

CC LAB – Assignment 3: Cloudsim

Open terminal. Put following commands:

1) `sudo add-apt-repository ppa:webupd8team/java`

2) `sudo apt-get update && sudo apt-get install oracle-java8-installer`

After these 2, run the following:

3) `sudo update-alternatives --config java`

`it@IT-LL-01:~/cloudsim-3.0.3$ sudo update-alternatives --config java`
There are 2 choices for the alternative java (providing /usr/bin/java).

Selection	Path	Priority	Status

* 0	/usr/lib/jvm/java-11-openjdk-amd64/bin/java	1111	auto mode
1	/usr/lib/jvm/java-11-openjdk-amd64/bin/java	1111	manual mode
2	/usr/lib/jvm/java-8-openjdk-amd64/jre/bin/java	1081	manual mode

Press <enter> to keep the current choice[*], or type selection number:

Select selection with java-8. In this case, option 2

If no output on above command, run the below command and run command 3) again.

sudo apt install openjdk-8-jdk

4) `sudo gedit /etc/environment`

Put this at the bottom of the file and save:

`JAVA_HOME = "/usr/lib/jvm/java8-openjdk-amd64"`

5) Install this: <https://github.com/Cloudslab/cloudsim/releases/download/cloudsim-3.0.3/cloudsim-3.0.3.zip>

and extract to Home itself. Not in the desktop folder.

6) `it@IT-LL-01:~$ sudo apt install ant`(if it does not work do next instructions)

and check via: `ant -version`

7) Perform the following:

`it@IT-LL-01:~$ cd cloudsim-3.0.3/`

Type **ls**

build.xml docs examples.txt license.txt readme.txt sources
changelog.txt examples jars pom.xml release_notes.txt

```
8)it@IT-LL-01:~/cloudsim-3.0.3$ javac -source 8 -target 8 -classpath jars/cloudsim-3.0.3.jar:examples examples/org/cloudbus/cloudsim/examples/CloudSimExample1.java
```

warning: [options] bootstrap class path not set in conjunction with -source 8

1 warning

(Bring the command in one line. Use text – editor to do so. Both for 8)& 9)

```
9)it@IT-LL-01:~/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!

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```
cn@cn-OptiPlex-3000:~$ cd ~/cloudsim-3.0.3
cn@cn-OptiPlex-3000:~/cloudsim-3.0.3$ javac -classpath jars/cloudsim-3.0.3.jar:
examples/org/cloudbus/cloudsim/examples/Simulation.java
cn@cn-OptiPlex-3000:~/cloudsim-3.0.3$ java -classpath jars/cloudsim-3.0.3.jar:
examples/org/cloudbus/cloudsim/examples/Simulation
Starting CloudSimExample6...
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
0.0: Broker: Trying to Create VM #5 in Datacenter_0
0.0: Broker: Trying to Create VM #6 in Datacenter_0
0.0: Broker: Trying to Create VM #7 in Datacenter_0
0.0: Broker: Trying to Create VM #8 in Datacenter_0
0.0: Broker: Trying to Create VM #9 in Datacenter_0
[VmScheduler.vmCreate] Allocation of VM #6 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #6 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #7 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #7 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #8 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #8 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #9 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #9 to Host #1 failed by MIPS
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: VM #2 has been created in Datacenter #2, Host #0
0.1: Broker: VM #3 has been created in Datacenter #2, Host #1
0.1: Broker: VM #4 has been created in Datacenter #2, Host #0
0.1: Broker: VM #5 has been created in Datacenter #2, Host #1
0.1: Broker: Creation of VM #6 failed in Datacenter #2
0.1: Broker: Creation of VM #7 failed in Datacenter #2
0.1: Broker: Creation of VM #8 failed in Datacenter #2
0.1: Broker: Creation of VM #9 failed in Datacenter #2
0.1: Broker: Trying to Create VM #6 in Datacenter_1
0.1: Broker: Trying to Create VM #7 in Datacenter_1
0.1: Broker: Trying to Create VM #8 in Datacenter_1
0.1: Broker: Trying to Create VM #9 in Datacenter_1
0.2: Broker: VM #6 has been created in Datacenter #3, Host #0
0.2: Broker: VM #7 has been created in Datacenter #3, Host #0
0.2: Broker: VM #8 has been created in Datacenter #3, Host #0
0.2: Broker: VM #9 has been created in Datacenter #3, Host #1
0.2: Broker: Sending cloudlet 0 to VM #0
0.2: Broker: Sending cloudlet 1 to VM #1
0.2: Broker: Sending cloudlet 2 to VM #2
```

