L G PRATIKA LAKSHMI
22IT068

Ex. No: 11

Date: 12.10.24 **Simulation of Cloud Scenarios using CloudSim**

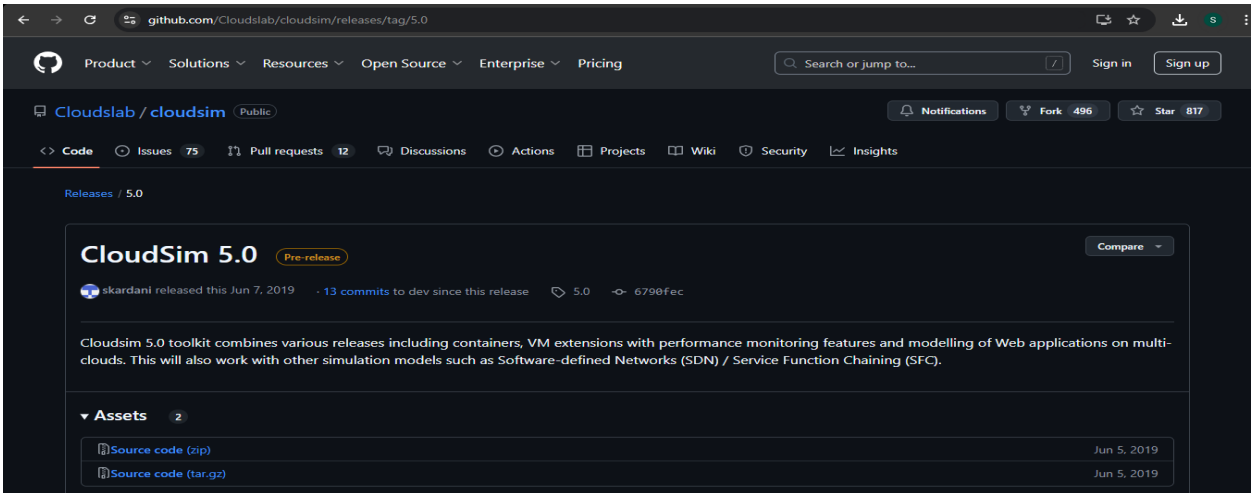
AIM:

To do simulation of cloud scenarios using cloud sim.

PROCEDURE:

