

QA Practical Project

# Web Application

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# Introduction

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- My initial approach to the project was to start planning by listing tasks
- Front-end design, types of data I was hoping to use
- Breaking down the project into smaller tasks
- Jira was beneficial with priorities, labels, which tasks I should focus on primarily and seeing tasks getting done.
- Challenging new concepts, I needed to do extra work to feel more confident with new technologies
- User Stories

# Concept

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- My initial approach to the problem was to start by building the Spring Boot Application.
- I also wanted to get started with designing and working on front-end, as some of the concepts such as AXIOS and JS was very new to me I wanted to go over what we've been learning over the last two weeks.
- However, I knew that this would be challenging as there was very limited time. Therefore, as I was going through my notes, I was also trying to implement them on my project at the same time.

# Home Page

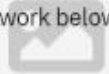
Nav  
Bar

Home

Tarot Cards

## Intro to site

Brief info about the website and showing some art  
work below



[Footer]

# Tarot page

Home

Tarot Cards

## Title



Form Here to enter tarot cards interact with  
database

[Footer]

# Sprint Plan

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- My approach to Spring Plan was to create tasks initially to get comfortable with Jira Software, then I practiced working on User Stories
- Including user stories, story points, and MoSCoW prioritisation
- I hoped to complete tasks based on priority and mark them as done as I progressed through the project

Epic ✕

Issues without epic

> Backend

> Frontend

> Documentation

> Testing

+ Create Epic

▼ BAE\_WebProject Sprint 1 25 Apr – 29 Apr (23 issues)

44 19 21 Complete sprint ⋮

To create an CRUD-based web application, with utilisation of supporting tools, methodologies, and technologies, that encapsulates all fundamental and practical modules covered during training.

BAEP-10 As a developer, I want to create a service class, so that I can include business logic

BACKEND

4 = IN PROGRESS ▾ CH

BAEP-8 As a developer, I want to create a controller class, so that I can handle incoming HTTP req...

BACKEND

4 = IN PROGRESS ▾ CH

BAEP-9 As a developer, I want to create a repo, so that my backend has a data access

BACKEND

1 = IN PROGRESS ▾ CH

✓ BAEP-18 Error handling

BACKEND

8 = IN PROGRESS ▾ CH

BAEP-25 As a user, I want a website to display Tarot Cards, so that I can see different meanings o...

FRONTEND

2 = IN PROGRESS ▾ CH

BAEP-7 As a developer, I want to create a risk assessment so that I can plan for any potentials risks in...

DOCUMENTATION

= TO DO ▾ CH

BAEP-13 As a developer, I want to design a website that would present the information on the databas...

FRONTEND

4 = DONE ▾ CH

BAEP-26 As a developer, I want to add @Entity to my main class, so that the class is an entity and is ma...

BACKEND

2 ^ DONE ▾ CH

✓ BAEP-17 Style webpages using CSS

FRONTEND

2 = DONE ▾ CH

## BAE\_WebProject Sprint 1

To create an CRUD-based web application, with utilisation of supporting tools, methodologies, and technologies, that encapsulates all fundamental and practical modules covered during training.

CH + Epic Type

TO DO 8 ISSUES	IN PROGRESS 5 ISSUES	DONE 10 ISSUES ✓
<p>As a developer, I want to create a risk assessment so that I can plan for any potentials risks in the project</p> <p>DOCUMENTATION</p> <p>BAEP-7 = CH</p>	<p>As a developer, I want to create a service class, so that I can include business logic</p> <p>BACKEND</p> <p>BAEP-10 4 = CH</p>	<p>As a developer, I want to design a website that would present the information on the database, so that I can deploy a user-friendly website</p> <p>FRONTEND</p> <p>BAEP-13 ✓ 4 = CH</p>
<p>Make a matrix from the risk assessment</p> <p>DOCUMENTATION</p> <p>BAEP-6 ✓ = CH</p>	<p>As a developer, I want to create a controller class, so that I can handle incoming HTTP requests</p> <p>BACKEND</p> <p>BAEP-8 4 = CH</p>	<p>As a developer, I want to add @Entity to my main class, so that the class is an entity and is mapped to a database table</p> <p>BACKEND</p> <p>BAEP-26 ✓ 2 = CH</p>
<p>Create a presentation to reflect and present the project process</p> <p>DOCUMENTATION</p> <p>BAEP-20 ✓ 2 = CH</p>	<p>As a developer, I want to create a repo, so that my backend has a data access</p> <p>BACKEND</p> <p>BAEP-9 1 = CH</p>	<p>Style webpages using CSS</p> <p>FRONTEND</p> <p>BAEP-17 ✓ 2 = CH</p>
<p>As a developer, I want to create a presentation to present the project, so that I can reflect on the project &amp; ways to improve</p> <p>DOCUMENTATION</p> <p>BAEP-21 4 = CH</p>	<p>Error handling</p> <p>BACKEND</p> <p>BAEP-18 ✓ 8 = CH</p>	<p>Create the project on Eclipse - tarot.java</p> <p>BACKEND</p> <p>BAEP-19 ✓ 2 = CH</p>
<p>Unit Testing</p> <p>TESTING</p> <p>BAEP-22 ✓ 12 = CH</p>	<p>As a user, I want a website to display Tarot Cards, so that I can see different meanings of the cards</p> <p>FRONTEND</p> <p>BAEP-25 2 = CH</p>	<p>Design front-end - Presentation Layer - including a wireframe for the website</p> <p>FRONTEND</p> <p>BAEP-12 ✓ 2 = CH</p>
<p>Testing Service Class</p> <p>TESTING</p>		<p>Start building index.html</p>

