27.12.2020

I create a new table in database. This table has only two columns (fields):

1. Name (text)
2. Age (string)

None of them is primary key. A table in SQLite has automatically the column “rowid”, which acts like primary key. If you want to set the table to be WITHOUT ROWID, first you need to set a column as primary key.

I set a column as primary key and define the table as WITHOUT ROWID. The table looks like this:

Anyway, I learned, in the presence of rowid, the command QSqlTableModel::insertRecord(int row, const QSqlRecord &record) no matter what input “row” is, adds the record to the end of the table.

If we want to be able to add record to the middle of table, we need to have a primary key column in the table. Then we need to modify these keys so that we open a place for our new record. Not a good idea! Think of a table with millions of records!

**date-time of insertion must be primary key of table!**

It probably doesn’t even make sense to add a record to the middle of the table! People in StackOverflow are probably right!

My next goal must be transition from QSqlTableModel to QSqlRelationalTableModel.

28.12.2020

I changed QSqlTableModel to QSqlRelationalTableModel. Then I tried to use foreign key for currency. It was not easy and the view table kept showing IDs instead of currencies. The fix is that after the code QSqlRelationalTableModel::setRelation(), we need to call QSqlTableModel::select(). QSqlTableModel::select() should be called after sorts and filters as well.

29.12.2020

I have some foreign keys in table “Costs”. How can I get a list of foreign keys of a table using Qt? I am looking at below two:

Below page says Qt doesn’t provide it:

<https://www.qtcentre.org/threads/16820-Get-primary-and-foreign-keys-from-tables>

Below page tries to give an idea how we could fetch foreign keys:

<https://www.qtcentre.org/threads/14822-How-to-get-list-of-database-s-table-s-foreign-keys>

My goal is to read from table in database, if the table has foreign keys and if, the list of foreign keys, with which, I can establish relations programmatically.

No!

My goal is to create a database like the one I have programmatically.

06:10 AM! I finally wrote a class for generating a sample database.

02.01.2021

Today I want to subclass QIdentityProxyModel class and put it between model and view. If we want to have filter or sort, we need to subclass QSortFilterProxyModel. But when we want to process the data of source before displaying in view, we subclass QIdentityProxyModel. Then a dynamic object of this class comes right between model (called “source model” in the presence of proxy model) and view. Look at what we did in Daric:

IdentityProxyModel\* proxyModel = new IdentityProxyModel(this);

proxyModel->setSourceModel(sqlTableModel);

ui->tableView->setModel(proxyModel);

03.01.2021

Below is a good example of using proxy models:

<https://stackoverflow.com/questions/55141141/which-functions-to-override-with-a-custom-qsortfilterproxymodel>

I am trying to reimplement the function data() in proxy class. So far, not successful. The function is not called at all.

04.01.2021

I finally made the proxy work. I had a mistake in configuration of “\_properties” tables (I had forgotten the column “properties”). Plus, the header names of “\_properties” table didn’t match with the member names of struct “Field”. Finally, I learned that I can have multiple connections to database, but in order to have all running, I need to assign different names to them.

Another point to learn was calling the function QSqlRelationalTableModel::select() after getting a table model:

MySqlTableModel2 \*tableModel = new MySqlTableModel2(nullptr,databaseConnection);

tableModel->setTable(tableName);

tableModel->select(); // Shouldn't be forgotten!!!

06.01.2021

I am reading below page to learn how to add UnitTest to Qt project:

<http://imaginativethinking.ca/qtest-101-writing-unittests-qt-application/>

I am not reading below one, but it is very comprehensive set of tutorials:

<http://blog.davidecoppola.com/2018/01/gui-unit-testing-with-qt-test-advanced/>

|  |  |
| --- | --- |
| Qt | Visual Studio |
| Project | Solution |
| Subproject | Project |

03:44 AM. I finally got a HelloWorld application work with its unittest. Tomorrow:

1. Document all you did.
2. Apply the same changes on Datic.

08.01.2021

Good example for filterProxyModel:

<https://stackoverflow.com/questions/55141141/which-functions-to-override-with-a-custom-qsortfilterproxymodel>

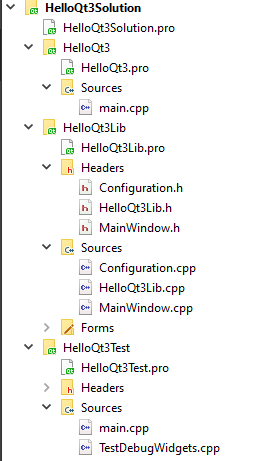
A good example of QTest:

<https://forum.qt.io/topic/66908/qt-test-empty-window/2>

23.01.2021

For a long time I had and maybe still have the problem that I don’t know how to use OpenCV in my project which has several SUBDIRS.

I guess now I am having some progress. In an example project, I have below structure:



I used to add below lines to HelloQt3Lib.pro:

|  |
| --- |
| INCLUDEPATH += "C:/OpenCV/opencv/release/install/include"  LIBS += -L"C:/OpenCV/opencv/release/install/x64/mingw/bin" \  -llibopencv\_core3413 \  -llibopencv\_highgui3413 \  -llibopencv\_imgcodecs3413 \  -llibopencv\_calib3d3413 \  -llibopencv\_imgproc3413 |

And I didn’t really know why I can not run HelloQt3. I was thinking the project HelloQt3Lib uses OpenCV and I have included OpenCV there. Why should HelloQt3 complain (I was trying to use Opencv classes in MainWIndow). Till I red below page:

<https://stackoverflow.com/questions/28514692/header-not-found-in-subdir-project-in-qt>

This page says, C++ replaces all header files with their contents. So #include “MainWindow.h” in main.cpp, will be replaced by the contents of MainWindow.h. And since we have OpenCV in MainWindow, we have to include it in project of main.cpp as well.

Based on this thought, when I include OpenCV in HelloQt3.pro, HelloQt3Lib.pro and HelloQt3Test.pro, then I can build all subprojects successfully and can use opencv.

One other point is that mingw-64 bit is not able to build inclusion of opencv on my machine. So I have to build it with mingw-32 bit.

A small point: If you want to build the release of OpenCV yourself, using cmake and mingw, notice that your mingw to have posix.

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