



# XML-Explained

eXtremely Maddening Language

*Janell Craig, Oakland Schools and LeAnn Szymanski, Ottawa Area ISD  
MPAAA Fall Conference 2023*

# Connector

## ✓ Discussion 1:

- Introduce yourself (Name and District)
- Discuss one thing you know about XML

# Connector

## ✓ Discussion 2:

- Introduce yourself (Name and District)
- Discuss one thing you want to leave with here today

# AGENDA

## Session Objectives

Learn XML files, and tools that can help safely and accurately navigate editing XML

- ✓ Connector
- ✓ XML – What and Why
- ✓ XML Structures
- ✓ Exercise
- ✓ XML Tools
- ✓ Questions

# What is XML

## ✓ **EX**tensible **M**arkup **L**anguage

- It is Extensible because it is not a fixed format
  - HTML (webpage) is a fixed format; dedicated tags do specific things... `<font-color: blue>` means just that

Extensible-designed to allow the addition of new capabilities and functionality.

- Markup is the technical name for “marking” or tagging (annotating) a document that indicates structure and layout instructions

# Why Use XML

## ✓ **EX**tensible **M**arkup **L**anguage

- Purpose is to structure, store and transport data between multiple applications and data uses
- Allows for Flexible Reporting
  - Defines specific (often nested) “tags” to create hierarchy
  - Is self-descriptive
  - Efficiently uses data across multiple applications
  - Allows for infinite number of reporting characteristics
  - Just needs to be “well formed”

# XML Structure and Example

```
▼<FallGeneralCollectionGroup xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" SchemaVersionMinor="1"
SubmittingSystemVersion="1.0" CollectionName="FallGeneralCollection" SubmittingSystemVendor="My System
Vendor" CollectionId="263" SchemaVersionMajor="2022-2023" SubmittingSystemName="My System"
xsi:noNamespaceSchemaLocation="https://cepi.state.mi.us/MSDSXML/MSDS/2022-2023/FallGeneralCollection2022-
20231.xsd">
▼<FallGeneralCollection>
▼<SubmittingEntity>
  <SubmittingEntityTypeCode>D</SubmittingEntityTypeCode>
  <SubmittingEntityCode>33170</SubmittingEntityCode>
</SubmittingEntity>
▼<PersonalCore>
  <UIC>0314140472</UIC>
  <LastName>Murray</LastName>
  <FirstName>Perkins</FirstName>
  <MiddleName>ANTHONY</MiddleName>
  <StudentSuffix>Sr.</StudentSuffix>
  <DateOfBirth>2016-10-10</DateOfBirth>
  <MultipleBirthOrder>5</MultipleBirthOrder>
  <Gender>M</Gender>
</PersonalCore>
▼<SchoolDemographics>
  <OperatingDistrictNumber>33170</OperatingDistrictNumber>
  <SchoolFacilityNumber>07828</SchoolFacilityNumber>
  <StudentIdNumber>12578</StudentIdNumber>
  <GradeOrSetting>14</GradeOrSetting>
</SchoolDemographics>
```

# XML Structure

	A	B	C	D	E	F	G	H	I	J
1	UIC	LastName	FirstName	Middle	StudentSuffix	DateOfBirth	MultipleBirthOrder	Gender	SchoolFacilityNumber	G
2	0000000001	Smith	June	A		10/14/1999		M	55555	-
3	0000000002	Jones	John	A		5/29/2003		M	55555	12
4	0000000003	Doe	Sue	A		6/25/2004		M	55555	12
5	0000000004	Smith	Betty	A		8/29/1999		F	55555	14
6	0000000005	Jones	June	A		10/5/2003		M	55555	12
7	0000000006	Doe	John	A		6/7/2004		M	55555	12
8	0000000007	Smith	Sue	A		12/25/2002		F	55555	12
9	0000000008	Jones	Betty	A		10/6/2003		M	55555	12
10	0000000009	Doe	June	A		8/8/2003		M	55555	12
11	0000000010	Smith	John	A		1/1/2004		F	02034	12

# XML Structure

✓ MSDS XML Files are Hierarchical and formatted as:

- Header/Declaration statement
    - Root Element (Parent)
      - Components (Child)
        - Elements (Sub-Child)
- Elements are “nested”
- Elements are raw data values (Street Number, Street Name, City)
  - Components contain related data elements (Address/Contacts)
  - A Root Element is comprised of components
    - Address, StudentDemographics, FTE, Special Education
  - A Collection contains all Root Elements.

# XML Structure – Elements

- ✓ Values in elements are contained in “Tags”
- ✓ Tags are considered as either opening tags `<Tag>`
- ✓ Or closing tags `</Tag>`
- ✓ **Data** are visible between opening/closing tags. Example:  
`<name>Toast $2</name>`
- ✓ Schema dictates allowed tags, values and sequence
- ✓ Consider Elements as “Sub-child”

# XML Structure – Components

- ✓ A component is a collection of related Elements, require opening/closing tags and are dictated by schema
- ✓ The opening tag starts the component, followed by the related elements, then the closing tag ends the component
- ✓ Consider components as “Child” elements; Example:

```
<lunchmenu>                                ← Component Open Tag (child)
    <name>Toast $2</name>                    ← Related Element (sub-child)
</lunchmenu>                                ← Component Close Tag
```

