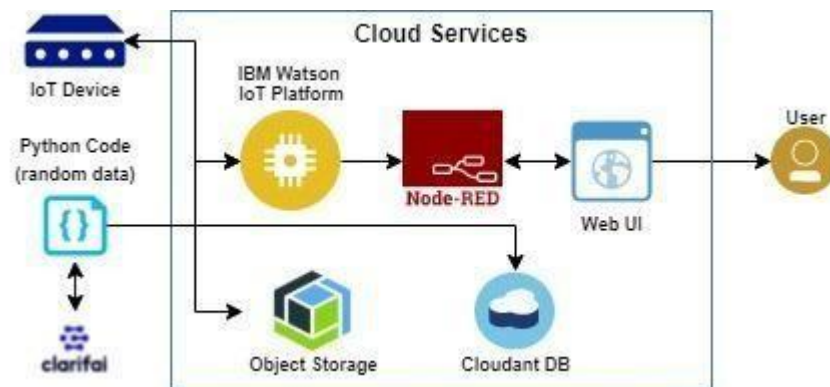


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<b>Project</b>	<b>IoT based smart crop protection system for agriculture</b>

## Utilization of testing tools

software testing tools are required for the betterment of the application or software. That's why we have so many tools available in the market where some are open-source and paid tools. The significant difference between open-source and the paid tool is that the open-source tools have limited features, whereas paid tool or commercial tools have no limitation for the features. The selection of tools depends on the user's requirements, whether it is paid or free.

The [software testing](#) tools can be categorized, depending on the licensing (paid or commercial, open-source), technology usage, type of testing, and so on.



With the help of testing tools, we can improve our software performance, deliver a high-quality product, and reduce the duration of testing, which is spent on manual efforts.

The software testing tools can be divided into the following:

**Test management tool**  
**Bug tracking tool**

**Automated testing tool**  
**Performance testing tool**  
**Cross-browser testing tool**  
**Integration testing tool**  
**Unit testing tool**  
**Mobile/android testing tool**  
**GUI testing tool**  
**Security testing tool**

## **Test management tool**

Test management tools are used to keep track of all the testing activity, fast data analysis, manage manual and automation test cases, various environments, and plan and maintain [manual testing](#) as well.

## **Bug tracking tool**

The defect tracking tool is used to keep track of the bug fixes and ensure the delivery of a quality product. This tool can help us to find the bugs in the testing stage so that we can get the defect-free data in the production server. With the help of these tools, the end-users can allow reporting the bugs and issues directly on their applications.

## **Automation testing tool**

This type of tool is used to enhance the productivity of the product and improve the accuracy. We can reduce the time and cost of the application by writing some test scripts in any programming language.

## **Performance testing tool**

Performance or Load testing tools are used to check the load, stability, and scalability of the application. When a number of the users using the application at the same time, and if the application gets crashed because of the immense load, to get through this type of issue, we need load testing tools.

## **Cross-browser testing tool**

This type of tool is used when we need to compare a web application in the various web browser platforms. It is an important part when we are developing a project. With the help of these tools, we will ensure the consistent behavior of the application in multiple devices, browsers, and platforms.

## **Integration testing tool**

This type of tool is used to test the interface between modules and find the critical bugs that are

happened because of the different modules and ensuring that all the modules are working as per the client requirements.

For more details about the mobile and android testing tool, refers to the below link: [Click Here](#)

### **Unit testing tool**

This testing tool is used to help the programmers to improve their code quality, and with the help of these tools, they can reduce the time of code and the overall cost of the software.

For more details about the unit testing tool, refers the below link: [Click Here](#)

### **Mobile/android testing tool**

We can use this type of tool when we are testing any mobile application. Some of the tools are open-source, and some of the tools are licensed. Each tool has its functionality and features.

For more details about the mobile or android testing tool, refers to the below link: [Click Here](#)

### **GUI testing tool**

GUI testing tool is used to test the User interface of the application because a proper [GUI](#) (graphical user interface) is always useful to grab the user's attention. These type of tools will help to find the loopholes in the application's design and makes it better.

For more details about GUI testing tool, refers the below link: [Click Here](#)

### **Security testing tool**

The security testing tool is used to ensure the security of the software and check for the security leakage. If any security loophole is there, it could be fixed at the early stage of the product. We need this type of the tool when the software has encoded the security code which is not accessible by the unauthorized users.

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