

Exp No: 8

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## CLOUD SIMULATION

### **IMPLEMENT ROUND ROBIN TASK SCHEDULING IN BOTH TIME SHARED AND SPACE SHARED CPU ASSIGNMENT**

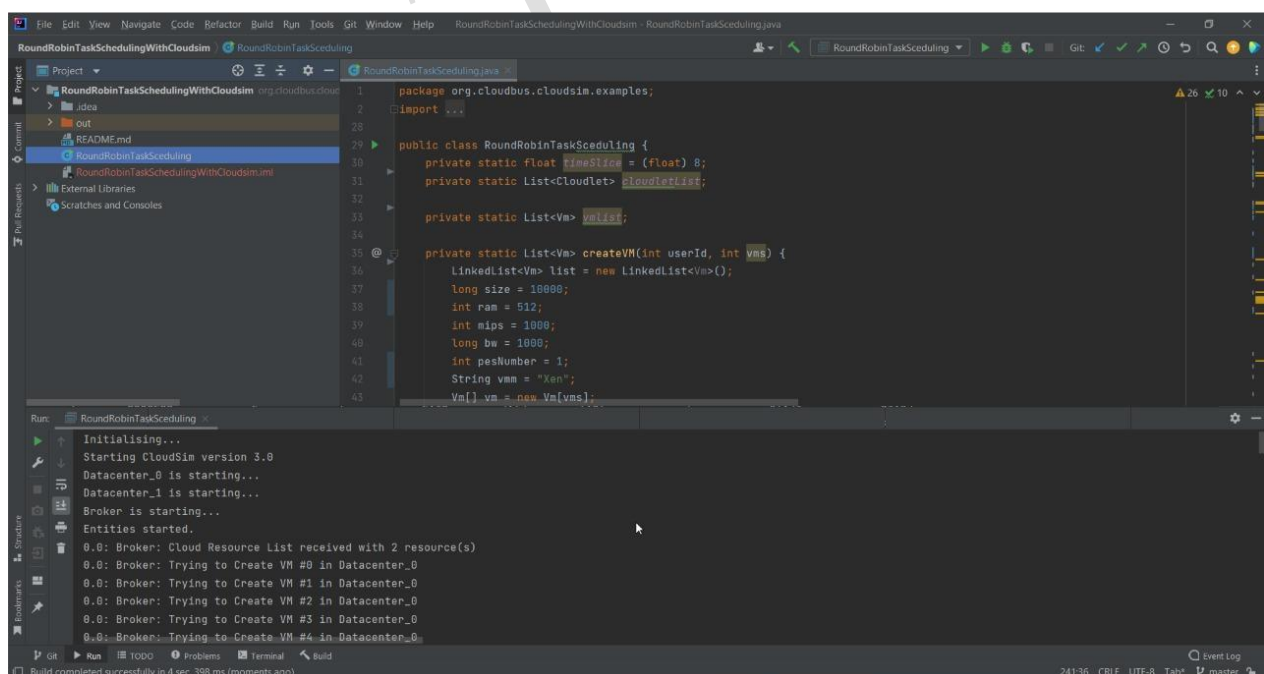
#### **AIM:**

Implement RoundRobin task scheduling in both TimeShared and SpaceShared CPU assignments.

#### **PROCEDURE:**

1. Create a new project by selecting java console line application template and JDK 18.
2. Open project settings from the file menu of the options window.
3. Navigate to project dependencies and select on add external jars and then click on 'Browse' to open the path where you have unzipped the Cloudsim Jars and click on apply.
4. Create a java file with the cloudsim code to implement the Round robin scheduling algorithm.
5. Run the application as a java file to see the output in the console below.

#### **OUTPUT:**



The screenshot displays an IDE window with the file `RoundRobinTaskScheduling.java` open. The code defines a `RoundRobinTaskScheduling` class with a `timeslice` of 8, a `cloudletList`, and a `vmList`. It includes a `createVM` method that initializes VMs with specific parameters like size, ram, mips, bw, pesNumber, and vmm. The console output at the bottom shows the application's execution: it starts by initializing CloudSim version 3.0, then starts Datacenter\_0 and Datacenter\_1, followed by the Broker. The Broker then receives a resource list and attempts to create VMs #0 through #4 in Datacenter\_0. The build status at the bottom indicates 'Build completed successfully in 4 sec, 398 ms (moments ago)'.

```
package org.cloudbus.cloudsim.examples;
import ...

public class RoundRobinTaskScheduling {
    private static float timeslice = (float) 8;
    private static List<Cloudlet> cloudletList;
    private static List<Vm> vmList;

    private static List<Vm> createVM(int userId, int vms) {
        LinkedList<Vm> list = new LinkedList<Vm>();
        long size = 10000;
        int ram = 512;
        int mips = 1000;
        long bw = 1000;
        int pesNumber = 1;
        String vmm = "Xen";
        Vm[] vms = new Vm[vms];
    }
}
```

Run: RoundRobinTaskScheduling

```
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Datacenter_1 is starting...
Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 2 resource(s)
0.0: Broker: Trying to Create VM #0 in Datacenter_0
0.0: Broker: Trying to Create VM #1 in Datacenter_0
0.0: Broker: Trying to Create VM #2 in Datacenter_0
0.0: Broker: Trying to Create VM #3 in Datacenter_0
0.0: Broker: Trying to Create VM #4 in Datacenter_0
```

Build completed successfully in 4 sec, 398 ms (moments ago)

#### **RESULT:**

Thus Round Robin task scheduling is implemented using cloud simulator.