# XML Structure – Root Element

- ✓ A Root element contains all related components and elements (all child and sub-child elements)
- ✓ A Root element requires opening/closing tags and are dictated by schema.
- ✓ The opening tag starts the Root Element, followed by the related components, then the closing tag ends the Root
- ✓ Consider Root as “Parent” elements
- ✓ Everything in-between the open/close Root tags are considered “Records”, then the pattern repeats

# XML Structure – Root Element

✓ Example:

<code>&lt;OnlineMenu&gt;</code>	←	Root Opening Tag (Parent)
<code>&lt;lunchmenu&gt;</code>	←	Component Opening Tag (Child)
<code>&lt;name&gt;Toast \$2&lt;/name&gt;</code>	←	Related Element (Sub-Child)
<code>&lt;/lunchmenu&gt;</code>	←	Component Closing Tag
<code>&lt;/OnlineMenu&gt;</code>	←	Root Closing Tag

# XML Structure - Declaration

- ✓ The declaration begins the XML file; let's call this the "header"
- ✓ The header can include file identification, version ID, processing instructions and schema references
- ✓ The header may look different from file to file depending on the schema
- ✓ A Schema is a Document that contains Rules for the xml file
- ✓ Schemas define rules for a file's structure & content

# XML Structure - Declaration

- ✓ The header can look as simple as

```
<Collection ID ?xml Version="1.0">
```

- ✓ The Header can also be more complex as the headers we see in MSDS XML Files
  - Note beginning opening tag <FallGeneralCollectionGroup....>

```
▼ <FallGeneralCollectionGroup xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" SchemaVersionMinor="1" SubmittingSystemVersion="1.0" CollectionName="FallGeneralCollection" SubmittingSystemVendor="My System Vendor" CollectionId="263" SchemaVersionMajor="2022-2023" SubmittingSystemName="My System" xsi:noNamespaceSchemaLocation="https://cepi.state.mi.us/MSDSXML/MSDS/2022-2023/FallGeneralCollection202220231.xsd">
```

```
▼ <FallGeneralCollection>  
  ▼ <SubmittingEntity>  
    <SubmittingEntityTypeCode>D</SubmittingEntityTypeCode>  
    <SubmittingEntityCode>33170</SubmittingEntityCode>  
  </SubmittingEntity>  
  ▼ <PersonalCore>
```

# XML Structure – Recap

- ✓ XML files begin with the declaration statement (header)

```
<FallGeneralCollectionGroup xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" SchemaVersionMinor="1"
SubmittingSystemVersion="1.0" CollectionName="FallGeneralCollection" SubmittingSystemVendor="My System
Vendor" CollectionId="263" SchemaVersionMajor="2022-2023" SubmittingSystemName="My System"
xsi:noNamespaceSchemaLocation="https://cepi.state.mi.us/MSDSXML/MSDS/2022-2023/FallGeneralCollection2022
20231.xsd">
```

# XML Structure – Recap

- ✓ After the declaration (header), the next tag is the Root (parent) tag

```
xsi:noNamespaceSchemaLocation="https://cepi.state.mi.us/MSDSX/20231.xsd">  
  ▼<FallGeneralCollection> ←  
    ▼<SubmittingEntity>  
      <SubmittingEntityTypeCode>D</SubmittingEntityTypeCode>  
      <SubmittingEntityCode>33170</SubmittingEntityCode>  
    </SubmittingEntity>
```

# XML Structure – Recap

- ✓ Within the Root (parent) tags, are components (child)

```
▼ <FallGeneralCollection>
  ▼ <SubmittingEntity> ←
    <SubmittingEntityTypeCode>D</SubmittingEntityTypeCode>
    <SubmittingEntityCode>33170</SubmittingEntityCode>
  </SubmittingEntity>
  ▼ <PersonalCore> ←
    <UIC>0314140472</UIC>
    <LastName>Murray</LastName>
    <FirstName>Perkins</FirstName>
    <MiddleName>ANTHONY</MiddleName>
    <StudentSuffix>Sr.</StudentSuffix>
    <DateOfBirth>2016-10-10</DateOfBirth>
    <MultipleBirthOrder>5</MultipleBirthOrder>
    <Gender>M</Gender>
  </PersonalCore>
  ▼ <SchoolDemographics> ←
    <OperatingDistrictNumber>33170</OperatingDistrictNumber>
    <SchoolFacilityNumber>07828</SchoolFacilityNumber>
    <StudentIdNumber>12578</StudentIdNumber>
    <GradeOrSetting>14</GradeOrSetting>
  </SchoolDemographics>
```

# XML Structure – Recap

- ✓ Within Components (child) tags, are elements (sub-child)
- ✓ Elements contain data values for the record; Example

```
▼<FallGeneralCollection>
  ▼<SubmittingEntity>
    <SubmittingEntityTypeCode>D</SubmittingEntityTypeCode>
    <SubmittingEntityCode>33170</SubmittingEntityCode>
  </SubmittingEntity>
  ▼<PersonalCore> ←
    <UIC>0314140472</UIC>
    <LastName>Murray</LastName>
    <FirstName>Perkins</FirstName>
    <MiddleName>ANTHONY</MiddleName>
    <StudentSuffix>Sr.</StudentSuffix>
    <DateOfBirth>2016-10-10</DateOfBirth>
    <MultipleBirthOrder>5</MultipleBirthOrder>
    <Gender>M</Gender>
  </PersonalCore> ←
  ▼<SchoolDemographics>
    <OperatingDistrictNumber>33170</OperatingDistrictNumber>
    <SchoolFacilityNumber>07828</SchoolFacilityNumber>
    <StudentIdNumber>12578</StudentIdNumber>
    <GradeOrSetting>14</GradeOrSetting>
  </SchoolDemographics>
```

