

Data Synchronizer



Data Synchronizer: Server

Server IP



10.0.161.94

Port

5001

Database

Connected

Name	Client IP	Server	Database	Sync	Configs
0000001	10.0.161.94	Disconnected	Disconnected	100%	
7865cc25	10.0.161.94	Connected	Connected	100%	

Data Synchronizer: Client

Client Info

Machine ID

7865cc25-2011-4578-a736-17a3a0715c3a

Server IP

10.0.161.94

Server Port

5001

Connection Status

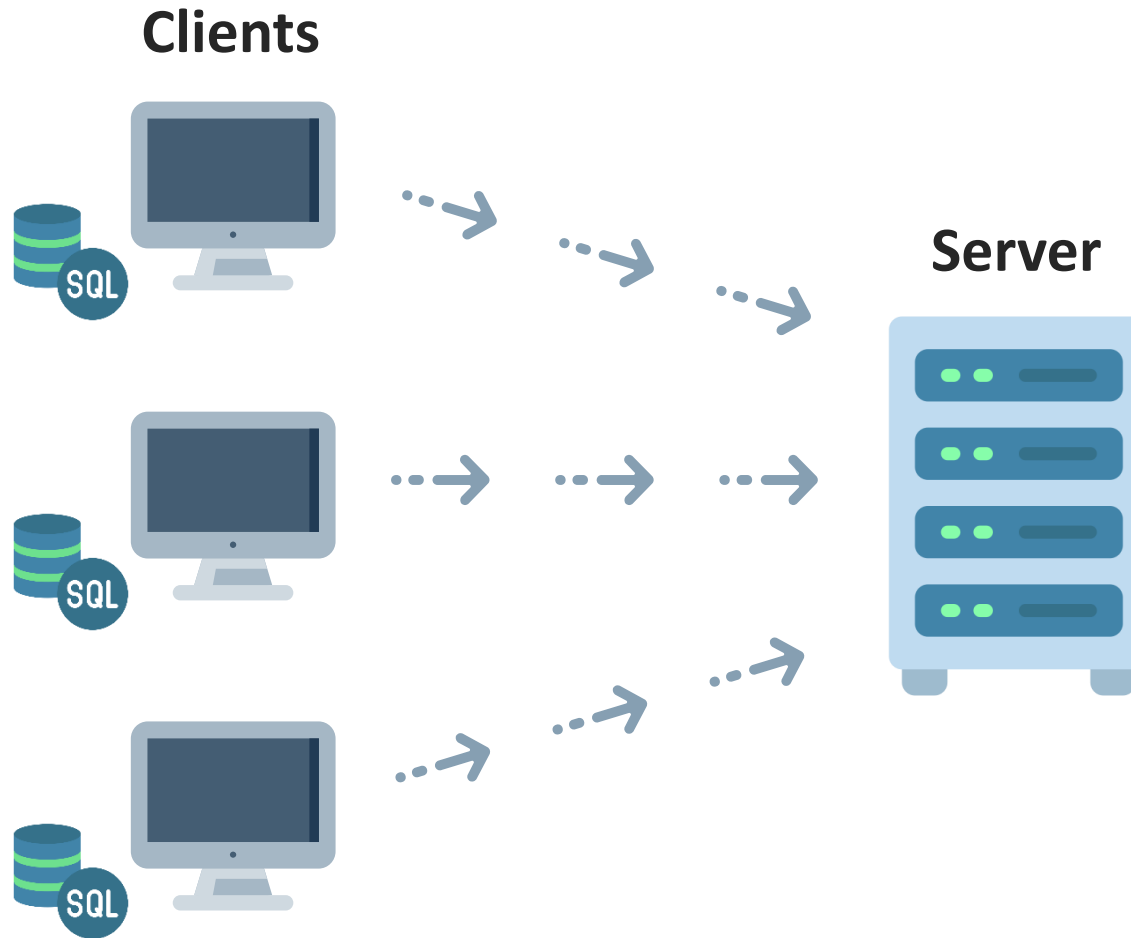
Server

Connected

Database

Connected

Introduction



Data Synchronizer is a Node.js Electron application that synchronizes MySQL/MariaDB data from Client database to chosen Server database.

