



Cloud & IoT Monitoring and Data analysis with Elasticsearch and Grafana

Personal Reflection

Bachelor's degree in the Applied Computer
Science

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Personal Reflection – Internship at Van Genechten Packaging

The personal reflection document describes the learning progress from the internship at Van Genechten packaging highlighting the key abilities I acquired, the difficulties I came across, and the valuable lessons learned.

1. Personal Development and Growth

During the internship I better understood the use and role of monitoring tools like Grafana, Elasticsearch and Kibana play in the monitoring of the system performance as well as their maintainability in a cloud-based setting where I gained a practical experience with the tools.

2. Competencies acquired

Technical Skills:

Data Visualization: To help system operators and developers access key insights, I used Grafana and Kibana to display critical metrics and logs in an actionable manner. This involved identifying the most significant metrics and create visualization that effectively delivered the necessary information.

Soft Skills: During my internship, I came across technical challenges related to data integration and dashboard performance. These drawbacks required me to quickly adapt to new tools and resolve issues, which significantly improved my critical thinking and problem-solving abilities.

3. Challenges Faced

Not clear Data Requirements: At the beginning of the internship, I had challenges due to unclear or incomplete data requirements. Some data sources were either not available or not correctly defined, which made it difficult to create and implement certain dashboards.

Incomplete Dashboards: Due to fields or data, some dashboards were not completely developed during the internship. However, this experience gave clear valuable insights into the challenges that monitoring systems encounter when dealing with inconsistent or incomplete data.

4. Suggestion for improvement

To improve the process, it would be beneficial to establish clear data requirements and dashboards to be designed and implemented. Having well defined datasets from start would make the creation of dashboards easier and contribute to the development of more efficient monitoring systems.

5. Conclusion

This internship has played a key role in my professional growth, significantly boosting my confidence in pursuing a career in data analytics or data engineering. It provided a practical introduction to real-time analytics and system monitoring, enabling me to apply my theoretical knowledge in a real-world environment.

Working with tools such as Grafana, Kibana, Logstash, and Elasticsearch deepened my understanding of data visualization and cloud infrastructure. The experience of using Logstash to process log data and enhance dashboard performance was particularly rewarding, as it also gave me a clearer picture of the challenges involved in managing large-scale data systems.

While I made considerable progress and acquired new skills, I also recognized that there is still much to learn—especially in handling complex monitoring environments and efficiently deriving actionable insights.