# WEL-COME TO
# CoiNel Technology Solutions LLP

## Presentation on

### *Using CoiNel Parallel Port JTAG with H-JTAG Software*

# Important Tips

✓ Install Keil uVision4 before using H-JTAG software.

✓ Then, install H-JTAG software to use it for Debugging/Programming Mode.
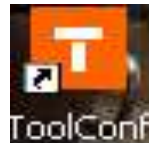
# Getting started with HTAG

To start working with H-JTAG

➢ First configure Keil/MDK on H JTAG.

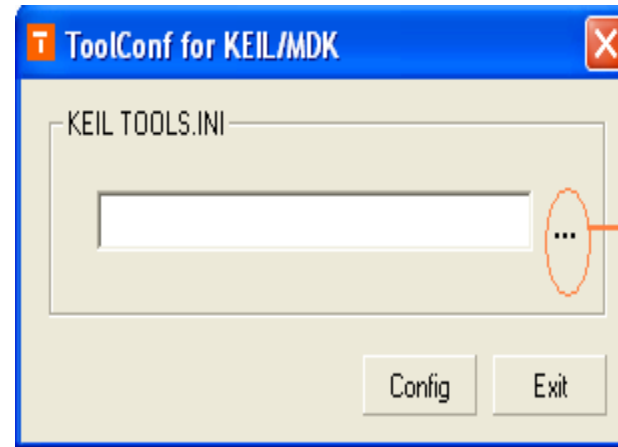To do so double click on          this icon to open.

# Tool Configuration of KEIL/MDK
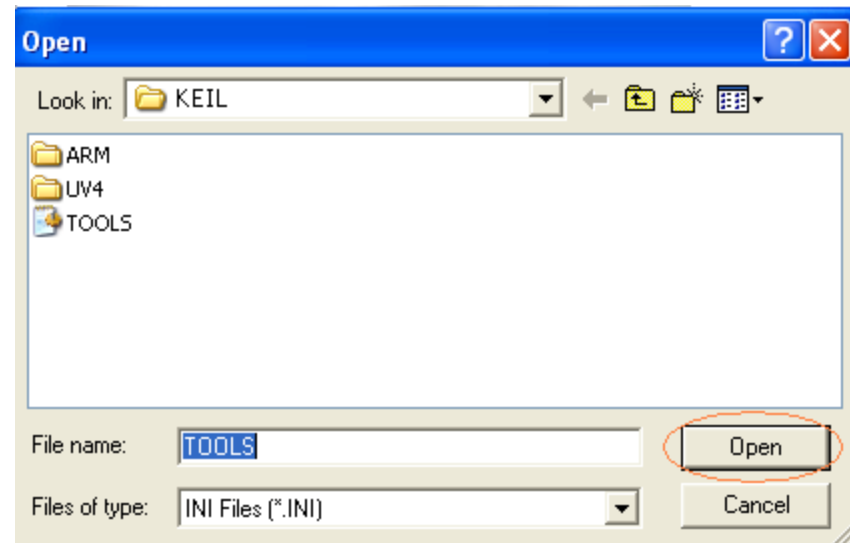
After double clicking on ToolConf icon,

Click on the circled area in the fig 1.

In the Open dialog box (fig 2),

Select TOOLS from the location where you have installed your Keil uVision4 software & Click Open.

**ToolConf for KEIL/MDK**

KEIL TOOLS.INI

Click Here to browse location of TOOLS Configuration Settings on your computer.

Config    Exit

**Open**

Look in: KEIL

ARM
UV4
TOOLS

File name: TOOLS          Open

Files of type: INI Files (*.INI)    Cancel

# Tool Configuration of KEIL/MDK

**Contd., from previous slide**

After selecting TOOLS from the location where you've installed Keil,
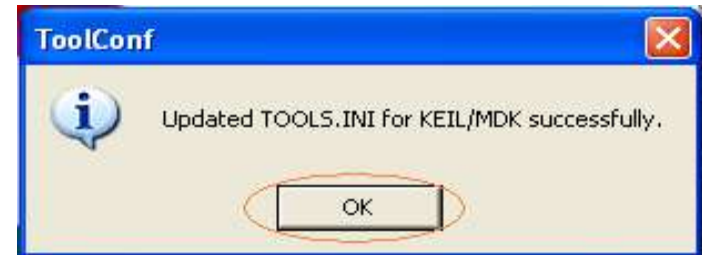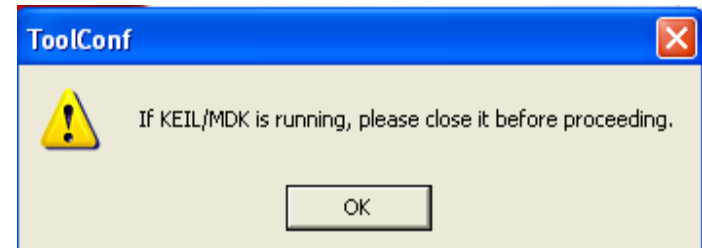
Click on Config button.

After clicking on Config button, a dialog box appears as in Fig 2,

Here click on OK.

Next, a dialog box appears that,

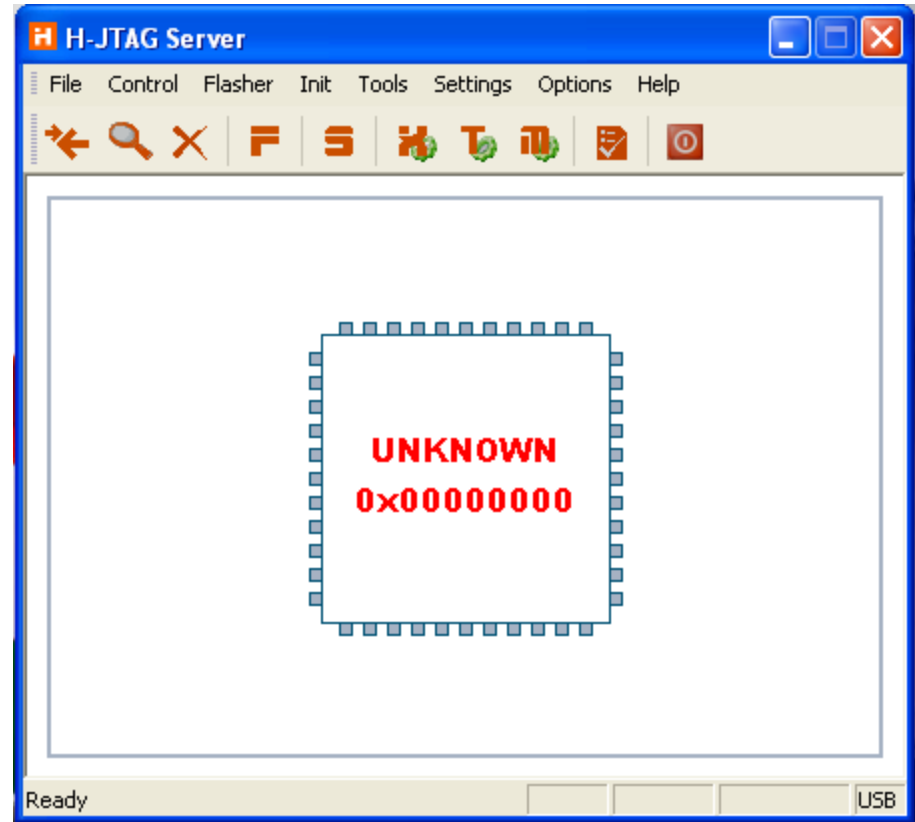TOOLS.INI is updated successfully, click on OK.

# How to configure H-JTAG Server

After double clicking on

this window is opened.

Make configurations in H-JTAG Server as followed in successive slides.

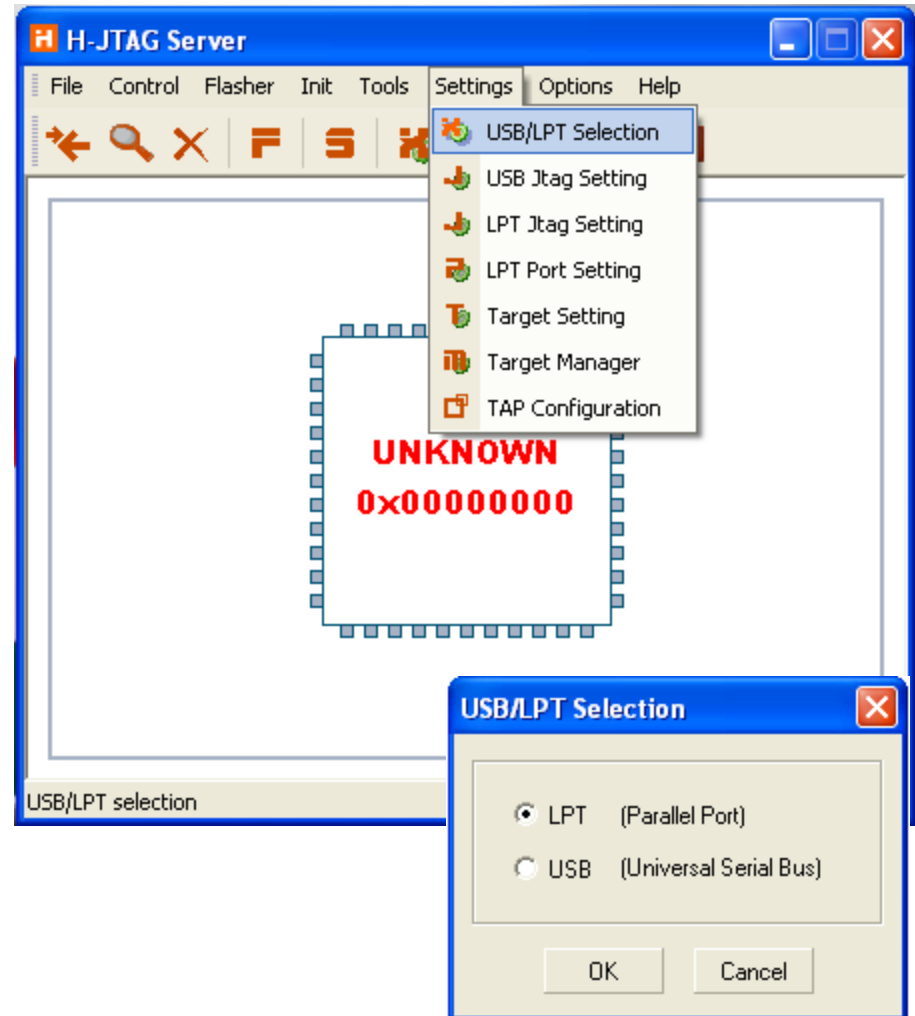# What Settings to be made in H-JTAG Server??? USB/LPT Selection

Click on Settings menu,

Go to → USB/LPT Selection.

