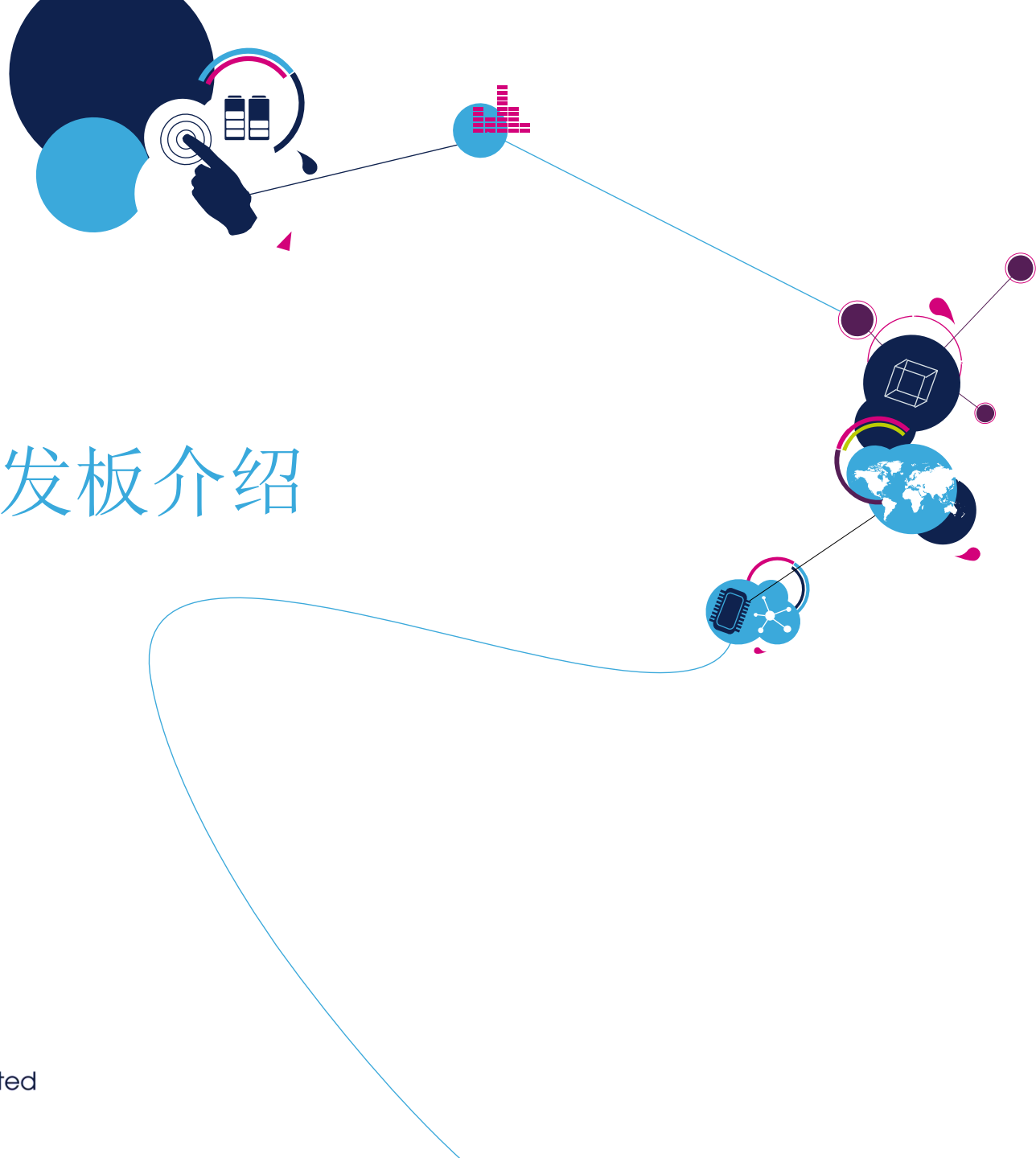
