

# TP 02

---

Engenharia de Dados e Conhecimento  
2016/2017

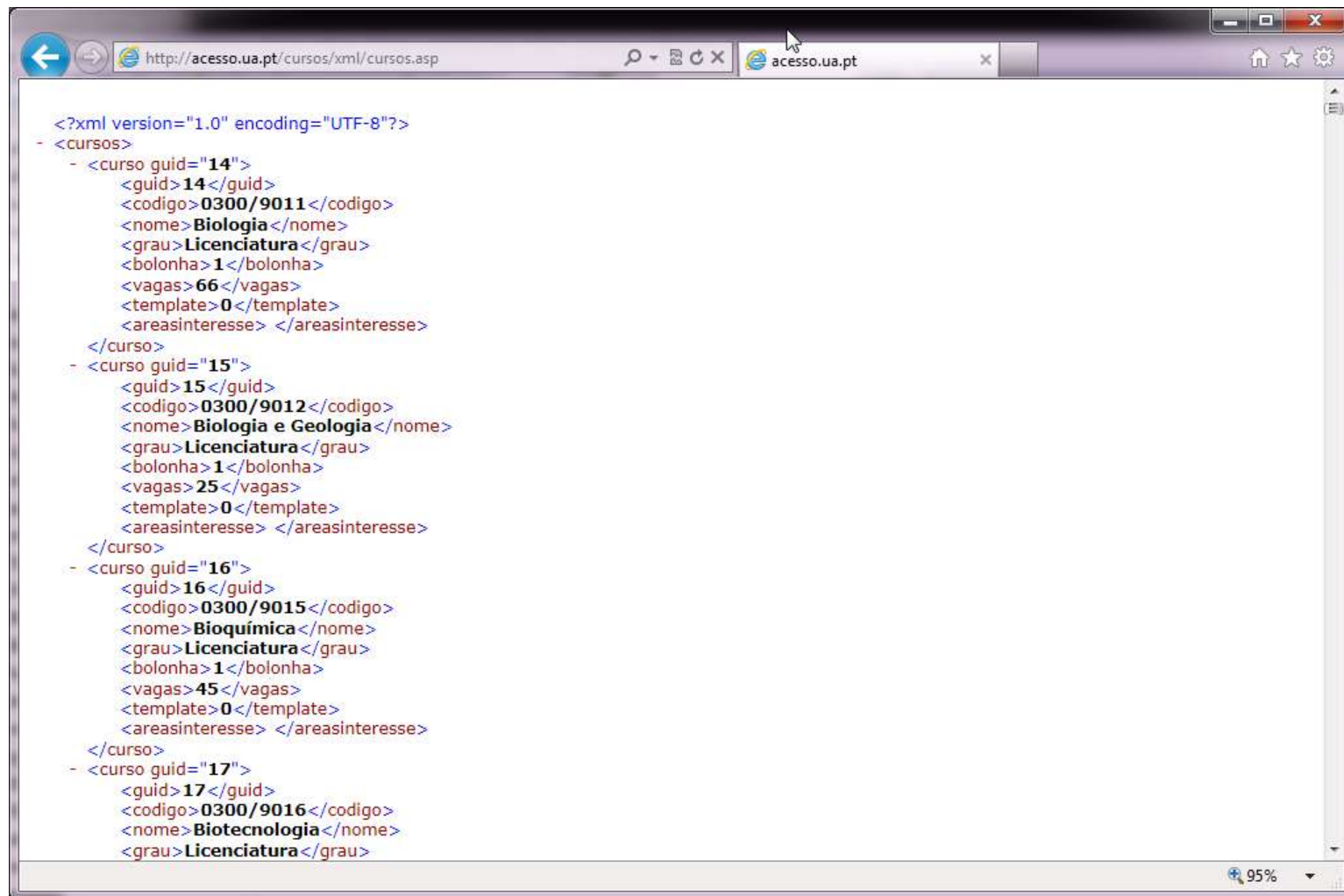
# First Part

- XML Files
  - Using
  - Validating
  - Modelling Schemas

# Exercise 1

- Download the list of courses from University of Aveiro from the address below:
  - <http://acesso.ua.pt/xml/cursos.asp>
- Save the data in a XML file named “courses.xml”
- Using concepts about XML Schema, create a XSD file which defines the logical structure of “courses.xml”