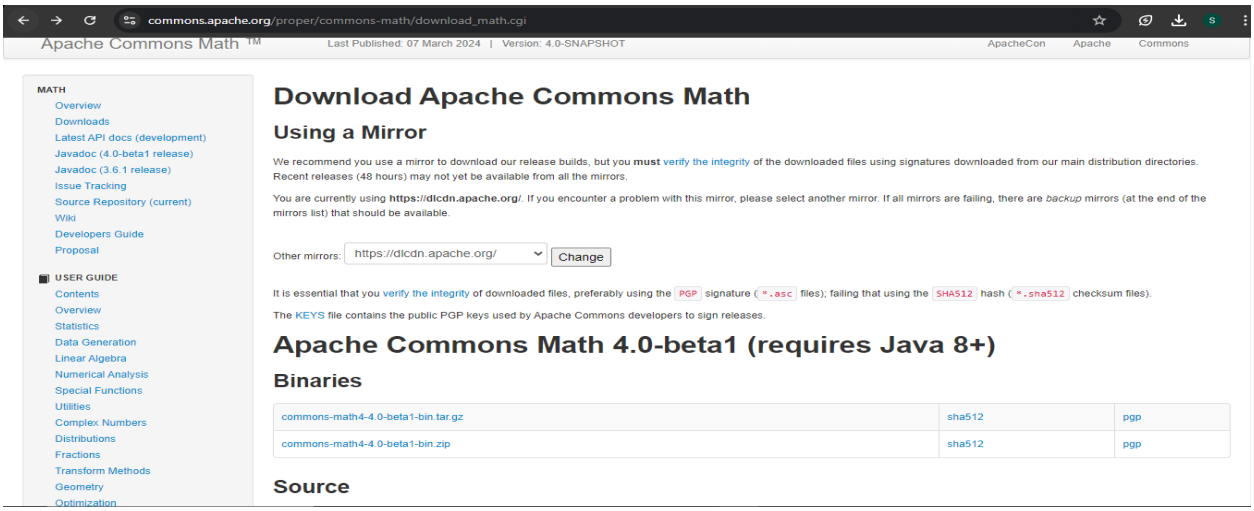
1. Access CloudSim 5.0

   https://github.com/Cloudslab/cloudsim/releases/tag/5.0

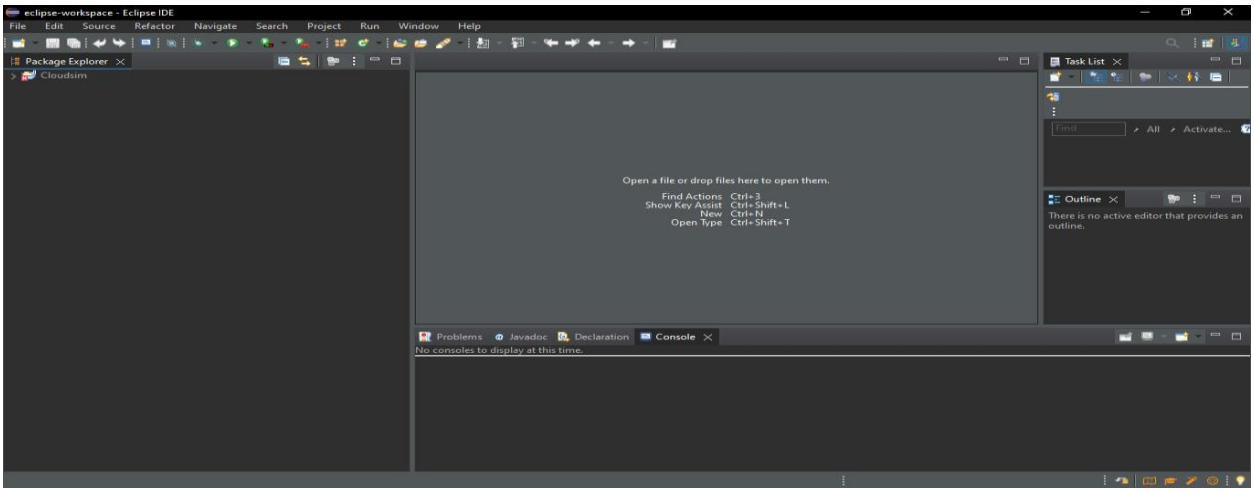


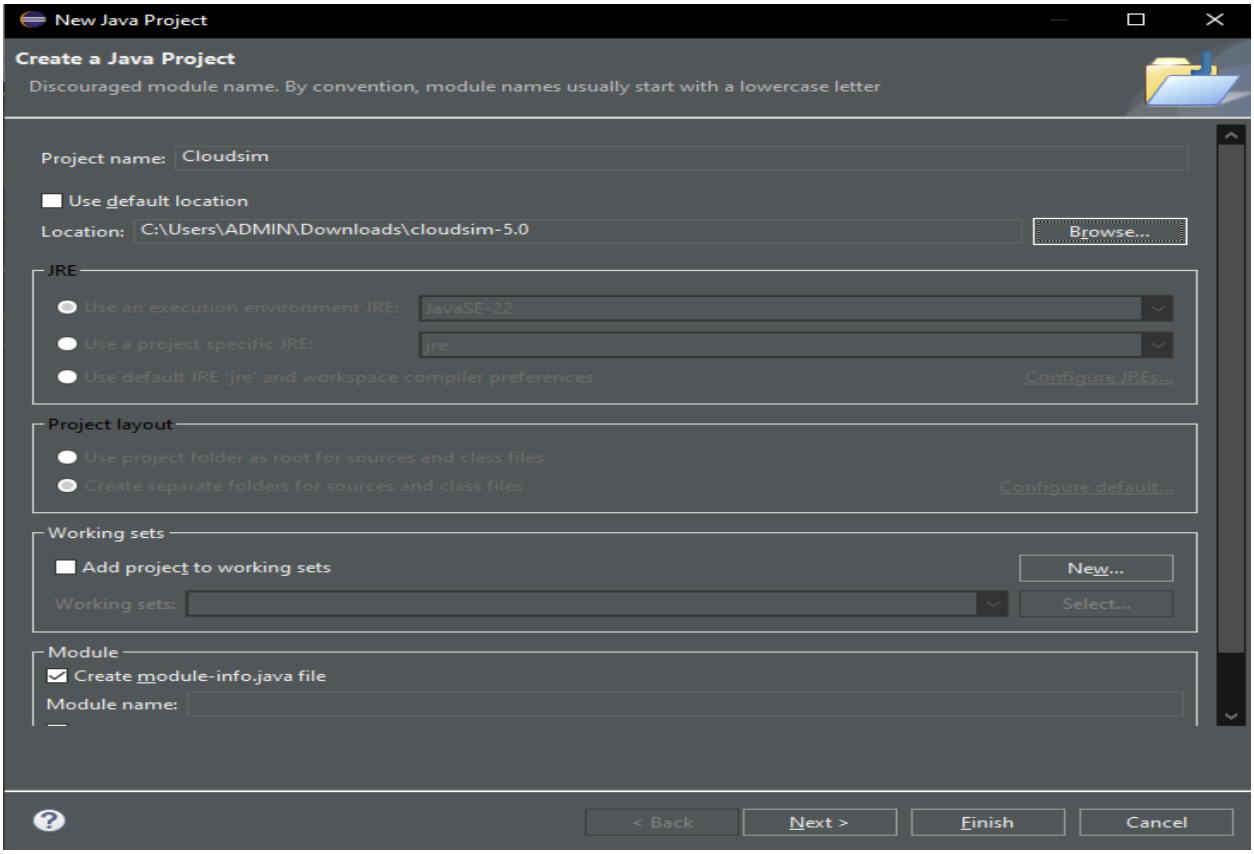
2. Access common math Library

   https://commons.apache.org/proper/commons-math/download_math.cgi

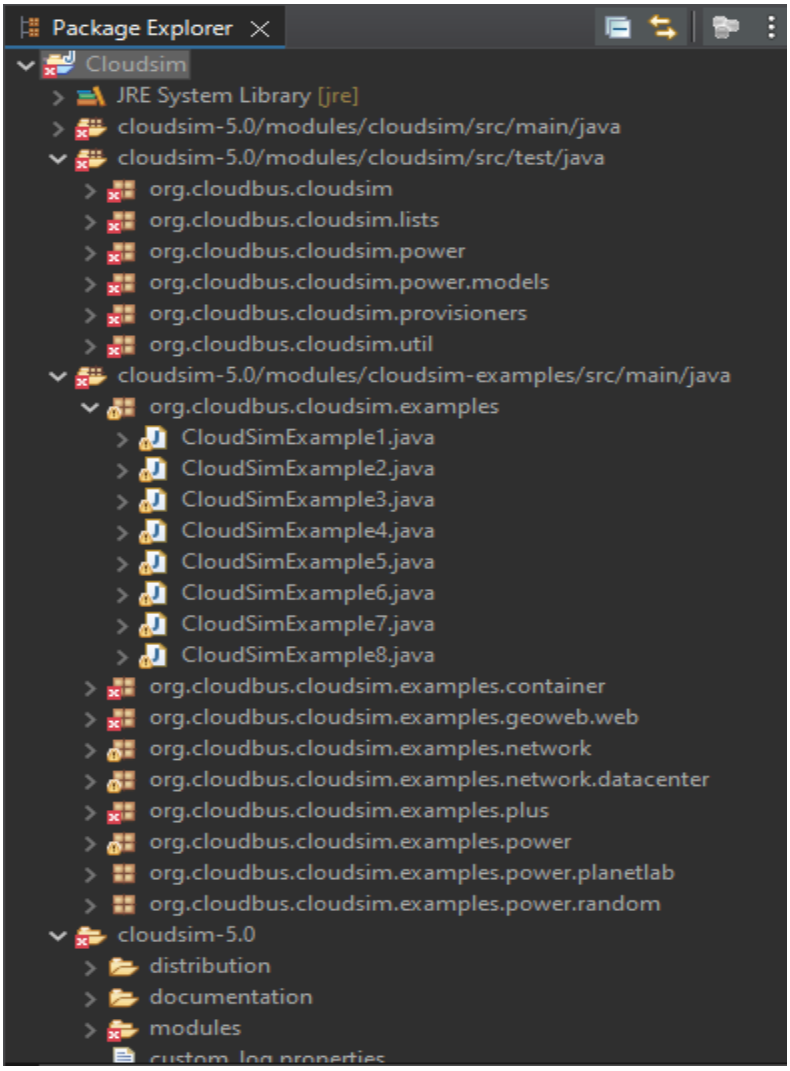


