A Startup Guide for Developer Studio

2170016-4.0

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APN Content Level	BASIC	✓	INTERMEDIATE		ADVANCED			Confidentiality	Public	✓	Private	
Hardware Compatibility	Product Line	AirPrime		Series/Variant	Q26xx			WMP Series				
					SL6087							
		AirLink		Series	Fastrack Xtend							
Software Compatibility	Firmware 7.4a, Open AT Framework 6.31											

1 Version

Application Notes may be updated over their lifetime. To ensure you design with the correct version, please check the application notes page in www.sierrawireless.com for latest versions.

2 Introduction

This Application Note (APN) is provided to Sierra Wireless distributors and clients to aid more rapid development of embedded applications using the Sierra Wireless portfolio of cellular solutions. To request a new application note, contact your regional Sierra Wireless Product Marketing Manager.

3 Glossary

ADL	OpenAT Application development layer Library
DevStudio	Developer Studio
FW	Firmware
RTE	Real Time Environment debugging
SDK	Software development Kit, meaning the OpenAT Software Suite packages
TMT	Target Monitoring Tool

4 Application Note Description

This application note describes some concepts in using DevStudio and shows various snapshots in using it. These snapshots shows the sequence of using DevStudio, and also functions as a quick start-up guide.

You may download Developer Studio from the Sierra Wireless website (http://sierrawireless.com) and learn how to use DevStudio quickly with the snapshots provided in this document.

5 Four Reasons to Use Developer Studio

1. Build is fast
   - Old IDE copies all source files for building the OpenAT application and building is slow in Cygwin environment.
   - DevStudio tracks file changes and dependencies, does not copy any source files and builds only what is needed.
2. Standalone tools chain included
   - DevStudio includes the free ARM EABI GCC and ARM ELF GCC tools chain for OpenAT development. It supports ADS and RVDS tool chains as well.
   - DevStudio integrated features of TMT and RTE.
3. Manage and develop OpenAT projects with comprehensive functions

   DevStudio includes some powerful new features:

   - All settings of an OpenAT project can be configured inside DevStudio.
   - Manages OpenAT Software Suite Packages and change packages for an OpenAT application.
   - Manages library projects easily by changing build-order and relating several OpenAT projects.
   - Generates OpenAT Plug-in packages.
   - Develops in Lua with OpenAT Lua integrated feature.
   - Online Update of packages, eclipse and DevStudio.

4. Included all benefits of using Eclipse C/C++
   - DevStudio 2.1.0 is now based on a new Eclipse platform version3.6.2, which is stable and much enhanced. For example, Eclipse 3.6.2 has file a history function to backup all versions of files saved in the past few days, and it also introduced the block-edit or column-edit feature.
   - Develops Windows applications with other tool chains, such as MinGW. The DevStudio can also be installed as an Eclipse plug-in in other versions of Eclipse, such as Eclipse Java.
   - Supports version control tools such as Subversion, with an integrated interface.
   - Auto-completion, source Hierarchy (Call, Include & Type), powerful searching, syntax coloring, etc.

6 Some Concepts in Using DevStudio (inherited from Eclipse)

Terms	Description
Workspace	• This is the storage path for program settings and project files • The program settings of DevStudio are stored in the folder named ***.metadata*** in this workspace location. • Each project named “ABC” has a folder “ABC” in this workspace location. • The workspace can be configured the first time DevStudio is started or it can be changed inside DevStudio afterwards. Changing of workspace loses all the program and project settings.
View	• This means a UI box, such as the box “Console output” and the box “Project Explorer”

Perspectives	• This means Windows layouts
	• Only one perspective can be active in a DevStudio window. But several DevStudio windows can be opened (from the menu bar: *Windows* > *New window*).
	• A perspective consists of a number of “View”s
	• Some default perspectives defined in DevStudio:
	  ▪ Open AT – editor and build tools chain
	  ▪ Target Management – Traces, AT Shell, RTE mode (step)
	  ▪ Debug – RTE mode (step, link to source files)

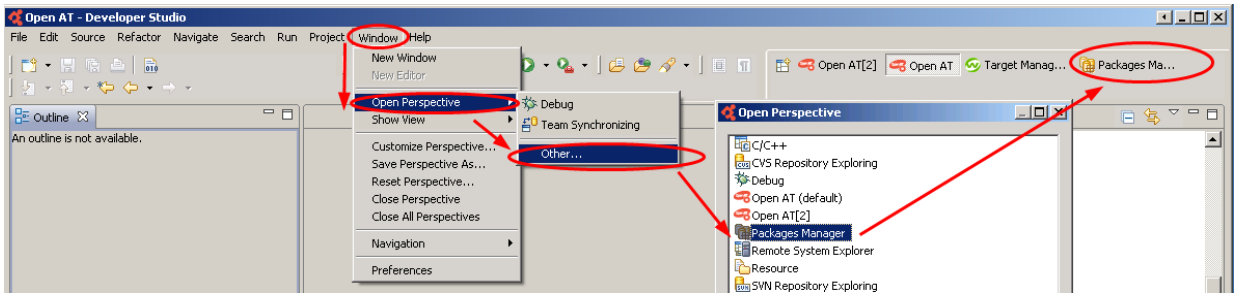
Working set	• A project filter for project explorer • The filtered set of projects can be selected for viewing, building or searching. • For example, a filter can be defined and when used in “Project Explorer” View, the view shows only the selected projects and hides the others.
Index	• Index means to scan all the project files and build an indexed database. The database contains the information of C datatypes/structure/classes, file relationships, etc. and is useful for searching and source code viewing, etc.

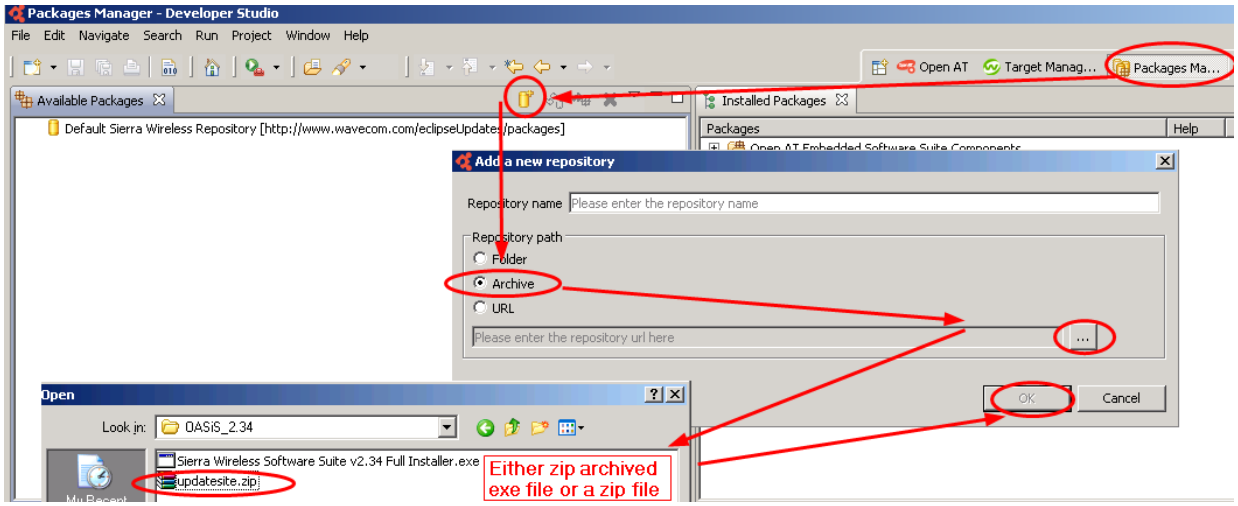
7 Screenshots

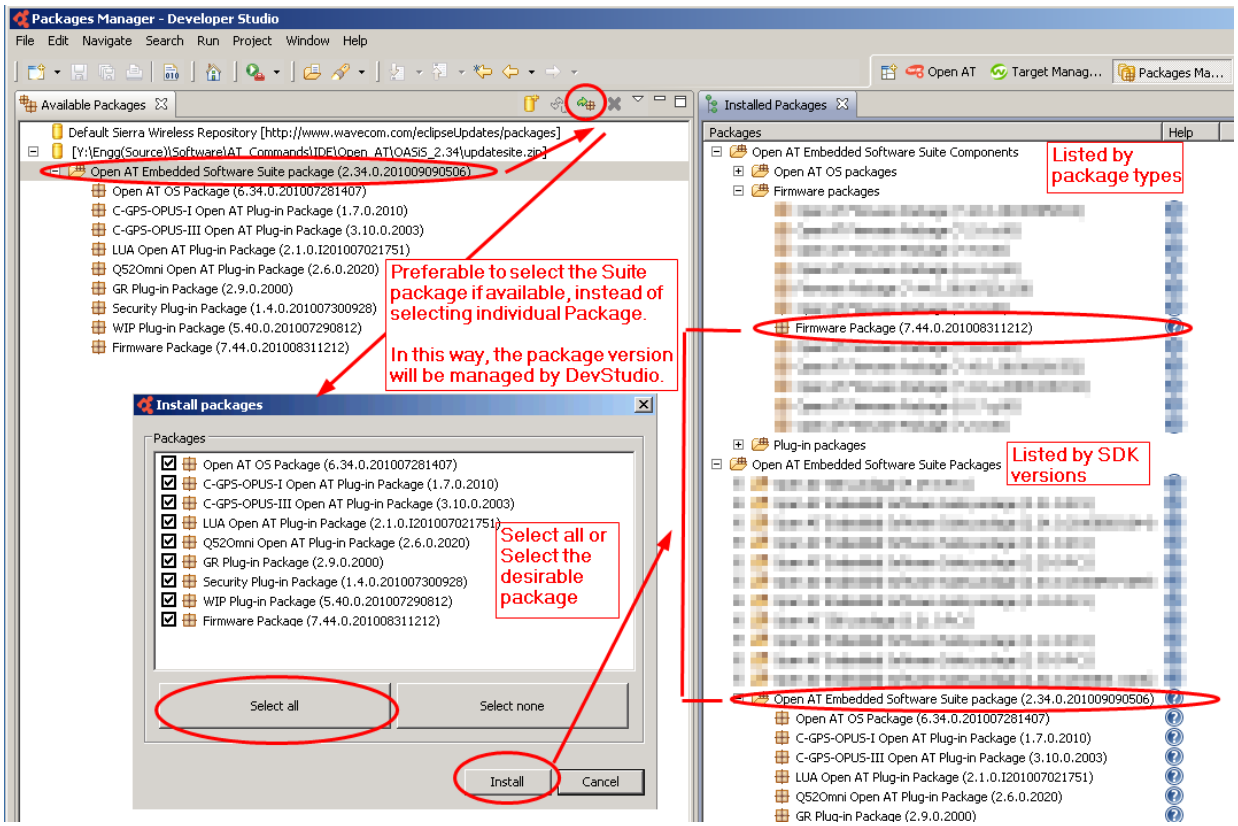
The following sub-sections describe different examples of using Developer Studio. Examples included below are:

- Importing Open AT Framework Packages
- Launching the workspace
- Manipulating projects
  - Creating a new project
  - Creating a new project from an existing source
  - Creating an empty project
  - Building a project
  - Opening/closing, removing/importing projects
  - Creating a library project
- Configuring projects
- Configuring programs
  - Linking with Editor
  - Creating a working set
  - Working with perspectives
  - Adding Trace View
  - Modifying key mappings, tab settings, syntax coloring, and preference settings
- Using the programming editor
- Using TMT
- Debugging using GDB
- Using Extended Target Management

7.1 Import Open AT Framework Packages

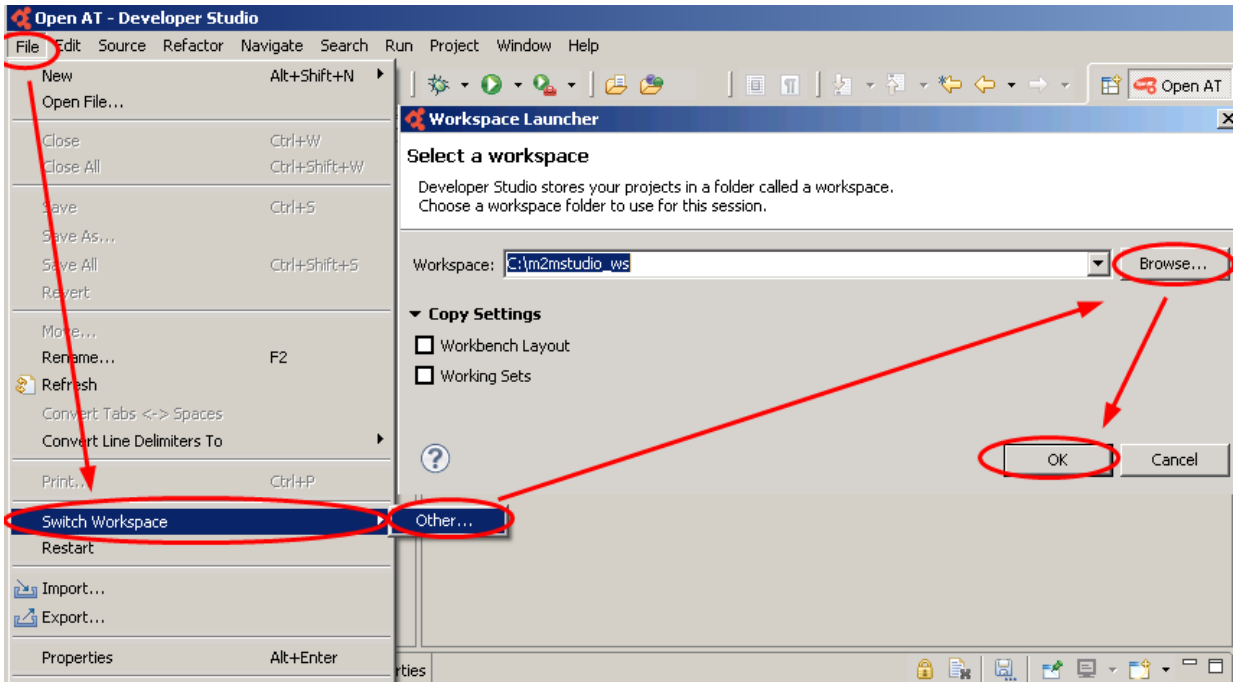






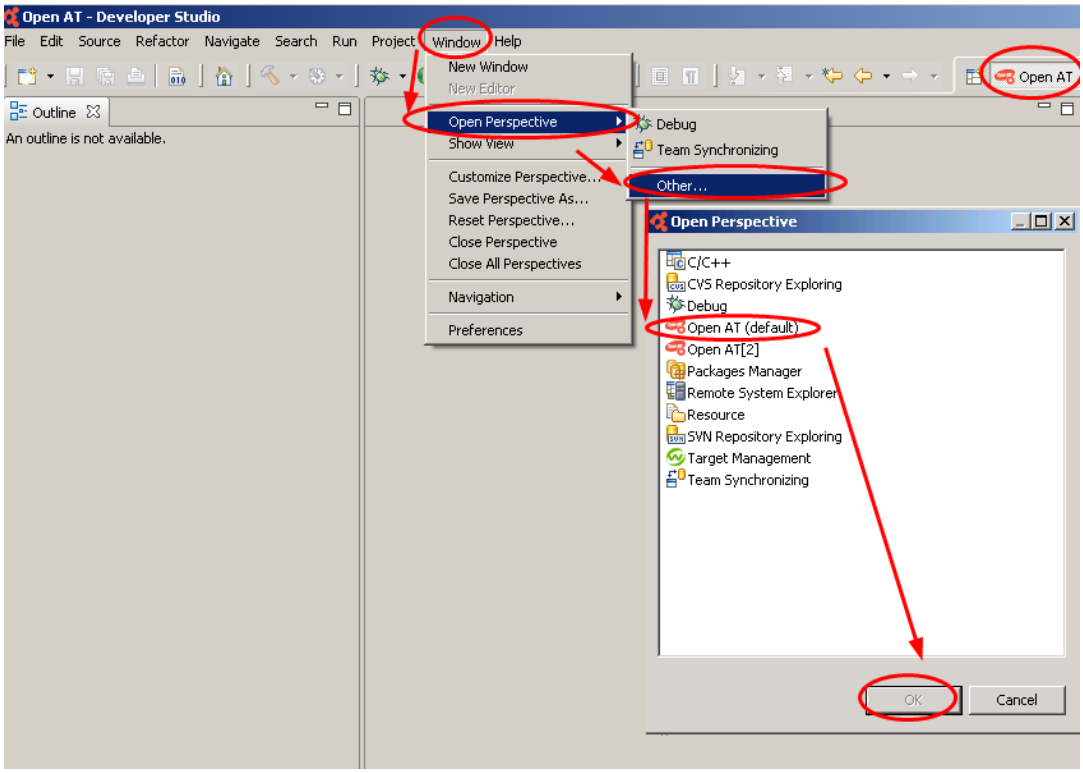
7.2 Workspace

The “workspace launcher” will be prompted the 1st time that the program starts-up. The workspace can be switched as shown below:



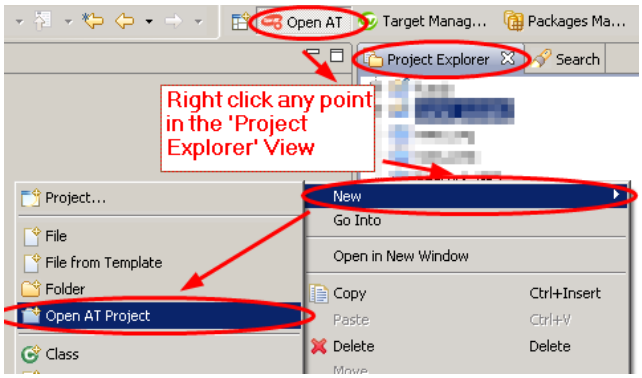
7.3 Project Manipulations

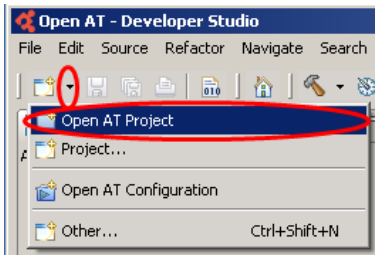
Open the OpenAT perspective if necessary.

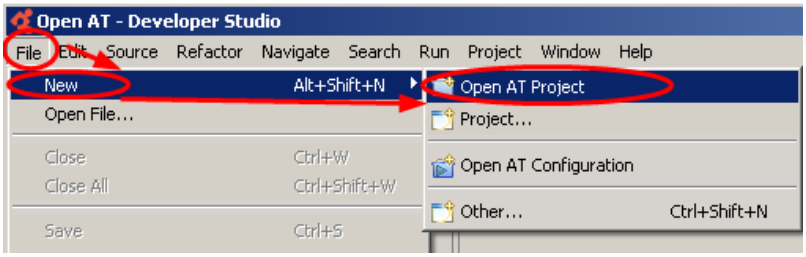


7.3.1 Create New Project

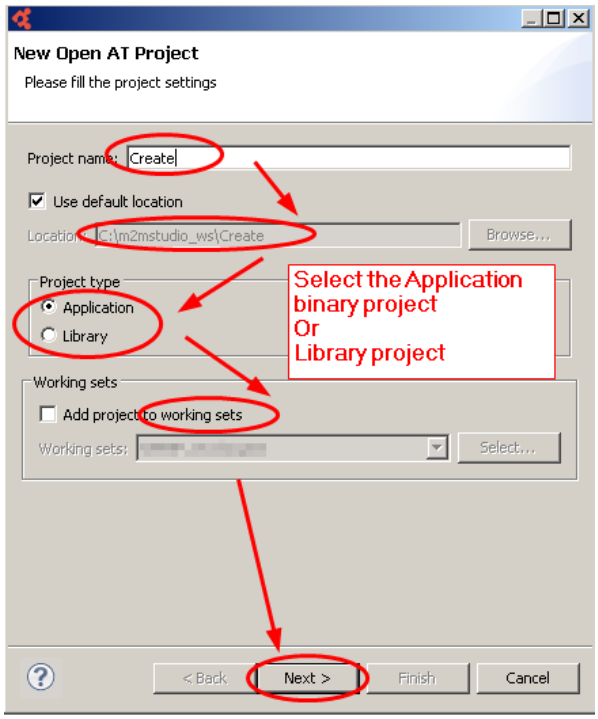
The figures below show several ways to open the “Open AT Project” menu for creating an OpenAT project.

