# **Clean Energy Ireland: Iteration 1**

## Stories Undertaken

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| **Story Description** | **Completion Status** |
| Create basic website framework | Checkmark |
| Connect website to MySQL database | Checkmark |

## Description of Stories

*Basic Website Framework*

The first step in developing this project was to create a basic set of web pages and populate them with placeholder HTML. This would be the foundation from which the rest of the project would be developed. This story was simple to complete as Visual Studio automatically generates a basic website when creating an ASP.NET solution. You are provided with a basic set of pages with a simple layout, which is a perfect foundation for a web application as these can be customised later.

Had Visual Studio not generated these pages, it would still have been a very simple story to complete using HTML and CSS. I chose to proceed with the template that was provided by Visual Studio as it allowed me to begin work on the application functionality instantly. I wish to focus on building core functionality first, and other aspects of the web application such as layout and design will develop naturally as more iterations are completed.

*Connecting Website to MySQL Database*

The main story I wished to complete this iteration was to connect Visual Studio an external database, which in my case was MySQL. I installed the MySQL community package on to my development machine, and this included several modules such as the workbench and command-line interfaces. It also included a connector for Visual Studio and .NET, which made linking MySQL to Visual Studio a very straightforward process. I simply had to add 3 files to the references folder in my main solution, and was good to go.

Using MySQL Workbench, I created a new schema called ‘cleanenergyireland’. This will be the main schema used for development purposes. For the purposes of testing the connection to Visual Studio, I created a table called ‘Product’ and added a few basic columns and rows. I followed a YouTube tutorial to develop basic CRUD functionality for the purposes of demonstrating the successful connection to an external database. Using the tutorials available on ASP.NET; I added further sorting, filtering, and paging functionality to the index page.

## Learnings and Reflections

The main goal I set myself for this iteration was to have a basic website running with one piece of functionality. On the surface, this doesn’t seem like much, but I feel I have overcome two large obstacles that were concerning me:

* Using the ASP.NET framework and getting acquainted with it.
* Configuring and connecting an external database.

Prior to commencing this iteration, I had no experience with ASP.NET in Visual Studio. Fortunately, we began developing using this framework in our Web Development module while undertaking this iteration. I was able to take what I learned from the module and apply it to my FYP, making changes where necessary. As a result, I feel much more comfortable using ASP.NET and I have developed a greater understanding of the Model View Controller (MVC) approach to building web applications.

I also had no experience in using MySQL prior to this iteration. While on work placement, I gained significant exposure to Oracle databases and managed them using TOAD for Oracle. I considered using this environment for my FYP but decided against it due to the software being proprietary and expensive. MySQL was a free alternative and so I choose it as my external database for this project. The package I downloaded came with a suite of tools which made connecting it to Visual Studio quite straightforward. It was difficult at first to navigate the database management system, MySQL Workbench. However, once I followed a YouTube tutorial and implemented CRUD functionality in my web application I found using the DBMS simple and intuitive.

Going forward, I feel much more comfortable with my development environment and I hope I will be able to complete future stories more efficiently now that I am familiar with the software I am using.

## Next Iteration

The stories I wish to complete for the next iteration are as follows:

* Implement a login system using knowledge gained from implementing CRUD functionality.
* Create user roles such as member and administrator.
* Restrict CRUD functionality to administrative users only.

## Resources Used

* Visual Studio ASP.NET basic web application template
* Tutorials available on https://www.asp.net/mvc
* YouTube tutorial on implementing CRUD functionality available at https://youtu.be/Col\_2RDI3\_4