A dialog box appears as in fig 2,

In USB/LPT Selection dialog box,

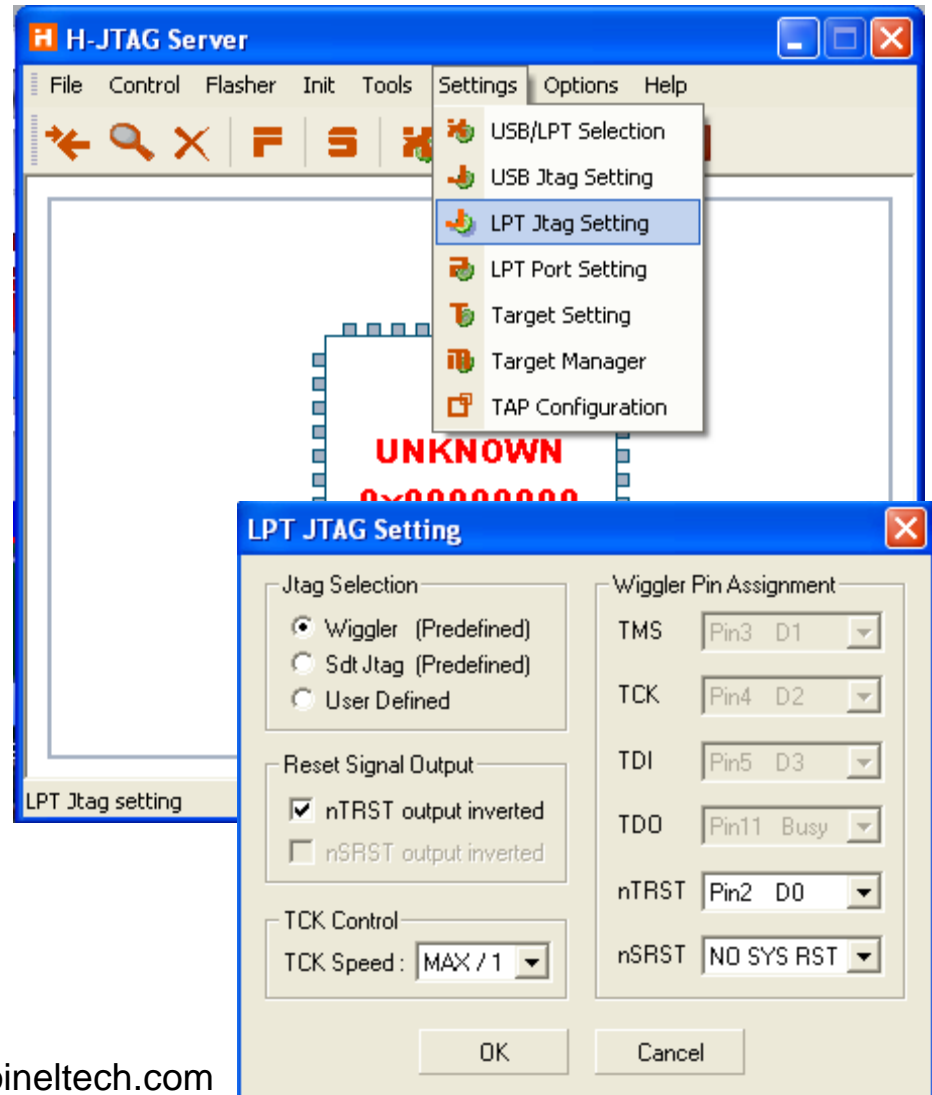Select **LPT (Parallel Port**) radio button for parallel port programming.



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# Contd., from previous slide

Click on LPT Jtag Setting option.

In the LPT JTAG Setting dialog box,

make all necessary changes as shown in the image.



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# Contd., from previous slide
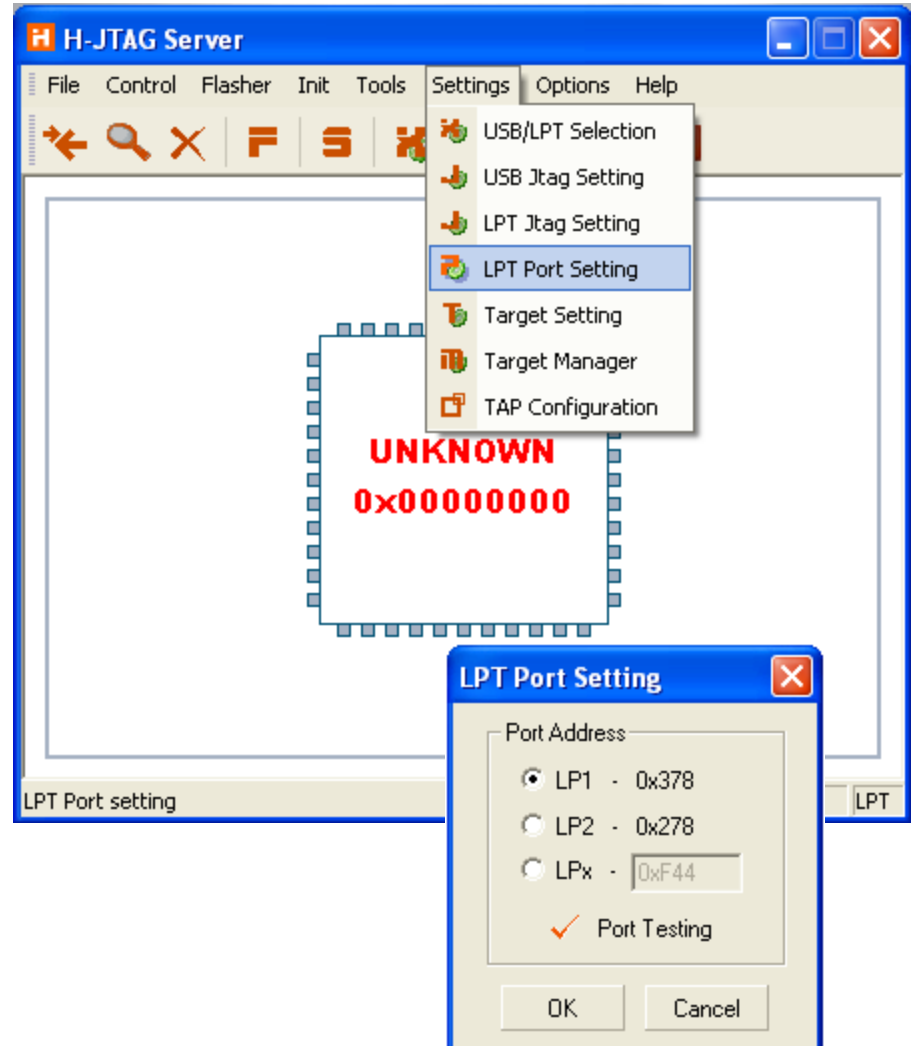
In the LPT Port Setting option as shown in image,

Select your Port Address

Observe in image, we've selected, LP1 – 0x378

Note: LPT Port setting is done according to the configuration of the port. To check the port, right click on My Computer →Manage → In Computer Management Window →Click on Device Manager Tab and check for Comm. ports.
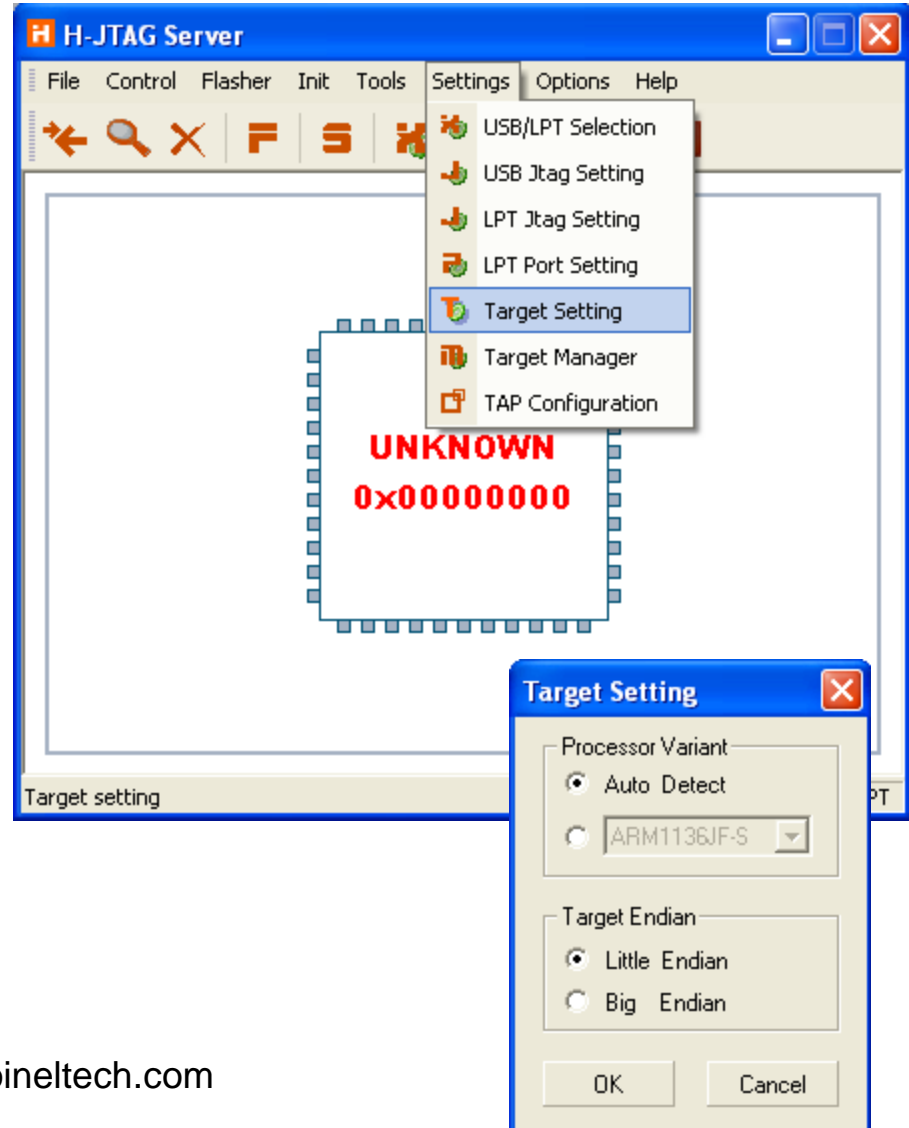


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# Contd., from previous slide

In Target Setting option,

dialog box, select

Processor Variant as Auto Detect.