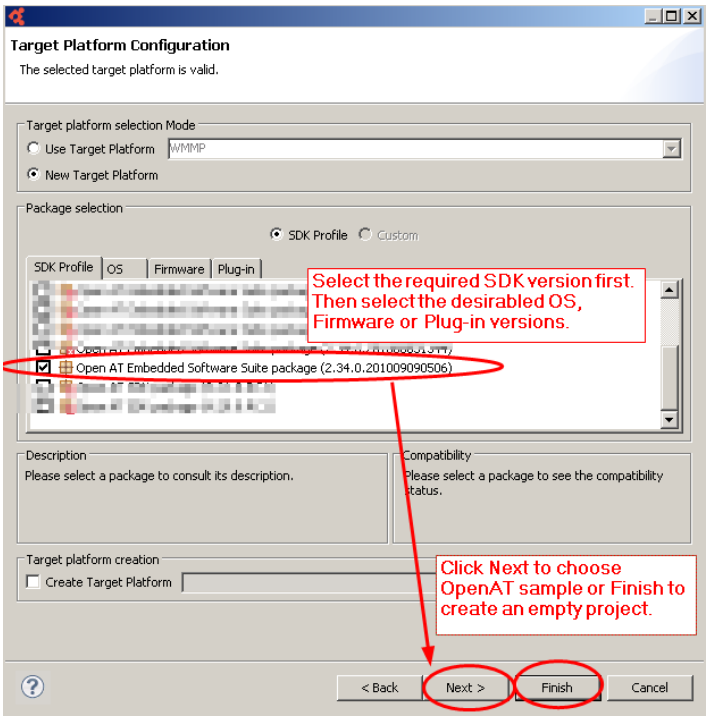


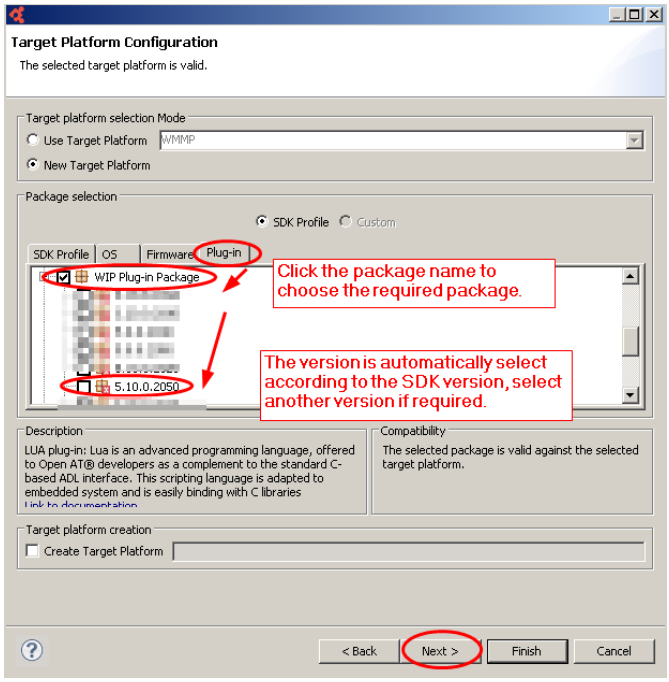


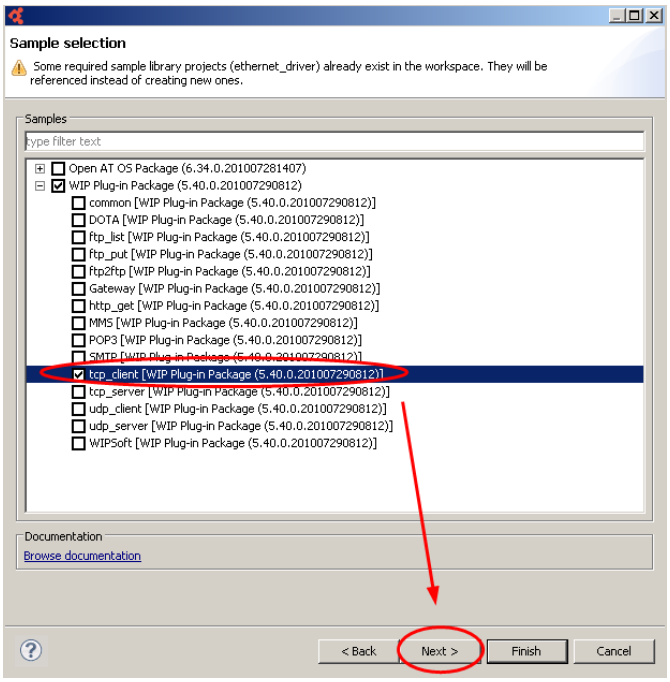


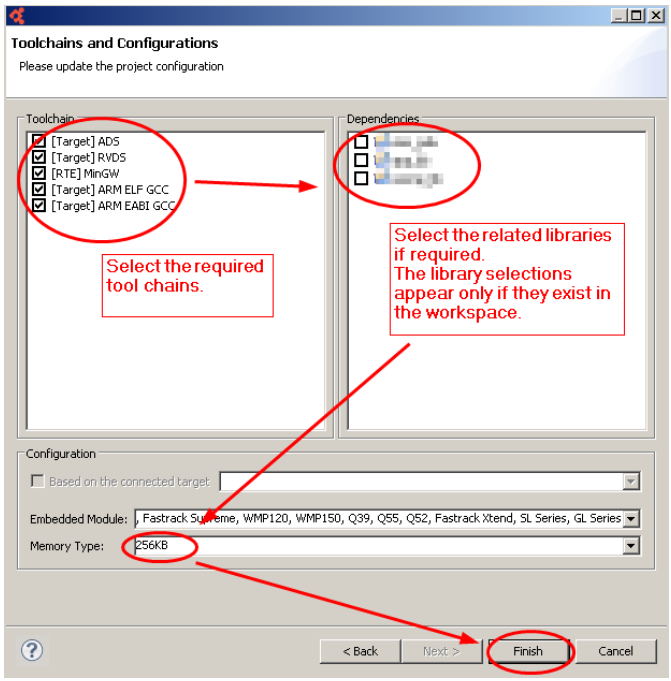
The screenshots below show the steps to create a new OpenAT project:





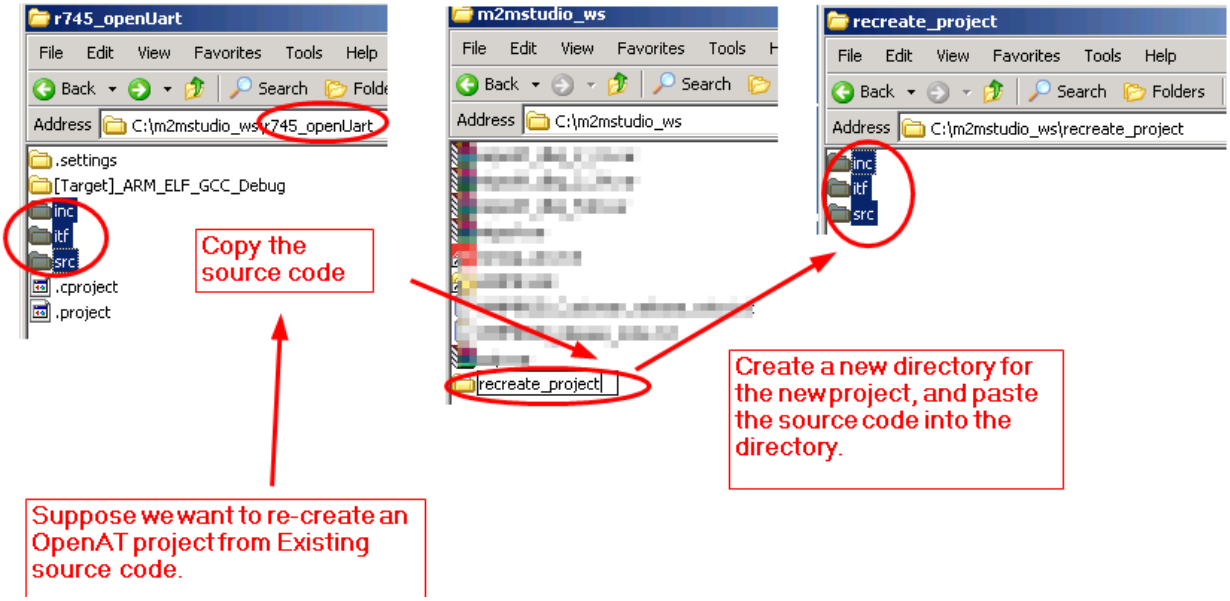

Target Platform Configuration
The selected target platform is valid.
Target platform selection Mode
Use Target Platform
WMMP
New Target Platform
Package selection
SDK Profile
Custom
SDK Profile
OS
Firmware
Plug-in
WIP Plug-in Package
5.10.0.2050
Click the package name to choose the required package.
The version is automatically select according to the SDK version, select another version if required.
Description
LUA plug-in: Lua is an advanced programming language, offered to Open AT® developers as a complement to the standard C-based ADL interface. This scripting language is adapted to embedded system and is easily binding with C libraries
Compatibility
The selected package is valid against the selected target platform.
Target platform creation
Create Target Platform
< Back
Next >
Finish
Cancel


Sample selection
Some required sample library projects (ethernet_driver) already exist in the workspace. They will be referenced instead of creating new ones.
Samples
type filter text
Open AT OS Package (6.34.0.201007281407)
WIP Plug-in Package (5.40.0.201007290812)
common [WIP Plug-in Package (5.40.0.201007290812)]
DOTA [WIP Plug-in Package (5.40.0.201007290812)]
ftp_list [WIP Plug-in Package (5.40.0.201007290812)]
ftp_put [WIP Plug-in Package (5.40.0.201007290812)]
ftp2ftp [WIP Plug-in Package (5.40.0.201007290812)]
Gateway [WIP Plug-in Package (5.40.0.201007290812)]
http_get [WIP Plug-in Package (5.40.0.201007290812)]
MMS [WIP Plug-in Package (5.40.0.201007290812)]
POP3 [WIP Plug-in Package (5.40.0.201007290812)]
tcp_client [WIP Plug-in Package (5.40.0.201007290812)]
tcp_server [WIP Plug-in Package (5.40.0.201007290812)]
udp_client [WIP Plug-in Package (5.40.0.201007290812)]
udp_server [WIP Plug-in Package (5.40.0.201007290812)]
WIPSoft [WIP Plug-in Package (5.40.0.201007290812)]
Documentation
Browse documentation
< Back
Next >
Finish
Cancel


Toolchains and Configurations
Please update the project configuration
Toolchain
[Target] ADS
[Target] RVDS
[RTE] MinGW
[Target] ARM ELF GCC
[Target] ARM EABI GCC
Dependencies
Select the required tool chains.
Select the related libraries if required.
The library selections appear only if they exist in the workspace.
Configuration
Based on the connected target
Embedded Module:
Memory Type:
256KB
< Back
Next >
Finish
Cancel

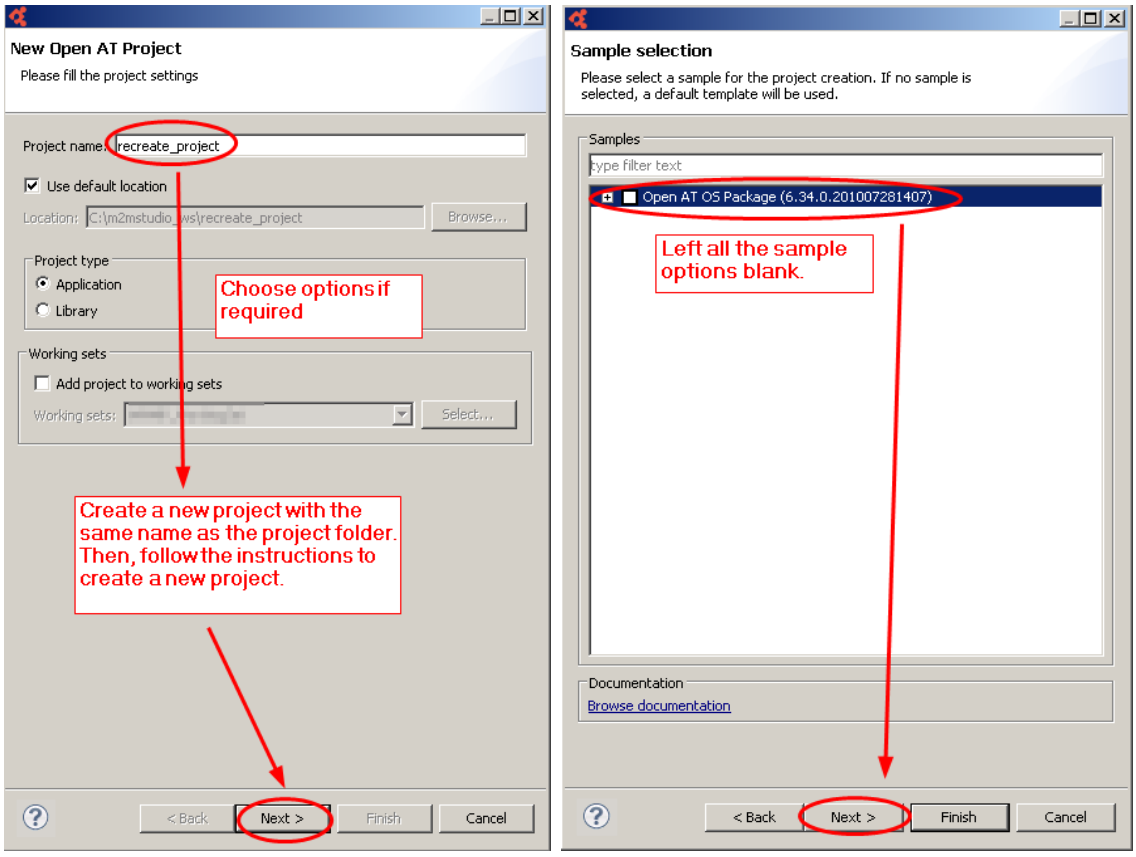
7.3.2 Create a New Project From Existing Sources

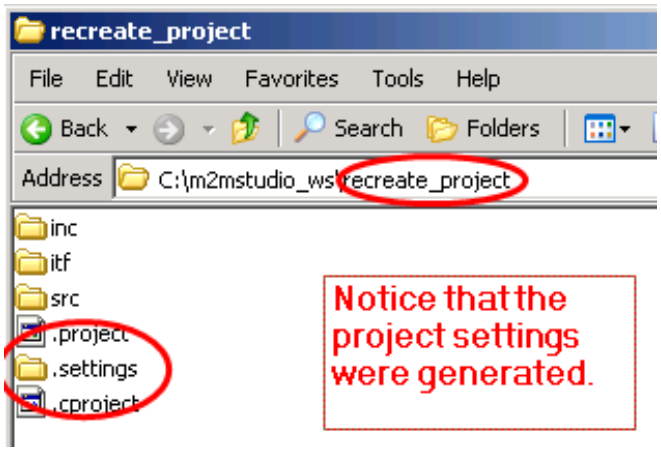
To create a new DevStudio project with existing source files, the source files can be prepared first as shown below.

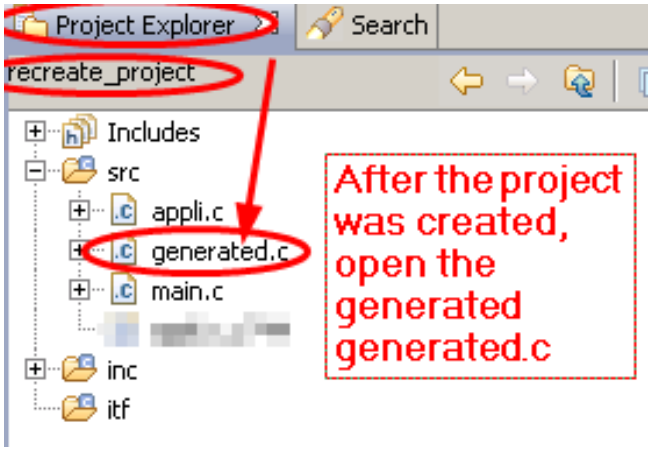


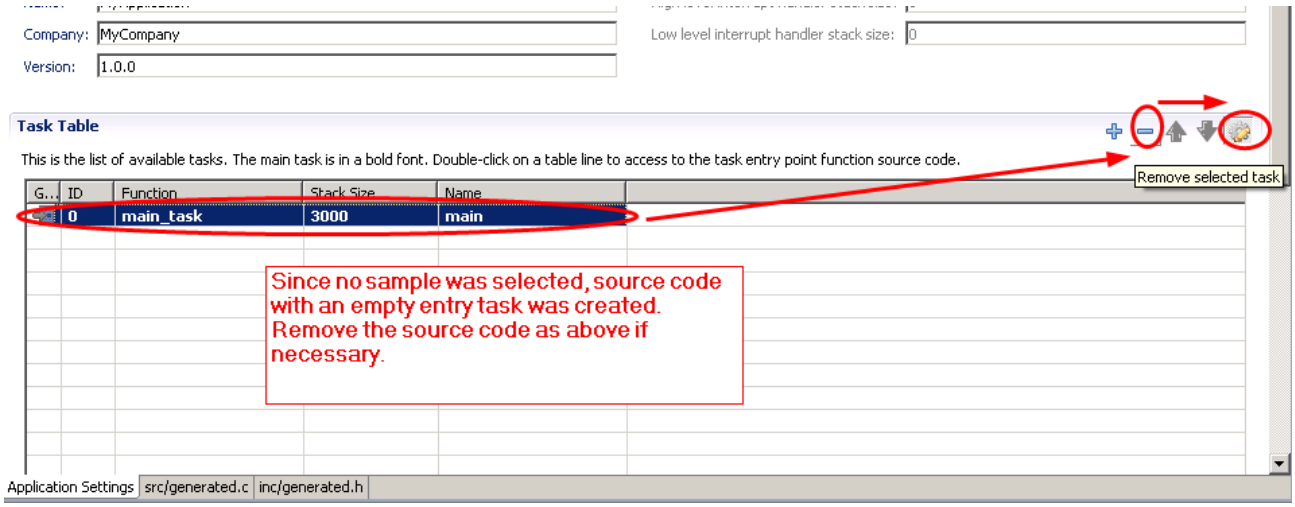
Another way to create a new project (not shown here) is to first create an OpenAT project in DevStudio, then add the source files to the project directory externally and perform a “refresh” in the project explorer of DevStudio.

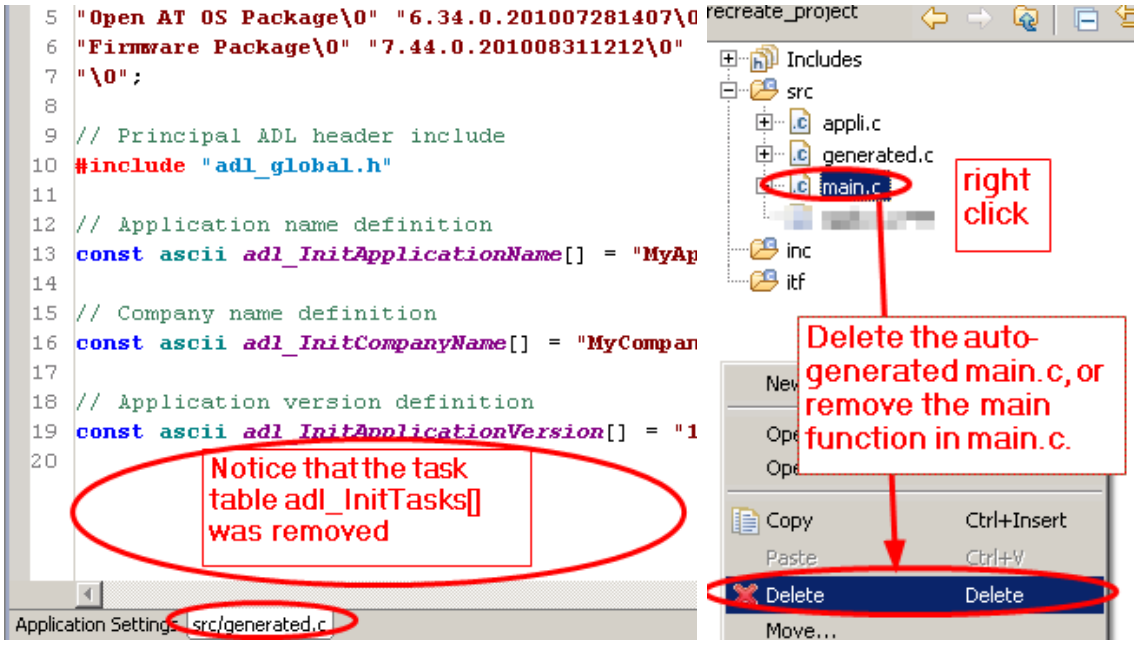
Shown below are the steps to create an empty project (a project without sample source files).




recreate_project
File Edit View Favorites Tools Help
Back Search Folders
Address C:\m2mstudio_ws\recreate_project
inc
itf
src
.project
.settings
.cproject
Notice that the project settings were generated.


Project Explorer
Search
recreate_project
Includes
src
appli.c
generated.c
main.c
inc
itf
After the project was created, open the generated generated.c


Company: MyCompany
Version: 1.0.0
Low level interrupt handler stack size: 0
Task Table
This is the list of available tasks. The main task is in a bold font. Double-click on a table line to access to the task entry point function source code.
Remove selected task
G... ID Function Stack Size Name
0 main_task 3000 main
Since no sample was selected, source code with an empty entry task was created. Remove the source code as above if necessary.
Application Settings src/generated.c inc/generated.h


"Open AT OS Package\0" "6.34.0.201007281407\0
"Firmware Package\0" "7.44.0.201008311212\0"
"\0";
// Principal ADL header include
#include "adl_global.h"
// Application name definition
const ascii adl_InitApplicationName[] = "MyAp
// Company name definition
const ascii adl_InitCompanyName[] = "MyCompan
// Application version definition
const ascii adl_InitApplicationVersion[] = "1
Notice that the task table adl_InitTasks[] was removed
Application Settings src/generated.c

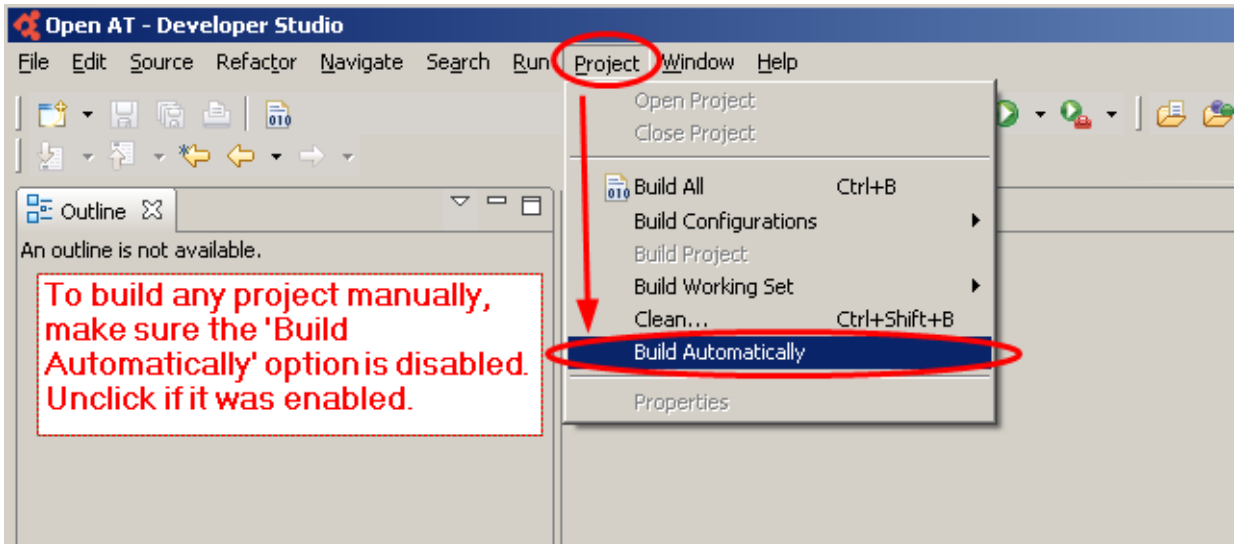
recreate_project
Includes
src
appli.c
generated.c
main.c
inc
itf
right click
Delete the auto-generated main.c, or remove the main function in main.c.
Copy Ctrl+Insert
Paste Ctrl+V
Delete Delete
Move...

7.3.3 Create an Empty Project

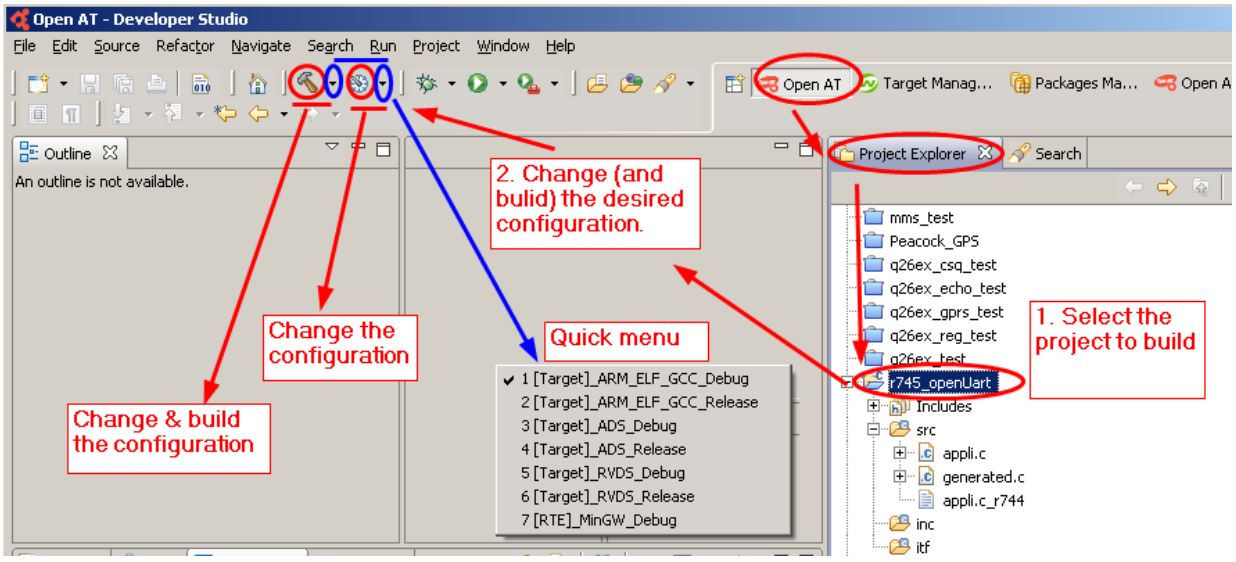
To create an empty project, follow the same snapshots shown in section 7.3.2 Create a New Project From Existing Sources, but skip the first few steps for the source preparation.