# Consultant Journey

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- Git
- GitHub
- Jira
- MySQL Server 8.0+
- Java
- Spring
- HTML, CSS, JavaScript
- Maven
- JUnit, Mockito
- Challenging but very enjoyable learning process in such short time! I would like to improve on what I've learnt and develop in my own time so that I can become more comfortable with these technologies.



# CI

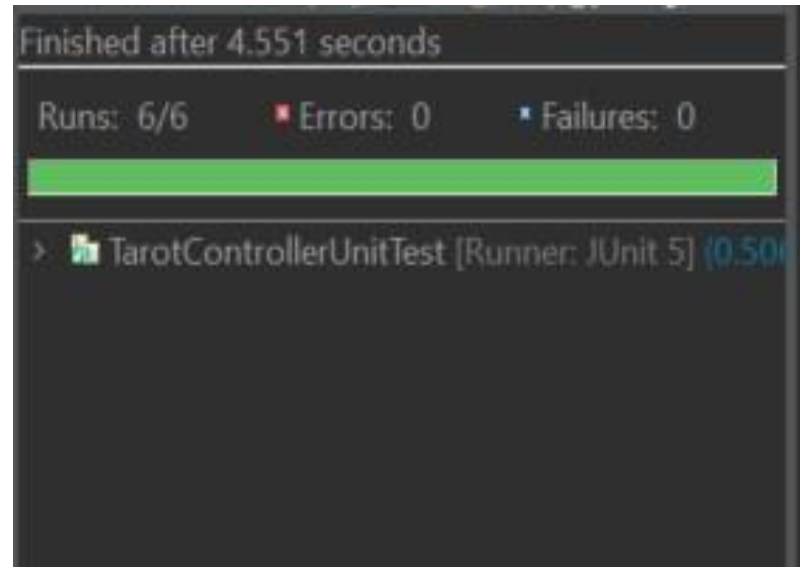
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- Using the version control system was beneficial, I tried to push my work onto source code management regularly (GitHub).
- Practicing including very descriptive notes with each commit as this would be required in a group project
- Utilising the feature-branch model was definitely worth practicing, especially for future as team works require this model, allowing file comparison, differences, and merge the changes if needed prior to committing code

# Testing

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- Automated tests, Unit Testing and Controller Integration Testing were the main tests carried out to make sure individual unit or component functionalities were working fine.
- I learnt how to write a unit test case by using Mockito and JUnit.
- As mentioned in the specification I tried to cover 70-80% of my code with tests (78.5%) – some of the tests came back with errors, however I am hoping to improve on this and push my coverage to 80%.
- If I had more time I would spend more of the development process on tests and get more comfortable around the testing concepts, especially Mockito.
- Furthermore, I also carried out manual tests on Postman and MySQL workbench to ensure the API was functioning.



Coverage					
Element	Coverage	ed Instructions	ed Instructions	tal Instructions	
▼ TarotWebApplication		84.2 %	738	138	876
▼ src/main/java		78.5 %	274	75	349
> com.qa.baewebapp.excep		0.0 %	0	13	13
> com.qa.baewebapp		37.5 %	3	5	8
> com.qa.baewebapp.contr		86.4 %	57	9	66
> com.qa.baewebapp.servic		88.3 %	68	9	77
> com.qa.baewebapp.dom		78.9 %	146	39	185
> src/test/java		88.0 %	464	63	527

Postman

File Edit View Help

Home

Workspaces

API Network

Reports

Explore

Search Postman

My Workspace

New Import

BAE\_WebA

GET Get All

POST Create

GET Get by C

+

...