Target Endian as Little Endian



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# Contd., from previous slide
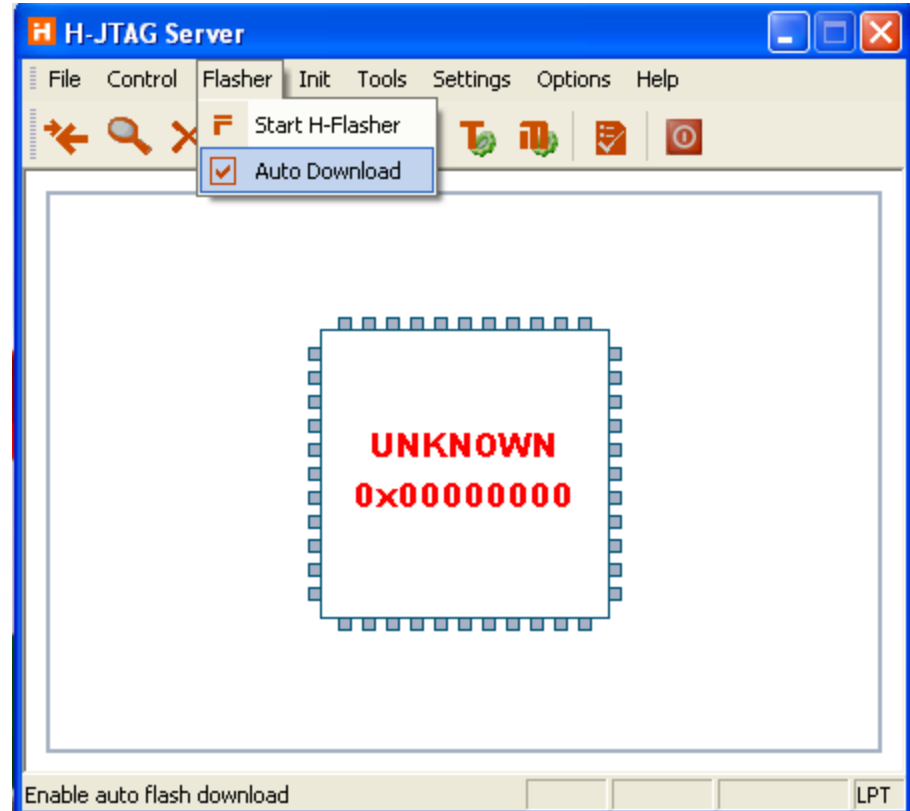
Go to Flasher menu,
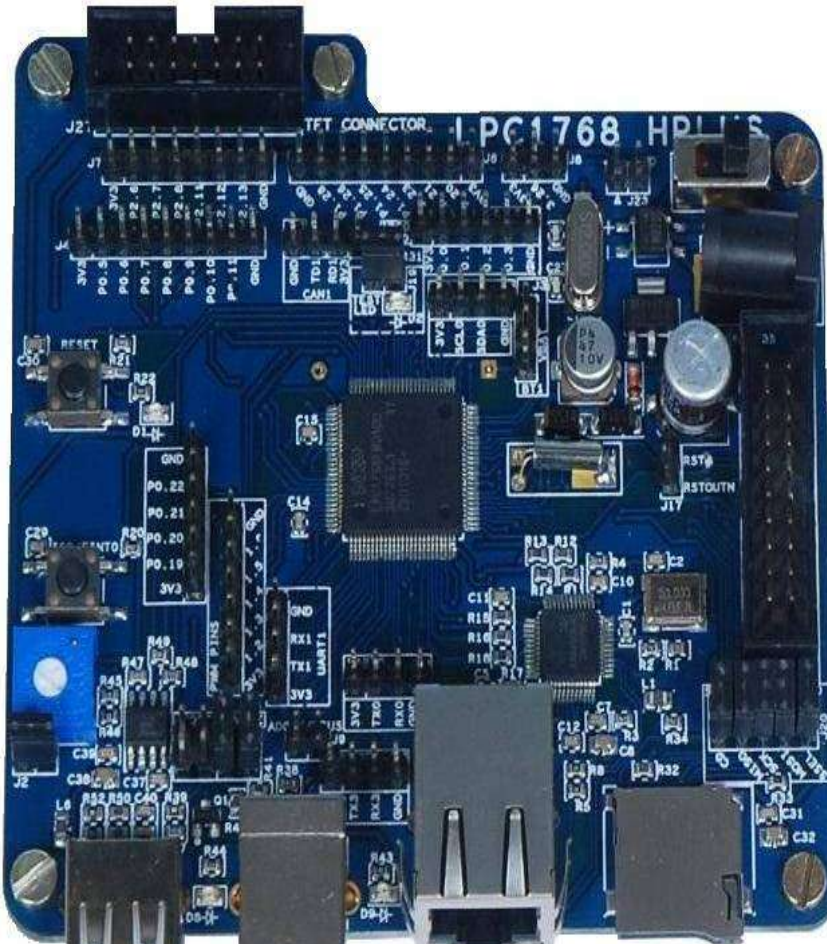
Select Auto Download.

After configuration with H-JTAG server, make configurations with H-Flasher.

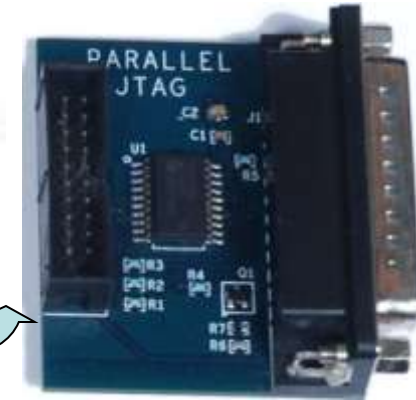Note: The setting explained till now are to be done only once.

# Connection of the Hardware

**LPC1768 HPLUS
(Target Board)**

**Power
cable**

**Parallel JTAG Board**

# Detection of the Target

After selection of the controller,
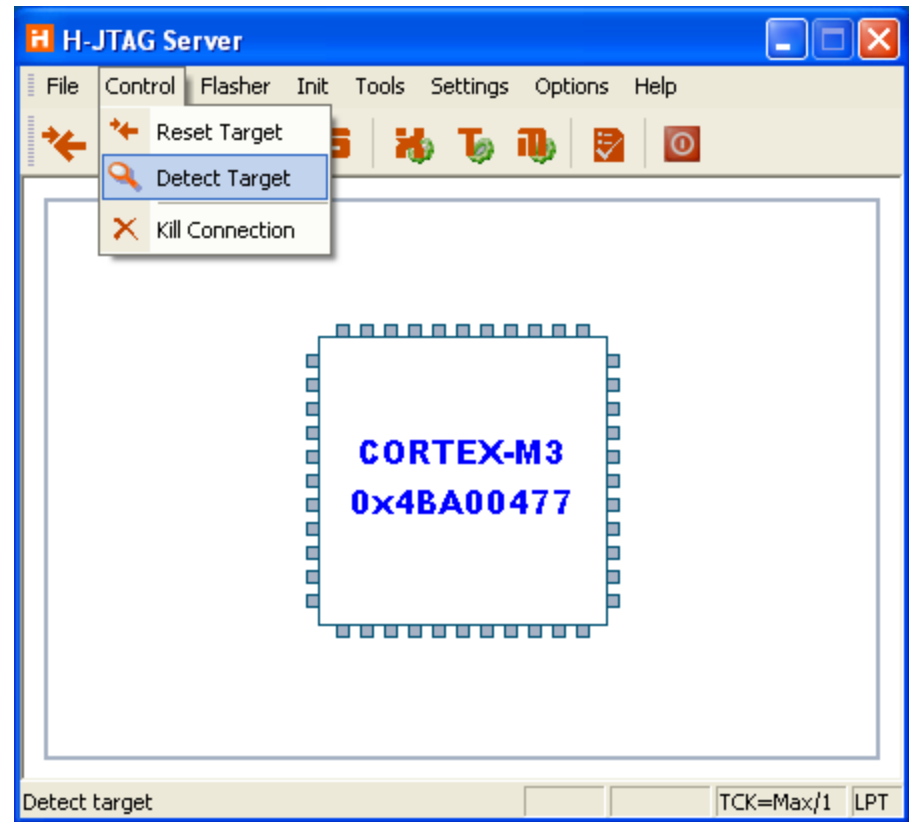
To detect target,

Go to **Control** menu →

**Detect Target.**

After target is detected, it displays the target as shown in image.

Above shown image is for LPC1768 controller



H-JTAG Server

File  Control  Flasher  Init  Tools  Settings  Options  Help

Reset Target
Detect Target
Kill Connection

CORTEX-M3
0x4BA00477

Detect target                                    TCK=Max/1  LPT

# How to configure H-FLASHER?

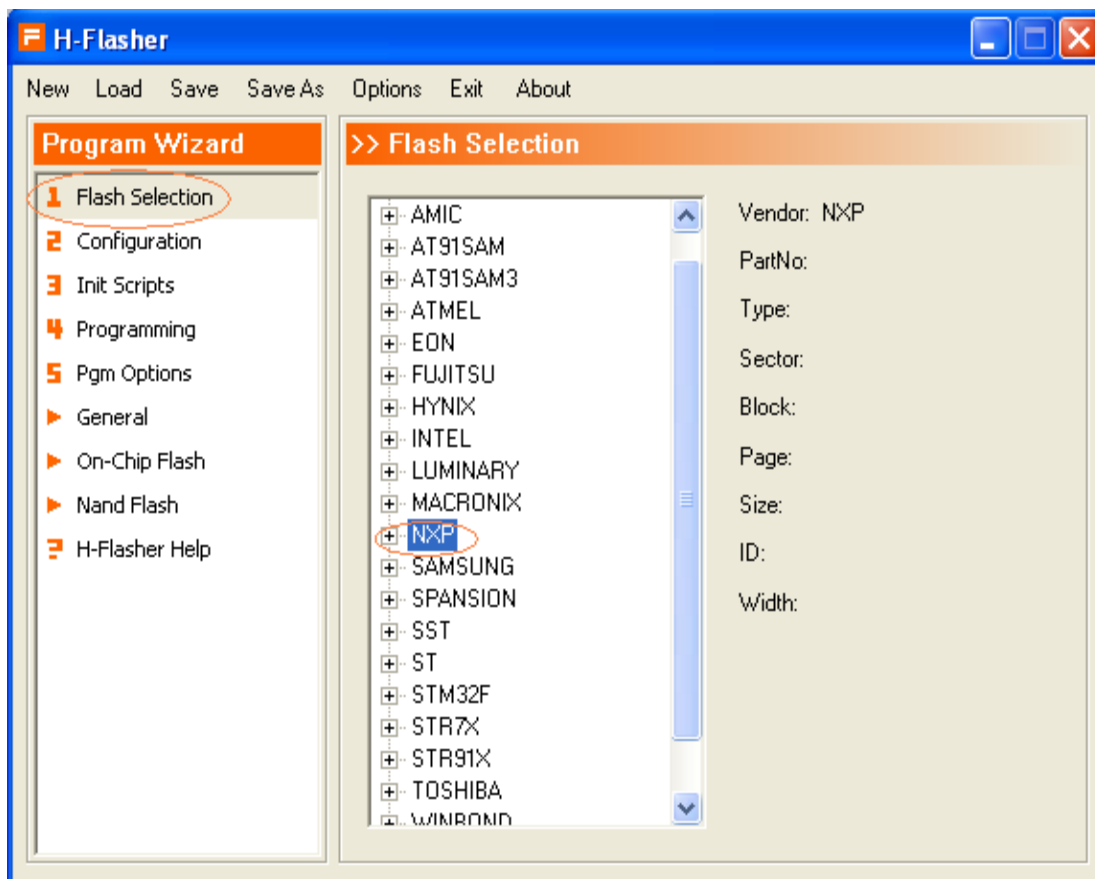This window is opened after u double click on

**H-Flasher**

In the program wizard tab,

Click on **Flash Selection,**

Select controller vendor as per your applications needs.

