



# USER'S MANUAL

*Product Name: HSDc Sequence Plugin*

**HSDc, High-quality Software Design Center**

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HSDc, High-quality Software Design Center

**Revision History**

<b>Version</b>	<b>Date</b>	<b>Revision Description</b>
1.0.3	6/13/2011	User's Manual is created by HSDc product service team.
1.0.4	8/11/2011	User's Manual is revised to release version.

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## 1.0 INTRODUCTION

### 1.1 Purpose

HSDc Sequence Plugin is a powerful tool in software house. It helps as follows:

1. Developers can spend less time on drawing diagrams to confirm their thinking and put more time in writing efficiency programs.
2. Managers can get high quality and completed checked codes.
3. Reviewers/Architects can do “code review” by getting sequence diagrams with the same situation of source codes to review code quality.
4. Project team may use this product to generate Sequence Diagram at ANYTIME.

The programming includes all phases of the development process (design, debugging, testing, and so on). The system analyst produces the sequence diagram in the design phase and the developer produces source code concurrently. How to verify the consistency between design and implementation in parallel almost at the same time? HSDc Sequence Plugin provides the solution to figure out.

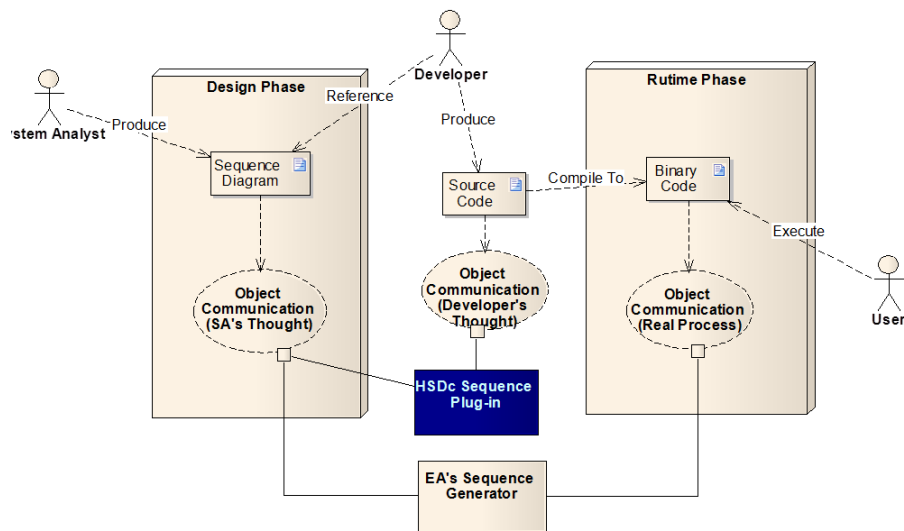


Figure 1 Product Concept Introduction

## 1.2 Product Features

The major functions performed by the tool are described as follows:

1. The developer can reverse sequence diagram from source code.
2. The developer can generate source code from sequence diagram.