No Er

Collections

BAE\_WebApplication

GET Hello World Request Test

GET Get All

GET Create

GET Get by Card Number

APIs

Environments

Mock Servers

Monitors

Flows

History

BAE\_WebApplication / Get by Card Number

Save

GET localhost:8080/getByNumber/0

Params Auth Headers (6) Body Pre-req. Tests Settings

Query Params

KEY	VALUE	DESCR
Key	Value	Descrip

Body 200 OK 8 ms

Pretty Raw Preview Visualize JSON

```
1 {
2   "id": 1,
3   "number": 0,
4   "card": "The Fool",
5   "upright": "Irresponsibility, Fear-Bound",
6   "reversed": "Fresh Starts, New Beginnings"
}
```

Find and Replace Console Cookies Capture requests Boo

	id	card	number	reversed	upright
▶	18	The Fool	0	Irresponsibility, Foolishness, Fear-Bound	Fresh Starts, New Beginnings
	19	The Magician	1	Manipulation, Powerless	Initiation, Focus, Intention
	20	The High Priestess	2	Self-doubt, Ignoring intuition	Intuition, Subconscious mind, Inner knowing
	21	The Empress	3	Drained energy, Low-self-worth, Stagnation	Growth, Creation, Beauty, Joy, Abundance
	22	The Emperor	4	Abuse of power, Forcefulness	Assertiveness, Boundaries, Authority, Structures
	23	The Hierophant	5	Unconventional, Going against the norm, Findin...	Wisdom, Ancestors, Tradition
	24	The Lovers	6	Indecision, Separation	Choice, Union
	25	The Chariot	7	Imbalance, Out of control	Movement, Progression, Purpose
	26	Strength	8	Overly controlling, Impatience	Compassion, Patience, Gentleness, Confidence
	27	The Hermit	9	Isolated, Loneliness, Disconnection, Escapism	Inward, Reflection, Solitude, Meditative state
	28	Wheel of Fortune	10	Change in circumstances, Stagnation	Fate, Luck, Impermanence
	29	Justice	11	Unfairness, Undecided, Unjust outcome	Fairness, Equality, Decisions
	30	The Hanged Man	12	Self-sacrifice, Resisting surrendering, Struggle	Observation, Pause, Suspension, Releasing con...
	31	Death	13	Holding on to the past, Resistance	Transformation, Endings, Release
	32	Temperance	14	Imbalance, Polarities, Overindulgence	Alchemy, Liminality, Harmony
	33	The Devil	15	Unhealthy Attachments, Shadow Self, Breaking ...	Commitments, Binding Agreements
	34	The Tower	16	Rebuilding After Change, Dismantling Status Quo	Disruption, Dismantling, Sudden Developements
	35	The Star	17	Hopelessness, Disillusionment	Healing, Hope, Inspiration, Guidance
	36	The Moon	18	Finding Truth	Shadow, Subconscious, Emotional Sensitivity
●	NULL	NULL	NULL	NULL	NULL

# Sprint review

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- I completed almost all of my tasks on my project sprint. I was very beneficial to get into prioritising of tasks and story point estimations. We were introduced these concepts on the first week of the course, however having practiced them now I can definitely say I am more confident planning a project, using Jira and working on user stories.
- I had some issues with error handling and some errors with testing and JavaScript on front-end side of the project. These were the tasks that were left behind, however, with more time I will definitely feel more confident around these issues.
- I am still hoping to work on the project and the system deployed post submission as I want to feel more confident with these technologies.

# Sprint retrospective

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- In overall, it has been an enjoyable process to get things working and grasp how different technologies interact with one another. I encountered various ways to doing the same things and I think I did my best in delivering what I could in the time we had.
- However, I did come across some errors during completion of some of the tasks. This mainly included some of the front-end aspect, as I am new to JavaScript and the concepts such as AXIOS, I could say I struggled with this the most.
- The back-end concepts were easier to deal with on Spring and perhaps we've just learnt them recently and with the help of you, trainers, I was able to understand things better.
- I attempted to solve some of the issues myself as this is the best way I can learn. I do hope to practice more and perhaps start a similar project again so that I can become more confident and understand how things work, get used to the terminology and learn new ways of writing and deploying code.



# Conclusion

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- In general, I am happy with my progress on the project. I was introduced to new concepts with QA training over the last few weeks and I definitely made good progress this week putting these in practice.
- I think I became more confident towards the end of the week after completing the majority of the tasks, and this is a great progress for me as I had no prior background knowledge.
- If I had more time, I would start working on the front-end and start building it from beginning, I think particularly need more practice with JavaScript. Another important thing I want to improve on would be Unit Testing, especially with concepts like Mockito. I struggled with this the most but I am sure with time and some more practice I will become more confident.
- I am hoping to put what I've learnt to practice and find better and more efficient ways of writing code.



# Thank you!

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- Thank you for all your help and support throughout the week!
- Please let me know if I can expand on anything and I am happy to answer any questions.