### What is Web Testing?

Web testing is a software testing practice to test the websites or web applications for potential bugs. It’s a complete testing of web-based applications before making live.

A web-based system needs to be checked completely from end-to-end before it goes live for end users.

By performing website testing, an organization can make sure that the web-based system is functioning properly and can be accepted by real-time users.

The UI design and functionality are the captains of website testing.

### Web testing checklists

****1)****Functionality Testing  
****2)**** Usability testing  
****3)****Interface testing  
****4)**** Compatibility testing  
****5)**** Performance testing  
****6)****Security testing

****#1) Functionality Testing****

Test for – all the links in web pages, database connection, forms used for submitting or getting information from the user in the web pages, Cookie testing etc.

****Check all the links:****

* Test the outgoing links from all the pages to the specific domain under test.
* Test all internal links.
* Test links jumping on the same pages.
* Test links used to send email to admin or other users from web pages.
* Test to check if there are any orphan pages.
* Finally, link checking includes, check for broken links in all above-mentioned links.

****Test forms on all pages:****  
Forms are an integral part of any website. Forms are used for receiving information from users and to interact with them. So what should be checked in these forms?

* First, check all the validations on each field.
* Check for default values of the fields.
* Wrong inputs in the forms to the fields in the forms.
* Options to create forms if any, form delete, view or modify the forms.

Let’s take an example of the search engine project currently I am working on, in this project we have advertiser and affiliate signup steps. Each sign-up step is different but its dependent on the other steps.

So sign up flow should get executed correctly. There are different field validations like email Ids, User financial info validations etc. All these validations should get checked in manual or automated web testing.

****Cookies Testing:****

Cookies are small files stored on the user machine. These are basically used to maintain the session- mainly the login sessions. Test the application by enabling or disabling the cookies in your browser options.

Test if the cookies are encrypted before writing to the user machine. If you are testing the session cookies (i.e. cookies that expire after the session ends) check for login sessions and user stats after the session ends. Check effect on application security by deleting the cookies. (I will soon write a separate article on cookie testing as well)

****Validate your HTML/CSS:****

If you are optimizing your site for Search engines then HTML/CSS validation is the most important one. Mainly validate the site for HTML syntax errors. Check if the site is crawlable to different search engines.

****Database testing:****

Data consistency is also very important in a web application. Check for data integrity and errors while you edit, delete, modify the forms or do any DB related functionality.

Check if all the database queries are executing correctly, data is retrieved and also updated correctly. More on database testing could be a load on DB, we will address this in web load or performance testing below.

****In testing the functionality of the websites the following should be tested:****

****Links****  
i. Internal Links  
ii. External Links  
iii. Mail Links  
iv. Broken Links

****Forms****  
i. Field validation  
ii. Error message for wrong input  
iii. Optional and Mandatory fields

****Database****  
Testing will be done on the database integrity.

****#2) Usability Testing****

Usability testing is the process by which the human-computer interaction characteristics of a system are measured, and weaknesses are identified for correction.

• Ease of learning  
• Navigation  
• Subjective user satisfaction  
• General appearance

****Test for navigation:****

Navigation means how a user surfs the web pages, different controls like buttons, boxes or how the user uses the links on the pages to surf different pages.

****Usability testing includes the following:****

* The website should be easy to use.
* Instructions provided should be very clear.
* Check if the instructions provided are perfect to satisfy its purpose.
* The main menu should be provided on each page.
* It should be consistent enough.

****Content checking:****

Content should be logical and easy to understand. Check for spelling errors. Usage of dark colors annoys the users and should not be used in the site theme.

You can follow some standard colors that are used for web page and content building. These are the commonly accepted standards like what I mentioned above about annoying colors, fonts, frames etc.

Content should be meaningful. All the anchor text links should be working properly. Images should be placed properly with proper sizes.

These are some of the basic important standards that should be followed in web development. Your task is to validate all for UI testing.