# XML Structure – Recap

- ✓ Remember... Note beginning opening tag in header  
<FallGeneralCollectionGroup....>

```
▼ <FallGeneralCollectionGroup xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" SchemaVersionMinor="1"
SubmittingSystemVersion="1.0" CollectionName="FallGeneralCollection" SubmittingSystemVendor="My System
Vendor" CollectionId="263" SchemaVersionMajor="2022-2023" SubmittingSystemName="My System"
xsi:noNamespaceSchemaLocation="https://cepi.state.mi.us/MSDSXML/MSDS/2022-2023/FallGeneralCollection2022
20231.xsd">
  ▼ <FallGeneralCollection>
    ▼ <SubmittingEntity>
      <SubmittingEntityTypeCode>D</SubmittingEntityTypeCode>
      <SubmittingEntityCode>33170</SubmittingEntityCode>
    </SubmittingEntity>
    ▼ <PersonalCore>
```

- ✓ At end of file, after last Root Closing tag, note collection closing tag </FallGeneralCollectionGroup>

```
▼ <EarlyOnServices>
  <ServiceCode>808</ServiceCode>
  <LengthInMinutes>317332</LengthInMinutes>
  <FrequencyOfService>235</FrequencyOfService>
</EarlyOnServices>
</FallGeneralCollection>
</FallGeneralCollectionGroup>
```

# XML Structure – Recap

✓ XML File is complete



# XML Exercise

- ✓ SEE HAND-OUT...
- ✓ Using the information provided in our discussion thus far, write a properly formed XML document using the information given
- ✓ This resulting XML should contain a properly formatted menu listing breakfast, lunch and dinner items
- ✓ 10 Minutes...

## XML Exercise

1	<onlinemenu>
2	<lunchmenu>
3	</breakfastmenu>
4	<name>Chicken \$10</name>
5	<name>Toast \$2</name>
6	<dinnermenu>
7	<breakfastmenu>
8	<Collection ID ?xml Version="1.0">
9	<description>With Rice</description>
10	</dinnermenu>
11	<name>Soup \$5</name>
12	</lunchmenu>
13	<description>Cream Soup</description>
14	<description> Wheat or White</description>
15	</onlinemenu>

## XML Exercise Results

8	<Collection ID ?xml Version="1.0">
1	<onlinemenu>
7	<breakfastmenu>
5	<name>Toast \$2</name>
14	<description> Wheat or White</description>
3	</breakfastmenu>
2	<lunchmenu>
11	<name>Soup \$5</name>
13	<description>Cream Soup</description>
12	</lunchmenu>
6	<dinnermenu>
4	<name>Chicken \$10</name>
9	<description>With Rice</description>
10	</dinnermenu>
15	</onlinemenu>

# XML Tools

## ✓ CEPI MSDS Website

- MSDS Collection Details Manual

### ✕ Manuals

- [2022-23 MSDS Collection Details Manual](#)
- [2021-22 MSDS Collection Details Manual](#)

- Technical Materials = Download Schema Reference

### ✕ Technical Material

- [2022-23 Collection Component Matrix](#)
- [2021-22 Collection Component Matrix](#)
- [Fall 2022 XML Sample File](#)
- [Fall 2022 XML Schema](#) ←
- [Fall 2022 Schema Summary](#)

# XML Tools

## ✓ Component Matrix

- Sheet Tab (List of Values) Lists errors received in MSDS Validation

Enrollment Last Updated: 9/14/2023

Staging Area Business Rule Validations

Characteristic Name	Rule Number	Data Validation	Severity	Error/Warning Message
	NOTE	If the AsOfDate is >= to [EnrollmentDate] and <= to [ExitDate], then the		
AdditionalGraduationAward	70.660.1	If [DistrictExitStatus] is "40"	1	If the District Exit Status is "40" - Graduated from a Middle College with
	70.660.2	If [AdditionalGraduationAward] is submitted	1	If the Additional Graduation Award Characteristic is submitted, then the
EnrollmentDate	70.18.1	[EnrollmentDate] must be >= (PersonalCore).[DateOfBirth]	1	The Date of Enrollment cannot be earlier than the Date of Birth.
	70.18.3	[EnrollmentDate] must be <= current system date	1	Enrollment Date must be on or prior to the current date; future dates
	70.18.4	[EnrollmentDate] must be >= open date in EEM for the	1	Enrollment Date must be on or after the Operating District Open Date in
	70.18.5	[EnrollmentDate] must be <= close date in EEM for the	1	The Enrollment Date must be prior to the Operating District Close Date
	70.18.6	If [EnrollmentDate] <> the latest date of enrollment in the enrollment	1	The Personal Demographics component is required when reporting a
	70.18.7	If CollectionName contains "Fall", "Spring" or "EOY"	1	The date reported in Enrollment Date must be on or before the count

Sheet1 | Sheet2 | List of Values | **List of Values (2)** | List of Values (3) | List of Values (4) | List ...