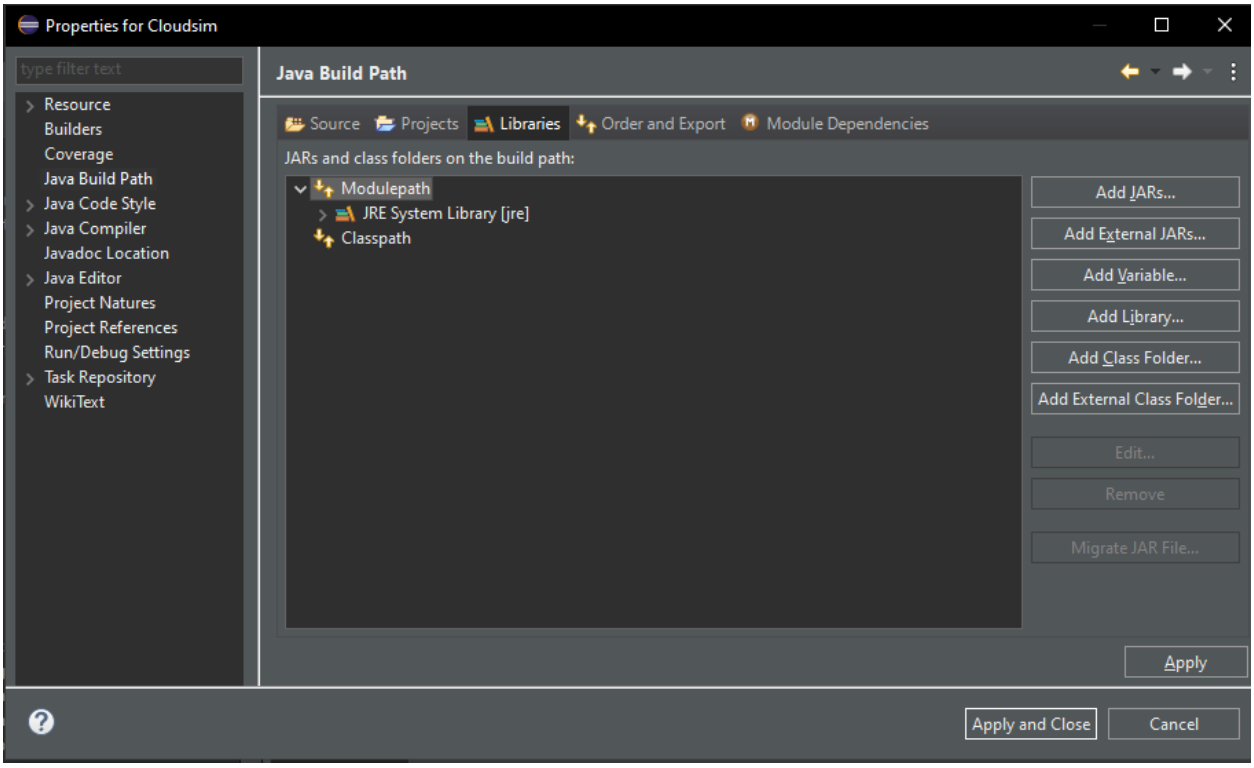
3. Create a New Project in Eclipse
   - Open Eclipse.
   - Go to File → New Project.
   - Select Java Project, and then click Next.
   - Enter a project name (e.g., `CloudSim`).
   - Set path to the unzipped source code of cloud sim.
   - Click Finish.
   - Add CloudSim Source Files





4. Add External JARs (Commons Math)
   - Right-click the project name (CloudSim) in Package Explorer.
   - Select Properties.
   - Click Java Build Path on the left.
   - Select the Libraries tab.
   - Click Add External JARs.
   - Navigate to the folder where you unzipped the Commons Math library.
   - Select all the JAR files inside the folder and click Open.
   - Once added, click Apply and then Apply and Close.




