# Running poapextensions tests

**1. Running controllerStartup.py and workerStartup.py**

1. Open two instances of GCP virtual machines

2. In one virtual machine run controllerStartup.py and note the host IP and port number

```
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$ python controllerStartup.py
<<<<<<<<<<<<<<<<<<<   Testing Evaluation on SimpleGCERecoverableSocketWorker   >>>>>>>>>>>>>>>>>>>
root               : INFO     Launch controller at ('10.150.0.3', 5000)
```

In this case host IP is '10.150.0.3' and the port number is 5000

3. In the second virtual machine run workerStartup.py and pass the host IP and port number as arguments.

In this case we would type: python workerStartup.py '10.150.0.3' 5000

If done correctly, you should be prompted to press the Enter key to start the evaluation

```
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$ python workerStartup.py '10.15
0.0.3' 5000
('10.150.0.3', 5000)
Hit enter to start evaluation
```

Also on the first virtual machine, the controllerStartup.py program should mention that a new connection is established

```
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$ python controllerStartup.py
<<<<<<<<<<<<<<<<<<<   Testing Evaluation on SimpleGCERecoverableSocketWorker   >>>>>>>>>>>>>>>>>>>
root               : INFO     Launch controller at ('10.150.0.3', 5000)
poapextensions.SocketWorkerHandlers: INFO     New connection established
```

4. Press the Enter key as instructed to perform the evaluations.  Continue until you see 'Worker done' on the screen.
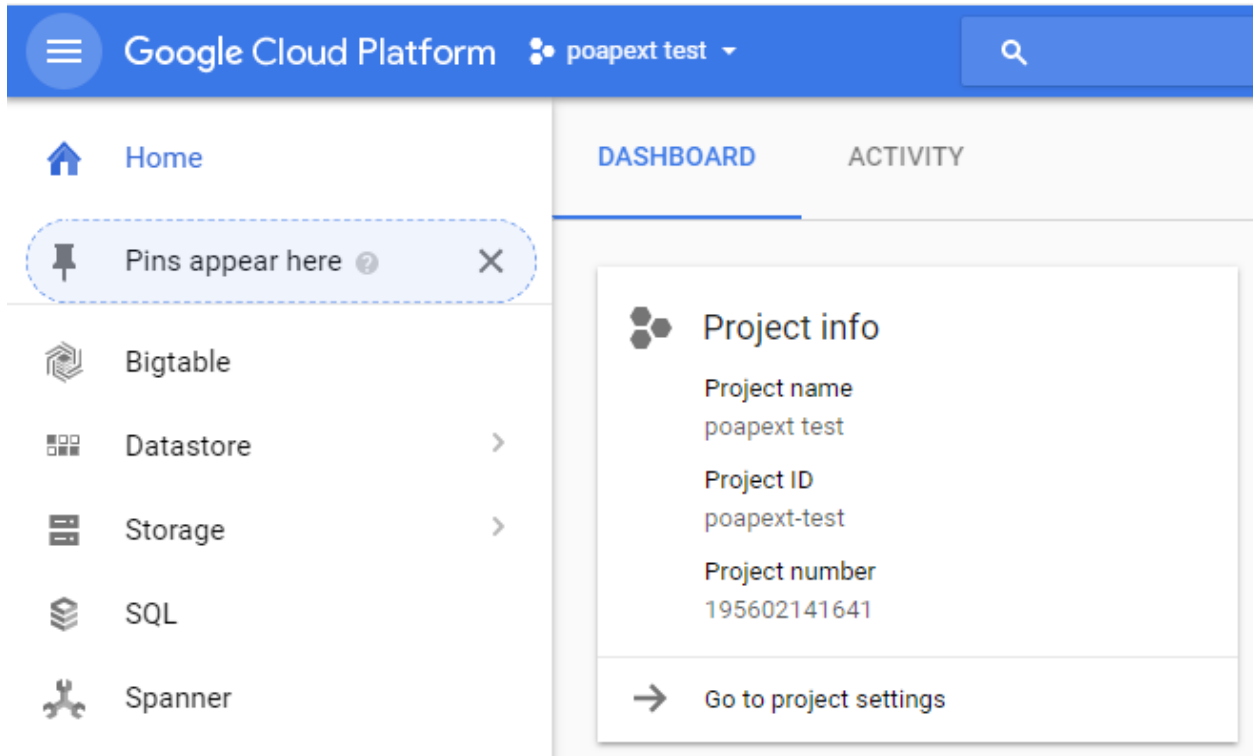
```
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$ python workerStartup.py '10.150.0.3' 5000
('10.150.0.3', 5000)
Hit enter to start evaluation
root               : INFO     Request for 0.0
root               : INFO     OK, done
Hit enter to start evaluation
root               : INFO     Request for 0.1
root               : INFO     OK, done
poapextensions.BaseWorkerTypes: INFO     Worker exiting run()
Worker done
```