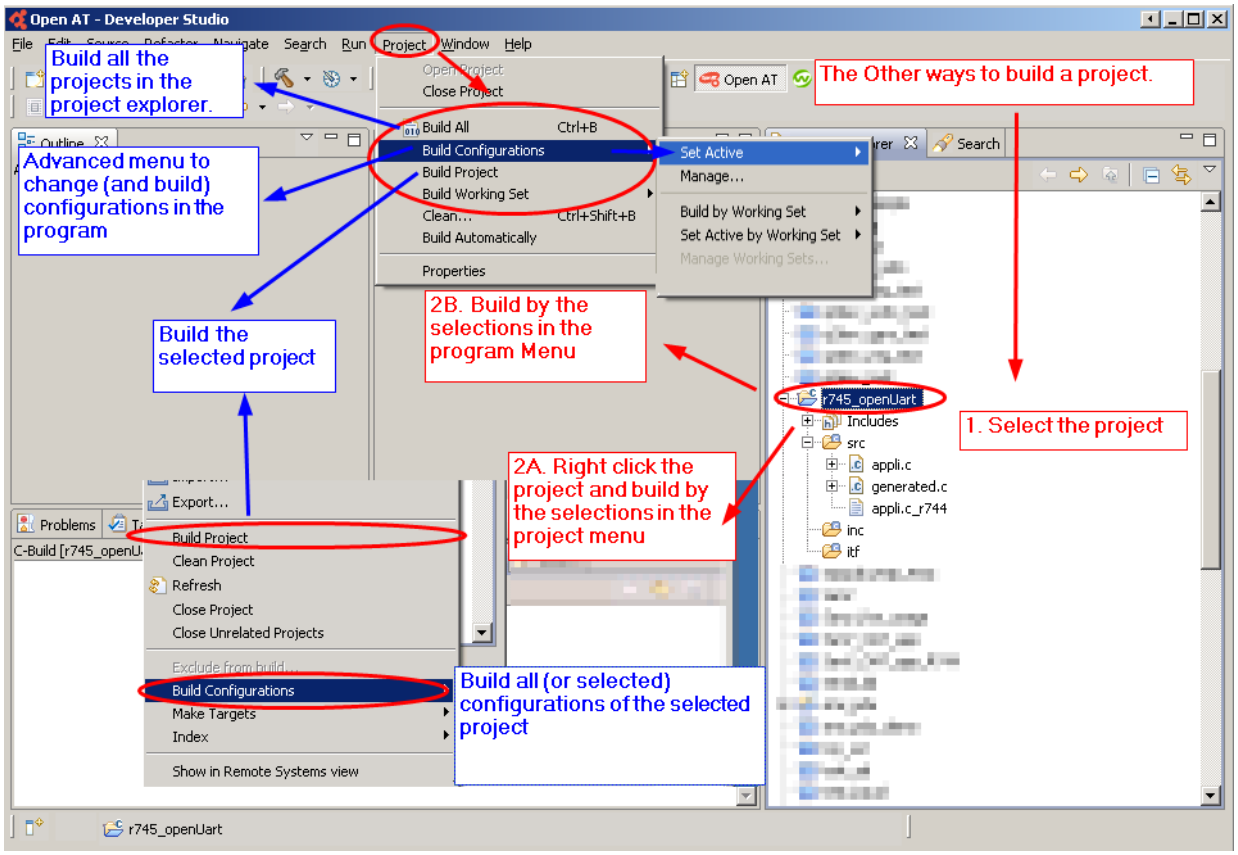
7.3.4 Build Project

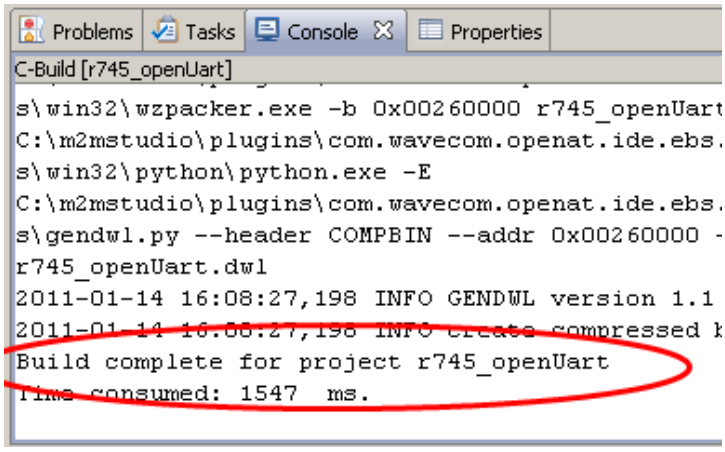
The figure below shows how to disable “automatical building”:

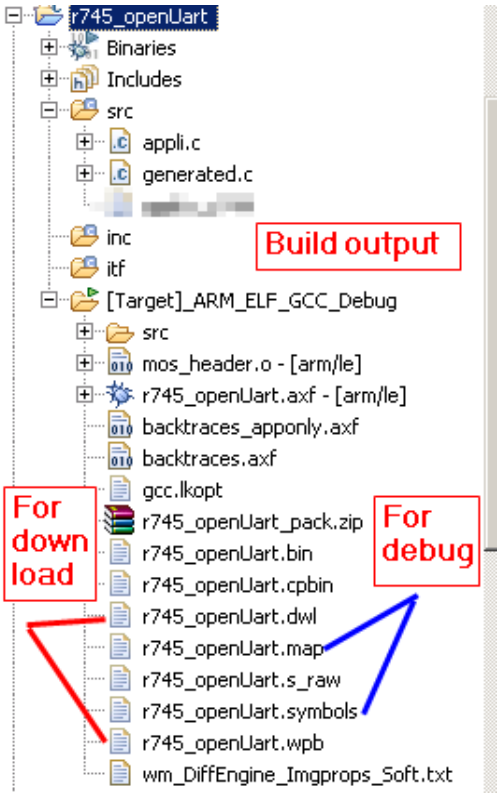


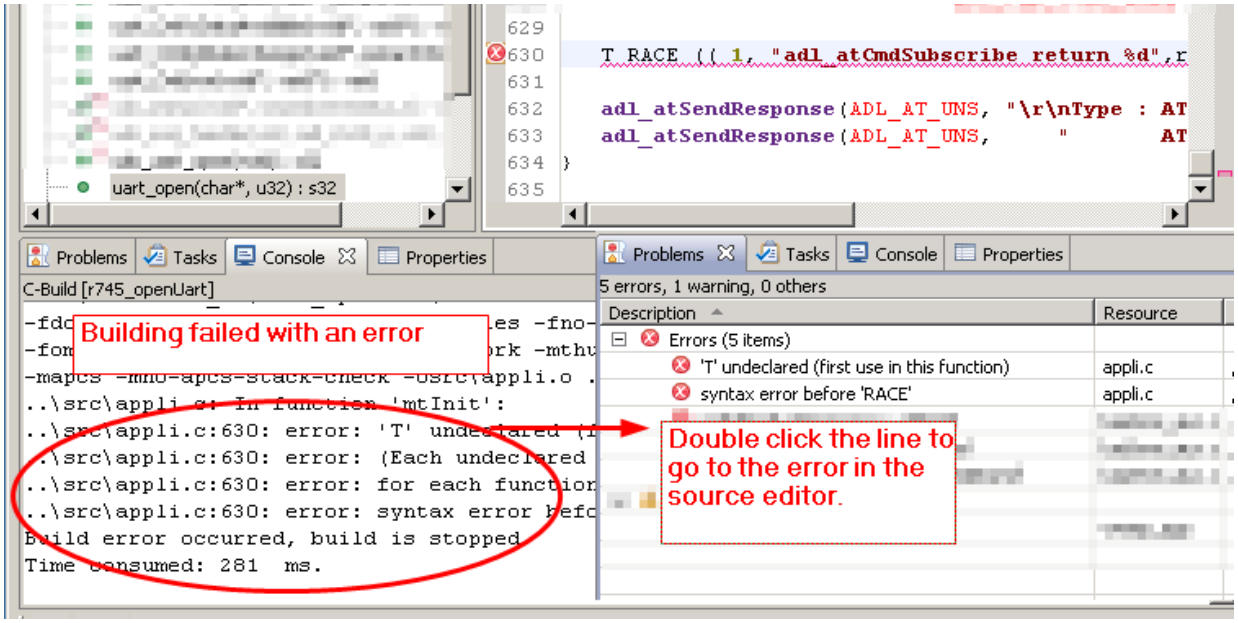
The screenshots below show how to build project(s):



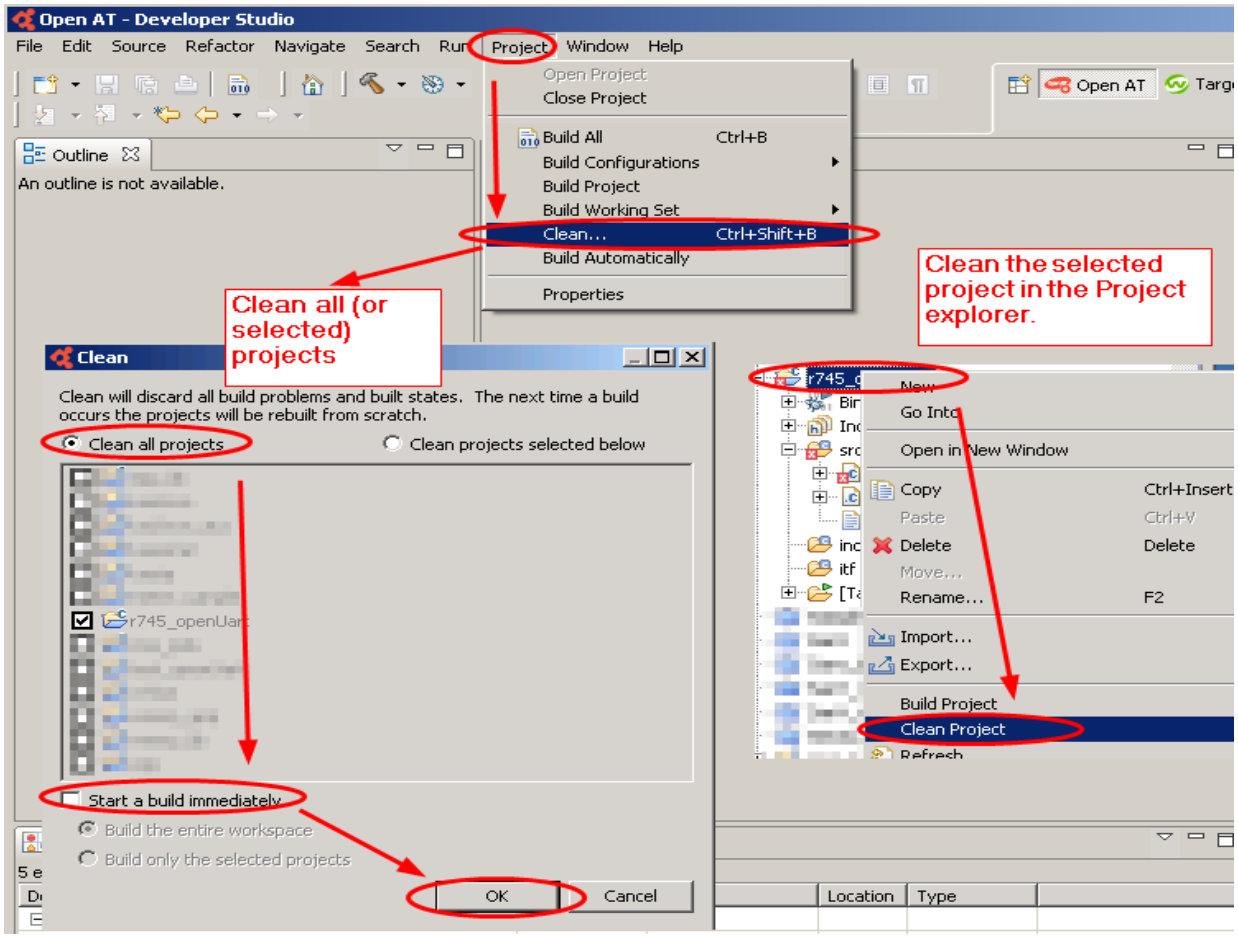

Open AT - Developer Studio
Build all the projects in the project explorer.
Advanced menu to change (and build) configurations in the program
Build the selected project
2B. Build by the selections in the program Menu
The Other ways to build a project.
1. Select the project
2A. Right click the project and build by the selections in the project menu
Build all (or selected) configurations of the selected project
Build Project
Clean Project
Refresh
Close Project
Close Unrelated Projects
Build Configurations
Make Targets
Index
Show in Remote Systems view
r745_openUart


Problems
Tasks
Console
Properties
C-Build [r745_openUart]
s\win32\wzpacker.exe -b 0x00260000 r745_openUart
C:\m2mstudio\plugins\com.wavecom.openat.ide.ebs.
s\win32\python\python.exe -E
C:\m2mstudio\plugins\com.wavecom.openat.ide.ebs.
s\gendwl.py --header COMPBIN --addr 0x00260000 -
r745_openUart.dwl
2011-01-14 16:08:27,198 INFO GENDWL version 1.1
Build complete for project r745_openUart

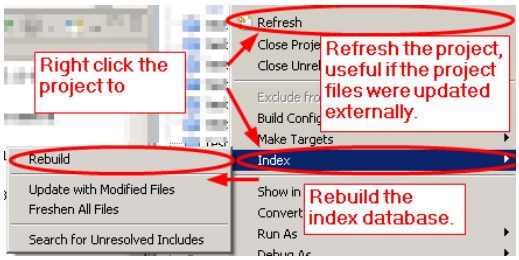

r745_openUart
Binaries
Includes
src
appli.c
generated.c
inc
itf
Build output
[Target]_ARM_ELF_GCC_Debug
src
mos_header.o - [arm/le]
r745_openUart.axf - [arm/le]
backtraces_apponly.axf
backtraces.axf
gcc.lkopt
r745_openUart_pack.zip
r745_openUart.bin
r745_openUart.cpbin
r745_openUart.dwl
r745_openUart.map
r745_openUart.s_raw
r745_openUart.symbols
r745_openUart.wpb
wm_DiffEngine_Imgprops_Soft.txt
For down load
For debug



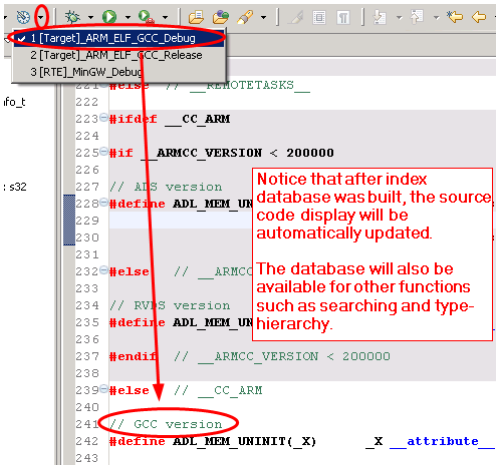
The screenshot below shows how to clean project(s):



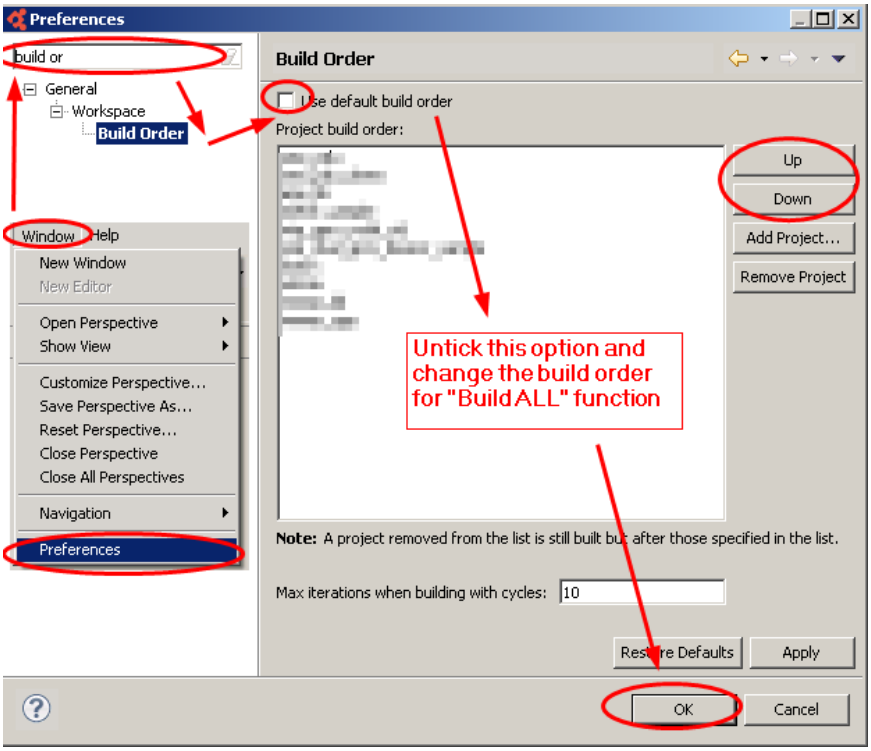
The screenshot below shows how to refresh a project, and how to rebuild the index database for it:



The screenshot below shows how the editor display is updated after the index database is ready:

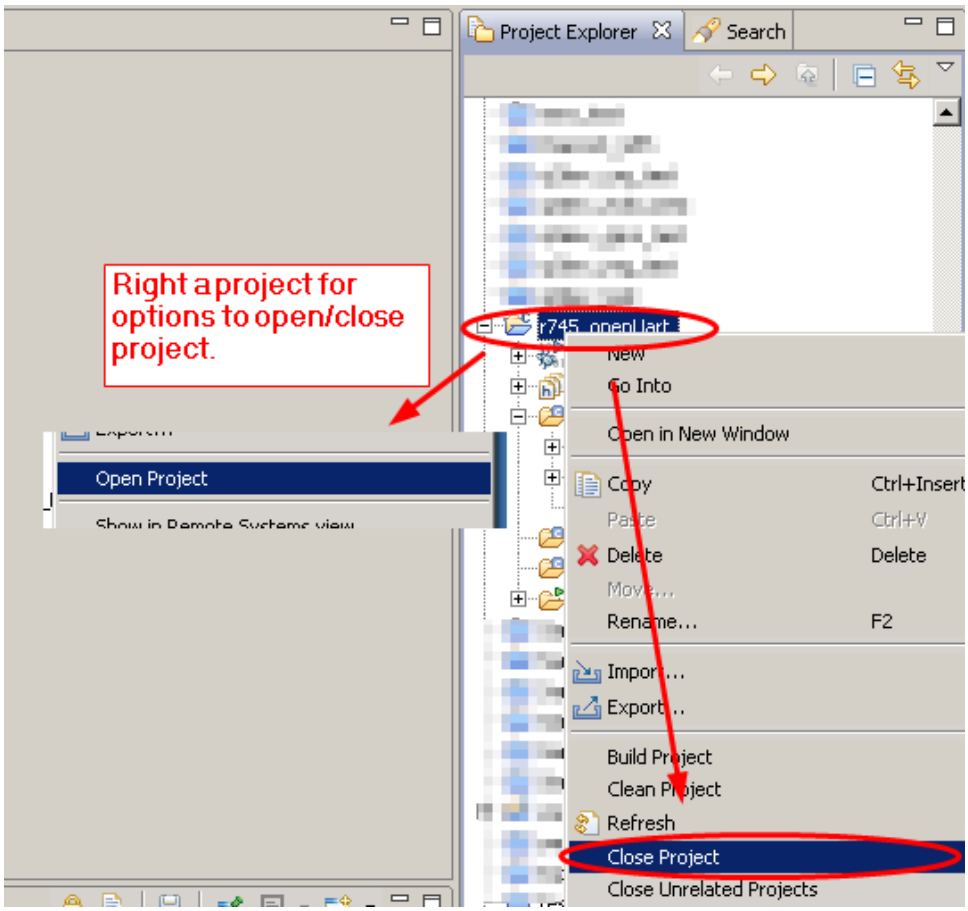


The screenshot below shows how to customize the build order for several projects:

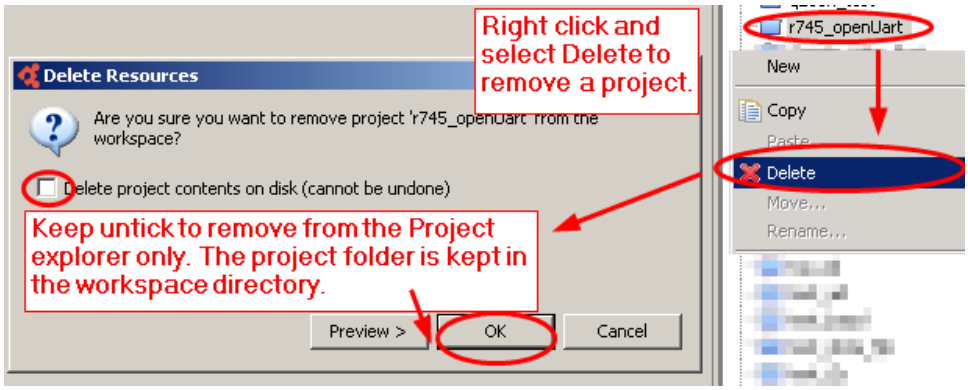


7.3.5 Open/Close, Remove/Import Projects

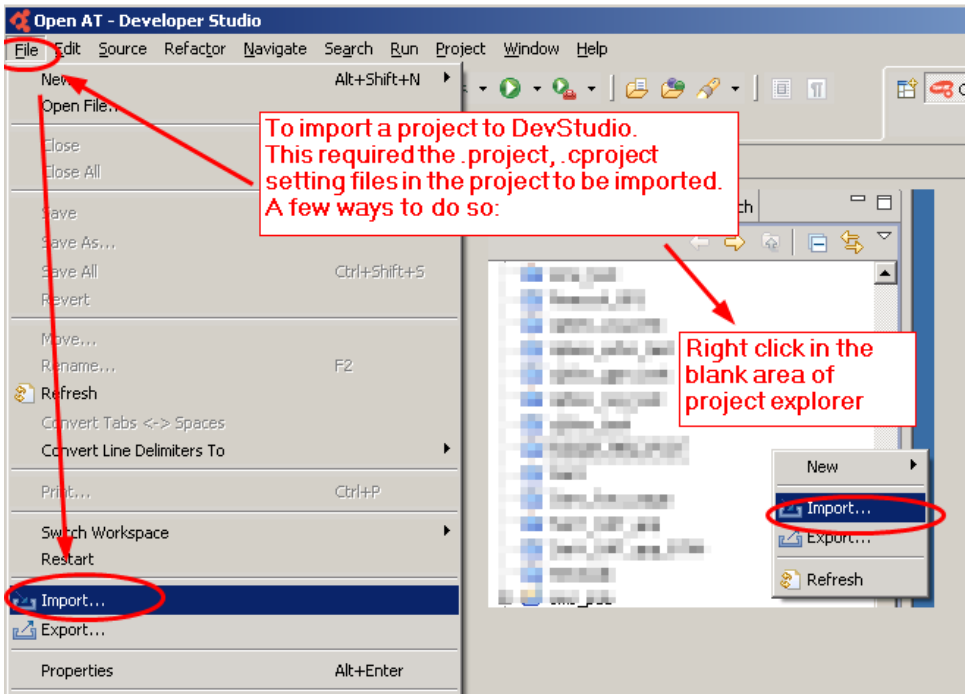
The screenshot below shows how to open and close a project:

