

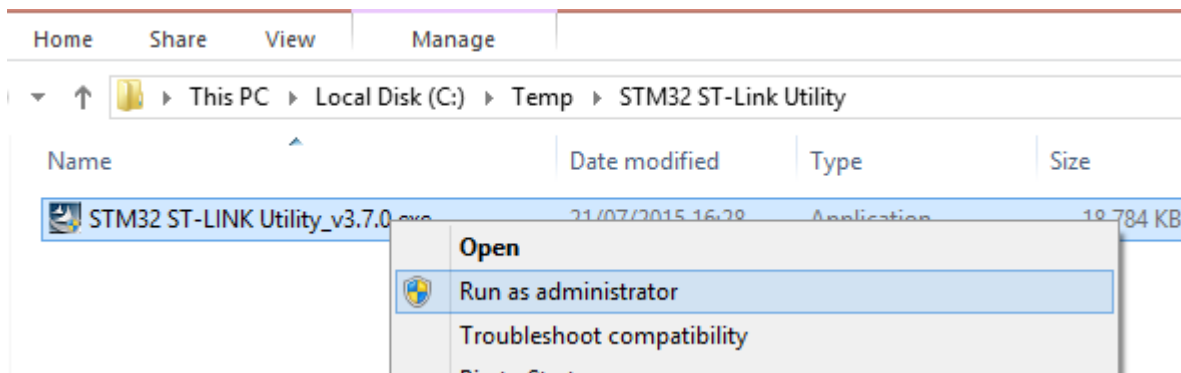
# Programming Guide for STM32F4Discovery mounted on Discovery Shield

Download STM32 ST-Link utility from

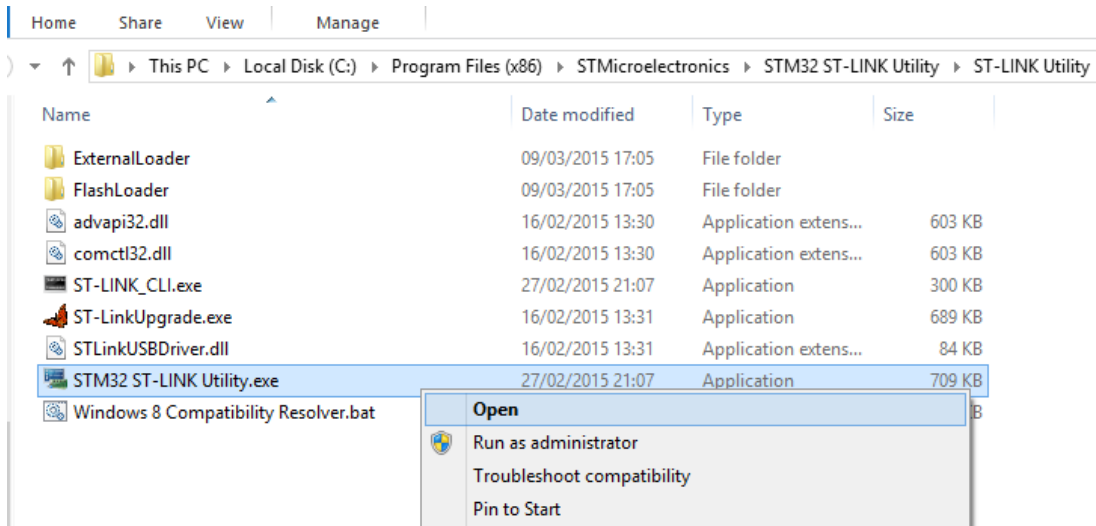
<http://www.st.com/web/en/catalog/tools/PF258168>

Click on the “Download” button in the “Sample & Buy” section at the bottom of the page to download the latest version (v3.7.0 when this document was created).

