

XSD String Data Types

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String data types are used for values that contains character strings.

String Data Type

The string data type can contain characters, line feeds, carriage returns, and tab characters.

The following is an example of a string declaration in a schema:

```
<xs:element name="customer" type="xs:string"/>
```

An element in your document might look like this:

```
<customer>John Smith</customer>
```

Or it might look like this:

```
<customer>      John Smith      </customer>
```

NormalizedString Data Type

The `normalizedString` data type is derived from the `String` data type.

The `normalizedString` data type also contains characters, but the XML processor will remove line feeds, carriage returns, and tab characters.

The following is an example of a `normalizedString` declaration in a schema:

```
<xs:element name="customer" type="xs:normalizedString"/>
```

An element in your document might look like this:

```
<customer>John Smith</customer>
```

Or it might look like this:

```
<customer>    John Smith    </customer>
```

Note: In the example above the XML processor will replace the tabs with spaces.

The token data type is also derived from the String data type.

The token data type also contains characters, but the XML processor will remove line feeds, carriage returns, tabs, leading and trailing spaces, and multiple spaces.

The following is an example of a token declaration in a schema:

```
<xs:element name="customer" type="xs:token"/>
```

An element in your document might look like this:

```
<customer>John Smith</customer>
```

Or it might look like this:

```
<customer>    John Smith    </customer>
```

Note: In the example above the XML processor will remove the tabs.

String Data Types

Note that all of the data types below derive from the String data type (except for string itself)!

Name	Description
ENTITIES	
ENTITY	
ID	A string that represents the ID attribute in XML (only used with schema attributes)

language	A string that contains a valid language id
Name	A string that contains a valid XML name
NCName	
NMTOKEN	A string that represents the NMTOKEN attribute in XML (only used with schema attributes)
NMTOKENS	
normalizedString	A string that does not contain line feeds, carriage returns, or tabs
QName	
string	A string
token	A string that does not contain line feeds, carriage returns, tabs, leading or trailing spaces, or multiple spaces

Restrictions on String Data Types

Restrictions that can be used with String data types:

- enumeration
- length
- maxLength
- minLength
- pattern (NMTOKENS, IDREFS, and ENTITIES cannot use this constraint)
- whiteSpace

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