0.2: Broker: Sending cloudlet 3 to VM #3
0.2: Broker: Sending cloudlet 4 to VM #4
0.2: Broker: Sending cloudlet 5 to VM #5
0.2: Broker: Sending cloudlet 6 to VM #6
0.2: Broker: Sending cloudlet 7 to VM #7
0.2: Broker: Sending cloudlet 8 to VM #8
0.2: Broker: Sending cloudlet 9 to VM #9
0.2: Broker: Sending cloudlet 10 to VM #0
0.2: Broker: Sending cloudlet 11 to VM #1
0.2: Broker: Sending cloudlet 12 to VM #2
0.2: Broker: Sending cloudlet 13 to VM #3
0.2: Broker: Sending cloudlet 14 to VM #4
0.2: Broker: Sending cloudlet 15 to VM #5
0.2: Broker: Sending cloudlet 16 to VM #6
0.2: Broker: Sending cloudlet 17 to VM #7
0.2: Broker: Sending cloudlet 18 to VM #8
0.2: Broker: Sending cloudlet 19 to VM #9
0.2: Broker: Sending cloudlet 20 to VM #0
0.2: Broker: Sending cloudlet 21 to VM #1
0.2: Broker: Sending cloudlet 22 to VM #2
0.2: Broker: Sending cloudlet 23 to VM #3
0.2: Broker: Sending cloudlet 24 to VM #4
0.2: Broker: Sending cloudlet 25 to VM #5
0.2: Broker: Sending cloudlet 26 to VM #6
0.2: Broker: Sending cloudlet 27 to VM #7
0.2: Broker: Sending cloudlet 28 to VM #8
0.2: Broker: Sending cloudlet 29 to VM #9
0.2: Broker: Sending cloudlet 30 to VM #0
0.2: Broker: Sending cloudlet 31 to VM #1
0.2: Broker: Sending cloudlet 32 to VM #2
0.2: Broker: Sending cloudlet 33 to VM #3
0.2: Broker: Sending cloudlet 34 to VM #4
0.2: Broker: Sending cloudlet 35 to VM #5
0.2: Broker: Sending cloudlet 36 to VM #6
0.2: Broker: Sending cloudlet 37 to VM #7
0.2: Broker: Sending cloudlet 38 to VM #8
0.2: Broker: Sending cloudlet 39 to VM #9
1.2269999999999999: Broker: Cloudlet 2 received
1.2449999999999999: Broker: Cloudlet 9 received
1.8489999999999998: Broker: Cloudlet 8 received
1.9429999999999998: Broker: Cloudlet 1 received
1.9589999999999999: Broker: Cloudlet 6 received
2.174: Broker: Cloudlet 3 received
2.284: Broker: Cloudlet 0 received
2.3939999999999997: Broker: Cloudlet 4 received
2.542: Broker: Cloudlet 19 received
2.566: Broker: Cloudlet 5 received
2.7049999999999996: Broker: Cloudlet 7 received
3.2769999999999997: Broker: Cloudlet 16 received
3.588: Broker: Cloudlet 11 received
3.698: Broker: Cloudlet 10 received
3.698: Broker: Cloudlet 15 received