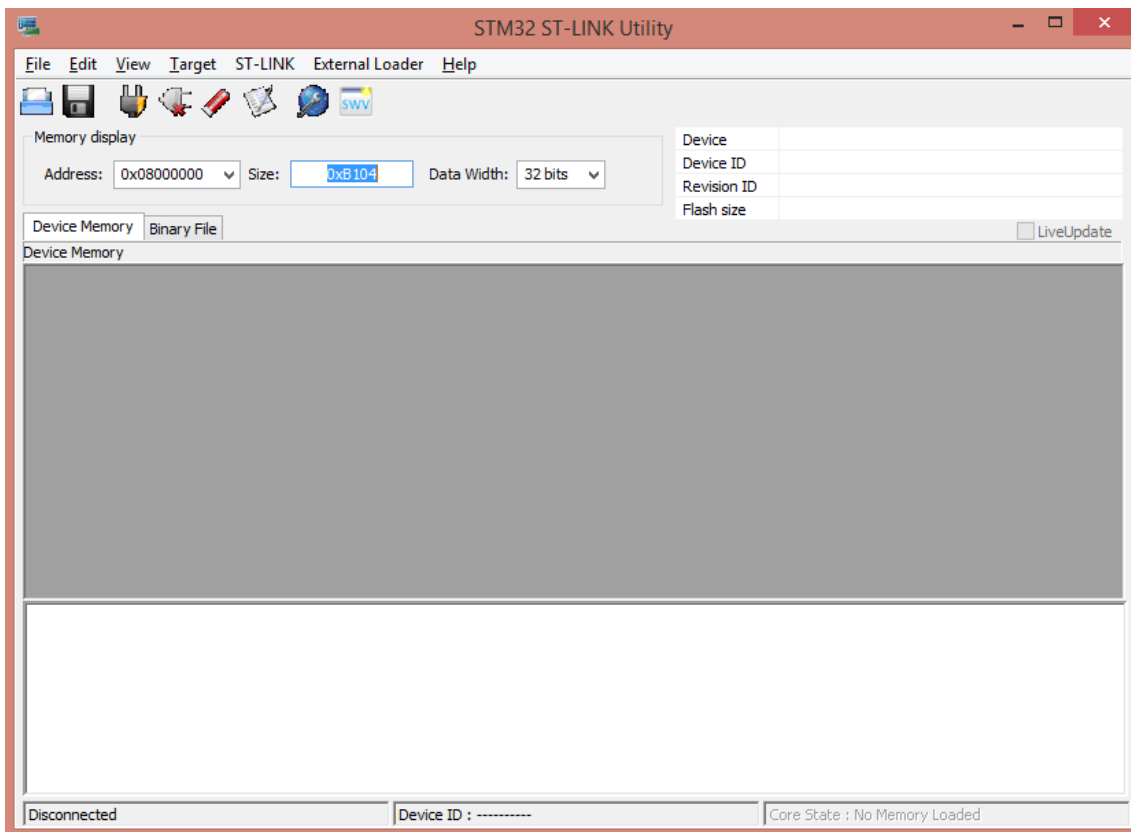
Run the downloaded file with administrative privileges to install the application