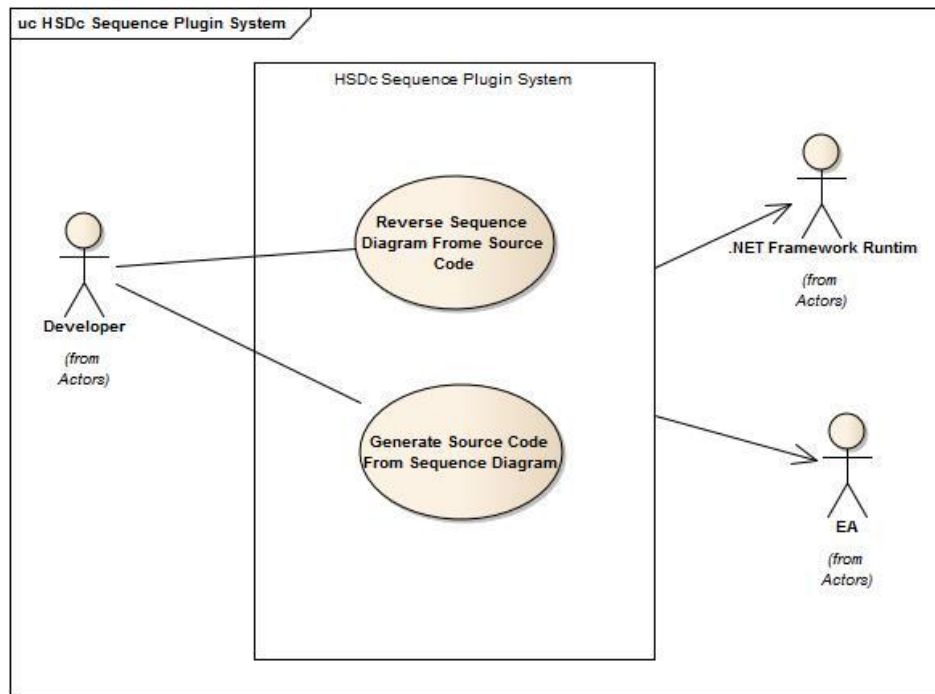


Figure 2 Use Case Diagram of HSDc Sequence Plugin

The key features of HSDc Sequence Plugin are as follows:

1. Generate sequence diagrams anytime from the original codes in the development duration, not limited in runtime mode.
2. Parse any sequence diagrams to generate the corresponding source codes.
3. Support parser Java, C#, VB .NET coding language.
4. Parse source codes to generate sequence diagrams. Users can decide which directory and level in source code.
5. Follow UML 2.1 specification.
6. Parse the interaction operators of the source codes and generate results in sequence diagrams.
7. UML tools, such as Enterprise Architect, are allowed to plug in.

### 1.3 Core Technology

The core expertise in HSDc architect team is to design flexible logical class model. The core technology of the logical class model is designed PnP (plug and play) mode that HSDc sequence plugin is independence in the API of Enterprise Architect (EA) tool, programming language's parser and .NET framework runtime itself. Therefore, if the API of EA, programming language's parser and .NET framework runtime encounter any change, they can be changed or replaced in a very short time. Of course, the design concept also helps to integrate other enterprise architecture tool in the world easily. This helps developers to work more efficiently and response more quickly while integrating new system functions or building a high-customized system in the future.

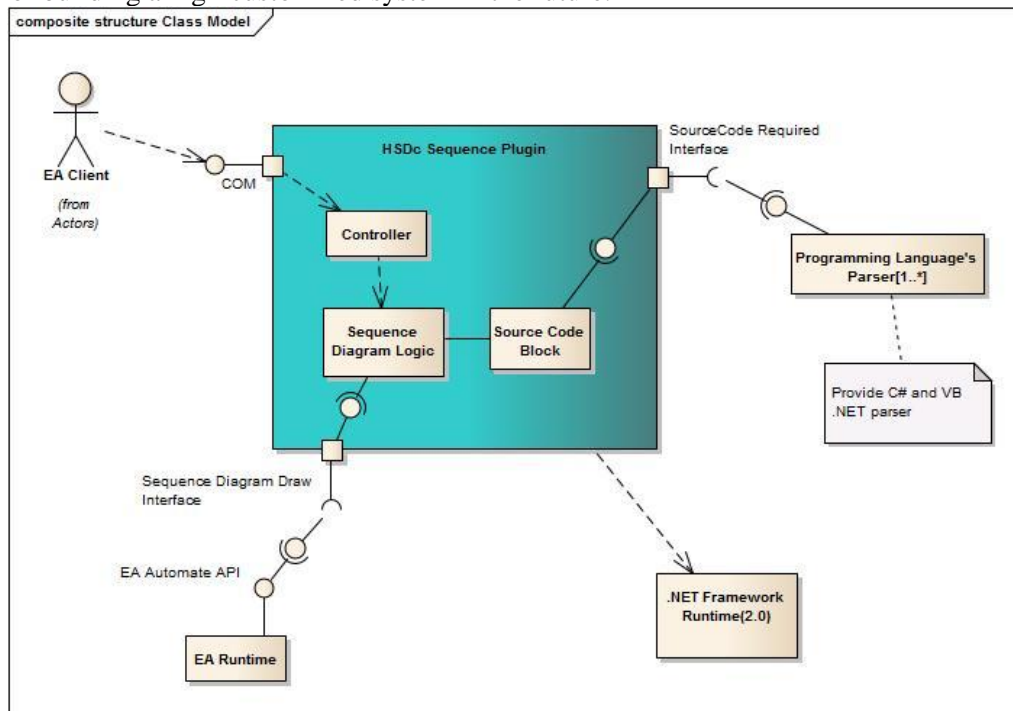


Figure 3 Product Architecture Design

### 1.4 Prerequisites

1. Pre-installed Sparx Systems Enterprise Architect 7.x above is required. (The trial version is available at <http://www.sparxsystems.com> .)
2. Microsoft .NET framework Runtime Version 2.0 is required.

