NetAct Automation for OIB, Working set, AoM testing

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Abstract - *Network Management is used to recognize the best practices to improve the operational efficiency, communication in the operation teams, reducing the operational risks and it ensures operational resilience. Network management features support the life cycle of networking technologies by testing some practices in simulation environment before deploying to the real environment. Sometime recently discharging product to the client, it must know whether the product is working accurately or not. For this testing is obligatory to know the status and quality of the product. NetAct is one such item which outlined to oversee and adjust the organize.*

***Key Words*:** Working set, AOM, OIB, GIT, Robot Framework

1.INTRODUCTION

NetAct serves both as a arrange administration framework and as a component administration framework. NetAct offers a great run of bound together operation and support capabilities for organize components in center, radio and transport systems both for overseeing physical arrange components too as virtualized arrange capacities. It comprises of the numerous apparatuses for dealing with number of arrange components and extending systems. it's outlined for dealing with a rise in both complexity of the organize and so the sum of activity and information. With NetAct both the arrange and thus the administrations inside the organize are overseen centrally in arrange that the administrator can see organize component disappointments, benefit quality pointers, and activity from one screen.

1.1 Network management system

A network management system by which operator maintains and operates the network. It is indispensable for network quality maintenance activities such as visualizing the status of a network, including the constituent communication devices, from various perspectives. It lets the network operator know whether the entire network is operating normally or whether there are any faults. Network management is nothing but the managing different network elements and their interconnections. By this to manage a network element and their properties must be known.

1.2 Network elements

A arrange administration framework by which administrator keeps up and works the arrange. It is vital for organize quality upkeep exercises like visualizing the status of a organize, counting the constituent communication gadgets, from different points of view. It lets the organize administrator know whether the complete organize is working regularly or whether there are any issues. Arrange administration is nothing but the overseeing distinctive organize components and their interconnects. By this to oversee a organize component and their properties must be known A organize comprises of numerous arrange components and whole arrange can be classified into two sorts based on the operations of the organize components. those are center organize components and radio arrange components. Base Transceiver Station (BTS), the component associated to the GSM radio wires. BTS oversees all the receiving wires of the same location. BTS associated to diverse location of the receiving wires. Base Station Controller (BSC), All BTSs in this locale are connected to the BSC and their activity streams through it. BSC controls all BTSs, oversees BTS arrangement and gets included effectively when a portable client moves from one BTS to another. Portable Exchanging Middle (MSC)This NE isn't as it were associated to BSCs but too to RNCs, but this association is as it were for voice calls. Information associations take after a unmistakable way. Domestic Area Enroll (HLR) stores the data around the clients. Radio Organize Controller (RNC) is like BSC. Additionally, numerous NEs are interconnected in a organize in a cellular communication

1.3 Automation testing

In today's advancement a product by utilizing Spry strategy which gives continuous iteration of advancement and testing all through the computer program advancement lifecycle of the venture. In this both improvement and testing activities are concurrent not at all like the waterfall show. In this testing too plays a key part due to this testing too required in less time. For this robotization have points of interest compared to manual testing. In later a long time, the computerized testing system has ended up a broadly utilized testing system and it is reusable, moo fetched and tall upkeep. It is Keyword driven system. This System is created by Nokia Siemens and it is a robotized test system composed in Python. This System has great versatility and underpins keyword-driven and data-driven. It is additionally utilized

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for framework acknowledgment testing. Clients can utilize existing watchwords included in Robot System or make unused higher-level catchphrases from existing ones using the same sentence structure that's utilized for making test cases.

1.4 Methodology

To recognize the rightness within the build it is required to test the build to release to the customer. Within the handle of testing mechanization makes a difference analyzer to total the testing in least time and for successful testing. In NetAct as said OIB, AOM, Rat, Working Set are three applications to check the rightness in these applications robotization suits are created by utilizing watchwords in Robot System IDE(RIDE). To test these applications 'SDV.py' record created based on the sprint lab to check the construct and essentially for component utilization 'elementdata.py' record created based on the arrange component. A docker picture is utilized as holder for drivers such as Firefox, google. All these records are passed as contentions for the test suite and the test cases are created based on the application direction.

A test situation is depicted as any highlights which can be tried. It is additionally called the test condition or the plausibility of testing. As a analyzer, you'll put yourself within the shoes of the conclusion client and figure out the real-world scenarios and utilize the Application Beneath Test case. Outline work advancement based on watchwords actualized by utilizing existing test libraries. For this utilized selenium library for robotizing web applications and inaccessible swing library for java-based application computerization Suite set up is created to oversee all the test cases beneath suite and utilized to end the application in the event that the NE form isn't upheld by the NetAct form. So also, suite tear down utilized to end all the browsers and utilized to approve the test cases pass by utilizing the catchphrase run in the event that test case failed. For each test a JIRA ticket raised to track the changes. Based on the JIRA the GIT committed.