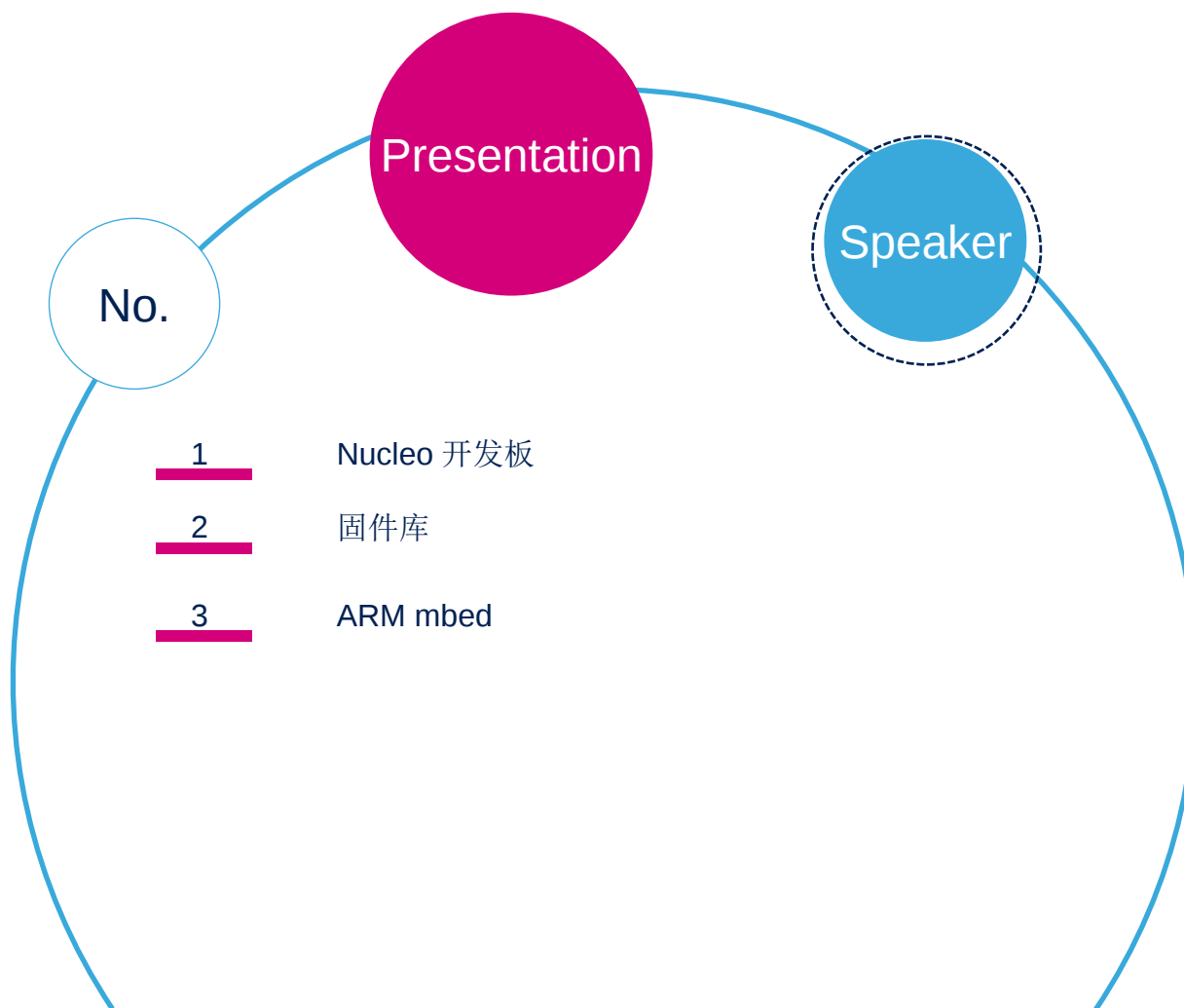


