# SISONKE Invoicing group Lessons Learned

Lesson’s Learned, Langelihle:

This week, I focused on configuring a REST API using ASP.NET Core MVC and Entity Framework, learning several key lessons in the process. Implementing design patterns like Singleton for logging and Factory for response creation improved code structure and maintainability. I realized the importance of robust error handling and logging for effective monitoring and debugging. Setting up role-based authorization was crucial for securing the API. Using Entity Framework simplified data access but required attention to performance optimization. Comprehensive testing proved vital for ensuring application stability. Finally, managing configuration settings properly enhanced the application's security and adaptability. This hands-on experience has significantly enhanced my skills in building robust and scalable APIs.

Lesson’s Learned , Katlego:

This week, I participated in a group project building an invoicing system using ASP.NET. I was responsible for both the backend and frontend development of the customer area, including its views. To enhance the design and enable dynamic data loading, I utilized Bootstrap and JavaScript. One of the key learnings involved using List<obj> properties to efficiently retrieve common IDs across linked tables for the first time. This approach significantly expanded my development experience.

Additionally, I contributed to the project's REST API by creating unit tests using Moq for the Notes controller, focusing on testing functionality based on date filters. I employed similar testing practices for the Invoices controller.

Lesson’s Learned, Ntsako:

This week, I had the opportunity to advance my skills significantly by working on a group project focused on ASP.NET. I delved deep into advanced programming techniques within the ASP.NET Core framework, utilizing various design patterns such as Singleton, Repository, and Dependency Injection to enhance our code's modularity and maintainability. Additionally, I improved my proficiency in developing RESTful APIs, implementing robust CRUD operations, secure authentication and authorization mechanisms, and effective logging with log4net. The project was managed using agile methodologies, where I actively participated in sprint planning, daily stand-ups, and sprint reviews and retrospectives, which refined my project management and team collaboration skills. This experience not only solidified my technical abilities but also enhanced my understanding of agile practices in a real-world development environment.

Lesson’s Learned, Sisanda:

I've gained a deeper understanding of how to create an ASP.NET MVC project. It involved setting up the project structure, configuring routing, and understanding the role of the Model-View-Controller pattern in organizing the application. I've been working on developing APIs, with a focus on following RESTful principles. This means designing and implementing endpoints that adhere to REST standards, ensuring smooth communication between the client and server. Participating in Scrum ceremonies has been eye-opening. Specifically, I've learned about:

- Scrum Planning Meeting: This is where we set the sprint goals and define the tasks to be completed within the sprint.

- Daily Scrum Meeting: These short, daily meetings are crucial for team members to sync up their activities and address any obstacles.

I've also gained insights into the proper formatting and structuring of REST APIs. I've learned best practices for naming endpoints, using the right HTTP methods, handling status codes, and effectively managing errors.

We also learned how to work as a team, which involved a lot of collaboration and helping each other complete the project. The collaboration involved a lot of communication between the team members and support. We learnt valuable skills from each other that will be helpful in our careers.