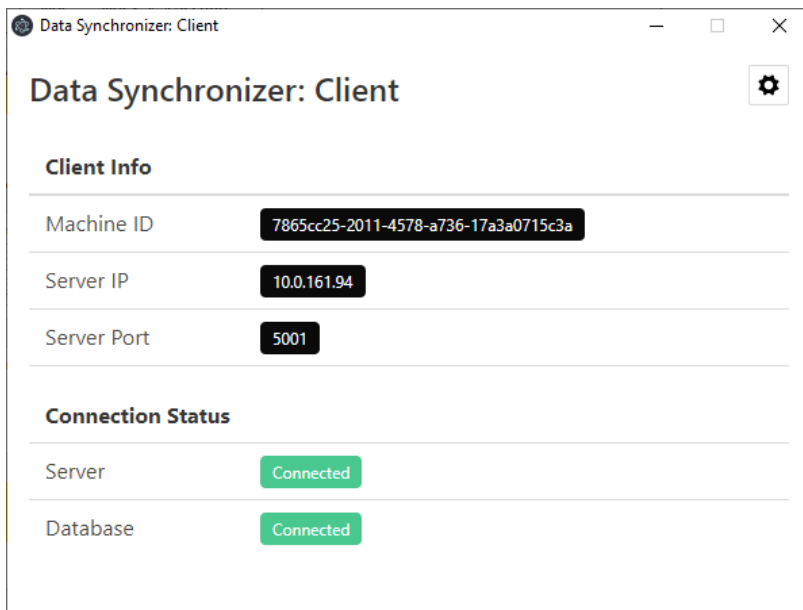
Applications use Socket.io for connecting and emitting data continuously.

Clients repeatedly try to connect to server if disconnects and continues data transfer from where they left.

Applications

Client

Connects to SQL server,
receives requests and
sends back to server



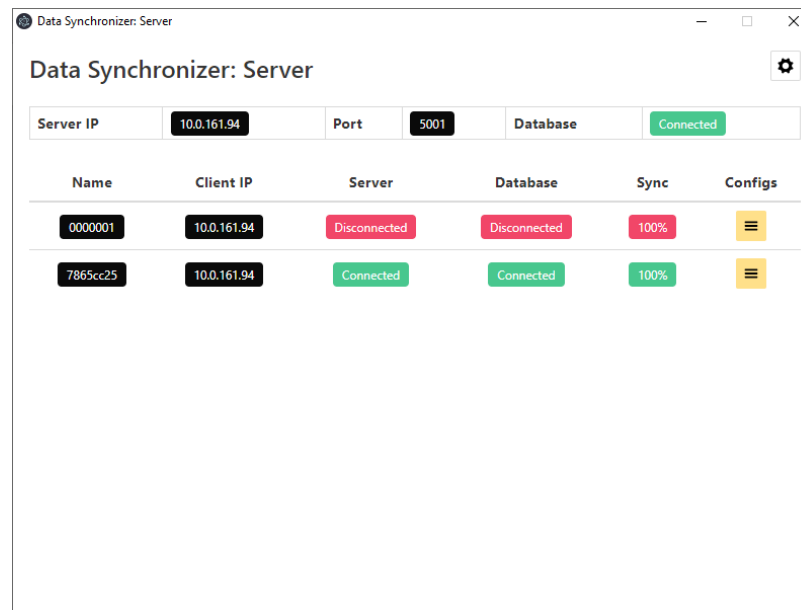
The screenshot shows the 'Data Synchronizer: Client' application window. It has a title bar with a gear icon and standard window controls. The main content area is titled 'Data Synchronizer: Client' and contains two sections: 'Client Info' and 'Connection Status'. The 'Client Info' section has three rows: 'Machine ID' with value '7865cc25-2011-4578-a736-17a3a0715c3a', 'Server IP' with value '10.0.161.94', and 'Server Port' with value '5001'. The 'Connection Status' section has two rows: 'Server' with a green 'Connected' button and 'Database' with a green 'Connected' button.

