



Extended DB Two-way Sync

v 1.0

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ExtendedDb Two-Way Sync

Developers can use the ExtendedDb to create new schemas and tables which live in the core Exigo database. This extensibility opens the door for a limitless set of new applications. The benefit of using the ExtendedDb to house new data types is the proximity to existing Exigo data. If your application builds on the concept of customers, trees, orders or commission data, you will enjoy the benefit of joining these with your new entities.

Previously you would use OData to write to the ExtendedDb entities. These entities would then replicate down to your synced copy of the database. This presented a problem: lag. If you were using your local synced SQL database to view the data and OData to updated/insert it, you could have some instances where your application was waiting for the data to make it through the sync to show the results of your transaction.

The ExtendedDb Two-Way Sync solves this. It allows you to natively write to your local synced SQL database for your ExtendedDb tables. In the background it will replicate your changes to the master Exigo database as well as any other copies of Sync you may have running.

Enabling Two-Way Sync

ExtendedDb is currently managed at <http://developers.exigo.com>. You can control which Entity/Table is synced and in what mode. Under "Sync Type" you'll see three options:

1. None The entity will not be synced. It is available only via OData.
2. Read Only Updates via OData and synced databases for read only access.
3. Read Write Turns on Two-Way Sync. Updates can be done via OData and on any local SQL synced database. All changes are replicated to all instances.

Auto Number Management

Auto Number, or Identity column as it is known in SQL, is a mechanism where the server assigns the value from an auto-incrementing sequence. This is commonly used in primary keys as a convenient unique value. As you can imagine, in a multi-synced environment this presents a challenge. If you were writing at the same time to different instances each server could potentially assign the same next number which would create a conflict when merged.

Exigo's ExtendedDb Two-Way Sync solves this by creating identity "ranges". Each instance of sync is assigned a unique range for the auto number assignments of that table. This ensures no conflicts occur when merging changes from multiple synced databases. The sync process constantly monitors the range usage within each instance and assigns new ranges when necessary.

Auto Numbers will continue to work with Two-Way Sync. However you may want to consider using an alternative type for your keys to avoid the complexity of range management. Consider using a GUID.

Entity Design Enhancements

With the rollout of Two-Way Sync came a number of enhancements to the entity/table design interface:

1. **Guid Data Type** You can now designate a column as a type of Guid. Guid (Globally Unique Identifier) is a 128-bit type well suited for a unique identifier.
2. **Binary Data Type** You can now store images and files or other data where raw bytes are needed.
3. **Size** You can now control the max size for string and binary types. If left blank the size will be assigned "Max".
4. **Default** You can now assign the default value for a column. This is especially useful when adding a column after the fact to a table which already has data.
5. **Allow Null** Columns are no longer all null able. You control which allow and which do not allow null value.

Conclusion

ExtendedDB Two-Way Sync is the next evolution of our Exigo developer's platform. It will allow the creation of powerful new applications which leverage the core Exigo data with the ease of using SQL for local updates to your extended entities.

Keep in mind this iteration is still in Beta. Extensive testing has been done and is ongoing. Feel free to kick the tires and report any issues you encounter.