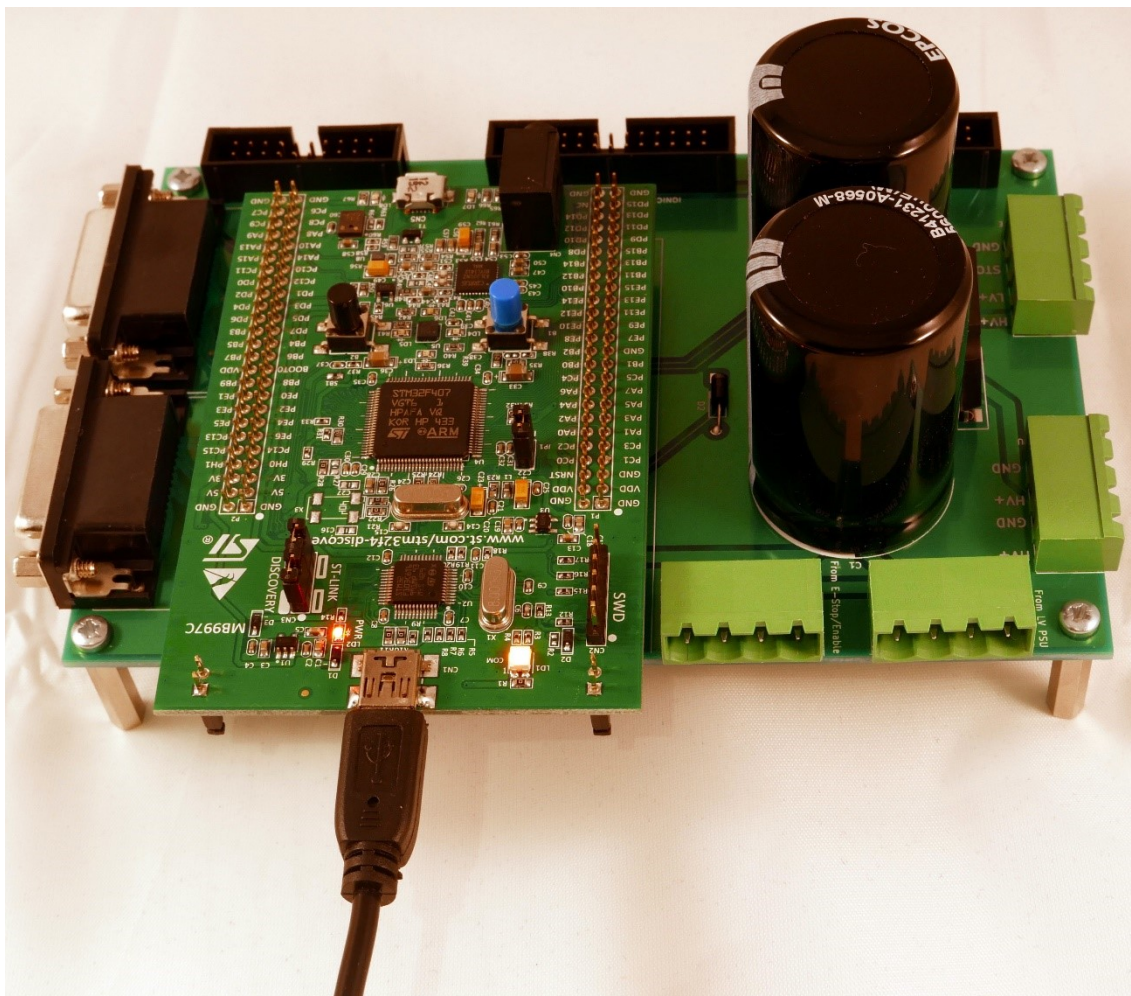
Launch the application either from the installed shortcut or the installation directory



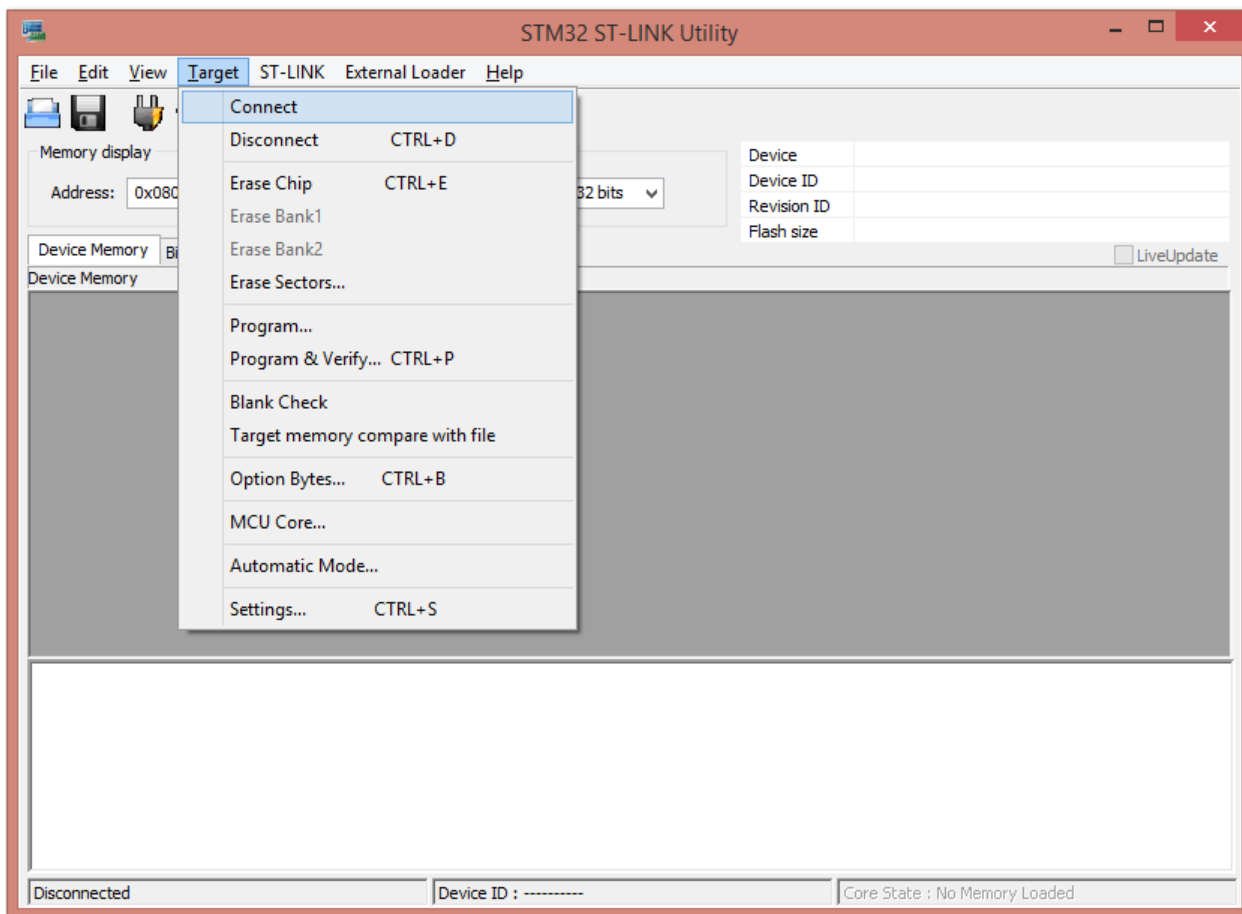
The application main screen will load up