****Other user information for user help:****

Like search option, sitemap also helps files etc. The sitemap should be present with all the links in websites with a proper tree view of navigation. Check for all links on the sitemap.

“Search on the site” option will help users to find content pages that they are looking for easily and quickly. These are all optional items and if present they should be validated.

****#3) Interface Testing****

In web testing, the server side interface should be tested. This is done by verifying that communication is done properly. Compatibility of the server with software, hardware, network, and the database should be tested.

****The main interfaces are:****

* Web server and application server interface
* Application server and Database server interface.

Check if all the interactions between these servers are executed and errors are handled properly. If database or web server returns an error message for any query by application server then application server should catch and display these error messages appropriately to the users.

Check what happens if the user interrupts any transaction in-between? Check what happens if the connection to the web server is reset in between?

****#4) Compatibility Testing****

Compatibility of your website is a very important testing aspect. See which compatibility test to be executed:

* Browser compatibility
* Operating system compatibility
* Mobile browsing
* Printing options

****Browser compatibility:****

In my web-testing career, I have experienced this as the most influencing part of website testing.  
Some applications are very dependent on browsers. Different browsers have different configurations and settings that your web page should be compatible with.

Your website coding should be a cross-browser platform compatible. If you are using java scripts or AJAX calls for UI functionality, performing security checks or validations then give more stress on browser compatibility testing of your web application.

Test web application on different browsers like Internet Explorer, Firefox, Netscape Navigator, AOL, Safari, Opera browsers with different versions.

****OS compatibility:****

Some functionality in your web application is that it may not be compatible with all operating systems. All new technologies used in web development like graphic designs, interface calls like different API’s may not be available in all Operating Systems.

Hence test your web application on different operating systems like Windows, Unix, MAC, Linux, Solaris with different OS flavors.

****Mobile browsing:****

We are in the new technology era. So in future Mobile browsing will rock. Test your web pages on mobile browsers. Compatibility issues may be there on mobile devices as well.

****Printing options:****

If you are giving page-printing options then make sure fonts, page alignment, page graphics etc., are getting printed properly. Pages should fit the paper size or as per the size mentioned in the printing option.

****#5) Performance testing****

The web application should sustain to heavy load. Web performance testing should include:

* Web Load Testing
* Web Stress Testing

Test application performance on different internet connection speed.

Web****load testing****: You need to test if many users are accessing or requesting the same page. Can system sustain in peak load times? The site should handle many simultaneous user requests, large input data from users, simultaneous connection to DB, heavy load on specific pages etc.

****Web Stress testing:**** Generally stress means stretching the system beyond its specified limits. Web stress testing is performed to break the site by giving stress and its checked as for how the system reacts to stress and how it recovers from crashes. Stress is generally given on input fields, login and sign up areas.

In web performance, testing website functionality on different operating systems and different hardware platforms is checked for software and hardware memory leakage errors.

Performance testing can be applied to understand the web site’s scalability or to benchmark the performance in the environment of third-party products such as servers and middleware for potential purchase.

****Connection Speed****  
Tested on various networks like Dial-Up, ISDN etc.

****Load****  
i. What is the no. of users per time?  
ii. Check for peak loads and how the system behaves  
iii. A large amount of data accessed by the user

****Stress****  
i. Continuous Load  
ii. Performance of memory, CPU, file handling etc..

****#6) Security Testing****

Following are some of the test cases for web security testing:

* Test by pasting internal URL directly into the browser address bar without login. Internal pages should not open.
* If you are logged in using username and password and browsing internal pages then try changing URL options directly. I.e. If you are checking some publisher site statistics with publisher site ID= 123. Try directly changing the URL site ID parameter to different site ID which is not related to the logged in user. Access should be denied for this user to view others stats.
* Try some invalid inputs in input fields like login username, password, input text boxes etc. Check the system’s reaction to all invalid inputs.
* Web directories or files should not be accessible directly unless they are given download option.
* Test the CAPTCHA for automating script logins.
* Test if SSL is used for security measures. If it is used, the proper message should get displayed when user switch from non-secure HTTP:// pages to secure HTTPS:// pages and vice versa.
* All transactions, error messages, security breach attempts should get logged in log files somewhere on the web server.