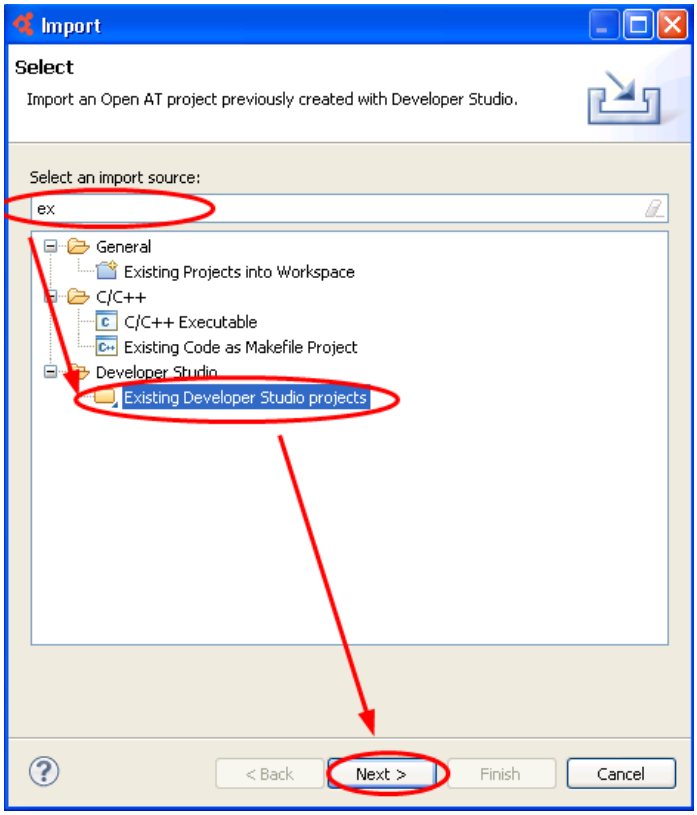


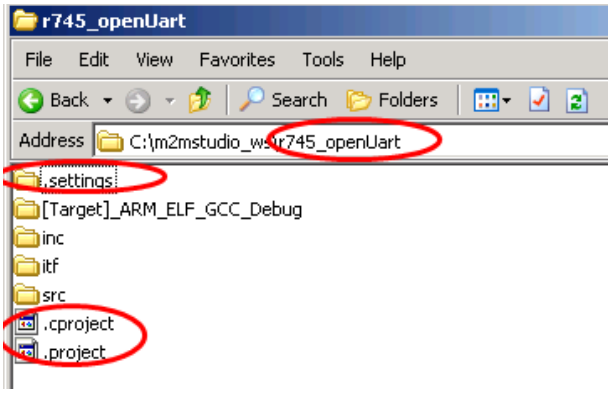
The figure below shows how to remove a project from the project explorer:

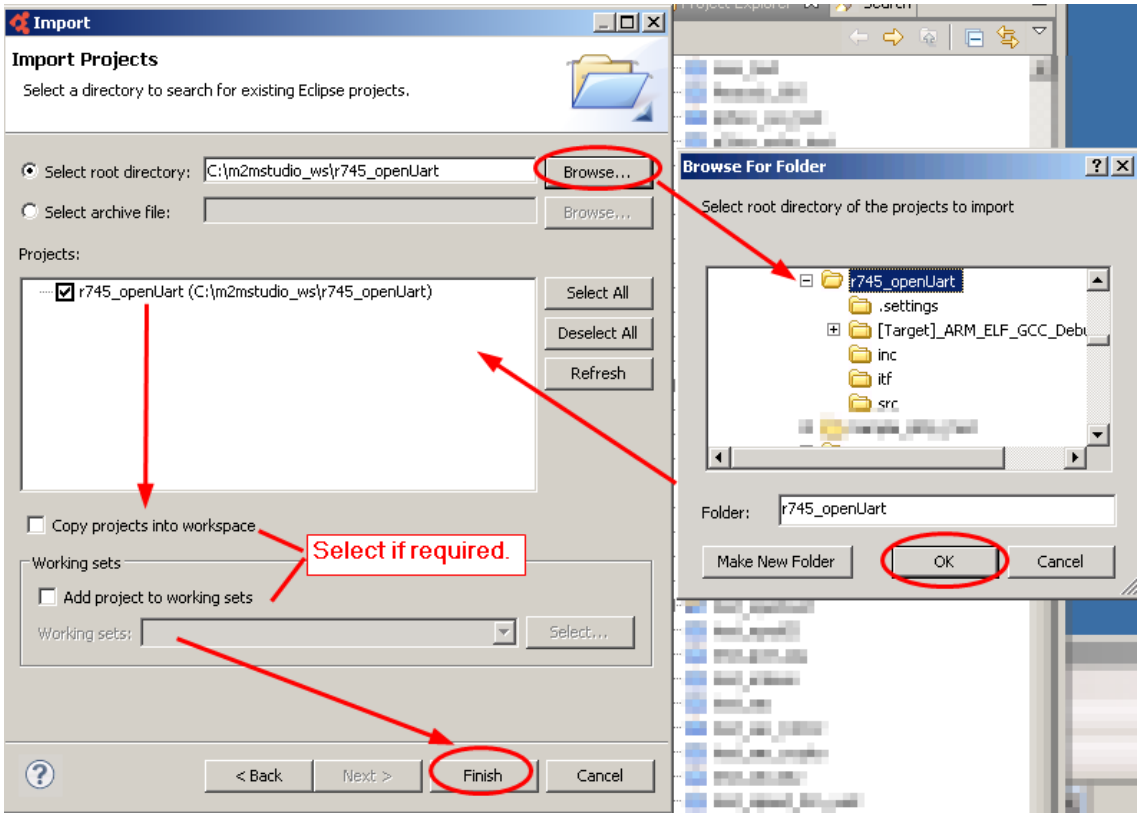


The screenshots below show how to import an existing project to the project explorer:



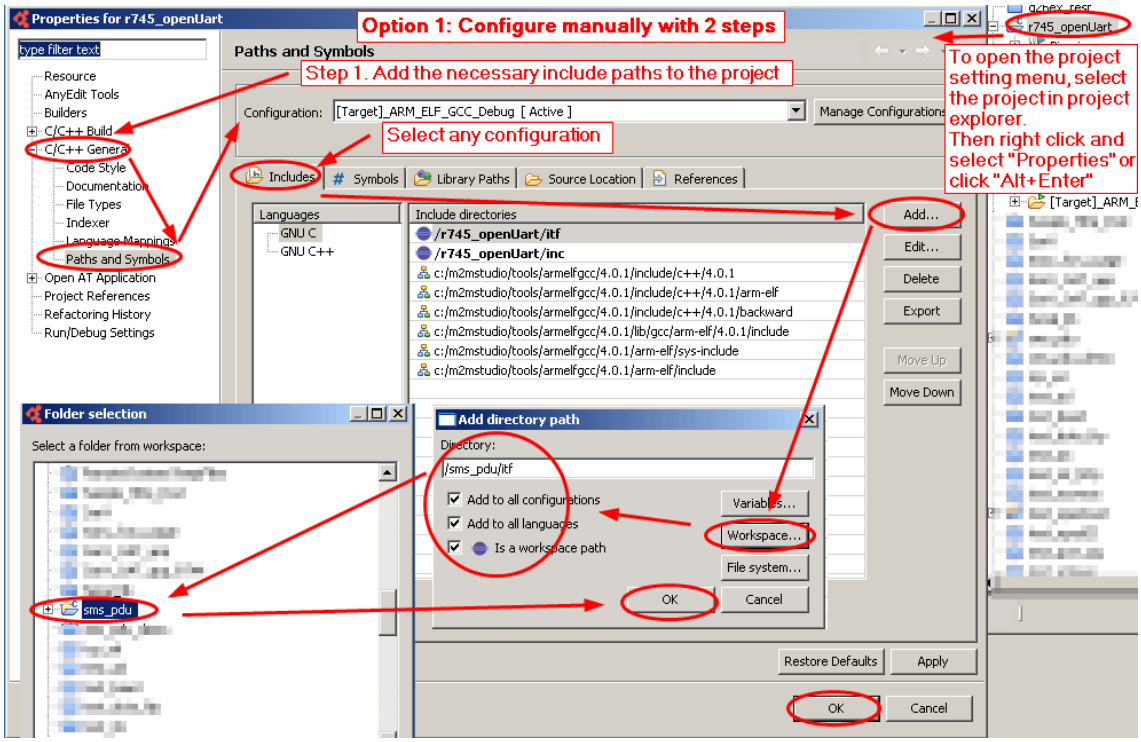


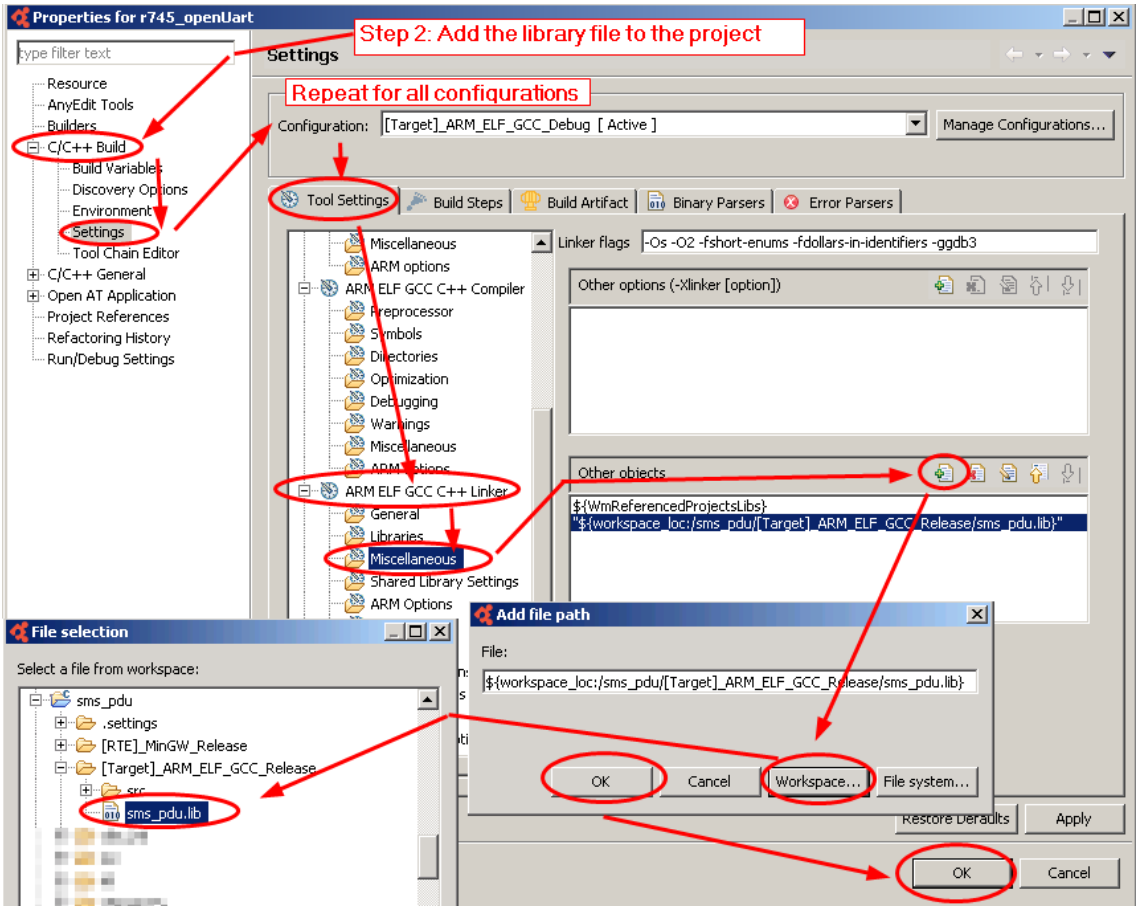


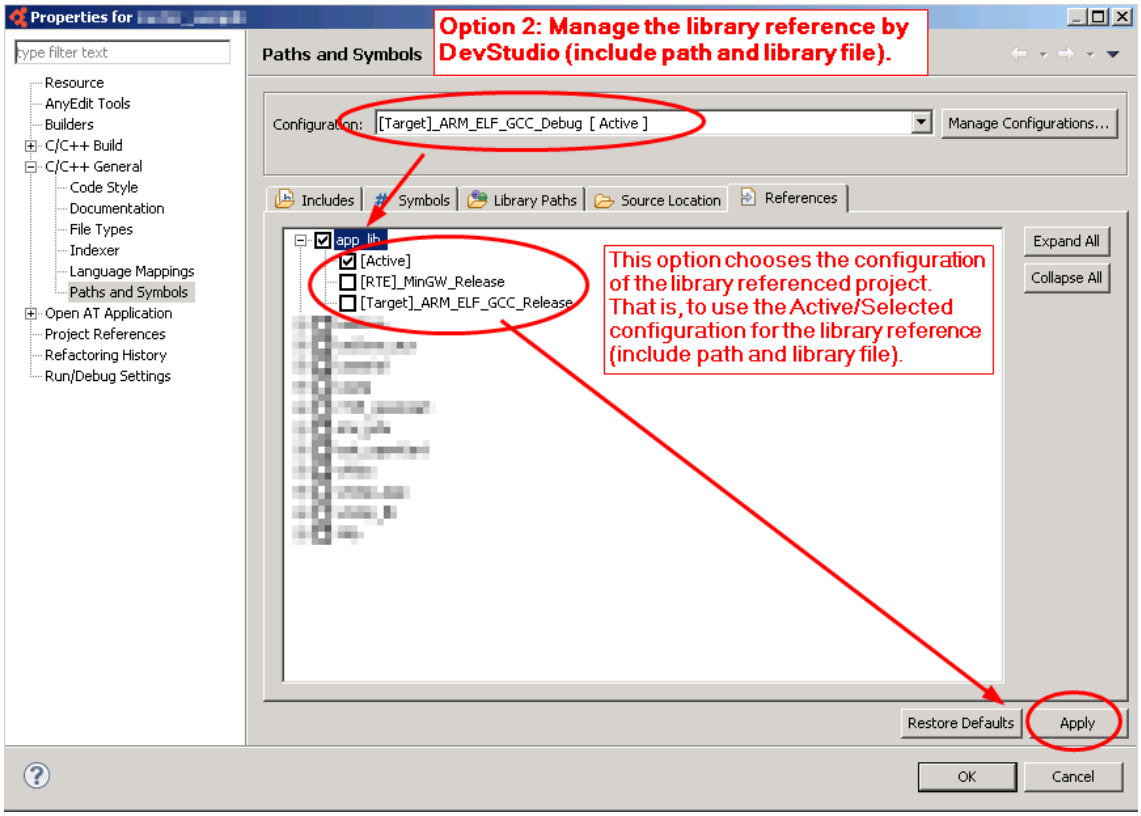


7.3.6 Create a Library Project

To create a library project, follow the same steps in section 7.3.1 Create New Sample Project, then configure the application project as shown below. Note that there are 2 options available.



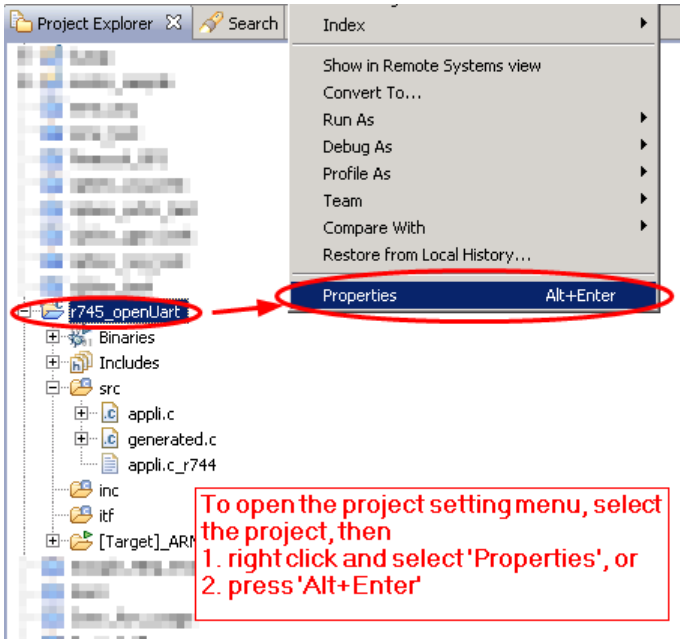

Properties for r745_openUart
Step 2: Add the library file to the project
Settings
Repeat for all configurations
Configuration: [Target]_ARM_ELF_GCC_Debug [Active]
Manage Configurations...
Tool Settings
Build Steps
Build Artifact
Binary Parsers
Error Parsers
Linker flags
-Os -O2 -fshort-enums -fdollars-in-identifiers -ggdb3
Other options (-Xlinker [option])
Other objects
${WmReferencedProjectsLibs}
"${workspace_loc:/sms_pdu/[Target]_ARM_ELF_GCC_Release/sms_pdu.lib}"
ARM ELF GCC C++ Linker
Miscellaneous
Shared Library Settings
ARM Options
File selection
Select a file from workspace:
sms_pdu
.settings
[RTE]_MinGW_Release
[Target]_ARM_ELF_GCC_Release
src
sms_pdu.lib
Add file path
File:
${workspace_loc:/sms_pdu/[Target]_ARM_ELF_GCC_Release/sms_pdu.lib}
OK
Cancel
Workspace...
File system...
Restore Defaults
Apply
OK
Cancel

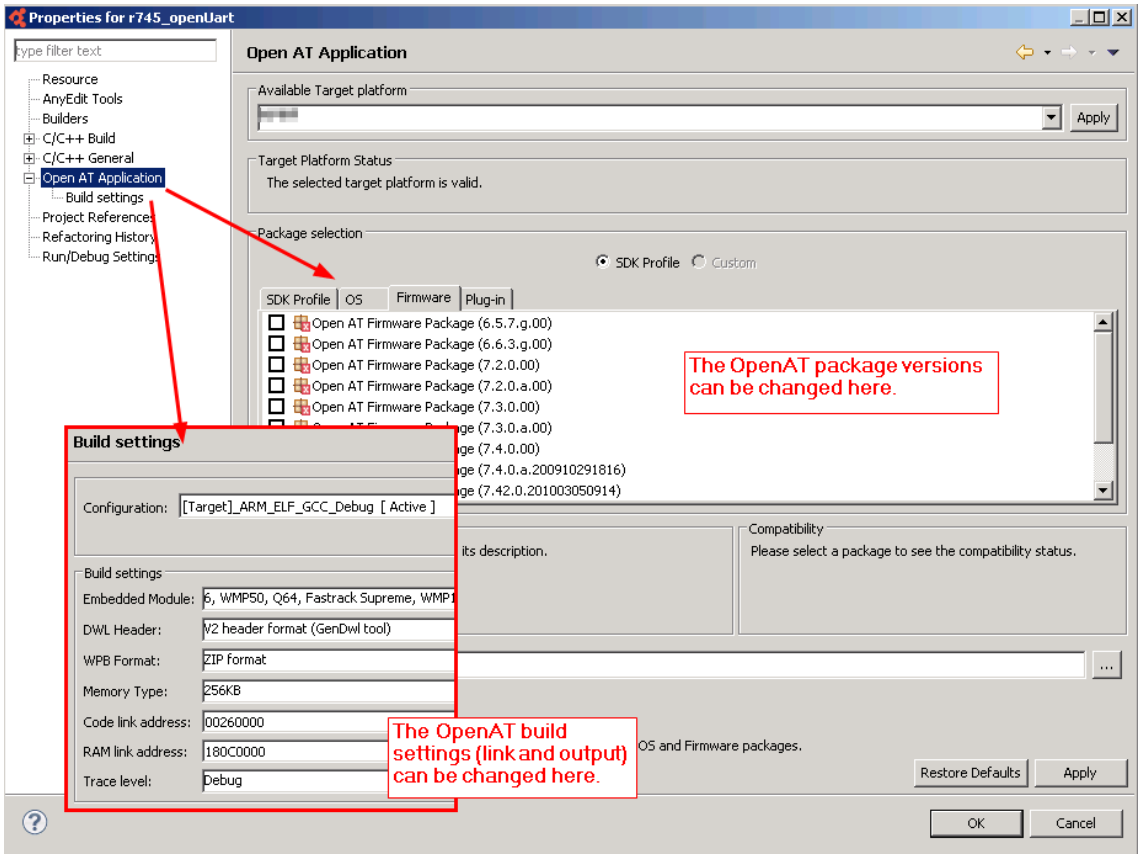

Properties for
Option 2: Manage the library reference by DevStudio (include path and library file).
Paths and Symbols
Configuration: [Target]_ARM_ELF_GCC_Debug [Active]
Manage Configurations...
Includes
Symbols
Library Paths
Source Location
References
app_lib
[Active]
[RTE]_MinGW_Release
[Target]_ARM_ELF_GCC_Release
This option chooses the configuration of the library referenced project. That is, to use the Active/Selected configuration for the library reference (include path and library file).
Expand All
Collapse All
Restore Defaults
Apply
OK
Cancel

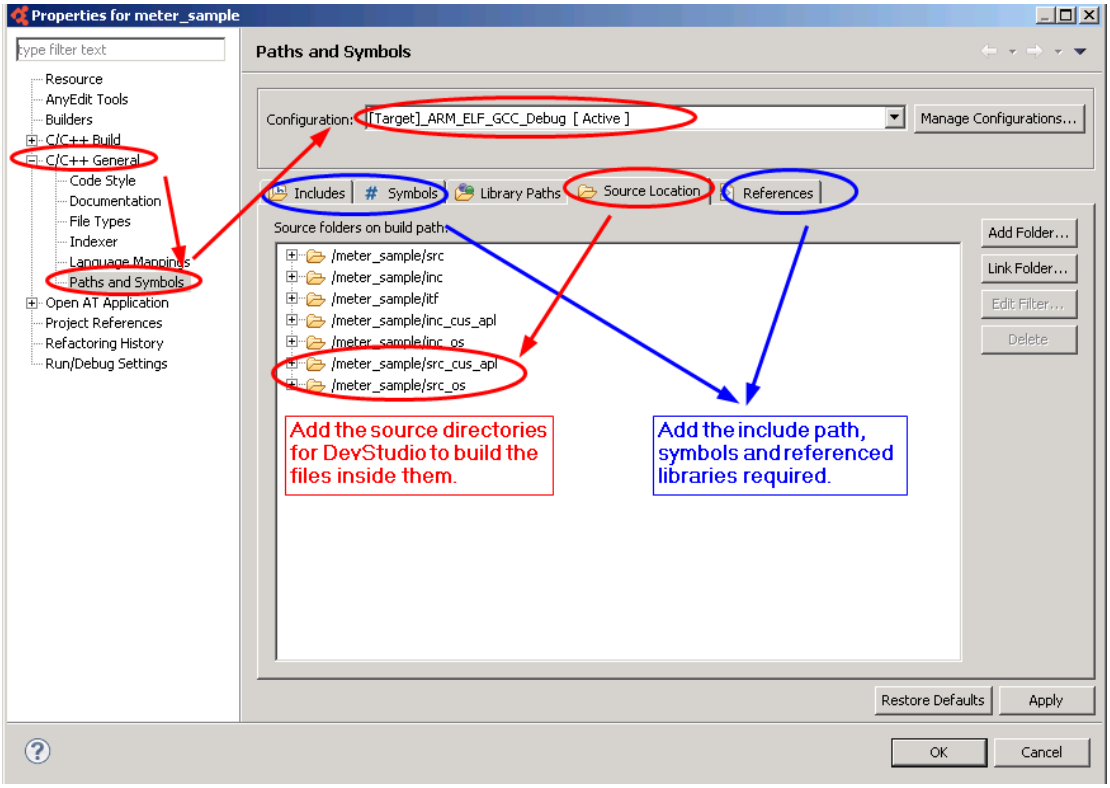
7.4 Project Configurations

Please refer to section 7.3.6 Create a Library Project for the configurations referencing a DevStudio library.