- Search XML for related error item

# XML Tools

## ✓ Notepad or WordPad

- Exposes raw XML file for review and change
- Doesn't format data "pretty"

xml example.txt - Notepad

File Edit Format View Help

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<EarlyRosterGroup SchemaVersionMinor="1" SubmittingSystemVersion="1.0" CollectionName="EarlyRoster" SubmittingSystemVendor="EarlyRoster">
```

```
<SubmittingEntity><SubmittingEntityTypeCode>D</SubmittingEntityTypeCode><SubmittingEntityCode>63000</SubmittingEntityCode><PersonalCore><UIC>000000000</UIC><LastName>SMITH</LastName><FirstName>John</FirstName><DateOfBirth>2000-11-06</DateOfBirth><SchoolDemographics><OperatingDistrictNumber>63000</OperatingDistrictNumber><SchoolFacilityNumber>0000</SchoolFacilityNumber><PersonalDemographics><ResidentLEANumber>63000</ResidentLEANumber><StudentResidentCounty>63</StudentResidentCounty><Ethnicity><Contacts><AddressTypeDescriptor>Physical</AddressTypeDescriptor><StreetNumberName>29000 Smith Avenue</StreetNumberName></EarlyRoster>
```

```
</EarlyRoster>
```

```
<SubmittingEntity><SubmittingEntityTypeCode>D</SubmittingEntityTypeCode><SubmittingEntityCode>63000</SubmittingEntityCode><PersonalCore><UIC>000000000</UIC><LastName>Button</LastName><FirstName>Jane</FirstName><MiddleName>Su</MiddleName><DateOfBirth><SchoolDemographics><OperatingDistrictNumber>63000</OperatingDistrictNumber><SchoolFacilityNumber>00000</SchoolFacilityNumber><PersonalDemographics><ResidentLEANumber>63140</ResidentLEANumber><StudentResidentCounty>63</StudentResidentCounty><Ethnicity><Contacts><AddressTypeDescriptor>Physical</AddressTypeDescriptor><StreetNumberName>53 E Avenue</StreetNumberName><City>Aurora</EarlyRoster>
```

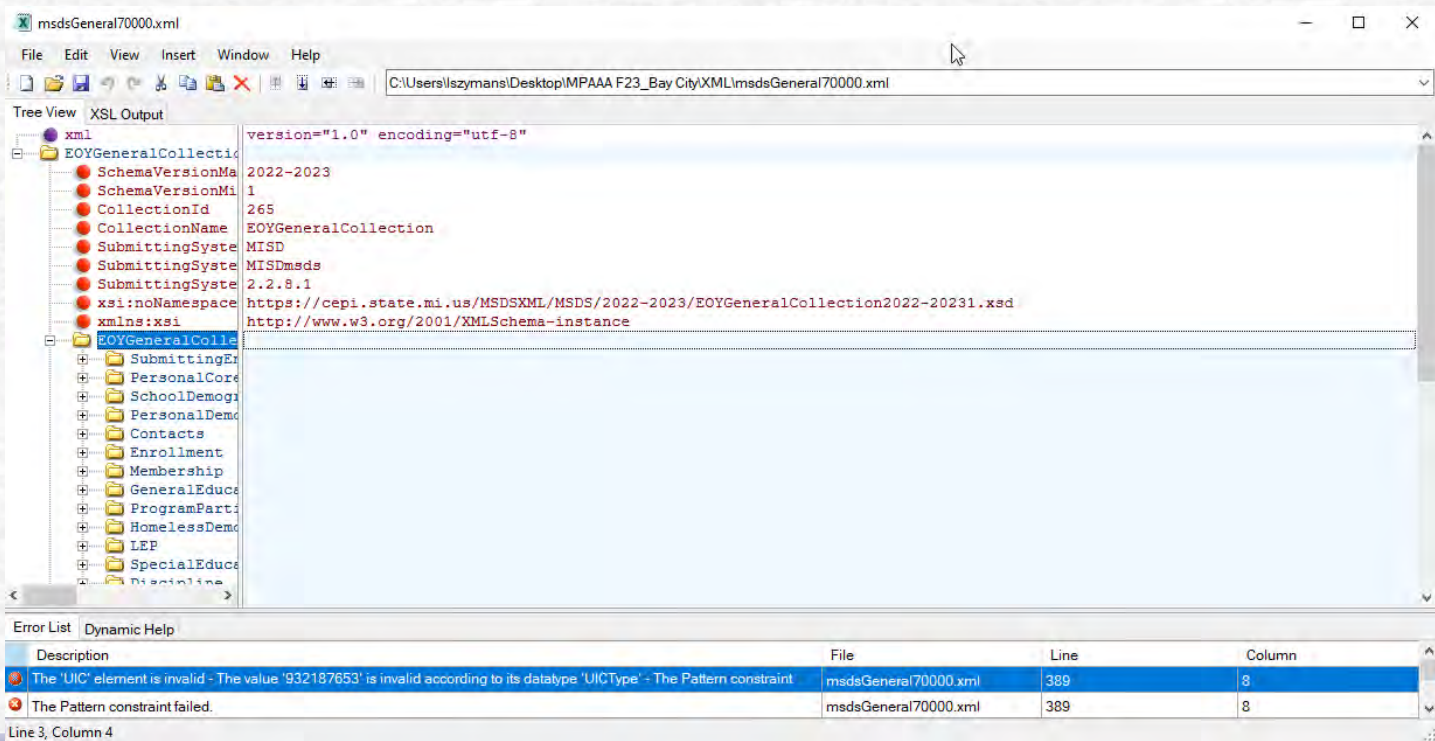
```
</EarlyRoster>
```