Observe in image we've selected **NXP** as an example.

Click on '+' sign of NXP for list of controllers
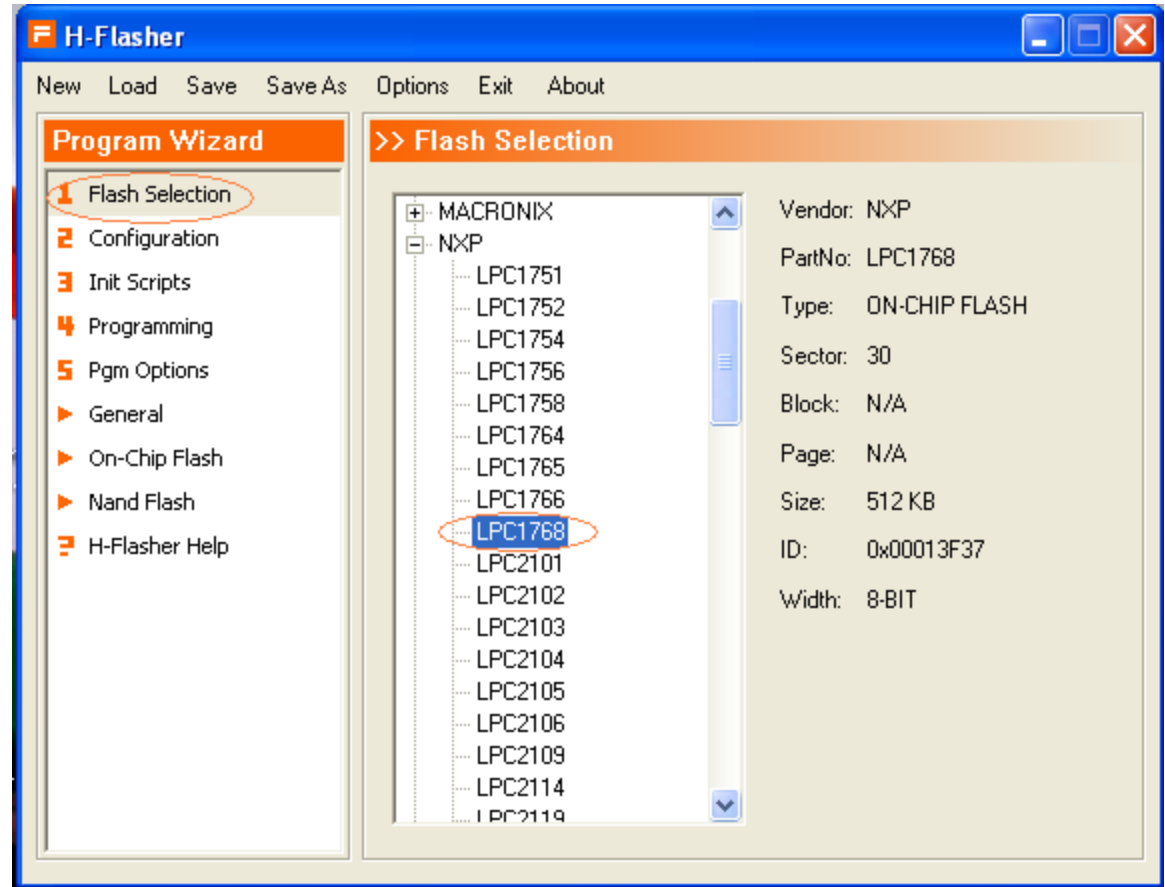


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# Selection of controller

Being selected Flash Selection Tab,

after pressing '+' sign of NXP,

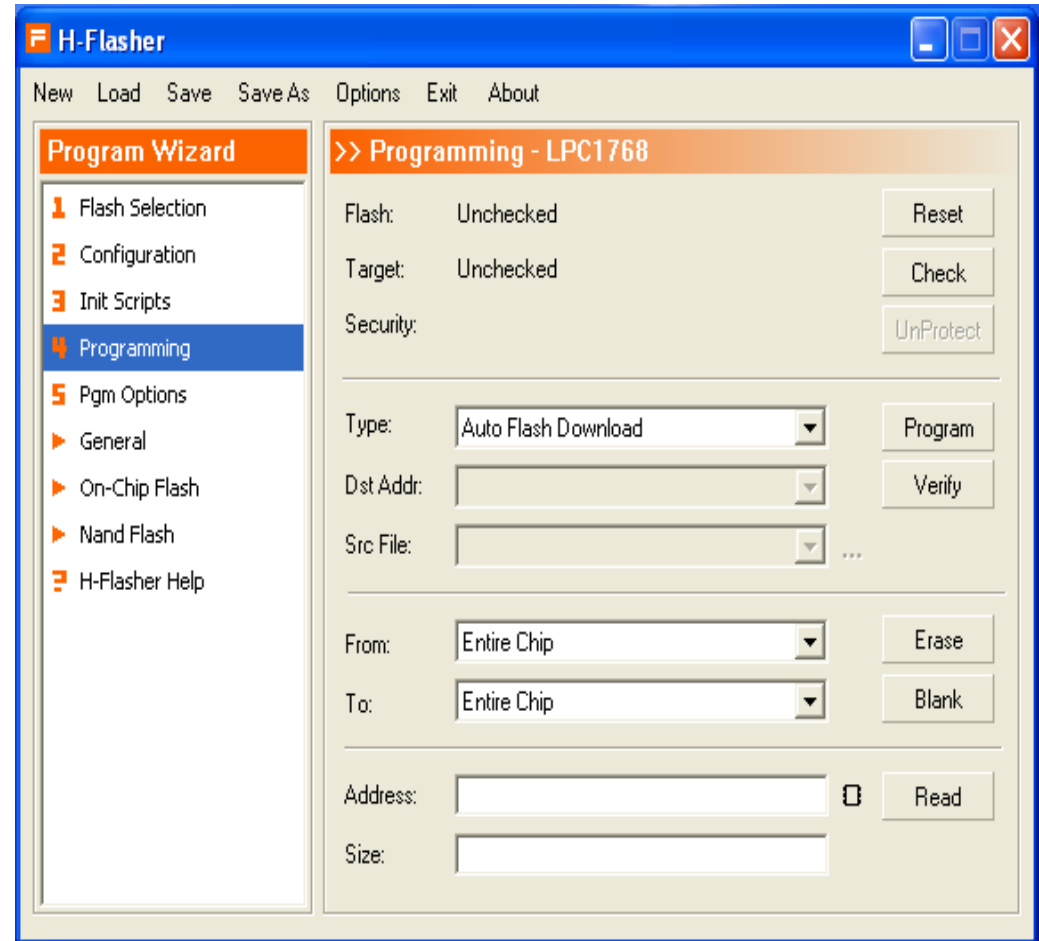Select appropriate as per your application needs.

# Programming

To enter programming mode,

Click on Programming Tab in

Program Wizard window

By default, you could observe the window as shown in the image.
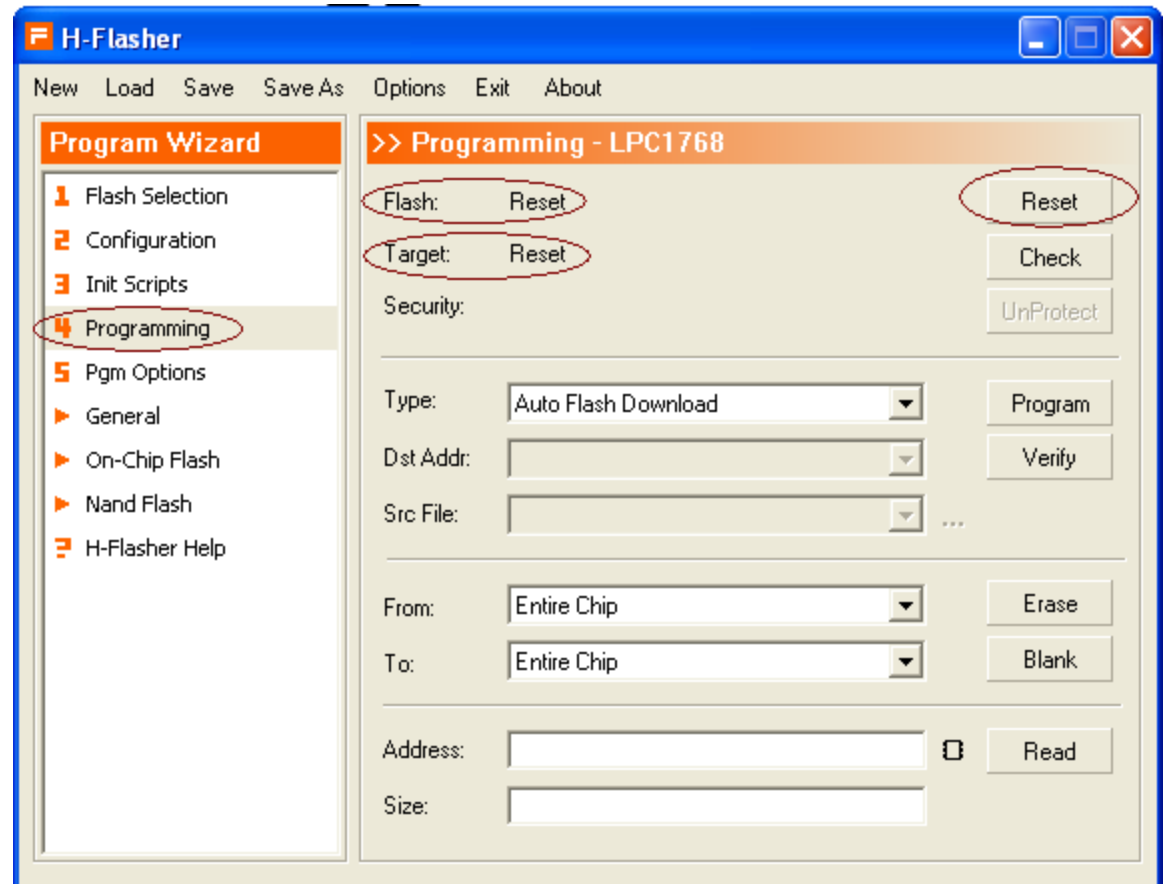
# Reset

Being selected,

**Programming option,**

Click on **RESET** button

To reset your target.

# Check

To check whether your target is connected,

Press **CHECK** button as shown in image.

Observe the encircled region in image displaying Flash & Target.

