

# What is Qt Designer and what are ui files?

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Qt Designer is the GUI editor provided by Nokia (creator of Qt), which is widely used among C++ developers. It is actually the best GUI tool for Qt development, because it is tightly connected to Qt. Qt is an object-oriented application framework designed specifically for developing cross-platform applications quickly and efficiently.

### Qt Designer is used to create ui files containing windows and controls.

Qt Designer lets you create windows and its interface controls like buttons and save the interfaces as so called ui files, which are loaded during runtime of your program (or compilation).

In Qt Designer you draw your windows and controls. The connection to your code is done by giving all objects meaningful names and declaring special commands in your source code in the Q7Basic IDE. Two special keywords are used for this task:

•**Outlet** lets you connect variables to **controls** located in your source codes to interface controls like buttons. They are defined in your source code like ordinary variables except that they point to a control in a ui file loading on application startup.

```
Outlet pushButton As QPushButton ' if your button is not named pushButton,
change it!
```

```
So you can use pushButton in your source code to change the title of the
connected button at runtime or any function or property of a Button.
```

•**Signal** is used to define an **event function** called, whenever the event of the control is triggered. They are defined in your source code like ordinary functions.

```
Signal on_pushButton_clicked(Checked As Boolean) ' if your button is not
named pushButton, change it!
    ' your event code here
End Signal
```

```
If the signal function has follows the naming convention and has the name
of a QPushButton, it gets called whenever the button is pressed by the
user.
```

The event follows the form on\_...\_clicked(Checked As Boolean), where ... stands for the object name set in Qt Designer for that button.

### Application startup, automatically loading ui file, and object creation of windows and controls

When a ui is loaded – the MainWindow.ui file is automatically loaded by Q7Basic for you, the ui loader creates all objects, then hooks up all of their outlets and actions. After all outlets and actions are connected, the ui loader calls the special event procedure **Init** of each object in a ui. This is

where you can access outlets to set up default values or do configuration in code.

### **Several windows in Qt Designer let you create the needed GUI**

- The object and control list (on the left) let you choose the new objects or controls to be insert.
- The property window (on the right) let you change the properties of windows and controls.

### **Switching between Qt Designer and the IDE of Q7Basic**

Being in the IDE of Q7Basic, whenever you select the command to open Qt Designer, the ui file fort the current code window is used as reference and will be opened by Qt Designer.

Always save your changes in Qt Designer in order to get the updates to the IDE of Q7Basic.

To be continued...

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