# Archived:Getting started with Qt for Maemo

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You can now get started with Qt development for Maemo more easily with the Qt SDK. Using the Qt SDK you have one simple installation and don't need to install the Maemo 5 SDK. For more information, visit the Tools page on Nokia Developer and read the Getting Started Guide.
Notes:

- The Maemo 5 SDK is still available at time of writing (29 April 2011) and the instructions in this article can still be followed.
- MADDE was used during Qt on Maemo technology preview stages but is not recommended because the Qt SDK now provides an easier path for building for Maemo (device/simulator)
- MADDE is integrated into the Qt SDK - see C:\QtSDK\Maemo\4.6.2

06 Sep 2009

## Introduction

This article teaches how to get started with Qt4 on the Maemo platform towards a code example. It describes how one can install Qt4 programming environment and execute a Qt4 application on Scratchbox.

Qt4 has been ported to Maemo platform by Qt4 Maemo developers team. Its main objective is to integrate Qt4 in Hildon, the main application framework of Maemo platform. For more information about the project, visit this page.

## Installation

This section describes how you install Qt programming environment for Maemo platform.

### Prerequisites

You need to have Scratchbox and Maemo SDK properly installed on your host machine. If you still need some help to install such prerequisites on your environment, see Maemo 4 tutorial or Maemo 5 SDK installation

### Enabling additional repositories

To start with, we need to add "extras" and "extras devel" repositories to Scratchbox apt-get sources. Note that this step is mandatory only for Maemo 4, Maemo 5 has Qt as part of main distribution.

To modify /etc/apt/sources.list file on a terminal, you need to change the attributes from read-only to read-write by executing the following lines:

```
maemo@maemo:/etc/apt$ sudo chmod go+w sources.list
maemo@maemo:/etc/apt$ ls –l sources.list
```

To open sources.list and save changes, you can execute these lines on terminal:

```
maemo@maemo:/etc/apt$ vi sources.list
```

In vi mode, use direction keys to specify the location and press Insert to enter the following lines. Press Esc to finish and type in command ":wq" to save your changes and quit vi mode. After editing you can retract write capability with the following line to protect the file:

```
maemo@maemo:/etc/apt$ sudo chmod go-w sources.list
```

Paste the following lines into your /etc/apt/sources.list file on Scratchbox:

Maemo 5:

```
deb http://repository.maemo.org/extras/ fremantle free non-free
deb-src http://repository.maemo.org/extras/ fremantle free
deb http://repository.maemo.org/extras-devel/ fremantle free non-free
deb-src http://repository.maemo.org/extras-devel/ fremantle free
```

Maemo 4:

```
deb http://repository.maemo.org/extras/ diablo free non-free
deb-src http://repository.maemo.org/extras/ diablo free
deb http://repository.maemo.org/extras-devel/ diablo free non-free
deb-src http://repository.maemo.org/extras-devel/ diablo free
```

If you are behind a firewall and need to use an http proxy, execute this line (modify for the correct IP address) to ensure that your connection to internet


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in Linux VM/OS is available.

### Getting packages

All you need to get started is to install some packages on Scratchbox. After installing the Maemo development environment, there are two different targets: ARMEL, used for emulating applications for armel-based platforms, and X86-based platforms. For both cases, Qt4 development support is not installed by default. It is necessary to install Qt4 and also the libraries (in both the targets).

```
[sbox-DIABLO_X86: ~] > export http_proxy=http://xxx.xx.xxx:8080
```

Then, we can install the packages which are necessary to provide Qt4 programming environment: libqt4-core, libqt4-gui and libqt4-dev. Execute the following lines on Scratchbox shell:

```
[sbox-DIABLO_X86: ~] > apt-get update
[sbox-DIABLO_X86: ~] > fakeroot apt-get install libqt4-dev
```

Great! We can start developing Qt applications on Maemo platform.

## Creating a simple application

In this section, we provide an example Qt application. We will show you how to compile and execute it on Scratchbox.

