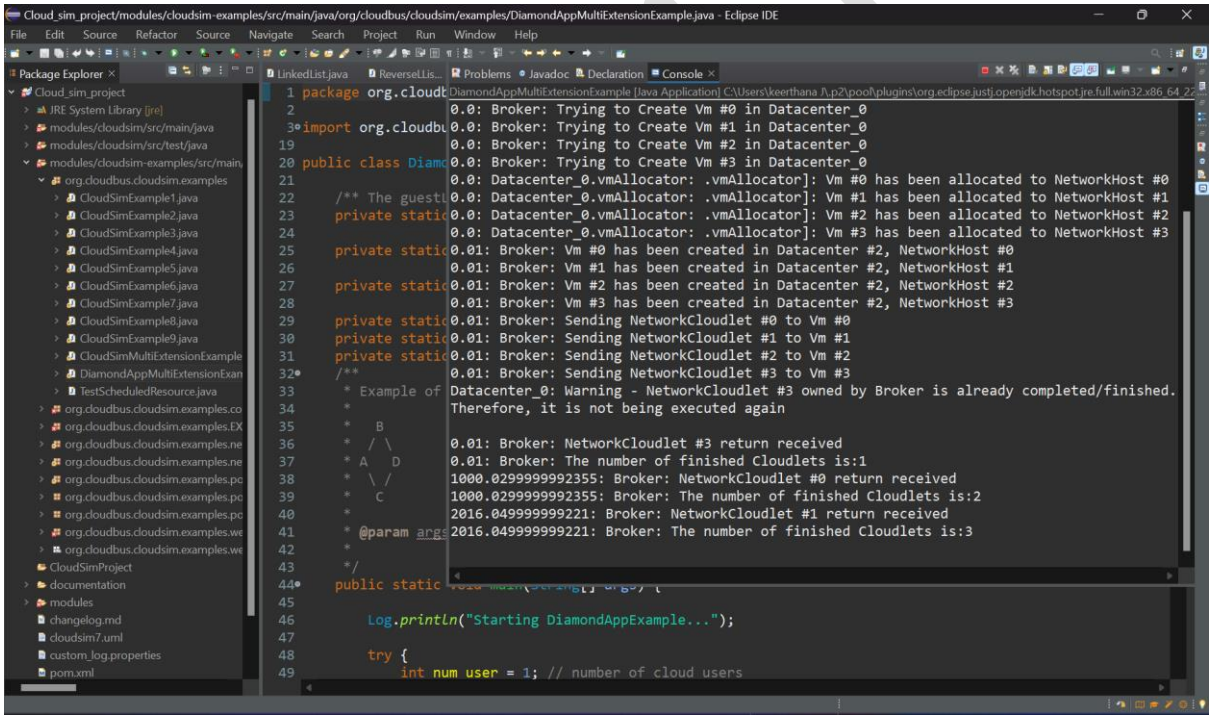

Cloud_sim_project/modules/cloudsim-examples/src/main/java/org/cloudbus/cloudsim/examples/CloudSimExample1.java - Eclipse IDE
File Edit Source Refactor Source Navigate Search Project Run Window Help
Package Explorer
LinkedList.java
ReverseLis...
Passengers.java
TicketBooki...
College.java
AbstractFac...
Student.java
CloudSimExam...
1 package org.cloudbus.cloudsim.examples;
4 * Title: CloudSim Toolkit
12 import java.text.DecimalFormat;
37 /**
38 * A simple example showing how to create a data center with one host and run one cloudlet on it.
39 */
40 public class CloudSimExample1 {
41 /** The cloudlet list. */
42 private static List<Cloudlet> cloudletList;
43 /** The vmlist. */
44 private static List<Vm> vmlist;
46 /**
47 * Creates main() to run this example.
48 *
49 * @param args the args
50 */
51 public static void main(String[] args) {
52 Log.println("Starting CloudSimExample1...");
54 try {
55 // First step: Initialize the CloudSim package. It should be called before creating any entiti
56 int num_user = 1; // number of cloud users
57 Calendar calendar = Calendar.getInstance(); // Calendar whose fields have been initialized with
58 boolean trace_flag = false; // trace events
60 /* Comment Start - Dinesh Bhagwat
61 * Initialize the CloudSim library.
62 * init() invokes initCommonVariable() which in turn calls initialize() (all these 3 methods a
63 * initialize() creates two collections - an ArrayList of SimEntity Objects (named entities wh
64 * a LinkedHashMap (named entitiesByName which denote the LinkedHashMap of the same simulation
Writable
Smart Insert
46 : 8 : 1578
ENG
IN
18:08
16-11-2024

