|  |  |
| --- | --- |
| Preparing for Research Consultancy Assignments  Research REport  BY DAMIAN HOOGSTEDER | Security research  *“If we knew what we were doing, it would not be called research, would it?” - Albert Einstein* |

# Abstract

Contents

[Abstract 1](#_Toc89076980)

[Introductions 2](#_Toc89076981)

[The subject 2](#_Toc89076982)

[Authentication (JWT) 2](#_Toc89076983)

[Main question 2](#_Toc89076984)

[Sub-Questions 2](#_Toc89076985)

[FIndings 3](#_Toc89076986)

[Results 3](#_Toc89076987)

[Discussion 3](#_Toc89076988)

[Account of investigation 3](#_Toc89076989)

[Applicabilty 4](#_Toc89076990)

[Conclusion 5](#_Toc89076991)

[References and appendices 6](#_Toc89076992)

# Introductions

## The subject

### Security in Authentication

While trading with online items that have their own distinct value, your account is your ownership of these items. That’s why a secure enviroment and authentication of your account is all the more important. In this research report I want to find out what different kind of aspects come in to play with making a secure and trustworthy trading platform.

## Main question

### How to secure an authentication service?

## Sub-Questions

### Why is a secure authentication important to users of my application?

#### Account of investigation

1. Survey  
   The answer to this question would be a accumilation of data from a large group of users. This data would be best taken through a survey.
2. Community research  
   Im sure this subject has already been researched. So for reassurance I’ll be comparing my data from the survey with findings from others regarding the same subject.

### What Different ways of securing an authentication are possible?

#### Account of investigation

1. Competitive analysis  
   By comparing several different competitors, within the field of the subject, to the outcomes of the first subquestion. I’ll be able to to make a criteria to decide on what fits the users needs, most.

### How Does my software benifit from JWT?

#### Account of investigation

1. Document analysis  
   JWT or Jason Web Tokens have quite a expansive source of information on their own website. I’ll be doing research through the sources of the company behind JWT.  
   <https://jwt.io>
2. Problem analysis  
   To find out how my software would benifit from JWT, I would first need to analyse the issues at hand. Look at what could be improved and how the current state is.
3. Gap analysis  
   Comparing the current situation to the best possible situation and analyising the gap in between. What needs to be achieved to cross the gap?

### WhaT are some best practices of authentication with JWT?

#### Account of investigation

1. Document analysis  
   I’m sure the company behind JWT has certain ideas about how their methods should be implemented. That’s why I’ll be analysing their documentation first and comparing this to implementation from other parties.
2. Best good and bad practices  
   By not only looking at the best practices but also the things not to do, I’ll ensure a best implementation of my research. By looking at something that has worked elsewhere you have higher chances of it working for you aswell.

### How does my current code compare to my research about the best practices?

#### Account of investigation

1. Prototype  
   To compare the working of my findings I would have to make a small prototype and compare it to my current software. This allows me to see possible vulnerabilities and adept the prototype before fully implementing it.
2. Observastion  
   By observing the difference in usage of the implementation with and without the best practices I can hopefully find out what works for the user and why.

# FIndings

## Results

## Discussion

# Applicabilty

# Conclusion

# References and appendices