JMeter – Distributed Testing

How to set up a distributed testing environment for JMeter:

1.Check – how many threads can be handled by 1 machine?

2.Estimate – the number of required slaves (of the same hardware & software configuration) based on the thread count handled by 1 machine. For example, if one machine can handle 200 threads and the target load is 1000 threads (users) then 5 (=1000/200) slaves machine will be required.

3.Install – the JMeter of the same version on all the slaves including Master. It is recommended that copy the same JMeter set-up on all the machines and do the installation.

4. Make Sure:

* The firewall should be turned off on all the machines.
* Anti-virus should be disabled (not for all case, only recommended when anti-virus interrupt the RMI communication between master and slaves).
* All the machines (slaves and the master) should be in the same network.
* The target application (server) should be accessible from all the machines.
* Once this is done then the distributed environment is ready for test execution.

**Master Machine JMeter Configuration:**

To communicate with the slave machines, the master machine’s JMeter. Properties file needs to be updated. To modify the JMeter. Properties of the master machine follow these steps:

* Open <JMETER\_HOME>/bin/JMeter. Properties in Notepad or Notepad++
* Search using the “remote hosts” keyword.
* Add the IP Address or Host Name of all the slave machines (the name should be separated by a comma). And restart system to appear Ip address in run->remote start->Ip address.

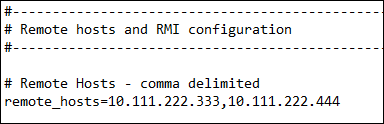


Figure: JMeter. Properties File

**Slave Machine JMeter Configuration:**

There is no such configuration to the set-up file of slave machines.

* But if the script has any external CSV test data file, text file, custom log file etc. then these files need to be placed at the correct, exact and same location in all the slave machines. The absolute or relative path of the file along with the file name must be the same for all the slave machines. It is advisable to place the test data file in the bin folder of JMeter so that only the name of the file can be provided instead of the full path. This will reduce the probability of failing the test due to the ‘file not found’ issue when the file path is wrong.

Another pre-requisite is to start the JMeter-server service on all the slave machines. This service can be started by executing the below command

jmeter-server.bat

The JMeter-server file is available in <JMETER\_HOME>/bin folder. Once you hit the command then the below message must appear.



Now you can run the test using 1.GUI OR 2.NON-GUI MODE

1. GUI Mode

In GUI mode, JMeter UI is launched on the master machine. If the test needs to be started using specific slaves, then those slaves need to be chosen from the Run menu. Follow the flow:

JMeter Menu -> Run -> Remote Start -> Click the name of the host (s)

A screenshot of a computer

Description automatically generated

To start the test using all the defined hosts (slaves) in one go, click on

*JMeter Menu -> Run -> Remote Start All*

2. Non-GUI Mode:

To execute the test in non-GUI mode, first, navigate to the /bin folder of JMeter and run the following command:

JMeter -n -t <script path> -l <log file path> -