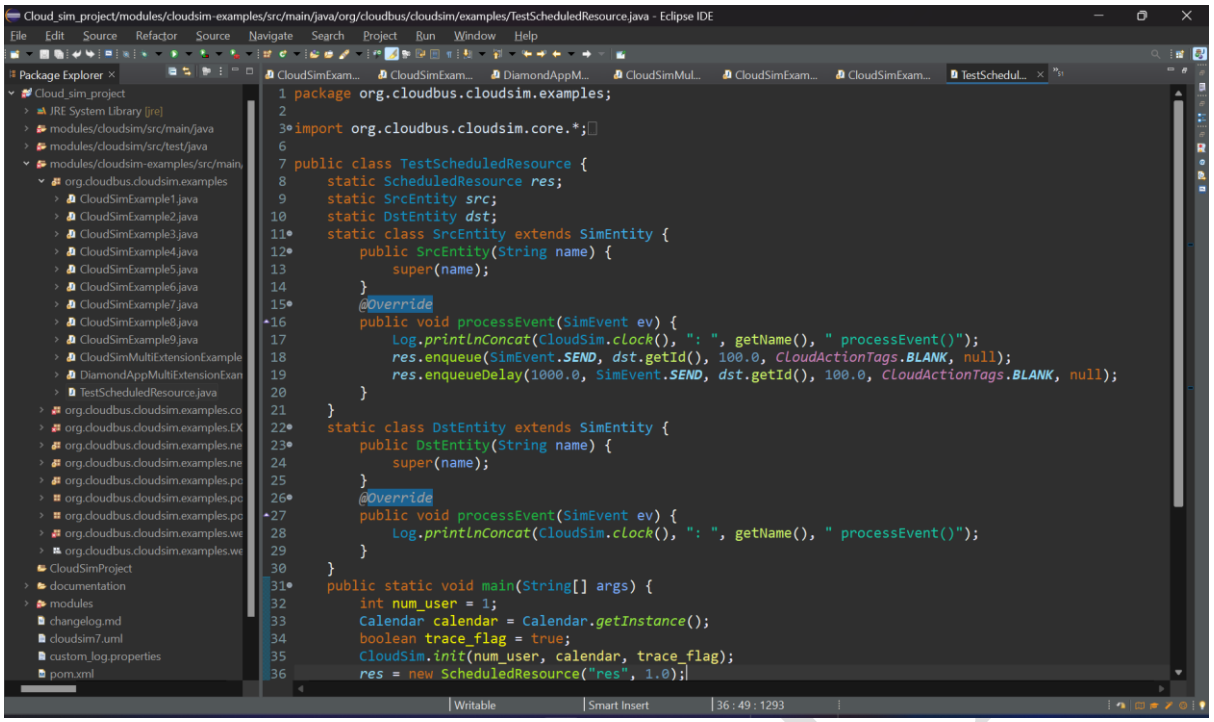

Cloud_sim_project/modules/cloudsim-examples/src/main/java/org/cloudbus/cloudsim/examples/CloudSimExample1.java - Eclipse IDE
Problems
Javadoc
Declaration
Console
<terminated> CloudSimExample1 [Java Application] C:\Users\keerthana J\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_22.0
Starting CloudSim version 7.0
0.0: Datacenter_0 is starting...
0.0: Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 1 datacenter(s)
0.0: Broker: Trying to Create Vm #0 in Datacenter_0
0.0: Datacenter_0.vmAllocator: .vmAllocator]: Vm #0 has been allocated to Host #0
0.01: Broker: Vm #0 has been created in Datacenter #2, Host #0
0.01: Broker: Sending Cloudlet #0 to Vm #0
400.01: Broker: Cloudlet #0 return received
400.01: Broker: The number of finished Cloudlets is:1
400.01: Broker: All Cloudlets executed. Finishing...
400.01: Broker: Destroying Vm #0
400.01: Broker is shutting down...
400.01: Simulation: No more future events
400.01: CloudInformationService is shutting down...
400.01: CloudInformationService: Notify all CloudSim entities for shutting down.
400.01: Datacenter_0 is shutting down...
400.01: 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 0.01 400.01
CloudSimExample1 finished!