```
<SubmittingEntity><SubmittingEntityTypeCode>D</SubmittingEntityTypeCode><SubmittingEntityCode>63000</SubmittingEntityCode><PersonalCore><UIC>000000000</UIC><LastName>Smith</LastName><FirstName>Jane</FirstName><MiddleName>Joseph</MiddleName><DateOfBirth><SchoolDemographics><OperatingDistrictNumber>63000</OperatingDistrictNumber><SchoolFacilityNumber>00000</SchoolFacilityNumber><PersonalDemographics><ResidentLEANumber>63000</ResidentLEANumber><StudentResidentCounty>63</StudentResidentCounty><Ethnicity><Contacts><AddressTypeDescriptor>Physical</AddressTypeDescriptor><StreetNumberName>1120 Avenue</StreetNumberName><City>Aurora</EarlyRoster>
```

```
</EarlyRosterGroup>
```

# Microsoft XML Notepad

- For Windows users
- Exposes raw XML file for review
- Allows for xml editing
- Compare tool at View>Compare XML Files



# Microsoft XML Notepad Compare Tool

Legend: added removed changed moved from moved to ignored next prev

```
File in editor : C:\Users\lszymans\Desktop\MPAAA F23_Bay
City\XML\msdsGeneral70000CompareFile.xml
1 <?xml version="1.0" encoding="utf-8" ?>
  <EOYGeneralCollectionGroup SchemaVersionMajor="2022-2023"
    SchemaVersionMinor="1"
    CollectionId="265"
    CollectionName="EOYGeneralCollection"
    SubmittingSystemVendor="MISD"
    SubmittingSystemName="MISDmads"
    SubmittingSystemVersion="2.2.8.1"
    xsi:noNamespaceSchemaLocation="https://cepi.state.mi.us
/MSDSXML/MSDS/2022-2023/EOYGeneralCollection2022-20231.xsd"
    xmlns:xsi="http://www.w3.org
/2001/XMLSchema-instance">
  <EOYGeneralCollection>
  <SubmittingEntity>
  <SubmittingEntityTypeCode>
    D
  </SubmittingEntityTypeCode>
  <SubmittingEntityCode>
    70000
  </SubmittingEntityCode>
</SubmittingEntity>
<PersonalCore>
  <UIC>
    1273962384
  </UIC>
  <LastName>
    Apple
  </LastName>
  <FirstName>
    Alex
  </FirstName>
  <MiddleName>
  </MiddleName>
  <DateOfBirth>
    2023-07-17
  </DateOfBirth>
  <MultipleBirthOrder>
    1
  </MultipleBirthOrder>
  </PersonalCore>
</EOYGeneralCollection>
</EOYGeneralCollectionGroup>

File to compare : C:\Users\lszymans\Desktop\MPAAA F23_Bay
City\XML\msdsGeneral70000.xml
  <?xml version="1.0" encoding="utf-8" ?>
  <EOYGeneralCollectionGroup SchemaVersionMajor="2022-2023"
    SchemaVersionMinor="1"
    CollectionId="265"
    CollectionName="EOYGeneralCollection"
    SubmittingSystemVendor="MISD"
    SubmittingSystemName="MISDmads"
    SubmittingSystemVersion="2.2.8.1"
    xsi:noNamespaceSchemaLocation="https://cepi
/MSDSXML/MSDS/2022-2023/EOYGeneralCollection2022-20231.xsd"
    xmlns:xsi="http://www.w3.org
/2001/XMLSchema-instance">
  <EOYGeneralCollection>
  <SubmittingEntity>
  <SubmittingEntityTypeCode>
    D
  </SubmittingEntityTypeCode>
  <SubmittingEntityCode>
    70000
  </SubmittingEntityCode>
</SubmittingEntity>
<PersonalCore>
  <UIC>
    1273962384
  </UIC>
  <LastName>
    Apple
  </LastName>
  <FirstName>
    Alex
  </FirstName>
  <MiddleName>
    A
  </MiddleName>
  <DateOfBirth>
    2007-07-17
  </DateOfBirth>
  <MultipleBirthOrder>
    1
  </MultipleBirthOrder>
  </PersonalCore>
</EOYGeneralCollection>
</EOYGeneralCollectionGroup>
```

# XML Tools

## ✓ NotePad++

- Exposes raw XML file for review
- Can set to pretty-print (Plugins>XML tools)
- Can use compare tools (Plugins>Compare)
- Allows for xml editing
- Free-ware

```
<SubmittingEntity><SubmittingEntityTypeCode>D</SubmittingEntity>
#<PersonalCore><UIC>000000003</UIC><LastName>Smith-Jones</Last
<SchoolDemographics><OperatingDistrictNumber>63000</OperatingDist
#<PersonalDemographics><ResidentLEANumber>63000</ResidentLEANumber
<Contacts><AddressTypeDescriptor>Physical</AddressTypeDescriptor>
- </EarlyRoster>CRIB
```