There is a certain path where qt projects can compile and execute properly. Otherwise problems may occur. To avoid such cases, we create our “hello.cpp” file in such a directory or its sub-folders: /scratchbox/users/maemo/home/maemo/.

```
1  #include <QApplication>
2  #include <QLabel>
3
4 int main(int argc, char* argv[]) {
5 QApplication app(argc,argv);
6 QLabel label("Hello World!");
7 label.show();
8 return app.exec();
9   }
```

At lines #01 and #02, we insert two header files which contain definitions for QApplication and QLabel classes. At line #05, we create a Qt application and then a label which is inserted into the Qt application we just created. Finally, the label is shown (line #07) and the main GUI loop is started (line #08).

### Building

All the tools used to build Qt4 applications for Maemo platform are available on Scratchbox. Therefore, we follow the standard Qt way to compile our application:

```
[sbox-DIABLO_X86: ~] > qmake -project
[sbox-DIABLO_X86: ~] > qmake
[sbox-DIABLO_X86: ~] > make
```

The first line creates a *.pro file, which helps to build the application. We then generate the Makefile (on second line) which is used to build your project. Finally, we compile the project with make.

### Executing

To execute the application on Scratchbox, you need to start Hildon application framework on Scratchbox. This link shows how you can do that.

Using the following line to activate Hildon application framework:

```
[sbox-DIABLO_X86: ~] > af-sb-init.sh start
```


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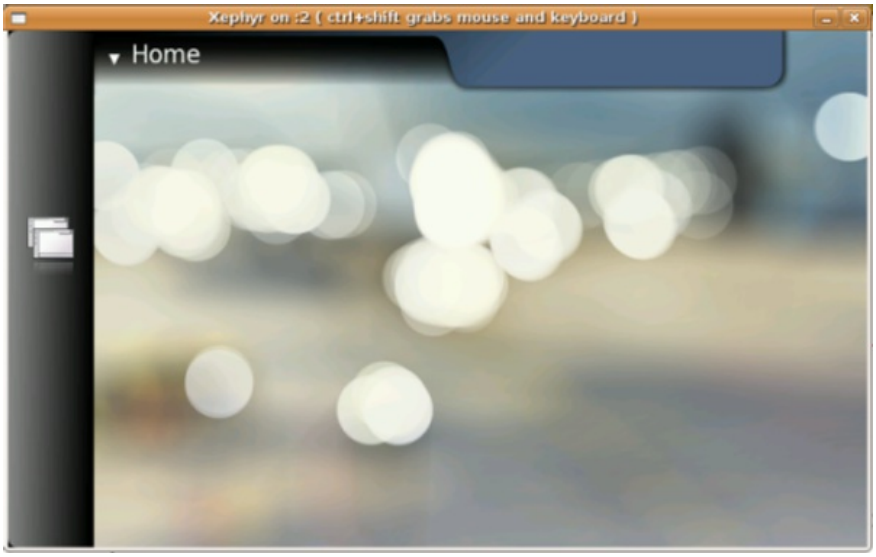
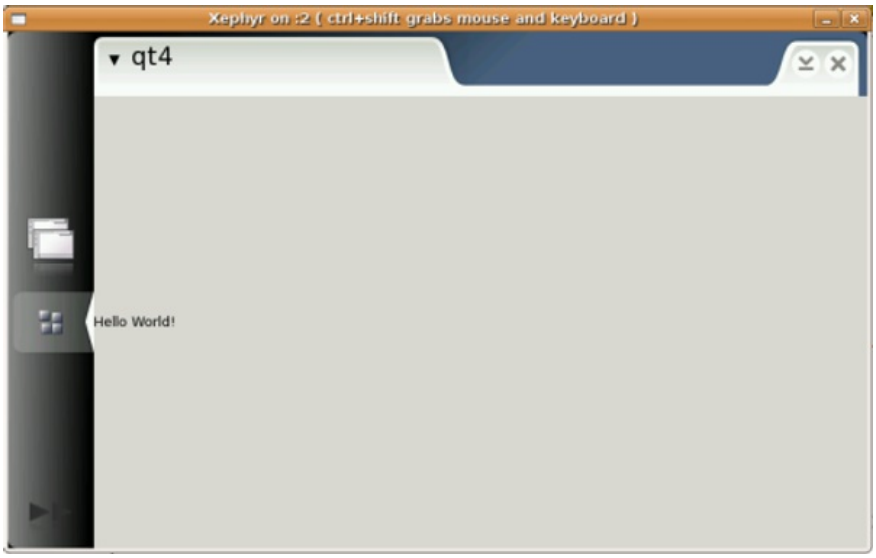
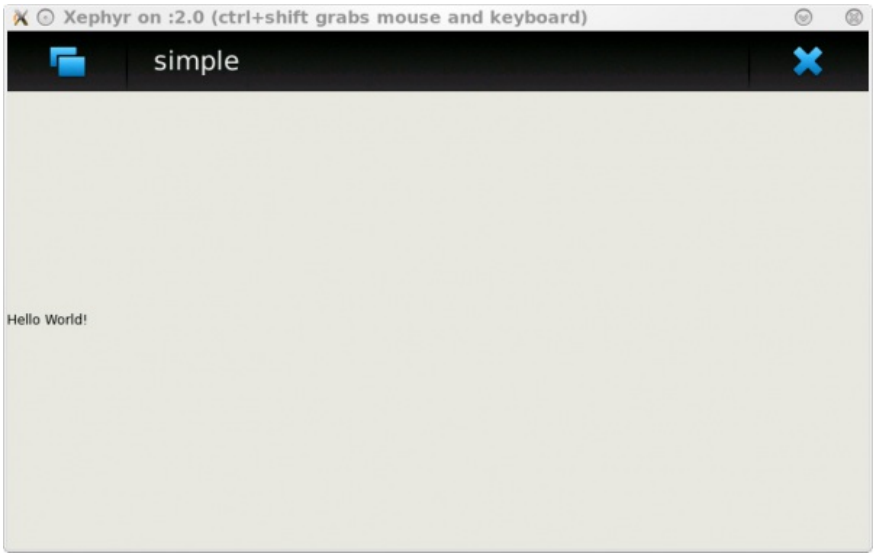