Nucleo 开发板介绍

Revision 1.0 – 2014/03/26



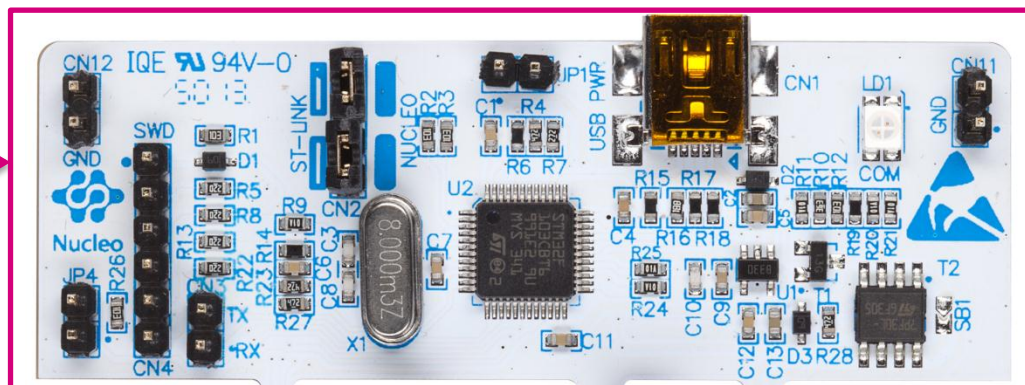


- **STM32 Nucleo** 开发板是带多种**STM32**微控制器系列的开发板，她为用户提供可接受的价格和灵活的方式进行产品创新和原型开发。用户可以从**MCU**的性能，功耗和产品特点选择不同的组合。
- 特点：
- 支持**TQFP64**封装的各系列的**STM32**微处理器
- 完全兼容**Arduino Uno Rev.3**接口
- 扩展了**ST Morpho**全部的**I/O**接口
- 集成**ST-Link/V2-1**的调试下载器
- 直接访问**mbed.org**网上资源

