DEFINE A SCHEMA

- **Root element:** `<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" targetNamespace="https://www.w3schools.com" xmlns="https://www.w3schools.com" elementFormDefault="qualified"></xs:schema>`
    - **xmlns:xs:** Indicates where the elements and data types used come from (and that we should use **xs** to recall it)
    - **targetNamespace:** Indicates from what namespace the elements defined by this schema come
    - **xmlns:** Indicates the default namespace
    - **elementFormDefault:** This applies the namespace to all the elements
- **Element:** `<xs:element name="lastname" type="xs:string"/>`
    - **xs:element:** Indicates that we are declaring an element
    - **name:** Element's name
    - **type:** Type of the element (notice the reference to the namespace). Most common https://www.w3schools.com/xml/schema_simple.asp
    - **default:** Another possible attribute if we want to give a default value
    - **fixed:** Another attribute to give a fixed value

Elements can be **simple types** (no other elements inside, wrap attributes in node `<xs:simpleType></xs:simpleType>`) or **complex types** (there are other elements inside, wrap elements in `<xs:complexType></xs:complexType>`).

- **Attribute:** `<xs:attribute name="lang" type="xs:string" default="EN"/>`
    - **xs:attribute:** Declaring an attribute
    - **name:** Attribute's name
    - **type:** Attribute's type
    - **default:** Define default value
    - **fixed:** Define fixed value
    - **use:** Another attribute to define it **required** or **optional**

REFERENCING

Here's an example of reference in an element of an XML file

```
<note xmlns="https://www.w3schools.com"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://www.w3schools.com note.xsd">
```

- **xmlns:** Default namespace declaration
- **xmlns:xsi:** XML Schema Instance namespace
- **xsi:schemaLocation:** It has two attributes separated by a space, the first is the namespace, the second is the location of the schema

EXAMPLE

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

	<xs:element name="note">
		<xs:complexType>
			<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:attribute name="lang" type="xs:string" default="EN"/>
			</xs:element>
		</xs:complexType>
	</xs:element>

</xs:schema>
```