The screenshots below show various configurations for a selected project:



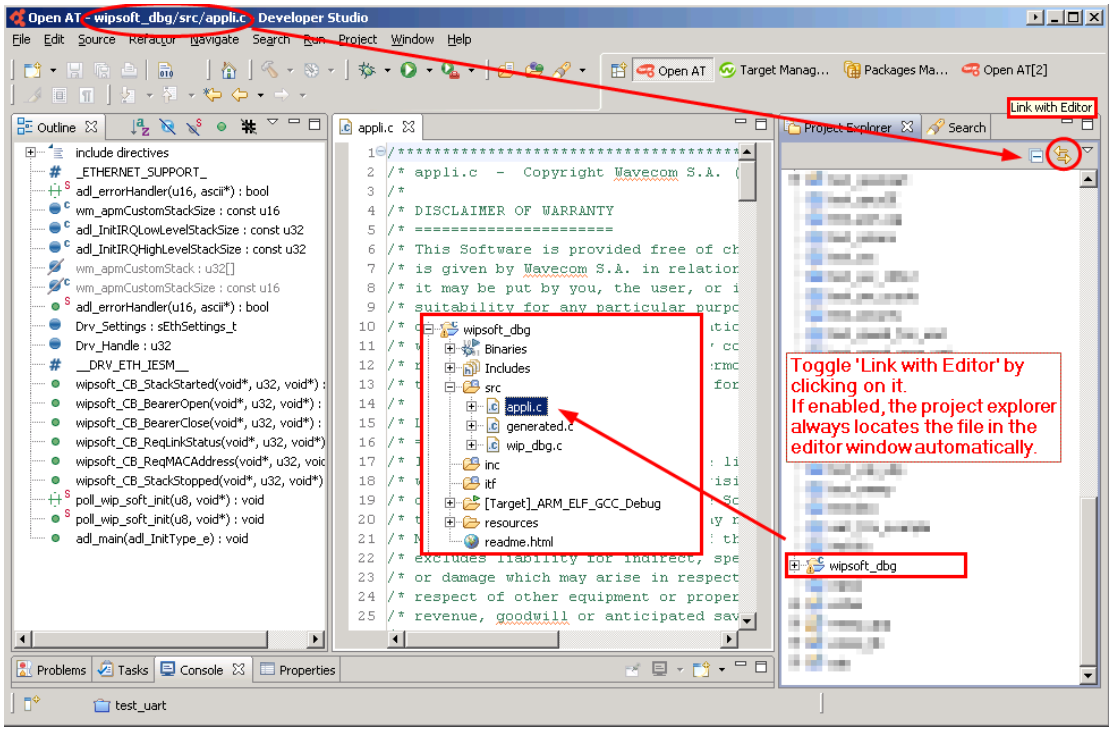




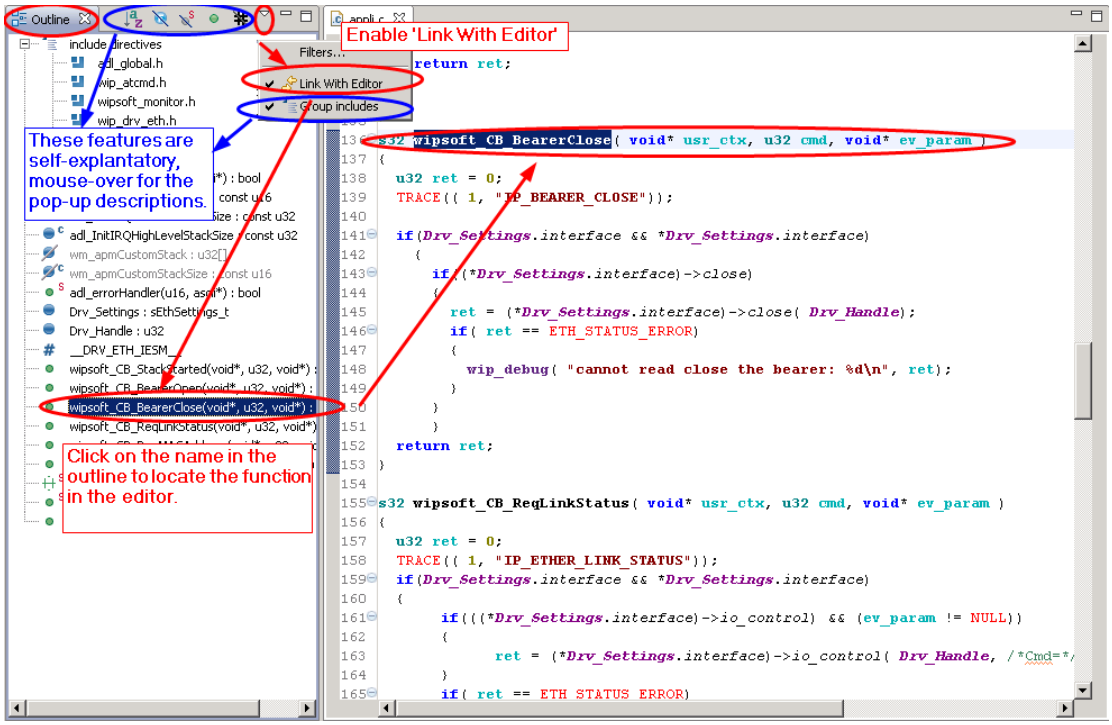
7.5 Program Configurations

7.5.1 Link with Editor

The figure below shows how to use “Link with Editor” to search in the project explorer for the opened file in editor:

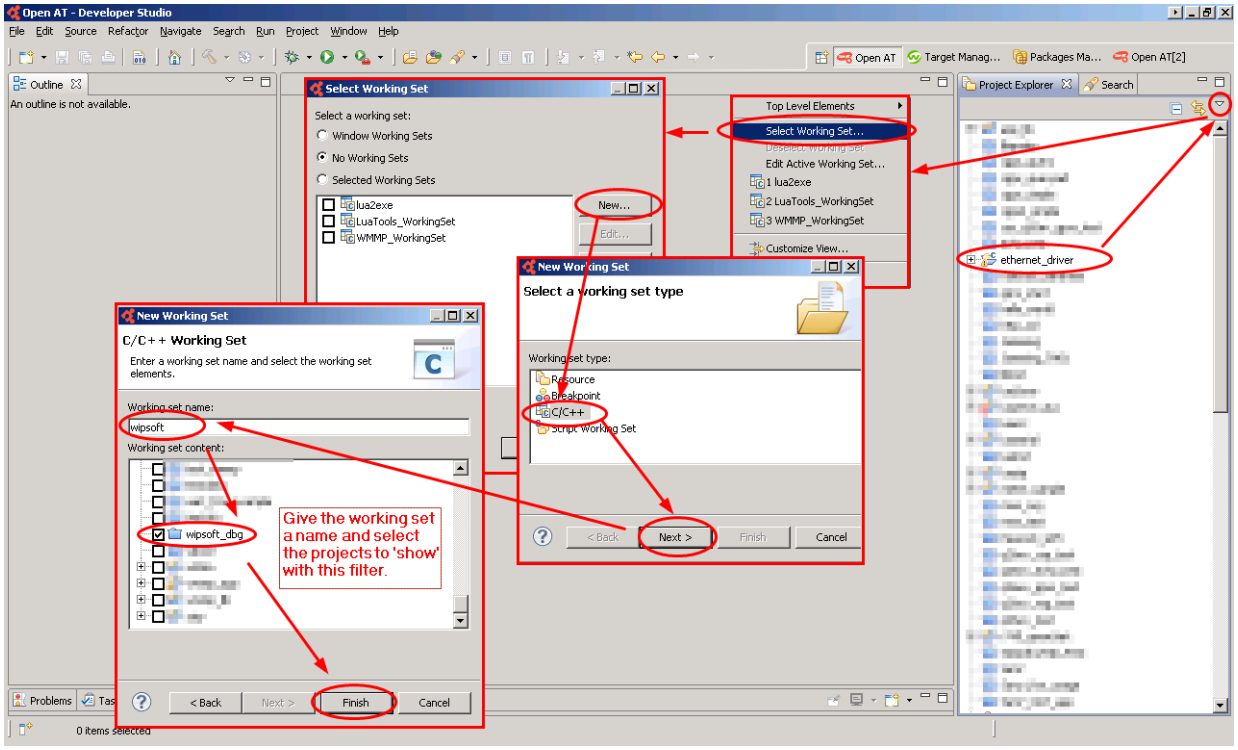


The figure below shows how to use “Link with Editor” to locate a function in the opened file in the outline view:

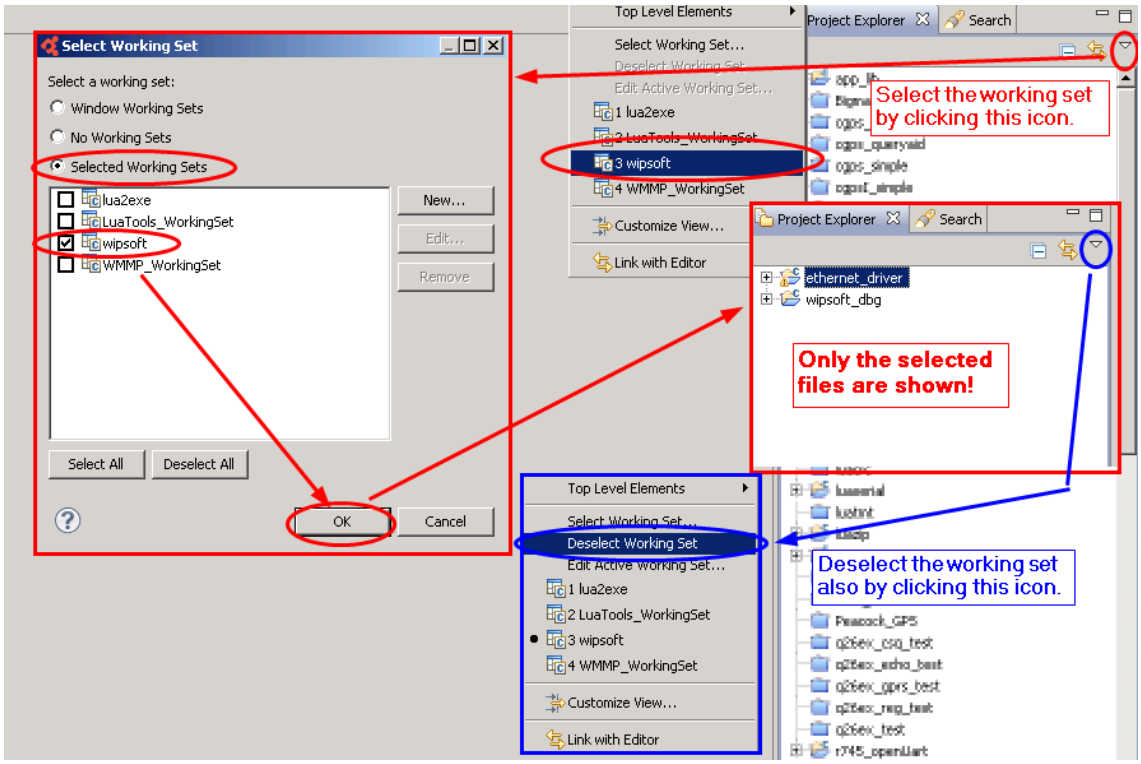


7.5.2 Working Set

The figure below shows how to create a “Working Set” to include only the selected projects:

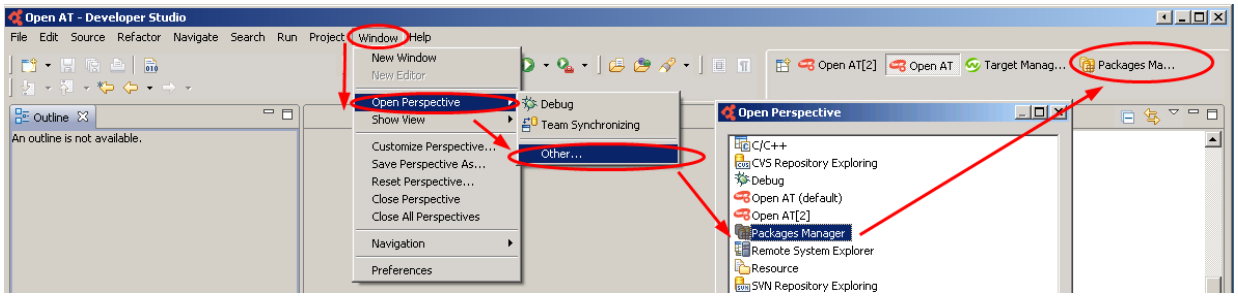


The figure below shows how to use the “Working Set” to show only the selected projects in the Project Explorer:

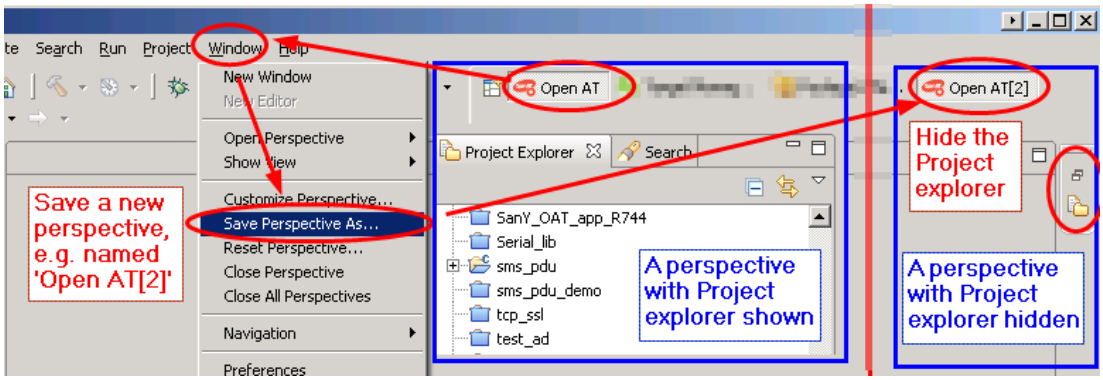


7.5.3 Perspective

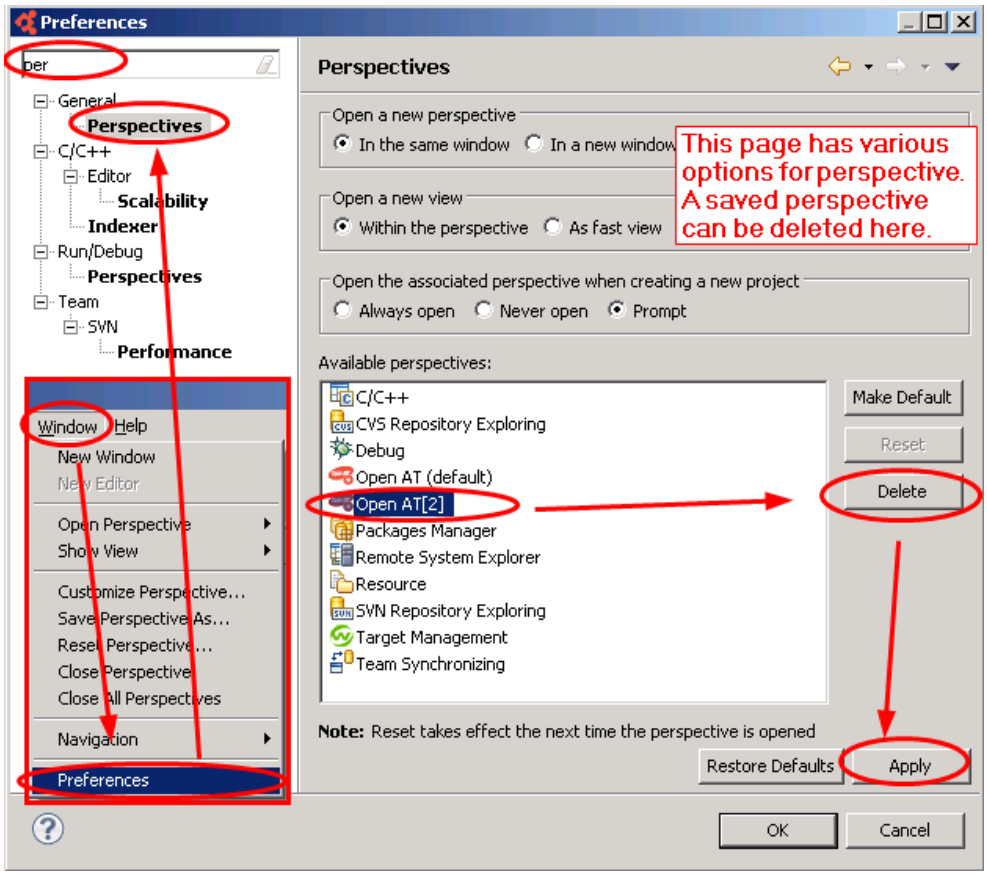
The figure below shows how to open a perspective:



The figure below shows how to duplicate a perspective:

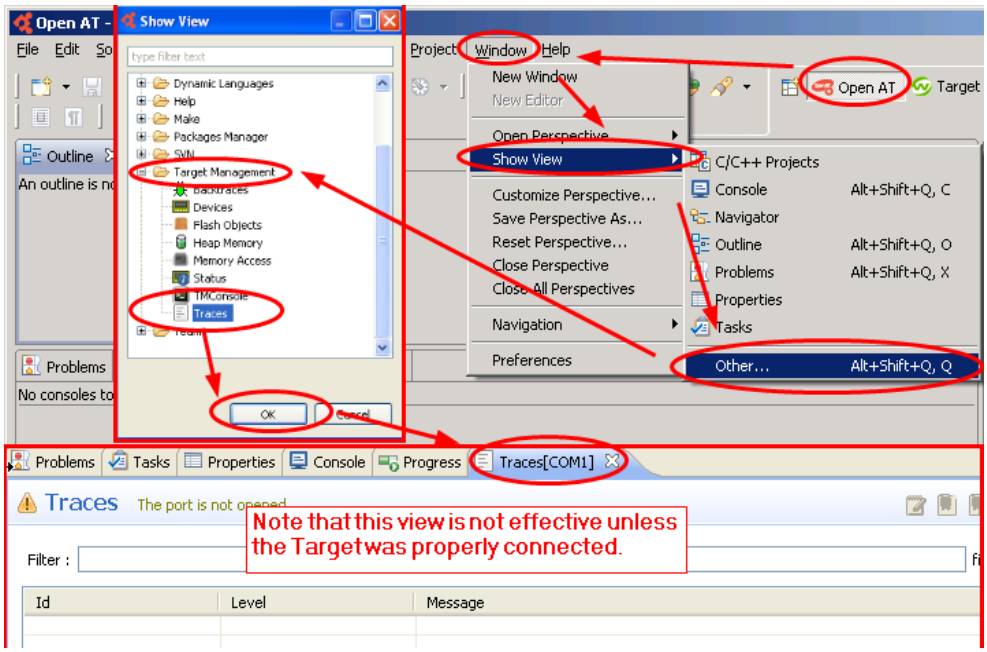


The figure below shows how to delete a perspective:



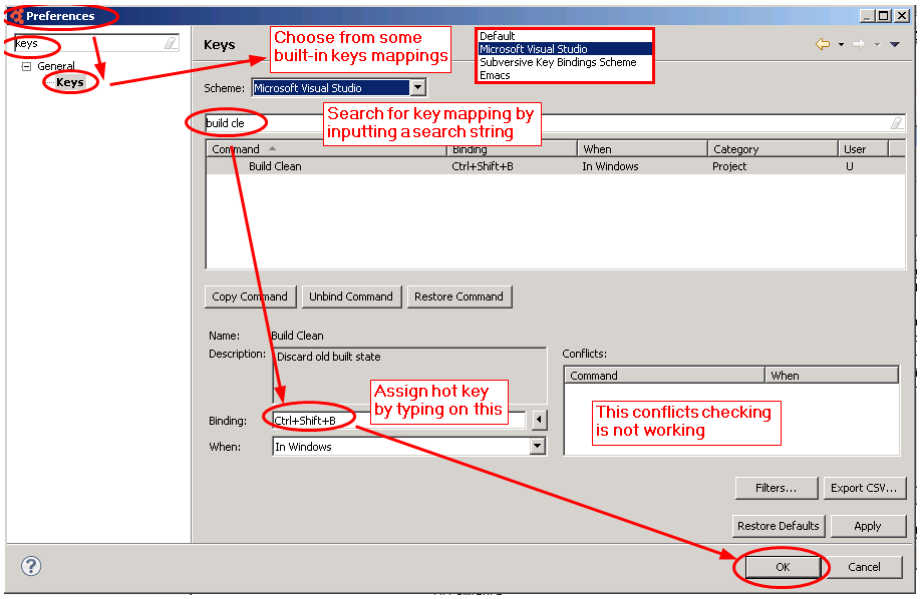
7.5.4 View

The figure below shows how to add the Trace view in OpenAT perspective:

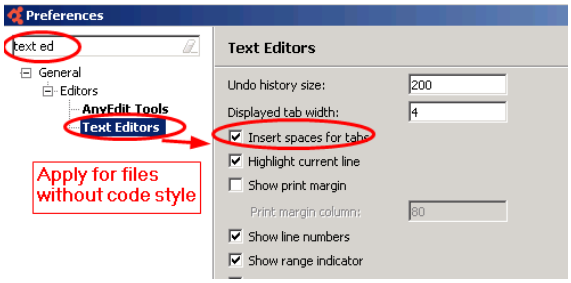


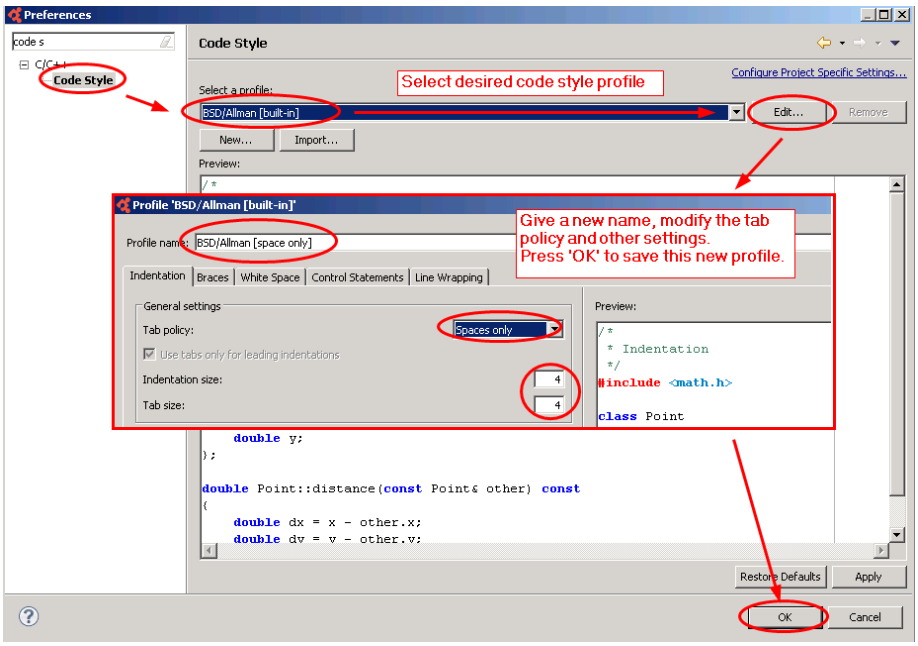
7.5.5 Others

The figure below shows how to modify the key mapping:

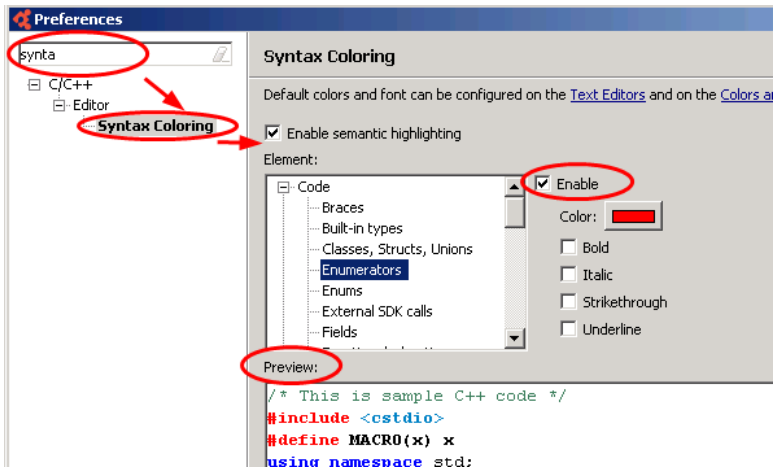


The figure below shows how to modify the tab settings:

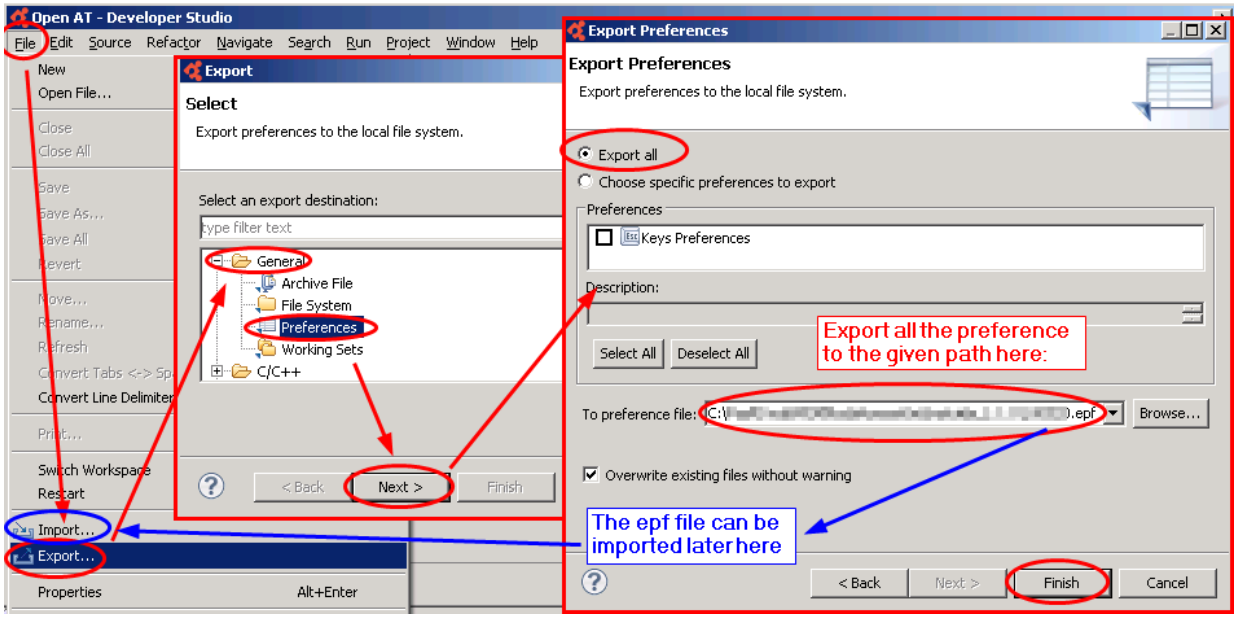




The figure below shows how to modify the syntax coloring:

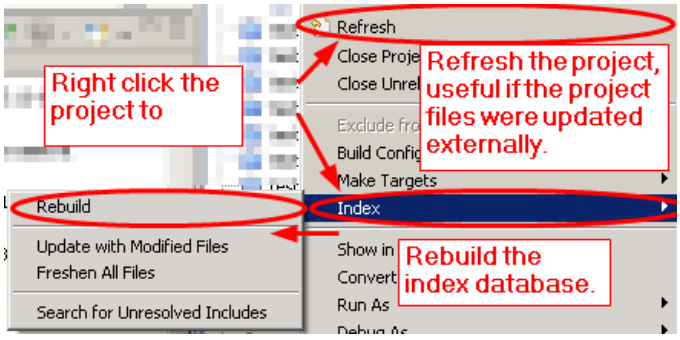


The figure below shows how to export the preference settings:



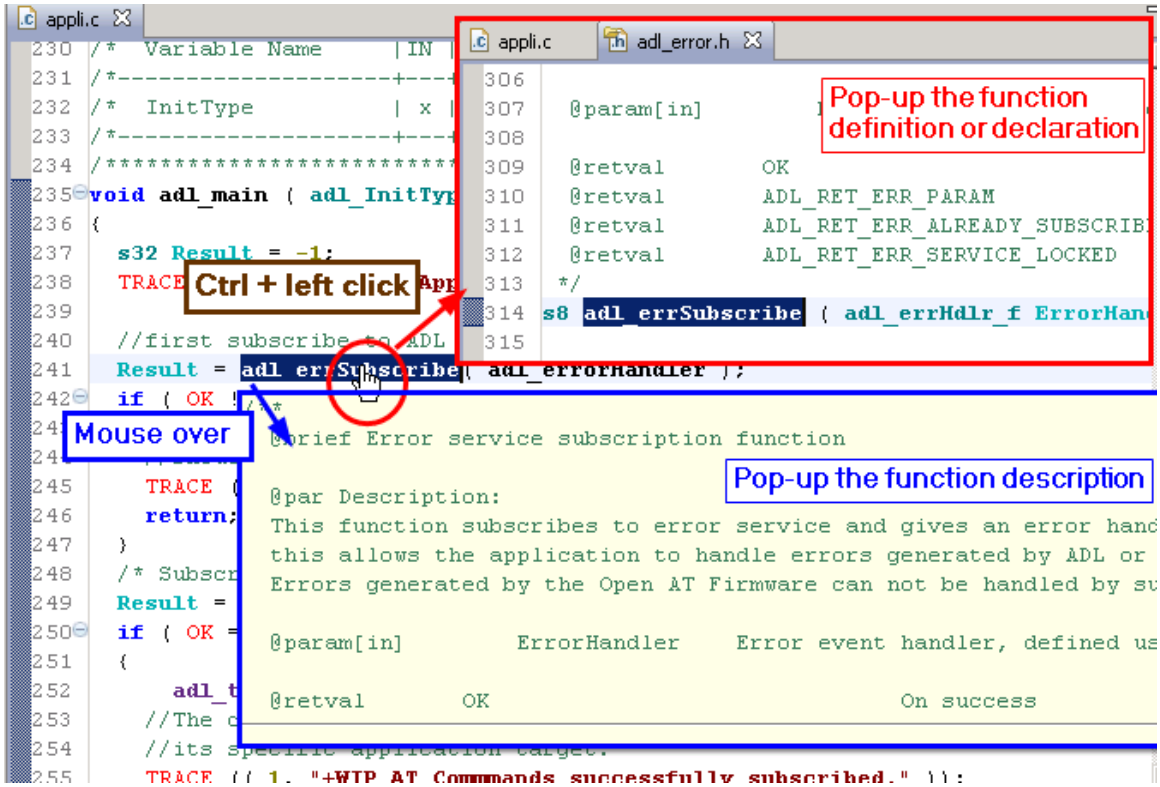
7.6 Using Programming Editor

The figure below shows how to refresh a project, and how to rebuild the index database for it:

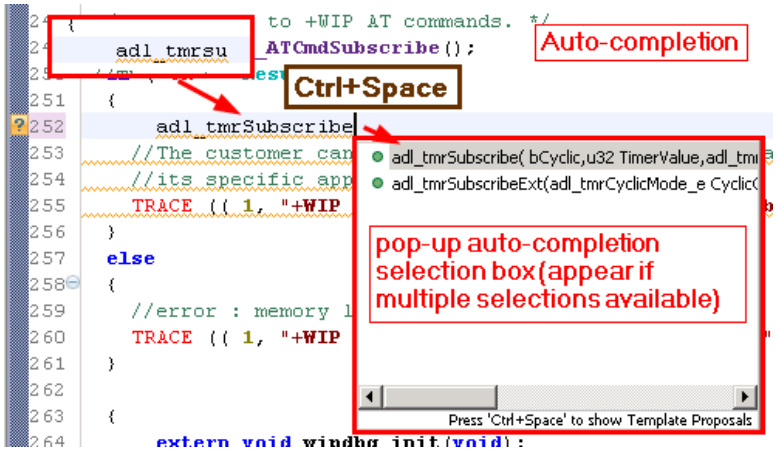


The figures below shows some common features in the programming editor (assumed MSVC key mapping is used):

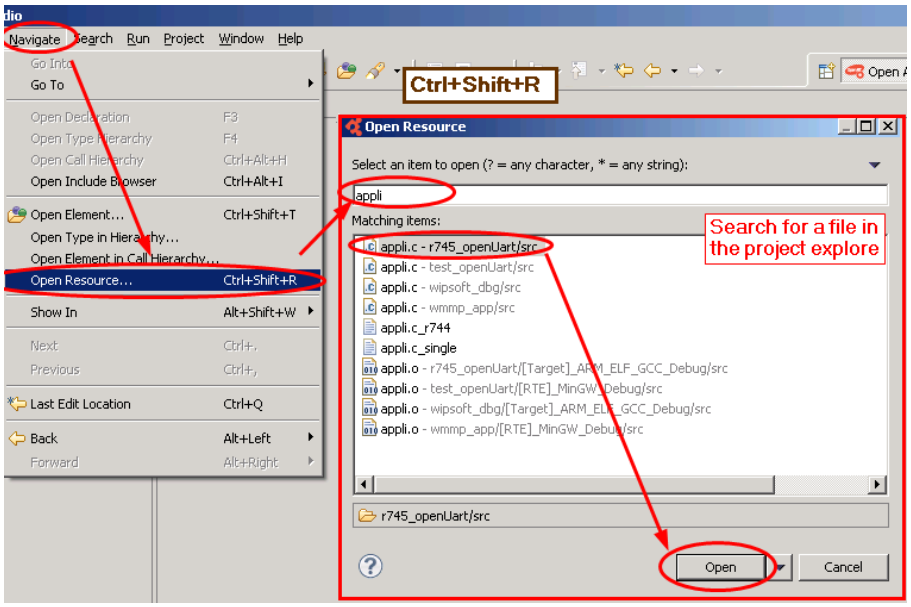
Source code linking:

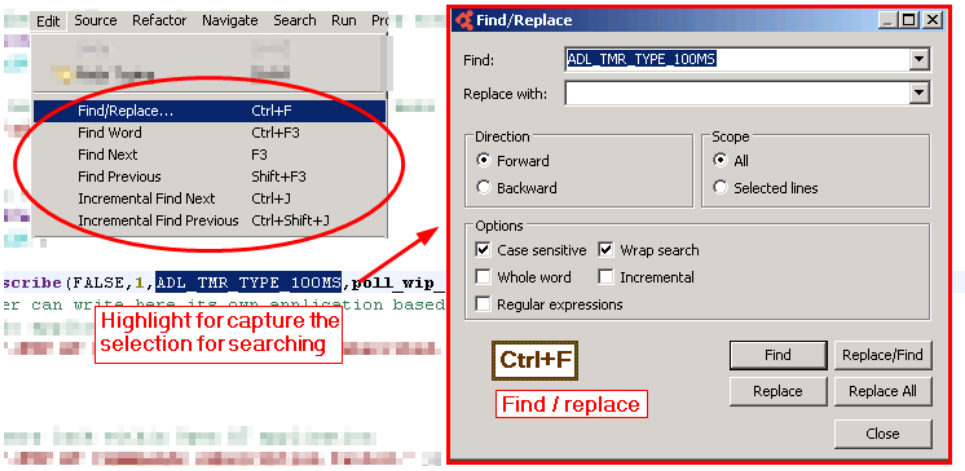


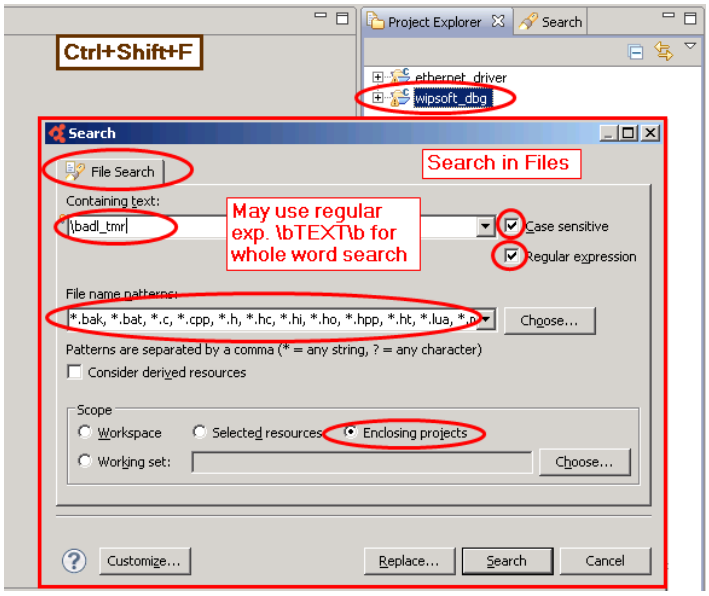
Auto-completion:

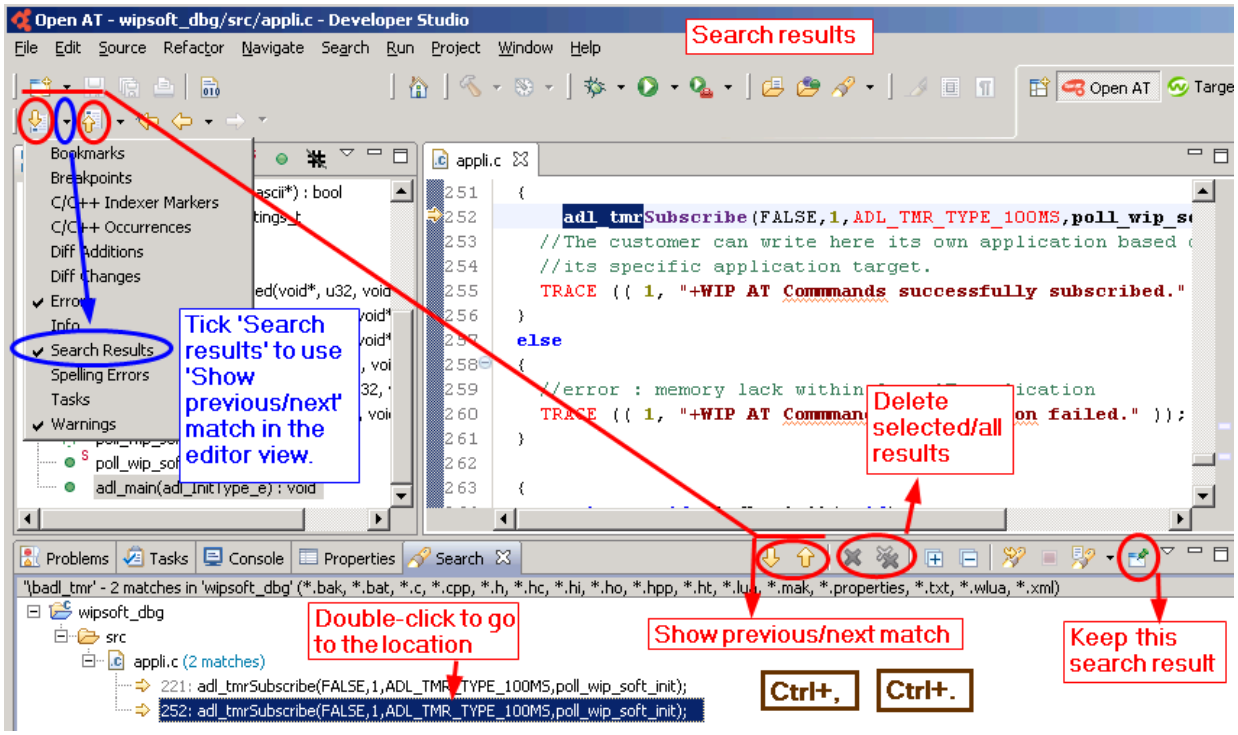


Searching:

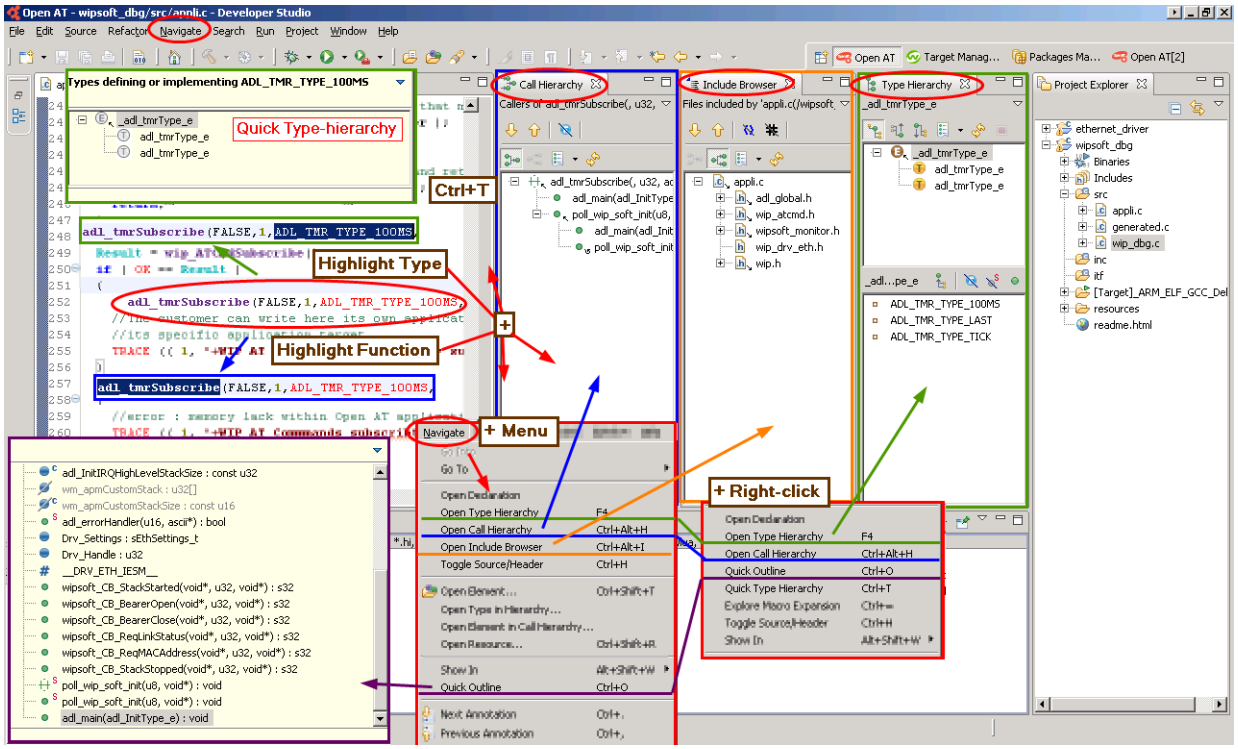

Navigate
Search
Run
Project
Window
Help
Go To
Open Declaration F3
Open Type Hierarchy F4
Open Call Hierarchy Ctrl+Alt+H
Open Include Browser Ctrl+Alt+I
Open Element... Ctrl+Shift+T
Open Type in Hierarchy...
Open Element in Call Hierarchy...
Open Resource... Ctrl+Shift+R
Show In Alt+Shift+W
Next Ctrl+.
Previous Ctrl+,
Last Edit Location Ctrl+Q
Back Alt+Left
Forward Alt+Right
Ctrl+Shift+R
Open Resource
Select an item to open (? = any character, * = any string):
appli
Matching items:
Search for a file in the project explore
appli.c - r745_openUart/src
appli.c - test_openUart/src
appli.c - wipsoft_dbg/src
appli.c - wmmp_app/src
appli.c_r744
appli.c_single
appli.o - r745_openUart/[Target]_ARM_ELF_GCC_Debug/src
appli.o - test_openUart/[RTE]_MinGW_Debug/src
appli.o - wipsoft_dbg/[Target]_ARM_ELF_GCC_Debug/src
appli.o - wmmp_app/[RTE]_MinGW_Debug/src
r745_openUart/src
Open
Cancel


Edit
Source
Refactor
Navigate
Search
Run
Find/Replace... Ctrl+F
Find Word Ctrl+F3
Find Next F3
Find Previous Shift+F3
Incremental Find Next Ctrl+J
Incremental Find Previous Ctrl+Shift+J
ADL_TMR_TYPE_100MS
Highlight for capture the selection for searching
Find/Replace
Find:
ADL_TMR_TYPE_100MS
Replace with:
Direction
Forward
Backward
Scope
All
Selected lines
Options
Case sensitive
Wrap search
Whole word
Incremental
Regular expressions
Ctrl+F
Find / replace
Find
Replace/Find
Replace
Replace All
Close

