

Scala & XML

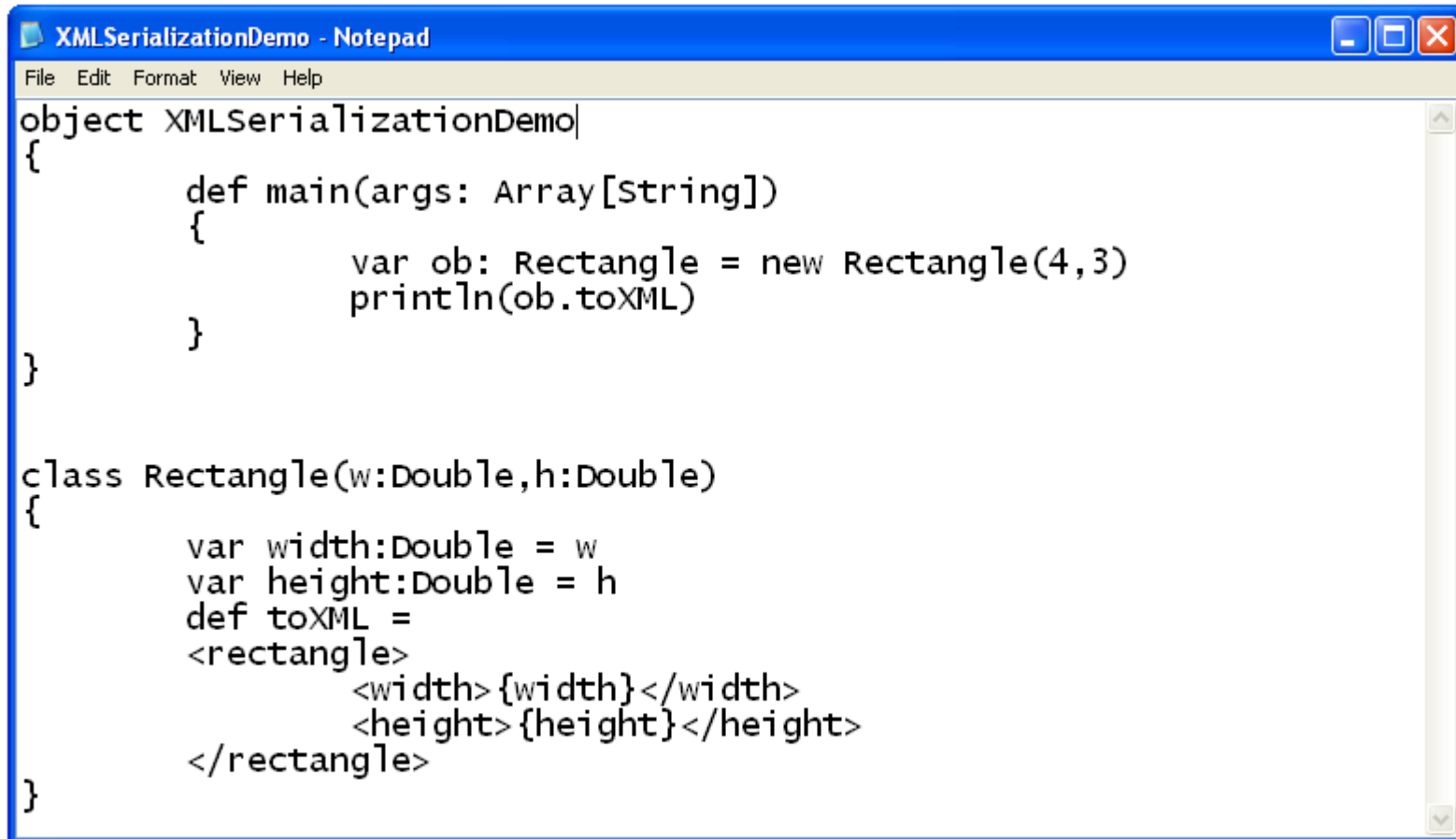
Introduction

- ❖ The Scala programming language has inner built in support for working with XML.

XML Serialization

- ❖ All we need to do in order to enable a smooth serialization of objects instantiated from our class into XML representation is defining the `toXML` method in our class.

