158.258 - Lab Practical Session - XML & XSD

The aim of this lab practical is to allow you to practice your understanding of XML documents and to validate them using XM Schema.

Scenario

Your company has been employed to capture data on plane movements per day through an airport. You first need to capture data on the airport itself. You need to record:

1. Airport name
2. City airport is in
3. Number of runways available at the airport n.b. should not be recorded as text
4. Daily passenger capacity for the airport n.b. should not be recorded as text
5. whether the airport is a regional hub. For this requirement ensure that only two possible values are allowed; either yes or no.

You will also need to capture data on the planes passing through the airport. For this requirement you will re-use an existing schema that has already been created to capture plane data.

Tasks

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1. Create a new project for this Session

2. Create an XML schema that can be used to validate XML documents that capture the required airport data. Use the XML Schema vocabulary to develop your schema. Your schema should declare a namespace for itself and ensure elements need to be qualified for validation. Write your schema using the Russian Doll design. Call this file airport.xsd. Ensure that your schema validates with no errors.

3. Produce an XML instance document and make sure that it validates against your schema. Name this file airport.xml.

4. Save a copy of airport.xsd as a new file, airportCompound.xsd.

5. Add to airportCompound.xsd such that it is now able to use objects from the supplied aircrafts.xsd schema. Further alter airportCompound.xsd schema so that it now not only describes the rules for the data regarding an airport but also can capture a listing of planes for that airport. Make it so that it is easy to distinguish between objects used from the two different schema.

6. Create an XML instance document that validates against airportCompound.xsd i.e. a document that captures both the airport data and the aircraft data. Save this document as airportCompound.xml.

7. You should now have four files: airport.xsd, airport.xml, airportCompound.xsd, and airportCompound.xml

Conclusion

Zip up your project, containing your four files, and upload to your Web site.

158.258 Web Development