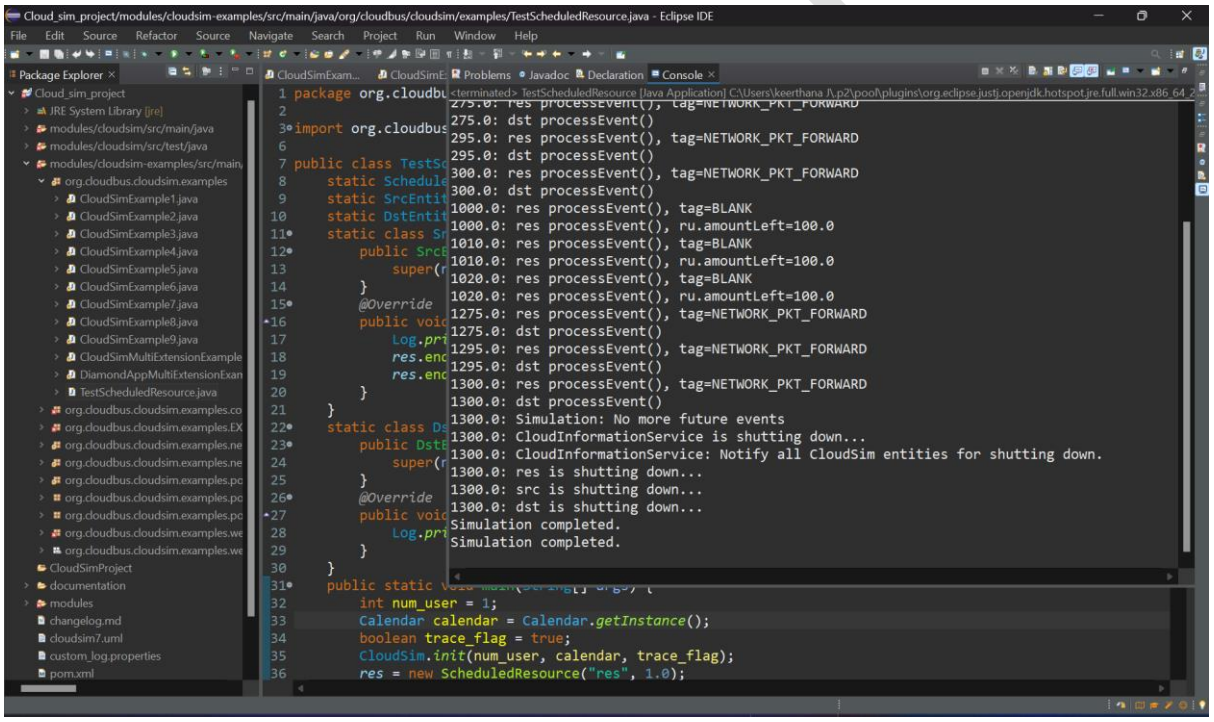

Cloud_sim_project/modules/cloudsim-examples/src/main/java/org/cloudbus/cloudsim/examples/CloudSimExample2.java - Eclipse IDE
File Edit Source Refactor Source Navigate Search Project Run Window Help
Package Explorer
LinkedList.java ReverseLis... Passengers.java College.java Abstractfac... Student.java CloudSimExam... CloudSimExam...
2 * Title: CloudSim Toolkit
10 package org.cloudbus.cloudsim.examples;
13 import java.text.DecimalFormat;
39 /**
40 * A simple example showing how to create
41 * a datacenter with one host and run two
42 * cloudlets on it. The cloudlets run in
43 * VMs with the same MIPS requirements.
44 * The cloudlets will take the same time to
45 * complete the execution.
46 */
47 public class CloudSimExample2 {
49 /** The cloudlet list. */
50 private static List<Cloudlet> cloudletList;
52 /** The vmlist. */
53 private static List<Vm> vmlist;
55 /**
56 * Creates main() to run this example
57 */
58 public static void main(String[] args) {
60 Log.printLn("Starting CloudSimExample2...");
62 try {
63 // First step: Initialize the CloudSim package. It should be called
64 // before creating any entities.
Writable Smart Insert 49 : 30 : 1615


Cloud_sim_project/modules/cloudsim-examples/src/main/java/org/cloudbus/cloudsim/examples/CloudSimExample2.java - Eclipse IDE
File Edit Source Refactor Source Navigate Search Project Run Window Help
Problems Javadoc Declaration Console
<terminated> CloudSimExample2 [Java Application] C:\Users\keerthana A\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_22.0
0.01: Broker: Vm #0 has been created in Datacenter #2, Host #0
0.01: Broker: Vm #1 has been created in Datacenter #2, Host #0
0.01: Broker: Sending Cloudlet #0 to Vm #0
0.01: Broker: Sending Cloudlet #1 to Vm #1
1000.01: Broker: Cloudlet #0 return received
1000.01: Broker: The number of finished Cloudlets is:1
1000.01: Broker: Cloudlet #1 return received
1000.01: Broker: The number of finished Cloudlets is:2
1000.01: Broker: All Cloudlets executed. Finishing...
1000.01: Broker: Destroying Vm #0
1000.01: Broker: Destroying Vm #1
1000.01: Broker is shutting down...
1000.01: Simulation: No more future events
1000.01: CloudInformationService is shutting down...
1000.01: CloudInformationService: Notify all CloudSim entities for shutting down.
1000.01: Datacenter_0 is shutting down...
1000.01: 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 0.01 1000.01
1 SUCCESS 2 1 1000 0.01 1000.01
CloudSimExample2 finished!