Client Info	
Machine ID	7865cc25-2011-4578-a736-17a3a0715c3a
Server IP	10.0.161.94
Server Port	5001

Connection Status	
Server	Connected
Database	Connected

Server

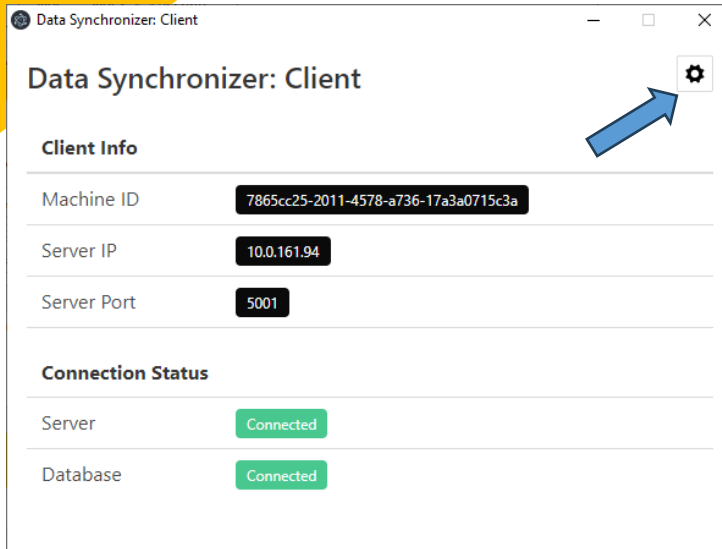
Collects data from
clients, synchronize
them to target databases



The screenshot shows the 'Data Synchronizer: Server' application window. It has a title bar with a gear icon and standard window controls. The main content area is titled 'Data Synchronizer: Server' and contains a configuration section at the top and a table below. The configuration section has four rows: 'Server IP' with value '10.0.161.94', 'Port' with value '5001', 'Database' with value 'Connected', and a green 'Connected' button. The table below has six columns: 'Name', 'Client IP', 'Server', 'Database', 'Sync', and 'Configs'. It contains two rows of data.

Name	Client IP	Server	Database	Sync	Configs
0000001	10.0.161.94	Disconnected	Disconnected	100%	⋮
7865cc25	10.0.161.94	Connected	Connected	100%	⋮

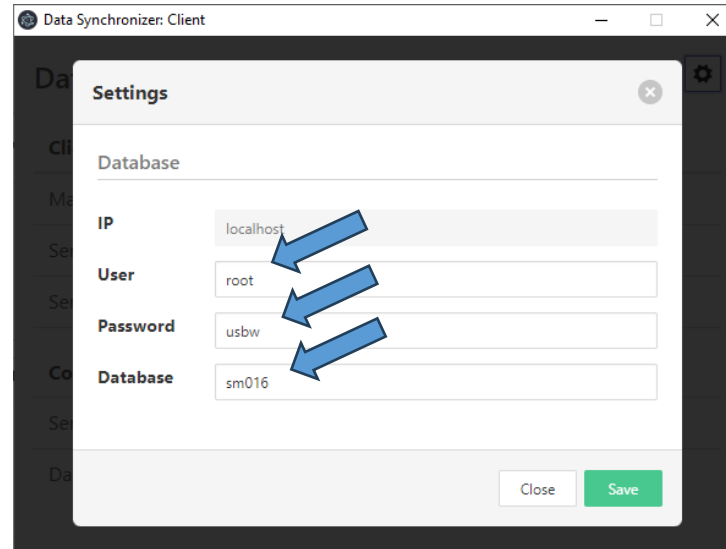
Client Settings



The main window of the Data Synchronizer Client. It displays client information and connection status. A blue arrow points to the settings gear icon in the top right corner.

