IMMO Information Technology

IMMO Information Technology

Pvt. Ltd.

Merces, Goa.

Internship Report

Saija Salgaonkar 1950

INTERNSHIP REPORT

Completed by Saija Salgaonkar | 1950

For the course

MCA Semester VI Goa Business School, Goa University

At IMMO Information Technology Pvt. Ltd. Merces, Goa.

Under the guidance of Mr. Nimish Shikerkar (COO & Director, Immo Information Technology)

&

Mr. Ismail Shaikh

(Senior HR Executive, IMMO Information Technology)

With

Mr. Sudesh Mehta (CEO, IMMO Information Technology)





TO WHOMSOEVER IT MAY CONCERN

This is to certify that Saija V Salgaonkar, student of Master of Computer Applications (MCA) of Goa University, Goa, is currently undergoing her semester VI internship with our organization from 17th January 2022, which will end on 30th June 2022.

During her tenure to date, she has met the expectations of her Team leader and was found to be sincere.

This certificate was issued on her request for project report submission at Goa University.

The final internship certificate will be issued on completing her internship tenure.

For IMMO Information Technology Private Limited.

Mr. Nimish Shikerkar Director/COO



GOA UNIVERSITY



GOA BUSINESS SCHOOL

CERTIFICATE OF EVALUATION

This is to certify that **Ms. Saija V. Salgaonkar** has successfully completed her internship at **IMMO Information Technology Pvt. Ltd., Merces, Goa,** in partial fulfilment for the award of the degree in Master of Computer Application.

Examiner 1

Examiner 2

Place: Goa University

Date:

Dean, Goa Business School

Acknowledgment

The journey started as a student towards the professional life with the aim in mind to learn the practical aspect of life and self-development, especially with professionals who have tremendous knowledge of all the aspects of the technology, ended as a memorable experience, and also helped me to come off with flying colours.

I am privileged to have done our internship in the IMMO Information Technology Pvt Ltd. I have got a golden opportunity for learning, developing myself professionally, and growing in such a wonderful working atmosphere. The internship wouldn't be complete without expressing my gratitude to all the people who made it possible.

I would like to thank Mr. Sudesh Mehta(CEO, Immo Information Technology), and Mr. Nimish Shikerkar(CIO, Immo Information Technology) for allowing me to intern at IMMO. My sincerest gratitude Mr. Nimish Shikerkar for giving me all the necessary guidance and support as my team leader.

I would like to thank Mr. Satvesh Karmali (Senior Software Developer, Immo Information Technology) and Mr. Mayur Metri (Senior Software Developer, Immo Information Technology) for always helping me out with the tasks assigned to me.

I would like to extend my gratitude to Mr. Ismail Shaikh(Senior HR Executive, Immo Information Technology) for always helping me out whenever I was in need.

I would also like to thank Mr. Dattaprasad Chodankar, Mr. Amey Kuvelkar, Mr. Nitendra Priolkar, and the whole IMMO family for providing us the resources, guidance, knowledge, and advice on how to go about the issues and work assigned to me. With their support, I got a significant amount of exposure and experience of Information Technology and their business network.

I thank Mr. M. S. Dayanand(Dean, Goa Business School, Goa University), Mr. Ramdas Karmali (Prof. and TPO, MCA, GBS, Goa University), Ms. Yma Pinto (Program Director, MCA, GBS, Goa University), Mr. Jarret Stevan Anthony Fernandes (Assistant Prof, MCA, GBS, Goa University) and all the faculty of MCA, Goa University for their constant encouragement and support during the project work.

Finally, I would also like to thank my family and friends who were always ready to help me and guide me in all aspects of life.

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Introduction

This report is a part of my full-time internship at IMMO Information Technology, Merces Goa which contains a short description of my work there. I joined as an Intern at IMMO on 17th January 2022 and have been here since then. This report contains information about the tasks I worked on, and the other training I received.

In the below information that will follow, I will talk about the company, their work, etc. Then, I shall elaborate on the team I was assigned to, a piece of brief information about the tasks I completed. This report highlights my learning experience and my contributions to the organization as an intern. However, considering company data security policies, I won't be able to give details of the work I've contributed to.

This report will describe the knowledge that I gained by completing the tasks that were assigned to me. I'll also be talking about the tools and technologies that were used followed by my internship timeline. I shall conclude by sharing my experience and how it has helped me to grow, both, on the personal and professional level.

Company Profile

IMMO Information Technology (IIT) Pvt. Ltd is a dynamic IT products development company based in Merces, Goa. The company was established as a start-up in 2005 and since then it has been providing offshore software development and related services to the parent company IAZI Zurich, one of the leading Real Estate Consulting Companies in Switzerland (www.iazi.ch) that provides advice and statistical analyses to institutional investors (banks, insurance companies, pension funds, etc.).

Company Website: http://www.iazicifi.ch/

Some of the services and products provided by IMMO:

• HEDO online valuation.

The valuation of properties is done based on various factors like the locality, dimensions, details of the building, parking spaces, luxury details, etc.

• Location report.

Given location address, shows the accuracy level and gives Micro-level ratings.

• Maps.

Shows results based on a given address/area concerning population, taxes, market, the nearby area, noise, etc.

• Offered Rent.

Given an address and its properties/characteristics like its type, living surface, number of rooms, built year, etc, it gives the monthly rent of that place.

• Rent Calculator.

Helps calculating the approximate rent of a particular type of property in any location.

• Swiss Property Benchmark.

Performance Analyse and real estate benchmark for Real-estate investors.

• HedoLight.

HedoLight is more like a plugin that customers can use with their sites, and use to get the approximate prices of properties.

• REPM

Portfolio management services like analysis, strategies, and standards for properties, entire portfolios.

Service Team

I was assigned to the Service Team for training purposes and got an opportunity to learn and contribute to services.

Aims to transfer and exchange information between clients, partners as well as within the company as it is very essential to ensure smooth and safe communication and to enhance operational efficiency. However, many businesses do not have a single, comprehensive platform that can be used to store and transfer data, which leads to the use of multiple applications that function in different ways, which in turn can complicate communication and hence affect productivity.

IMMO Information Technology web services enable smooth and safe communication, be it internal or external. With the barrier of OS, platform and language removed, businesses can communicate better.

To ensure all these, we take care of the following:

- Unique Security Model.
- Authentication service.
- Service hosting framework.
- Migration of existing services.

Task: HEDO Online Valuation

The valuation of properties is done based on various factors like the locality, dimensions, details of the building, parking spaces, luxury details, etc.

The appraisal model type is based on the quarters of the corresponding year.

There are various categories of building types in this:

- a. Multi-family building.
- b. Single family house.
- c. Residential.
- d. Commercial.
- e. Apartment.