## 1.5 Authorized Use Permission

### Copyright Announcement

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8. The beta version is available to download at: <http://www.hsdc.com.tw> . You can also request the latest version by email: [service@hsdc.com.tw](mailto:service@hsdc.com.tw).

## 1.6 Product References

1. The beta version is available to download at: [http://www.hsdc.com.tw/content/2010\\_0819-49](http://www.hsdc.com.tw/content/2010_0819-49) .
2. The user's manual is available to download at: <http://www.hsdc.com.tw/> .
3. The video demo of the product installation is also available at:  
[http://www.youtube.com/watch?v=0Z4H8m1\\_90A](http://www.youtube.com/watch?v=0Z4H8m1_90A) .
4. The video demo of the code engineering about to generate sequence diagram from source code (Microsoft C# code) is also available at <http://www.youtube.com/watch?v=AUtU-2bBCx8> .
5. The video demo of the code engineering about to generate sequence diagram from source code (Microsoft VB .NET code) is also available at  
<http://www.youtube.com/watch?v=pqYDWLoQzM8> .

## 1.7 Points of Contact

1. The beta version is available to download at: <http://www.hsdc.com.tw>
2. You can also request the latest version by email: [service@hsdc.com.tw](mailto:service@hsdc.com.tw)
3. The service phone number is: +886-227-227-179

Please contact us for more details.

## 2.0 GETTING STARTED

This guide helps you understand the options available when you start HSDc Sequence Plugin, and to quickly gain an understanding of how to use these options to create models.

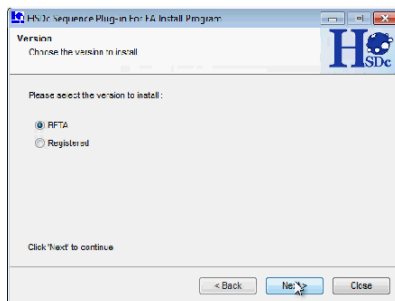
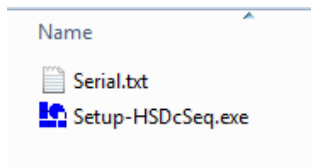
This section provides a detailed exploration of the HSDc Sequence Plugin tools, including:

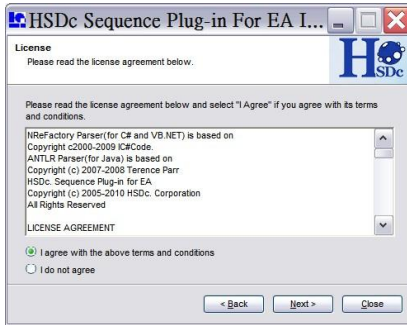
- Installation
- Setup
- Generate Sequence Diagram
- Generate Code

## 2.1 Installation

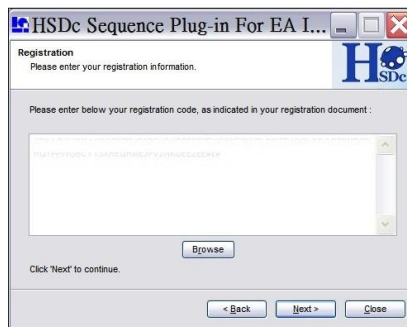
Follow the steps below to install the HSDc Sequence Plugin:

1. Purchase one or more licenses from HSDc web site.
2. Once payment is made for a licensed version of the HSDc Sequence Plugin, you will receive ...
  - a or registration code(s)
  - the URL of the web site from which to download the HSDc Sequence Plugin
3. Save the registration code and download the latest install package.
4. Run the setup program to install the HSDc Sequence Plugin.