The following line executes the application on Scratchbox:

```
[sbox-DIABLO_X86: ~] > ./hello_world_qt
```




We obtain the following result. However, it does not look like a Hildon theming application. For instance, the background is dark-gray and the fonts are small. It is necessary to execute the application using run-standalone.sh script in order to get the correct look-and-feel. Now, try again:

```
[sbox-DIABLO_X86: ~] > run-standalone.sh ./hello_world_qt
```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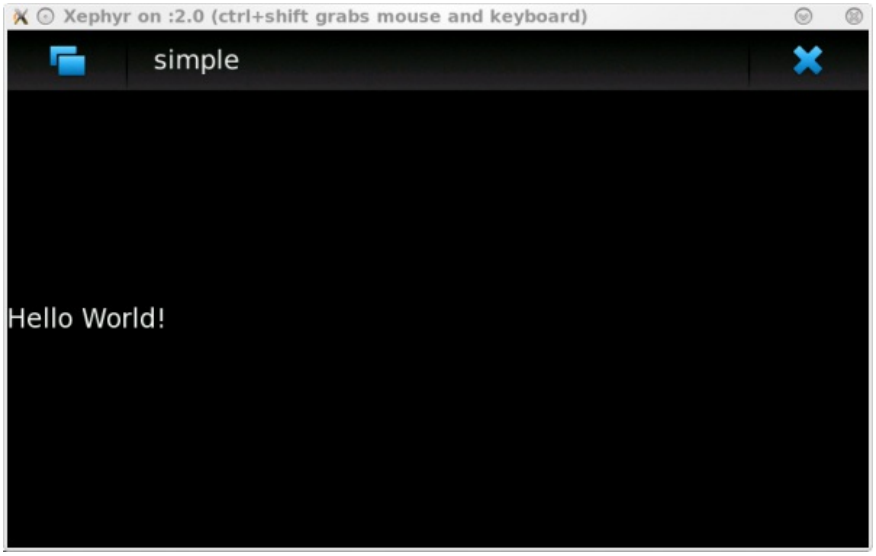


But remember: run-standalone.sh script is only available if you run the application from the Scratchbox console or inside Internet Tablet.


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