Outline of WEBAPPHEDO application

1. Entering details into WEBAPPHEDO application:



C Previous III Overview Next >				C	Apptale Save Baport + @Duplicate
MARKET VALUE Category Recording	CHE 13.095,000 - Multi-family building		Appraisal value IAZI Appraisal model Last update	CHF 13,095,000 * 4th quarter 2021 1/5/2022	
⑦ Coordinates					
Object ID			Pictures	G	
Zip / Tawn		**			
Street / Number		0			
Location within the town		ů			
- Second State					
() Dimensions			funder controlle	Control of	1000
Volume (Incl. garages) (m ²)		20,000	Volume standard	Building's insurance	~
Net usable surface (m*)		5.000	Land symate (m ²)		4,000
		•			
() building			A RECEIPTION CONTRACTOR 1	1.002	1000
Bannuation / Year		. 1999	Value relevant servitude	No	•
Building condition	Very good - Good	m	Building rights / avoirs date	No	-
Building quality	Gaod Good				
(7) Elements					
Number of apartments		12 V			
Room counting mode	Kitchen counted as faircom	~	Number of foors		(a)
Number of bathrooms		22	Number of Dhe		2
Parking spaces					
Number of individual garages		0	Number of external parking	[

2. Location Report:

IAZI			A iaziadmin 🕶	EN 🕶	Switzerland 👻	0
CIFI			Remain	ng credits >	100 E Repoi	t •
Maja Satelle Banda Departmenter Banda Departmenter						
Input address Zip / Town	Result address validation	Status	Result micro-rati	ng		-1
Street / Number	ZIP / Town	IAZI-Score				=
	Street / Number	IAZI-Rating				
Localize address	Coordinates	Rating Type				
	Accuracy House level					

Based on the factors we input, we get the above location report and we know what the accuracy is, what rating it gets, a status of whether the validation was successful or not, etc.

After we get the location report we must appraise and get the value of appraisal up and the rating should be three stars then only we can say that the quality is great.

AZI	Professional				🗎 iaziadmin 🛩 EN	 Switzerland • 0
IFI	← Previous III Overview Next				🛃 Appraise 🛛 🗟 Save 🖉 🗟 Report 🔹	Duplicate
	MARKET VALUE Category Recording	CHF 14,358,000 - Multi-femily building		Appraisal value IAZI Appraisal model Last update	CHF 14,358,000- * * * 4th quarter 2021 1/20/2022	
	⑦ Coordinates					
	Object D Zip / Tpun Smec / Number Location within the town			Peus G		
	(2) Dimensions					
	Volume (incl. garages) (m ²)	20,000		Volume standard	Building's insurance	~
	Net usable surface (m ²)	2,942	^	Land surface (m ²)		1.200
	Uving surface (m ²)	2,500		Storage surface (m ²)		20
	Office surface (m ²)	200		Education surface (m ²)		55
	Commercial surface (m ²)	100		Medical surface (m ²)		67
	Type of use	· · · · ·	·			
	⑦ Building					
	Building year	2019		Minergie standard	No	~
	Renovation / Year	No • 0		Value-relevant servitude	No	~
	Building condition	Wey good		Building rights / expiry date	No v mm/dd/yyyy	
	Building quality	Wey good	Ħ			
	() Elements					
	Number of apartments	32	×			
	Room counting mode	Kitchen counted as 1s room	·	Number of floors		4
	Number of bethrooms	33		Number of lifts		2
	Parking spaces					
	Mumber of individual operators		1	Monthas of astarnal narking		A

11

3. Appraising:

Number of apartments		32 🔥		
1-room apartments		0	()i-room apartments	4
Sliveness anartmants			S. co.out. Locating of t	
Toroom applications			Droom approved	· · · · · · · · · · · · · · · · · · ·
2-room epertments			375-room apartmenta	· · · · ·
2%-room apartments		2	6-room apartments	
3-room apartments		4	6%-room apartments	•
316-room apartments		3	># 7-room apartments	•
4-room apartments		4	Lofts	0
Room counting mode	Kitchen counted as 16 room	~	Number of floors	4
Number of bathrooms		33	Number of lifts	2
Parking spaces				
Number of individual parages		0	Number of external parking	
Norber of independent addee			rearrant of external parking	
Number of Underground parking		v		
⑦ Rent				
Actual rent (CHP)/ p.a.		800,000	Share of commercial rents (%)	0.0
Achievable rent (CHF)/ p.a.		800,000		
(3) Transaction				
Transaction ture			Status of the transaction	Officiant M
Transaction (gg)#		*	Press the series (Part)	Crier (spen)
Iransaction pate	mm/dd/yyyy		iranaction price (Univ)	
⑦ General				
Comments	ArysM_10 objectide/01_200710_173046 value=12/030/000			
⑦ Appraisal				
Appraisal value (AZI (CHP)		14,358,000		
Model info	Good estimation quality Appraisal et 31.12.2021 Achievable rent value seems rather high			
		×		
Value adjustment (CHP)				
Value adjustment (CHP) MARKET VALUE (CHP)		14,358,000		

Tools and Technologies used:

1. IAZI's Online Services: WEBAPPHEDO Tool.

My contribution:

- 1. Valuate two Swiss properties.
- 2. Obtain their location report.
- 3. Get the appraisal value up.
- 4. Get the star ratings to three.

Task: Testing

Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest.

The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements.

Testing is important because software bugs could be expensive or even dangerous. Software bugs can potentially cause monetary and human loss.

1. Testing REPM5 Application.

Knowing what is REPM5:

Real Estate Portfolio Management (REPM)

REPM5 brings clarity to the complex world of direct real estate investment management. Thanks to the latest digital technologies, as it allows you to have your portfolio constantly under control and to increase performance thanks to integrated analysis tools. From the individual building to a set of portfolios, the dynamic analysis options support you in all relevant business processes and in the implementation of the optimal portfolio strategy.

Whether it concerns data management, evaluation, budgeting, renovation planning, rating, or reporting, REPM5 has a user-friendly and intuitive application structure. Through the web application, REPM5 gives you unlimited access to your portfolio, wherever you are.

There are total eight users in REMP5 and total of 12 categories, namely:

- 1. Characteristics.
- 2. Building.
- 3. Rent Roll.
- 4. Financial Data.
- 5. Budget Process.
- 6. Budget Controlling.
- 7. QC Capex.
- 8. DCF.
- 9. Rating.
- 10. Property Control.
- 11. Credit Application.
- 12. IAZI MapsPro.

(There are more sub categories under each of the above category.)

Tools and Technologies used:

- 1. IAZI's Online Services: REPM5 Tool.
- 2. Microsoft Word & IAZIPedia for documenting.
- 3. Snagit for capturing the images.

My contribution:

- 1. Choosing one user to do comparison testing for all the categories under the user. Comparison testing: It comprises of comparing the contents of files, databases, against actual results. They are capable of highlighting the differences between expected and actual results.
- 2. I had to test categories like:
 - a. Master data:
 - i. General.
 - ii. Land plot.