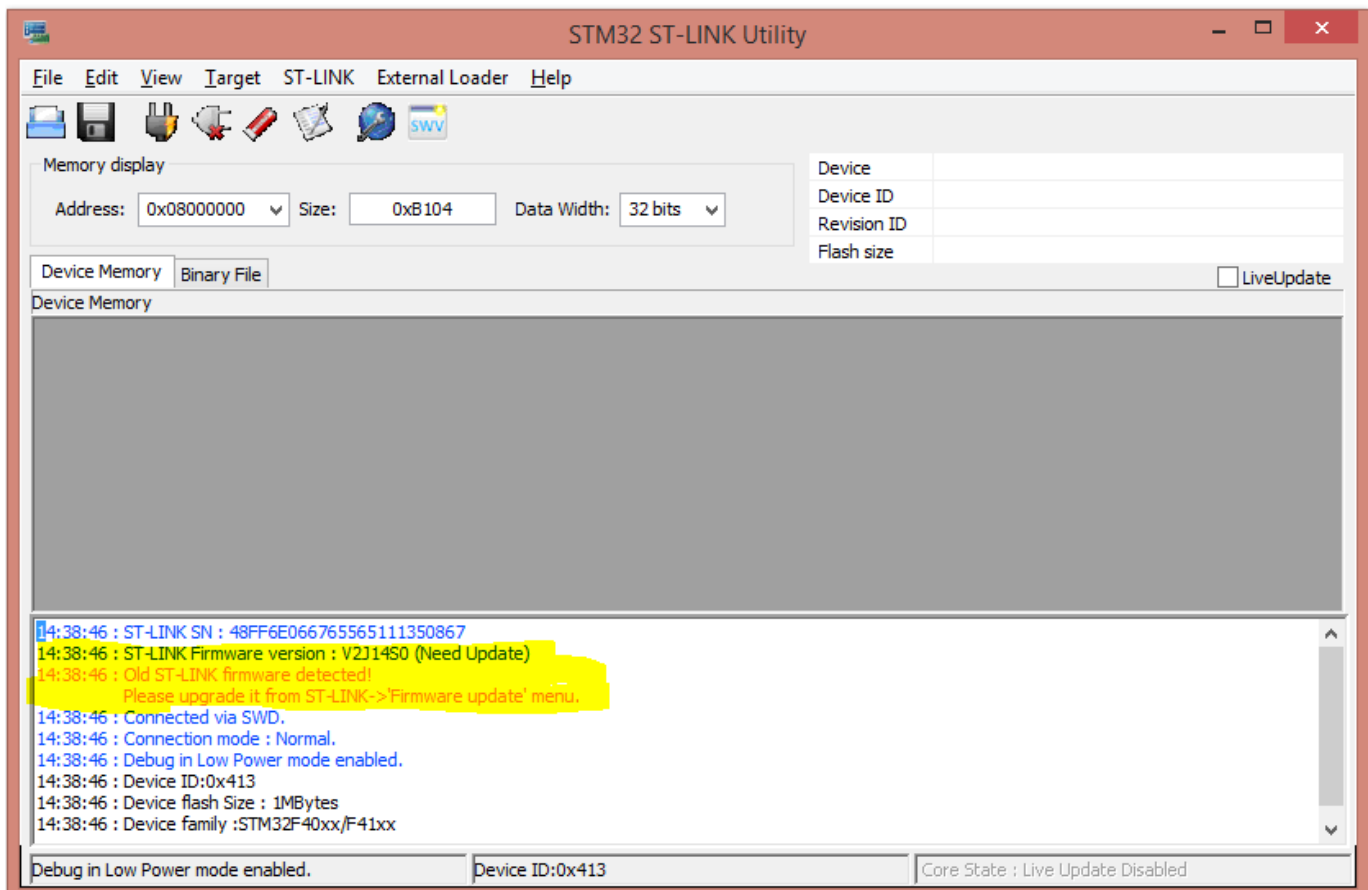
Connect the Mini-USB cable to the mounted Discovery board