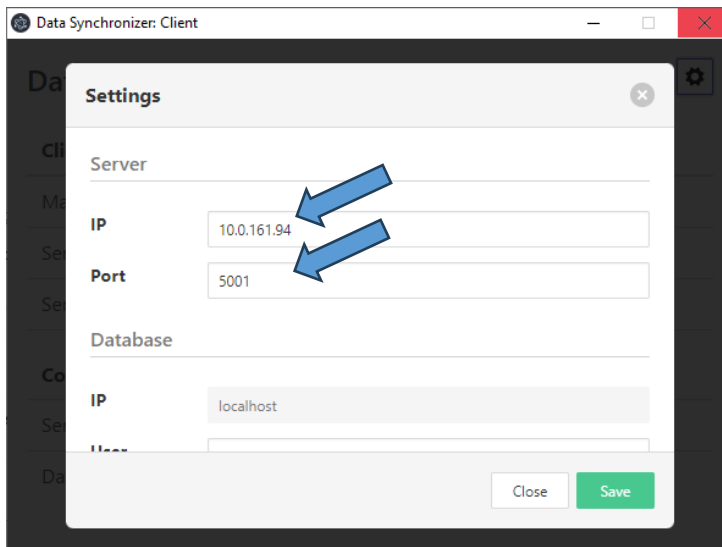
Client Info	
Machine ID	7865cc25-2011-4578-a736-17a3a0715c3a
Server IP	10.0.161.94
Server Port	5001

Connection Status	
Server	Connected
Database	Connected



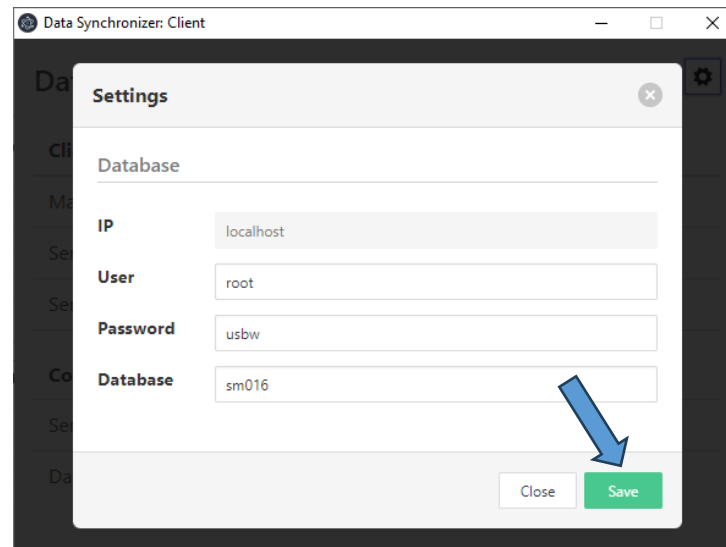
The Settings window with the Database tab selected. Blue arrows point to the input fields for IP, User, Password, and Database.

Settings	
Database	
IP	localhost
User	root
Password	usbw
Database	sm016
<div>Close Save</div>	



The Settings window with the Server tab selected. Blue arrows point to the input fields for IP and Port.

Settings	
Server	
IP	10.0.161.94
Port	5001
Database	
IP	localhost
User	
<div>Close Save</div>	