Nucleo 开发板实图

4

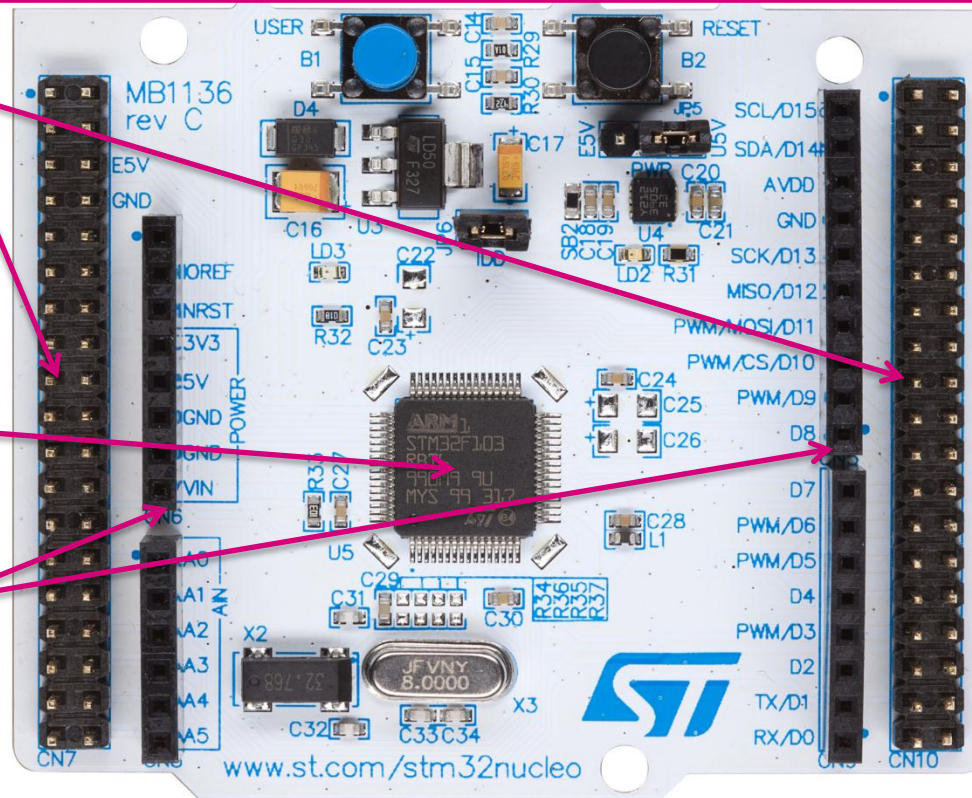
ST-LINK/V2-1



ST Morpho
接口

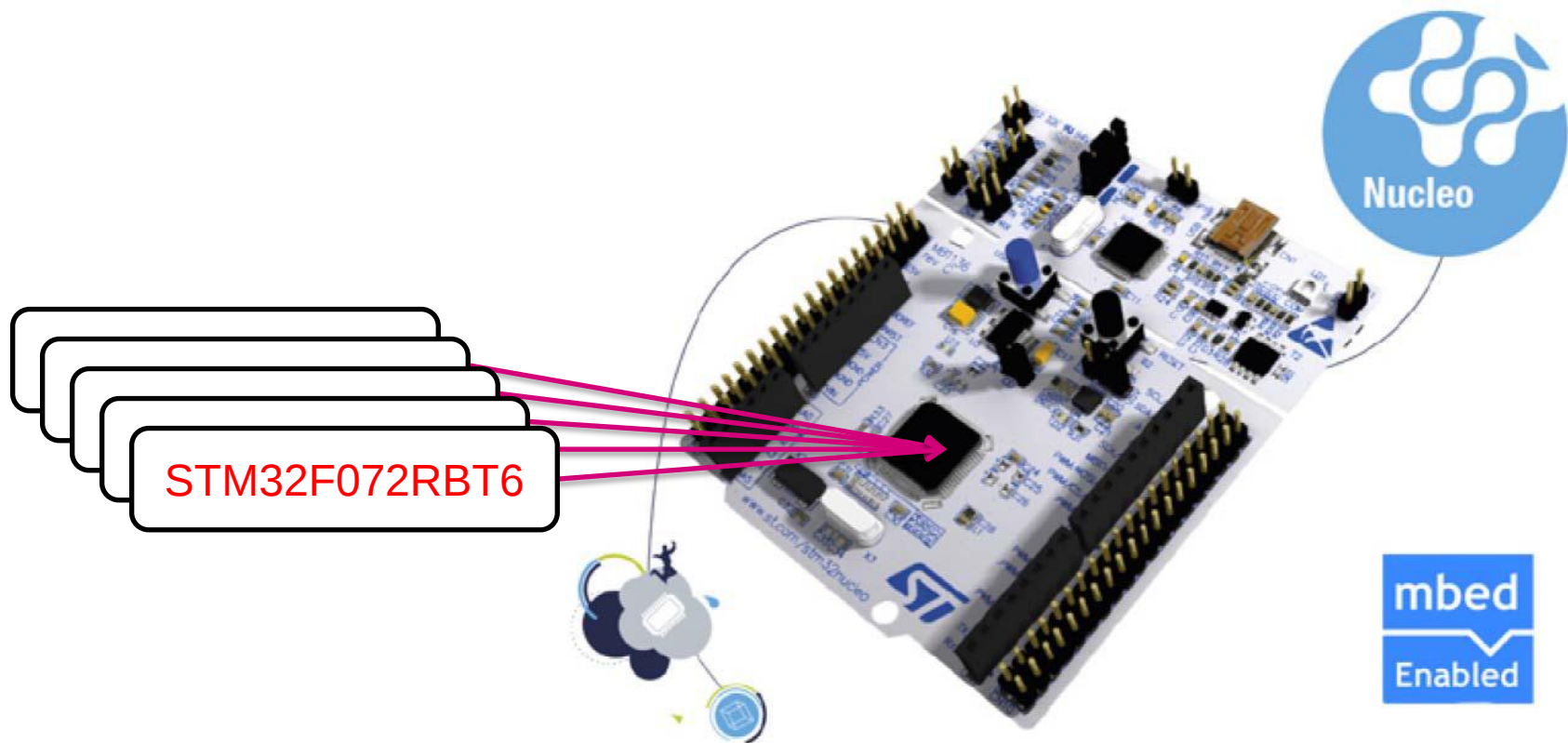
STM32 MCU

Arduino 接口



支持的MCU

5

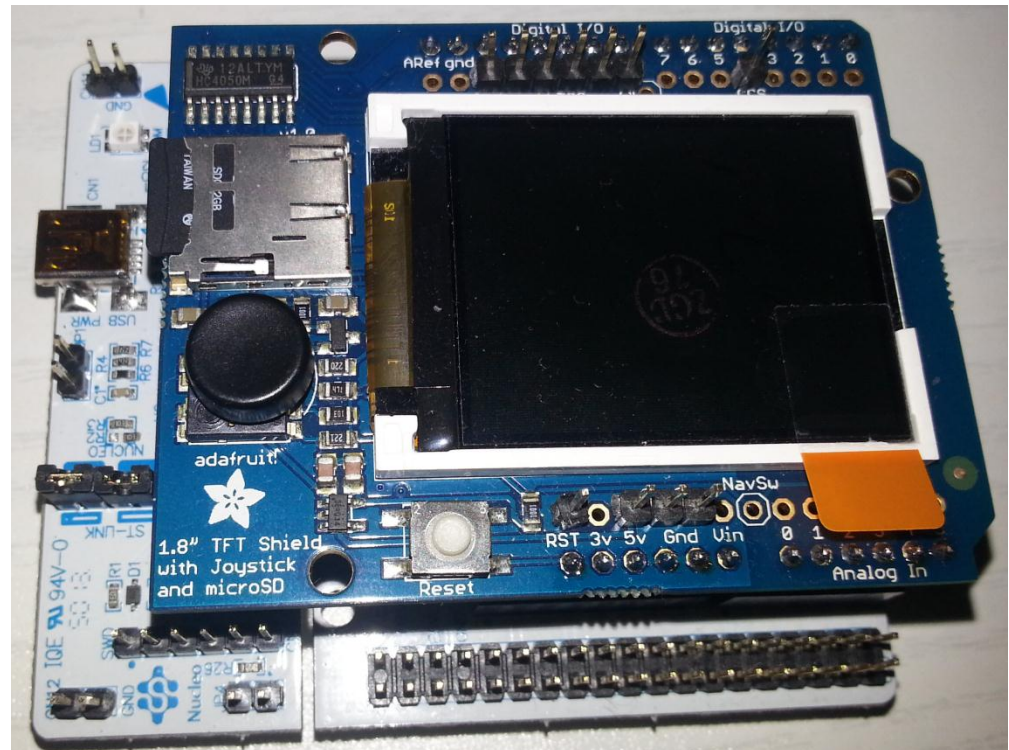


- **STM32 Nucleo**固件库的驱动和例程是基于**ST**提供的标准外围接口软件库，并且对用户开发是开源的
- **Nucleo** 软件库的 **BSP**构架驱动支持三种设备： **STM32F1xx**; **STM32F0xx**, 和**STM32L1xx**
- 支持**Arduino**兼容的子板： **Adafruit**子板提供了**LCD**和**uSD**卡的驱动程序。我们会开发更多的第三方子板程序，例如第三方的开发的**Wifi**, **GSM**, **BT**, **GPS**, **Motor** 等子板。

Adafruit 1.8" TFT LCD 子板

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- Adafruit 1.8" TFT LCD子板组成:
 - 1.8" TFT 显示屏
 - microSD 卡槽
 - 5向导航键



- 收集硬件：
 - STM32 Nucleo 开发板，
 - Adafruit 1.8” TFT LCD 子板
 - USB type A to Mini-B 电缆
- 配置STM32 Nucleo开发板
 - 跳帽位置– JP1 OFF, – JP5 (PWR) on U5V side ON, – JP6 (IDD) ON
- 通过Arduino接口连接LCD子板到STM32 Nucleo 开发板
- 使用FatFs 文件格式拷贝.bmp图片到SD卡，并把SD卡到子板上
- 编译例程
- 下载并运行示例程序