# Courses.xml

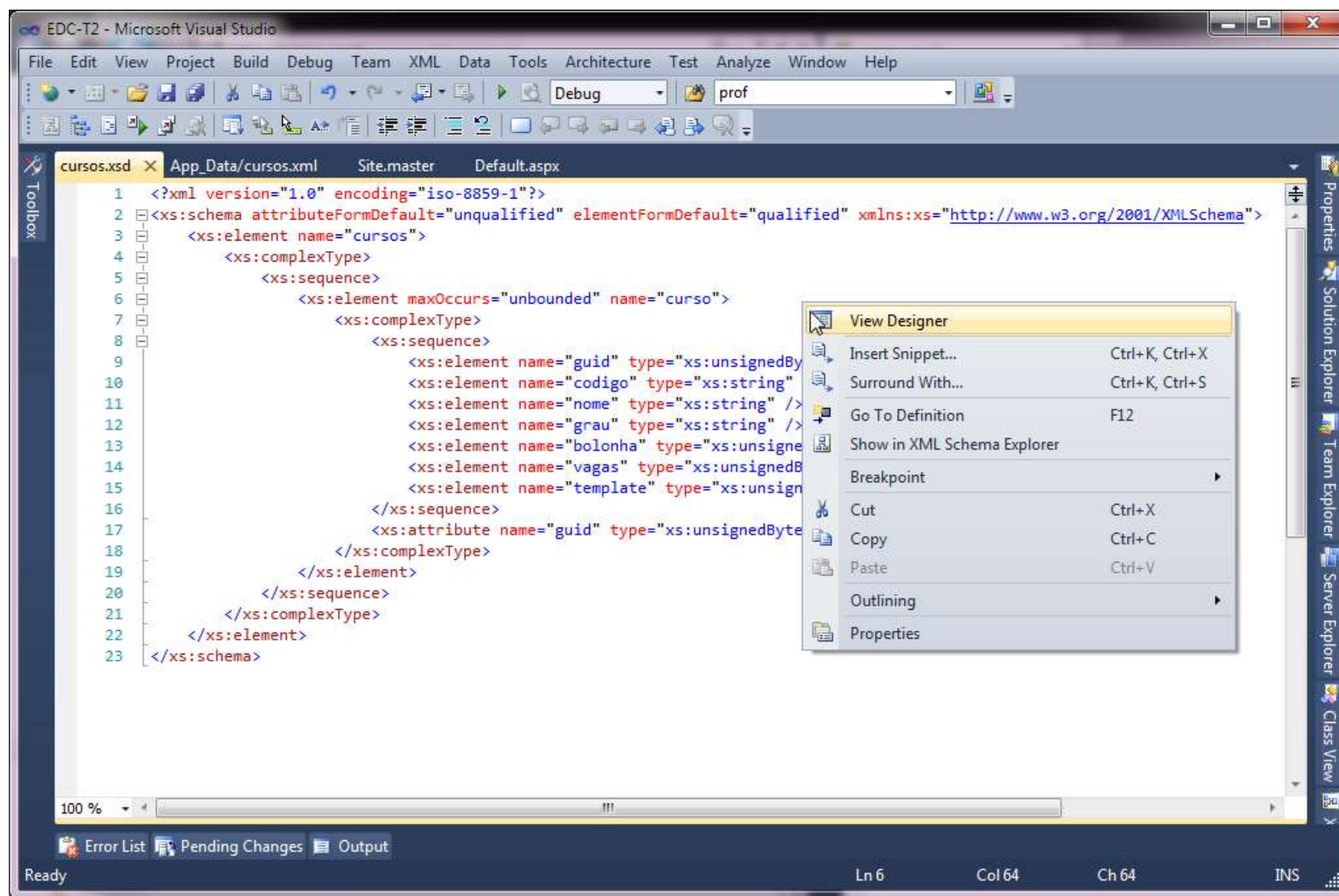


```
<?xml version="1.0" encoding="UTF-8"?>
- <cursos>
  - <curso guid="14">
    <guid>14</guid>
    <codigo>0300/9011</codigo>
    <nome>Biologia</nome>
    <grau>Licenciatura</grau>
    <bolonha>1</bolonha>
    <vagas>66</vagas>
    <template>0</template>
    <areasinteresse> </areasinteresse>
  </curso>
  - <curso guid="15">
    <guid>15</guid>
    <codigo>0300/9012</codigo>
    <nome>Biologia e Geologia</nome>
    <grau>Licenciatura</grau>
    <bolonha>1</bolonha>
    <vagas>25</vagas>
    <template>0</template>
    <areasinteresse> </areasinteresse>
  </curso>
  - <curso guid="16">
    <guid>16</guid>
    <codigo>0300/9015</codigo>
    <nome>Bioquímica</nome>
    <grau>Licenciatura</grau>
    <bolonha>1</bolonha>
    <vagas>45</vagas>
    <template>0</template>
    <areasinteresse> </areasinteresse>
  </curso>
  - <curso guid="17">
    <guid>17</guid>
    <codigo>0300/9016</codigo>
    <nome>Biotecnologia</nome>
    <grau>Licenciatura</grau>
```