It shows that your target LPC1768 is connected.
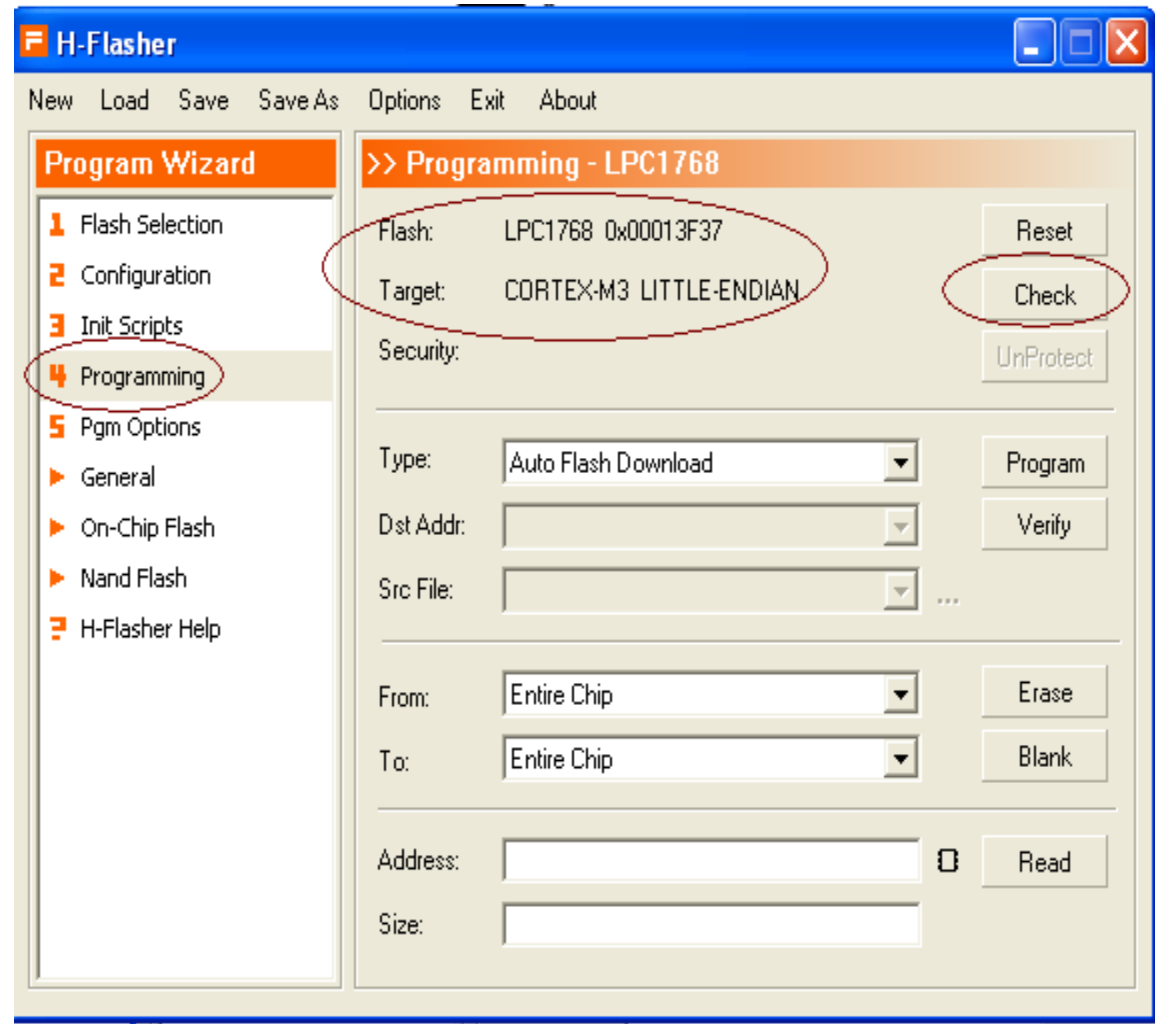
# Different ways to Program/Debug

1. Loading Code in Hex format using H-JTAG

2. Loading Hex file/Debug through Auto Flash download option in Keil using H-JTAG.

3. Loading Binary File (Uses Boot loader)
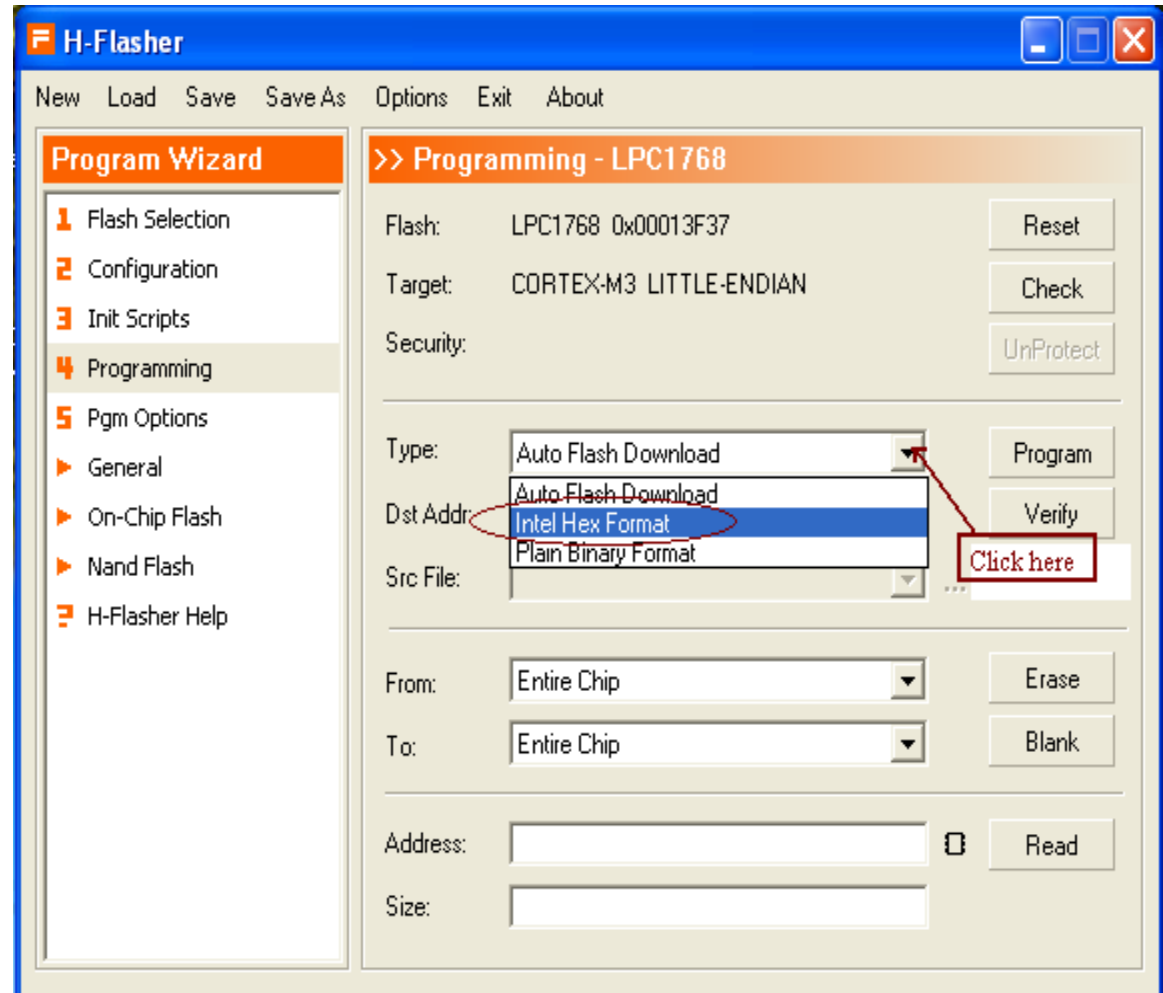   (Refer LPC1768 USB Bootloader Manual for Binary Upload)

# 1. Downloading Code in Hex Format using H-JTAG

To download code in hex format,

Click on pull down option on **Type**.

In the options,

Select **Intel Hex Format.**

# Browsing Hex File of Your Project

After selecting option as Intel Hex format,

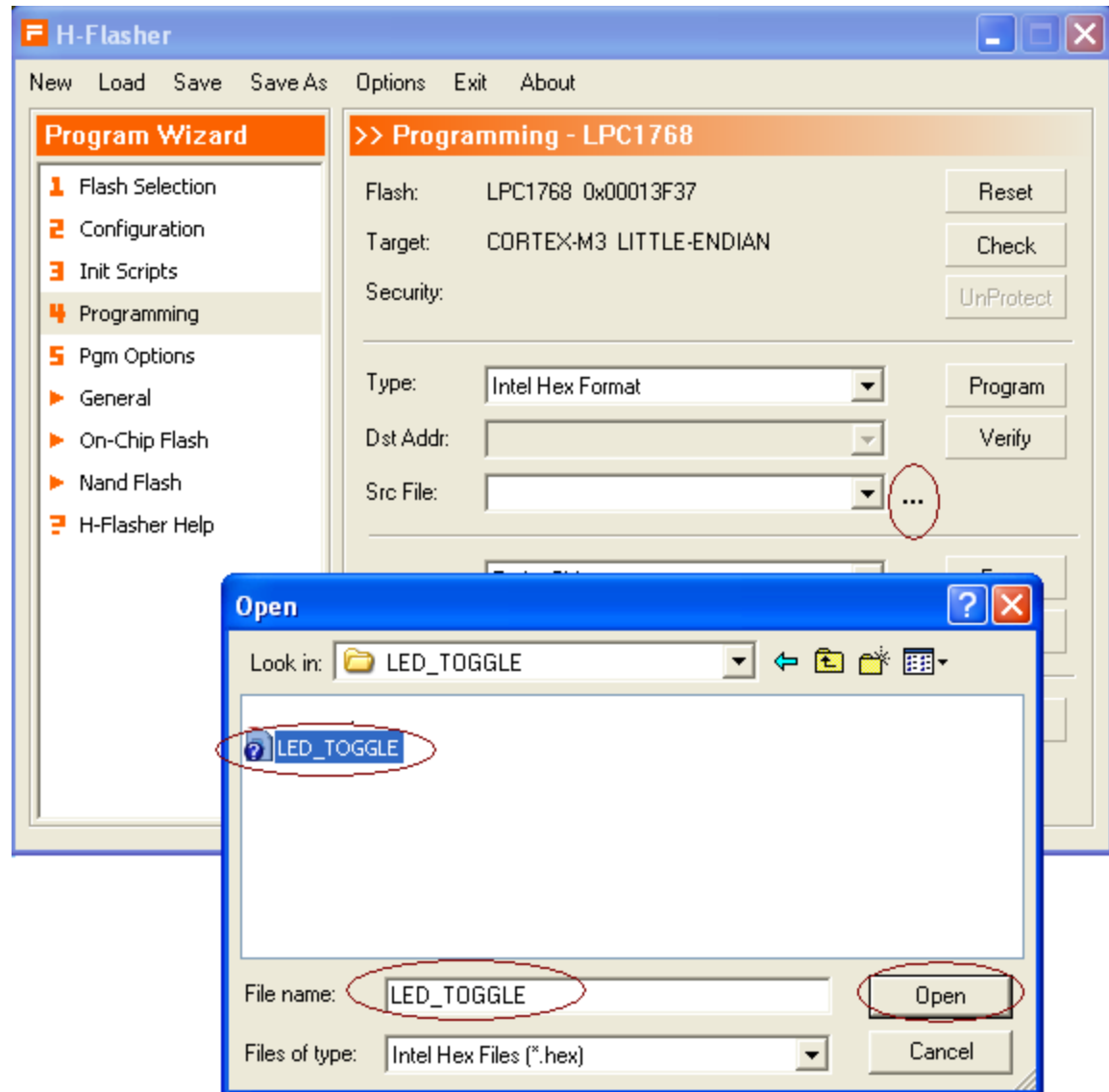Click on the circled area on H-Flasher to browse your project hex file.