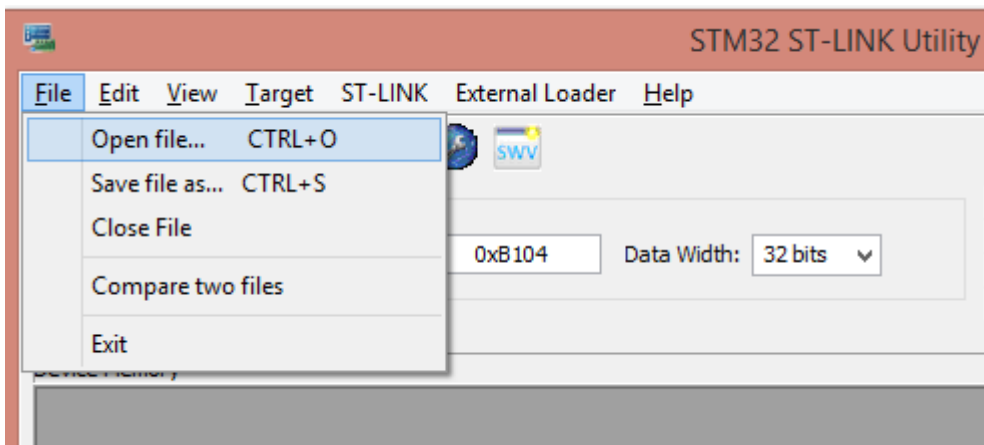
In the ST-Link Utility click “Target > Connect”