The primary reason for testing the security of a web is to identify potential vulnerabilities and subsequently repair them.

* Network Scanning
* Vulnerability Scanning
* Password Cracking
* Log Review
* Integrity Checkers
* Virus Detection

### Types of Web Testing

A website is classified into many types, it is about 20 types. All these are shrinking under static and dynamic type. Among them let’s discuss 4 types and its testing methods in a detailed manner. Before that, I just want to bullet those types.

* Simple static website testing
* Dynamic web application testing
* E-commerce website testing
* Mobile website testing

#### #1) Simple Static Website

A simple static website will display the same content for all visitors who are visiting the website at different times. It is also known as an informational website. In a static website, the only developer can do changes that too in code only. This type of website will not have any major functionalities and it purely depends on UI design.

Testing a simple static website is very easy, you have to consider only a few things while testing. Some of them are mentioned below:

****Points to Remember:****

****#1)**** Testing the GUI design is must because static website purely depends on it. You need to compare the approved PSD files with web page developed. Check all the elements in the design should present in the developed page.

****#2)**** The other part of GUI design is to check the font size, font style, spacing, and color everything has been reproduced.

[](https://cdn.softwaretestinghelp.com/wp-content/qa/uploads/2018/04/Simple-Static-Website.jpg)

***[This image explains the spacing alignment issue in the desktop view of a website.]***

****#3)**** Secondly, you need to check the links (page links) whether it is properly working or not? And also find, is there any broken link?

****#4)**** Verify the spelling and content in all web pages by comparing the content given by the client.

****#5)****In some cases image will not display properly, it may break or sometimes images gets duplicated, wrong images may display. It has to be checked keenly. Because for a static website, only content and images will give lives.

****#6)**** Check the scroll bar carefully, in my experience, I have faced issues with the scrollbar. The issue you will face is unwanted scrolling appears or scroll gets hidden (it may hide the contents). Above issues are applicable for both horizontal and vertical scroll.

****#7)**** If there is a contact form check it is working properly by sending some dummy messages.

****Things to check in contact form are:****

* Whether the message is sending properly and a success message appears?
* Check email received to the concerned person in the proper format as designed?
* Check email should not land in spam as junk mail?
* If there is reply email trigger is activated then check whether the sender received mail?

****#8)**** Check whether it is an error-free web page, validate it with W3 validator or other related software.

****#9)**** Some constant things to be checked in a static website,

* Check favicon is present on the tab bar
* URL should contain the correct page title
* If copyright information is there, it should be displayed
* If there is a contact form, Captcha is a must. [It prevents junk email]
* Check the loading speed of the website. [A static website should not take much time for loading]. If a gif image is used while loading then track its functionality

Apart from these, there are huge things that have to be tested at the backend of every website that is[system testing](https://www.softwaretestinghelp.com/system-testing/), security testing, interface testing, compatibility testing and performance testing etc. For these, you need to have technical knowledge. In a simple static website, you will not find more functionalities if there you need to do functionality testing too.

#### #2) Dynamic Web Application [CMS Website]

It is the type where the user can update and change their website content regularly. From here I am going to use the word “web application testing” instead of dynamic website testing. The web application is a *combination of front-end and back-end programming*.

The front-end will be HTML and CSS whereas back-end uses programming languages like PHP, Javascript, and ASP etc. With this backend, user/client can add or change the content on the website.

Testing a web application is not easy than testing a static website but not much difficult than testing an e-commerce website. Functionality testing is the most important thing to be performed while testing a web application. The web application may contain much-complicated functionality so tester needs to be very careful while testing.

There are two different type of web applications are there, one is no action will be carried out by the user in front-end (i.e. only back-end changes will reflect in front-end) the other is end-user will work in front-end itself (****for example**** login, signup, newsletter subscription and other similar actions). So testing should be done according to it.