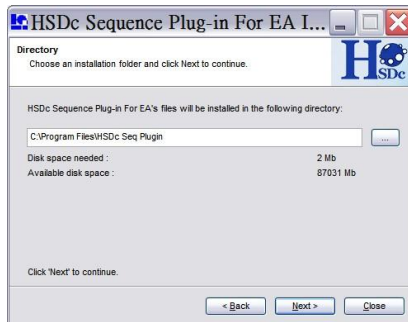




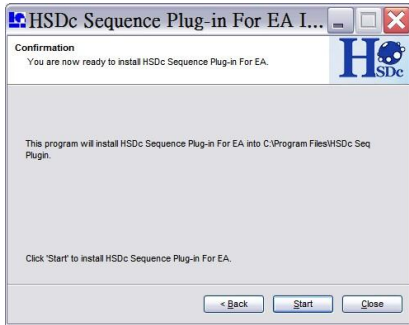
- If this is the first time that the HSDc Sequence Plugin is installed, a Registration Dialog will then prompt the user to enter a registration code (use “copy and paste” from an email to avoid typographic error), then press “Next” on the HSDc Sequence Plugin Registration Dialog.



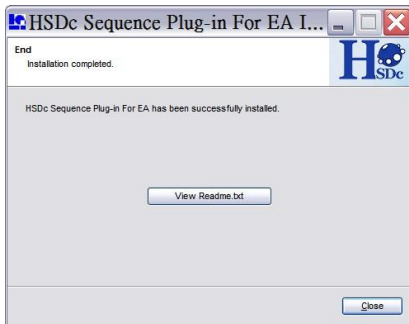
- Set up the directory that HSDc Sequence Plugin to be installed. Then, press “Next” on the HSDc Sequence Plugin Directory Dialog.



- Press “Start” on the HSDc Sequence Plugin Confirmation Dialog to start installation.



8. Now HSDc Sequence Plugin is available for use with your version of Enterprise Architect.



## 2.3 Generate Sequence Diagram

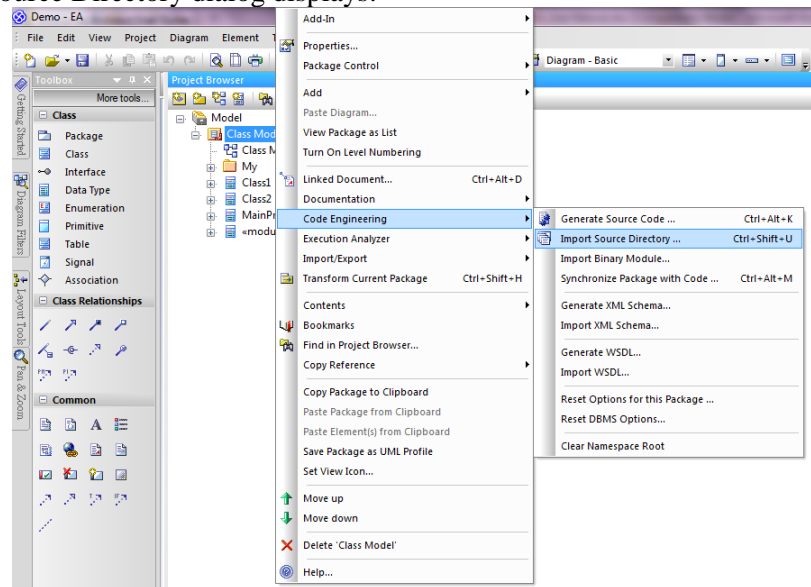
### 2.3.1 Import Source Code

Reverse Engineering enables users to examine legacy code and examine the functionality of code libraries for reuse or to bring the UML model up to date with the code that has been developed as part of a process called synchronization. Examining the code in a UML model enables user to identify the critical modules contained the code, enabling a starting point for understanding of the business and system requirements of the pre-existing system and to enable the developers to gain a better overall understanding of the source code. (Reference Source: Enterprise Architect User Guide)

