MaiML Schema Check Procedure manual

version 1.0

Revision History

version	Publication date	Revisions
1.0	2024/5/20	first edition

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1. Introduction

1.1. Scope of this document

This manual describes how to use the MaiML schema definition file created by the Japan Analytical Instruments Manufacturers Association (JAIMA) to assist in confirming that the data format created according to the Common Data Format Support Guidelines is in accordance with JIS.

When checking the schema of MaiML files, tools called XML schema checkers such as LINQPad, Java, and Python are used. After loading the MaiML schema definition file into the tool, verify the validity of the MaiML file. This manual is a reference document that explains the procedure for using LINQPad.

2. Term Definition

No.	term	explanation
1.	MaiML	Name of the data format that conforms to the XML specification defined in JIS K 0200.
2.	MaiML files	Document file written in the MaiML format Extension: .maiml
3.	MaiML Schema Definition File	An XML Schema-formatted file that defines the MaiML syntax Extension: .xsd
4.	LINQPad	Utility software for developing on the .NET framework and interactively querying databases (including XML) using languages such as C#.
5.	XML Schema Checker	Tools for verifying that XML documents conform to XML schema definitions. LINQPad (.NET), Java, Python, etc. have functions for this purpose.

Table1Term Definitions

3. LINQPad Installation Instructions

3.1. Introduction

The XML Schema checker covered in this document runs on LINQPad.

 This chapter describes the installation procedure for LINQPad8.

3.2. Operating Requirements

LINQPad8 is compatible with . NET 3.1, . NET6.0, .NET 7.0 and .NET 8.0.

Download and install .NET from the official website of Microsoft.

https://dotnet.microsoft.com/

3.3. installation

Download and install LINQPad8 from the official website of LINQPad.

http://www.linqpad.net/

The standard version of LINQPad is free to download and use. (As of January 31, 2024)

4. Required Files

4.1. Introduction

This chapter describes the files required to operate the XML schema checker in LINQPad8.

4.2. Script

Download and use a sample script file for LINQPad8.

MaiMLChecker_LINQPad8.linq   http://www.maiml.org/schemas/

4.3. XML Schema

Download the MaiML schema definition files.   http://www.maiml.org/schemas/

After unzipping the zip file, 14 MaiML schema definition files are extracted.

maiml.xsd

maiml-core.xsd

maiml-data.xsd

maiml-document.xsd

maiml-eventLog.xsd

maiml-helper.xsd

maiml-pnml.xsd

maiml-property.xsd

maiml-protocol.xsd

maiml-refTypes.xsd

maiml-simpleTypes.xsd

xenc-schema.xsd

xenc-schema-11.xsd

xmldsig-core-schema.xsd

4.4. MaiML file extension

The MaiML file to be verified should be prepared by the user.

5. Schema Check Procedure

5.1. Introduction

This chapter describes the procedure of schema checking.

5.2. File Placement

5.2.1. Base Folder

This can be any folder where you want to perform schema checks. Hereinafter, C:¥LINQPad8 is assumed.

Place the script file for LINQPad8 in the C:¥LINQPad8 folder.

5.2.2. Schema Folder

Create a "Schemas" folder in C:¥LINQPad8.

Place the 14 MaiML schema definition files (.xsd) in the C:¥LINQPad8¥Schemas folder.

5.2.3. Sample folder

Create a "Samples" folder in C:¥LINQPad8.

Place the MaiML file (.maiml) to be verified in C:¥LINQPad8¥Samples folder.

5.3.   Execution procedure
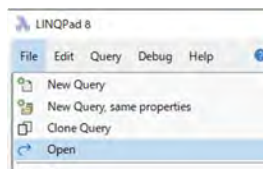
5.3.1.   Run LINQPad8

Double-click the LINQPad8 shortcut icon created on the desktop.
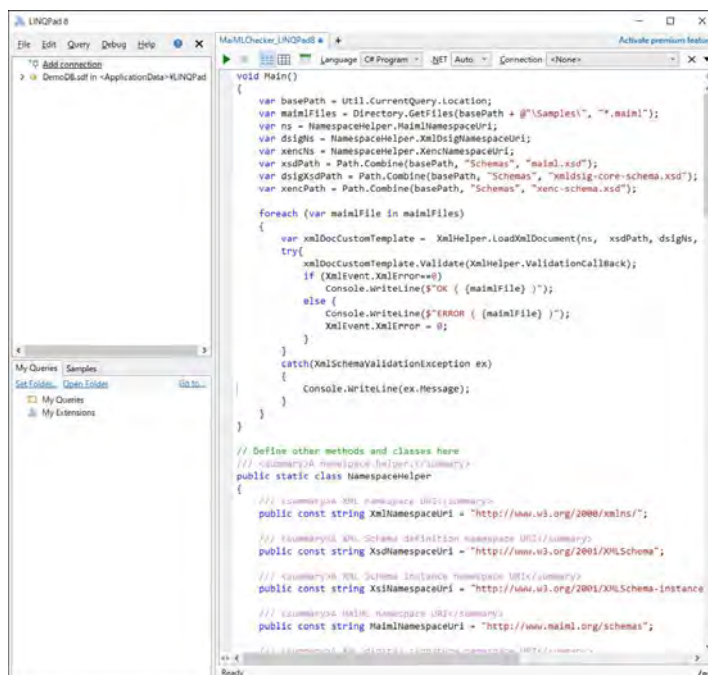