```
18
19
20
21
22
23
```

```
<SubmittingEntity><SubmittingEntityTypeCode>D</SubmittingEntity>
#<PersonalCore><UIC>000000003</UIC><LastName>Smith</LastName><Fi
<SchoolDemographics><OperatingDistrictNumber>63000</OperatingDis
#<PersonalDemographics><ResidentLEANumber>63000</ResidentLEANumber
<Contacts><AddressTypeDescriptor>Physical</AddressTypeDescriptor
- </EarlyRoster>CRIB
```

# XML Tools

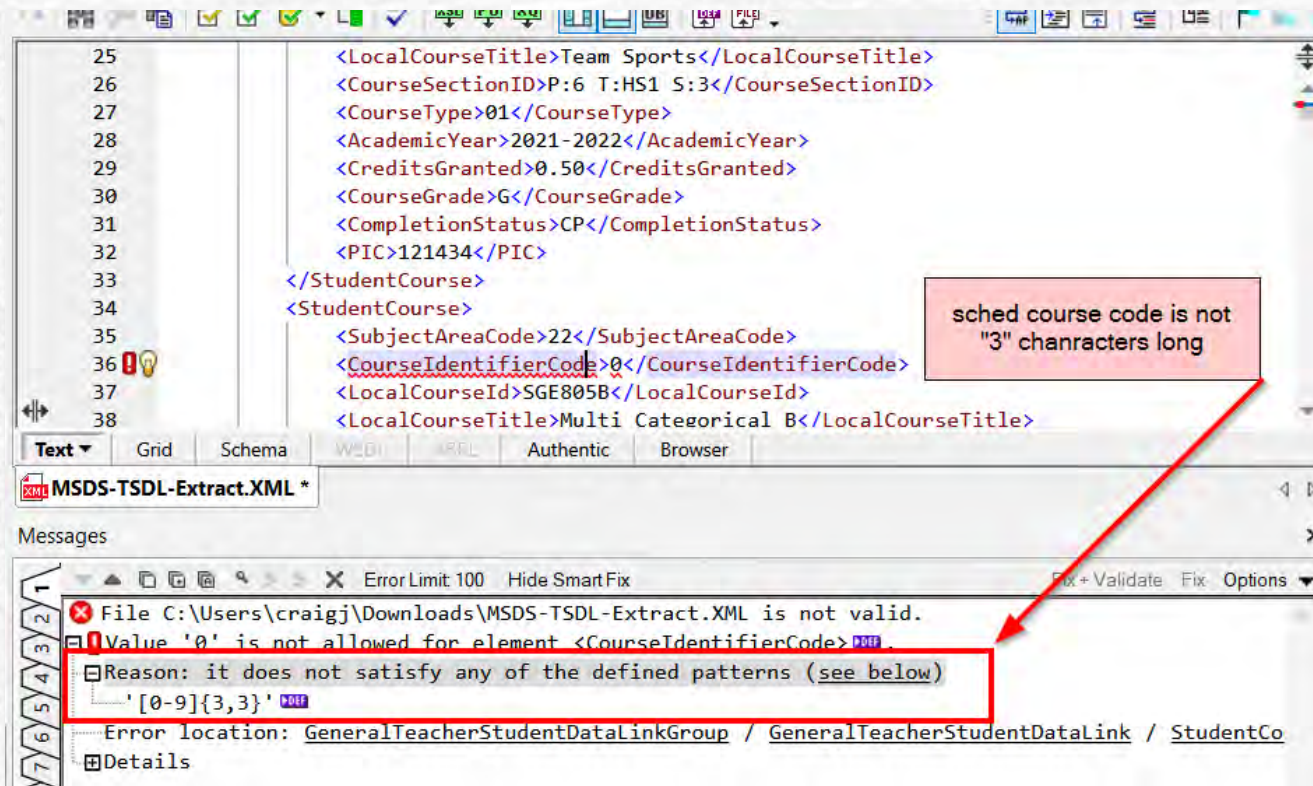
- ✓ NotePad++
  - Compare Tools (Plugins>Compare)

```
133 <ElectronicMailAddress>dad@email.cc ^
134 </Contacts>
135 <Enrollment>
136 <EnrollmentDate>2022-10-19</Enrollr
137 <ExitStatus>19</ExitStatus>
138 </Enrollment>
139 <Membership>
140 <StudentResidency>14</StudentReside
141 </Membership>
142 <GeneralEducationFTE>
143 <GeneralEdFTE>0.00</GeneralEdFTE>
144 </GeneralEducationFTE>
145
146
147
148
149 <SpecialEducation>
150 <PrimaryDisability>06</PrimaryDisak
151 <IEPDate>2022-04-19</IEPDate>
152 <TypeofPlan>02</TypeofPlan>
153 <SupportServices>310</SupportServic
154 <SupportServices>440</SupportServic
155 <ProgramServiceCode>140</ProgramSa
```