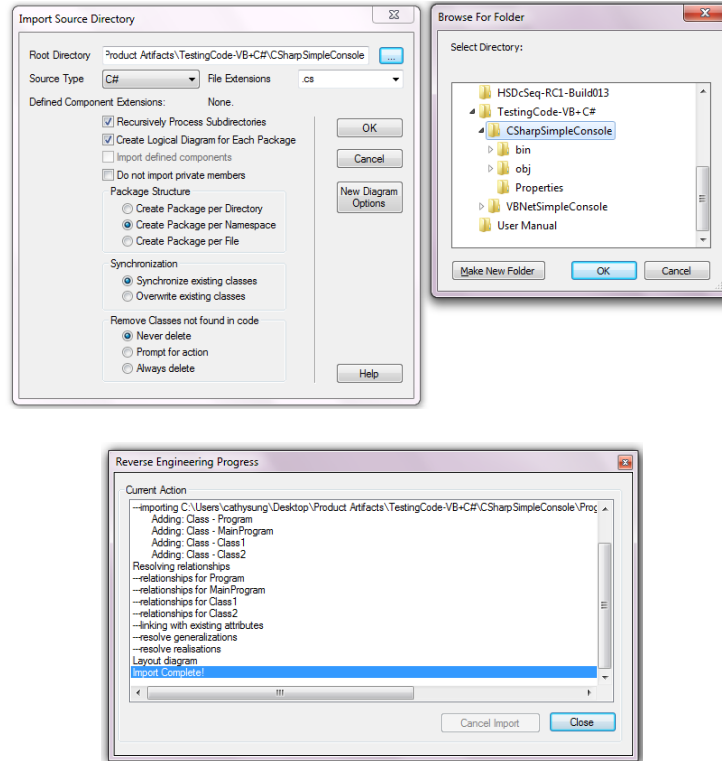
To import source code (reverse engineer) with Enterprise Architect follow the steps below:

1. In the **Project Browser**, right-click on the target package for the import.
  - From the context menu, select the **Code Engineering | Import Source Directory** menu option, or
  - Right-click on the diagram and Select from **Code Engineering | Import Source Directory....**

The Import Source Directory dialog displays.



2. From the file browser that appears, select one or more source code files to import.
3. Click on the **Ok** button to start the import process.



### 2.3.2 Generate Sequence Diagram

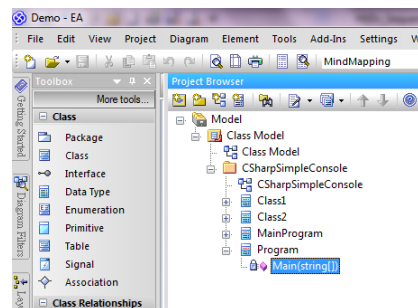
The developers must know where the entry point of your source code is. To select the entry method of the class and how many levels to scan source code are very important. It can help to understand the details of the results.

HSDc Sequence Plugin enables you to scan code into your project, in the following programming languages:

- C#
- Visual Basic .NET
- Java

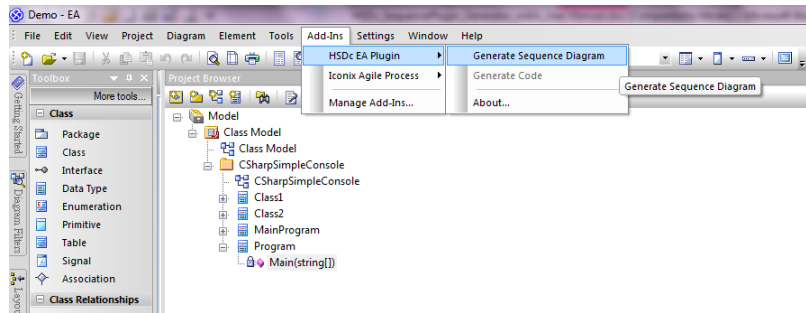
To Generate Sequence Diagram with HSDc Sequence Plugin follow the steps below:

1. In the **Project Browser**, move the cursor to the entry class method and click the class.

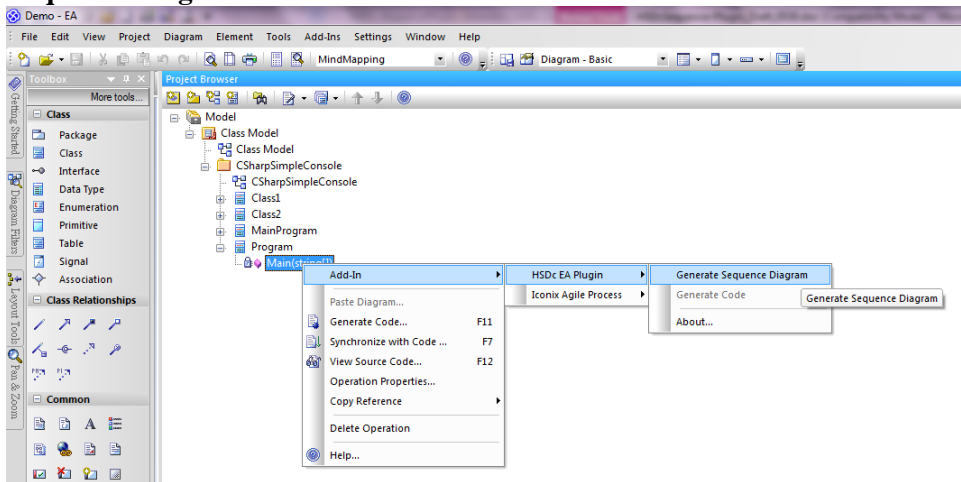


2. Select a class method and start to scan source code.

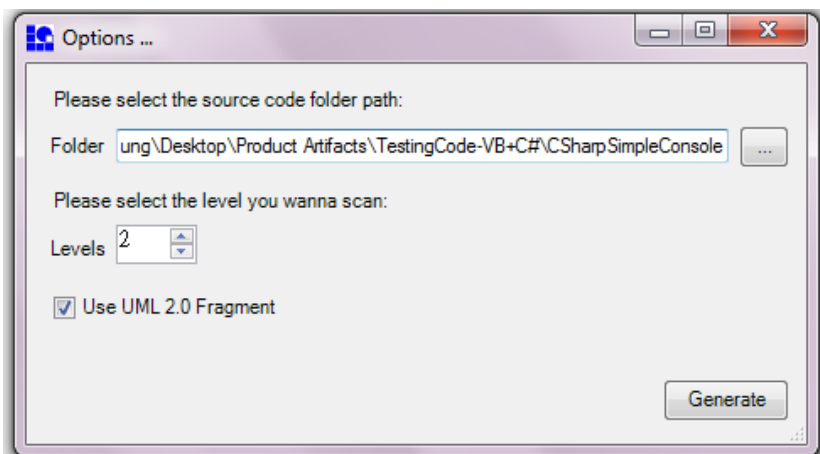
- From the context menu, select the **Add-Ins | HSDc EA Plugin | Generate Sequence Diagram**, or



- Right-click on the method class and Select from **Add-Ins | HSDc EA Plugin | Generate Sequence Diagram**.



The Options dialog displays.

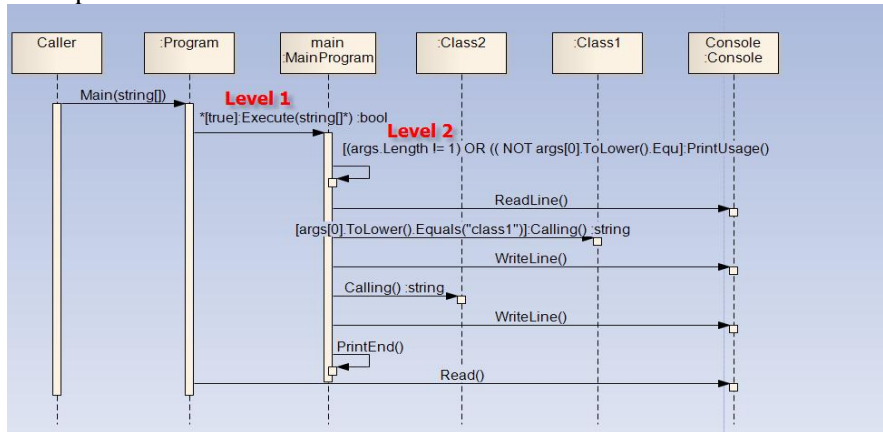


- Select the **Options** you require. You can configure:
  - The source code folder path
  - The source code levels to scan

