Open Source Technologies in Visma Løn

This page provides an overview of the open source technologies used in the Visma Løn solution by Visma Enterprise Denmark. It is intended for technical stakeholders – such as integration partners, vendors, or customers with in-house development – who need insight into the technology stack behind the system.

Actively Used Open Source Components

Technology	Purpose	Platform	Usage
NLog	Logging	.NET	Used for application logging through a wrapper (`Log.cs`). Configured in various `Web.config` files and supports multiple output targets.
MSTest	Unit Testing	.NET	Used for automated unit testing, primarily via `[TestClass]` and `[TestMethod]` attributes.
Entity Framework	ORM (Object-Relational Mapping)	.NET	Handles database access using generated models from `.edmx` and `.tt` templates. Supports LINQ and transaction management.
jQuery	JavaScript Library	Web	Included as a client-side library for DOM manipulation and event handling. Version 3.5.1 is used.

Java-Origin Technologies (Legacy or Translated)

Visma Løn has historical roots in a Java-based solution. Some code and configuration elements reflect this origin, although they are no longer part of the actively used technology stack.

Technology	Status	Notes
`java.sql.Types`	Ported to .NET	Enum-based representation of SQL data types inspired by Java's `java.sql.Types`. Implemented in C# for internal DB abstraction.
Apache Commons Logging	Legacy reference	Present only in comments or historical import statements. Not actively used in the current solution.

Apache Struts	Legacy (Java)	Appears in legacy config files and transitional code, such as `struts-config.xml` and `StrutsToMvc.cs`. Not used in the .NET implementation.

Technical Framework

- **.NET Framework**: Version 4.5.1
- **Data Access**: Entity Framework 6.2.0
- **Testing**: MSTest (Microsoft Visual Studio test framework)
- **Frontend**: Static bundle of jQuery 3.5.1

License and Compliance

All third-party open source libraries are licensed under well-known and permissive licenses (e.g., MIT, Apache 2.0), and their usage is in full compliance with Visma's internal policies for external software components.