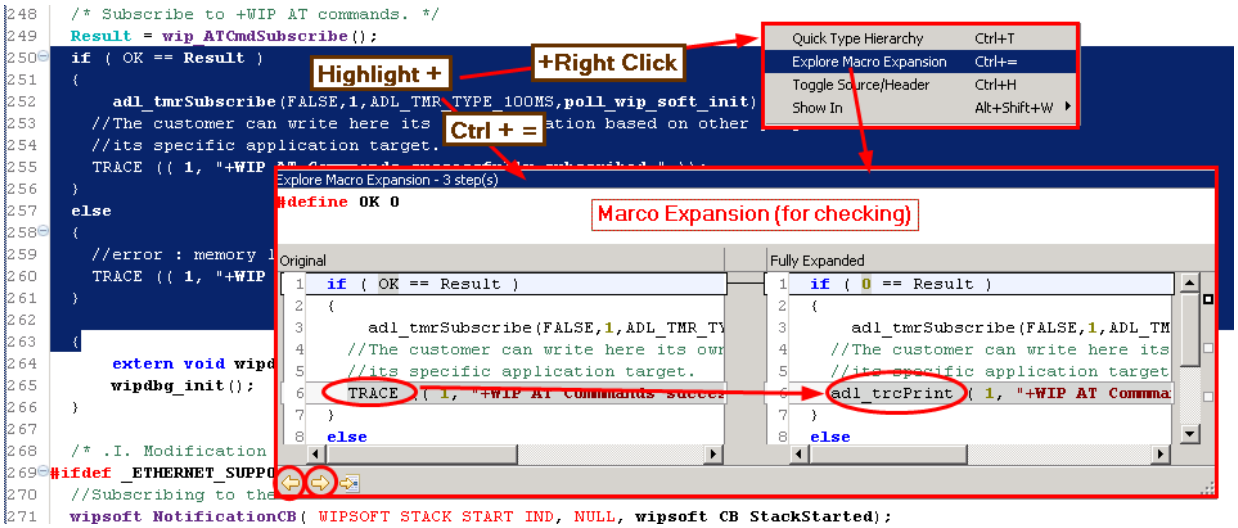

Ctrl+Shift+F
Project Explorer
Search
ethernet_driver
wipsoft_dbg
Search
File Search
Search in Files
Containing text:
\badl_tmr
May use regular exp. \bTEXT\b for whole word search
Case sensitive
Regular expression
File name patterns:
*.bak, *.bat, *.c, *.cpp, *.h, *.hc, *.hi, *.ho, *.hpp, *.ht, *.lua, *.n
Choose...
Patterns are separated by a comma (* = any string, ? = any character)
Consider derived resources
Scope
Workspace
Selected resources
Enclosing projects
Working set:
Choose...
Customize...
Replace...
Search
Cancel



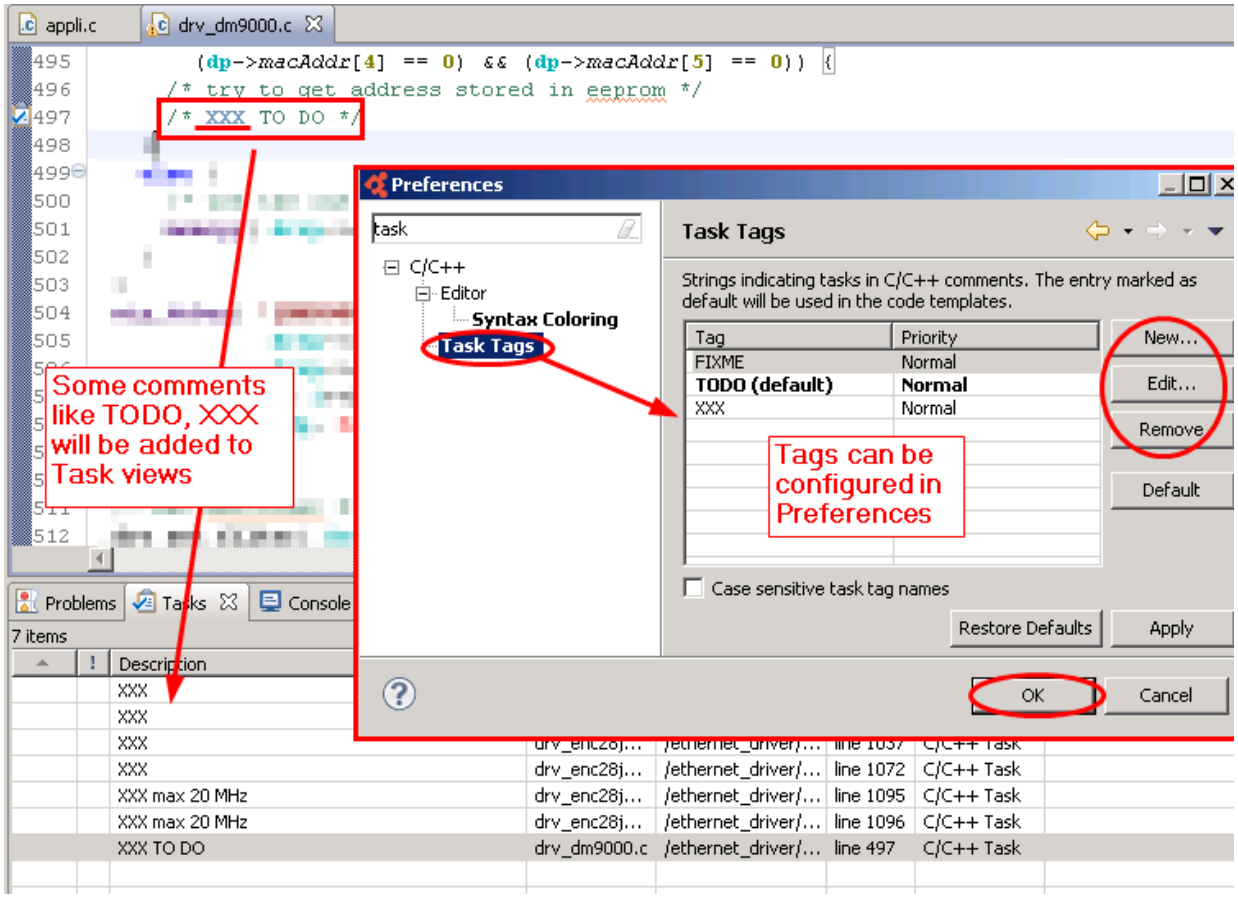
Source code hierarchy:



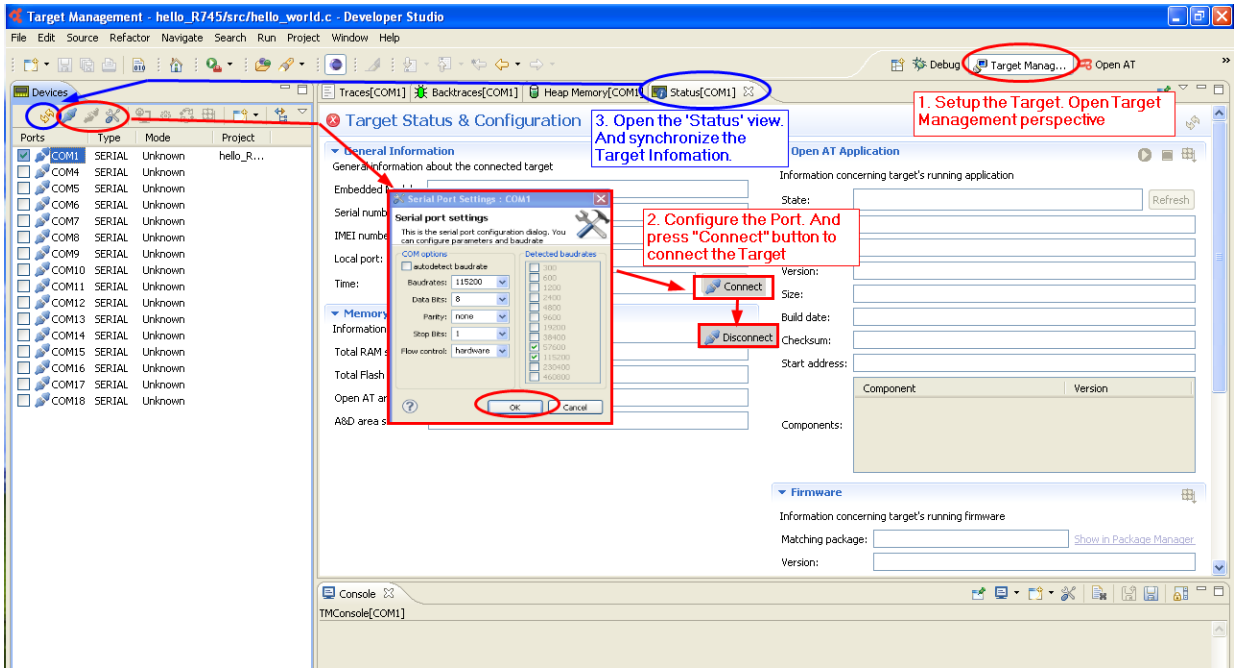
Macro expansion:

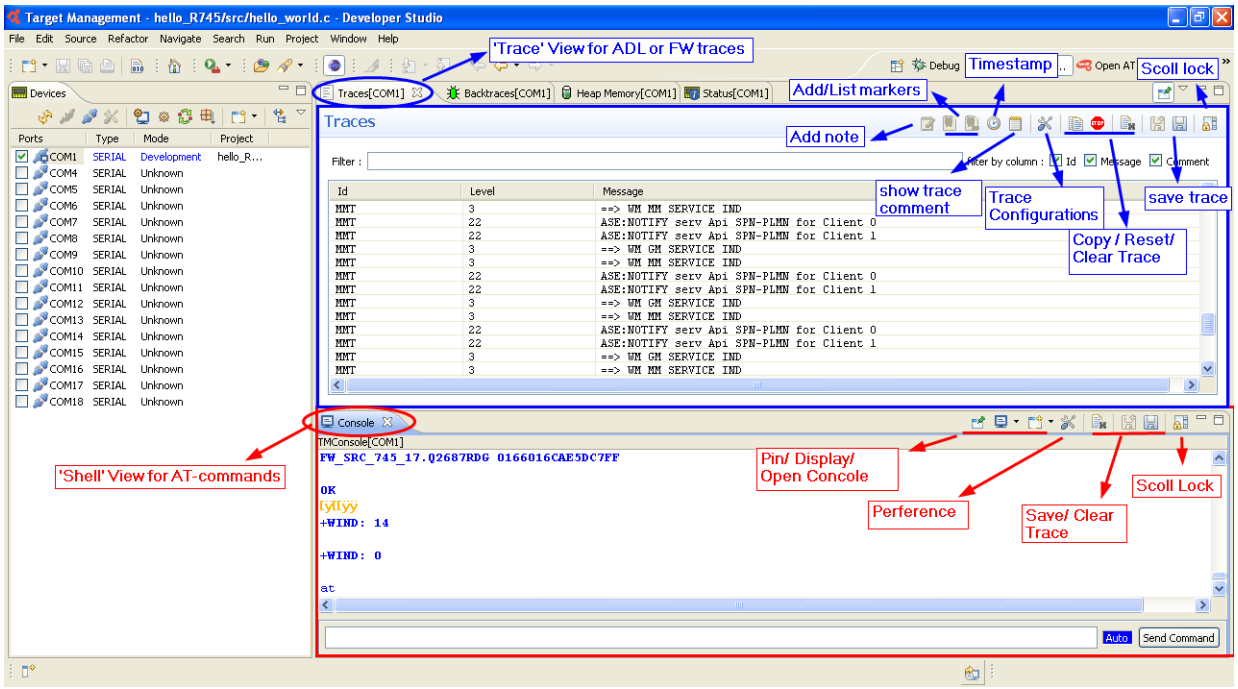


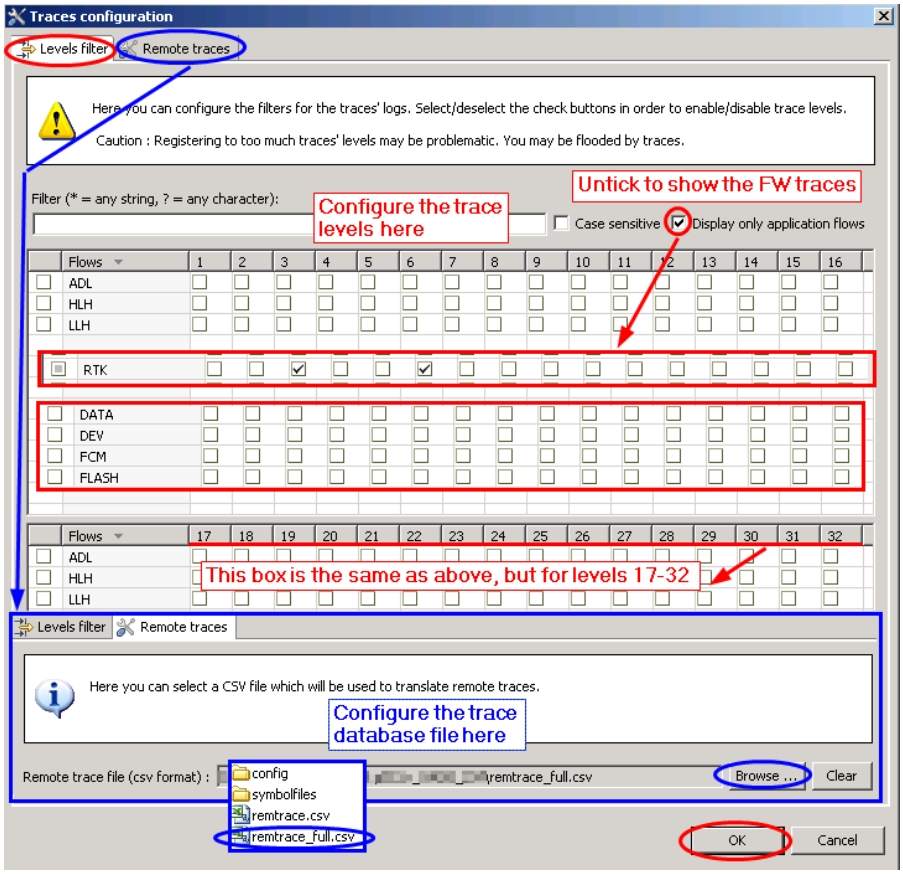
To-Do Task List (for quick referencing):

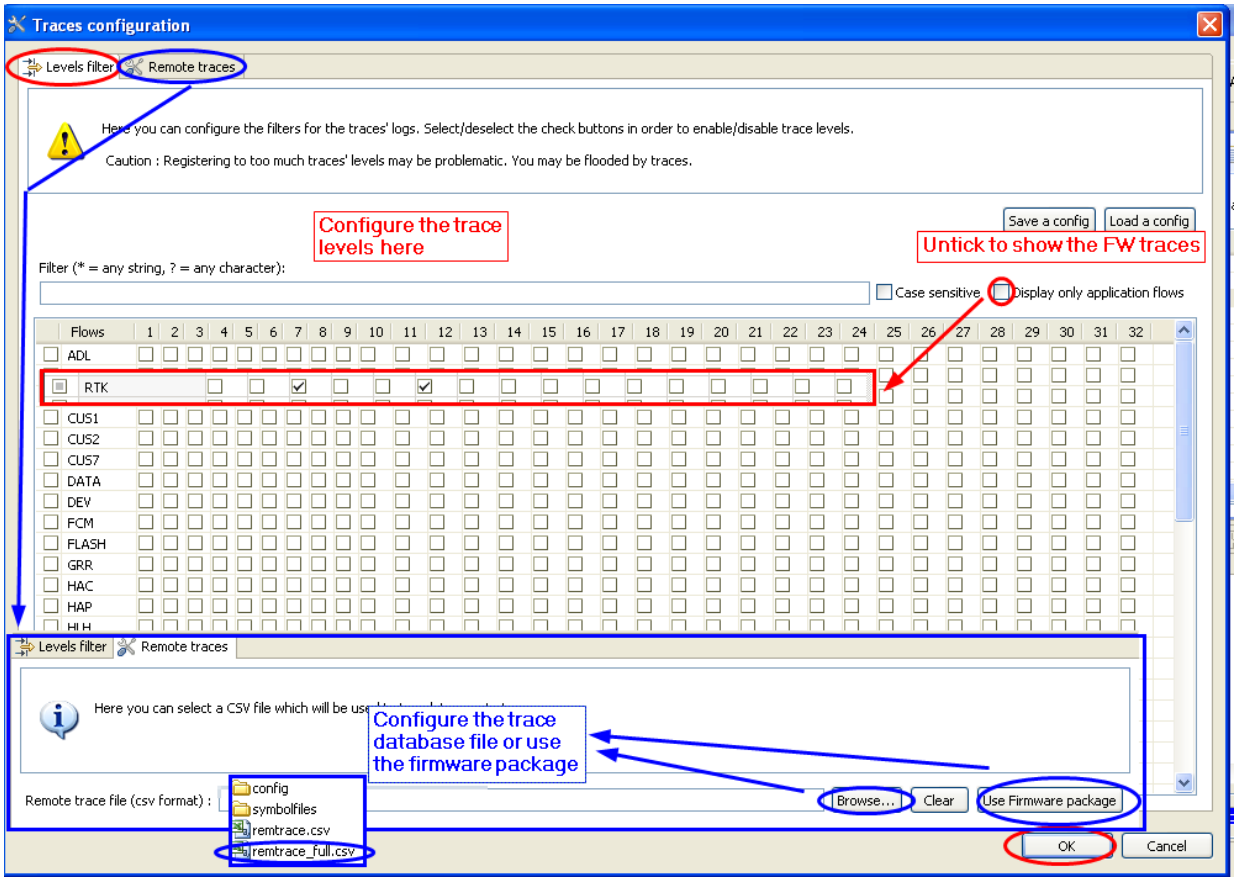


7.7 Using TMT


Target Management - hello_R745/src/hello_world.c - Developer Studio
1. Setup the Target. Open Target Management perspective
2. Configure the Port. And press "Connect" button to connect the Target
3. Open the 'Status' view. And synchronize the Target Infomation.
Target Status & Configuration
Connect
Disconnect


'Trace' View for ADL or FW traces
Timestamp
Scoll lock
Add/List markers
Add note
show trace comment
Trace Configurations
save trace
Copy / Reset/ Clear Trace
'Shell' View for AT-commands
Pin/ Display/ Open Concole
Scoll Lock
Perference
Save/ Clear Trace

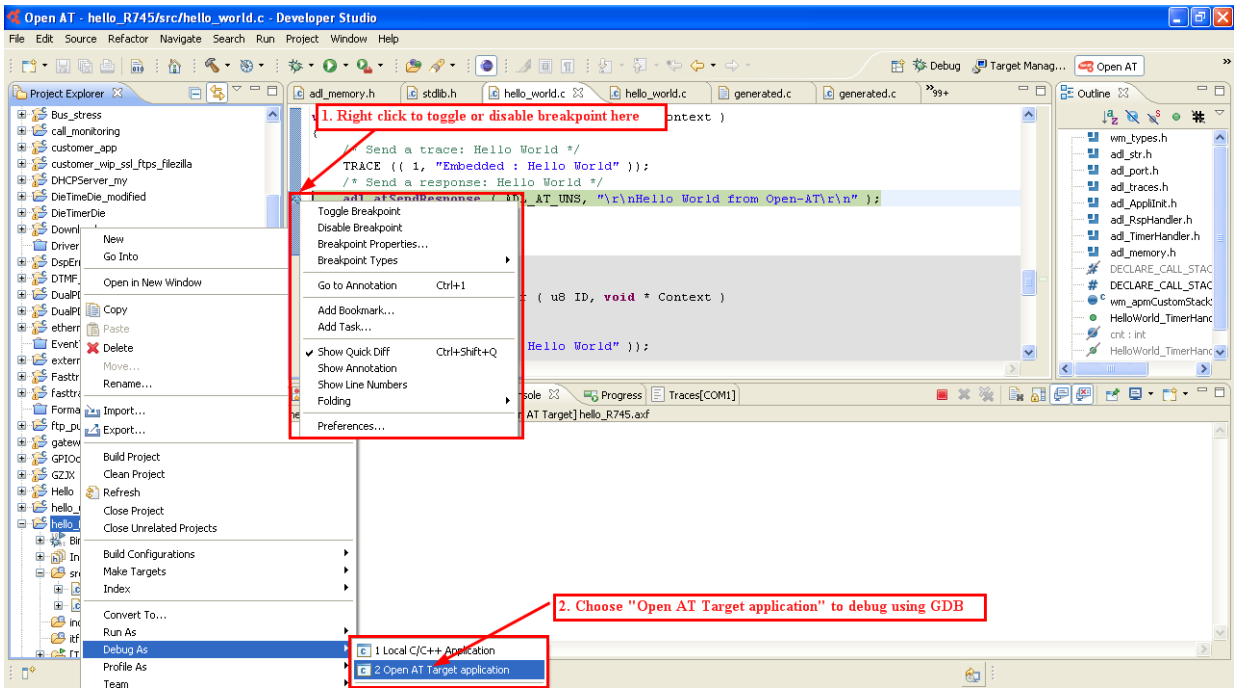

Traces configuration
Levels filter
Remote traces
Here you can configure the filters for the traces' logs. Select/deselect the check buttons in order to enable/disable trace levels.
Caution : Registering to too much traces' levels may be problematic. You may be flooded by traces.
Filter (* = any string, ? = any character):
Configure the trace levels here
Untick to show the FW traces
Case sensitive
Display only application flows
Flows
ADL
HLH
LLH
RTK
DATA
DEV
FCM
FLASH
This box is the same as above, but for levels 17-32
Here you can select a CSV file which will be used to translate remote traces.
Configure the trace database file here
Remote trace file (csv format) :
config
symbolfiles
remtrace.csv
remtrace_full.csv
Browse ...
Clear
OK
Cancel

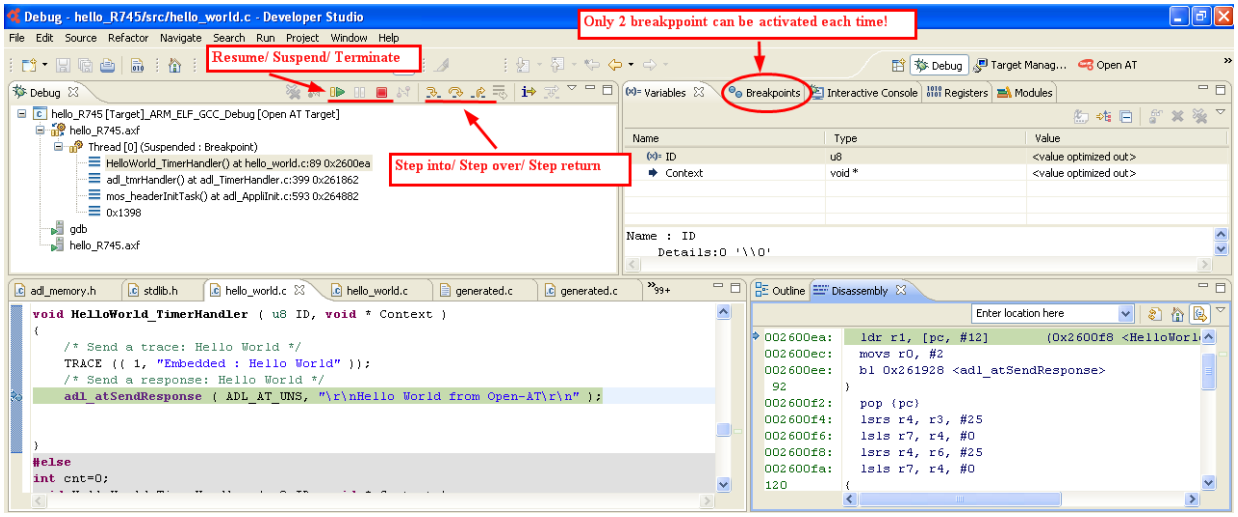

Traces configuration
Levels filter
Remote traces
Here you can configure the filters for the traces' logs. Select/deselect the check buttons in order to enable/disable trace levels.
Caution : Registering to too much traces' levels may be problematic. You may be flooded by traces.
Configure the trace levels here
Save a config
Load a config
Untick to show the FW traces
Filter (* = any string, ? = any character):
Case sensitive
Display only application flows
Flows
ADL
RTK
CUS1
CUS2
CUS7
DATA
DEV
FCM
FLASH
GRR
HAC
HAP
Configure the trace database file or use the firmware package
Remote trace file (csv format) :
config
symbolfiles
remtrace.csv
remtrace_full.csv
Browse...
Clear
Use Firmware package
OK
Cancel

7.8 Debugging Using GDB

Take note of the following when debugging using GDB:

1. Users can only have two breakpoints. Although the user interface allows users to set more than two breakpoints, this will result in an unspecified behavior.
2. Breakpoints set are saved between sessions.
3. When an Open AT Application is suspended, AT Commands will stop responding. This is because when an application is suspended, the application and the whole AT mechanism stops. AT commands will start responding again once the user resumes execution of the application.
4. It is not possible to see the call stack when suspending a running Open AT application. (This is only visible for breakpoints.)
5. It is highly recommended to reboot the target after terminating the GDB debugging.





