# Load vs. Stress testing [closed]

Asked 12 years, 9 months ago  Modified 7 years, 1 month ago

Viewed 125k times

81

**Closed.** This question does not meet Stack Overflow guidelines. It is not currently accepting answers.

This question does not appear to be about programming within the scope defined in the help center.

Closed 7 years ago.

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What is the difference between load and stress testing?

testing load-testing stress-testing

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edited Mar 17, 2012 at 20:17

asked Mar 17, 2012 at 13:54

litterbugkid

3,656 ● 8 ● 38 ● 56

1 I found myself asking the same question and realized that there are many definitions for performance test types, but there is no standard, "official" definition. – Dominik Antal Sep 18, 2014 at 7:52

6 I'm voting to close this question as off-topic because it is not about programming. It is about types of testing and that topic has many Q&As on sqa.stackexchange.com – AdrianHHH Oct 27, 2017 at 14:58

You should find an answer to this question here: Performance vs Load vs stress Testing. – Jerome L Apr 25, 2018 at 11:01

3 a closed question has 72 votes and 110K views. that should let those who closed to rethink.. – brain storm Aug 10, 2018 at 22:05

i agree, thanks @brainstorm – litterbugkid Dec 10, 2021 at 11:09

## 8 Answers

Sorted by: Highest score (default)

110

Wikipedia on *load testing* (bold is mine):

> [...]A load test is usually conducted to understand the behaviour of the system under a specific **expected load**. This load can be the **expected concurrent number of users** on the application performing a specific number of transactions within the set duration. This test will give out the

> response times of all the important business critical transactions.[...]

and on stress testing:

> **understand the upper limits** of capacity within the system. This kind of test is done to determine the system's robustness in terms of **extreme load** and helps application administrators to determine if the system will perform sufficiently if the current load goes **well above the expected maximum**.

So the bottom line is: if you are testing normal, expected load (you know the system will be used by up to 100 users at a time), this is *load testing*. But when you want to determine how the system behaves under extreme load (DoS, Slashdot effect) and when it breaks, this is *stress testing*.

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answered Mar 17, 2012 at 14:04

Tomasz Nurkiewicz

**340k** ● 71 ● 710 ● 678

3 So they're basically the same thing but load is under normal load and stress is more than normal load? They're not about testing different aspects of the system? – litterbugkid Mar 17, 2012 at 14:32

11 @Neeta: load testing simulates real users by injecting random pauses between requests. Stress testing can simply execute as many requests as it can. But the test scenario

can be the same. – Tomasz Nurkiewicz Mar 17, 2012 at 14:36

@Neeta the answer of user2197712 would be more appropriate. I understand it like this: stress test is finding out how system behaves on normal input in an abnormal environment, while load test is finding out how system behaves on abnormal input in a normal environment. – ADTC Apr 23, 2018 at 6:24

20

The terms "stress testing" and "load testing" are often used interchangeably by software test engineers but they are really quite different.

**Stress testing**

In Stress testing we tries to break the system under test by overwhelming its resources or by taking resources away from it (in which case it is sometimes called negative testing). The main purpose behind this madness is to make sure that the system fails and recovers gracefully -- this quality is known as **recoverability.** OR Stress testing is the process of subjecting your program/system under test (SUT) to reduced resources and then examining the SUT's behavior by running standard functional tests. The idea of this is to expose problems that do not appear under normal conditions.For example, a multi-threaded program may work fine under normal conditions but under conditions of reduced CPU availability, timing issues will be different and the SUT will crash. The most common types of system resources reduced in stress testing are CPU, internal memory, and

external disk space. When performing stress testing, it is common to call the tools which reduce these three resources EatCPU, EatMem, and EatDisk respectively.

While on the other hand **Load Testing**

In case of **Load testing** Load testing is the process of subjecting your SUT to heavy loads, typically by simulating multiple users( Using Load runner), where "users" can mean human users or virtual/programmatic users. The most common example of load testing involves subjecting a Web-based or network-based application to simultaneous hits by thousands of users. This is generally accomplished by a program which simulates the users. There are two main purposes of load testing: to determine performance characteristics of the SUT, and to determine if the SUT "breaks" gracefully or not.