Lab is prepared by the manual testers and the NE is allocated by the NESSUP as per the requirements mentioned in the NESSUP ticket (NE support team), the allocated NE is integrated manually or by using automation is the automation is available. Firstly, when a new lab is available the lab details are added in the 'Labdata.json' file and similarly when a new NE (Network element) is available the NE details are added to the 'ElementDataVariable.xml' file these two files need to be updated when there are changes done in the lab or to the NE.

2. Proposal and contribution

Reporter Admin Toolkit suite shaped from opening execution director by utilizing the credentials of the particular sprint lab based on the sdv record from that capacity period configuration esteem changed through GUI

to approve this by utilizing db. machine lab the esteem of changed information extricated and confirmed to approve the test.

Administration of Measurements (AoM) too surrounded by utilizing selenium library because it is web application. Keywords made in such a way that making arrange with irregular title, activating the same arrange and after that uploading the arrange from that approve the status of the transferred arrange if the transfer is victory at that point erasing the arrange completes the AOM application testing.

✓ In OIB approving all the tabs by utilizing the for circle and based on the NE the tabs list overhauls because in case any NE not bolstered by the tab at that point it ought to be evacuated otherwise the test result fizzled indeed in spite of the fact that no right now within the application for this upgrade list of tabs based on the NE watchword made. To confirm the information based on the NE and individual discharge of NE, NE release variable created based on the sdv record from edv ne sw variable. Adding bolster to unused NE is worn out distinctive ranges like OIB, AOM,PM,WS(Working Set) etc.

✓ Here the Robot System is utilized and made unused catchphrases to expansion of the standard keywords and put away in assets record for reuse. RIDE has highlight that appears the catchphrases that are found either from the test suite, asset altered by bringing in the test libraries and resources record.

✓ The arguments are passed to device to urge the subtle elements of NetAct sent lab and organize element information. The sdv.py record contains the data around the NetAct lab such as web address hubs and numerous data of lab and Organize component data.py contains information approximately the arrange component information in which computer program form and all other subtle elements about the arrange components which are required in mechanization of the test case.

3. Results

The Robot framework comes about are created in html format. The test comes about provide all the detailed data almost the test suite. In case any disappointment is happening since of xpath it appears message as incapable to find the archive xpath essentially any stacking blunders appears as stale component reference. As specified, each test suite contains the watchword run watchword on the off chance that test fizzled to require the screenshot for simple distinguishing proof of bug or pronto. Similarly, to test the whole application through local machine is exceptionally time expending and not possible for desktop-based applications for this Jenkins occupations makes a difference to check the complete usefulness in single work and usually offline testing. So, by this sort of testing utilized primarily for

huge application testing and for relapse and rational soundness sort of testing.

Table -1: Comparison table

Test cases	Time required for manual (min)	Time required for automation (min)
Alarm upload	15	8
OIB	17	9
Working set	20	10
AOM	27	12

By using Automation for OIB (Object Information Browser), Working set, Administration of Measurement (AOM) test cases, reduces the human intervention and Table 1 shows that the time required for doing test cases manually requires more time and Automation reduces time for executing OIB, AOM, Working set test cases.

4. Conclusion

Regression test cases are nothing but the bequest of the past build, the moto of this testing is that the unused highlight isn't influenced with past code. So, with the assistance of testing it is simple to test the item. Modern highlights are imperative to be tried physically and mechanization makes a difference to test the new highlights in a few labs in a really brief period and different environments. The same cases ought to be tried a few times because there may be sporadically occurrence of mistake or immediately. Testing is sweet to realize comes about without any blunder and robotization makes testing simple with execution point of see. By mechanization NetAct rational soundness tests is additionally basic. All prechecks and post checks tests of diverse builds with regard to the lab makes a difference to discover usefulness breakage. Mechanization creates programmed test reports and vital screenshots with logs based on the right now and bugs. Robot Framework has simple syntax, utilizing human-readable catchphrases, so it's easy-to-follow test cases even for non-technical person.

4.1 Future scope

NetAct is highly sophisticated high-performance network management tool. As the requirement of the network quality increases new NE's are introduced and new features are added to NetAct. NetAct is not completely automated, so the future scope of this project is to automate NetAct completely and provide automation support for all the NE's and new feature that come up with new release.

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