5.3.2.   Open a script file

Open the script file for LINQPad8 from the [File] → [Open] menu of the LINQPad8 application.
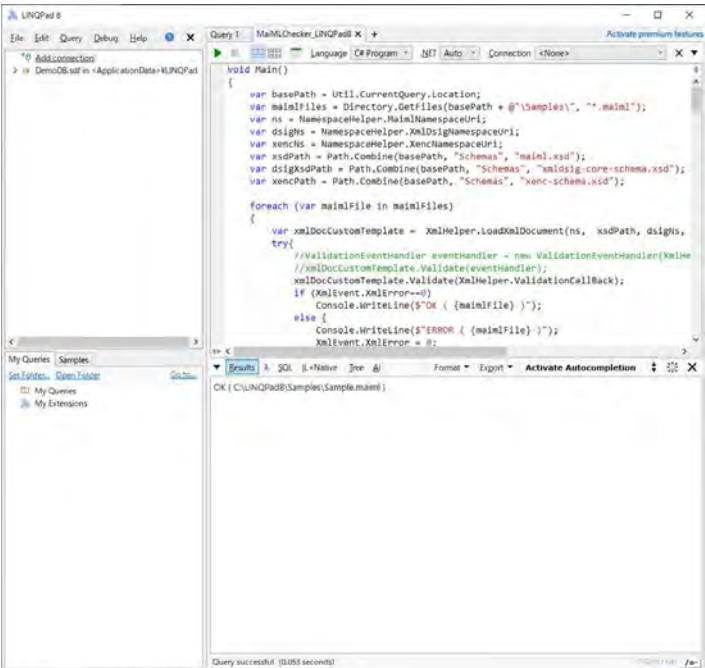
MaiMLChecker_LINQPad8.linq

5.3.3.   Run the script to perform a schema check

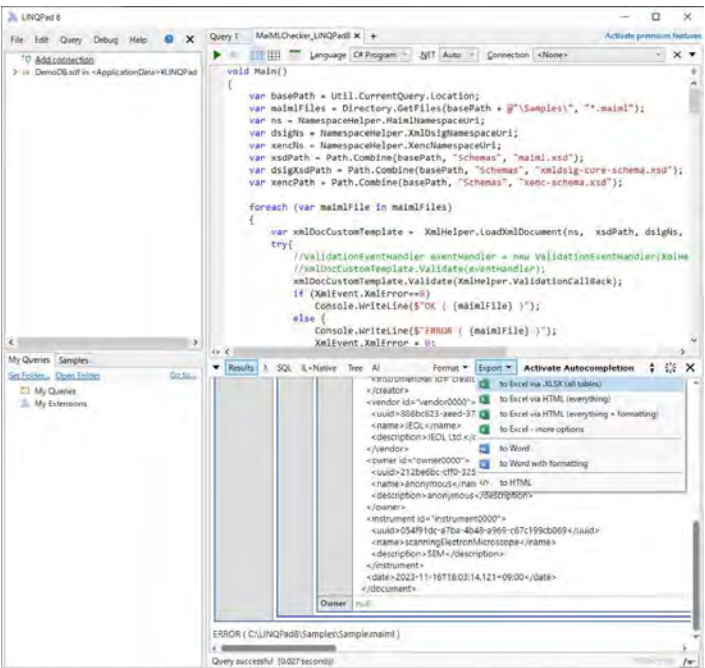Click the ▶ button on the "MaiMLChecker_LINQPad8" tab in the right pane.

5.3.4. Example of execution result when there are no problems with the MaiML file

"OK (*file path*)" is displayed at the bottom of the right pane.

5.3.5. Example of execution results when there is a problem with the MaiML file

"ERROR (file path)" is shown at the bottom of the right pane, along with the details of the error.

From the "Export" drop-down menu, you can output the error content in other formats such as Excel.

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This MaiML schema definition file and schema check procedure manual is part of the results of a project commissioned by the Ministry of Economy, Trade and Industry.