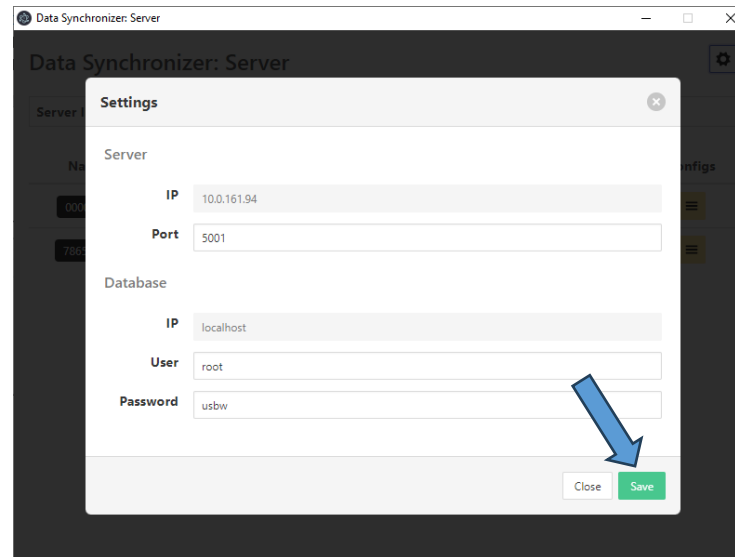
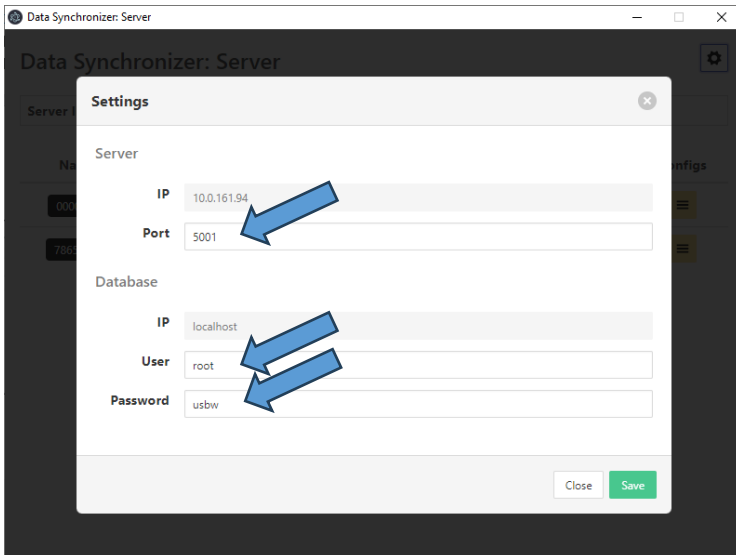
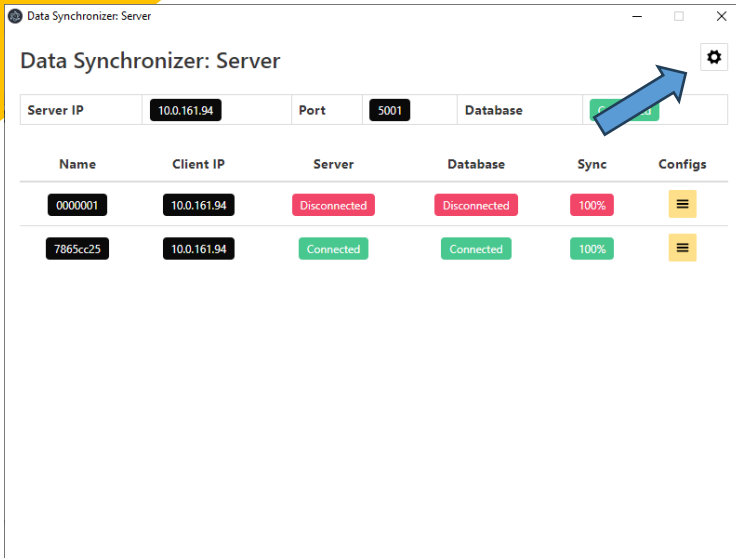


The Settings window with the Database tab selected. A blue arrow points to the Save button.

Settings	
Database	
IP	localhost
User	root
Password	usbw
Database	sm016
<div>Close Save</div>	

- Click **Cog** button to open settings.
- Enter Server IP address and Port credentials. *(These informations can also be collected from Server application)*
- Enter Database credentials. *(Database name is case-sensitive)*
- Click save button and restart application.
- Settings will be valid after restart.

Server Settings



- Click **Cog** button to open settings.
- Enter Port credential. Enter Database credentials.
(Database name is case-sensitive)
- Click save button and restart application.
- Settings will be valid after restart.

Registration

Data Synchronizer: Server

Server IP: 192.168.0.19 | Port: 5001 | Database: Disconnected

Name	Client IP	Server	Database	Sync	Configs
0000001	10.0.161.94	Disconnected	Disconnected	100%	⋮
7865cc25	10.0.161.94	Connected	Connected	---	⋮

Configs

Machine ID: 7865cc25-2011-4578-a736-17a3a0715c3a

Name: 7865cc25

Client DB: sm016

Server DB: t136_test

Refresh Check Bind

Listing 9 databases

Client Setup	Server Setup		Sync	
Table	Table	Columns	Client	Server
ateqtest	OK	OK	2978	2978
counter	OK	OK	1	1
kaynak	OK	OK	3466	3466
login	OK	OK	1	1
markalama	OK	OK	0	0
personallist	OK	OK	2	2

