



INTERNSHIP REPORT

REPORT OF INTERNSHIP AT INFUSE CONSULTING

Ramjeet Jaiwant Faldesai
2114

Infuse Consulting India Private Limited
2nd and 3rd Floor, Surajpur Vihar Corporate Park
Patala Center, Patna, C-4 401001

Under the guidance of

Mr. Subodh Sunkar
Manager of Product Development, Vadodra, Infuse Consulting

Infuse Consulting

Goa University

REPORT OF INTERNSHIP AT INFUSE CONSULTING

Completed by

Ramjeet Jaiwant Faldesai
2114

for the partial fulfillment of
MCA Degree for Semester IV
Discipline of Computer Science and Technology,
Goa Business School,
Goa University

At

Infuse Consulting India Private Limited
BizNest, 7th Floor, Sunteck Kanaka Corporate Park,
Patto Center, Panaji, Goa 403001

Under the guidance of

Mr. Subodh Borkar
(Head of Product Development, useMango, Infuse Consulting)

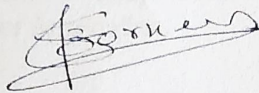
2nd June 2023

INTERNSHIP CERTIFICATE

This is to certify that **Ramjeet Faldesai**, Roll No. 2114, currently pursuing the 4th Semester of the MCA program in the Computer Science and Technology discipline at Goa Business School, Goa University, has been actively engaged as an intern with our organization since January 9th, 2023. During his internship, he has consistently displayed exemplary performance by successfully accomplishing assigned tasks and other related responsibilities.

Ramjeet exhibits a strong sense of self-motivation and requires minimal supervision to effectively complete his assigned tasks. He has demonstrated remarkable aptitude for swiftly acquiring the required domain knowledge and mastering the necessary technologies. His rapid learning pace has greatly contributed to the overall productivity and successful delivery of the team.

Yours Sincerely,



Subodh Borkar,
Head of Product Development - useMango

Infuse Consulting India Private Limited

B 902, Teerth Towers, Sr. No. 28/2, Near Raj Hotel, Baner, Pune 411021

India Company Incorporated by Government of India, Ministry of Corporate Affairs under number

U74999PN2018PTC179748

www.infuse.it

GOA UNIVERSITY



GOA BUSINESS SCHOOL

CERTIFICATE OF EVALUATION

This is to certify that Mr. Ramjeet Jaiwant Faldesai has successfully completed his internship at Infuse Consulting, BizNest, 7th Floor, Sunteck Kanaka Corporate Park, Patto Center, Panaji, Goa, in partial fulfillment of the award of the degree in Master of Computer Application.

A handwritten signature in blue ink, appearing to be 'Jaiwant', written over a horizontal line.

Examiner 1

A handwritten signature in blue ink, appearing to be 'S. M.', written over a horizontal line.

Examiner 2

Place: Goa University

Date: 15/06/2023

A handwritten signature in blue ink, appearing to be 'D. J.', written over a horizontal line.

Dean, Goa Business School

Acknowledgement

Interning at Infuse was a great opportunity for me for learning and gaining valuable industry relevant skills and experience. I would like to take this opportunity to express my sincere gratitude to everyone who has contributed to my internship experience. There were so many individuals who have supported me along the way that made this journey amazing and fulfilling and their contributions must be acknowledged.

Firstly, I would like to thank Mr. Nalin Parbhu (CEO/CTO, Infuse Consulting) for giving me the opportunity to intern at Infuse. I have sincere gratitude towards Mr. Subodh Borkar (Head of product development at useMango, Infuse Consulting), for his continued guidance and support.

I would also like to express my gratitude to Mr. Hanumant Redkar (Prof,MCA,Goa Business School, Goa University) and all the faculty of MCA, Goa University for their constant support and guidance along this journey.

I am grateful to the entire team at Infuse Consulting for welcoming me into their work environment and for their willingness to share their knowledge and experiences. I owe my gratitude to my senior colleagues for their help and guidance throughout the period of internship. I would also like to thank my peers for their continued collaboration, feedback and help along the way.

Lastly, I am grateful to my friends and family for their support and understanding during the period of internship. Their encouragement and belief in me have been a constant source of motivation.

Thank you all for your support and for making this internship a truly remarkable experience.

- Ramjeet Faldesai



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Introduction

I joined Infuse as “Team Intern” on 9th January 2023 and have been working here since. This report contains a description of my internship experience at Infuse.

The report provides an overview of the company, work culture, field of work etc . It also includes the special training, mini-projects, projects and other tasks carried out during the period of internship.