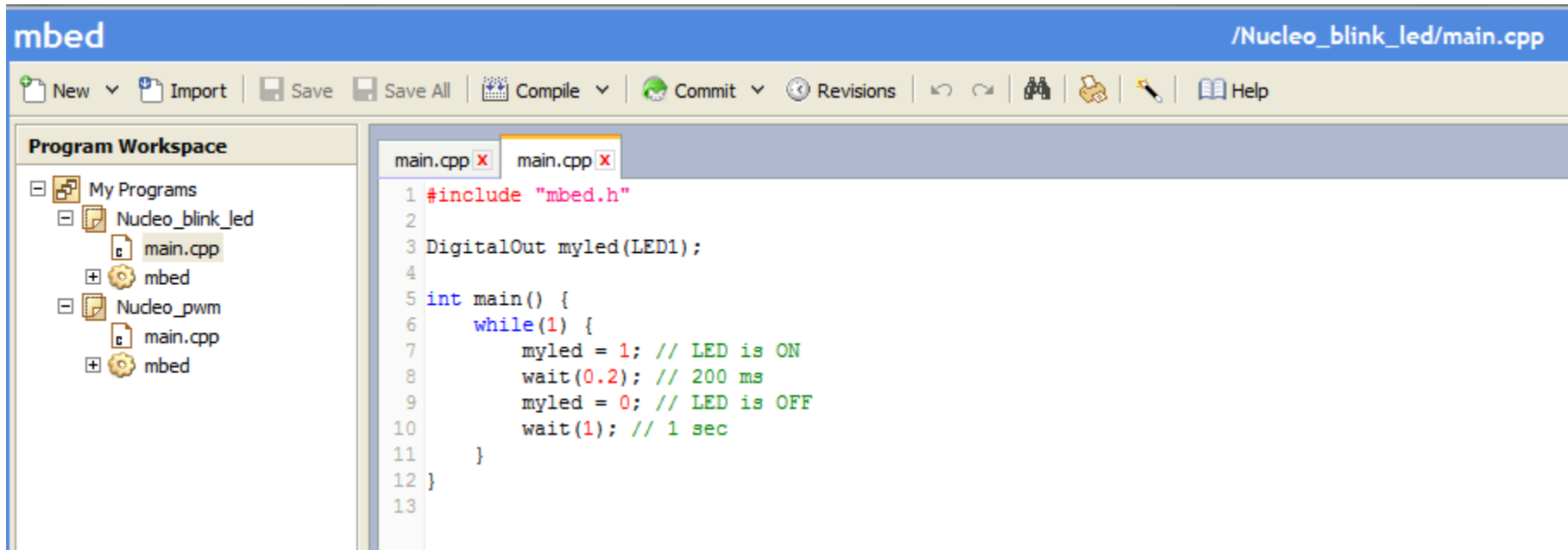
Mbed平台提供了免费的软件库，硬件设计和在线工具，可以快捷地调试基于ARM微处理器的产品原型

- 软件开发库 SDK
 - 开源的C/C++微处理器软件平台
 - 不用做建立和测试启动代码，C运行时间， 软件库和外围的APIs
- 硬件开发板HDK
 - 提供全部的微处理器子系统设计文件和固件
 - 提供简单的USB拖放下载程序和为目标板提供符合CMSIS-DAP协议的调试接口
- 在线开发工具
 - 免费使用mbed编译器执行mbed HDK, 并且无缝集成mbed SDK和网页开发
- 全球开发者社区

- 访问mbed.org在线网页 <http://mbed.org>
- 点击**signup**注册账号
- 点击**compiler**打开编译环境页面
- 选择你所感兴趣的NUCLEO板
- 点击**Import**并输入NUCLEO来过滤摸索并导入例程到你的工作区中
- 通过USB线连接NUCLEO板，可以看到NUCLEO 存储器
- 选择并编译你的例程
- 保存.bin文件到NUCLEO存储器中

Demo 2 –mbed操作

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- **www.st.com/stm32nucleo** 所有相关STM32 Nucleo 开发板的资料
- **UM1724:** STM32 Nucleo 开发板用户手册
- **STSW-STM32143:** 带应用例程的STM32 Nucleo硬件抽象层软件库
- **UM1726:** STM32 Nucleo 开发板固件库启动向导
- **Related Tools and Software:** mbed 和 ST-Link软件相关资料

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