Close

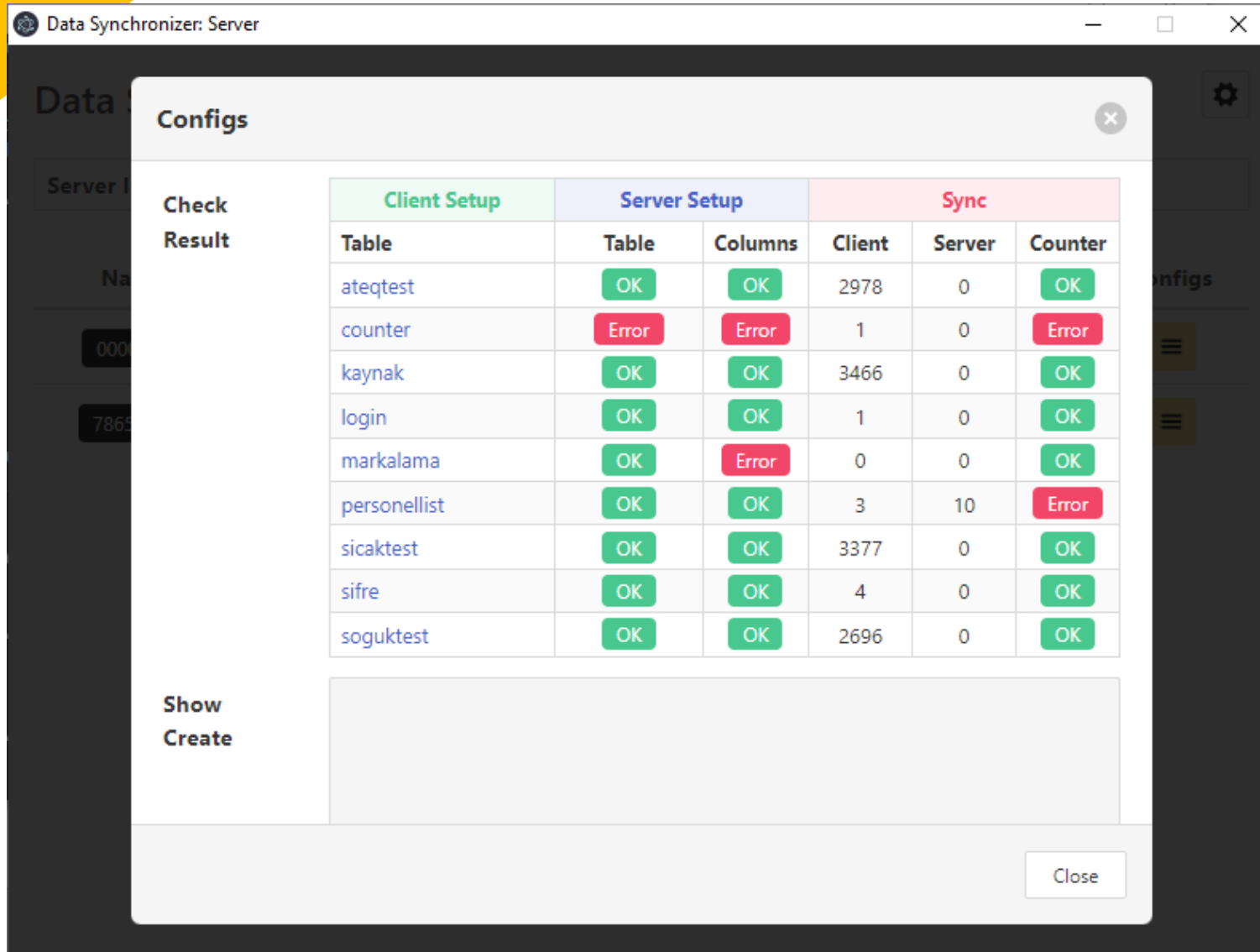
Data Synchronizer: Server

Server IP: 10.0.161.94 | Port: 5001 | Database: Connected

Name	Client IP	Server	Database	Sync	Configs
0000001	10.0.161.94	Disconnected	Disconnected	100%	⋮
7865cc25	10.0.161.94	Connected	Connected	6%	⋮

- Clients will appear on screen main screen when connected and will have '---' on Sync column if not registered.
- Click Client's **Config** button to open client configuration window and choose target database.
- Click **Check** button to compare Client & Server database match. (If check is successful **Bind** button will be activated)
- Click **Bind** button to bind Client database to selected server database.
- After binding data transfer will start immediately.