The report emphasizes my learning experience in the company and the improvements and progress made in both technical and soft skills along the way. The report also mentions my work, responsibilities and contribution made to the company.

The different tools and technologies used are discussed in the report. The report also contains the knowledge and skills gained during the period of internship. The report also documents my internship journey week by week with the work that was assigned and carried out.

I have concluded my experience, describing my learnings and how it has benefited me both on a personal and professional level.

Company profile



About Infuse Consulting

Infuse Consulting is an international company that provides modern software testing, transformation consulting, and environments management. Infuse specializes in test automation and performance engineering.

Infuse's strong alliance and partner network enables it to deliver the right solution for every client. Infuse is a Hewlett Packard Enterprise Gold Partner in Application Development Management (ADM), an Oracle Gold Partner in Application Quality Management (AQM), a CA Partner in Dev and Test, and SAP Partner.

Infuse prides itself on its ability to provide innovative solutions, especially in test automation. It has been automating testing for mobile since 2003, providing Business Process Testing Specialists since 2004, and developed a functional scriptless automation testing tool, useMango.

Recognized by CIO Magazine in 2015 as one of the most promising HP and Oracle solution providers, and awarded by the UK Oracle User Group with the Bronze Partner of the Year Award for 2015-16, Infuse is a trusted provider of software testing solutions, successfully delivering over 200 software test projects since 2002.



About useMango

- useMango is an easy to use Test Automation Tool.
- Designed so non-technical individuals can build robust automation scripts.
- Flexible framework functionality that can be adapted to match your testing ability.
- Avoids the costs of engineering your own high maintenance frameworks.
- You can use useMango to create automated tests for web and packaged applications such as Oracle and SAP.

Following are the benefits of useMango

- Component based test building removes the need for technical developers.
- Reduce months of manual testing into minutes.
- Fast ROI, allowing you to focus on business-critical issues.
- Increase confidence in your continuous delivery output with automated end to end testing.
- Enable Continuous Delivery by adding automated end-to-end testing of your build pipelines.

The tests created with useMango are quicker and more efficient, saving businesses time and money. With useMango you can build a test by selecting from 200+ pre-built components, just add data and it is ready to run. If you have problems with forms, or complicated pages useMango provides an easy solution, you can activate the useMango scanner to scan your application, with a single click, this will identify all the testable objects on any UI and create a new component. If you need to create a custom component, useMango provides you the means to do so. A software tester can complement the useMango generated scripts with custom code, using in-built frameworks made with Ruby, VBScript, Python etc.

Key Features of useMango

- Works on modern web & desktop applications.
- Codeless test tool & framework.
- Extended to support Package Applications SAP (GUI and Web Variants), Oracle E-Business, Oracle Fusion.
- Ensure application quality with fast and frequent testing.
- Test processes from end-to-end across multiple platforms and technologies.
- Business users and manual testers can automate tests without coding.
- Easily keep hundreds of tests up to date as your application changes over time.
- Expand the scope of your testing with data-driven tests.
- Meet exceptional automation requirements with simple scripted components.
- A scalable cloud-based test service which meets your growing needs.
- Get automated test outcomes directly in your continuous integration pipelines.
- Integrates with your modern continuous integration tooling.

Overview

UseMango is a windows application which has several different architectural structures, from the server to website and common libraries that contain shared code. UseMango is maintained and developed by the Infuse team and has customers worldwide.

Tools and Technologies

- C#
- .NET framework
- WPF
- Ruby
- Python
- JavaScript
- React JS
- AWS
- Postman
- Git
- MongoDB

My Contributions

In the beginning of the internship I had to learn about the in-house product of the company, useMango, a test automation tool. I familiarized myself with the product and its various functions & capabilities. As such I had to give feedback and suggestions based on my experience about how it can be improved as well as the issues I faced. Post that we had a number of training sessions on various tools and technologies, under the guidance of our mentors.

After the initial few weeks of training, I was assigned to the Kanban team and was involved in Ruby Upgrade Dev Testing for useMango. Here the primary task was to find bugs/defects in the components and ensure the components worked correctly in ruby upgrade. Accordingly I had to set up dependencies and an environment for carrying out the test. This was followed by extensive exercise of replacing standard components with scripted components and verifying they worked as specified with the new upgrade.

I also had to work on JIRA, I created a number of tests for each of the components that were under test, in the test repository which were later reviewed by senior team members. In each of the tests specific steps and environment used were included under which it was executed, hence it both helped in documenting and repeating the test as and when required. I had to create a test plan and set up test executions accordingly. All the bugs observed were noted and reported in the test executions. Every task that was carried out and its progress was carefully documented and reported to the team regularly.