On the first virtual machine, you should see "Final: " plus some number

```
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$ python controllerStartup.
<<<<<<<<<<<<<<<<<<<   Testing Evaluation on SimpleGCERecoverableSocketWorker   >>>>>>>>>>>>>>>>>>>
root               : INFO     Launch controller at ('10.150.0.3', 5000)
poapextensions.SocketWorkerHandlers: INFO     New connection established
Final: 1.000e+00 @ (0.0,)
```

## 2. Running test_gce_execution.py

1. Find the project ID of your GCP project. This is available in many places. It is easily found on the Google Cloud Platform Dashboard page



In this case, the Project ID is 'poapext-test'

2. Open test_gce_execution.py in a text editor and locate line 119. Change the project name to be equal to the Project ID of your GCP project. Make sure to put the Project ID in single quotes.

```
def main(args):
    numVMs = 1
    workersPerVM = 1
    project = 'poapext-test'
    testVMExecution(numVMs, workersPerVM, project)
```

3. Go to line 44 and add the parameter cache_discovery = false

```
def testVMExecution(numVMs, workersPerVM, project):
    compute = googleapiclient.discovery.build('compute', 'v1', cache_discovery=False)
```

4. After this you should be able to run test_gce_execution.py. After the evaluation is complete, hit Enter to shut down all workers VMs and exit the program

```
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$ python test_gce_execution.py
oauth2client.transport: INFO     Attempting refresh to obtain initial access_token
oauth2client.client: INFO     Refreshing access_token
poapextensions.GCEVirtualMachine: DEBUG     VM gceworker0 running on 10.142.0.2
poapextensions.GCEVirtualMachine: INFO     Finished initializing VM gceworker0 running on 10.142.0.2
__main__          : INFO     All VMs are launched and initialized
__main__          : DEBUG     Port closed
__main__          : DEBUG     Port open
__main__          : DEBUG     Launch controller at ('10.150.0.3', 10001)
poapextensions.SocketWorkerHandlers: INFO     New connection established
poapextensions.GCEVirtualMachine: DEBUG     gceworker0 Heard about a new worker
poapextensions.PreemptibleControllers: DEBUG     Accept eval proposal
poapextensions.SocketWorkerHandlers: DEBUG     Send eval to worker
poapextensions.SocketWorkerHandlers: DEBUG     Received: ('complete', 140536551939920, 1.0)
poapextensions.SocketWorkerHandlers: DEBUG     Re-queueing worker
poapextensions.PreemptibleControllers: DEBUG     Accept eval proposal
poapextensions.SocketWorkerHandlers: DEBUG     Send eval to worker
poapextensions.SocketWorkerHandlers: DEBUG     Received: ('complete', 140536558706000, 1.1)
poapextensions.SocketWorkerHandlers: DEBUG     Re-queueing worker
poapextensions.SocketWorkerHandlers: DEBUG     Send terminate to worker
Final: 1.000e+00 @ (0.0,)
Press Enter to shut down all worker VMs
ts539@instance-2:~/cloud_based_optimization_of_preemptible_vms/poapextensions/tests$
```