**Final Assignment**

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**24220**

What is the test Automation Framework?

A framework is a platform that has all the tools, libraries organized and set in a defined structure to enable automation testing. A framework helps to group everything required for automation testing at one place in an organized and structure way, which makes your test execution makes easy.

The easy example to understand the Automation framework is that if we are going to travel for Airport so there are resting area, ticket centers, Food and Beverage’s shops so it is very easy to all the things for one place. But if the ticket center is another place and the food shops are not in the same place so it will be very difficult for us to go for Air journey.

* Organize all the test artifacts in a single location
* Structure all the artifacts so it is easy to maintain and work
* Maintenance
* Scalability
* Reusability

What is Selenium?

Selenium is a tool for automation testing. Initially, the new invention was deployed by the inmates at thought works. However, in 2004 it was renamed as Selenium and was made open source since its inception, Selenium has been a powerful automation testing tool to test various web application across different platforms.

How It works?

Selenium is an automated testing tool used to test web application across various browses. Platform in depended tool because this is written in JavaScript.

Provides a record/playback tool for authoring tests without learning a test scripting language.

Can be coded in many programming languages.

Support different operating systems.

Selenium is not a single tools, it has multiple component.

Selenium IDE

Selenium RC

Selenium Web driver

The Web Driver protocol has a local end (‘client’) which sends the commands (test script) to a browser-specific driver. The driver executes these commands on its browser-instance. So, if the test script calls for execution on Chrome and Firefox, the Chrome Driver will execute the test on Chrome; the Gecko Driver will do the same on Firefox.

Why we need it?

We need to automate our system to save time and get accurate test result. If we use manual testing then we may different result at every test.

Selenium is a powerful tool for test automation so thats why we need to use it for save our time and get perfect result.

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| **Packer** | **Ansible** |
| Packer automates the creation of any type of machine image. It embraces modern configuration management by encouraging you to use automated scripts to install and configure the software within your Packer-made images. | Ansible is an IT automation tool. It can configure systems, deploy software, and orchestrate more advanced IT tasks such as continuous deployments or zero downtime rolling updates. |
| Super fast infrastructure deployment. Packer images allow you to launch completely provisioned and configured machines in seconds, rather than several minutes or hours. | Ansible's natural automation language allows sysadmins, developers, and IT managers to complete automation projects in hours, not weeks. |
| Multi-provider portability. Because Packer creates identical images for multiple platforms, you can run production in AWS, staging/QA in a private cloud like OpenStack, and development in desktop virtualization solutions such as VMware or VirtualBox. | Ansible uses SSH by default instead of requiring agents everywhere. Avoid extra open ports, improve security, eliminate "managing the management", and reclaim CPU cycles. |
| Improved stability. Packer installs and configures all the software for a machine at the time the image is built. If there are bugs in these scripts, they'll be caught early, rather than several minutes after a machine is launched. | Ansible automates app deployment, configuration management, workflow orchestration, and even cloud provisioning all from one system. |
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