Upon completion, I was assigned to the Performance Testing team. For the initial weeks I had to undergo training sessions on the tools that I would need. For practice, I had to write scripts for load tests in both LoadRunner and JMeter for sample sites. I also had to familiarize myself with the moodle learning platform. After which I was tasked with scripting load tests for a local moodle project. I also helped with scripting, solving any errors that occurred and creation of click path documents in a client load test project.

From there I was assigned to another client load testing project where I had to write LoadRunner scripts for different scenarios and user actions. I participated in client meetings as and when required. I gave my inputs on how the scripting can be done more efficiently and meet the requirements of the project. I also carried out data preparation activities prior to conducting actual load tests on the project. I was also involved in smoke testing for the scripts, to make sure there are no issues in scripts and will perform as expected on running the load tests. I assisted in designing a sample load profile and analysis of the execution. I was also involved in running tests on LoadRunner cloud (Stormrunner) for the project. The errors and anomalies that

occurred were observed and recorded. The causes were identified and accordingly they were addressed and solved. The load tests were executed and after analyzing the observed results and with consultation the scripts and the load profile were optimized. Throughout the process every task or issue was documented and reported on a regular basis.

Tools and technologies used



Selenium is one of the most renowned open-source test automation frameworks. It allows test automation of web-apps or websites across different browsers & operating systems. Using the Selenium framework, testers are able to deliver test cycles faster by automating repeated test cases.



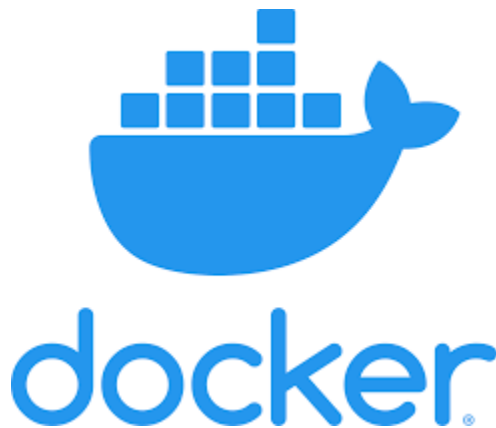
Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together.



Ruby is a dynamic, open source, object oriented and reflective programming language. Ruby is considered similar to Perl and Smalltalk programming languages. It runs on all types of platforms like Windows, Mac OS and all versions of UNIX.



AWS (Amazon Web Services) is a comprehensive, evolving cloud computing platform provided by Amazon that includes a mixture of infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS) and packaged-software-as-a-service (SaaS) offerings. AWS services can offer organization tools such as compute power, database storage and content delivery services.



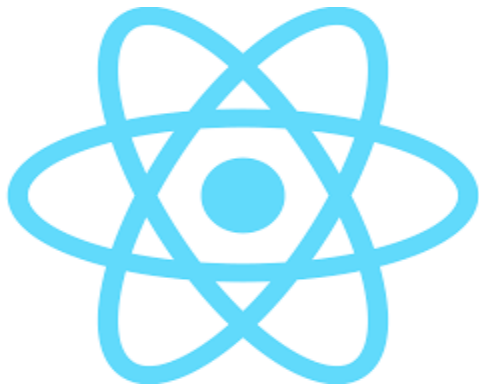
Docker is a software platform that allows you to build, test, and deploy applications quickly. Docker packages software into standardized units called containers that have everything the software needs to run including libraries, system tools, code, and runtime. Using Docker, you can quickly deploy and scale applications into any environment and know your code will run.



JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.



Postman is a standalone software testing API (Application Programming Interface) platform to build, test, design, modify, and document APIs. It is a simple Graphic User Interface for sending and viewing HTTP requests and responses.



React.js framework is an open-source JavaScript framework and library developed by Facebook. It's used for building interactive user interfaces and web applications quickly and efficiently with significantly less code than you would with vanilla JavaScript.



Git is an open-source distributed version control system. It is designed to handle minor to major projects with high speed and efficiency. It is developed to coordinate the work among the developers. The version control allows us to track and work together with our team members at the same workspace.



MongoDB is a document-oriented NoSQL database used for high volume data storage. Instead of using tables and rows as in the traditional relational databases, MongoDB makes use of collections and documents. MongoDB is a database which came into light around the mid-2000s.



