

XSD DATE & TIME DATA TYPES

Overview

Date and Time data types are used to represent date and time in the XML documents.

<xs:date> data type

The `<xs:date>` data type is used to represent date in YYYY-MM-DD format. Each component is required.

- **YYYY**- represents year
- **MM**- represents month
- **DD**- represents day

<xs:date> Example

Element declaration in xsd

```
<xs:element name="birthdate" type="xs:date"/>
```

Element usage in xml

```
<birthdate>1980-03-23</birthdate>
```

<xs:time> data type

The `<xs:time>` data type is used to represent time in hh:mm:ss format. Each component is required.

- **hh**- represents hours
- **mm**- represents minutes
- **ss**- represents seconds

<xs:time> Example

Element declaration in xsd

```
<xs:element name="startTime" type="xs:time"/>
```

Element usage in xml

```
<startTime>10:20:15</startTime>
```

<xs:datetime> data type

The `<xs:datetime>` data type is used to represent date and time in YYYY-MM-DDThh:mm:ss format. Each component is required.

- **YYYY**- represents year
- **MM**- represents month
- **DD**- represents day
- **T**- represents start of time section

- **hh**- represents hours
- **mm**- represents minutes
- **ss**- represents seconds

<xs:datetime> Example

Element declaration in xsd

```
<xs:element name="startTime" type="xs:datetime"/>
```

Element usage in xml

```
<startTime>1980-03-23T10:20:15</startTime>
```

<xs:duration> data type

The <xs:duration> data type is used to represent time interval in PnYnMnDTnHnMnS format. Each component is optional except P.

- **P**- represents year
- **nY**- represents month
- **nM**- represents day
- **nD**- represents day
- **T**- represents start of time section
- **nH**- represents hours
- **nM**- represents minutes
- **nS**- represents seconds

<xs:duration> Example

Element declaration in xsd

```
<xs:element name="period" type="xs:duration"/>
```

Element usage in xml to represent period of 6 years, 3 months, 10 days and 15 hours.

```
<period>P6Y3M10DT15H</period>
```

Date Data Types

Following is the list of commonly used date data types .

S.N.	Name & Description
1	date Represents a date value
2	dateTime Represents a date and time value
3	duration Represents a time interval
4	gDay

	Represents a part of a date as the day <i>DD</i>
5	gMonth Represents a part of a date as the month <i>MM</i>
6	gMonthDay Represents a part of a date as the month and day <i>MM – DD</i>
7	gYear Represents a part of a date as the year <i>YYYY</i>
8	gYearMonth Represents a part of a date as the year and month <i>YYYY – MM</i>
9	time Represents a time value

Restrictions

Following types of restrictions can be used with Date data types:

- enumeration
- maxExclusive
- maxInclusive
- minExclusive
- minInclusive
- pattern
- ~~whiteSpace~~

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