Practical 02 - Build xml file for IPA Courses

Objectives:

- To produce a valid XML file, based on the scenario below.

Scenario:

- There are courses run by the IPA.
- Each course has a name, and occurs at a particular time of day (morning, afternoon or evening).
- Each course has a Lecturer, and some Students.
- Each Lecturer has a firstname, surname and staff title.
- Each Student has a firstname, surname and student number.

Instructions:

1. Sign on to the VM and launch the Eclipse JEE IDE (see instructions in Practical 01)
2. Wait for Eclipse to start and the desktop to open – if the "Welcome" appears, close it.
3. Create a new project "Practical 02":
    3.1. In Eclipse, select: "File" | "New" | "Project..."
    3.2. In the "New Project" | "Select a wizard" dialogue:
        3.2.1. Locate and open the "General" folder.
        3.2.2. Locate and select the "Project" item.
        3.2.3. Click "Next"
4. In the "New Project" | "Project" dialogue:
    4.1. Enter a "Project name:" of "Practical 02"
    4.2. Click "Finish"
5. In the "Project Explorer" window, note that the new Project has been created
6. Create a new folder within the project:
    6.1. In Eclipse, locate the "Project Explorer" window.
    6.2. In the "Project Explorer" window, locate the "Practical 02" project.
    6.3. Right-click in the "Practical 02" project.
    6.4. Select "New" then "Folder"
    6.5. In the "New Folder" | "Folder" dialogue:
        6.5.1. Check that the "parent folder" is the "Practical 02" project, and enter a "Folder name:" of "xml files"
        6.5.2. Click "Finish"
    6.6. In the "Project Explorer" window, note that the new folder has been created under the project.
7. Create a new, blank .xml file

7.1. Right-click on the "xml files" folder.

7.2. Select "New" then "Other"

7.3. In the "New" | "Select a wizard" dialogue:

7.4. Locate and open the "XML" folder, then in that folder, locate and select the "XML File" item.

7.5. Click Next.

7.6. In the "New XML File" dialogue:

7.6.1. Check that the "parent folder" is the "xml files" folder within the "Practical 02" project.

7.6.2. Set a file name of "<username>_practical_02.xml"

7.6.3. Click Next.

7.7. In the "New XML File" | "Create XML File from" dialogue:

7.7.1. Select "Create XML file from an XML template"

7.7.2. Click Next.

7.8. In the "New XML File" | "Select XML Template" dialogue:

7.9. Note that only the default "xml declaration" template is available.

7.10.   Click Finish

8. Note that the new .xml file has been created in the folder under the project, and has been opened in the Edit window..

9. Explore the "Design" and "Source" views of the .xml file:

9.1. Note the two tabs in the .xml edit window, "Design" and "Source".

9.2. Select the Source View

9.2.1. In the Source view, notice that the XML header is present (this was inherited from the default xml declaration template when we created the file), but the .xml file is otherwise empty.

9.3. Select the Design View

9.3.1. In the design view, notice how this reflects the contents of the source view

10. Add the root element to the .xml file using the design view.

10.1.   Select the Design View

10.2.   In the design view, identify the "?=? xml" item

10.3.   Right click the "?=? xml" item, select "Add After", then select "New Element"

10.4.   In the "New Element" dialogue, set the element name to "course", and click OK

10.5.   Save changes to date (select "File" then "Save")

11. Add the "time of day" attribute to the course using the Source View

11.1.   Select the Source View

11.2.   In the design view, identify the start and end tag of the "course" item

11.3.   Between the two tags, add a further attribute (type it in, character by character) as follows: <course_time_of_day>

11.4.   Note how the editor auto-completes the closing tag.

11.5.   Set the value to "Evening".

11.6.   Right click and empty area of the document, then select "Source..." then "Clean-up Document"

     11.7.   Note how the editor flows the document to make it more readable.

     11.8.   Select the Design View again, notice how it now reflects the attribute we added above.

     11.9.   Save changes to date (select "File" then "Save"

12. Add the "name" attribute to the course using the Design View

     12.1.   Select the Design View

     12.2.   In the design view, identify the "course" item

     12.3.   Right click the "course" item, select "Add Attribute", then select "New Attribute"

     12.4.   In the "New Attribute" dialogue

        12.4.1. Set the attribute name to "course_name"

        12.4.2. Set the attribute name to "COMP41530"

        12.4.3. Click OK

     12.5.   Select the Source View again, and notice how it now reflects the attribute we added above.

     12.6.   Save changes to date (select "File" then "Save")

13. Add the "Lecturer" element using the Design View

     13.1.   Select the Design View

     13.2.   In the design view, identify the "course" item

     13.3.   Right click the "course" item, select "Add Child" then select "New Element"

     13.4.   In the "New Element" dialogue, and set the Element name to "course_lecturer"

     13.5.   Click OK

     13.6.   Save changes to date (select "File" then "Save")

14. Add the remaining elements and attributes per the scenario section above.

     14.1.   Use which ever view you feel more comfortable with.

     14.2.   Use "made up" sample data

     14.3.   Save your changes.

15. Export the .xml document

     15.1.   In the project explorer window, locate the .xml file.

     15.2.   Right click the .xml file, then select "Export"

     15.3.   In the "Export | Select" dialogue:

     15.4.   Open the "General" folder

     15.5.   Select "File System"

     15.6.   Click "Next"

     15.7.   In the "Export | File System" dialogue:

     15.8.   Set the "To directory:"

     15.9.   Click "Finish"

16. Identify the file exported file in the file system.