- iii. Micro and macro location.
- iv. Distances.
- v. Surface and volumes.
- vi. Document manager.
- b. Budget process:
 - i. Property budget.
- c. Layout: i. Task.
- d. Financial Data:i. Export data.
- e. Building:
 - i. General.
 - ii. Surface and volumes.
- f. Rent roll:
 - i. Object classification.
- g. Financial data.
- h. Hedonic.
- i. QC Capex.
- j. Budget Process:
 - i. Document Manager.

2. Configuration Testing: Testing Different Permission Sets.

<u>Configuration testing</u>: Verifies the performance of the system under development against various combinations of software and hardware to find out the best configuration under which the system can work without any flaws or issues while matching its functional requirements.

It is the process of testing the system under each configuration of the supported software and hardware. Here, the different configurations of hardware and software means the multiple operating system versions, various browsers, various supported drivers, distinct memory sizes, different hard drive types, various types of CPU etc.

<u>Permission set:</u> Is a collection of settings and permissions that give users access to various tools and functions. Permission sets extend users' functional access without changing their profiles.

Users can have only one profile but, they can have multiple permission sets. You can assign permission sets to various types of users, regardless of their profiles.

Tools and Technologies used:

- 1. IAZI tools : LORE, Rent Check Module within the application MapsPro,
- 2. IAZIPedia for documenting.
- 3. Snagit for capturing the images.

My contribution:

The test procedure was as follows:

- 1. Open the excel sheet provided.
- 2. Go to column AR and search for the entry with your name & set the filter on it.
- 3. Go to the link provided and set the portal language according column AN.
- 4. Login with the e-mail address in column AS and the password given.
- 5. Put a screenshot of the portal main screen and initial screen of each of the activated apps to the test iterations below (Iteration number = customer name in column H)
- 6. Test the functionality of each available app LORE: Open the app, check the given number of requests, enter an address, locate the address and generate a PDF report. Rent Check: Open the app, enter an address, (local explorer, NN and Price Check shouldn't be available), go to rent check, enter some object characteristics and press the appraise button, download a PDF report. HEDO: Open the app, check if there is only the possibility to appraise houses and flats, enter a new object, and save the appraisal und generate a PDF report.
- 7. Check the e-mail received on your private e-mail account from <u>portal@iazi.ch</u> incl. the attachment and put screenshots of both elements to your test iteration.

8. Click on the link in the e-mail and follow the steps to change the password.

Test Results:







3. Model Release Testing

Model release testing refers to coding practices and test strategies that give teams confidence that a software release candidate is ready for users. Release testing aims to find and eliminate errors and bugs from a software release so that it can be released to users.

Tools and Technologies used:

- 1. IAZI tools: WEBAPPHEDO and ModelR service.
- 2. IAZIPedia for documenting.
- 3. Snagit for capturing the images.

My contribution:

I had to test the model WEBAPPHEDO and ModelR service for two types of testing, namely:

1. General Test (Finding out how well something works).

General Test	
Webapphedo	
	Status
A MARINE & M	Values match after report generation.
NART WALK 0F23A30: Appendial-bit Compy Rubichybaling Appendial-bit Topote 202 Norling Absorb	Matis-family healing Schlicht J, 43H Scoupech
Contract State	MARKET VALUE CHF & TALADA-
	Appendiat value M22 GPE 2124.000.0 • • Approximative Kenter water of approximative Approximative Approximation for approximative Approximation and the approximative Approximation and the approximative Approximati

2. Comparison Test (Comprises of comparing the contents of files, databases, against actual results).

Comparison Test			
<u>Webapphedo</u> vs <u>ModelR</u> swagger			
WebAppHedo (Multi-family-building)	V1 ModelR	V2 ModelR	Status
And	al	al	Value matched.

4. Testing using the Tester Tool

Tools and Technologies used:

- 1. Tester tool.
- 2. Microsoft SQL Server Management Studio.

My contribution:

1. I had to put in parameters from the SQL query into the tester tool and load

them.

🖶 Tester		vmremoteiitmod
Server Credential		
Server		
User		
Pud		
Fwg		
D:\LISER\SDA\inoutPatas.xml		
Load Parameters Load Test Case	Appraise DLL Missing DataContract	
	Connection Credential	
Save Parameters Save Test Case	User	
Save Result Edit Test Case		
	Pwd	
hputXML Use File		
Interfaces 11	Appraise Interface Local	
interface 1.1	Assessing Interfaces Web	
	Appraise Interface Web	
Parameters Parameter XML Result XML InputXML		
Comment		
Model		
Addressortid		
Addressstreet		
Addresstown		
Ratheb		
Buldcondition		
Buildquaity		
Buildrightdate		
Buildyear		
Cat		
Flat		
Flat10Nb		
Flat 15Nb		
Flat2UNb		
Flat20Nb		
Flat35Nh		
Flat40Nb		
Flat45Nb		
Flat50Nb		
Flat55Nb		
Flat60Nb		
Flat65Nb		
Flat 70Nb		
Flatcondition		
Flation		
Floomb		
Litt		
Luxus		
Maisonette		
Minergie		
Parkcover		
Parkexternal		
Parkopen		
Determine a		

2. I had to appraise the loaded parameters and check if the price from the SQL query and tester tool matched.

Per lester	
Server Credential	
Server	
User	
Perd	
PWG	
D:\USER\SDA\InputPatas.xml	
Load Parameters Load Test Case	Appraise DLL Missing DataContract
Load Farameters	Connection Oredential
Save Parameters Save Test Case	
Save Result Edit Test Case	User
	Pwd
InputXML Use File	Approise Interface Local
Interface 1.1 V	Appraise Intenace Local
	Appraise Interface Web 🗹 Session
Descenters Descenter VIII Result VIII Inc. (VIII	
Parameters Parameter XML Hestat XML PoutXML	
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- cresults	
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<validation></validation>	
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<pre>cchecking/p</pre>	
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<pricelo50> /pricelo50:</pricelo50>	>
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<value></value>	
cqualitytest /s	
- <parameter name='</td> <td>"></td>	">
<type> </type>	
avalue /s	

5. Performance Testing Using JMeter Tool.

<u>Apache JMeter</u> is a testing tool used for analysing and measuring the performance of different software services and products. It is a pure Java open source software used for testing Web Application or FTP application. It is used to execute performance testing, load testing and functional testing of web applications.

<u>Performance Testing</u> is a testing measure that evaluates the speed, responsiveness and stability of a computer, network, software program or device under a workload.

Tools and Technologies used:

- 1. Apache JMeter tool.
- 2. Visual Studio code.
- 3. Swagger.

My contribution:

I had to do performance testing on the endpoint: v1/macroTreeSearch.