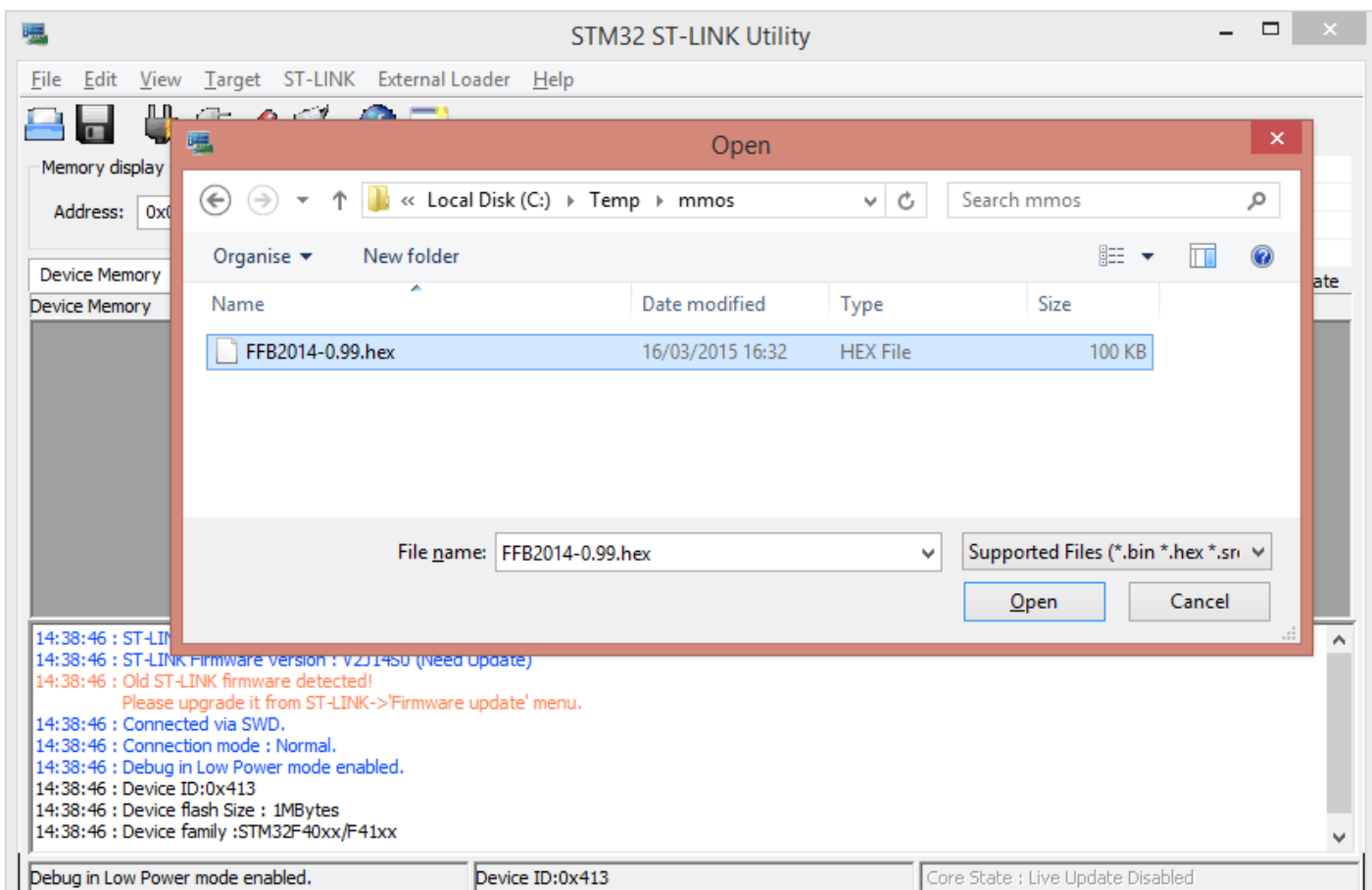
If you get a message as below, you can safely ignore it as it will not impede flashing the device