Cloud_sim_project/modules/cloudsim-examples/src/main/java/org/cloudbus/cloudsim/examples/DiamondAppMultiExtensionExample.java - Eclipse IDE
File Edit Source Refactor Source Navigate Search Project Run Window Help
Package Explorer
Cloud_sim_project
JRE System Library [jre]
modules/cloudsim/src/main/java
modules/cloudsim/src/test/java
modules/cloudsim-examples/src/main/
org.cloudbus.cloudsim.examples
CloudSimExample1.java
CloudSimExample2.java
CloudSimExample3.java
CloudSimExample4.java
CloudSimExample5.java
CloudSimExample6.java
CloudSimExample7.java
CloudSimExample8.java
CloudSimExample9.java
CloudSimMultiExtensionExample
DiamondAppMultiExtensionExan
TestScheduledResource.java
org.cloudbus.cloudsim.examples.co
org.cloudbus.cloudsim.examples.EX
org.cloudbus.cloudsim.examples.ne
org.cloudbus.cloudsim.examples.ne
org.cloudbus.cloudsim.examples.pc
org.cloudbus.cloudsim.examples.pc
org.cloudbus.cloudsim.examples.pc
org.cloudbus.cloudsim.examples.we
org.cloudbus.cloudsim.examples.we
CloudSimProject
documentation
modules
changelog.md
cloudsim7.uml
custom_log.properties
pom.xml
College.java
Student.java
CloudSimExam...
CloudSimExam...
DiamondAppM...
CloudSimMul...
CloudSimExam...
CloudSimExam...
1 package org.cloudbus.cloudsim.examples;
3 import org.cloudbus.cloudsim.*;
19
20 public class DiamondAppMultiExtensionExample {
21
22 /** The guestList. */
23 private static List<GuestEntity> guestList;
24
25 private static NetworkDatacenter datacenter;
26
27 private static DatacenterBroker broker;
28
29 private static int numberOfHosts = 4;
30 private static int numberOfVms = 4;
31 private static int numberOfContainers = 0;
32 /**
33 * Example of diamond-shaped DAG.
34 *
35 * B
36 * / \
37 * A D
38 * \ /
39 * C
40 *
41 * @param args
42 * the args
43 */
44 public static void main(String[] args) {
45
46 Log.printLn("Starting DiamondAppExample...");
47
48 try {
49 int num user = 1; // number of cloud users
Writable
Smart Insert
38 : 12 : 1109


Cloud_sim_project/modules/cloudsim-examples/src/main/java/org/cloudbus/cloudsim/examples/DiamondAppMultiExtensionExample.java - Eclipse IDE
File Edit Source Refactor Source Navigate Search Project Run Window Help
Package Explorer
LinkedList.java
ReverseLis...
Problems
Javadoc
Declaration
Console
DiamondAppMultiExtensionExample [Java Application] C:\Users\keerthana J\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_22
0.0: Broker: Trying to Create Vm #0 in Datacenter_0
0.0: Broker: Trying to Create Vm #1 in Datacenter_0
0.0: Broker: Trying to Create Vm #2 in Datacenter_0
0.0: Broker: Trying to Create Vm #3 in Datacenter_0
0.0: Datacenter_0.vmAllocator: .vmAllocator]: Vm #0 has been allocated to NetworkHost #0
0.0: Datacenter_0.vmAllocator: .vmAllocator]: Vm #1 has been allocated to NetworkHost #1
0.0: Datacenter_0.vmAllocator: .vmAllocator]: Vm #2 has been allocated to NetworkHost #2
0.0: Datacenter_0.vmAllocator: .vmAllocator]: Vm #3 has been allocated to NetworkHost #3
0.01: Broker: Vm #0 has been created in Datacenter #2, NetworkHost #0
0.01: Broker: Vm #1 has been created in Datacenter #2, NetworkHost #1
0.01: Broker: Vm #2 has been created in Datacenter #2, NetworkHost #2
0.01: Broker: Vm #3 has been created in Datacenter #2, NetworkHost #3
0.01: Broker: Sending NetworkCloudlet #0 to Vm #0
0.01: Broker: Sending NetworkCloudlet #1 to Vm #1
0.01: Broker: Sending NetworkCloudlet #2 to Vm #2
0.01: Broker: Sending NetworkCloudlet #3 to Vm #3
Datacenter_0: Warning - NetworkCloudlet #3 owned by Broker is already completed/finished.
Therefore, it is not being executed again
0.01: Broker: NetworkCloudlet #3 return received
0.01: Broker: The number of finished Cloudlets is:1
1000.0299999992355: Broker: NetworkCloudlet #0 return received
1000.0299999992355: Broker: The number of finished Cloudlets is:2
2016.049999999221: Broker: NetworkCloudlet #1 return received
2016.049999999221: Broker: The number of finished Cloudlets is:3





RESULT:

Thus, the cloud environment using cloud sim tools has been modelled.