```
133 <ElectronicMailAddress>dad@email.cc ^
134 </Contacts>
135 <Enrollment>
136 <EnrollmentDate>2022-10-19</Enrollr
137 <ExitStatus>19</ExitStatus>
138 </Enrollment>
139 <Membership>
140 <StudentResidency>14</StudentReside
141 </Membership>
142 <GeneralEducationFTE>
143 <GeneralEdFTE>0.00</GeneralEdFTE>
144 </GeneralEducationFTE>
145 <HomelessDemographics>
146 <Homeless>13</Homeless>
147 <UnaccompaniedYouth>>false</Unaccomp
148 </HomelessDemographics>
149 <SpecialEducation>
150 <PrimaryDisability>06</PrimaryDisak
151 <IEPDate>2022-04-19</IEPDate>
152 <TypeofPlan>02</TypeofPlan>
153 <SupportServices>310</SupportServic
154 <SupportServices>440</SupportServic
155 <ProgramServiceCode>140</ProgramSa
```

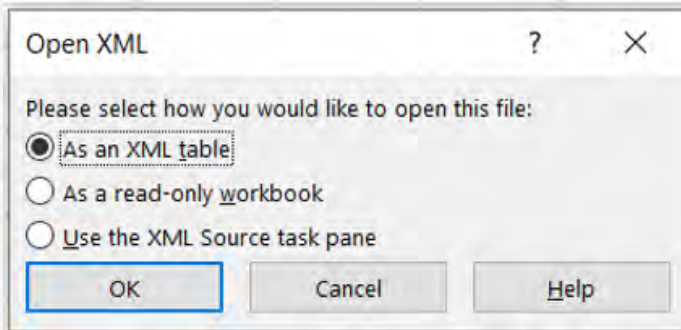
# XML Tools

- ✓ Fee Based XML Editors (too many to list - \$\$)
  - In this example, Altova XML Spy allows validation, editing



# XML Tools

- ✓ Excel (older versions) – Open As Table – imports all

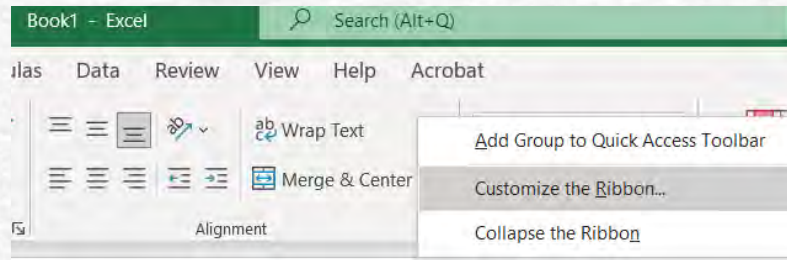


	A	B	C	D	E	F	G	H	
1	SchemaVersionMajor	SchemaVersionMinor	CollectionId	CollectionName	SubmittingSystemVendor	SubmittingSystemName	SubmittingSystemVersion	SubmittingEntityTypeCode	Submitti
2	2022-2023	1	251	EarlyRoster	MISTARQ	MISTAR	1.0	D	63000
3	2022-2023	1	251	EarlyRoster	MISTARQ	MISTAR	1.0	D	63000
4	2022-2023	1	251	EarlyRoster	MISTARQ	MISTAR	1.0	D	63000
5									

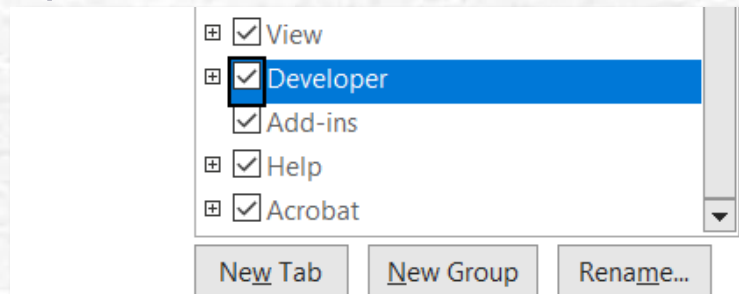
- Data Are displayed in row/column format

# XML Tools

- ✓ Newer Version of Excel - Developer > Import
  - Ensure developer menu options is available
  - Right click on ribbon - click Customize the Ribbon



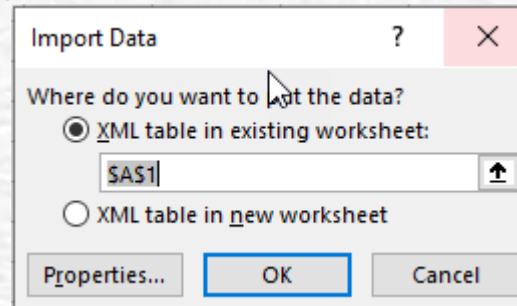
- Click "Developer" to enable



# XML Tools

- ✓ Newer Version of Excel - Open As Table
- ✓ Developer > Import

- Developer > Import