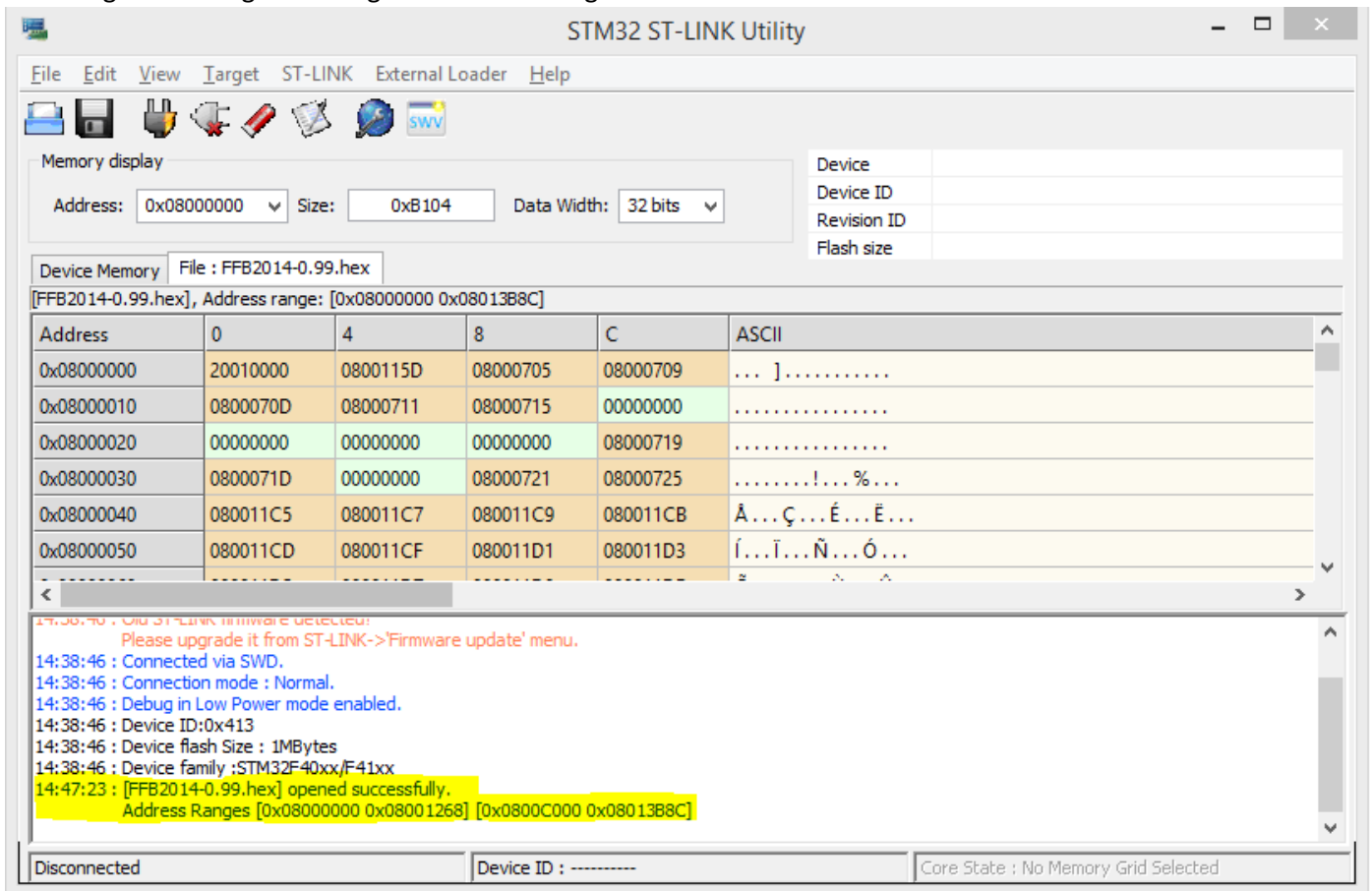
Click "File > Open file"



