Performance and Benchmarking

System Deployment & Benchmarking

2019/2020

The main goal of this guide is to better understand performance evaluation while resorting to benchmarking tools. The following components will be installed:

- `https://github.com/jopereira/bmstub`

- `https://jmeter.apache.org`

Steps

1. Download/Clone and run the BMStub project (mvn package; mvn exec:java)

2. Download and run Apache JMeter (./bin/jmeter)
   `https://jmeter.apache.org/usermanual/get-started.html`

3. Use JMeter GUI to create a new test workload:

   (a) Create a Thread Group

   (b) Add a new HTTP Sampler to the group

   (c) Add a (Listener) Summary Report, a Graph Results and a Response Time Graph to the Sampler (Note that there is an option to export results to file)

   (d) Change the number of threads, loop count, type of HTTP requests and observe results

   (e) Export the template to file and run the experiment with the Non GUI mode.

Extra

1. Combine Monitoring and JMeter to enrich the analysis of results.

2. Explore JMeter browser recording capabilities
   `https://jmeter.apache.org/usermanual/jmeter_proxy_step_by_step.html`

Learning Outcomes Recognize the goals and considerations that must be taken when doing a performance evaluation of real systems. Apply the JMeter benchmark to evaluate a web-based service.