Using JMeter:

1. Initial Screen.

/ Apache JMeter (5.0 r1840935)								- 0	Х
$\underline{F}ile \ \underline{E}dit \ \underline{S}earch \ \underline{R}un \ \underline{O}ptions$	Help								
1 6 🔒 🗉			 Image: Image: Image:		🎽 🙈	🍾 📑 📲	00:00:00	<u> </u>	• 🕀
K Test Plan	Test Plan								
	Name: Test Plan								
	Comments:								
				User Defined Varia	bles				
		Name:				Value			
			Detail Add	Add from Clipboard	Delete	Down			
	Run Thread Groups consec	cutively (i.e. one at a time)							
	🗹 Run tearDown Thread Grou	ups after shutdown of main thr	eads						
	Functional Test Mode (i.e. s	ave Response Data and Samp	ier Data)						
	Add directory or jar to classest	Delata							
	Add directory or jar to classpace								
				Library					

2. Create a test plan.

A useful test plan is created with minimum 3 components:

- i. Thread Group: contains the simulation of multiple concurrent users. A single thread represent a single user. We can create any number of threads to put the desired load on the application. It also help us in scheduling the delay between two threads, and any repetition of request batches.
- ii. HTTP Request: consist the HTTP request configuration which thread group will be invoking. It is the application URL which you want to load test.

- iii. Listener: helps in viewing the result of the whole testing process. There are multiple listener available in JMeter to verify the testing results.
- 2.1. Create a Thread Group.

To create a thread group, navigate to '*Right click Test Plan -> Add -> Threads* -> *Thread Group*'.

Apache JMet	er (5.0 r1840935)					
ile <u>E</u> dit <u>S</u> ea	rch <u>R</u> un <u>O</u> ptions <u>H</u> e	lp				
[]		X	+		- 🍫 🕨	۱
👗 Test Plan	Add	Þ	Threads (Users)	Þ	Thread Group	
	Paste Open	Ctrl-V	Config Element Listener	► ►	setUp Thread Group tearDown Thread Group	
	Merge Save Selection As		Timer Pre Processors	•		User Defined Variables
	Save Node As Image Save Screen As Image	Ctrl-G Ctrl+Shift-G	Post Processors Assertions	•	Name:	
	Enable Disable		Test Fragment Non-Test Elements	•		
	Toggle Help	Ctrl-T				

Create Thread Group Option

Fill in the values as per your requirements (or based on your assumptions, we can change them anytime in future). Name the thread group and save it to any location in your workstation.

<u>F</u> ile <u>E</u> dit <u>S</u> earch <u>R</u> un <u>O</u> ptions	Help
📑 🗳 📑	X 🖬 🖹 + - 5/ 🕨 N 💿 🔍 💥 🚓 🍾 🚍 👔
▼ 🗍 Test Plan Ö SpringBootAppUsers	Thread Group Name: SpringBootAppUsers Comments: Comments: Comments:
	Continue Start Next Thread Loop Stop Thread Stop Test Stop Test Now
	Thread Properties
	Number of Threads (users): 10
	Ramp-Up Period (in seconds): 2
	Loop Count: Forever 1
	Delay Thread creation until needed
	Scheduler
	Scheduler Configuration
	Duration (seconds)
	Startup delay (seconds)

Thread Group Created

2.2. Create a HTTP Request.

To add HTTP request details, navigate to '*Right click thread group -> Add ->* Sampler -> HTTP Request'.



Create HTTP Request

Fill in the application URL details which we are going to test. I am using the rest API created for 'Spring boot hello world' example. The API URL is 'http://localhost:8080/employees'.

<u>F</u> ile <u>E</u> dit <u>S</u> earch <u>R</u> un <u>O</u> ptions	<u>H</u> elp					
	X 🔋 🗎 +	- 🍫 🕨 📐		🎬 🦚 🍾	2	00:00:00 🔥 🛈
▼ Å Test Plan ▼ ∯ SpringBoolAppUsers employees-rwa	HTTP Request Name: employees-tws Comments:	Server Name or IP: Tocalhost employees directs of Use KeepAlive III Use mut	Jann Jaari Jorn-data 🔳 Brouser-compati		Port Numb	sr: \$080
			Send Parameters With the	Request:		
*****	Name:		Value	URL Encode?	Content-Type	Include Equals?

Filled HTTP Request

2.3. Add Listener

To see the results of test plan, add listener named "" by navigating to '*Right click thread group -> Add -> Listener -> View Results Tree*'.

24

<u>File E</u> dit <u>S</u> earc	h <u>R</u> un <u>O</u> ptic	ons <u>H</u> elp											
				Ê	+		4						1
 Test Plan SpringBoo 	otAppUsers Add	Thre	ad Group	Sample	er	▶							
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	Open Merge			ation u	ntil need	ed ,	Aggregate Backend L	Report istener					

Add Listener

3. Perform the testing.

To perform the testing, start the thread group using the green play icon at the top ribbon in tool.

<u>F</u> ile <u>E</u> dit <u>S</u> earch <u>R</u> un <u>O</u> ptions	Help
👕 觉 💄 📮	
▼ 👗 Test Plan	View Results Tree
	Namas Maw Dasulla Tras
View Results Tree	Name. view Results free
	Comments:
	「Write results to file / Read from file
	Filename

Start Load Test

Let all threads run and invoke the configured application URL. After the test is finished, we can review the load test results in consolidated manner in listener tab.

Eile Edit Search Run Options	<u>H</u> elp			
	🖌 🗊 💷 +		8 🕱 🛣 6	» 🍾 📳 👔
	View Results Tree Name: View Results Tree Comments: Write results to file / Read from file Filename Search:			Browse Log/Display Only:
1	employees-rws employees-rws	Sampar result regions Response data Thread Name: SpringEodAppLiesrs 1-2 Sample Start 2018-11-20 14.12.43 IST Loaninet Time: 28 Latency: 10 Size in bytes: 647 Sam bytes: 127 Headers size in bytes: 715 Sample Count 1 Error Count 0 Error Count 0 Data type (TexTT birT): text Response code: 200 Response message:		



Task: .Net Framework Services

APIs are resources that represent functionality a client wants to invoke - typically modelled as Web APIs. To test these APIs or demonstrate to the clients or within the company, we have developed a .Net framework web-based application that uses swagger for API documentation. Swagger allows you to describe the structure of your

APIs so that machines can read them. By reading your API's structure, we can automatically build beautiful and interactive API documentation. We can also automatically generate client libraries for the API in many languages and explore other possibilities like automated testing. Swagger does this by asking the API to return a YAML or JSON that contains a detailed description of the entire API.

Authentication:

There are two types of authentication used, token-based and key-based:

1. JWT Authentication:

JWT is an open-standard, token-based security technique, where the token is used to identify authorized users. As it is digitally signed, the information is verified and trusted. It is compact and self-contained because it holds the user information itself, and it can be sent via URL, post request, or HTTP header.