Database Binding Error Types



The screenshot shows a software window titled 'Data Synchronizer: Server'. Inside, there is a 'Configs' dialog box. The dialog has a 'Check Result' section on the left and a table on the right. The table is divided into three main sections: 'Client Setup', 'Server Setup', and 'Sync'. The 'Client Setup' section has a 'Table' column. The 'Server Setup' section has 'Table' and 'Columns' columns. The 'Sync' section has 'Client', 'Server', and 'Counter' columns. Each cell in the table contains either 'OK' (green) or 'Error' (red). Below the table, there are 'Show' and 'Create' buttons. At the bottom right of the dialog is a 'Close' button.

Client Setup	Server Setup		Sync		
Table	Table	Columns	Client	Server	Counter
ateqtest	OK	OK	2978	0	OK
counter	Error	Error	1	0	Error
kaynak	OK	OK	3466	0	OK
login	OK	OK	1	0	OK
markalama	OK	Error	0	0	OK
personellist	OK	OK	3	10	Error
sicaktest	OK	OK	3377	0	OK
sifre	OK	OK	4	0	OK
soguktest	OK	OK	2696	0	OK

- Check result will be shown in **Check Result** table.
- If **Table** has an error, that means table missing.
- If **Columns** have an error, that means table column name, data type or key does not match.
- If **Counter** has an error this means Server has more records than client. (Counter error does not prevent binding)

Fix Binding Errors

Data Synchronizer: Server

Configs

Result	Table	Table	Columns	Client	Server	Counter
	ateqtest	OK	OK	2978	0	OK
	counter	Error	Error	1	0	Error
	kaynak	OK	OK	3466	0	OK
	login	OK	OK	1	0	OK
	markalama	OK	Error	0	0	OK
	personellist	OK	OK	3	10	Error
	sicaktest	OK	OK	3377	0	OK
	sifre	OK	OK	4	0	OK
	soguktest	OK	OK	2696	0	OK

Show Create

```
CREATE TABLE `counter` (  
  `counterId` int(11) NOT NULL,  
  `sayac` int(11) DEFAULT NULL,  
  PRIMARY KEY (`counterId`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Close

- **Table** and **Column** errors can easily be fixed by using **Show Create** function.
- Click table name to get client's table creation command and fix server database table using this information. *This function can also be used for fast preparing server databases. Create an empty database at server side. Choose that database in server application. Click **Check** button to get **Check Result** table. Click each table name and gather table creation queries*
- In order to fix **Counter** errors, best way to truncate related table from server side and let applications to re-synchronize themselves.

Delete Client

The application window 'Data Synchronizer: Server' displays a 'Configs' table with the following data:

Client Name	OK	Error	Value 1	Value 2	OK
kaynak	OK	OK	3466	0	OK
login	OK	OK	1	0	OK
markalama	OK	Error	0	0	OK
personellist	OK	OK	3	10	Error
sicaktest	OK	OK	3377	0	OK
sifre	OK	OK	4	0	OK
soguktest	OK	OK			OK

The 'Delete Client' button is highlighted with a blue arrow. The 'Confirm' button is also highlighted with a blue arrow.

Show Create

```
CREATE TABLE `counter` (  
  `counterId` int(11) NOT NULL,  
  `sayac` int(11) DEFAULT NULL,  
  PRIMARY KEY (`counterId`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Delete Client

Click 'Confirm' button to delete this client.

Close

- You can delete a client by clicking Delete and Confirm buttons.
- User will be deleted if Confirm button clicked and will be removed from the main screen.
- This operation will delete user information but will not close socket connection.
- In order to get same user again, restart client or server application. Client will appear. However, you have to register the client again.

Thanks