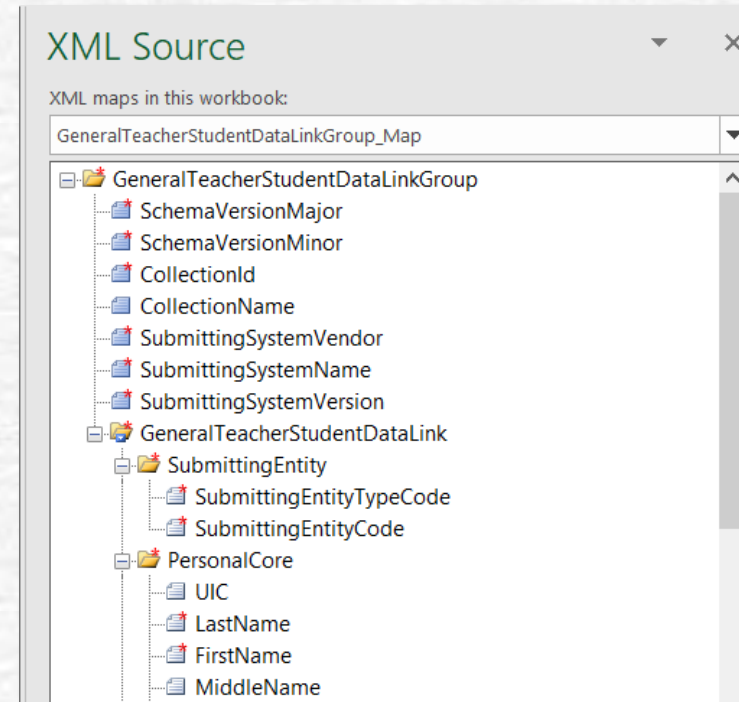


- Select OK

# XML Tools

## ✓ Excel – Open with Source Pane

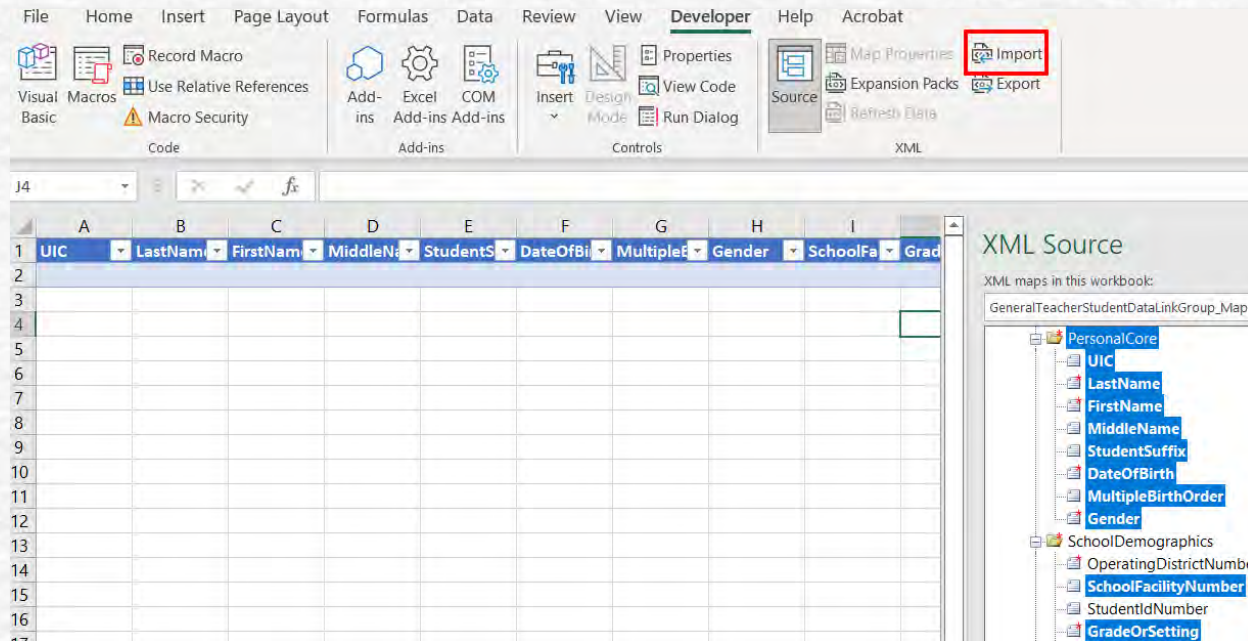
- Need to ensure “Rules” are in place before we start
- Ensure collection schema is downloaded from CEPI website
- Click Developer>Source (opens XML Source Pane)
- Click XML Maps
- Click “Add” to navigate to saved schema location, then OK
- Fields available in Collection are made available in the XML source Pane



# XML Tools

## ✓ Excel – Open with Source Pane

- Rules are loaded, time to import
- Highlight fields to review
- Click and Drag fields from source pane to spreadsheet
- Click Import; select XML file to import



# XML Tools

## ✓ Excel – Open with Source Pane

- Highlighted fields are imported for review and DQ

	A	B	C	D	E	F	G	H	I	J
1	UIC	LastName	FirstName	Middle	StudentSuffix	DateOfBirth	MultipleBirthOrder	Gender	SchoolFacilityNumber	G
2	0000000001	Smith	June	A		10/14/1999		M	55555	-
3	0000000002	Jones	John	A		5/29/2003		M	55555	12
4	0000000003	Doe	Sue	A		6/25/2004		M	55555	12
5	0000000004	Smith	Betty	A		8/29/1999		F	55555	14
6	0000000005	Jones	June	A		10/5/2003		M	55555	12
7	0000000006	Doe	John	A		6/7/2004		M	55555	12
8	0000000007	Smith	Sue	A		12/25/2002		F	55555	12
9	0000000008	Jones	Betty	A		10/6/2003		M	55555	12
10	0000000009	Doe	June	A		8/8/2003		M	55555	12
11	0000000010	Smith	John	A		1/1/2004		F	02034	12

# XML Tools

## ✓ Ablebits Program

- Tool that will merge duplicates in an XML file to one row of data in Excel
- Contains other valuable tools for Excel and Google Sheets (Vlookup wizard, Date & Time wizard, Duplicate Remover, etc.)
- Options from \$70-\$300, one time fee

<https://www.ablebits.com/>

# Q & A?

✓ Now that everyone has **X**cellent **M**ad **S**ki**L**iz... 😊

- Final thoughts?
- Questions?