A JWT token contains:

- a. Header contains the algorithms like RSA or HMACSHA256 and the information of the type of Token.
- b. Payload contains the information of rows (user credentials, user details, or additional information).
- c. Signature

{ base64urlencoded (header) +"."+ base64urlencoded (payload) +"."+ secret } Combine base64 encoded Header, base64 encoded Payload with a secret, which provides more security

How it works:

- a. The client logs in with the credentials, in return the server generates a JWT token and returns a response.
- b. Now, the client sends a copy of the token to see if it's valid or not.
- c. After validation, the server responds with a status message.

2. Key-based Authentication:

In key-based authentication, we use a key and salt to generate a hash, which is valid for a limited period. To generate the required fields, a static and API/project-specific pair of key and salt are used, which results in the same key (x), timestamp (t), and hash (h).

The same x, t, and h values are used to authenticate the web services.

Architecture:

At IMMO, we follow a specific clean architecture in designing the web-based service in the company. Clean architecture refers to organizing the project so that it's easy to understand and to change as the project grows. It is given a lot of importance in the company.

Classes that might change at the same time and for the same reason should be grouped into components. The business rule components are more stable and should know nothing about the more volatile infrastructure components, which deal with the UI, database, web, frameworks, and other details.

The boundary between component layers is maintained by using interface adapters that translate the data between the layers and keep the dependencies pointing in the direction of the more stable inner components.



Tools and Technologies used:

- 1. Microsoft Visual Studio.
- 2. .Net Framework.

(Migration from .Netcore3.1 to .Net6)

My contribution:

I was assigned to help develop an endpoint:

- 1. Service.Address to Service.AppMaps.
 - a. v1/validateLocation.

Task: Migrating .Net Framework Services to .Net Core

As mentioned earlier, we migrate all the existing projects to newer technologies in order to maintain smooth communication and processing. All the existing services were to be migrated to .Net core. Authentication remains the same, but architecture is changed.

Tools and technologies used:

- 1. Microsoft Visual Studio.
- 2. .Net Framework.

(Migration from .Netcore3.1 to .Net6)

My contribution:

I was assigned to help in migrating some of the project endpoints from .Net 4.5 to .Net6 service.

The endpoints that have been migrated are as follows:

- 1. v1/getProperty.
- 2. v1/getBuildingKeyData.
- 3. v1/getDiagnose.
- 4. v1/getRisk.
- 5. v1/logs.
- 6. v1/transferModelInAnalyst.
- 7. v1/setBuildingParameters.
- 8. v1/setBCasaUsageInConf.
- 9. v1/getSelections.
- 10. v1/getDocuManager.
- 11. v1/getDocuDimensions.
- 12. v1/deleteDocuDimensions.
- 13. v1/getMappingGroups.
- 14. v1/getImportMappingDetails.
- 15. v1/getNextSortForDocType.
- 16. v1/saveDocuDimensions.
- 17. v1/getDocuManagerData.
- 18. v1/getRoleTypeDetails.
- 19. v1/updateRoleTypeDetails.
- 20. v1/updatePersonDetails.
- 21. v1/getPersonDetails.
- 22. v1/getRoleGridData.
- 23. v1/getPersonDropdownData.
- 24. v1/getRoleTypeList.
- 25. v1/getQCBuildingCount.
- 26. v1/getHouseOverviewData.
- 27. v1/getRentMirrorComboData.
- 28. v1/getContractData.
- 29. v1/getRentData.

- 30. v1/getGeneralSurfVolData.
- 31. v1/getPersonListData.
- 32. v1/getCategoryObjectType.
- 33. v1/getSurfaceText.
- 34. v1/saveContractData.
- 35. v1/deleteContractData.
- 36. v1/saveRentData.
- 37. v1/deleteRentData.
- 38. v1/saveSurfaceVolumesData.
- 39. v1/getHouseComboData.
- 40. v1/getHouseGeneralData.
- 41. v1/getHouseVolumelDataList.
- 42. v1/getHouseSurfaceAndVolumeData.
- 43. v1/internalValidateDetails.
- 44. v1/macroFullTreeRead.
- 45. v1/ratings.
- 46. v1/updateADRSData.
- 47. v1/saveHouseVolumeData.
- 48. v1/deleteHouseVolumeData.
- 49. v1/getQSPortfolioData.
- 50. v1/checkLomaCopyButtonVisibility.
- 51. v1/copyLomaDataToADRS.
- 52. v1/getHouseObjectData.
- 53. v1/getBSCGridData.
- 54. v1/reportBSCRatingPDF.
- 55. v1/reportBSCRating.
- 56. v1/getBSCRatingPairAndBuildingData.

Task: Model Production

We do model production to obtain calculations from the DLL's, which are used to deploy later to swagger, WEBAPPHEDO, etc.

The calculations are done into the DLL's and we obtain those through SQL Queries.

DLL refers to Dynamic Link Library which is a file containing instructions that other programs can call upon to do certain things.

The model production is done quarterly.

Under model production we have:

- 1. CIFI Factory.
- 2. AT Configuration (Austria Price Model Production).
- 3. Test Production.

Under CIFI Factory we do everything related to model production.

Basically, this is similar to regression model.

<u>Regression Model</u> provides a function that describes the relationship between one or more independent variables and a response, dependent, or target variable.

For example, the relationship between height and weight may be described by a linear regression model. A regression analysis is the basis for many types of prediction and for determining the effects on target variables.

Tools and Technologies used:



1. CIFI Factory Tool.

- 2. Microsoft SQL Server Management Studio.
- 3. Visual Studio Code.

(Migration from .Netcore3.1 to .Net6)

My contribution:

- 1. Configuring CIFI Factory.
 - i. Creating new user.
 - ii. Production folder.
 - iii. Export process.
 - iv. Import process.
 - v. Settings update.
- 2. Running the calculation and crosschecking steps required for test production through CIFIF Factory.

Task: Postman Collection using the Postman Tool

The Postman testing tool is a complete API development platform with various built-in tools that support every stage of the API lifecycle. Postman tool allows you to design, mock, debug, automated testing, document, monitor and publish the APIs - everything from one place.

Using Postman Tool to execute APIs:

Below is the Postman Workspace:

🥝 Postman				– 🗆 ×
File Edit View Help 2 3 4)			
+ New 1 Import Runner 4 •			<u> </u>	Upgrade V
Q Filter	GET Untitled Request	+		No Environment 👻 👁 🌞
7 History ⁸ Collections	Untitled Request			
Trash C+	GET 10 FINTER TRADE TO THE STATE			11 Send V Save V
	13 14 15	16 17 18		
· .	Rey Authorization Headers	VALUE	DESCRIPTION	•••• Bulk Edit
	Key	Value	Description	
You don't have any collections	Response			
Collections let you group related requests, making them easier to access and run.				
5				
Create a collection				
		Hit the Send button to ge	t a response.	
		-		

- 1. New This is where you will create a new request, collection or environment.
- 2. Import This is used to import a collection or environment. There are options such as import from file, folder, link, or paste raw text.
- 3. Runner Automation tests can be executed through the Collection Runner. This will be discussed further in the next lesson.
- 4. Open New Open a new tab, Postman Window or Runner Window by clicking this button.
- 5. My Workspace You can create a new workspace individually or as a team.
- 6. Invite Collaborate on a workspace by inviting team members.

