

Synchronize SQLite, SQL LocalDB and SQL Server clients with Microsoft SQL Server



SyncStudio lets developers add a complete database synchronization solution to mobile, desktop and web apps in minutes rather than weeks or months. With the SyncStudio API, developers build full support for synchronization and replication into their offline apps: SQLite, SQL LocalDB or SQL Server on the client, and Microsoft SQL Server on the server.

The Microsoft Sync Framework is powerful but complicated to learn and use. SyncStudio insulates you from it entirely. Sync configuration, database provisioning, code generation and compilation, IIS deployment and user management are all handled for you, so you don't need to know C# or Visual Studio. SyncStudio also adds the enterprise features the Sync Framework lacks, such as session-level transactions and automatic schema synchronization.

To complete the solution, SyncStudio includes universal sync client class libraries for Android, iOS, Basic4Android, Xamarin, .NET MAUI and Windows, plus sample sync clients with source code, so your apps are synchronizing fast.

Industry standard

Built on the Microsoft Sync Framework: proven, dependable, scalable sync technology.

Up and running fast

Designed for quick implementation: data synchronizing in minutes or hours, not weeks.

Intuitive interface

A wizard-style console guides you step by step to a zero-code sync solution built to your needs.

Your server, your costs

Runs on your own Windows server or hosting. No per-record or cloud sync fees.

Features include

- True bi-directional synchronization and replication
- Automatic client database creation
- Automatic schema change synchronization
- Session-level transaction commit/rollback
- Built-in batching for large databases
- Client libraries for many platforms and databases
- Sync Management Console (SMC)
- Simple and advanced data filtering
- Automatic database provisioning
- Automatic code generation
- Automated IIS deployment
- Reporting and logging

True data synchronization

SyncStudio is a full bi-directional synchronization solution. Unlike simple data replication or custom REST web services, it exchanges only new and changed records between client and server, so both databases stay in sync with the minimum data moving back and forth. Change tracking is automatic on the server, and on the client your app has full control to flag records that were created, changed or deleted.

Automatic schema creation

The first time a SyncStudio-powered app synchronizes, it downloads the schema and creates the client database automatically, complete with every table, field and index published for sync. Server field types that SQLite doesn't support are translated to the closest equivalent. On every later sync, SyncStudio validates the local schema against the server and applies any changes.

Schema change synchronization

Database structures change as products grow. SyncStudio delivers schema synchronization out of the box: changes made on the server reach every client the next time it syncs, without breaking sync or losing unsynced data, as long as the changes follow a few simple design rules.

Large databases

SyncStudio was built for mobile environments and their memory limits. Uploads and downloads move in batches, so it can sync databases with tens or even hundreds of thousands of records.

Transaction commit/rollback

Every sync session is applied as a single transaction, even across many batches. It either succeeds or fails as a whole. Solutions that commit batch by batch can leave a database partly updated after an error; SyncStudio doesn't.

Client class libraries and sample clients

Developers build sync into their own apps with the universal sync client libraries (.JAR for Android and Basic4Android, .DLL for .NET platforms). Or use the free sample sync client apps as a stand-alone sync utility, with full source code as a starting point.

The Sync Management Console

The SMC is the Windows application where you create the sync project: choose the tables and fields to sync, and set sync direction, conflict handling, filters and user access, without programming. It handles database provisioning, code generation and compilation, and deployment to IIS.

Data filtering

Simple and advanced filtering let developers and administrators control which records reach each device, table by table.

Automatic provisioning, code generation and deployment

The SMC provisions (and de-provisions) the server database, adding the tracking tables, triggers and procedures sync needs. It then generates and compiles a WCF sync web service tailored to your tables and fields, and deploys it to IIS with one click. No custom server-side code.

Reporting and logging

Full sync logging on the client and the server, with reports in the SMC for project definitions, users and sync sessions.

System requirements

Server OS	Windows 10 or 11; Windows Server 2019–2025 (2025 recommended)
Web server	IIS 10 or later
.NET Framework	4.0 minimum, 4.8 or later recommended
Server database	SQL Server or SQL Server Express 2019 or 2022
Code generation	Visual Studio Build Tools or Visual Studio 2019 or 2022
Sync Framework	Microsoft Sync Framework 2.1 (installed automatically)
Clients	Android 9+, iOS, Basic4Android, Xamarin, .NET MAUI, Windows
Client databases	SQLite, SQL LocalDB, SQL Server (incl. Express)

Free developer version

Download a fully functional developer version at handapps.com/syncstudio-download.html. It runs for 10 days, plus 10 more with a free license file, and syncs up to three devices for testing.

Licensing

Free Developer license; Production licenses sized to your deployment; Royalty-Free licenses for ISVs; premium support and consulting. Email sales@handapps.com for pricing.

“Our users see dramatic cuts in coding effort when they add SyncStudio to their apps, and they’re surprised how quickly they get data flowing back and forth.”

Richard Calienes, CEO, HandApps Software