In the case of a Web site, you would use load testing to determine how many users your system can handle and still have adequate performance, and to determine what happens with an extreme load — will the Web site generate a "too busy" message for users, or will the Web server crash in flames?



edited Oct 27, 2017 at 14:59

TylerH

**21.2k** ● 76 ● 79 ● 110

answered May 8, 2013 at 8:36

user2197712
267 1 3 10

10

**Load Testing:** Load testing is meant to test the system by constantly and steadily increasing the load on the system till the time it reaches the threshold limit.

**Example** For example, to check the email functionality of an application, it could be flooded with 1000 users at a time. Now, 1000 users can fire the email transactions (read, send, delete, forward, reply) in many different ways. If we take one transaction per user per hour, then it would be 1000 transactions per hour. By simulating 10 transactions/user, we could load test the email server by occupying it with 10000 transactions/hour.

**Stress Testing:** Under stress testing, various activities to overload the existing resources with excess jobs are carried out in an attempt to break the system down.

**Example:** As an example, a word processor like Writer1.1.0 by OpenOffice.org is utilized in development of letters, presentations, spread sheets etc… Purpose of our stress testing is to load it with the excess of characters.

To do this, we will repeatedly paste a line of data, till it reaches its threshold limit of handling large volume of text. As soon as the character size reaches 65,535 characters, it would simply refuse to accept more data. The result of stress testing on Writer 1.1.0 produces the

result that, it does not crash under the stress and that it handle the situation gracefully, which make sure that application is working correctly even under rigorous stress conditions.

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answered Nov 29, 2012 at 10:56

Rehan Ali
310 ● 3 ● 9

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3

-> Testing the app with maximum number of user and input is defined as **load testing**. While testing the app with more than maximum number of user and input is defined as **stress testing**.

->In Load testing we measure the system performance based on a volume of users. While in Stress testing we measure the breakpoint of a system.

->Load Testing is testing the application for a given load requirements which may include any of the following criteria:

```
.Total number of users.

.Response Time

.Through Put
```

Some parameters to check State of servers/application.

-> While stress testing is testing the application for unexpected load. It includes

```
.Vusers

.Think-Time
```

Example:

If an app is build for 500 users, then for load testing we check up to 500 users and for stress testing we check greater than 500.

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answered Jul 9, 2014 at 20:39

Rahul D

31 ● 1

2

Load testing = putting a specified amount of load on the server for certain amount of time. 100 simultaneous users for 10 minutes. Ensure stability of software. Stress testing = increasing the amount of load steadily until the software crashes. 10 simultaneous users increasing every 2 minutes until the server crashes.

To make a comparison to weight lifting: You "max" your weight to see what you can do for 1 rep (stress testing) and then on regular workouts you do 85% of your max value for 3 sets of 10 reps (load testing)

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answered Jan 22, 2015 at 3:59

DMart

2,461 ● 1 ● 15 ● 20

1

**Load testing** :- Load testing is meant to test the system by constantly and steadily increasing the load on the system till the time it reaches the threshold limit.

**Stress Testing** :- Under stress testing, various activities to overload the existing resources with excess jobs are carried out in an attempt to break the system down.

The basic difference is as under

click here to see the exact difference

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edited Nov 26, 2015 at 8:46

answered Nov 26, 2015 at 6:56

Unnati Mistry

156 ● 1 ● 4

0

**Load Testing:** Large amount of users **Stress Testing:** Too many users, too much data, too little time and too little room

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answered Jul 14, 2017 at 10:05

user7756768

Load - Test S/W at max Load. Stress - Beyond the Load of S/W.Or To determine the breaking point of s/w.

-1

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answered Oct 27, 2017 at 9:17

Ankit Nigam

1

4 What's new in your answer in comparison with previous answers? – Stepan Novikov Oct 27, 2017 at 9:23

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