- 7. History Past requests that you have sent will be displayed in History. This makes it easy to track actions that you have done.
- 8. Collections Organize your test suite by creating collections. Each collection may have subfolders and multiple requests. A request or folder can also be duplicated as well.
- 9. Request tab This displays the title of the request you are working on. By default, "Untitled Request" would be displayed for requests without titles.
- 10. HTTP Request Clicking this would display a dropdown list of different requests such as GET, POST, COPY, DELETE, etc. In Postman API testing, the most commonly used requests are GET and POST.
- 11. Request URL Also known as an endpoint, this is where you will identify the link to where the API will communicate with.
- 12. Save If there are changes to a request, clicking save is a must so that new changes will not be lost or overwritten.
- 13. Params This is where you will write parameters needed for a request such as key values.
- 14. Authorization In order to access APIs, proper authorization is needed. It may be in the form of a username and password, bearer token, etc.
- 15. Headers You can set headers such as content type JSON depending on the needs of the organization.
- 16. Body This is where one can customize details in a request commonly used in POST request.
- Pre-request Script These are scripts that will be executed before the request. Usually, pre-request scripts for the setting environment are used to ensure that tests will be run in the correct environment.
- 18. Tests These are scripts executed during the request. It is important to have tests as it sets up checkpoints to verify if response status is ok, retrieved data is as expected and other tests.

Working with GET Requests:

Get requests are used to retrieve information from the given URL. There will be no changes done to the endpoint.

We will use the following URL for all examples in this Postman tutorial

https://jsonplaceholder.typicode.com/users In the workspace

- 1. Set your HTTP request to GET.
- 2. In the request URL field, input link
- 3. Click Send
- 4. You will see 200 OK Message
- 5. There should be 10 user results in the body which indicates that your test has run successfully.



Working with POST Requests:

Post requests are different from Get request as there is data manipulation with the user adding data to the endpoint. Using the same data from the previous tutorial in Get request, let's now add our own user.

Step 1) Click a new tab to create a new request.



Step 2) In the new tab,

- 1. Set your HTTP request to POST.
- 2. Input the same link in request url: https://jsonplaceholder.typicode.com/users
- 3. switch to the Body tab

https://isonplaceholder.typicode.com/users
POST Thttps://jsonplaceholder.typicode.com/users
Params Authorization Headers Body Pre-request Script Tests
● none ● form-data ● x-www-form-urle 3_d ● raw ● binary
This request does not have a bo
Response

Step 3) In the body,

- 1. Click raw
- 2. Select JSON

1	Headers	Body	Pre-request S	cript Tes	ts	
	 x-www-for 	m-urlencoo	1° raw	binary	Text A Text Text (text/plain) JSON (application/json) Javascript (application/javascript) XML (application/xml)	
					XML (text/xml) HTML (text/html)	

Step 4) Copy and paste just one user result from the previous get request like below.

Ensure that the code has been copied correctly with paired curly braces and brackets. Change id and name to any desired name. You can also change other details like the address.



Step 5) Next,

- 1. Click Send.
- 2. Status: 201 Created should be displayed
- 3. Posted data are showing up in the body.

https://j	sonplac	eholder.typicode.com/users	1
POST	Ŧ	https://jsonplaceholder.typicode.com/users	Send 🝷
Params	Author	ization Headers Body Pre-request Script Tests	Cookies Code
none	• form	n-data 🔍 x-www-form-urlencoded 💿 raw 🔍 binary Text 🔻	
1 [2 3 4 5 6 6 7 7 8 9 10 11 Body Coo Pretty [* K 2 3	{ "i "r "e "e kies (1) Raw	d": 11, isme": "Krishna Rungta", isername": "Bret", isername": "Bret", "street": "Kulas Light", "street": "Kulas Light", "street": "Kulas Light", "street": "Washorough", "rincode": "92998-3874". Headers (18) Test Results Preview JSON ▼ ⇒	ted Time: 761 ms Size: 677 B

Creating Postman Tests:

Postman Tests are JavaScript codes added to requests that help you verify results such as successful or failed status, comparison of expected results, etc.

Step 1) Go to your GET user request from the previous tutorial.

- 1. Switch to the tests tab. On the right side are snippet codes.
- 2. From the snippets section, click on "Status code: Code is 200".

GET {{url}}/users	Post https://jsonplaceholder.typicod + ····	No Environment
{{url}}/users		
GET 🔻	{(url)}/users	Send Save
Params Auth	rization Headers Body Pre-request Script Tests •	Cookies Code
1 • pm.test(" 2 pm.re 3 });	tatus code is 200", function () { ponse.to.have.status(200);	Test scripts are written in JavaScript, and are run after the response is received.
		SNIPPETS Set a global variable
		Clear an environment variable
		Clear a global variable
		Send a request
		Status code: Code is 200
		Response body: Contains string
		Response body: JSON value check
		Response body: Is equal to a string

Step 2) Now click on send. The test result should now be displayed.

All Passed Skipped Failed PASS Status code is 200	
Body Cookies (1) Headers (18) Test Results (1/1) Status: 200 OK	Time: 633 ms Size: 6.13 KB Download
	SNIPPETS Set a global variable Clear an environment variable Flore andobal rotable
<pre>1 * pm.test("Status code is 200", function () { 2 pm.response.to.have.status(200); 3 });</pre>	Test scripts are written in JavaScript, and are run after the response is received.
Params Authorization Headers Body Pre-request Script Tests	Cookies Code
GET V ((uri))/users	Send V Save V
{{url}}/users	
ett {{url}}/users Post https://jsonplaceholder.typicod + + ••••	No Environment 🔹 🐼

Step 3) Go back to the test tab and let's add another test. This time we will compare the expected result to the actual result.

From the snippets section, click on "Response body:JSON value check". We will be checking if Leanne Graham has the userid 1.

Params Authorization Headers Body Pre-request Script Tests	Cookies Code Comments (0)
<pre>1 * pm.test("Status code is 200", function () { 2 pm.response.to.have.status(200); 3 });</pre>	Test scripts are written in JavaScript, and are run after the response is received.
<pre>4 pm.test("Your test name", function () { 5 var jsonData = pm.response.json(); 6 pm.expect(jsonData.value).to.eql(100); </pre>	SNIPPETS
7 3);	Send a request
	Status code: Code is 200
	Response body: Contains string
	Response body: JSON value check
	Response body: Is equal to a string
	Response headers: Content-Type header check
	Response time is less than 200ms

Step 4)

- 1. Replace "Your Test Name" from the code with "Check if user with idl is Leanne Graham" so that the test name specifies exactly what we want to test.
- 2. Replace jsonData.value with jsonData[0].name. To get the path, check the body in Get result earlier. Since Leanne Graham is userid 1, jsonData is in the first result which should start with 0. If you want to get the second result, use jsonData[1] and so on for succeeding results.
- 3. In to eql, input



Step 5) Click send. There should now be two passed test results for your request.

