

# Database Maintenance

## Installation of New Database Schema

Installation of a new database schema is initiated by the `DatabaseManagerViewModel`<sup>1</sup> and handled by `MonahrqNHibernateProvider` using the Fluent NHibernate mappings defined throughout MONAHRQ.

## Installation and Maintenance of Base Data

See **Error! Reference source not found.**

## Data Migrations and In-Place Upgrades of Core Schema

Migration scripts used to perform in-place upgrades of the MONAHRQ database schema are stored in the “Monahrq” project under `Resources\Database\Version`. This directory contains subdirectories named for the major and minor version numbers (e.g.: the directory for version 7.0 is “70”), which contain installation scripts, and the following subdirectories:

- `Common` – SQL scripts executed before any upgrade
- `PostUpgrade` – SQL scripts to be executed after all other upgrade scripts are complete
- `Minor` – SQL scripts executed for minor upgrades (e.g.: 7.0.0 to 7.0.1)
- `Minor\PostUpgrade` – SQL scripts to be executed after minor upgrades are complete

The migration process is triggered when a discrepancy is found between the installed database schema version, found by querying the `SchemaVersions` table for a row with `Name = 'Database Schema'`, and the `CurrentSchemaVersion` property of MONAHRQ’s `ConfigurationService`<sup>2</sup> when MONAHRQ starts. When a discrepancy is found, the Host User is prompted to upgrade the database schema. If they choose to upgrade, the normal MONAHRQ startup sequence is bypassed and the Host User is taken directly to the database manager where they can initiate the upgrade process.

All of the database upgrade logic may be found in `DatabaseManagerViewModel`<sup>1</sup>.

## Data Migrations and In-Place Upgrades of Wing Schema

None of the Wings built-in to MONAHRQ implement in-place schema upgrades. As a result, there is no sample code to work with when writing an in-place schema upgrade. Two options are available for upgrading the schema:

- Base Data Importers can be used for any database operations, including schema updates; see **Error! Reference source not found.**
- Overriding the `Reconcile()` method of a `WingModule` to verify and update the database schema as needed. Review the base `WingModule.Reconcile()` implementation to determine what steps must be replicated in your implementation.

---

<sup>1</sup> See `Monahrq\ViewModels\DatabaseManagerViewModel.cs`

<sup>2</sup> See `Monahrq.Infrastructure\Configuration\ConfigurationService.cs`