Jenkins is an open-source Continuous Integration server written in Java for orchestrating a chain of actions to achieve the Continuous Integration process in an automated fashion. Jenkins supports the complete development life cycle of software from building, testing, documenting the software, deploying, and other stages of the software development life cycle.



TeamCity is a Continuous Integration and Deployment server that provides out-of-the-box continuous unit testing, code quality analysis, and early reporting on build problems.



Micro Focus LoadRunner (earlier HP) is one of the most popular load testing software. It is used to performance test an application under load. It can simulate thousands of concurrent users to produce real-time load transactions and analyze results.



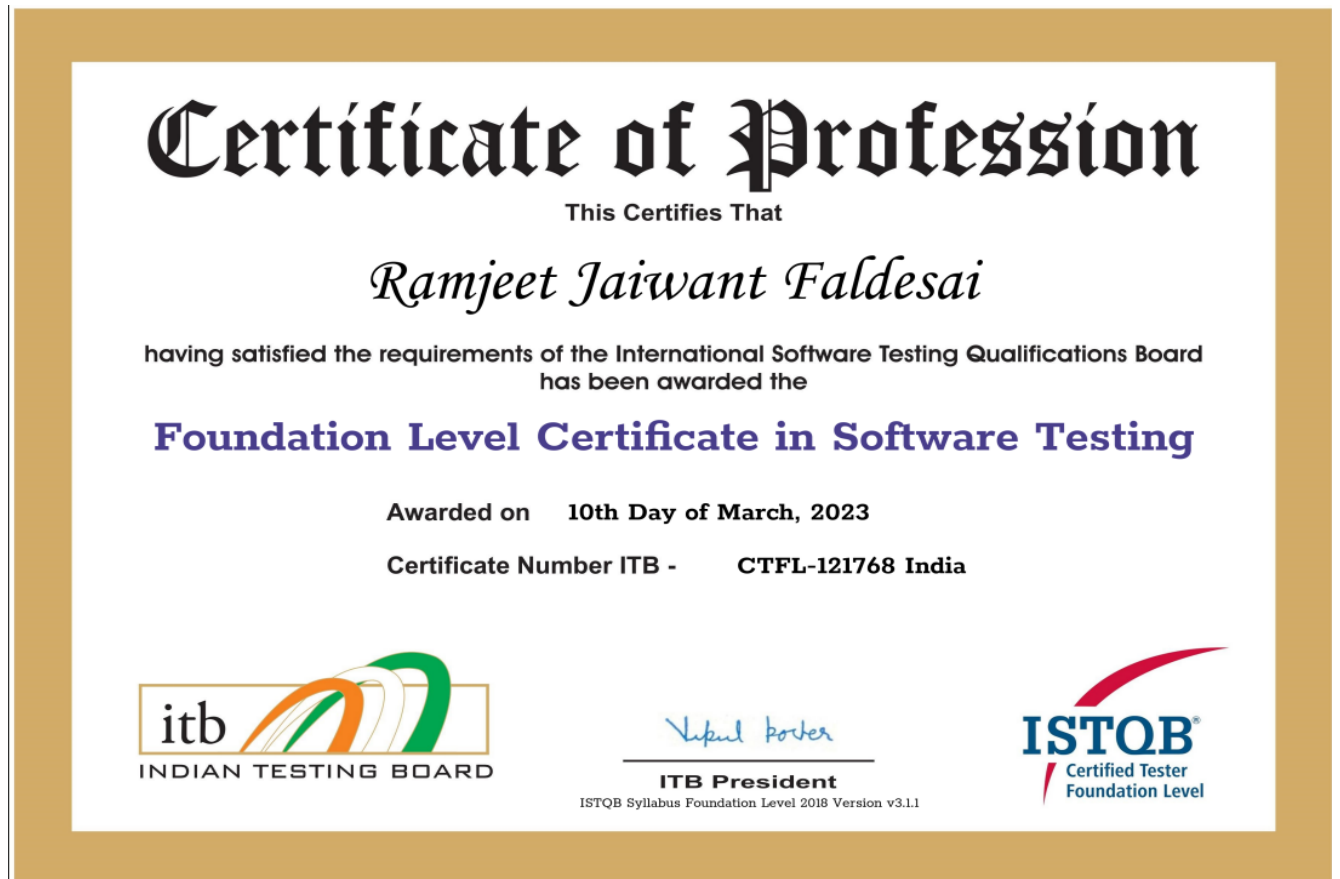
Apache JMeter™ is pure Java open source software, which was first developed by Stefano Mazzocchi of the Apache Software Foundation, designed to load test functional behavior and measure performance. You can use JMeter to analyze and measure the performance of web applications or a variety of services.