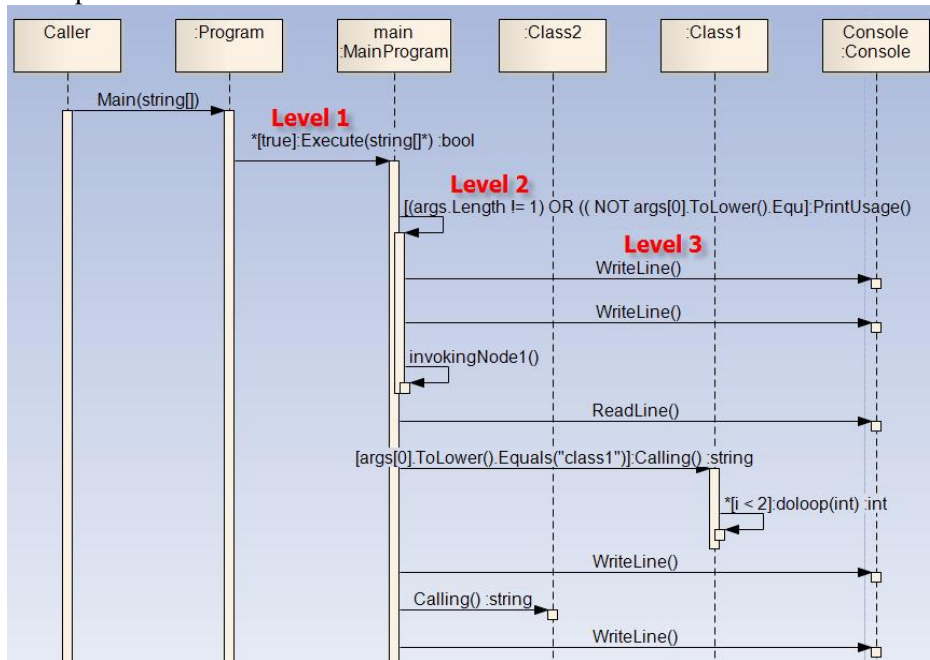
Please select the level you wanna scan:

Levels

Example: Level 2

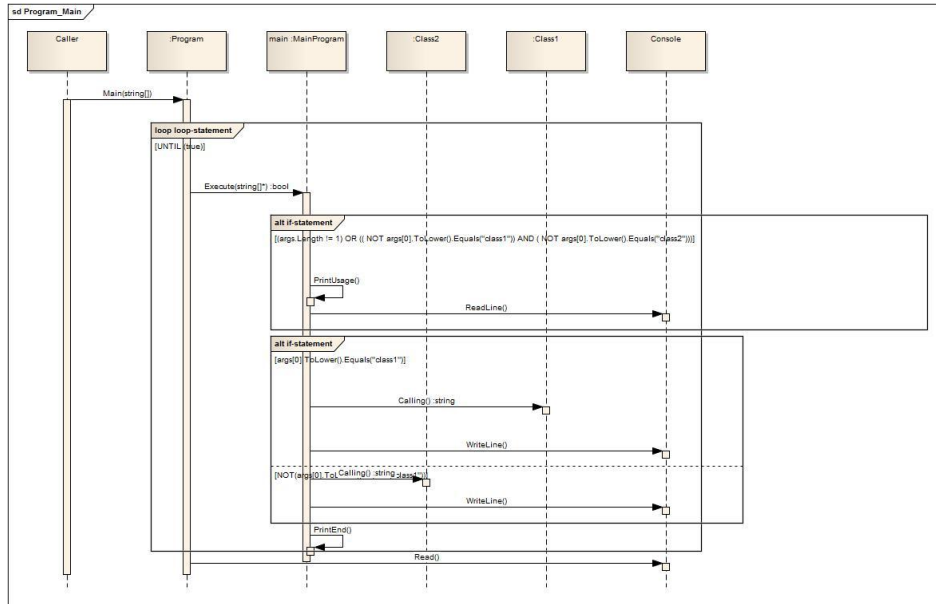


Example: Level 3



- Whether to use UML 2.0 Fragment

Use UML 2.0 Fragment



4. Click on the **OK** button to start.

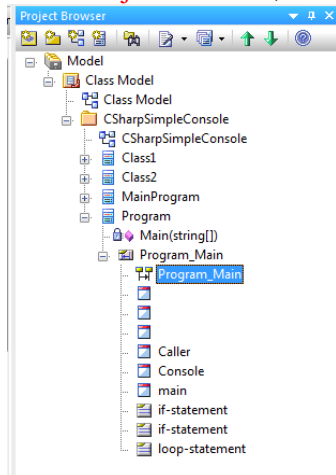
## 2.4 Generate Code

The developers want to generate code from sequence diagram. All objects in sequence diagram must have corresponding classes.