3.7259999999999995: Broker: Cloudlet 17 received
 3.808: Broker: Cloudlet 14 received
 3.9279999999999995: Broker: Cloudlet 18 received
 3.948: Broker: Cloudlet 12 received
 4.595: Broker: Cloudlet 21 received
 4.75: Broker: Cloudlet 25 received
 4.787999999999999: Broker: Cloudlet 27 received
 5.054: Broker: Cloudlet 13 received
 5.433999999999999: Broker: Cloudlet 29 received
 5.545999999999999: Broker: Cloudlet 26 received
 5.722: Broker: Cloudlet 31 received
 5.898999999999999: Broker: Cloudlet 28 received
 6.0360000000000005: Broker: Cloudlet 22 received
 6.146: Broker: Cloudlet 20 received
 6.402999999999999: Broker: Cloudlet 37 received
 6.652: Broker: Cloudlet 24 received
 6.783: Broker: Cloudlet 35 received
 7.4730000000000001: Broker: Cloudlet 30 received
 7.6330000000000001: Broker: Cloudlet 23 received
 7.849999999999999: Broker: Cloudlet 39 received
 8.018: Broker: Cloudlet 32 received
 8.034999999999998: Broker: Cloudlet 36 received
 8.304: Broker: Cloudlet 34 received
 8.673999999999998: Broker: Cloudlet 38 received
 9.573: Broker: Cloudlet 33 received
 9.573: Broker: All Cloudlets executed. Finishing...
 9.573: Broker: Destroying VM #0
 9.573: Broker: Destroying VM #1
 9.573: Broker: Destroying VM #2
 9.573: Broker: Destroying VM #3
 9.573: Broker: Destroying VM #4
 9.573: Broker: Destroying VM #5
 9.573: Broker: Destroying VM #6
 9.573: Broker: Destroying VM #7
 9.573: Broker: Destroying VM #8
 9.573: Broker: Destroying VM #9
 Broker is shutting down...
 Simulation: No more future events
 CloudInformationService: Notify all CloudSim entities for shutting down.
 Datacenter_0 is shutting down...
 Datacenter_1 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	user id
2	SUCCESS	2	2	1.03	0.2	1.23	4
9	SUCCESS	3	9	1.04	0.2	1.24	4
8	SUCCESS	3	8	1.65	0.2	1.85	4
1	SUCCESS	2	1	1.74	0.2	1.94	4
6	SUCCESS	3	6	1.76	0.2	1.96	4

3	SUCCESS	2	3	1.97	0.2	2.17	4
0	SUCCESS	2	0	2.08	0.2	2.28	4
4	SUCCESS	2	4	2.19	0.2	2.39	4
19	SUCCESS	3	9	1.3	1.24	2.54	4
5	SUCCESS	2	5	2.37	0.2	2.57	4
7	SUCCESS	3	7	2.5	0.2	2.7	4
16	SUCCESS	3	6	1.32	1.96	3.28	4
11	SUCCESS	2	1	1.65	1.94	3.59	4
10	SUCCESS	2	0	1.41	2.28	3.7	4
15	SUCCESS	2	5	1.13	2.57	3.7	4
17	SUCCESS	3	7	1.02	2.7	3.73	4
14	SUCCESS	2	4	1.41	2.39	3.81	4
18	SUCCESS	3	8	2.08	1.85	3.93	4
12	SUCCESS	2	2	2.72	1.23	3.95	4
21	SUCCESS	2	1	1.01	3.59	4.59	4
25	SUCCESS	2	5	1.05	3.7	4.75	4
27	SUCCESS	3	7	1.06	3.73	4.79	4
13	SUCCESS	2	3	2.88	2.17	5.05	4
29	SUCCESS	3	9	2.89	2.54	5.43	4
26	SUCCESS	3	6	2.27	3.28	5.55	4
31	SUCCESS	2	1	1.13	4.59	5.72	4
28	SUCCESS	3	8	1.97	3.93	5.9	4
22	SUCCESS	2	2	2.09	3.95	6.04	4
20	SUCCESS	2	0	2.45	3.7	6.15	4
37	SUCCESS	3	7	1.61	4.79	6.4	4
24	SUCCESS	2	4	2.84	3.81	6.65	4
35	SUCCESS	2	5	2.03	4.75	6.78	4
30	SUCCESS	2	0	1.33	6.15	7.47	4
23	SUCCESS	2	3	2.58	5.05	7.63	4
39	SUCCESS	3	9	2.42	5.43	7.85	4
32	SUCCESS	2	2	1.98	6.04	8.02	4
36	SUCCESS	3	6	2.49	5.55	8.03	4
34	SUCCESS	2	4	1.65	6.65	8.3	4
38	SUCCESS	3	8	2.77	5.9	8.67	4
33	SUCCESS	2	3	1.94	7.63	9.57	4

Simulation finished!

cn@cn-OptiPlex-3000:~/cloudsim-3.0.3\$