LoadRunner Cloud (previously called StormRunner Load) is a cloud-based SaaS performance testing software tool. It's simple, smart, scalable and avoids the need for expensive hardware for Load Generators. LoadRunner Cloud is suited for Agile, DevOps and Waterfall approaches to web and mobile performance testing, and allows users to run load tests for internal and external applications, with support for applications including SAP, Oracle and Citrix.

Certifications completed under internship

- ISTQB- Foundation level Certificate in Software Testing



Project Diary

January 2023

Week 1

- Company onboarding process, familiarity with the workplace environment.
- Introduction to in house product- useMango.
- Exploring various features of useMango by automating a few tests.

Week 2

- Programming in ruby for different problem statements and writing unit tests for them.
- Programming in web technologies like HTML/CSS/JS.
- Training and workshop on Docker.
- Automation with selenium in ruby.
- Training and exercises on git- source code management.

Week 3

- Workshop- Building a containerized testing framework for a practice website
- Training and exercises on CI/CD pipeline- Jenkins
- CI/CD workshop using JetBrains Teamcity.
- Programming with Python and writing unit tests for the same.

February 2023

Week 4

- Training in web-service architecture and python web-service exercises .
- Workshop in Python web service.
- Workshop in web-service unit and API testing.

Week 5

- Workshop- to create a full stack web application for a given problem statement , under the guidance of team mentors.(Group activity)

Week 6

- Review of workshop & fixes.
- Training and exercises on Introduction to AWS services.

Week 7

- Final presentation and demo of the Workshop project.
- Training and exercises on AWS Cloud Formation.

March 2023

Week 8 & 9

- Introduction and preparation for the ISTQB Exam.

Week 10

- Included in the Kanban Team.
- Getting familiar with C#, WPF and .NET framework and the best coding practices followed.

Week 11

- Training on working with JIRA.
- Creation of test plans, test cases, test execution etc.

April 2023

Week 12

- Began ruby upgrade dev testing for useMango.
- Setting up the dev environment and required dependencies.

Week 13

- Converting the standard components to scripted components.
- Creating all the tests for each component in the test repository and adding them to the test plan.
- Creating a test execution for the test plan.

Week 14

- Running the scripted components as specified and observing the result.
- Defects are noted and raised in test execution.

Week 15

- Assigned to Performance Testing.
- Introduction to LoadRunner, load testing tool.
- Scripting for a sample website.

Week 16

- Introduction to JMeter tool.
- Practice scripting for sample websites.
- Introduction to Moodle environment.

May 2023

Week 17

- Practice/Exercise scripting in both LoadRunner and JMeter for Moodle load testing.

Week 18

- Assisted in a Performance Testing Project.
- Creation of click path documents.
- Scripting in JMeter for different scenarios.

Week 19

- Included in a Performance Testing project.
- Identified scenarios and scripting to be carried out.
- LoadRunner scripts are created for specified scenarios.

Week 20

- LoadRunner scripts for more scenarios created and reviewed.
- Data Prep activity carried out before actual running of the script.

Week 21

- Attended training organized by Infuse.
- Started working with loadrunner cloud for the project.

My Reflections/ Experience of Internship

During my internship at Infuse, I had the incredible opportunity to immerse myself in a professional setting and gain practical experience. This internship has been an invaluable journey of growth and learning..

Throughout the internship, I had the privilege of working on a range of diverse projects and tasks. From working on improvements and finding bugs to carrying out performance testing on different projects, each time I was challenged to think critically and creatively. I actively participated in brainstorming sessions, contributed ideas, and collaborated with different teams to solve complex problems.

Communication and teamwork were integral to my internship experience. I collaborated with colleagues from different departments, attended team meetings, and actively participated in discussions. This collaborative environment fostered an exchange of ideas and perspectives, enabling me to develop effective communication and interpersonal skills.

Additionally, I had the opportunity to attend workshops, training sessions, and other events organized by the company. These experiences allowed me to broaden my knowledge, stay updated on industry trends, and focus on required skills in the industry. The company's commitment to providing continuous learning opportunities further enriched my internship experience.

Overall, my internship has been an amazing and fulfilling experience. It has not only given me the experience of the corporate world but also equipped me with practical skills and insights that will serve me well in future. I am immensely grateful to the entire Infuse team for their guidance, support, and the opportunities they provided me during my time as an intern.

References

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<https://www.jenkins.io/doc/>