

# Tech Stack Table: -

Layer	Technology	Description
Frontend	Blazor WebAssembly (WASM)	Single Page Application UI using .NET 8 and C#
Backend	ASP.NET Core Web API (.NET 8)	RESTful APIs for LMS logic, authentication, etc.
Database	PostgreSQL	Open-source relational database
AI Feature	Gemini AI (Google)	Integrate AI for smart suggestions or content creation

# Required Tools Table: -

Tool / Package	Purpose / Usage
Microsoft Visual Studio	Main IDE for developing backend and frontend (Blazor + Web API)
.NET SDK 8.0	Required to run and build .NET 8 projects
Git	Version control system for tracking changes
GitHub	Remote repository hosting for frontend and backend projects
Docker	Containerization of backend, database, and services
PostgreSQL	Main database for storing LMS data
Npgsql EF Core Provider	PostgreSQL support for Entity Framework Core in .NET
PgAdmin / DBeaver	GUI tools to manage PostgreSQL
Swagger (Swashbuckle)	API documentation and testing in the browser
Postman / Thunder Client	Manual testing of API endpoints
AutoMapper	Mapping between DTOs and entities

<b>FluentValidation</b>	Model and input validation for APIs
<b>JWT Authentication</b>	Secure login and role-based access
<b>Gemini API</b>	Add AI capabilities to your LMS using Gemini models