Properties for Cloudsim
type filter text
Resource
Builders
Coverage
Java Build Path
Java Code Style
Java Compiler
Javadoc Location
Java Editor
Project Natures
Project References
Run/Debug Settings
Task Repository
WikiText
Java Build Path
Source
Projects
Libraries
Order and Export
Module Dependencies
JARs and class folders on the build path:
Modulepath
JRE System Library [jre]
Classpath
Add JARs...
Add External JARs...
Add Variable...
Add Library...
Add Class Folder...
Add External Class Folder...
Edit...
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Apply
Apply and Close
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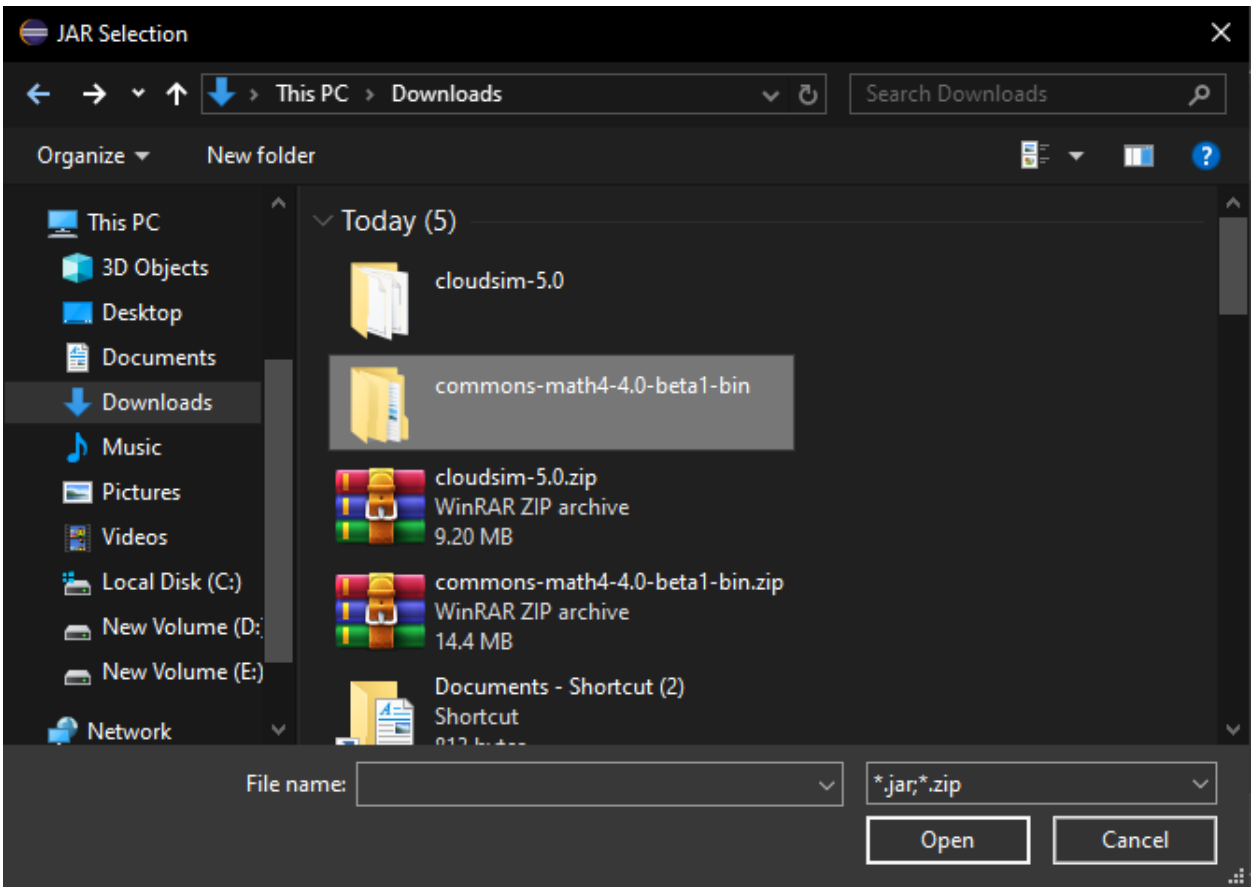
JAR Selection
This PC
Downloads
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Organize
New folder
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
New Volume (D:)
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Network
Today (5)
cloudsim-5.0
commons-math4-4.0-beta1-bin
cloudsim-5.0.zip
WinRAR ZIP archive
9.20 MB
commons-math4-4.0-beta1-bin.zip
WinRAR ZIP archive
14.4 MB
Documents - Shortcut (2)
Shortcut
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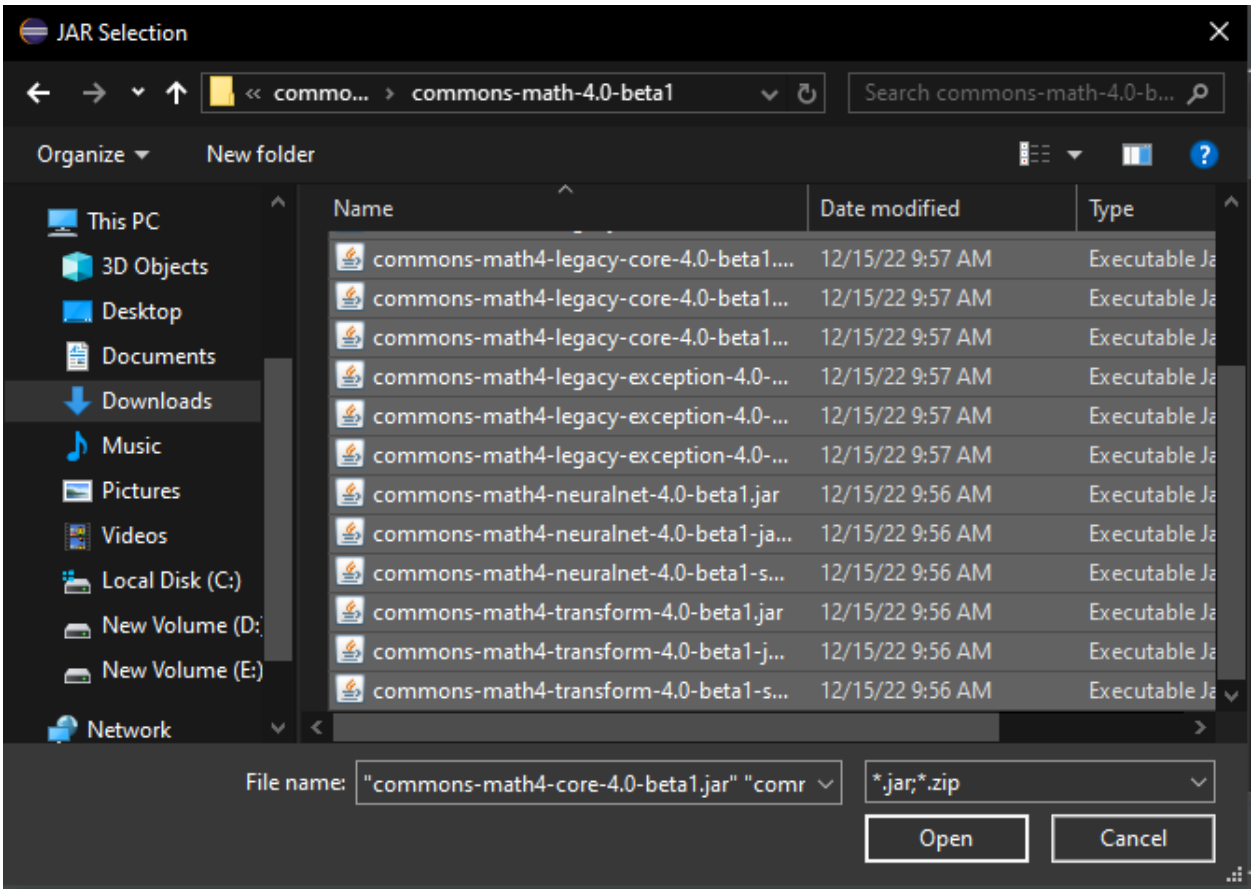
Open
Cancel