GET v ((uri))/users	Send 🔻 Save 💌
Params Authorization Headers Body Pre-request Script Tests •	Cookies Code
1 ~ pm.test("Status code is 200", function () { pm.response.to.have.status(200); 3 });;	Test scripts are written in JavaScript, and are run after the response is received.
4 5 6* pm.test("Check if user with idl is Leanne Graham", function () { 7 var jsonData = pm.response.json(); 8 pm.expect(jsonData[0].name).to.eql("Leanne Graham");	SNIPPETS Clear a global variable
9 []);	Seno a request Status code: Code is 200
	Response body: Contains string
	Response body: JSON value check Response body: Is equal to a string
ody Cookies (1) Headers (18) Test Results (2/2)	Status: 200 OK Time: 136 ms Size: 6.13 KB Download
All Passed Skipped Failed	
PASS Status code is 200 PASS Check if user with Id1 is Leanne Graham	

Tools and Technologies used:

- 1. Postman Tool.
- 2. Swagger.
- 3. Visual Studio Code.

My contribution:

I have authorized, fetched the token and added 'Params' and 'Tests' for AppMaps.

The endpoints are as follows:

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File Edit View	Help					_
Home Wor	kspaces v Reports Explore		Q Search Postman	<u>ک</u> د ^{یہ} کھتا دار	gn In Create Acco	ount
		& Working local	y in Scratch Pad. Switch to a Workspace			×
Scratch Pad	New Import	Kun CET Mun POST Prix POST Ret POST POST Ret POST Ret	er POST Rei CET Rent/rei	CET Rent CET Rent CET Rent Dev	\sim	۲
Collections	- -	New Request		🖸 Save 🗸 🚥		
~	AppMaps GET Canton/neighbourcantonpoly	GET v			Send ~	Ē
APIs	GET Canton/alicantonpolygons GET Code/nncodes GET Code/offeredrentcodes	Params Authorization Headers (7) Body Pre-request Script Tests Query Params	Settings		Cookies	<>>
	GET Country/countrypolygons	KEY	VALUE	DESCRIPTION	••• Bulk Edit	
Mock Servers	GET Municipality/gemeindeinfo					
- And	GET Municipality/macroratings					
Monitors	GET Municipality/population					
0	GET Municipality/housingmarket	Key	Value	Description		
History	GET Municipality/taxcharge					-
	GET Municipality/neighbourpolygo					
	GET Municipality/townfactorrating					
	GET Municipality/buildingprojects					
	GET Municipality/getmunicipalityf					
	POST Price/evaluationresult					-
	POST Rent/orchr1	Response			Ŧ	
	POST Rent/residential					
	POST Rent/commercial					
	POST Rent/parking					
	POST Rent/storage		<u> </u>			
	POST Rent/downloadresidentialrep					
	POST Rent/downloadcommercialre		· 2.			
	POST Rent/downloadparkingreport					
	POST Rent/downloadstoragereport		Click Send to get a response			
	GET Rent/rentfinancials					
	GET Rent/rentcontracts					
	GET Rent/nearbyproperties					
	POST Report/generatelocationreport					
Q Find and	I Replace 🔊 Console			+	Runner 🗓 Trash	• •

Task: Image Labelling using Vott Tool

Image labelling is done for detecting and tagging data with labels in the form of image. This process involves us in order to manually curate, and in some cases, computer-assisted help.

Image labelling is useful when automating the process of generating metadata or making recommendations to users based on details in their images.

Image labelling is important in Supervised Machine Learning because the annotated data will be used to train the model so that it could learn, and give results based on the quality of the data given.

The training set obtained is used to train the algorithm, and then you use the trained model on the test set to predict the response variable values that are already known. The final step is to compare the predicted responses against the actual (observed) responses to see how close they are.

<u>Vott Tool</u> is a free and open source electron app for image annotation and labelling developed by Microsoft. The software is written in the TypeScript programming language and used for building end to end object detection models from image and videos assets for computer vision algorithms.



Tools and Technologies used:

1. Vott Tool.

My contribution:

I have labelled total of 1056 images. The labelled image looks like follows:



Training and Self-study during Internship Period

Training on:

- 1. WEBAPPHEDO.
- 2. REPM5.
- 3. Transaction Manager.
- 4. Model Production.
- 5. .Net6.

KT Sessions on:

- 1. RER (Real Estate Registry).
- 2. AV (Address Validation).
- 3. Counter Concept.
- 4. Performance Testing using JMeter.
- 5. EAP (Enhanced Application Portal) + WCF (Windows Communication Foundation).
- 6. Data and Report Service.
- 7. Service Lore and Wizard.

Self-study:

- 1. C#:
 - https://www.udemy.com/join/login-popup/?next=/course/c-sharpprogramming/learn/quiz/4550181#overview
 - https://infinite.education/expertise/junior_csharp_programmer
 - https://www.geeksforgeeks.org/c-sharp-tutorial/
 - https://www.geeksforgeeks.org/csharp-programming-language/
 - https://www.javatpoint.com/c-sharp-tutorial
 - https://www.tutorialspoint.com/csharp/index.htm
 - https://www.youtube.com/playlist?list=PLAC325451207E3105

2. SQL Server:

- https://www.geeksforgeeks.org/introduction-of-ms-sql-server/
- https://www.geeksforgeeks.org/sql-tutorial/
- https://www.youtube.com/watch?v=-EPMOaV7h_Q

https://www.youtube.com/playlist?list=PLbJ-fy-2JEVkpz73RDkbA7dGtn8CNgwzm

- 3. Repository Pattern:
 - <u>https://www.youtube.com/watch?v=qJmEI2LtXIY</u>
- 4. Dependency Injection:
 - https://www.youtube.com/watch?v=YR6HkvNBpX4
- 5. Message Queues:
 - https://aws.amazon.com/message-queue/benefits/
 - <u>https://www.cloudamqp.com/blog/rabbitmq-use-cases-explaining-messagequeues-and-when-to-use-them.html</u>
- 6. Async await:
 - <u>https://www.youtube.com/watch?v=C5VhaxQWcpE</u>
 - https://www.c-sharpcorner.com/article/async-and-await-in-c-sharp/

Tools and Technologies Used

	BitBucket
	Bitbucket is a web-based version control repository hosting service owned by Atlassian, for source code and development projects that use either Mercurial (since launch) or Git revision control systems. Bitbucket offers both commercial plans and free accounts. It offers free accounts with an unlimited number of private repositories (which can have up to five users in the case of free accounts). Bitbucket integrates with other Atlassian software like Jira, HipChat, Confluence, and Bamboo.
	Visual Studio Code
	Visual Studio Code is a source code editor developed by Microsoft for Windows, Linux, and macOS It includes support for debugging, embedded Git control and GitHub, syntax highlighting, intelligent code completion, snippets, and code refactoring. It is highly customizable, allowing users to change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. The source code is free and open-source and released under the permissive MIT License The compiled binaries are freeware and free for private or commercial use.
SQL Server Management	Microsoft SQL Server Management Studio It is a software application first launched with Microsoft SQL Server 2005 that is used for configuring, managing, and administering all components within Microsoft SQL Server. The tool includes both script editors and graphical tools which work with objects and features of the server.
	Atlassian Jira and Pedia
CIFI	Documentation, tutorials and procedure, information, and all the data related to the company are stored here.

