

A Comparison of Effectiveness of Regression Testing in Conventional and Cloud based Environment

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Abstract—*In current scenario, software industries are moving towards cloud computing environment for many reasons, one such reason is, testing the applications in cloud environment such that, they can stay in a very competitive IT market by satisfying the customer need as for as testing is considered. In this paper a data analysis is made on the application by considering traditional regression testing environment and cloud environment. It is observed that, the cloud testing environment has many advantages over traditional environment with respect to various parameter such as response time, amount of effort invested, number of defects captured, number of defects escapes.*

Keywords—*component; formatting; style; styling; insert (key words)*

I. INTRODUCTION

Software is gaining more and more scope and has become an integral part of every business. The software should possess good quality attributes such as, correctness, flexibility, effectiveness and unambiguous. In order to meet the quality attributes, the software should incorporate all the requirements of the customer at different phases of the software development life cycle [1].

Hence, software should function as per the customer requirements. Therefore, it is essential to test each and every module of the software before it reaches the customer. Thus, software testing is very vital phase in the software development life cycle. Software testing is a process of capturing the maximum number of defects as early as possible during development life cycle and avoid as much as possible customer reported defects. Software testing is performed at every level of software development life cycle to ensure it works correctly [2].

There are various modes of testing performed on software such as manual testing and automation testing. Manual testing is time consuming and tedious to incorporate diverse test cases since it needs excessive human effort. On the other hand, automation testing is performed with the help of automation tools which would accommodate almost all the test cases as it generates the

test cases using automation tool with no human intervention. Other than the above mentioned testing modes, there are different types of testing which are carried out on software such as, white box testing, black box testing, unit testing, integration testing, system testing and so on. Hence, it is necessary that a good software should undergo apt types and modes of testing throughout its development phases to ensure its quality so that it increases the customer satisfaction

Due to above mentioned reason, testing is always accompanied with automation tools and hence, this mode of concatenation of manual and automation tool support is very beneficiary to perform effective testing. Though, there exist several testing techniques, regression testing is one of the most popular and commonly used testing which is performed every day in almost all applications of IT industry. Regression testing is the process of testing changes made to the existing program and to make sure that the older version of the program works with the new program and in general regression testing is more than retesting[2][3].

As technology is progressing very rapidly and IT industries are embracing it in its day to day activities, cloud computing is emerged as one of most promising technology which is creeping every look and corner of IT industries such that it is changing the way in which IT industries does business. Therefore, it is quite evident that the process of software development is also carried out using cloud such that it gets complete benefit of technology. The conventional software development uses the resources of an on premises, but it increases the capital investment of an organization, which is a recurring one. However, the usage of cloud technology in the development process would completely reduce the capital investment and uses all the resources needed for software development over the cloud[4][5].

As, testing is one of the important phase of software development life cycle, benefits of cloud can be visualized to testing process also. Therefore, it is a good idea to perform software testing on cloud, but the way in which the testing is performed on cloud need not be same as that of conventional