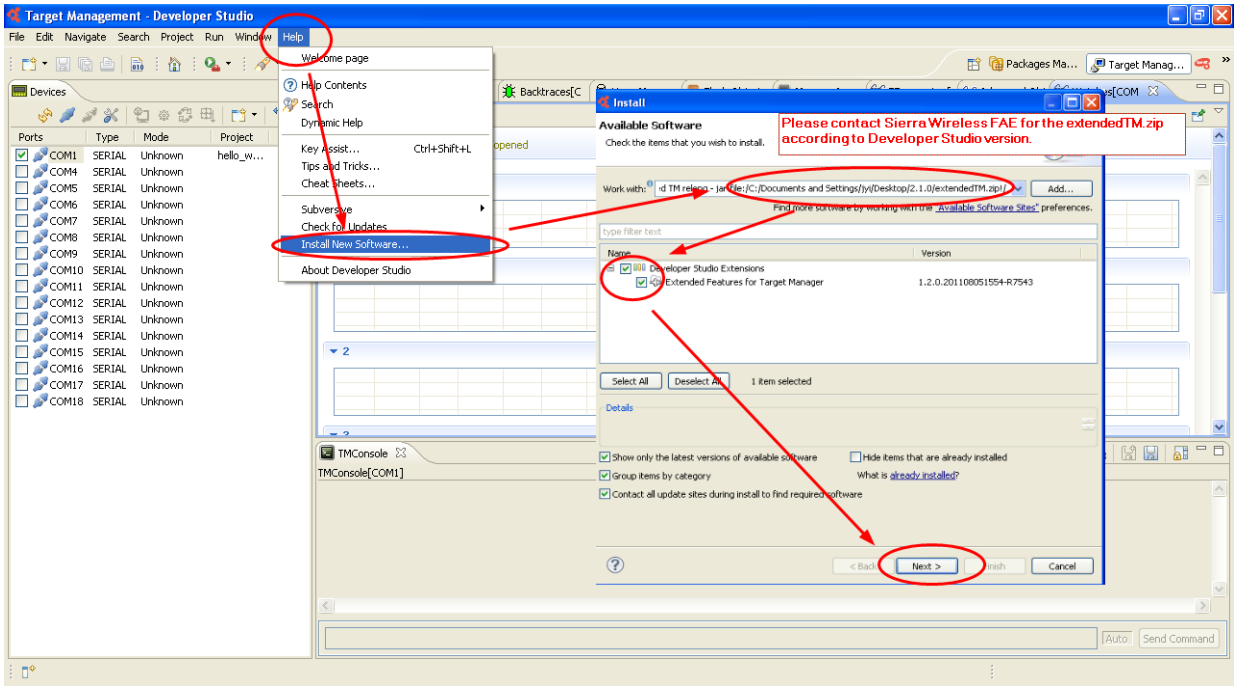
7.9 Extended Target Management

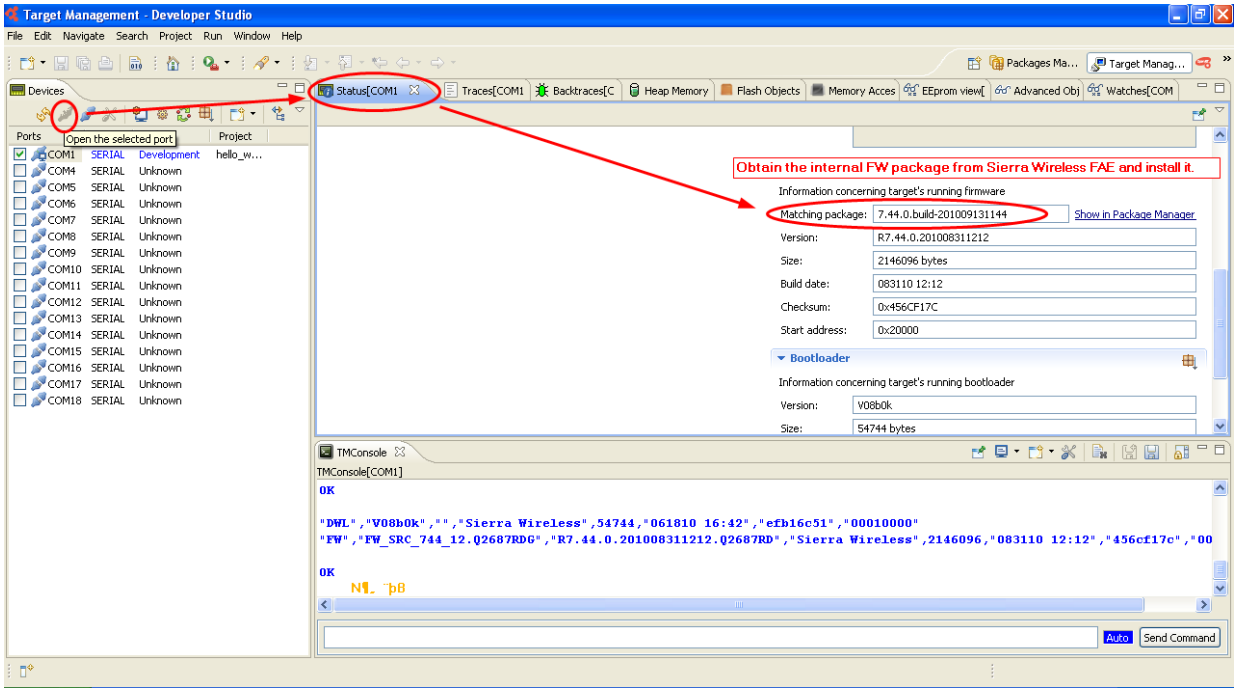
Extended Target Management is for professional use. It can be used to:

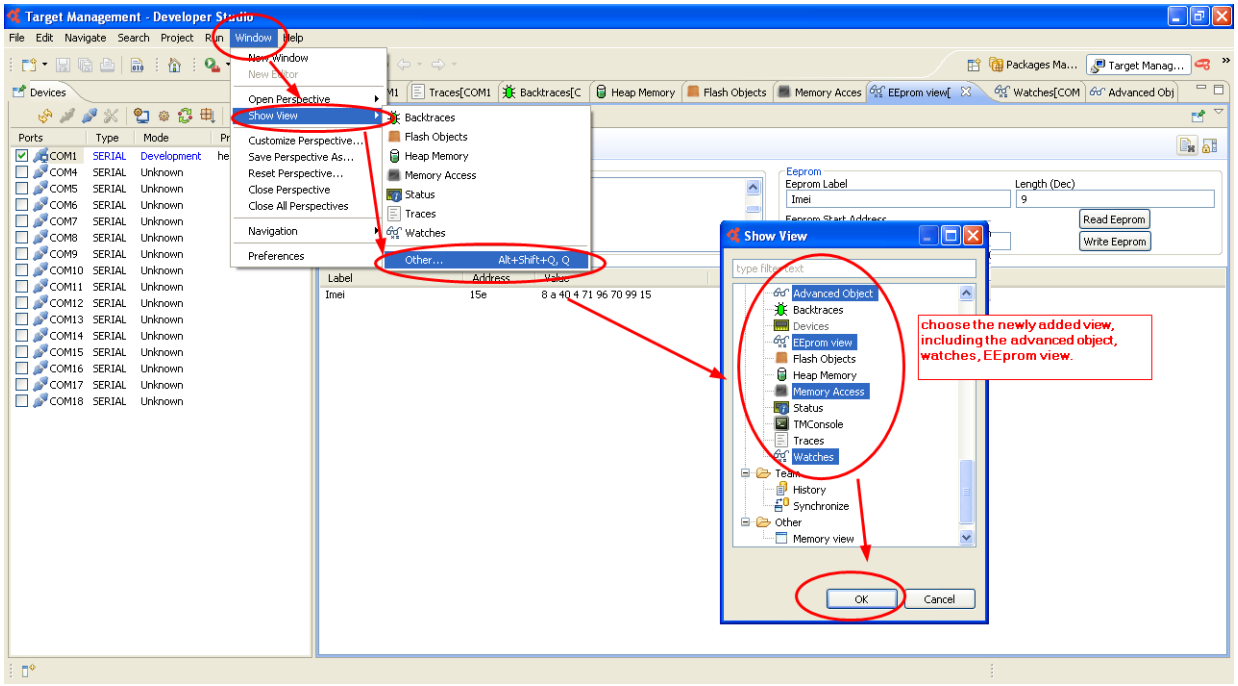
1. Read/write access the RAM/ROM symbols for both Open AT application and FW
2. Access the watches values
3. Request for RTK status
4. Read/write access the E2P parameter
5. Read/write access all FW flash objects

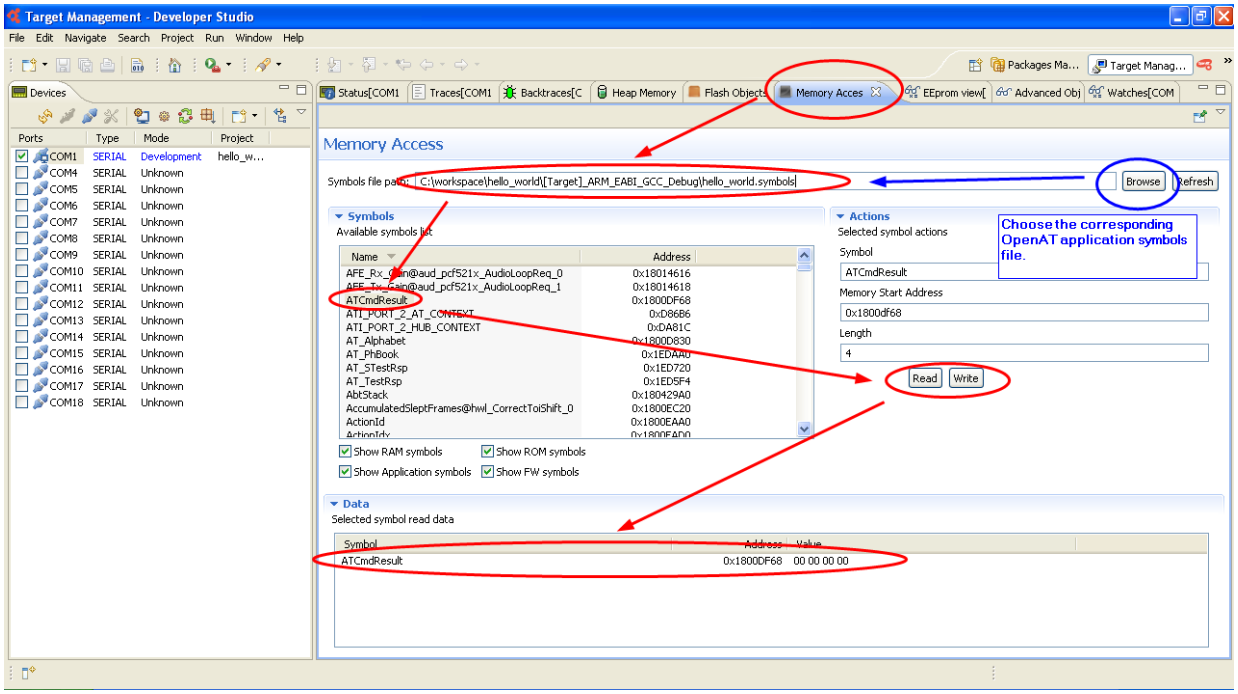
Take note of the following when using Extended Target Management:

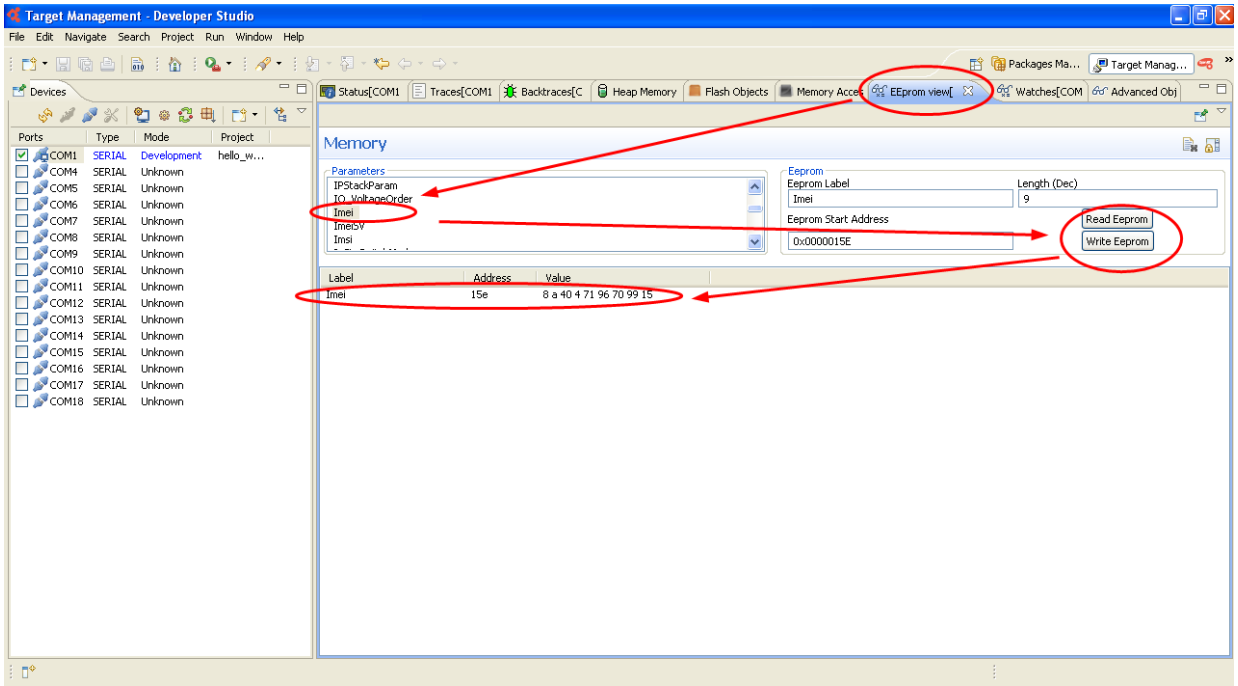
1. For installation, contact your Sierra Wireless FAE to obtain the *extendedTM.zip* file specific to your Developer Studio version.
2. For accessing RAM/ROM symbols of FW, E2P parameter, the internal FW package has to be installed in Developer Studio packages manager. Please obtain the corresponding internal FW package from your Sierra Wireless FAE.

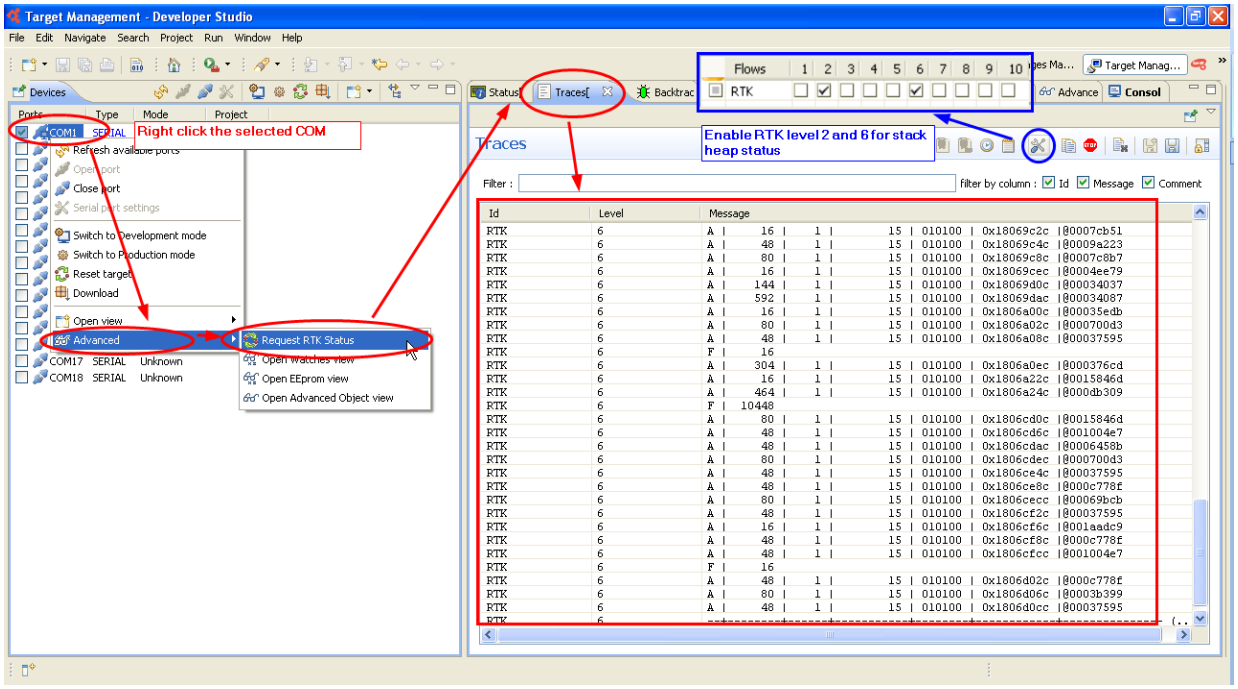


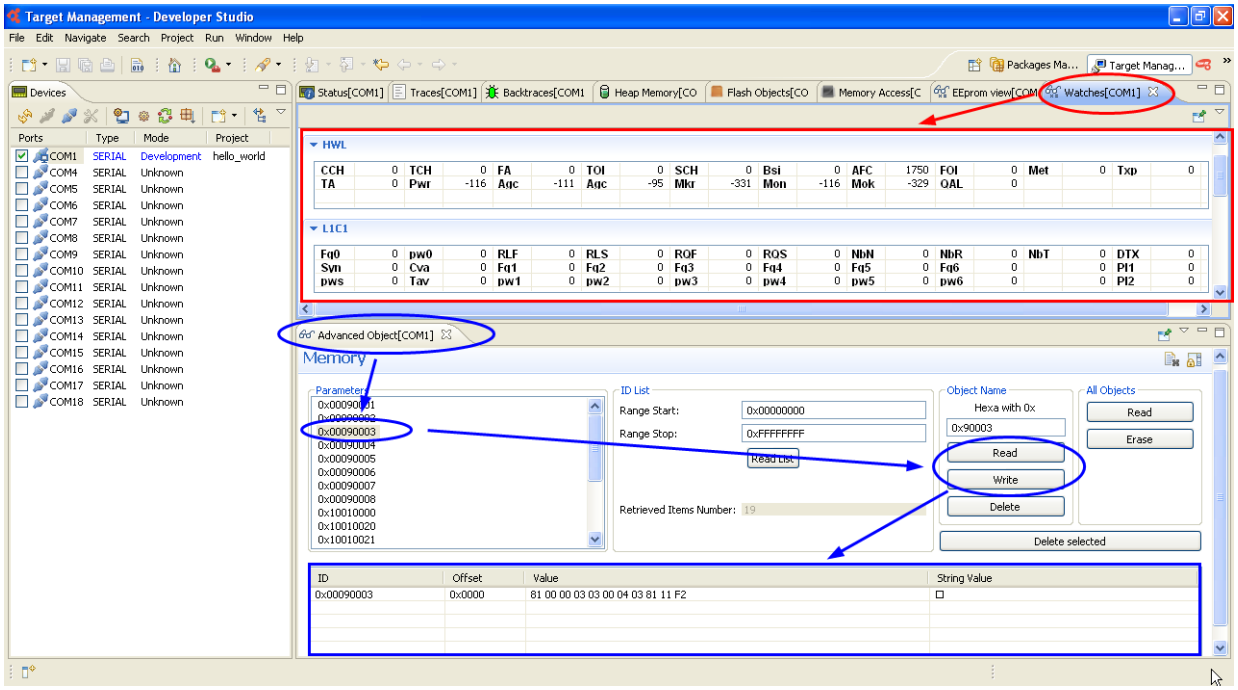

Target Management - Developer Studio
Open the selected port
Obtain the internal FW package from Sierra Wireless FAE and install it.
Information concerning target's running firmware
Matching package: 7.44.0.build-201009131144
Show in Package Manager
Version: R7.44.0.201008311212
Size: 2146096 bytes
Build date: 083110 12:12
Checksum: 0x456CF17C
Start address: 0x20000
Bootloader
Information concerning target's running bootloader
Version: V08b0k
Size: 54744 bytes
TMConsole
TMConsole[COM1]
OK
"DWL","V08b0k","","Sierra Wireless",54744,"061810 16:42","efb16c51","00010000"
"FW","FW_SRC_744_12.Q2687RDG","R7.44.0.201008311212.Q2687RD","Sierra Wireless",2146096,"083110 12:12","456cf17c","00
OK
Auto
Send Command


Target Management - Developer Studio
Window
New Window
Open Perspective
Show View
Customize Perspective...
Save Perspective As...
Reset Perspective...
Close Perspective
Close All Perspectives
Navigation
Preferences
Backtraces
Flash Objects
Heap Memory
Memory Access
Status
Traces
Watches
Other... Alt+Shift+Q, Q
Show View
Advanced Object
Backtraces
Devices
EEprom view
Flash Objects
Heap Memory
Memory Access
Status
TMConsole
Traces
Watches
Team
History
Synchronize
Other
Memory view
OK
Cancel
choose the newly added view, including the advanced object, watches, EEprom view.
Eeprom
Eeprom Label
Imei
Length (Dec)
9
Read Eeprom
Write Eeprom


Target Management - Developer Studio
Memory Access
Symbols file path: C:\workspace\hello_world\[Target]_ARM_EABI_GCC_Debug\hello_world.symbols
Browse
Refresh
Choose the corresponding OpenAT application symbols file.
Read
Write
ATCmdResult
0x1800DF68 00 00 00 00


Target Management - Developer Studio
Memory
Parameters
IMEI
Eeprom Label
Length (Dec)
Eeprom Start Address
0x0000015E
Read Eeprom
Write Eeprom
Label
Address
Value
Imei
15e
8 a 40 4 71 96 70 99 15





8 Package Deliverables

This application note is delivered as a single document.

Filename	Description
A Startup Guide for Developer Studio-Rev4.0.pdf	A Startup Guide for Developer Studio

9 Support

For direct clients: contact your Sierra Wireless FAE

For distributor clients: contact your distributor FAE

For distributors: contact your Sierra Wireless FAE

10 Document History

Version	Date	History
001	March 15, 2011	Creation
002	September 9, 2011	Updated screenshots for Developer Studio 2.1.0
		Added section 7.8 Debugging Using GDB
3.0	December 08, 2011	Added section 7.9 Extended Target Management
3.1	December 09, 2011	Added a summary of examples included in section 7 Screenshots
4.0	January 06, 2012	Added SL6087 in the list of supported modules

11 Legal Notice

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