

XSD Date and Time Data Types

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Date and time data types are used for values that contain date and time.

Date Data Type

The date data type is used to specify a date.

The date is specified in the following form "YYYY-MM-DD" where:

- YYYY indicates the year
- MM indicates the month
- DD indicates the day

Note: All components are required!

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

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

An element in your document might look like this:

```
<start>2002-09-24</start>
```

behind the date - like this:

```
<start>2002-09-24Z</start>
```

or you can specify an offset from the UTC time by adding a positive or negative time behind the date - like this:

```
<start>2002-09-24-06:00</start>
```

or

```
<start>2002-09-24+06:00</start>
```



Time Data Type

The time data type is used to specify a time.

The time is specified in the following form "hh:mm:ss" where:

- hh indicates the hour
- mm indicates the minute
- ss indicates the second

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

An element in your document might look like this:

```
<start>09:00:00</start>
```

Or it might look like this:

```
<start>09:30:10.5</start>
```

Time Zones

To specify a time zone, you can either enter a time in UTC time by adding a "Z" behind the time - like this:

```
<start>09:30:10Z</start>
```

or you can specify an offset from the UTC time by adding a positive or negative time behind the time - like this:

```
<start>09:30:10-06:00</start>
```

or

```
<start>09:30:10+06:00</start>
```

The dateTime is specified in the following form "YYYY-MM-DDThh:mm:ss" where:

- YYYY indicates the year
- MM indicates the month
- DD indicates the day
- T indicates the start of the required time section
- hh indicates the hour
- mm indicates the minute
- ss indicates the second

Note: All components are required!

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

```
<xs:element name="startdate" type="xs:dateTime"/>
```

An element in your document might look like this:

```
<startdate>2002-05-30T09:00:00</startdate>
```

Or it might look like this:

```
<startdate>2002-05-30T09:30:10.5</startdate>
```

Time Zones

To specify a time zone, you can either enter a dateTime in UTC time by adding a "Z" behind the time - like this:

```
<startdate>2002-05-30T09:30:10Z</startdate>
```

```
<startdate>2002-05-30T09:30:10-06:00</startdate>
```

or

```
<startdate>2002-05-30T09:30:10+06:00</startdate>
```

Duration Data Type

The duration data type is used to specify a time interval.

The time interval is specified in the following form "PnYnMnDTnHnMnS" where:

- P indicates the period (required)
- nY indicates the number of years
- nM indicates the number of months
- nD indicates the number of days
- T indicates the start of a time section (required if you are going to specify hours, minutes, or seconds)
- nH indicates the number of hours
- nM indicates the number of minutes
- nS indicates the number of seconds

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

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

An element in your document might look like this:

```
<period>P5Y</period>
```

The example above indicates a period of five years.

Or it might look like this:

The example above indicates a period of five years, two months, and 10 days.

Or it might look like this:

```
<period>P5Y2M10DT15H</period>
```

The example above indicates a period of five years, two months, 10 days, and 15 hours.

Or it might look like this:

```
<period>PT15H</period>
```

The example above indicates a period of 15 hours.

Negative Duration

To specify a negative duration, enter a minus sign before the P:

```
<period>-P10D</period>
```

The example above indicates a period of minus 10 days.

Date and Time Data Types

Name	Description
date	Defines a date value
dateTime	Defines a date and time value

gMonth	Defines a part of a date - the month (MM)
gMonthDay	Defines a part of a date - the month and day (MM-DD)
gYear	Defines a part of a date - the year (YYYY)
gYearMonth	Defines a part of a date - the year and month (YYYY-MM)
time	Defines a time value

Restrictions on Date Data Types

Restrictions that can be used with Date data types:

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

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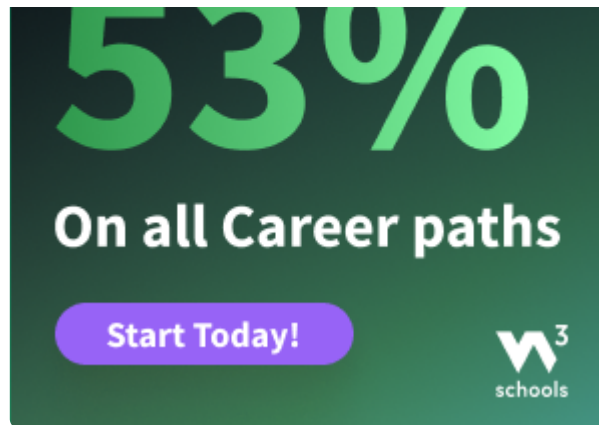
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