

startKIT Tutorial

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1 Introduction

startKIT is a low-cost development board for the configurable xCORE multicore microcontroller products from XMOS. It's easy to use and provides lots of advanced features on a small, extremely low cost platform.

This short tutorial shows you how to :

- ▶ import an application from the GitHub Community using xTIMEcomposer Studio
- ▶ build the application
- ▶ run the application on your startKIT

2 Import a Community project from GitHub

The fastest way to start developing with startKIT is to import an application from the xCORE Community repository on GitHub using xTIMEcomposer Studio.

2.1 Import an application from GitHub

1. Select the **Community** window in the bottom left corner of xTIMEcomposer window next to the **xSOFTip browser** and **How To** windows.

The window displays examples that you can import into xTIMEcomposer, including the content of the **startKIT Examples** repository.

NOTE: You need an internet connection to browser the Community software.

2. Open the **Examples** folder and drag the **Spinning Bar** example into the xTIME-composer *Project Explorer* window.

The Import window is displayed.

3. Click **Finish** to import the *app_spinning_bar* project.

2.2 Examine the code

1. Open the project tree in the *Project Explorer* and go to the *src* folder.
2. Double-click **main.xc** to open the source in the *Editor* window.

The code is exactly the same as standard C code except for some instructions which provide multicore extensions to C, making it easy to handle timing, concurrency and I/O.


Note that the file extension is ".xc" instead ".c" which tells xTIMEcomposer which compiler to use during the build process.

3 Build and run the project

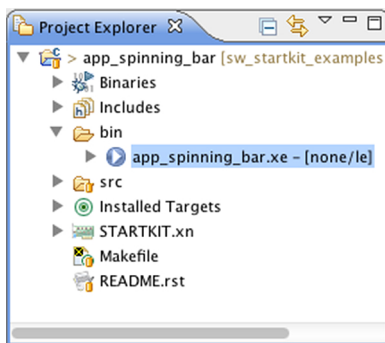
Once you've imported the project, you can build and run it on your startKIT to test the behavior.

Make sure that your startKIT is connected to your host PC using a micro-USB cable.


3.1 Build and run the project

1. In the **Project Explorer**, click the *app_spinning_bar* project to select it, and then choose the menu option **Project ► Build Project** (.

xTIMEcomposer displays its progress in the **Console**. When the build is complete, the compiled binary file is added to the **bin** folder.



2. Choose **Run ► Run Configurations**.
3. In the **Run Configurations** dialog, in the left panel, double-click **XCore Application**.
4. In the right panel, in **Name**, enter the name *Spinning Bar*.
5. In **Project**, ensure that your project is displayed. If not, click **Browse** to open the **Project Selection** dialog, select your project, and then click **OK**.

6. In **C/C++ Application**, click **Search Project** to open the **Program Selection** dialog, select the spinning bar binary, and then click **OK**.
7. In **Device options**, in **Run on**, select the option **hardware**, and in **Target**, ensure that the option “XMOStartKIT” is selected.
If your hardware is not displayed, ensure that your startKIT is connected to your PC, and then click **Refresh list**.
8. Click **Run** to save your configuration and run it.
9. If prompted, select **XMOStartKIT** in the *Select Devices* window.
xTIMEcomposer loads the binary onto your startKIT, displaying its progress in the **Console**.
10. On your startKIT, verify that a spinning bar is displayed on the 3x3 LED matrix.
11. In the **Console**, click the **Terminate** button () to stop your application running.

4 What to do next

This tutorial provides a basic introduction to using startKIT.

We recommend that you import some of the other Community examples, examine the code, and run them on your startKIT.

We also recommend that you follow the xTIMEcomposer Studio Tutorial which shows how to use other features of the tools and how to start writing your own projects.

If you have any questions regards startKIT and XMOS technology, please join our community of xCORE developers at www.xcore.com.



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