Research report  
Keycloak

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**Afbeelding met schermopname, Graphics, Lettertype, logo

Automatisch gegenereerde beschrijving**

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# **Introduction**

## Problem description

In today's digital world, keeping online information secure is crucial. Businesses and organizations need effective tools to manage who can access their apps and data, ensuring only the right people get in while keeping everything safe. This challenge calls for Identity and Access Management (IAM) solutions.

Keycloak, an open-source IAM tool, steps in to help solve these challenges. The problem we're tackling is how to handle user identities, control who can access what, and make sure everything stays secure in modern apps. Without a good IAM system, there's a risk of security issues, not meeting compliance standards, and a lack of control over who gets to use what.

The main purpose of this research report is to understand its features and how well it can handle identity and access management. My goal is to implement in my personal project: “GamifyWork” and to determine for which project(s) it could be suitable.

## Main question

How can Keycloak be implemented in “GamifyWork”?

## Sub questions

1. What is Keycloak and how does it work?
   1. **Literature study:** Searching for academic papers, articles, and blog posts that discuss about Keycloak.
   2. **Community research:** Engage with online communities, forums, and social media groups dedicated to each of these frameworks. Observe discussions, queries, and the level of activity within these communities. Take note of the number of members, frequency of posts, and responsiveness to inquiries.
2. How does Keycloack handle user authentication and authorization?
3. What security mechanisms does Keycloak employ to protect user identities and access controls?
   1. **Document Analysis:** Review the official documentation for Keycloak. Look for sections or documents that explicitly outline the strengths and weaknesses for Keycloak.
   2. **Problem Analysis:** Research what the most popular vulnerabilities and attacks are towards Keycloak. And how Keycloak find solutions for these problems.
4. How easily can Keycloak integrate with the specific features of GamifyWork.
   1. **Best good and bad practices:** Research and compile a list of best practices for Keycloak. These practices should highlight effective ways to extend or modify the behaviour of Keycloak while avoiding common pitfalls.
   2. **Observation:** Observe and analyse real-world applications or projects built using Keycloak. Pay attention to how developers have customized it to meet specific requirements.

# **Results**

## Sub question 1

## Sub question 2

## Sub question 3

## Sub question 4

# **Resolution**

## Conclusion

## Recommendation

# **References**

# **Version History**

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| --- | --- |
| **When?** | **What?** |
| 10/11/2023 | First start, initialized it. |