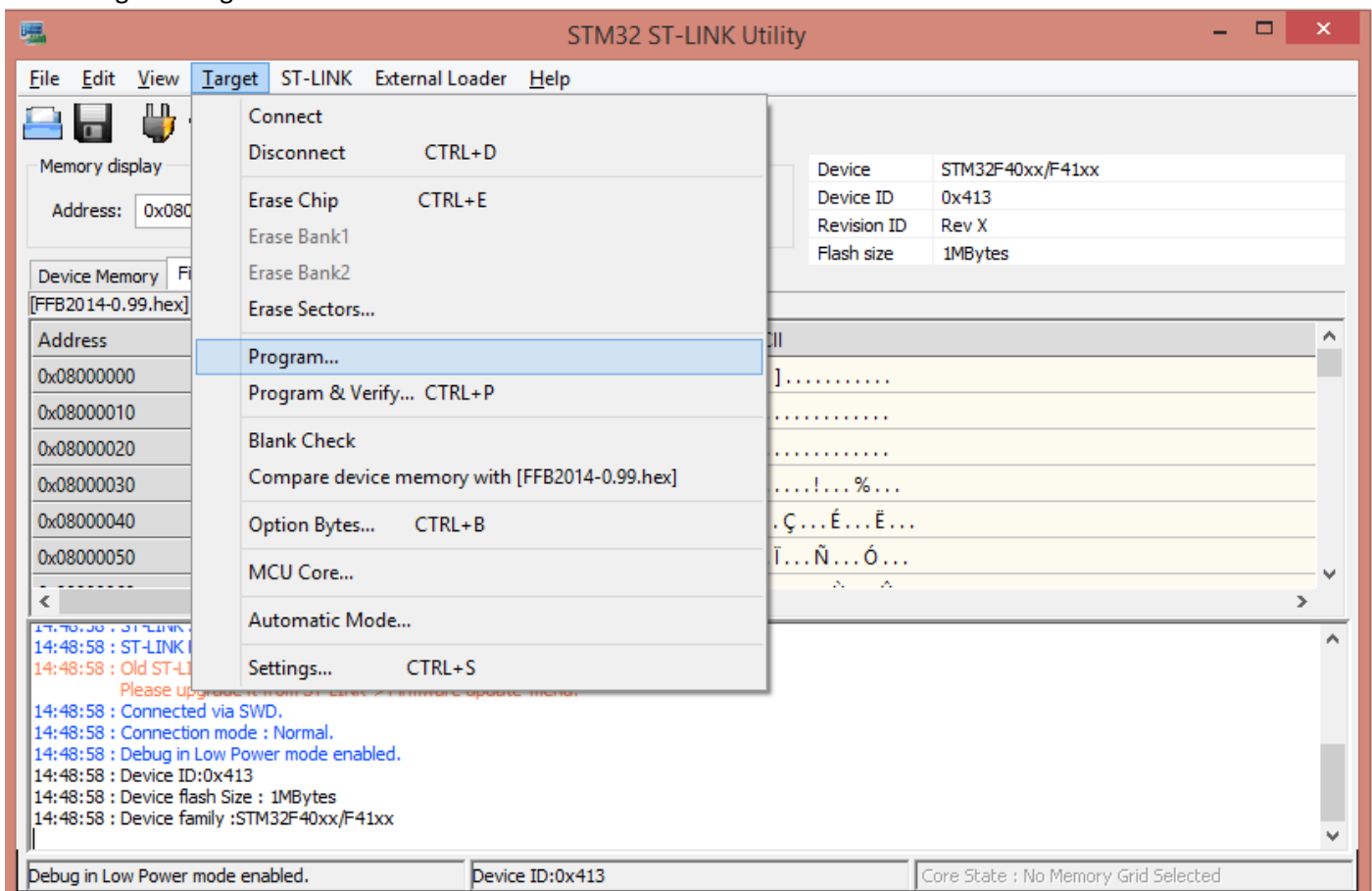
Then select the required firmware to flash



You will get a message denoting successful loading of the firmware file



Click "Target > Program"



Click "Start" to begin programming

The screenshot shows the STM32 ST-LINK Utility interface. A 'Download [ FFB2014-0.99.hex ]' dialog box is open, overlaying the main application. The dialog contains the following fields and options:

- Start address: 0x08000000
- File path: C:\Temp\mmos\FFB2014-0.99.hex
- Verification:  Verify while programming,  Verify after programming
- Click "Start" to program target.
- Reset after programming
- Buttons: Start, Cancel

The background application shows a memory display table for address range [0x08000000 0x08013B8C]. The table has columns for Address, 0, 4, 8, C, and ASCII. The log window at the bottom shows the following messages:

```
14:48:58 : ST-LINK SW : Old ST-LINK firmware/ST-LINK already used
14:48:58 : ST-LINK Firmware version : V2J14S0 (Need Update)
14:48:58 : Old ST-LINK firmware detected!
Please upgrade it from ST-LINK->'Firmware update' menu.
14:48:58 : Connected via SWD.
14:48:58 : Connection mode : Normal.
14:48:58 : Debug in Low Power mode enabled.
14:48:58 : Device ID:0x413
14:48:58 : Device flash Size : 1MBytes
14:48:58 : Device family :STM32F40xx/F41xx
```

On completion, the application will return to the main screen with a summary of the programming status and duration logged.

The screenshot shows the STM32 ST-LINK Utility interface after programming. The 'Download' dialog box is no longer present. The main application shows a memory display table for address range [0x08000000 0x08001268]. The log window at the bottom shows the following messages:

```
14:48:58 : ST-LINK firmware version : V2J14S0 (Need Update)
14:48:58 : Old ST-LINK firmware detected!
Please upgrade it from ST-LINK->'Firmware update' menu.
14:48:58 : Connected via SWD.
14:48:58 : Connection mode : Normal.
14:48:58 : Debug in Low Power mode enabled.
14:48:58 : Device ID:0x413
14:48:58 : Device flash Size : 1MBytes
14:48:58 : Device family :STM32F40xx/F41xx
14:51:46 : Memory programmed in 2s and 359ms.
```

You can now exit the application and disconnect the Mini-USB cable. The Discovery board has been successfully programmed.