

There are lots of applications that users use these days. Some are accessed via the internet while some of them are installed on the user's computer. The former being categorized as the web-based applications while the latter falling into the desktop applications category.

There are a lot of differences in the operating mechanisms of both and some groups even consider either one of them as being better than the other.

Let's briefly describe the basic definitions of each of them first and then describe in detail the underlying differences that make them fall apart in certifying the quality of each of them.

Desktop Application – Desktop application is a name coined for a general program used to run on a personal computer or laptop. This is a standalone software program which doesn't depend on any internet connectivity for its working and its performance is not impacted because of any network related latencies. Few examples of desktop applications are MS-Word, Adobe Acrobat Reader, and calculator etc.

Web Application – Web Application is a general application program that is stored or hosted on a remote server and is accessed over the internet via a browser interface. The Internet is the basis for these types of applications to work. Any network-related latencies result in performance hindrances in these types of applications.

Here are a few advantages of web applications over desktop applications –

1. Web Applications are run via a browser, so the developers need not develop different apps for different platforms.

For example, an application which can run on chrome will run on both Windows and Linux. By just updating the application on the remote server, all the users can have access to the updated application.

2. Web applications serve better in terms of providing a consistent user interface across different platforms as the UI is more dependent on the browser than the OS.

3. The data processing and storage in case of web applications happens on the remote server which can be easily accessed by all the remote users instead of heavy file transfers across computers.

Having gathered a sound understanding of how desktop and web applications differ in short, let's see their major differences in terms of parameters and how those differences impact the way each of these is tested.

Parameters	Desktop Application Testing	Web Application Testing
Environment	Desktop Applications are platform-dependent and are confined to the machine that they are deployed on.	Web Application testing is performed with the application deployed on a server which can be accessed by other computers with just a browser.
Platform	Separate desktop applications need to be developed for different platforms.	Web Applications are platform-independent, hence they can run on multiple platforms without needing a separate development altogether.
Deployment/Upgrades	Deployment or any code upgrade needs to be done separately on all the client machines.	Deployment or any patch upgrade needs to be done on a single set of server machines only.

Security	Desktop applications, on the other hand, are better equipped in terms of authorization and administration control and are hence more secure. Security testing can hence be either skipped or can be performed at a very trivial level.	Web Applications are more prone to security risks which are attributed to its mass accessibility. Security testing plays an important role in case of web application testing due to its large exposure to the multitude of audience.
Storage of Data	Desktop applications have all the data stored on the machine on which the application is deployed.	In the case of web applications, the data is stored remotely on the server and is accessed by our personal laptops remotely with the help of a web browser & internet connectivity.
Types of Tests Performed	GUI Functionality Load Backend	User Interface TestingLoad, Stress, Volume Browser/OS CompatibilitySecurityData Volume testing cross Browser testing static page testingBroken Link Testing
Architecture	Desktop applications have a single-tier architecture where the application under test runs on a single computer. There is no client and server in these.	Web applications are built on a tier architecture which can run on 2 or more than 2 computers. These have clients and servers in their architecture.
Connectivity	Desktop applications don't require internet connectivity as they are hosted on the user machines only. Hence internet connectivity tests need not be in scope for these applications under test.	Web applications are dependent on the internet connectivity for their functioning Internet connectivity tests need to be performed to check the application performance at various speeds.
Accessibility	Desktop applications are confined to physical locations and hence can only be accessed from the machines on which they are inherently deployed. Hence the tests would involve the user testing all the	Web applications don't have any location constraint to be accessed as they are deployed on servers which can be accessed from

	application features on the machine on which it is deployed.	anywhere. Testing should involve different users testing the application under test from different computers from remote locations as well.
Number of Users	At any given point in time, there is a single user testing or using the desktop application on a machine	Multiple users can access web applications across the internet and browsers.

To summarize, in order to test a desktop application, the focus should be environment-oriented as a desktop application is operated in a specific environment only. Desktop applications should be tested for usability, functionality, backend and load.

While doing the Web application testing, it's critical to ensure that the web application under test can be easily accessed by the real users and is functioning properly across all browsers and operating systems. Web applications should hence be tested for functionality, compatibility, security, performance, usability and accessibility.