In the **Open** dialog box,

Select your project hex file.

Observe in the image,

that LED_TOGGLE hex file is selected &
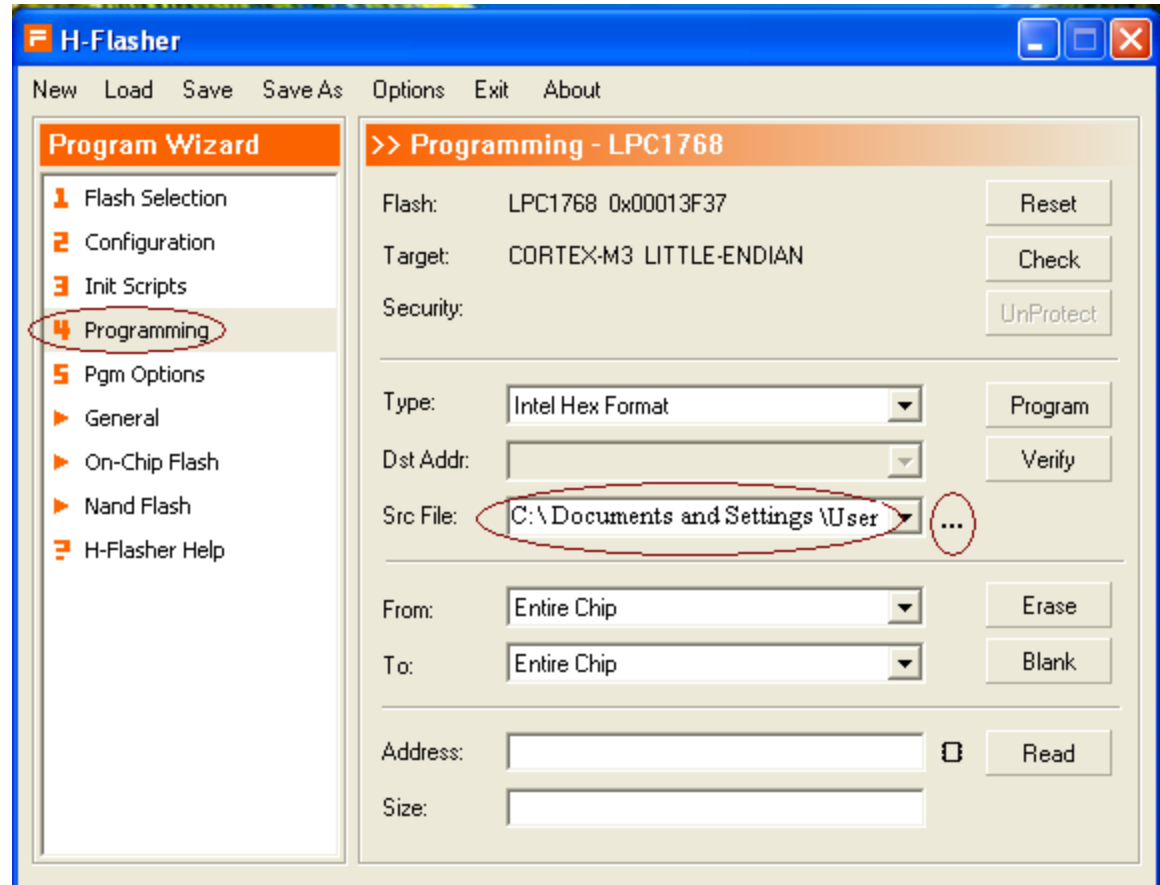
then click **Open** button.



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# Image showing Hex Source File Selected

Observe in the image that your source file is selected.

# Programming Hex Code

Click on Program button,

To program to your target board.
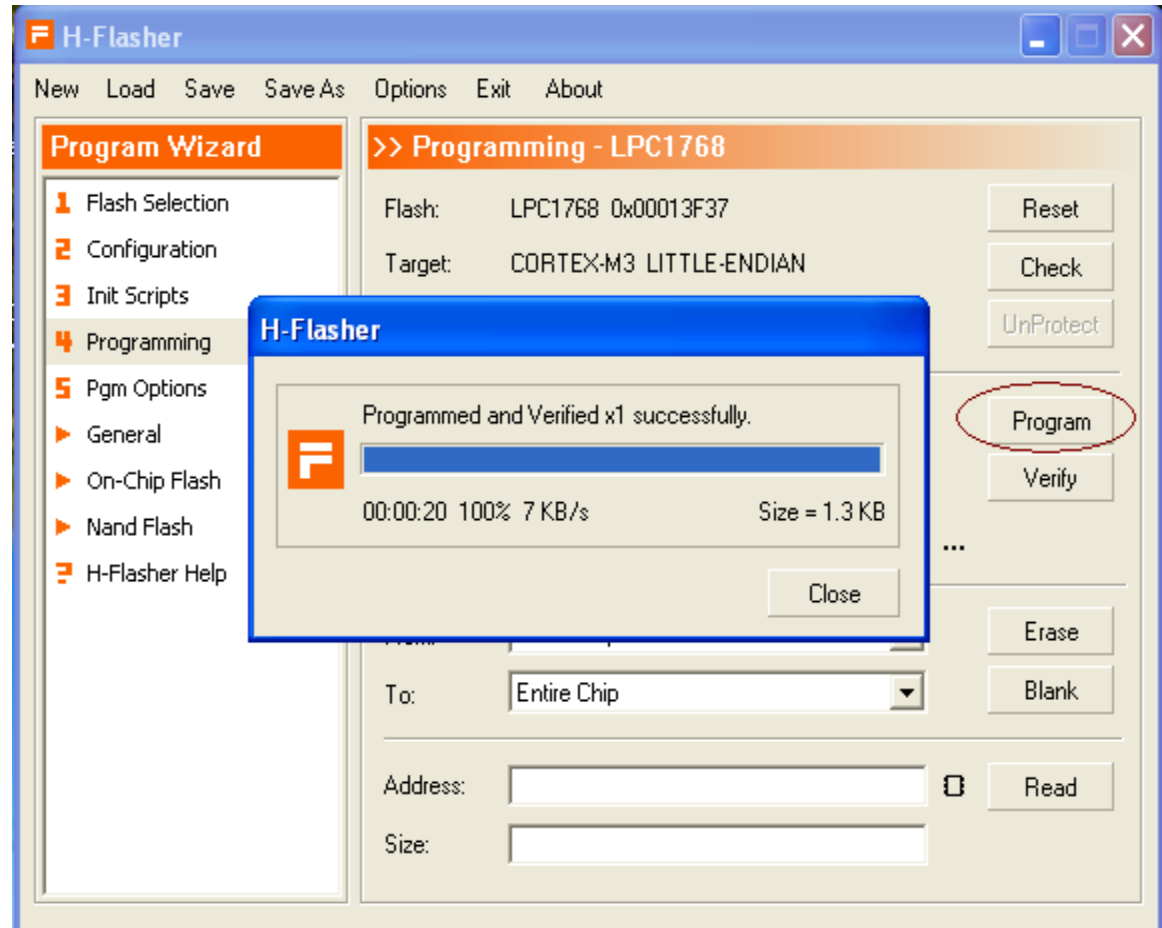
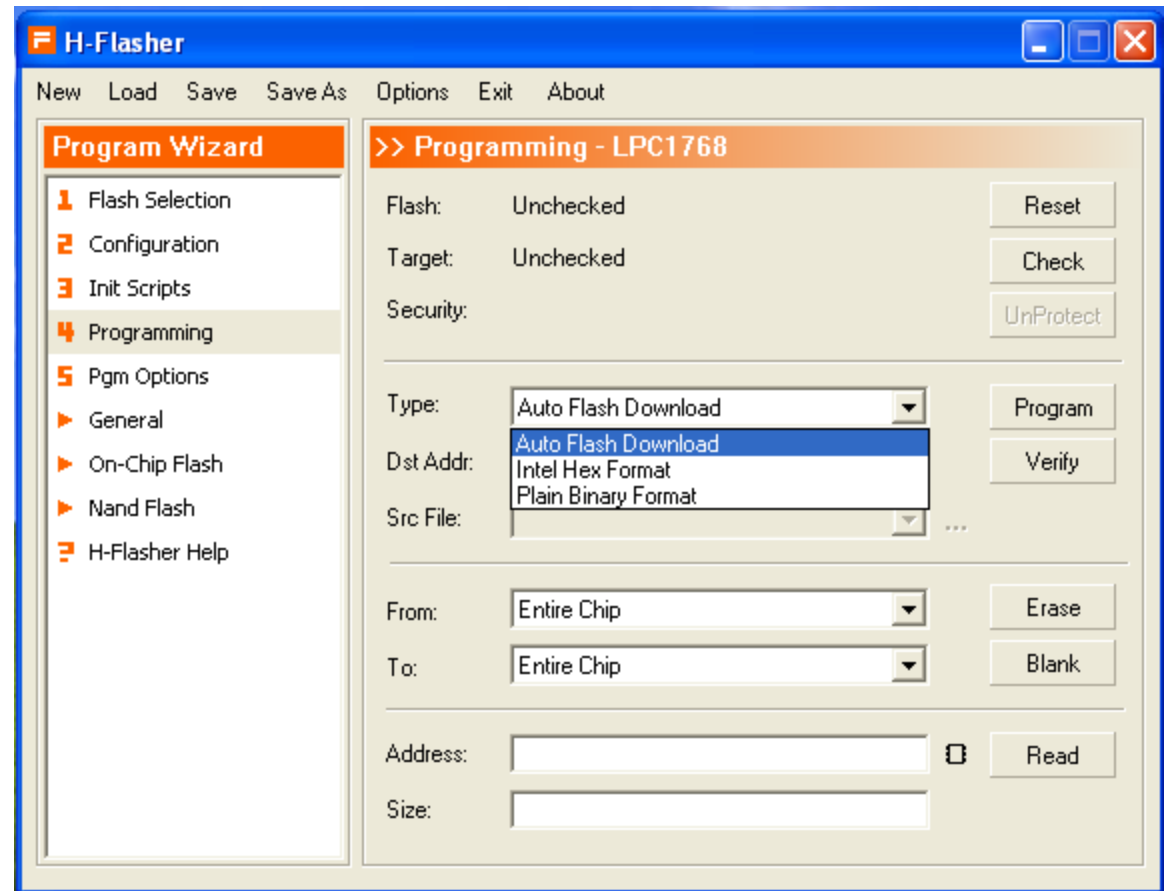# 2. Loading Hex file/Debug through Auto Flash download option in Keil using H-JTAG.