	Remote Desktop Connection		
	Remote Desktop Connection is one of the components of Microsoft Windows that allows a user to take control of a remote computer or virtual machine over a network connection. RDS is Microsoft's implementation of thin client, where Windows software, and the entire desktop of the computer running RDS, are made accessible to a remote client machine that supports Remote Desktop Protocol (RDP). With RDS, only software user interfaces are transferred to the client system. All input from the client system is transmitted to the server, where software execution takes place. This is in contrast to application streaming systems, like Microsoft App-V, in which computer programs are streamed to the client on-demand and executed on the client machine.		
	Microsoft Word		
Wicrosoft [®] Word	Microsoft Word is a word processing software developed by Microsoft. It was first released on October 25, 1983, under the name Multi-Tool Word for Xenix systems.		
	Snagit		
	Snagit is screen capture and screen recording software for Windows and macOS. It is created and developed by TechSmith and was first launched in 1990. Snagit is available in English, French, German, Japanese, Portuguese and Spanish versions.		
	Apache JMeter		
	Apache JMeter is a testing tool used for analyzing and measuring the performance of different software services and products. It is a pure Java open source software used for testing Web Application or FTP application. It is used to execute performance testing, load testing and functional testing of web applications.		
	Postman		
A CONTRACT OF A	The Postman testing tool is a complete API development platform with various built-in tools that support every stage of the API lifecycle. Postman tool allows you to design, mock, debug, automated testing, document, monitor and publish the APIs - everything from one place.		



Vott

Vott Tool is a free and open source electron app for image annotation and labelling developed by Microsoft. The software is written in the TypeScript programming language and used for building end to end object detection models from image and videos assets for computer vision algorithms.

Framework and Languages Used	
.NET Framework.	
.Net core.	
C#	
SQL.	

Internship Timeline

January 2022:

Week 1: 17th - 21st

a. HR & Systems Briefing.

b. Training and working on WEBAPPHEDO.

c. Learning C#.

Week 2: $24^{th} - 28^{th}$

a. Training on .Net6 migration.

b. Training on REPM5 Testing.

c. Learning C#.

d. Learning SQL.

Week 3: 31st

a. Learning SQL.

b. Working on .Net migration.

February 2022:

Week 1: 1st - 5th

a. Working on .Net6.

b. Testing REPM5.

c. Learning SQL.

d. Training on Transaction Manager.

e. Dashboard Team Presentation.

Week 2: $7^{th} - 11^{th}$

a. Testing REPM5.

b. Learning SQL.

c. Training on Model Production.

d. Working on .Net6 migration.

e. Presentation by team lead.

Week 3: $15^{th} - 18^{th}$

a. Learning SQL.

b. Working on Model Production.

c. Learning C#.

d. Working on .Net 6.

Week 4: $21^{st} - 25^{th}$

a. Learning SQL.

b. Working on .Net6 migration.

c. Learning C#.

Week 5: 28th

a. Learning SQL.

b. Working on .Net6 migration.

March 2022:

Week 1: $1^{st} - 5^{th}$

a. Learning SQL.

b. Working on .Net6 migration.

c. Learning C#.

d. Dev Ops Team Presentation.

Week 2: 7th - 11th

a. Working on .Net6 migration.

b. AT Configuration.

c. CIFI Factory Configuration.

Week 3: 14th - 18th

a. Working on .Net6 migration.

b. AT Configuration.

Week 4: 21st - 25th

a. Working on .Net6 migration.

Week 5: 28th - 30th

a. Working on .Net6 migration.

b. Configuration Testing.

April 2022:

Week 1: 1st

a. Working on .Net6 migration.

b. Model Release Testing.

c. Configuration Testing.

Week 2: $4^{th} - 8^{th}$

a. Working on .Net6 migration.

b. Model Release Testing.

c. Test Production.

Week 3: 11th – 15th

a. Test Production.

b. Model Production.

Week 4: 18th – 22nd

a. Test Production.

b. Tester Tool.

c. Image Labelling Task.

Week 5: 25th – 29th

a. Image Labelling Task.

May 2022:

Week 1: $3^{rd} - 6^{th}$

a. Image Labelling Task.

Week 2: 9th - 14th

a. Image Labelling Task.

b. Company Level Presentation.

Week 3: 16th - 20th

a. Image Labelling Task.

b. Model Production.

c. .Net6 Migration.

d. Knowledge Transfer Session.

Week 4: $23^{rd} - 27^{th}$

a. Image Labelling Task.

b. Knowledge Transfer Session.

c. Postman Collection Task.

d. Learning Message Queues.

Week 5: 30th - 31st

a. Image Labelling Task.

b. Knowledge Transfer Session.

c. Learning Message Queues.

d. Learning 'async await' Function.

June 2022:

Week 1: 1st - 3rd

a. Image Labelling Task.

b. Knowledge Transfer Session.

c. Implementing Endpoint from Service.AppMaps (v1/validateLocation).

d. Learning Message Queues.

e. Learning 'async await' Function.

My Experience of the Internship

Being an intern was a unique experience where I was empowered, inspired and learnt something new every day. From walking in on my first day until today, I have gained so much knowledge and experience, I didn't even know I would have before I started.

Throughout my internship I was part of the service team. We gathered much knowledge in the classroom, but a hands-on approach has been invaluable. It has served as a beneficial ending to my formal education. Skills such as multitasking, communicating, learning to deal with diversity, and dealing with deadlines are different when you are working for someone else. It is amazing to see how people from different regions stay as one family and work together.

Overall, I'm glad to be a part of IMMO and looking forward to facing new challenges with the knowledge that I have acquired here.

My internship has taught me a lot about my skill set and given me confidence in my own abilities. It has helped guide my career aspirations and will definitely help me in my future career choices. I also gained technical knowledge. I left my internship with a toolbox much fuller than when I started. The knowledge I gained will help me to face the real world. My experience has brought me closer to my goals and I am excited for what the future has to bring.

References

- **<u>http://immoinfotech.com/</u>**
- https://swagger.io/docs/specification/2-0/what-is-swagger/
- <u>https://www.c-sharpcorner.com/article/how-to-use-jwt-authentication-with-web-api/</u>