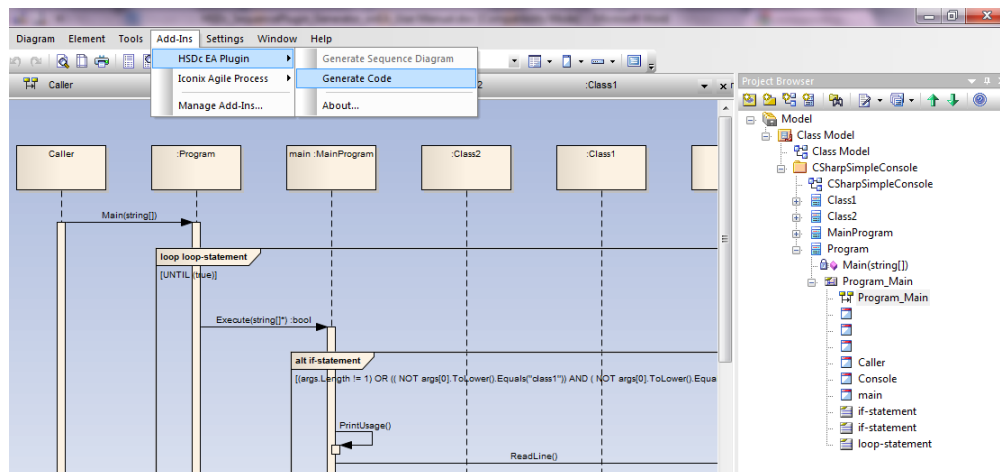
### 2.4.1 Generate Code

To Generate Code with HSDc Sequence Plugin follow the steps below:

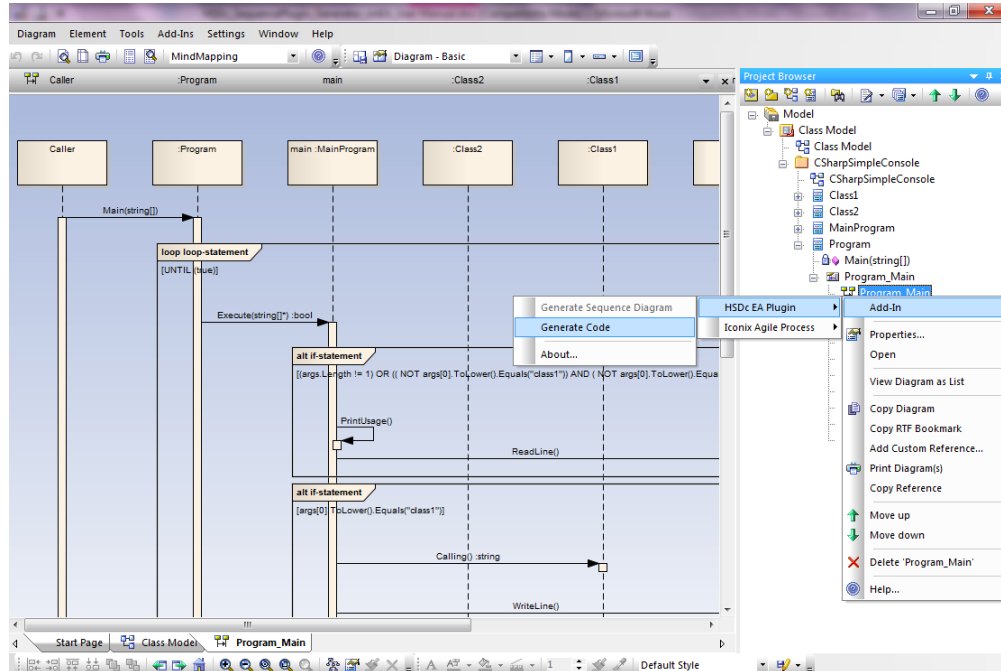
1. In the **Project Browser**, move the cursor to the sequence diagram.



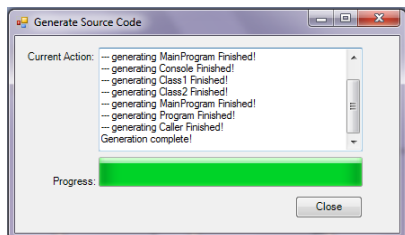
2. Select a sequence diagram and start to generate source code.
  - From the context menu, select the **Add-Ins | HSDc EA Plugin | Generate Code**, or



- Right-click on the method class and Select from **Add-Ins | HSDc EA Plugin | Generate Code**.



3. Complete to generate source code.



## 2.4.2 Review Code with Enterprise Architect

The developer can review code result with Enterprise Architect after generating code by HSDc Sequence Plugin. To review source code with Enterprise Architect follow the steps below:

1. In the **Project Browser**, right-click on the target method and select **View Source Code** or press **[F12]**  
(Reference Source: Enterprise Architect User Guide)

