

# Perf Test

Sunday, 11 September 2022

5:16 PM

## Types of Performance Testing

- **Load testing** – checks the application's ability to perform under anticipated load. The objective is to identify performance bottlenecks before the software goes live.
- **Stress testing** – involves testing an application under extreme workloads that it handles high traffic or data processing. The objective is to identify the limits of the application.
- **Endurance testing/(Soak Testing)** – is done to make sure the software can handle the expected load over a long period of time.
- **Spike testing** – tests the software's reaction to sudden large spikes in traffic caused by users.
- **Volume testing** – Under Volume Testing large no. of. Data is populated into the database and the overall software system's behavior is monitored. The objective is to test the application's performance under varying database volumes.
- **Scalability testing** – The objective of scalability testing is to determine the application's effectiveness in "scaling up" to support an increase in user load. It involves capacity addition to your software system.

### References:

1. <https://www.guru99.com/performance-testing.html#3>
2. <https://testfully.io/blog/performance-testing/>
3. <https://www.soapui.org/learn/load-testing/5-load-testing-scenarios-for-your-api/>

Parameters to be validated:

### Server Level:

- CPU utilization
  - Threads - no of threads
  - Thread states - Runnable/Blocked

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- CPU Usage in percent(%)
- Memory utilization
  - JVM Heap memory
  - Jvm non-heap memory
  - JVM utilisation
- Network utilization
- Operating System limitations
- Disk usage
- Application performance level:
  - Threads per second/TPS/Throughput
  - 90th/95th/99th response time percentiles
  - Concurrent users/Virtual Users(Vu)
  - Repetitions
  - Resource Allocations
    - CPU - cores
    - Memory - Gi
    - No of pods
  - No of DB Connections
    - Db - max active
  - No of Threads configured
  - Application reserved
    - Minimum Heap Size memory
    - `-Xms512m","-Xmx512m","-Xmn400m","-Xss512k","-XX:+UseG1GC","-XX:+UnlockExperimentalVMOptions","-XX:MetaspaceSize=50m","-XX:G1ReservePercent=20","-XX:+ParallelRefProcEnabled","-XX:+UseStringDeduplication","-XX:MaxTenuringThreshold=3"`
- Perf test results -> <https://tools.lowes.com/confluence/display/LES/Stamp+Pack+Size>

```
'-XX:  
1HeapRegionSize=  
-
```

[+Performance+Test](#)