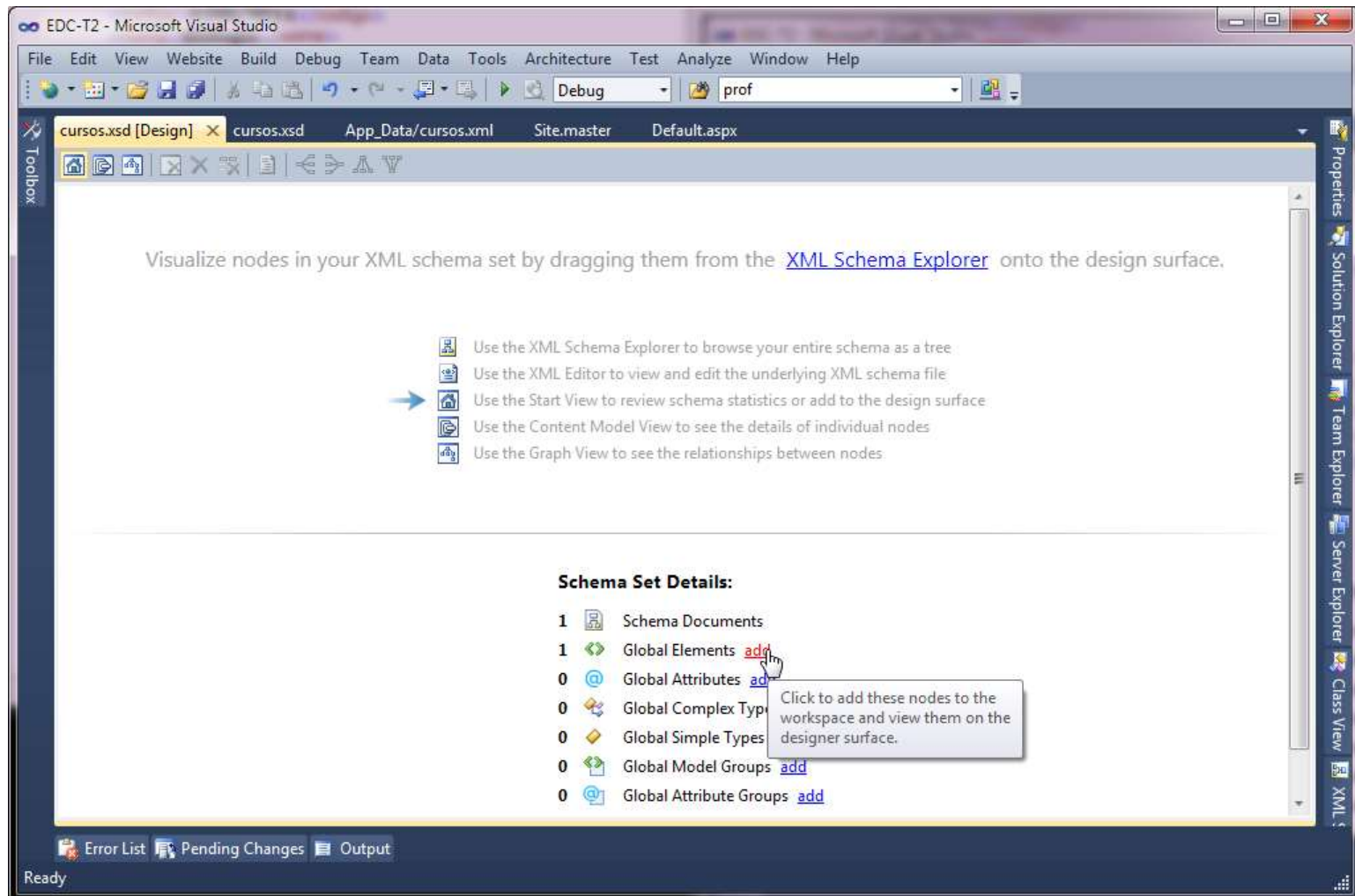
## Exercise 2

- Using Visual Studio, generate automatically the XSD file for the “Courses.xml” document
- Compare with your own design and verify the differences and if it exists inconsistencies
- Give a try to visualize the XML Schema in design view
  - Available only in Visual Studio (full version)

