

Exercise 3: Create an XML file

In this exercise, you will create an XML file. Refer to Lecture 3 for tools that you can use to do this. For this exercise, you will create XML that captures weather forecast data, much like what you documented in Exercise 2 for JSON.

Step 1: One day's forecast.

First, you'll need to create an object for one day's forecast. The very first line needs to indicate that the file is XML. Use this for your first line:

```
<?xml version="1.0" ?>
```

The top level element will be called `dailyForecast`, so let's create an opening and ending tag for it:

```
<?xml version="1.0" ?>
<dailyForecast>

</dailyForecast>
```

Inside the `dailyForecast` element, let's add an element called `"date"`. Its value will be `2015-06-01`.

```
<?xml version="1.0" ?>
<dailyForecast>
  <date>2015-06-01</date>
</dailyForecast>
```

Next, add a `description` element with content of `"sunny"`. It will look like this:

```
<?xml version="1.0" ?>
<dailyForecast>
  <date>2015-06-01</date>
  <description>sunny</description>
</dailyForecast>
```

Now, add a `maxTemp` element for the high temperature forecast for that day. We can use an attribute called `"unit"` with a value of `"C"` to say that it's in degrees Celsius. Have the maximum temperature be 22.

```
<?xml version="1.0" ?>
<dailyForecast>
  <date>2015-06-01</date>
  <description>sunny</description>
  <maxTemp unit="C">22</maxTemp>
</dailyForecast>
```

Now add a "minTemp" element with a unit attribute of "C" and content of 20, and a "windSpeed" element with a unit attribute of "kph" and a value of 12. (This will indicate that the wind speed is in kilometers per hour.) Finally, add an element called "danger" with content of false. (You can imagine that software will check this value, and if danger is true, then it will pop up a special alert.)

Take your finished XML and paste it into a XML formatter at:

<http://www.freeformatter.com/xml-formatter.html>.

This will validate that the XML is the correct syntax and if it is, then it will show you what your XML will look like when nicely formatted.

Finally, compare your XML to what I came up with at: <http://sdkbridge.com/ud/oneday.xml>. Note that your browser may format the XML and not show you the very first line.

Step 2: Three-day forecast

The next step is to create XML for a three-day forecast. Create a new file with the same first line, and then a top level element called "forecast". It should look like this:

```
<?xml version="1.0" ?>
<forecast>

</forecast>
```

Copy and paste your Monday forecast into the array. Indent it properly (either with the XML formatter, or by hand.)

```
<?xml version="1.0" ?>
<forecast>
  <dailyForecast>
    ...
  </dailyForecast>
</forecast>
```

(Where the ... is, you will have the rest of your Step 1 XML file. But not the first line, since you already have that one.)

Now, copy the dailyForecast element and paste it below so that you have a second one.

```
<?xml version="1.0" ?>
<forecast>
  <dailyForecast>
    ...
  </dailyForecast>
  <dailyForecast>
    ...
  </dailyForecast>
</forecast>
```

Change the values on the second element so that the date is 2015-06-02, the description is "windy", the wind speed is 40, and danger is true.

Finally, add a third object in the array for the next day. But let's say that we were unable to get the forecast, so the element is empty. See if you can remember how to do the shortcut that shows the element is empty without having to use an end tag.

Again, validate and format your XML (<http://www.freeformatter.com/xml-formatter.html>).

Finally (and don't peek until you've really tried to figure it out), compare it to mine:

<http://sdkbridge.com/ud/threeday.xml>

Again, your browser may format the XML and not show you the very first line.