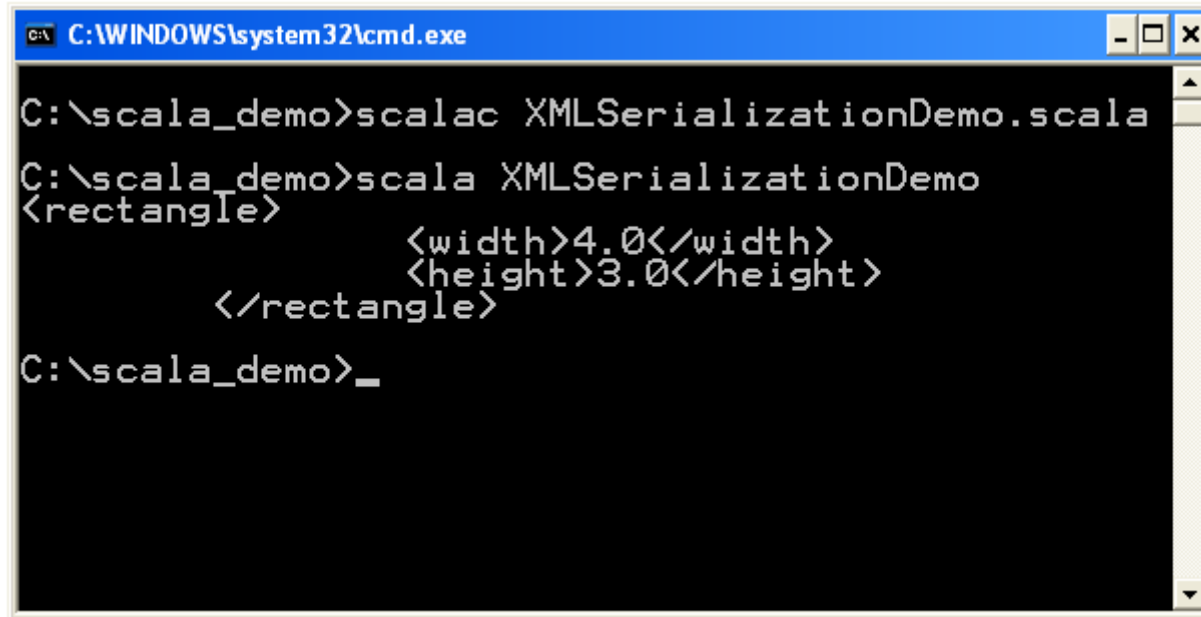
XML Serialization



```
XMLSerializationDemo - Notepad
File Edit Format View Help
object XMLSerializationDemo
{
    def main(args: Array[String])
    {
        var ob: Rectangle = new Rectangle(4,3)
        println(ob.toXML)
    }
}

class Rectangle(w:Double,h:Double)
{
    var width:Double = w
    var height:Double = h
    def toXML =
    <rectangle>
        <width>{width}</width>
        <height>{height}</height>
    </rectangle>
}
```

XML Serialization



```
C:\WINDOWS\system32\cmd.exe
C:\scala_demo>scalac XMLSerializationDemo.scala
C:\scala_demo>scala XMLSerializationDemo
<rectangle>
      <width>4.0</width>
      <height>3.0</height>
</rectangle>
C:\scala_demo>_
```

XML Generating

- ❖ We can easily auto generate new XML documents based on data we hold.

XML Generating

```
import scala.xml._
import java.net._
import scala.collection.mutable._

object XMLDemo
{
  def main(args:Array[String])
  {
    var nodes = new Queue[Node]()
    args.foreach{str => nodes += <course>{str}</course>}
    var str = <school>{nodes}</school>
    println(str)
  }
}
```

XML Generating



```
Command Prompt
E:\>scala XMLDemo Jaja G# BML
<school><course>Jaja</course><course>G#</course><course>BML</course></school>
E:\>
```


XML Parsing

- ❖ Scala has a built in capability for parsing XML documents.
The following code sample fetches an XML document from the web and print out the names of all course the XML document lists.

XML Parsing

```
<?xml version="1.0" ?>
- <library>
  - <book>
    <name>Java Tutorial</name>
    <pages>24</pages>
    <author>James Douglas</author>
  </book>
  - <book>
    <name>PHP Certification Guide</name>
    <pages>22</pages>
    <author>Mike Brant</author>
  </book>
  - <book>
    <name>XML Fundamentals</name>
    <pages>20</pages>
    <author>Dave Ron</author>
  </book>
  - <book>
    <name>XHTML Guide</name>
    <pages>27</pages>
    <author>Michael Shoolman</author>
  </book>
</library>
```

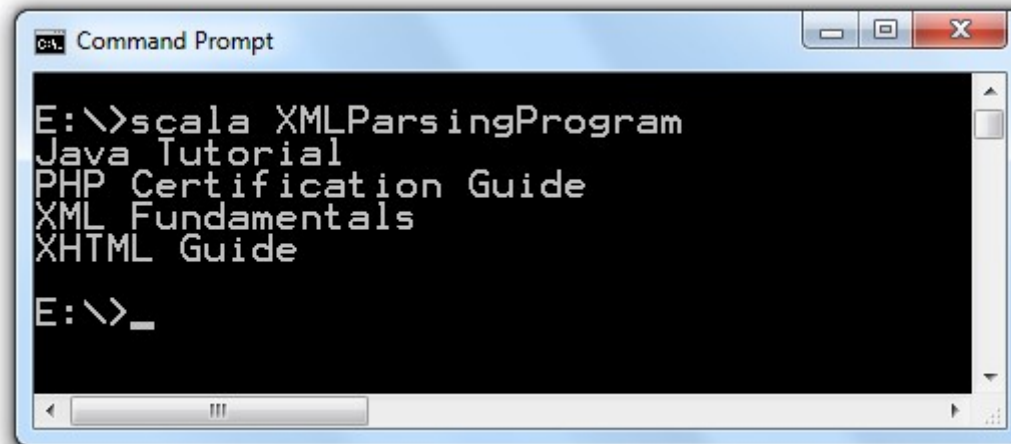
http://www.abelski.com/courses/dom/lib_doc.xml

XML Parsing

```
import scala.xml._
import java.net._

object XMLParsingProgram
{
  def main(args:Array[String])
  {
    val url = new URL("http://www.abelski.com/courses/dom/lib_doc.xml")
    val conn = url.openConnection
    val doc = XML.load(conn.getInputStream)
    for(ob<- (doc\\"book"))
      println((ob\\"name").text)
  }
}
```

XML Parsing



```
Command Prompt
E:\>scala XMLParsingProgram
Java Tutorial
PHP Certification Guide
XML Fundamentals
XHTML Guide
E:\>_
```