You can also program the target board via Auto Flash Download.

Select/Click the Programming Tab,

Go to Type and select the option as Auto Flash Download.

Here you can also program or debug the target board using Keil uVision4 IDE.

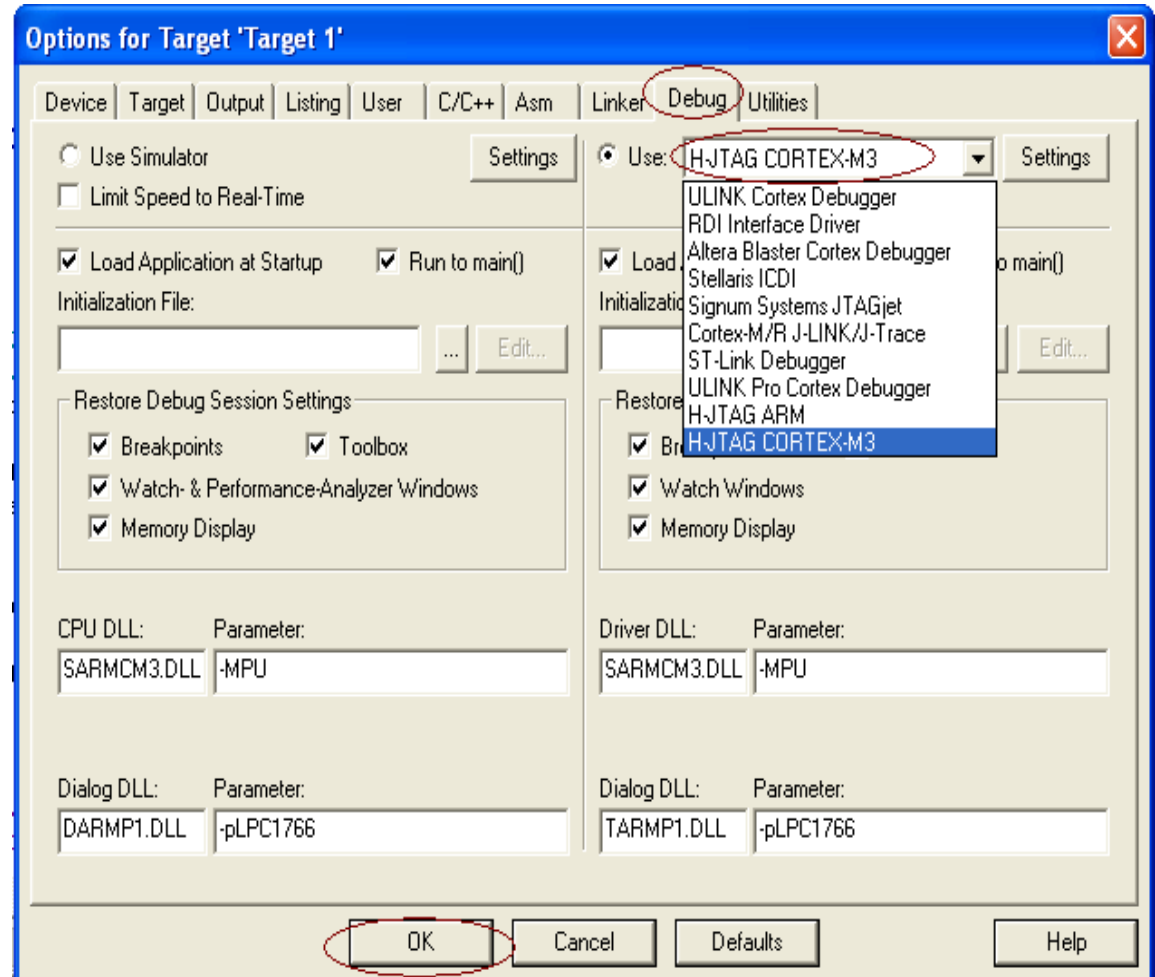*See successive slides to use Keil for debug/program.*

Open the project in Kiel Uvision4 IDE. Click on Configure → Flash Tools

Click on Debug Tab,

Click on pull down arrow as encircled in the image shown & select HJTAG ARM.

Select load application at startup & put check mark to Run to Main.

Click OK.

**Options for Target 'Target 1'**

Device | Target | Output | Listing | User | C/C++ | Asm | Linker | Debug | Utilities

○ Use Simulator          Settings          ⦿ Use: H-JTAG CORTEX-M3 ▼          Settings
☐ Limit Speed to Real-Time

                                          ULINK Cortex Debugger
                                          RDI Interface Driver
☑ Load Application at Startup    ☑ Run to main()     ☑ Load   Altera Blaster Cortex Debugger   o main()
Initialization File:                                 Initializatic Stellaris ICDI
                                                     Signum Systems JTAGjet
[                              ] [...] [ Edit... ]    [           Cortex-M/R J-LINK/J-Trace        [ Edit... ]
                                                     ST-Link Debugger
┌ Restore Debug Session Settings ─────────┐          ┌ Restore  ULINK Pro Cortex Debugger
                                                     H-JTAG ARM
  ☑ Breakpoints      ☑ Toolbox                         ☑ Br      H-JTAG CORTEX-M3

  ☑ Watch- & Performance-Analyzer Windows               ☑ Watch Windows

  ☑ Memory Display                                      ☑ Memory Display
└─────────────────────────────────────────┘          └────────────────────────────────┘

CPU DLL:     Parameter:                              Driver DLL:     Parameter:
[SARMCM3.DLL] [-MPU                      ]            [SARMCM3.DLL]   [-MPU                      ]

Dialog DLL:  Parameter:                              Dialog DLL:     Parameter:
[DARMP1.DLL]  [-pLPC1766               ]             [TARMP1.DLL]    [-pLPC1766               ]

          [ OK ]     [ Cancel ]     [ Defaults ]                              [ Help ]
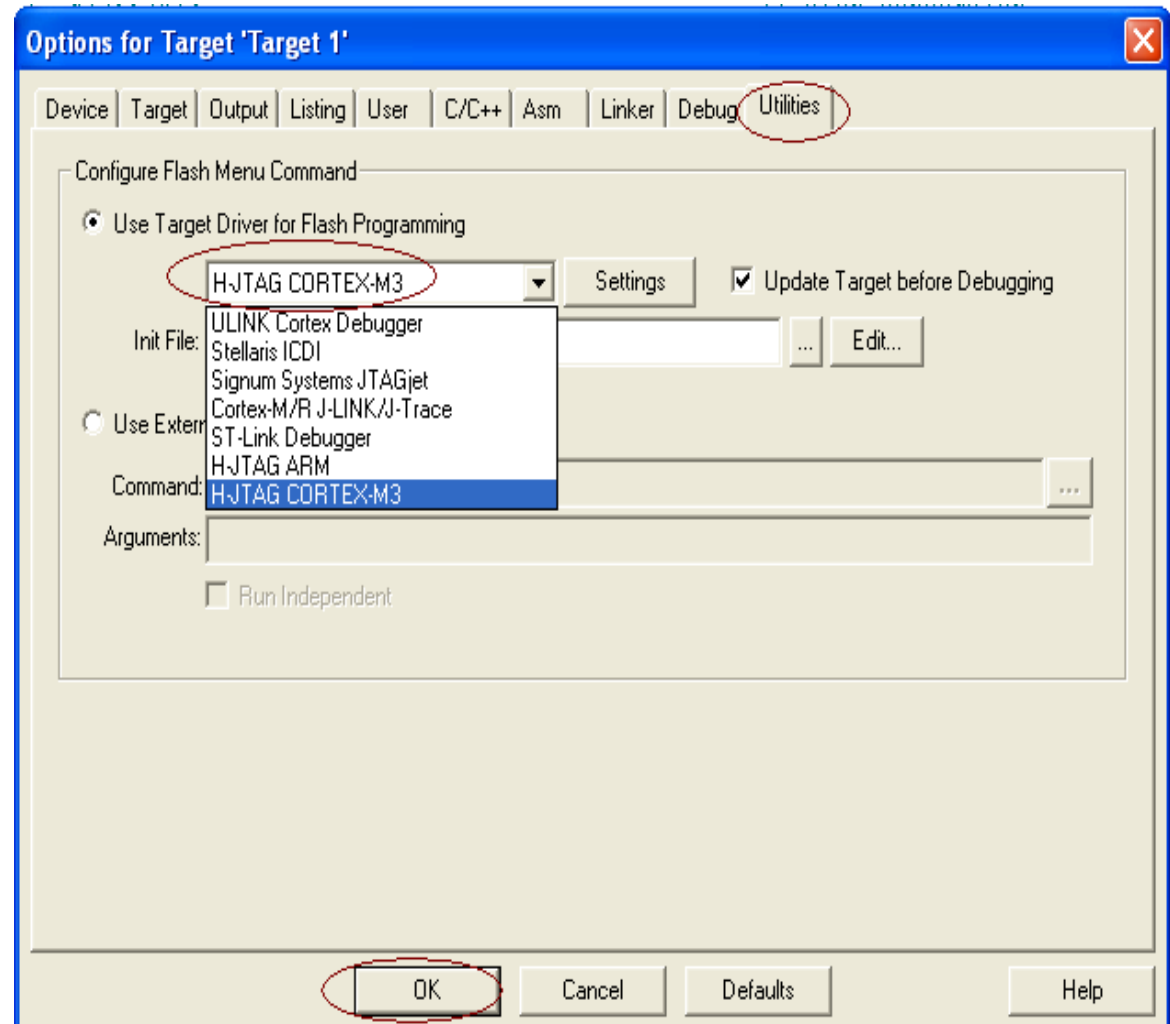
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# Utilities

Click on Utilities Tab,

Make setting as shown in the image.

