

# EQR Validation with XSD

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# What is Xsd

- Describes the structure of an XML document
- **X**ML **S**chema **D**efinition
- Defines
  - Elements
  - Attributes
  - Datatypes for elements and attributes
  - Default and fixed values
  - Child elements
    - Order
    - Magnitude
    - Quantity
  - Empty/Non-empty elements

# What is Xml

- Extensible Markup Language

# XSD Sample

## XML Schema Example

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="note">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="to" type="xs:string"/>
      <xs:element name="from" type="xs:string"/>
      <xs:element name="heading" type="xs:string"/>
      <xs:element name="body" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
```

# XML Sample

## XML Document Example

```
<?xml version="1.0"?>
<note>
  <to>Tove</to>
  <from>Jani</from>
  <heading>Reminder</heading>
  <body>Don't forget me this weekend!</body>
</note>
```

# What is Schema Validation

- Compares XML data to the XSD
- XSD is a data contract
  - Specifies structure
  - Specifies data types
  - Specifies limits
  - Specifies order/arrangement
- Xml is the actual data
  - Must conform to structure
  - Must use correct datatypes
  - Must remain within limits
  - Must be ordered/arranged

# How is Schema Validation Done

```
//Create a validating XML reader and validate...
```

```
XmlParserContext context = new XmlParserContext( null, null, "", XmlSpace.None );  
XmlValidatingReader vr = new XmlValidatingReader(eqrXmlString ,  
                                                XmlNodeType.Element, context );  
vr.ValidationType = ValidationType.Schema;  
vr.Schemas.Add( "", "c:\Eqr_Q1 20XX.xsd" );  
vr.ValidationEventHandler += new  
ValidationEventHandler( this.ValidationEventHandle );  
while ( vr.Read() ) { }
```

```
//Now deserialize.
```

```
eqrFileObject = ( Filing )( new XmlSerializer(  
    typeof(Filing ) ).Deserialize(new StringReader( eqrXmlString ) );
```



# Questions

- Email Questions to
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  - Subject line: Eqr Redesign