

# Database and SQL

## SQL to the Core

### Built-in Embedded SQL

Every **FactoryStudio** system includes a full-featured embedded SQL engine. This provides several advantages:

- A safe and secure location for your entire project configuration.
- It can be used as the historian database to log tags, alarms, and events on small to medium systems (up to 10GB of data).
- On large systems, it can be used as a local Store and Forward location, when the remote database is not available.
- It provides an ideal system to store local runtime settings, retentive information, local recipes, schedules, tables, and queries when preparing reports.

### Multiple Database Connections

**FactoryStudio** provides seamless integration with any third-party database, including **Microsoft SQL Server**, **Oracle**, **MySQL**, **Informix**, **SQL Lite**, **PostgreSQL**, and others.

### Advanced DataGrid

**FactoryStudio** provides a fully-featured DataGrid object that present tables and queries from databases, as well as shows the contents of any tag, assets, or real-time objects. Drop the table, query, or tag in the Grid Data Source to create front-end visualization, edit any real-time object, or edit any database.

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### Real-time Queries and Tables

Any data source with ODBC, OLE-DB, or ADO.NET support can be connected with the application. An easy syntax allows you to create or customize any query or table search with real-time tags.

### Client-Server Architecture

Real-time queries can be processed either from the server or from the client computer, asynchronously or synchronously. To achieve a better performance, multiple requests from distributed clients are cached and synchronized in the server.

### Data Gateway

Connecting client queries through Firewall protected security zones, such as moving data between the Automation Network and the IT network, is no longer an issue. **FactoryStudio** provides a built-in firewall friendly data gateway. Data queries from clients are routed in a secure way through any **FactoryStudio** system.



#### The Convergence of SQL database, HMI software and .NET

Scheduling and processing recipes and real-time data consolidation is made easy.

See "[SQL Queries](#)" for more information.