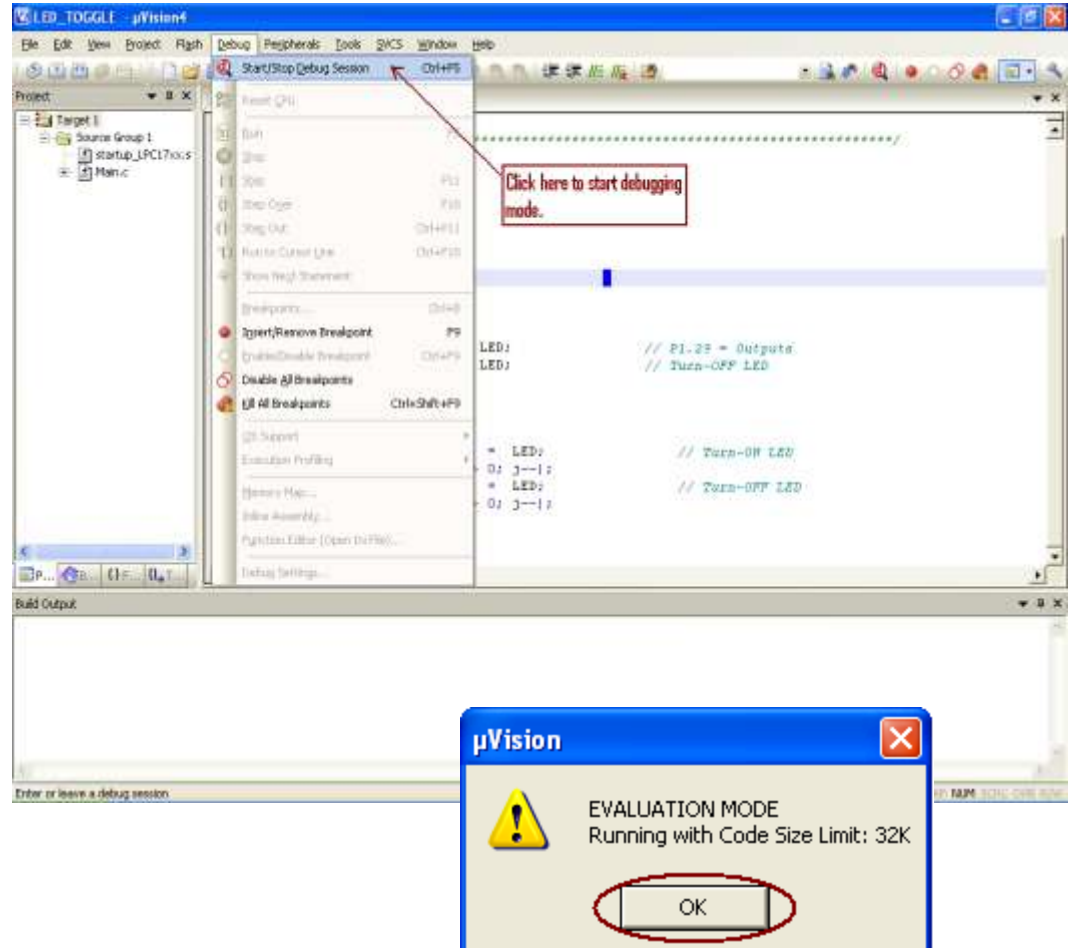Click OK.

# Start/Stop

To enter into Debug/Programming mode,

Click on Debug Menu,

Then Click on Start/Stop option.

A dialog box appears,

EVALUATION MODE

Click OK.

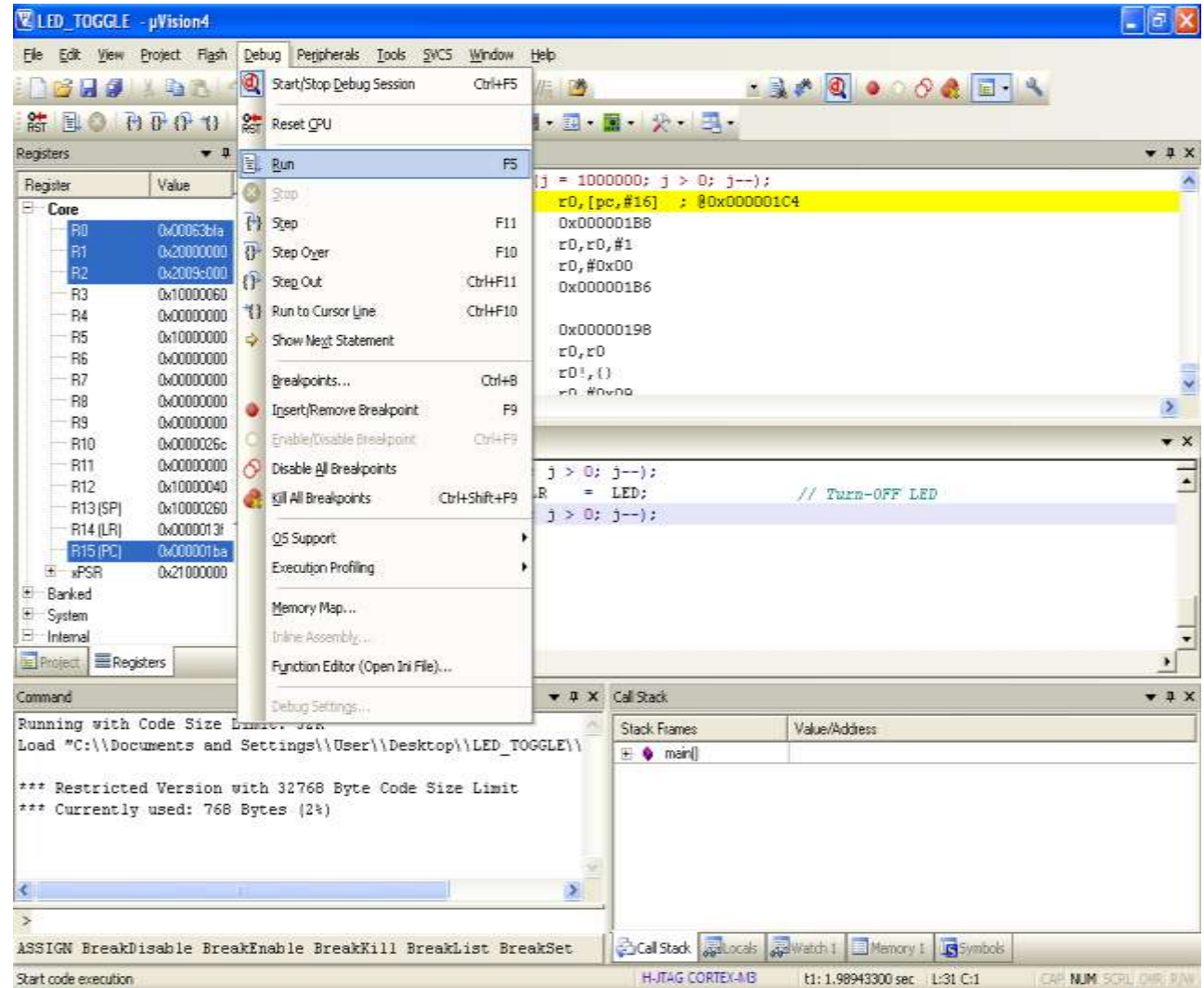# Image when clicked on Start/Stop

# Running the Code

To run the code,

Go to debug menu,

Click on Run option.

Your code starts running, provided that you have connected your target board.

After code is dumped onto the target board, click on Start/Stop option to stop code which is running.
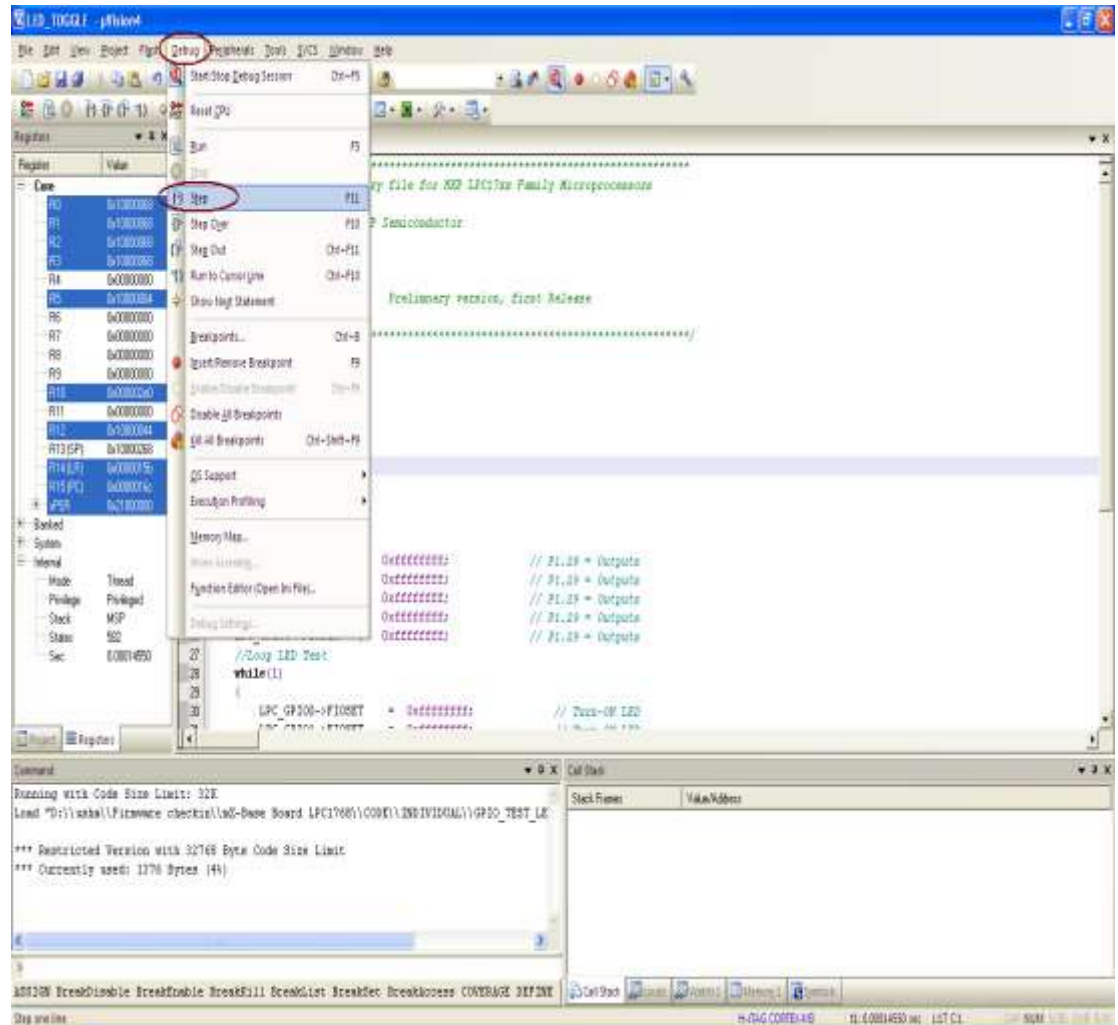
# Debugging the code stepwise

To debug the code stepwise,

Go to debug menu,
in the pull down menu,

Select step option or
you can use F11
shortcut key

*Use step over option to exit from the current line & step out to exit from the last line of the code.*



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# Inserting Breakpoints to debug your code

You can insert break points to any line in your code,

So that you can check each line of your code is working correctly without any errors.

# Thank You!!!

*For documentation queries, mail us @*        **support@coineltech.com**

Technical Forum:  www.coineltech.com/forums

You can view the complete video for this document **here**

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