JAR Selection
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Search commons-math-4.0-b...
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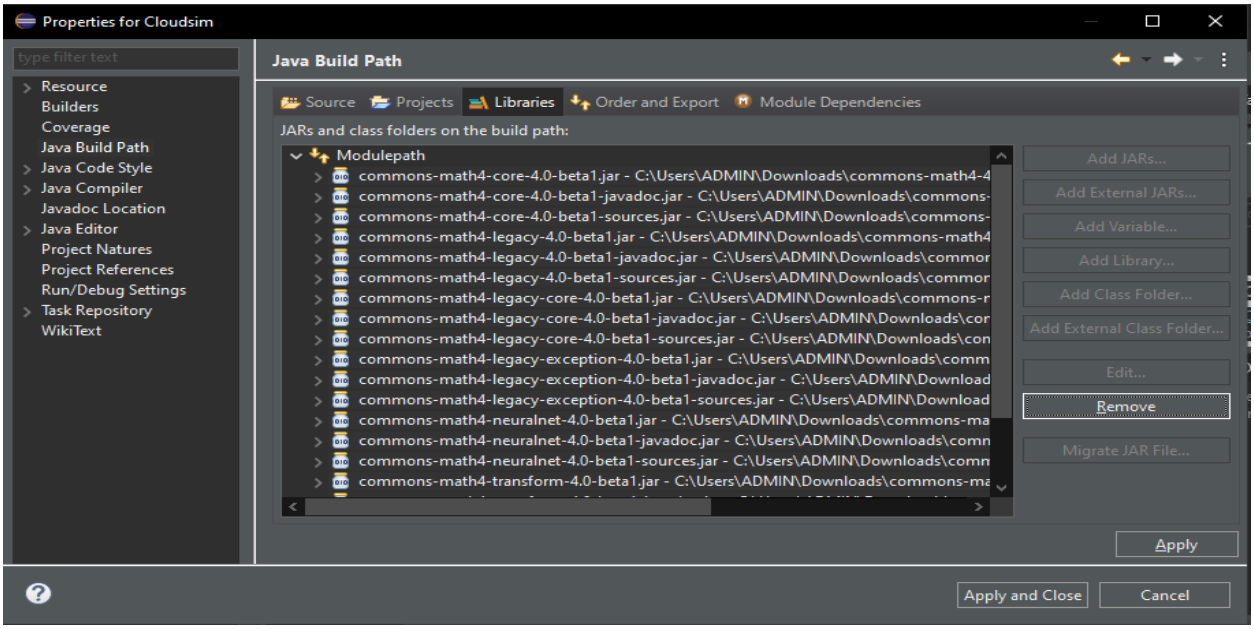
Properties for Cloudsim
type filter text
Resource
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Coverage
Java Build Path
Java Code Style
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Javadoc Location
Java Editor
Project Natures
Project References
Run/Debug Settings
Task Repository
WikiText
Java Build Path
Source
Projects
Libraries
Order and Export
Module Dependencies
JARs and class folders on the build path:
Modulepath
commons-math4-core-4.0-beta1.jar - C:\Users\ADMIN\Downloads\commons-math4-4
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commons-math4-legacy-4.0-beta1-javadoc.jar - C:\Users\ADMIN\Downloads\commor
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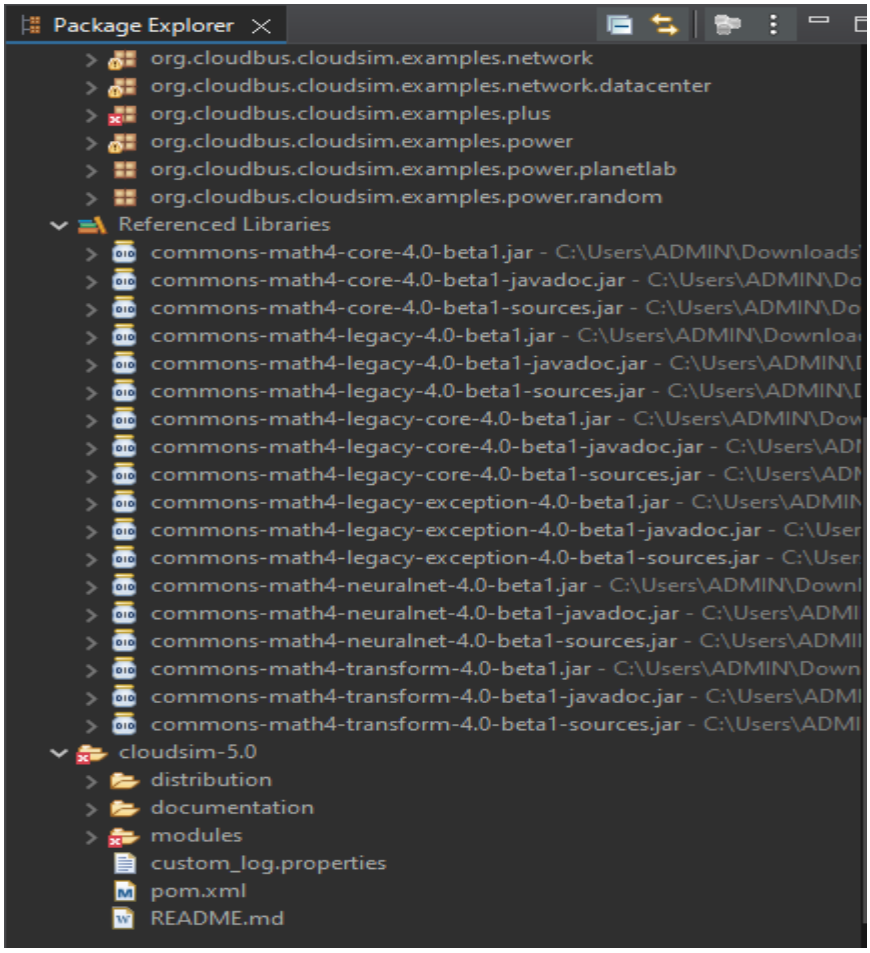
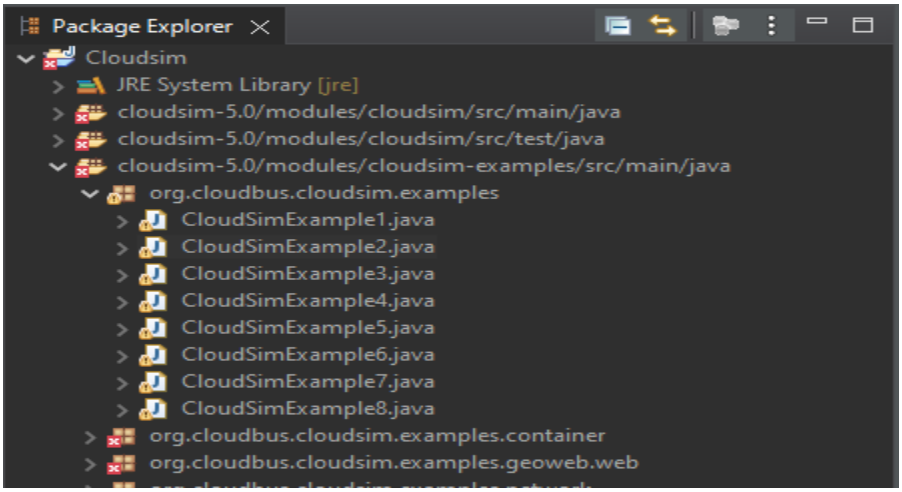
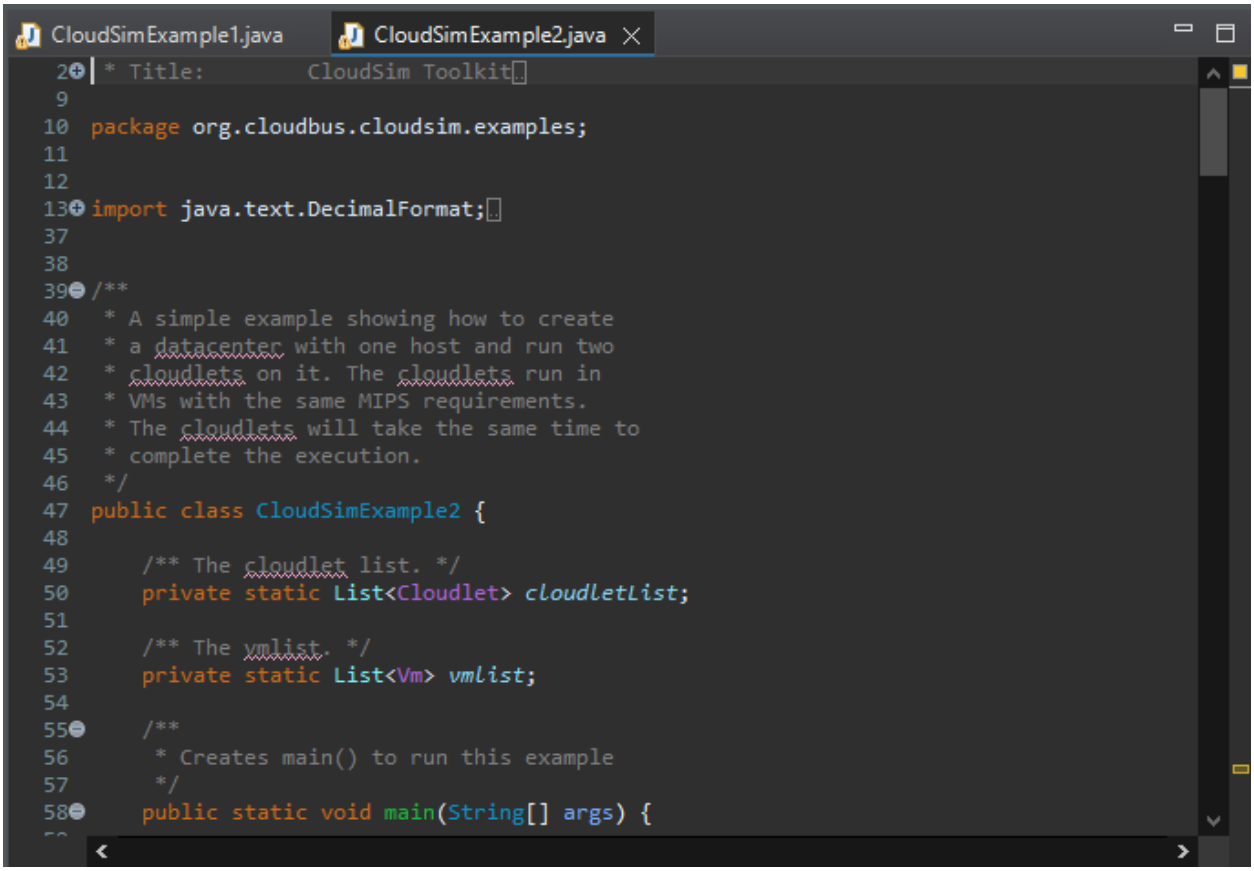
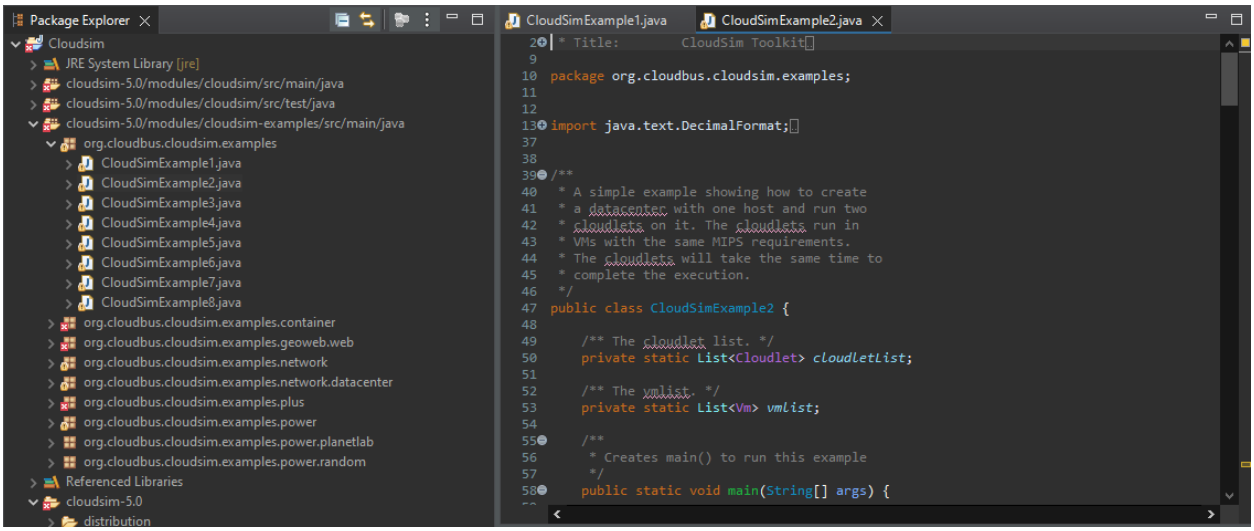
Add JARs...
Add External JARs...
Add Variable...
Add Library...
Add Class Folder...
Add External Class Folder...
Edit...
Remove
Migrate JAR File...
Apply
Apply and Close
Cancel