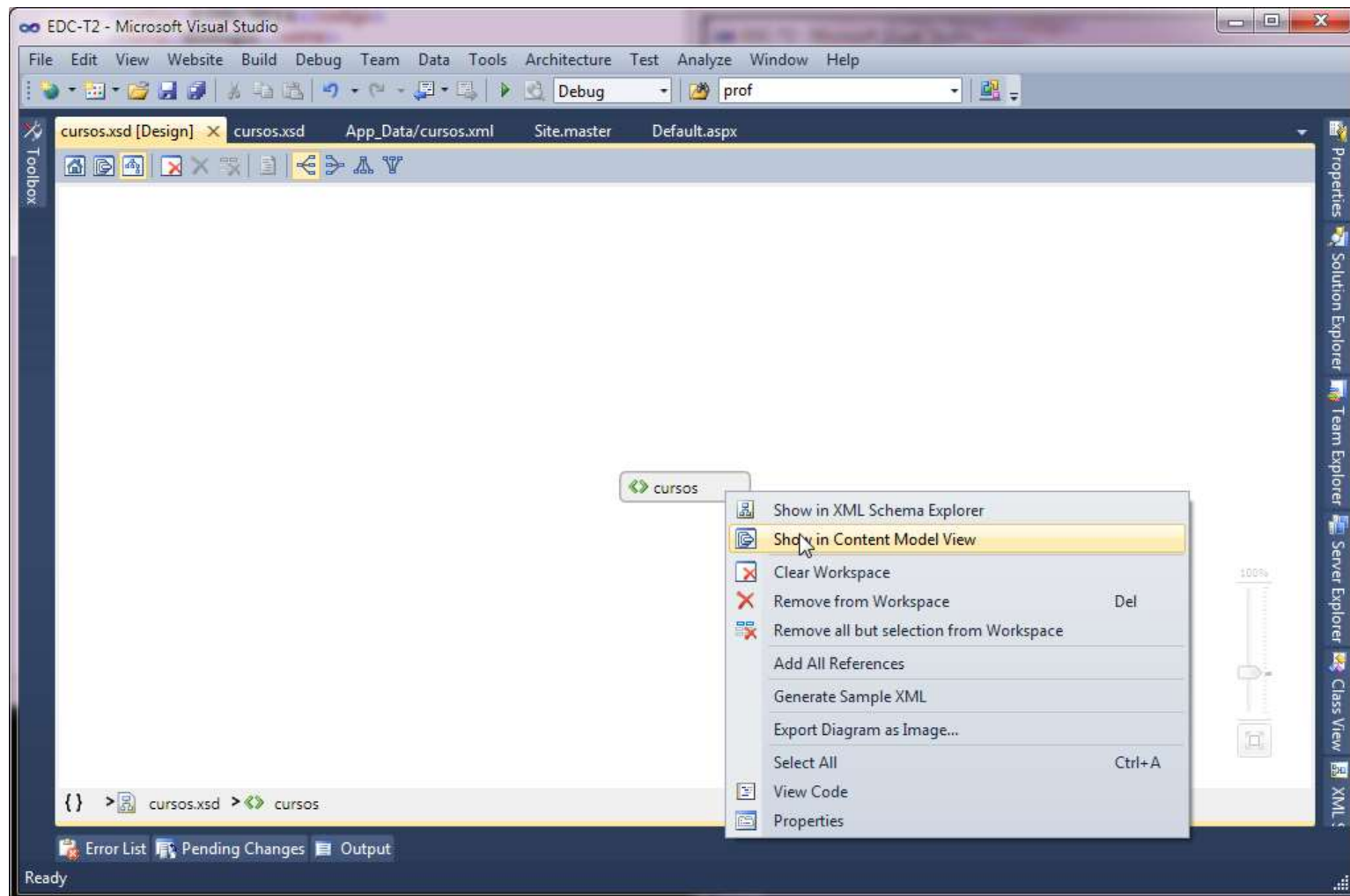
# Courses.xsd – Design



# Courses.xsd – Design (ii)

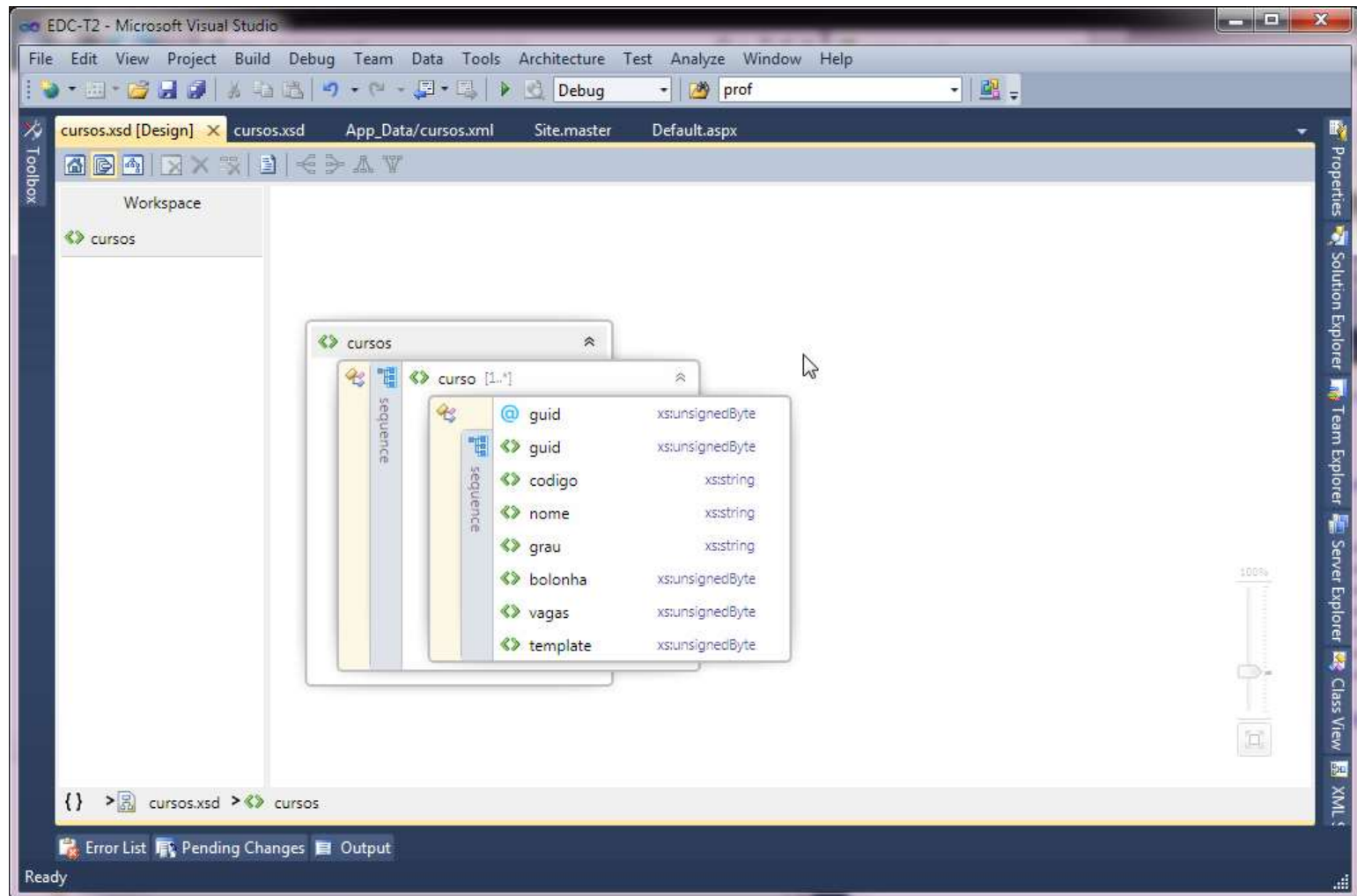


# Courses.xsd – Design (iii)





# Courses.xsd – Design (iv)



## Exercise 3

- Download the XML document, describing the course “Master in Computer and Telematics Engineering”, from the address below:
  - <http://acesso.ua.pt/xml/curso.asp?i=23>
- Save the data in a XML file named “mect.xml”
- Generate, with Visual Studio, a XML Schema for this XML document
- Validate the XML document with the created XML Schema
- Verify if this XML Schema is sufficiently generic to validate XML documents from other courses
  - To download other XML courses, use the address below to see their ID
    - <http://www.ua.pt/ensino/PageCourses.aspx>
- Recreate the XML Schema, by your own, using simple and complex types and all kind of functions present in the XML Schema standard (datatypes, restrictions, etc.)

# XML Validation