5. Verify Installation
   - Make sure all math library are available under referenced library in package explorer.
   - Under the examples package inside your project, you will see example simulation codes.
   - Right-click on any example, select Run As → Java Application to verify your setup.






CloudSimExample1.java
CloudSimExample2.java
* Title: CloudSim Toolkit
package org.cloudbus.cloudsim.examples;
import java.text.DecimalFormat;
/**
* A simple example showing how to create
* a datacenter with one host and run two
* cloudlets on it. The cloudlets run in
* VMs with the same MIPS requirements.
* The cloudlets will take the same time to
* complete the execution.
*/
public class CloudSimExample2 {
/** The cloudlet list. */
private static List<Cloudlet> cloudletList;
/** The vmlist. */
private static List<Vm> vmlist;
/**
* Creates main() to run this example
*/
public static void main(String[] args) {


Package Explorer
Cloudsim
JRE System Library [jre]
cloudsim-5.0/modules/cloudsim/src/main/java
cloudsim-5.0/modules/cloudsim/src/test/java
cloudsim-5.0/modules/cloudsim-examples/src/main/java
org.cloudbus.cloudsim.examples
CloudSimExample1.java
CloudSimExample2.java
CloudSimExample3.java
CloudSimExample4.java
CloudSimExample5.java
CloudSimExample6.java
CloudSimExample7.java
CloudSimExample8.java
org.cloudbus.cloudsim.examples.container
org.cloudbus.cloudsim.examples.geoweb.web
org.cloudbus.cloudsim.examples.network
org.cloudbus.cloudsim.examples.network.datacenter
org.cloudbus.cloudsim.examples.plus
org.cloudbus.cloudsim.examples.power
org.cloudbus.cloudsim.examples.power.planetlab
org.cloudbus.cloudsim.examples.power.random
Referenced Libraries
cloudsim-5.0
distribution
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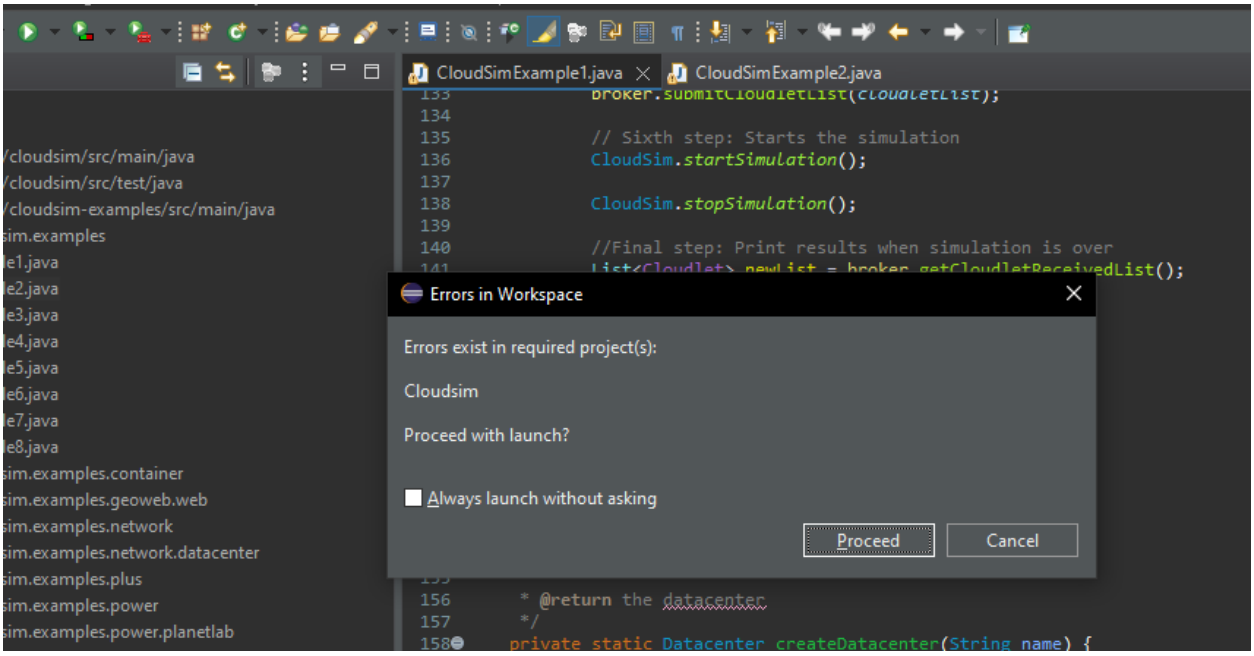

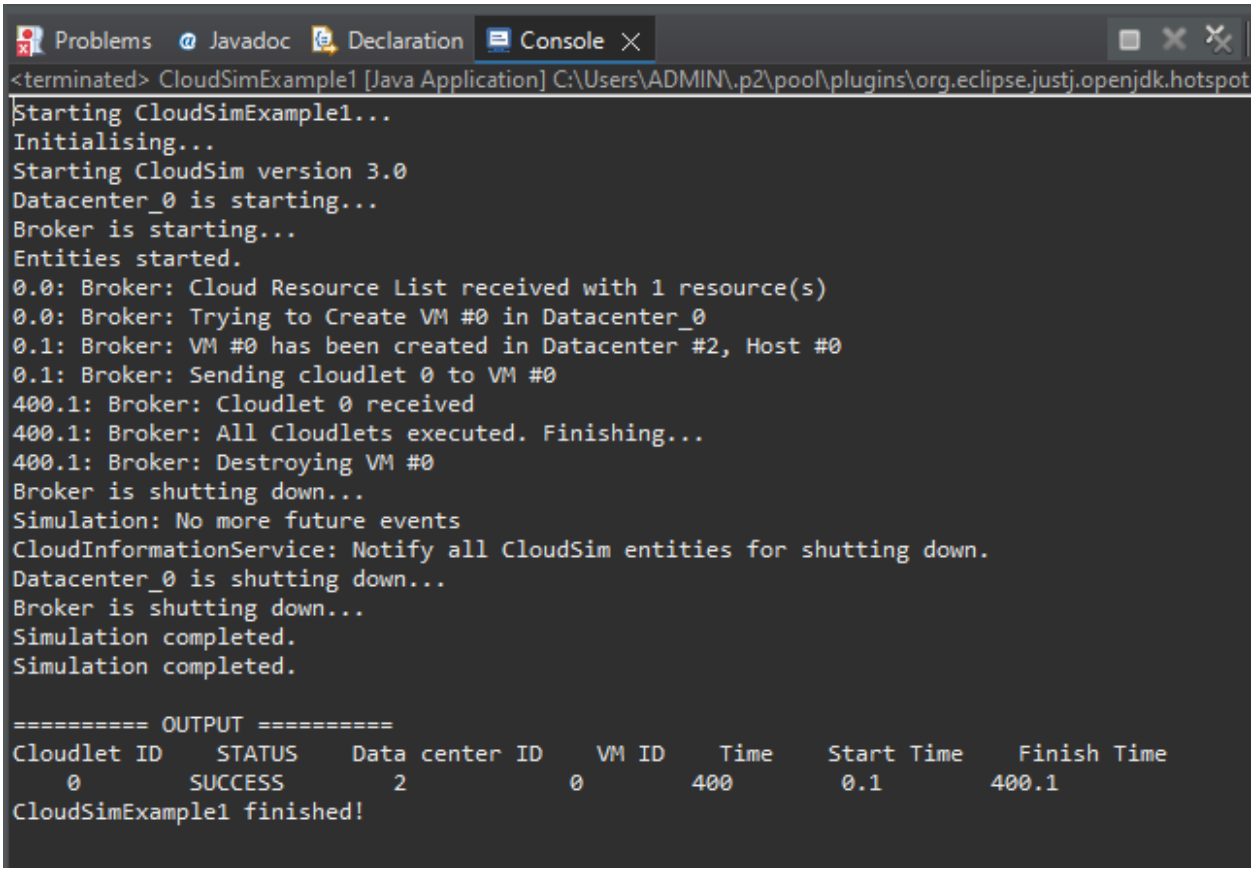

RESULT:

Thus, simulation of cloud scenarios using Cloud Sim is done successfully.